### Sri Sivasubramaniya Nadar College of Engineering

Rajiv Gandhi Salai (OMR) Kalavakkam - 603 110 Kanchipuram Dist.



### **SELF STUDY REPORT**

(For Re-Accreditation - Cycle II)

**VOLUME - I** 

### **Submitted to**



NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
P.O. Box No. 1075
Nagarbhavi
Bangalore – 560072

June 2017

### **SELF-STUDY REPORT (SSR)**

### (Re-Accreditation-Cycle-II)

### **CONTENTS**

|                             |   | Page No. |
|-----------------------------|---|----------|
| VOLUME - I                  |   |          |
| Covering Le                 | tter                                      | 3        |
| Preface                     |   | 4        |
| Executive Su<br>Institution | ımmary and SWOC analysis of the           | 5        |
| Profile of the              | e College                                 | 11       |
| CRITERIA-WISE               | INPUTS                                    |          |
| Criterion I                 | Curricular Aspects                        |          |
| 1.1                         | Curriculum Planning and Implementation    | 25       |
| 1.2                         | Academic flexibility                      | 28       |
| 1.3                         | Curriculum Enrichment                     | 29       |
| 1.4                         | Feedback System                           | 30       |
| Criterion II                | Teaching-Learning and Evaluation          |          |
| 2.1                         | Student Enrolment and Profile             | 31       |
| 2.2                         | Catering to Student Diversity             | 35       |
| 2.3                         | Teaching - Learning Process               | 37       |
| 2.4                         | Teacher Quality                           | 41       |
| 2.5                         | <b>Evaluation Process and Reforms</b>     | 49       |
| 2.6                         | Student Performance and Learning Outcomes | 52       |
| Criterion III               | Research, Consultancy and Extension       |          |
| 3.1                         | Promotion of Research                     | 55       |
| 3.2                         | Resource Mobilization for Research        | 91       |
| 3.3                         | Research Facilities                       | 104      |
| 3.4                         | Research Publications and Awards          | 116      |
| 3.5                         | Consultancy                               | 148      |

| 3.6           | Extension Activities and Institutional Social Responsibilities | 153 |
|---------------|--|-----|
| 3.7           | Collaboration  | 158 |
| Criterion IV  | Infrastructure and Learning Resources                          |     |
| 4.1           | Physical Facilities  | 159 |
| 4.2           | Library as a Learning Resource                                 | 165 |
| 4.3           | IT Infrastructure  | 169 |
| 4.4           | Maintenance of Campus Facilities                               | 182 |
| Criterion V   | <b>Student Support and Progression</b>                         |     |
| 5.1           | Student Mentoring and Support                                  | 184 |
| 5.2           | Student Progression  | 204 |
| 5.3           | Student Participation and Activities                           | 207 |
|               | Governance, Leadership and Management                          |     |
| 6.1           | Institutional Vision and Leadership                            | 217 |
| 6.2           | Strategy Development and Deployment                            | 221 |
| 6.3           | Faculty Empowerment Strategies                                 | 225 |
| 6.4           | Financial Management and Resource<br>Mobilization              | 227 |
| 6.5           | Internal Quality Assurance System (IQAS)                       | 235 |
| Criterion VII | Innovations and Best Practices                                 |     |
| 7.1           | Environment Consciousness                                      | 238 |
| 7.2           | Innovations  | 239 |
| 7.3           | Best practices   | 239 |
| Post Accredit | tation Initiatives   | 242 |
| Declaration b | y the Head of the Institution                                  | 243 |
| Compliance (  | Certificate  | 244 |
| AICTE Appr    | roval Letters (2016-17)  | 246 |
| Anna Univers  | sity Affiliation letters (2016-17)                             | 254 |
| NAAC Accre    | ditation Certificate   | 261 |
| NBA Accredi   | tation Letters   | 264 |
| LUME – II     |  |     |

Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam-603110

**Evaluative Report of the Departments** 

#### SRI SIVASUBRAMANIYA NADAR COLLEGE OF ENGINEERING

(Approved by AICTE, New Delhi and Affiliated to Anna University)
Rajiv Gandhi Salai (OMR), Kalavakkam – 603 110, TN, India.
Tel :+91 44 27469700
Fax :+91 44 27469772
www.ssn.edu.in

Administrative Office: 211/95, V.M. Street, Mylapore, Chennai - 600 004. Telefax : +91 44 24982656, 24986474

June 05, 2017

The Director National Assessment and Accreditation Council P. O. Box. No. 1075 Opp: NLSIU, Nagarbhavi Bangalore - 5600072 Karnataka

Sir / Madam,

Submission of SSR - Re-Accreditation (Cycle II) - Sri Sivasubramaniya Nadar College of Engineering - Tamil Nadu - Reg.

Ref: (i) Track Id of NAAC: TNCOGN14229

With reference to the Track ID cited above, we are submitting the following for re-accreditation (Cycle II) of our institution:

- Five hard copies of SSR (i)
- (ii) Five hard copies of Evaluative Report of the Departments
- One CD containing the SSR and Evaluative Report of the Departments Hence, we request you to kindly do the needful in this regard.

Thanking you,

Yours sincerely,

S. Salival

Dr. S. Salivahanan Principal

Dr. S. Salivahanan Principal Sri Sivasubramaniya Nadar College of Engineering Rajiv Gandhi Salai (OMR) Kalavakkam - 603 110





#### **PREFACE**

Sri Sivasubramaniya Nadar College of Engineering (SSN) was established by Dr. Shiv Nadar, Chairman of HCL Technologies, a \$ 7 billion Enterprise. SSN from a humble beginning in 1996 has grown into a reputed centre of academic excellence and research in emerging technologies.

The vision of SSN is founded on the belief that there is a lot of young talent in our country and with guidance and encouragement, we can rise to the highest levels globally in technology and leadership.

SSN is approved by All India Council for Technical Education (AICTE), New Delhi and affiliated to Anna University, Chennai. SSN is offering 8 B.E./B.Tech. degree programmes, 11 M.E./M.Tech. programmes in addition to MBA. NAAC had accredited the Institution in 2011 for five years with A Grade. All the programmes, eligible for accreditation, have also been accredited by National Board of Accreditation (NBA), New Delhi.

As an exemplary institution of learning, SSN follows an admission policy that strongly favors merit, even as it enables access to education for students from all strata of society through appropriate scholarships. SSN provides a stimulating environment for intellectual development, free thinking, and personal growth, challenging its students with dynamic learning opportunities and equipping them with the skills, insights, attitudes and practical experiences that are necessary to take up responsibilities in the industry and society at large.

With a highly qualified faculty and a technology enabled campus, SSN focuses on 360 degree development of its students. Students are encouraged to participate in research activites, sports, cultural, social, co-curricular and extracurricular activates to ensure that they are well rounded graduates.

SSN graduates are thus the cream of the crop and are today working in a diverse range of organizations such as Microsoft, Caterpillar, Thoughtworks, Amazon, Ford Motors, Renault Nissan, Cognizant, Infosys and a host of others in India and abroad. SSN graduates are also active in a wide variety of areas in pure research and entrepreneurship thus demonstrating their ability to shine across geographies and industries.

SSN encourages its students and faculty to explore the world of technology, scale the heights of research, innovation and creativity and above all to transform the learning experiences to find practical solutions to social problems. Within a short period of time, SSN has significantly ramped up its research output in terms of publications and patents filed.

SSN has taken strides in both teaching & research and emerged as one of the premier institutions in the country. SSN intends to further excel and to attain a status of a world class institution.

**PRINCIPAL** 

#### AN EXECUTIVE SUMMARY

Sri Sivasubramaniya Nadar College of Engineering (SSN) was established in the year 1996 by **Dr Shiv Nadar**, Chairman, HCL Technologies, as an unaided engineering college. The motive for establishing this institution was to provide quality education of global standards as a gesture 'to give back to the society' that nurtured him. The institution, run on 'not for profit' basis is located on a sprawling campus of 250 acres on the Rajiv Gandhi Salai, the Cyber Corridor of Chennai.

The institution, approved by the Government of Tamil Nadu and All India Council of Technical Education, is presently affiliated to the Anna University, Chennai.

#### **Progress of the Institution**

The Institution, started in 1996 with 68 students& 8 faculty, offered 3 B.E. degree programmes in EEE, ECE and CSE. It has now grown to a strength of around 4350 students and 275 faculty members offering 8 UG and 12 PG programmes. It also offers research programmes of MS and Ph.D. NAAC had accredited the Institution in 2011 for five years with A Grade. All the programmes, eligible for accreditation, had also been accredited by NBA earlier.

B.E. programs in EEE, ECE and CSE have completed two cycles of NBA accreditation and are currently accredited for 5 years with effect from 01.07.2015. B. Tech. program in IT has completed one cycle of NBA accreditation and is currently accredited for 5 years with effect from 01.07.2015. Also, B.E. program in Biomedical has been accredited by NBA, New Delhi, for a period of 5 years with effect from 01.07.2015. The M.E. degree programs in Power Electronics and Drives, Communication Systems, Applied Electronics and Computer Science and Engineering have completed one cycle of NBA accreditation and are currently accredited by NBA, New Delhi, for a period of 5 years with effect from 01.07.2016. Applications have been submitted to NBA, New Delhi, for the accreditation of all other eligible programs in B.E./B.Tech.

SSN has established itself as a much sought after Institution foraspiring students and their parents. The main reasons are high quality faculty (199 of them with Ph.Ds) supported by the following:

- Modern teaching methods
- Computerized library
- Wi-Fi enabled campus
- 24 hour internet (bandwidth of 310 Mbps)
- 86 well-equipped laboratories
- Best-in-class sports facilities
- Nurturing 360-degree development of students
- Hostels for about 3000 students
- Excellent Transport facilities

The Institution has achieved excellence in all spheres of activities. It is ranked first among 540 engineering colleges affiliated to Anna University. The students of all branches have achieved 135 University ranks in the year 2016. Ninety five percent of eligible students were placed in leading companies in the graduating batch of 2016. An estimated 108 students have gone abroad for higher studies in leading Universities such as Stanford University, University of Southern California, Arizona State University, University of Florida, North Carolina State University, Technical University of Munich, Hongkong University of Science and Technology, Carnegie Mellon University, Purdue University, Texas A&M University, University of Virginia, Hamburg University of Technology, Georgia Tech University, Delft University of Technology, University of Oxford, The University of Sydney, Ohio State University, University of Michigan

The Institution has an active Entrepreneurial Development Cell, "Lakshya". This Cell organizes a number of events to promote awareness of entrepreneurship. Its flagship event is the SYCON during which various talks are organized for students of SSN and other Institutions.

The following recognitions stand testimony to the above:

- Ranked 5<sup>th</sup> among all private engineering colleges in India by NIRF
- Best Engineering College Aaward from ISTE
- "Asia's Best Private Institute Award" for the year 2013 by World Consulting and Research Corporation
- High rankings by National Magazines like Data Quest, Competition Success Review and Outlook

A significant outcome is that the seats of the Institution are among the first to be filled during the Single Window Admissions of Anna University.

#### Philanthropy the main stay

The Institution distributes scholarships valued more than Rs.4 crores every year under different categories.

The college admits 25 students every year from Government Rural Schoolsof Tamil Nadu and offers completely free engineering education. The schools the students hail from are located in the rural areas of Tamilnadu where childrenhave limited access to education resources and information about higher education. After admission, special attention is given to ensure their success. A specially designed orientation program for 3 weeks is imparted prior to commencement of the regular classes with significant focus on communication skills and personality development. This is a transformational experience for the students with life-changing outcomes.

A "Walk-in-walk-out" scholarship is available to 25 students every year for those secure the top ten ranks in any Higher Secondary Board. They are exempt from all fees for the entire four years of education.

Sports is given due importance through 25 scholarships every year for students who have excelled in sports. They are also provided excellent facilities and coaching. Mr. Ravichandran Ashwin, Indian Cricketer and Ms. Anaka Alankamani, International Squash Player are the products of this Institution.

Students are awarded Merit scholarships and Merit-cum-Means scholarships. To promote all rounddevelopment of the students, Classical Music Scholarships are awarded. The Alumni of the Institution and corporates such as CTS and Redington and many other individuals also contribute to the scholarships provided by the Institution.

#### **Social Responsibility**

The Institution inculcates social consciousness among its students through active forums such as Youth Red Cross and NSS. Anna University has recognized this by awarding the Best NSS Unit to SSN several times in the past.

Some of the social activities undertaken by the members of the Institutions are:

- Computer training to school children
- Training the women folk in the surrounding villages to establish information kiosks
- Training Police personnel to handle computers

SSN organized "Vidiyal", an awareness program among students studying in 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> standards and their parents in rural areas about opportunities available to pursue higher education. Teams from SSN visited about 200 GovernmentHigher Secondary schools in rural areas to promote the need for educating their wards and disseminating information about various options, opportunities and scholarships available. This effort was targeted at Government schools in educationally backward areas as the children who study there and their parents are from lower socio-economic strata. 'Vidiyal' is a Tamil word which means a new 'dawn'.

"Samudhay" was a social project undertaken by faculty and students of SSN in 13 villages in nearby areas in association with the HCL Foundation in its efforts create model villages in India. The project was to identify the needs of the villages in the dimensions of – Health, Education, Sanitation, Electricity & Water, Women Empowerment and Youth Empowerment – and draw up a plan of action to be implemented by NGOs. Students of SSN conducted this study with support from faculty members.

#### Research a way of life

Research is an integral part of SSN and a way of life.

The departments of EEE, ECE, CSE, IT, Mechanical Engineering, Chemical Engineering, Biomedical Engineering, Mathematics, Physics,

Chemistry and English have been recognized by Anna University as 'Research Centres' by Anna University. These departments have 149 research supervisors. There were 151 full time and 300 part-time research scholars doing their Ph.D. in SSN in May 2017.

A Research Advisory Council comprising eminent researchers as given below guides the research activities of faculty members.

- 1. Dr. Shiv Nadar, Chairman, HCL Technologies Ltd. Chairman
- 2. Dr. Raj Reddy, Professor of Computer Science & Robotics Member Carnegie Mellon University, USA
- 3. Dr. N. Balakrishnan, Associate Director, IISc, Bangalore Member
- 4. Dr. R. Natarajan, Former Chairman, AICTE, New Delhi Member
- 5. Dr. Damodar Acharya, Director, IIT Kharagpur Member
- 6. Ms. Kala Vijakumar, President, SSN Institutions Member
- 7. Dr. S. Salivahanan, Principal, SSN College of Engg. Member
- 8. Dr. S.V. Albal, Professor, SSN College of Engg. Member
- 9. Dr. P. Ramasamy, Dean (Research), SSN College of Engg. Member- Secretary

SSN Research Centre has been established to promote inter-disciplinary research within SSN. A Centre for Crystal Growth has been established for research in materials sciences. These efforts have paved the way for several projects being funded by different agencies. Several National and International Conferences have been organized and a large number of papers are published in leading journals of repute.

The SSN Trust supports research activity by faculty and students by way of generous grants. Since 2011, a sum of Rs. 518.80 lakh was sanctioned for internal funding for faculty and student projects. In 2015-16, Rs. 29.42 lakh was sanctioned for 150 student projects. In 2016-17, SSN faculty have published 466 papers and students have published 253 papers in peer reviewed international journals.

#### Way Forward

The college is affiliated to Anna University, Chennai and follows the curriculum and syllabi of the University. Faculty members of the Institution have been in the various Boards of Study (BOC) and Academic Council of the University and have contributed significantly to curriculum and syllabi development.

The Institution has initiated the process for autonomy status and, in due course, becoming a University. The aim is to be a multi-disciplinary, research-led Institution with multiple schools across engineering, management, liberal arts and sciences. The Institution will produce students with sufficient breadth and width of knowledge and skills required to lead in the 21<sup>st</sup> century.

#### **SWOC** analysis of the Institution and Future plans:

#### **Strengths:**

- Dedicated and qualified faculty with diverse research interests
- 250 acre campus with state-of-the-art infrastructure
- Well-equipped labs and digitally enabled classrooms for effective learning
- Large number of externally funded research projects
- Meritorious students, many with interest in research
- Students winning several external awards in recognition of their projects
- Academic collaboration with Institutes of international repute, like Carnegie Mellon University
- Periodic research interventions like International and National Conferences and workshops on varied topics
- Structured system for inducting students into research at an early stage
- Seed funding by SSN Trust for promising research proposals of faculty and students
- Culture of all-round development in Academics, Sports, Music and Arts
- A large number of MoUs with industries and educational institutions of eminence.
- Innovation Centre and Incubation Centre to promote creativity and entrepreneurship
- Ranked among the top ten private engineering colleges in India by reputed agencies

#### Weaknesses:

- Limiting influence of affiliation status in curriculum, syllabi and forging external relationships
- Improvement required in Industry-Institute Interaction

#### **Opportunities:**

- Good recognition in industry circles evidenced by placement of students. This can help in building stronger links with industry in consultancy.
- Talented students who can be channelized into leadership positions in the years to come.
- Interaction with Assocham, CII, FICCI, IMTMA and professional bodies

• Tapping the knowledge resources of Alumni who are pursuing successful careers in industry or as Entrepreneurs.

#### **Challenges:**

- Commercialisation of the research work done in the Institution and converting them for industrial application
- Being an affiliated institution, it is difficult to integrate the rapidly changing technology

#### **Future Plans**

- To obtain autonomous or University status
- To diversify and offer programs in humanities and sciences
- To increase focus on product development and incubation of startups on campus

#### PROFILE OF THE COLLEGE

1. Name and address of the college:

| Name:             | Sri Sivasubramaniya Nadar College of Engineering |  |  |
|-------------------|--|--|--|
| Address:          | Rajiv Gandhi Salai (OMR), Kalavakkkam – 603110   |  |  |
| City: Off Chennai | Pin: 603110 State: Tamil Nadu                    |  |  |
| Website:          | www.ssn.edu.in                                   |  |  |

#### 2. For communication:

| Designation                          | Name                  | Telephone<br>with STD<br>Code                          | Mobile          | Fax              | Email                       |
|--------------------------------------|-----------------------|--|-----------------|------------------|-----------------------------|
| Principal                            | Dr. S.<br>Salivahanan | O:<br>044-<br>27436700 /<br>752<br>R: 044-<br>27497393 | 0944418<br>9433 | 044-<br>27469772 | salivahanans@ssn.<br>edu.in |
| Vice-<br>Principal                   |                       |  |                 |                  |                             |
| Steering<br>Committee<br>Coordinator | Dr. N.<br>Nallusamy   | O:<br>044-<br>27436700<br>R: 044-<br>48512332          | 0944453<br>8798 | 044-<br>27469772 | nallusamyn@ssn.e<br>du.in   |

3. Status of the Institution: It is an Affiliated College

4. Type of Institution:

b. By Shift: **It is a Day college** 

5. Is it a recognized minority institution?

It is not a recognized minority Institution.

6. Sources of Funding: It is a Self Financing College

7. a. Date of establishment of the college: 15th October 1996

b. University to which the college is affiliated: Anna University, Chennai

c. Date of UGC recognition: Not Applicable

### d. Details of Recognition / Approval by Regulatory Bodies (AICTE)

| Under<br>Section /<br>Clause | Approval of<br>Programmes          | Day, Month & Year   | Validity | Remarks                 |
|------------------------------|------------------------------------|---------------------|----------|-------------------------|
|                              | 1                                  | B.E./B.Tech. Progr  | rammes   |                         |
|                              | EEE                                | 1996                |          | First Approval (60)     |
|                              | ECE                                | 1996                |          | First Approval (60)     |
|                              | CSE                                | 1996                |          | First Approval (40)     |
|                              | CSE                                | 1999                |          | 40 to 60 Increase       |
|                              | IT                                 | 1999                |          | First Approval (40)     |
|                              | ECE                                | 2000                |          | Increase from 60 to 90  |
|                              | CSE                                | 2000                |          | Increase from 60 to 90  |
|                              | IT                                 | 2000                |          | Increase from 40 to 60  |
|                              | IT                                 | 2001                |          | Increase from 60 to 90  |
|                              | EEE                                | 2002                |          | Increase from 60 to 90  |
|                              | ECE                                | 2002                |          | Increase from 90 to 120 |
|                              | CSE                                | 2002                |          | Increase from 90 to 120 |
|                              | EEE                                | 2004                |          | Increase from 90 to 120 |
|                              | Chemical Engg.                     | 2004                |          | First Approval (30)     |
|                              | Biomedical Engg.                   | 2005                |          | First Approval (60)     |
|                              | IT                                 | 2007                |          | Increase from 90 to 120 |
|                              | Mechanical<br>Engg.                | 2007                |          | First Approval (60)     |
|                              | Chemical Engg.                     | 2011                |          | Increase from 30 to 60  |
|                              | Mechanical Engg.                   | 2011                |          | Increase from 60 to 120 |
|                              | Civil Engg.                        | 2011                |          | First Approval (60)     |
|                              |                                    | E./M. Tech. and MBA | Programn |                         |
|                              | MBA                                | 2000                |          | First Approval (60)     |
|                              | Communication<br>Systems           | 2003                |          | First Approval (18)     |
|                              | CSE                                | 2003                |          | First Approval (18)     |
|                              | Applied Electronics                | 2004                |          | First Approval (18)     |
|                              | Power<br>Electronics<br>and Drives | 2004                |          | First Approval (18)     |
|                              | Computer and<br>Communicati<br>on  | 2005                |          | First Approval (18)     |
|                              | Communicati on Systems             | 2010                |          | Increase from 18 to 36  |
|                              | CSE                                | 2010                |          | Increase from 18 to 36  |
|                              | MBA                                | 2010                |          | Increase from 60 to 120 |

| Under<br>Section /<br>Clause | Approval of Programmes                | Day, Month & Year | Validity | Remarks                 |
|------------------------------|---------------------------------------|-------------------|----------|-------------------------|
|                              | VLSI Design                           | 2011              |          | First Approval (38)     |
|                              | Software<br>Engg.                     | 2011              |          | First Approval (18)     |
|                              | Manufacturing Engg.                   | 2012              |          | First Approval (18)     |
|                              | Energy Engg.                          | 2013              |          | First Approval (18)     |
|                              | Medical<br>Electronics                | 2014              |          | First Approval (18)     |
|                              | Environmental<br>Science and<br>Tech. | 2014              |          | First Approval (18)     |
|                              | Current<br>Approval                   | 2016              |          | All existing programmes |

(Enclose the recognition/approval letter)

8. Does the University Act provide for autonomy of Affiliated / Constituent Colleges?

Yes ✓ No

If yes, has the college applied for autonomy?

Yes. Anna University inspection is completed.

- 9. Is the college recognized?
  - a. By UGC as a college with a potential for Excellence (CPE) No
  - b. For its performance by any other Governmental agencies: Yes
    - i. By ISTE : Best Chapter Award in Tamilnadu & Pondicherry In 2013
    - ii. By ISTE: Best Overall Performance in the field of technical education in the country, 2006
- 10. Location of the campus and area in Sq.m.:

| Location               | Rural     |
|------------------------|-----------|
| Campus Area in Sq.m.   | 10,00,000 |
| Built up area in Sq.m. | 1,69,835  |

11. Facilities available in the Campus:

**a) Auditoria:** 1000 seats capacity One 300 -do- One

**Seminar halls** 200 -do- Ten All the above are Air conditioned.

b) Sports

| Sl. | D                                      | D 4 13                         | Area in |  |  |
|-----|--|--------------------------------|---------|--|--|
| No. | Description                            | Details                        | Sq.m    |  |  |
|     | - u a                                  | 1. Basketball                  | 704     |  |  |
| 1   | Details of the indoor                  | 2. Squash (2 Nos.)             | 146     |  |  |
|     | games available                        | 3. Table Tennis Hall           | 114     |  |  |
|     |  | 1. Basketball (2 Nos.)         | 1800    |  |  |
|     |  | 2. Football (1 No.)            | 7500    |  |  |
|     | Details of the outdoor games available | 3. Volleyball (2 Nos.)         | 2304    |  |  |
|     |  | 4. Tennis Synthetic (2 Nos.)   | 2176    |  |  |
| 2   |  | 5. Cricket Turf Wicket (1 No.) | 21133   |  |  |
|     |  | 6. Ball Badminton              | 414     |  |  |
|     |  | 7. Throwball                   | 380     |  |  |
|     |  | 8. Handball (1)                | 175     |  |  |
|     |  | 9. Athletics (400 m track)     | 16150   |  |  |
| 3   | Details of gymnasium                   | Two for men                    | 200     |  |  |
| 3   | available                              | One for women                  | 75      |  |  |
| 4   | Total area of the play                 | Outdoor: 44532 Sq.m.           |         |  |  |
| 4   | ground                                 | Indoor: 2375 Sq.m.             |         |  |  |

#### c) Hostels

| Sl. No. | Details          | Boys Hostel   | Girls Hostel              |  |  |
|---------|------------------|---|---------------------------|--|--|
| 1       | Number of        | 7   | 7                         |  |  |
|         | Hostels          | /   | ,                         |  |  |
| 2       | Number of        | 999   | 934                       |  |  |
|         | Rooms            | 999   | 934                       |  |  |
| 3       | Capacity (No. of | 1708  | 1605                      |  |  |
|         | Persons.)        | 1700  | 1003                      |  |  |
| 4       | Facilities       | Room for indoor games                               | , TV room, Basket ball    |  |  |
|         |                  | court (for boys), Shuttle (for girls), medical      |                           |  |  |
|         |                  | facility (central facility), van for emergency, Wi- |                           |  |  |
|         |                  | Fi connectivity for both                            | the hostels are available |  |  |

International Hostel with 142 Airconditioned Rooms is also available to accommodate PIO students/delegates/guests.

#### d) Residential facilities

| Type of Quarters | Allotted to          | Number available |  |  |  |
|------------------|----------------------|------------------|--|--|--|
| A                | Principal            | 1                |  |  |  |
| В                | Professors           | 6                |  |  |  |
| С                | Associate Professors | 10               |  |  |  |
| D                | Assistant Professors | 30               |  |  |  |
| Е                | Lab Technicians      | 6                |  |  |  |
| F                | Maintenance staff    | 12               |  |  |  |
|                  | Total                | 65               |  |  |  |

e) Cafeteria Canteen One

Coffee kiosks Four

f) Health Centre One full-time qualified Doctor

One full-time qualified Nurse

Dispensary with First Aid facility, Emergency care

facility and two beds.

#### g) Other facilities:

- (i) an extension counter of a bank with ATM facility
- (ii) One book shop
- (iii) Bus facilities for day-scholars & faculty to commute from the city (42 buses); Pooled car pick up facility for Professors
- (iv) Eight Standby Generators with a total capacity of 1580 KVA
- (v) A full fledged Sewage Treatment Plant is available andtreated water is used for gardening
- (vi) A pond in the campus is used for rain water harvesting and anetwork of channels discharge into the RWH system.
- (vii) The entire campus is Wi-Fi enabled
- (viii) Eco friendliness: Solar street lighting, solar water heaters, Limited CarbonEmissions, Copious Greenery.

#### 12. Details of programmes offered by the institution:

[Current academic year 2016-17]

| Sl.<br>No. | Programme<br>level | Name of the<br>Programme/Course                 | Year<br>of starting | Duration<br>(years) | Entry<br>Qualification | Medium of<br>Instruction | Sanctioned students | Number of students admitted |
|------------|--------------------|---|---------------------|---------------------|------------------------|--------------------------|---------------------|-----------------------------|
| 1          | UG                 | Electrical and Electronics<br>Engineering       | 1996                | Four                | + 2                    | English                  | 120                 | 128                         |
| 2          | UG                 | Electronics and<br>Communication<br>Engineering | 1996                | Four                | + 2                    | English                  | 120                 | 130                         |
| 3          | UG                 | Computer Science and Engineering                | 1996                | Four                | + 2                    | English                  | 120                 | 128                         |
| 4          | UG                 | Information Technology                          | 1999                | Four                | + 2                    | English                  | 120                 | 128                         |
| 5          | UG                 | Chemical Engineering                            | 2004                | Four                | + 2                    | English                  | 60                  | 63                          |
| 6          | UG                 | Biomedical Engineering                          | 2005                | Four                | + 2                    | English                  | 60                  | 63                          |
| 7          | UG                 | Mechanical Engineering                          | 2007                | Four                | + 2                    | English                  | 120                 | 127                         |
| 8          | UG                 | Civil Engineering                               | 2011                | Four                | + 2                    | English                  | 60                  | 63                          |
| 9          | PG                 | Communication Systems                           | 2003                | Two                 |                        | English                  | 36                  | 22                          |
| 10         | PG                 | Computer Science and Engineering                | 2003                | Two                 | Degree                 | English                  | 36                  | 19                          |
| 11         | PG                 | Applied Electronics                             | 2004                | Two                 |                        | English                  | 18                  | 8                           |
| 12         | PG                 | Power Electronics and<br>Drives                 | 2004                | Two                 | eering                 | English                  | 18                  | 12                          |
| 13         | PG                 | Computer and Communication                      | 2005                | Two                 | Engineering            | English                  | 18                  | 6                           |
| 14         | PG                 | VLSI Design                                     | 2011                | Two                 |                        | English                  | 36                  | 4                           |

| 15 | PG    | Software Engineering                     | 2011 | Two |            | English | 18   | -    |
|----|-------|--|------|-----|------------|---------|------|------|
| 16 | PG    | Manufacturing Engineering                | 2012 | Two |            | English | 18   | 16   |
| 17 | PG    | Energy Engineering                       | 2013 | Two |            | English | 18   | 7    |
| 18 | PG    | Medical Electronics                      | 2014 | Two |            | English | 18   | 7    |
| 19 | PG    | Environmental Science and Tech.          | 2014 | Two |            | English | 18   | ı    |
| 20 | PG    | Master of Business<br>Administration     | 2000 | Two | Any degree | English | 120  | 120  |
| 21 | Ph.D. | In all disciplines except<br>Civil Engg. |      |     |            |         |      |      |
|    | Total |  |      |     |            |         | 1152 | 1051 |

### 13. Does the college offer self financed Programmes?

## The college being a self financed one, all the Programmes are self financed.

14. New Programmes introduced in the college during the last five years, if any:

| Sl.<br>No. | Name of the Programme                             | Year of starting | Sanctioned<br>Intake |
|------------|---|------------------|----------------------|
|            | UG Programme                                      |                  |                      |
| 1          | B.E. in Civil Engineering                         | 2011-12          | 60                   |
|            | PG Programmes                                     |                  |                      |
| 2          | M.E. in VLSI Design                               | 2011-12          | 36                   |
| 3          | M.E. in Software Engineering                      | 2011-12          | 18                   |
| 4          | M.E. in Manufacturing<br>Engineering              | 2012-13          | 18                   |
| 5          | M.E. in Energy Engineering                        | 2013-14          | 18                   |
| 6          | M.E. in Medical Electronics                       | 2014-15          | 18                   |
| 7          | M. Tech. in Environmental<br>Science & Technology | 2014-15          | 18                   |

#### 15. List the departments:

| Departments  | Numbers    |
|--|------------|
| <b>Department of Science &amp; Humanities</b> (comprising English, | 1          |
| Mathematics, Physics and Chemistry divisions)                      | 1          |
| Arts (Language and Social sciences included)                       | Not        |
| Commerce   | Applicable |
| Any Other (Specify): Engineering                                   |            |
| Departments of EEE, ECE, CSE, IT, Chemical Engineering,            |            |
| Biomedical Engineering, Mechanical Engineering, Civil              | 8          |
| Engineering  |            |
| Management   | 1          |
| Total  | 10         |

16. Number of Programmes offered under Semester system:

#### All Programmes offered are under Semester system

17. Number of Programmes with

| a. Choice Based Credit System            | Nil |
|--|-----|
| b. Inter/Multi Disciplinary Approach     | Nil |
| c. Any other (specify & provide details) | Nil |

All programmes are evaluated with courses assessed by marks earned by the student through two componentsi.e. Continuous Internal Assessment and an End Semester Examination. The marks earned by the student are then converted intoletter Grades on a 10 point scale.

- 18. Does the college offer UG and /PG programmes in Teacher Education? **No**
- 19. Does the college offer UG and / PG programmes in Physical Education? **No**
- 20. Number of Teaching and Non-teaching positions in the Institution:

|       | -                  |                         | Te  | eachin    | g Facu    | ılty      |           | Non      |     | Technica |   |  |  |
|-------|--------------------|-------------------------|---|-----------|-----------|-----------|-----------|----------|-----|----------|---|--|--|
| Sl.   |                    | Professor               |   | Associate |           | Assistant |           | Teaching |     | l staff  |   |  |  |
| No.   | Positions          | 1101                    | FIOIESSOI   |           | Professor |           | Professor |          | ıff | 1 Starr  |   |  |  |
| 1,0.  |                    | M                       | F   | M         | F         | M         | F         | M        | F   | M        | F |  |  |
| 1     | Sanctioned by      |                         |   |           |           |           |           |          |     |          |   |  |  |
|       | UGC/'varsity/Stat  |                         |   |           |           |           |           |          |     |          |   |  |  |
|       | e Government       | E                       | Being a self financing college these do not arise |           |           |           |           |          |     |          |   |  |  |
|       | Recruited          |                         |   |           |           |           |           |          |     |          |   |  |  |
|       | Yet to recruit     |                         |   |           |           |           |           |          |     |          |   |  |  |
|       | Sanctioned by the  |                         |   |           |           |           |           |          |     |          |   |  |  |
|       | Mgmt.* / Society   | 31                      | 17  | 80        | 39        | 48        | 60        | 53       | 14  | 61       | 8 |  |  |
|       | / other authorized | 31                      | 1 /   | 80        | 3)        | 70        | 00        | 33       | 14  | 01       | 0 |  |  |
|       | bodies             |                         |   |           |           |           |           |          |     |          |   |  |  |
|       | Recruited          | All have been recruited |   |           |           |           |           |          |     |          |   |  |  |
| (4) 0 | Yet to recruit     |                         |   |           |           | Nil       |           |          |     |          |   |  |  |

<sup>(\*)</sup> Sanctioned number is taken on the basis of student strength /faculty, ratio of 15 for teaching faculty of UG & MBA and 12 for M.E.; Technical staff is taken as one per lab. Non teaching staff is taken as 1.5% of student strength. There is no gender specification in any of the categories. The Cadre ratio, viz. Professor: Associate Professor: Assistant Professor is taken as 1:2:6 for UG & MBA and 1:1:1 for M.E. for an intake of 18.

#### 21. Qualifications of Teaching Staff:

All those who are recruited, are permanentstaff. There is no temporary or part-time staff.

| Sl.<br>No. | Highest<br>Qualification | Profe | essor | Assoc<br>Pro |    | Assi<br>Pi | Total |     |
|------------|--------------------------|-------|-------|--------------|----|------------|-------|-----|
| 110.       | Qualification            | M     | F     | M            | F  | M          | F     |     |
| 1          | D.Sc./D.Litt.            | -     | -     | -            | -  | -          | -     | -   |
| 2          | Ph.D.                    | 28    | 17    | 78           | 39 | 17         | 20    | 199 |
| 3          | M. Phil.                 | -     | -     | -            | -  | 2          | -     | 2   |
| 4          | PG                       | 3     | -     | 2            | -  | 29         | 40    | 74  |
|            |                          |       |       |              |    |            | Total | 275 |

#### 22. Number of Visiting / Guest Faculty engaged with the college:

Guest Faculty from industry are engaged only for the School of Management. They will teach one segment of a course or a specific topic as the Professor might feel necessary. Number of such Guest faculty used during 2015-16 is 15.

## 23. Number of students admitted to the college during the last 5 academic years:

| Sl. | Cotogowy  | 2012 | 2-13 | 2013 | 3-14 | 201 | 4-15 | 2015 | 5-16 | 2010 | 5-17 |
|-----|-----------|------|------|------|------|-----|------|------|------|------|------|
| No. | Category  | M    | F    | M    | F    | M   | F    | M    | F    | M    | F    |
| 1   | SC        | 57   | 47   | 71   | 33   | 56  | 35   | 45   | 46   | 45   | 34   |
| 2   | ST        | 4    | 5    | 0    | 2    | 3   | 3    | 6    | -    | 1    | 4    |
| 3   | OBC       | 368  | 331  | 382  | 177  | 329 | 224  | 307  | 213  | 307  | 209  |
| 4   | General   | 179  | 138  | 197  | 165  | 147 | 136  | 189  | 135  | 163  | 142  |
| 5   | Others    |      |      |      |      |     |      |      |      |      |      |
|     | 1. Sports | 11   | 6    | 8    | 3    | 6   | 8    | 14   | 5    | 10   | 2    |
|     | 2. WIWO   | 1    | 2    | 2    | -    | 1   | 1    | -    | _    | -    | -    |
|     | 3. Rural  | 10   | 15   | 14   | 11   | 11  | 14   | 11   | 14   | 14   | 11   |
|     | 4. Others | 1    |      | 1    |      | 1   |      | 1    |      | 1    |      |

## 24. Details of students enrollment in the college during the current academic year (2016-17)

| Sl.<br>No. | Type of Students   | UG  | PG  | M.<br>Phil. | Ph.D. | Total |
|------------|--|-----|-----|-------------|-------|-------|
| 1          | Students from the same state where the college is situated | 773 | 96  | -           | 58    | 924   |
| 2          | Students from other States of India                        | 57  | 5   | -           | 1     | 67    |
| 3          | NRI students   | 11  | -   | -           | -     | 11    |
| 4          | Foreign Students   | 11  | 1   | -           | -     | 11    |
|            | Total  | 852 | 101 | -           | 59    | 1013  |

25. Dropout rate in UG and PG (average of the last two batches) Those who have discontinued after Second year for UG and First year for PG only be considered, excluding Lateral entry students.

2015-16 UG 13 /780 PG 10/372 2016-17 UG 7 /780 PG 4/372

#### 26. Unit Cost of Education

(Unit cost = total annual recurring expenditure (actual) divided by total number of students enrolled)

- (a) Including the salary component = Rs. 2.29 Lakh
- (b) Excluding the salary component = Rs. 0.88 Lakh
- 27. Does the college offer any programme in Distance Education Mode? No
- 28. Provide the Teacher-student Ratio for each of the Programme offered:

| Sl.<br>No. | Programme                            | Faculty - Student<br>Ratio |
|------------|--------------------------------------|----------------------------|
|            | UG PROGRAMMES                        |                            |
| 1          | Electrical & Electronics Engineering | 1:15                       |
| 2          | Electronics & Communications Engg.   | 1:15                       |
| 3          | Computer Science & Engineering       | 1:15                       |
| 4          | Information Technology               | 1:15                       |
| 5          | Chemical Engineering                 | 1:15                       |
| 6          | Biomedical Engineering               | 1:15                       |
| 7          | Mechanical Engineering               | 1:15                       |
| 8          | Civil Engineering                    | 1:15                       |
| 9          | Science & Humanities                 | 1:13                       |
|            | PG PROGRAMMES                        |                            |
| 9          | Computer Science & Engineering       | 1: 12                      |
| 10         | Communication Systems                | 1: 12                      |
| 11         | Power Electronics & Drives           | 1: 12                      |
| 12         | Applied Electronics                  | 1: 12                      |
| 13         | Information Technology               | 1: 12                      |
| 14         | VLSI Design                          | 1: 12                      |
| 15         | Soft ware Engineering                | 1: 12                      |
| 16         | Manufacturing Engineering            | 1: 12                      |
| 17         | Energy Engineering                   | 1: 12                      |
| 18         | Medical Electronics                  | 1: 12                      |
| 19         | Environmental Science & Engineering  | 1: 12                      |
| 20         | Master of Business Administration    | 1: 15                      |

29. Is the college applying for Accreditation, Cycle 1 / Cycle 2 / Cycle 3 ......

The college is applying for Accreditation Cycle 2

30. Date of Accreditation Cycle 1 08.01.2011 Accreditation Outcome: Grade A (3.13/4)

31. Number of working days during last academic year (2015-16)

180 + examination days for regular Odd & Even semesters

32. Number of teaching days during the last academic year (2015-16)

160 days

33. Date of establishment of Internal Quality Assurance Cell (IQAC)

SSN IQAC was established on 01.07.2011.

34. Details regarding submission of Annual Quality Assurance Reports to NAAC:

AQAR reports for the academic years 2011-12 to 2015-16 have been submitted.

35. Any other relevant data not covered:

#### Quality of Graduating Students for the last five years

|         |      |       | UG    |       |       | PG   |     |       |       |          |  |  |
|---------|------|-------|-------|-------|-------|------|-----|-------|-------|----------|--|--|
| Year    | Appe | FWD*  | I     | II    | Pass  | Appe | FWD | I     | II    | Pass     |  |  |
|         | ared | L WD. | Class | Class | %     | ared | FWD | Class | Class | <b>%</b> |  |  |
| 2015-16 | 925  | 159   | 648   | 43    | 91.89 | 308  | 39  | 247   | 8     | 95.45    |  |  |
| 2014-15 | 922  | 147   | 666   | 51    | 93.7  | 327  | 39  | 251   | 26    | 96.64    |  |  |
| 2013-14 | 759  | 101   | 566   | 35    | 92.49 | 301  | 52  | 220   | 12    | 94.35    |  |  |
| 2012-13 | 675  | 88    | 508   | 35    | 93.48 | 276  | 43  | 203   | 18    | 95.65    |  |  |
| 2011-12 | 674  | 124   | 476   | 22    | 92.28 | 183  | 11  | 152   | 14    | 96.72    |  |  |

<sup>\*</sup> First Class with Distinction

No. of Anna University Ranks

| 1 (00 01 11111100 0 111 ( 01 110 1 11111111 |     |    |  |  |  |  |  |  |  |  |
|---|-----|----|--|--|--|--|--|--|--|--|
| Year  | UG  | PG |  |  |  |  |  |  |  |  |
| 2015-16                                     | 95  | 40 |  |  |  |  |  |  |  |  |
| 2014-15                                     | 103 | 63 |  |  |  |  |  |  |  |  |
| 2013-14                                     | 87  | 51 |  |  |  |  |  |  |  |  |
| 2012-13                                     | 69  | 38 |  |  |  |  |  |  |  |  |
| 2011-12                                     | 92  | 11 |  |  |  |  |  |  |  |  |

Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam-603110

#### **Students Achievements**

- A team of four students from final B.E. (EEE) participated in Bosch Hackathon and bagged the First prize and cash prize worth Rs.2 lakh.
- Pavan Kumar and Sidarth, Final B. Tech. (Chemical) secured about 99 percentile in GATE with All India Rank 87 and 120 respectively.

### Smart India Hackathon 2017

It is the world's biggest open innovation model which aims to create implementable and sustainable solutions to problems identified by various government departments



Team of SSN students led by J Adithya, Computer Science Department, won the first prize in the Skill Development category. The team received a cash prize of ₹1,00,000.



Another SSN team led by Muthu Annamalai C T, Computer Science Department, won the third prize in the Postal Services category. They were awarded a cash prize of ₹50,000.

- Jose Rohan, III B.E. (Mech.) won Second place and a cash award of Rs.25,000 at Honeywell's Eureka Challenge for motorcycle safety equipment.
- A project by D. Ganesh Kumar, K.B.Dixit, S.Sakthivel, Final B.E. (BME) titled "A PDA to quantify driver's attention using EEG biofeedback" was awarded the second prize in CSI Project Colloquium-2017.
- R.N. Kirtana, II B.E. (CSE) presented a poster titled "An IoT based Remote HRV Monitoring System for Hypertensive Patients" and secured First prize in CSI Project Colloquium-2017.

### VALEO INNOVATION CHALLENGE 2017

A competition for young students worldwide to make the car of 2030 for Valeo, a multinational automotive supplier based in France



Only two teams from India qualified for the final round comprising of 12 teams in total. Both the qualifying teams are from SSN, and led by Ankit Kumar and D Vishal – 2nd year students from the Department of Mechanical Engineering. They have won €5000 each and will compete for the first prize of €100000 in the final round.

- Siddharth S, IV B.E. (CSE) secured first place in Model United Nations held at St. Joseph College of Engineering.
- Sri Mugilan, III B. Tech. (Chem.) received the best paper award I prize in Shemcon 2015 organised by IIChE.
- Sri Navin P. III B. Tech. (Chem.) received a prize award of Rs.35,000/- in the event GAMETHON (Gravitas 2015) from VIT Vellore.
- Ramya R & R.Srivatsan, III B.E. (Mech.) won First place in Business Plan Event of Tier 3 SAE Student Convention held at VIT.
- Hamsa Zagriya, Hasha Vardhini, Dharani (2015 batch) received the ISTE-Manakula Vinayagar Award for best student project for the project titled, "Energy recovery scheme to harvest energy from partially shaded photovoltaic module" at 15th ISTE TN & Pondicherry Section Annual Convention for Engineering Students.

- Mr. Jerry George Thomas, III B.E. (ECE) was awarded the Best Delegate, Ms. S. Sanjana Smruthi, II B.E. (ECE), Gaya Prasad, III B.E. (CSE) were awarded the Special mention-II and Ms. C. Sreenithy was awarded the High Commendation in the Model United Nations Conference'15 held at VIT University, Chennai Campus.
- M. Aravind, R Sai Santhosh, II B.E. (Mech.) won the best paper award in 'Manufacturing' & also stood first in prelims of paper presentation at IIT Madras's Mechanical symposium 'Mechanica'16
- Ms. K.V. Iswarya, M.E. (PED) won the 1st Prize in "Danfoss-Innovator Project Award 2014-15" conducted by Danfoss Industries Pvt. Ltd. She has won a cash prize of two Lakh rupees and a certificate for her project entitled, "Velocity Control of Linear Switched Reluctance Motor" under the guidance of Dr. M. Balaji, Asso. Prof./EEE.
- Arun Srinivas P, Deepak N, Ganesh Kumar K, Navathej G, students of BME won Rs. 10000 in Texas Analog Design contest for their project "Design of a Switch Controller for Paralytic Patients using EEG" in 2013.
- Mukundan and M. S. Vishwanath (2009-2013) of CSE won first prize (iPad) in "CIO's Challenge" National level contest conducted by CTS in year 2013.
- Archana J and Lakshmi, III B.E. (BME) won Sahajanand Laser Technology Sushrutha Innovation Award for innovation "A cost effective prototype for long term blood glucose monitoring using non-invasive adaptable laser technique" in 2012 (Rs.50,000/-).
- B. Sriram and M. Tarun, IV B.E. (Mech.) won the first prize in Tier-2 National Level SAE Student Innovation Contest 2012.
- Nirupa, IV B.Tech. (IT) won the award in National Social Entrepreneurship proposal contest to eliminate child labour in 2012.
- Kamal Prakash & Karthik Singaram students of EEE secured award for Best Algorithm for Robotic Design at NIT Trichy in year 2011 -12.
- 11 students from IT(3), EEE(3), BME(3), ECE (1), CSE(1) received the "BEST NSS Volunteer Award" from Anna University.
- Karthik Narayan student of CSE was the 1<sup>st</sup> runners up and received Rs. 3 Lakh in cash award in Tanishq Swarna Sangeetham.
- Students of Mechanical Engineering won the best endurance, best driver and 4<sup>th</sup> overall place in the Imperial Society of Innovative Engineers, National level design and Karting competition.
- Students of Biomedical Engineering won a cash prize of Rs.3.1 Lakh in Innovation Challenge Smart Living contest for their project "Optimized switch control for elder and disabled patients using EEG".

#### **CRITERIA-WISE INPUTS**

#### **CRITERION I: CURRICULAR ASPECTS**

#### 1.1 Curriculum Planning and Implementation

#### 1.1.1 The Vision and Mission statements of the institution are:

#### **Vision Statement**

To be a world-class institution for technical education and scientific research for the public good.

#### **MissionStatement**

#### SSN will strive continuously to

- Make a positive difference to the society through education
- Empower students from all socio-economic strata to level the academic and professional playing field
- ➤ Be a centre of excellence in education in emerging technologies in tandem with the industryand industrial trends
- ➤ Build world class research facilities on par with the finest in the world and broaden students' horizons beyond classroom education
- Nurture talents and entrepreneurship and enable all-round personality development in students

The Vision and Mission are communicated to the students, teachers, staff and other stakeholders by including the statements in the institute calendar which is issued to every student and faculty at the start of the academic year. The statements are displayed at all prominent places such as, laboratories, library, conference halls, seminar rooms, canteen etc. It is also indicated in the college website www.ssn.edu.in.

## 1.1.2 Action plan for the effective implementation of the curriculum

The Institution follows the curriculum defined by Anna University.

Well defined program outcomes and course outcomes aid in providing direction to teaching and other activities. Feedback from industry and alumni is given due importance in defining graduate attributes and design of course outcomes. A regular system of obtaining students' feedback helps in improving the learning outcomes.

### 1.1.3 Support the teacher receives from the college for effective translation of curriculum to class

The institution follows a student centric method of teaching. Technology is used extensively to ensure effective delivery of curriculum. Every teacher is provided with a personal computer and access to high speed internet. The Institution also provides access to online resources such Science Direct, Springer, IEEE, ACM etc to enable faculty enrich the content of teaching. A campus wide intranet assists dissemination of information and materials. All the classrooms are equipped with laptop, LCD projector and screen besides the conventional blackboards.

## 1.1.4 Initiatives by the institution for the effective curriculum delivery

SSN has put in place extensive infrastructure for technology led learning. The campus is fully wi-fi enabled with high speed internet access to all students and faculty. A campus wide intranet is used extensively to post course notes, learning material and discussions/circulars. Students are expected to be prepared for the topics being covered in the classroom.

The process of course allocation, planning and monitoring of delivery is ensured through departmental meetings and reviews.

The faculty members prepare the pre-class materials based on the approved course plans and use various teaching aids such as PPTs and projectors in the classrooms to effectively deliver the content.

The assessments aim to measure course outcomes as against the defined course objectives.

Class committees are formed for each section of class. They meet periodically and students provide their inputs on the progress of the course, issues in learning, if any and suggestions for further action. These meetings are minuted and relevant points shared with concerned faculty members.

On a semester-to-semester basis, written feedback is obtained from students for each course. These are used for better curriculum delivery in the subsequent semesters.

The Principal is provided with copy of the minutes of the class committee meetings for information and action, wherever necessary.

## 1.1.5 Interaction with research bodies and industry to improve operation of the curriculum

The interaction with the research bodies and Industry happens through guest lectures, industrial visits, tours and internships during vacation. Some of these lead to projects for students in their final semester. Guest lectures from industry and research laboratories give inputs about the current trends in the industry. During the conferences that are organized by departments, there is a

confluence of industrialists and scientists from reputed research organizations. Inputs from these sources are formally documented and put forward to the faculty who are members of the specific Board of Studies.

### 1.1.6 Contribution of the institution in the development of the curriculum

Some of the faculty members of the college are members of the Boards of Studies (BOS) in various disciplines and also Academic council of the University. They actively collect inputs from the Industrialists, Research Scientists and Alumni, collate them and make suitable recommendations to the BOS for incorporation/modification in the curriculum.

#### 1.1.7 Independent development of the curriculum by any faculty

A faculty member can also recommend incorporating a subject / topics in the curriculum to enhance the employability of the students. In such cases, he can frame a syllabus and indicate the same to the BOS through the Principal that he is willing to teach the course. This is given due consideration by the respective Boards of the University and can be offered by the faculty as 'a directed study'.

#### 1.1.8 Ensuring that the stated objectives are achieved

The essential objectives of an engineering education are that post completion of the programme a student should

- Possess a sound knowledge of the engineering concepts and their application
- Be strong in his analytical skills
- Have good communication skills
- Be able to work and contribute in a team environment
- Exhibit leadership potential
- Have a zest for lifelong learning

There are many mechanisms to ensure the achievement of the above objectives. They are:

- Student feedback during the class committee meetings.
- The examination results
- The placement interviews.
- Alumni achievements

All the above indicate the success achieved by the institution in ensuring development of high quality engineering graduates at SSN.

#### 1.2 Academic Flexibility

#### 1.2.1 Skill Development Courses offered by the Institute

The students are given adequate training in the courses prescribed by the curricula to earn their degree. In addition, the following value added programmes are offered:

- i. Foreign language courses in German, French, Spanish and Japanese
- ii. Personality Development Programmes
- iii. Training in Communication skills resulting in BEC I, BEC II certificates of British Council
- iv. Special training programmes in C++, JAVA
- v. Aptitude training to enable success in the recruitment processes of various companies

#### 1.2.2 Offer of twinning programmes

These are not possible as the Institution is affiliated to Anna University.

#### 1.2.3 Institutional provisions for enrichment of the syllabi

The Regulations and Curricula are fixed by the affiliating University. Within this framework, the Institution offers a wide range of electives. These electives are sometimes common to many branches, viz. Environmental Science, Professional Ethics, and Engineering Economics. Wherever possible, the faculty members go beyond the syllabus to augment the learning outcomes of students.

Some courses are offered in an effort to provide additional inputs to the students, so that they have the built in capacity for self study and feel at home when they join an industry. For example, special short term courses like Wind Energy by EEE department, Advanced Imaging Techniques by ECE department and Fundamentals of Accountancy by the School of Management are offered, as non-credit courses, for students who desire to learn them.

#### 1.2.4 Self financed programmes

The Institution is an unaided one and all the programs offered by it are self-financed.

#### 1.2.5 & 1.2.6 Additional skill oriented programmes and Combining Conventional & Distance Mode Programmes

The University prohibits the conduct of distance mode programs.

The details of additional skill development programmes are given in section 1.2.1.

#### 1.3 Curriculum Enrichment

#### 1.3.1 Supplementing University's Curriculum

One of the goals of the institution is to make students ready for higher studies, employable and if possible train them to be entrepreneurs. In this direction the Foreign Language courses and Communication skill development courses are conducted. In addition training programs are conducted on entrepreneurship for aspiring entrepreneurs.

## 1.3.2 Efforts made by the institution to enrich and organize the curriculum to enhance the experiences of the students

Based on the suggestions from industry, students and faculty, a few courses can be included in the curriculum such as 'Mathematical modeling', 'Fibre reinforced plastics', 'Regional Language Key boards' etc. These are suggested to the appropriate Board of Studies, through our faculty who are also member of the Board thus, enhancing the experience of students.

We try to give our students exposure to such courses either through guest lectures or through online resources such as NPTEL or coursera.

# 1.3.3 Efforts for cross cutting issues such as Gender, Climate Change, Environmental education, Human rights and use of ICT etc.

A Model United Nation (MUN) club is available in the campus, in which students volunteer to discuss about global issues such as Terrorism, Racial Discrimination, Gender Bias, Global Warming, Human Rights, Capital Punishment etc. Environmental study is already a course in most of the UG curriculum, based on the dictum of the Legal Authorities of India.

Laptops are an integral part of academic life at SSN. The entire campus is Wi-Fi enabled, so that the students can browse the net from any part of the campus at any time. A lot of information is passed on to the students through their college email id. The access to the intranet, which has the lesson plans and study materials posted by the individual teachers, cycle test schedule, placement related information, information regarding the impending visit of eminent people to the campus are informed through the intranet. Hence, ICT is being used extensively in the campus.

There is a "Good Citizens Forum" on campus which strives to promote a culture of respecting all and appreciating diversity, being enthusiastic and reflective, focusing on continuous development of self and community and pursuing professionalism in doing one's best in all endeavors.

#### 1.3.4 Programmes for the holistic development of the student

The following programs and activities help in the holistic development of students:

- Youth Red Cross
- NSS
- Symposia organized by students
- "Instincts", a national level cultural fest
- Clubs for music, dance, theatre, literary, photography and quiz
- Visits to villages for health camps and blood donation camps
- Entrepreneurship Development Cell
- Sports activities

Every year, for about a week, the volunteers live with the villagers, helping them with information such as how to get an LPG connection, a ration card, a community certificate etc. besides arranging blood donation and health camps. Students frequently visit one particular village for about three years, so that they can physically see, all their efforts to make the village self sufficient, clean, self empowered, illiteracy eradicated, minimal reliance on government and above all with self respect, bearing fruits. It is gratifying to note that they have developed an attachment with the village, as evidenced by their timely help, as alumni, during recent ravaging floods.

### 1.3.5 Enrichment of the curriculum from feedbacks from stack holders

The feedback is collected from employers, who come for recruitment; Alumni who come to share their experience in industry and occasionally, parents. The institution consolidates this for consideration by the Boards of Study.

#### 1.3.6 Monitoring the enrichment of the programme

The feedback from employers, the number of students who get placed after all the training programmes, number of students who go overseas for higher education, students who take up research as a career, feedback from the alumni, all will indicate the results of the enrichment training given to students. More and more companies come for placement and many of them recruit good number of students, many of them having multiple placements. These facts go well to indicate that our enrichment programmes have given good dividends.

#### 1.4 Feedback system

#### 1.4.1 Contribution of the college in the design of the curriculum

From among the faculty, there are faculty who are members of the Boards of Study and Academic Council of Anna University. They collect information from their colleagues in the college, from Industrialists, employers, Alumni and scientists, when they visit the college, and these are discussed among the faculty and the outcome of the discussions are put forward to the Boards for adoption in future years. As the number of colleges affiliated to Anna University is considerably large, the adoption of suggestions by the colleges for modifications to the curriculum cannot be but minimal.

#### 1.4.2 Feedback mechanism

There is a full-fledged feedback mechanism as far as students are concerned. But it mostly relates to the teaching learning process. The employers when they come for recruitment give only oral comments that a certain item can be added to or deleted from the syllabus for having becomeobsolete, or that students are not aware of a particular aspect in a course. Even then, they are discussed in the faculty meeting and rectification to the extent possible is made, and those which could be carried forward to the Boards of Studies will be made.

#### 1.4.3 New courses and their rationale

During the past four years, no new UG programmes have been added in the college. The policy of the Management is to have more PG programmes which will ultimately result in developing research scholars. Hence, a few PG programmes such as Manufacturing Engineering, Energy Engineering, Medical Electronics and Environmental Science and Technology have been added during the last four years. Chennai is the hub for automotive, manufacturing and electronics industries. All our energy sources are fast dwindling. Hence, a new PG programme in energy was added. The planning without understanding the impact of industries on the environment such as pollution of ground water, draught, flooding, disappearance of bird species etc. warrant study of environment and hence its inclusion.

#### CRITERION II TEACHING-LEARNING AND EVALUATION

#### 2.1 Student Enrolment and Profile

## 2.1.1 & 2.1.2 Transparency, criteria in admissions, criteria adopted and process of admission

The admission to UG programmes in Self Financing Engineering colleges in Tamil Nadu is done in two parts,

- Single Window Counselling (SWC), by the Government
- Consortium of Self Financing Colleges (CA)

While the first part is for 65% of sanctioned strength, the second is for 35% of the sanctioned intake. In either case, the admission is through merit only, merit based on the qualifying marks (Q) earned by the candidate in his/her +2 examinations, following the reservations prescribed by the Government of Tamil Nadu, both for SWC and CA. The qualifying mark Q = [M + (P+C)/2], where M, P and C are percentage marks earned by the student in his +2 examinations in the subjects Mathematics, Physics and Chemistry, irrespective of the Board.

The admission to PG programmes is based on the marks earned by the candidate in the Tamil Nadu Common Entrance Test (TANCET) only, irrespective of the programme. Even in this, 50 % of seats are admitted through SWC, while the balance is admitted by the Consortium. At SSN College of Engineering, all PG programmes are residential. No advertisement is given for admissions, be it UG or PG, and if at all an advertisement is given, it is only to indicate the programmes available in the college.

The popularity of the college can be easily gauged by the fact that there are as many as 6500 applications for 273 Consortium seats in the First year of the UG programme.

#### 2.1.3 Minimum and Maximum marks for admission at entry level

The quality of intake of students as marked by the qualifying marks in their qualifying examinations for the preceding year 2016-17 is given below:

| Sl.<br>No. | Programme                          |            | g marks or<br>T marks |  |  |  |  |
|------------|------------------------------------|------------|-----------------------|--|--|--|--|
| 190.       |                                    | Maximum    | Minimum               |  |  |  |  |
|            | UG (for 200)                       |            |                       |  |  |  |  |
| 1          | Electrical & Electronics Engg.     | 200        | 181.75                |  |  |  |  |
| 2          | Electronics & Communications Engg. | 200        | 183                   |  |  |  |  |
| 3          | Computer Science Engineering       | 198        | 184                   |  |  |  |  |
| 4          | Information Technology             | 200        | 180                   |  |  |  |  |
| 5          | Chemical Engineering               | 199.33     | 179.50                |  |  |  |  |
| 6          | Biomedical Engineering             | 195.75     | 176.50                |  |  |  |  |
| 7          | Mechanical Engineering             | 198.50 180 |                       |  |  |  |  |
| 8          | Civil Engineering                  | 199.67     | 178                   |  |  |  |  |
|            | PG (percentage)                    |            |                       |  |  |  |  |
| 9          | Communication Systems              | 34.01      | 20.40                 |  |  |  |  |
| 10         | Computer Science & Engineering     | 32.71      | 21.98                 |  |  |  |  |
| 11         | Applied Electronics                | 33.53      | 21.83                 |  |  |  |  |
| 12         | Power Electronics & Drives         | 36.80      | 23.43                 |  |  |  |  |
| 13         | Information Technology             | 30.76      | 23.13                 |  |  |  |  |
| 14         | VLSI Design                        | 29.06      | 21.16                 |  |  |  |  |
| 15         | Soft Ware Engineering              | -          | -                     |  |  |  |  |
| 16         | Manufacturing Engineering          | 31.53      | 22.43                 |  |  |  |  |
| 17         | Energy Engineering                 | 36.40      | 24.25                 |  |  |  |  |
| 18         | Medical Electronics                | 36.74      | 20.49                 |  |  |  |  |
| 19         | Environmental Science & Technology | -          | -                     |  |  |  |  |
| 20         | MBA                                | 64         | 51.6                  |  |  |  |  |

## 2.1.4 Mechanism in the institution to review the admission process and student profiles

The institution does not have a role in the admission process.

#### 2.1.5 Diversity and inclusiveness in admissions

The reservation policy of the Government of Tamil Nadu, takes care of the marginalized sectors of the society, viz. SC/ST, OBC, Differently-abled and Minority communities, there being no segregation or preference based on gender.

The walk-in-walk out scholarships attract students from different higher secondary boards in India.

The scholarship scheme for rural government school students brings in diversity of students from socio-economic backgrounds that face challenging circumstances.

The sports scholarship attracts students across the country who excel in sports at State, National and international level competitions conducted by accredited Sports Boards.

This is further accentuated by admissions offered to students from Vidya Gyan in UP. This is an Institution run by the Shiv Nadar Foundation to offer totally free school education to students from underprivileged backgrounds from rural Uttar Pradesh.

#### 2.1.6 The trend of admissions

The following Table gives the trend of admissions for various programmes offered by the college during the past four years, where X is the Number of applications received, Y the Sanctioned strength under Managemeent quota and Z the Demand ratio X/Y. When the number of applications (especially for some PG programmes) is less than the sanctioned strength, the demand ratio is not given.

| Sl. | Duoguana                   | 20   | 12-1 | 3    | 20   | )13-1 | 4     | 20     | )14-1 | .5    | 20   | )15-1 | 6     | 2016-17 |                  | 7     |
|-----|----------------------------|------|------|------|------|-------|-------|--------|-------|-------|------|-------|-------|---------|------------------|-------|
| No. | Programme                  | X    | Y    | Z    | X    | Y     | Z     | X      | Y     | Z     | X    | Y     | Z     | X       | Y                | Z     |
|     |                            |      |      |      |      |       | UG    | r<br>r |       |       |      |       |       |         |                  | •     |
| 1   | EEE                        | 3640 | 42   | 86.7 | 3360 | 42    | 80    | 3450   | 42    | 82.1  | 4140 | 42    | 98.6  | 3500    | 42               | 83.3  |
| 2   | ECE                        | 3640 | 42   | 86.7 | 3360 | 42    | 80    | 3450   | 42    | 82.1  | 4140 | 42    | 98.6  | 3500    | 42               | 83.3  |
| 3   | CSE                        | 3640 | 42   | 86.7 | 3360 | 42    | 80    | 3450   | 42    | 82.1  | 4140 | 42    | 98.6  | 3500    | 42               | 83.3  |
| 4   | IT                         | 3640 | 42   | 86.7 | 3360 | 42    | 80    | 3450   | 42    | 82.1  | 4140 | 42    | 98.6  | 3500    | 42               | 83.3  |
| 5   | Chemical                   | 1890 | 21   | 90   | 2640 | 21    | 125.7 | 2360   | 21    | 112.4 | 3140 | 21    | 149.5 | 2450    | 21               | 116.7 |
| 6   | BME                        | 1890 | 21   | 90   | 2640 | 21    | 125.7 | 2360   | 21    | 112.4 | 3140 | 21    | 149.5 | 2450    | 21               | 116.7 |
| 7   | Mechanical                 | 3640 | 42   | 86.7 | 3360 | 42    | 80    | 3450   | 42    | 82.1  | 4140 | 42    | 98.6  | 3500    | 42               | 83.3  |
| 8   | Civil                      | 1890 | 21   | 90   | 2640 | 21    | 125.7 | 2360   | 21    | 112.4 | 3140 | 21    | 149.5 | 2450    | 21               | 116.7 |
| PG  |                            |      |      |      |      |       |       |        |       |       |      |       |       |         |                  |       |
| 9   | Communication<br>Systems   | 33   | 18   | 1.8  | 68   | 18    | 3.8   | 38     | 18    | 2.1   | 25   | 18    | 1.4   | 8       |                  |       |
| 10  | CSE                        | 70   | 12   | 5.8  | 71   | 12    | 5.9   | 58     | 12    | 4.8   | 35   | 12    | 2.9   | 15      |                  |       |
| 11  | Applied<br>Electronics     | 11   | 6    | 1.8  | 22   | 6     | 3.7   | 28     | 6     | 4.7   | 10   | 6     | 3.3   | 4       | S                |       |
| 12  | PED                        | 32   | 6    | 5.3  | 65   | 6     | 10.1  | 35     | 6     | 5.8   | 21   | 6     | 3.5   | 12      | eat              |       |
| 13  | IT                         | 6    | 3    | 2    | 12   | 3     | 4     | 8      | 3     | 2.7   | 5    | 3     | 1.7   | 2       | For Lapsed seats |       |
| 14  | VLSI                       | 38   | 18   | 2.1  | 71   | 18    | 3.9   | 44     | 18    | 2.4   | 18   | 18    | 1     | 12      | bse              |       |
| 15  | S/W Engg.                  | 9    | 3    | 3    | 4    | 3     | 1.2   | 2      | 1     | 2     | 3    | 3     | 1     | -       | La               |       |
| 16  | Mfg. Engg                  | 6    | 3    | 2    | 21   | 3     | 7     | 33     | 3     | 11    | 12   | 3     | 4     | 12      | or               |       |
| 17  | Energy                     | 18   | 3    | 6    | 7    | 3     | 2.3   | 14     | 3     | 4.7   | 6    | 3     | 2     | 5       | щ                |       |
| 18  | Medical<br>Electronics     | ı    | -    | -    | ı    | ı     | -     | 2      | 1     | 2     | 7    | 3     | 2.3   | 5       |                  |       |
| 19  | Environmental Sci. & Tech. | -    | -    | -    | 1    | 1     | -     | 2      | 1     | -     | 5    | 1     | -     | 1       |                  |       |
| 20  | MBA                        | 479  | 60   | 8    | 438  | 60    | 7.3   | 554    | 60    | 9.2   | 324  | 60    | 5.4   | 371     | 60               | 6.18  |

#### 2.2 Catering to Student Diversity

#### 2.2.1 Catering to the needs of differently-abled students

Corridors with ramps and rest rooms are provided for differently-abled students.

#### 2.2.2 Assessing the students needs in terms of knowledge and skills

A cursory glance of the Table given in the section 2.1.3 will indicate that the average qualifying mark is about 80%. Due to change of environment and a change in the pattern of teaching at the college compared to that prevailing in the schools, at times students find it difficult to grasp the subjects especially during the first semester. It is found that Language contributes heavily to the heterogeneity of students admitted. Hence, all students are given a diagnostic test in English at the very beginning, and depending on the outcome of the test, special language classes are conducted for the non-performing students to equip them with necessary language skills. This is done during the first week of their admissions itself.

## 2.2.3 Strategies adopted by the institution to bridge the knowledge gap of the enrolled students

In Tamil Nadu, five types of students are admitted to the Engineering Programmes. They are:

- i. Students coming from English medium Central Board schools
- ii. Students coming from English medium State Board Schools
- iii. Students coming from Tamil medium schools
- iv. Students coming from Vocational stream
- v. Lateral entry students

Generally, the first three categories of students cope up with the requirements for engineering studies. Students from Tamil medium schools face challenges due to the medium of instruction. Students from the vocational stream do not study Physics and Chemistry during their earlier education and their understanding of Mathematics is also inadequate. Special coaching classes are held for these students in English, Mathematics, Physics and Chemistry. Over the period of one year, they are able to communicate, understand lectures and analyze problems.

Lateral entry students are admitted to the second year directly after their diploma in polytechnic colleges. Though they are good in the subjects relating to the trade of their choice, their communication skills and mathematical skills require to be supplemented. Hence special classes are arranged for them also in English and Mathematics.

## 2.2.4 How does the college sensitize its staff and students on issues such as gender, inclusion, environment etc.?

The Institution is a co-ed institute and the term 'student' is inclusive for all practical purposes. The gender ratio is approximately 1:1 among students and faculty. The institute promotes free interaction unbiased by gender and has several forums, where a lady is a Chairman and she co-opts men as members. There are policies in place to prevent discrimination based on gender. During orientation of the students and faculty, all newcomers are made aware of the institute's gender and inclusion policies. All facilities are provided in the campus to ensure that both the genders are able to utilize all the infrastructure and opportunities for their development. Sufficient grievance redressal measures are in place to ensure upholding of the gender policies of the institute.

The Institution strives to inculcate the importance of environment preservation among the students. The campus has a dedicated nursery from where the students and staff are encouraged to procure plants for their personal use. Tree plantation drives are organized by the various cells both inside the campus and in nearby villages.

### 2.2.5 How does the institution identify and respond to special educational / learning needs of advanced learners?

The Institution strives to ensure that it is able to assist both slow learners as well as learning needs of the advanced learners. To help advanced learners they are advised to take part in seminars and conferences. They are encouraged to papers and publish in technical journals under the guidance of faculty members. They are also advised to crystallize their ideas into a project, which might earn them funding from the Institution. If it shapes into a viable project for external funding, the student is encouraged to apply for the same. Students, who are desirous of pursuing their studies in foreign universities, are counseled regarding selection of Universities and colleges.

#### 2.2.6 Drop outs among students and addressing them

It has been generally observed that the dropping out of students is in the category of Vocational stream students only. Rarely other students tend to drop out, and if at all they do, it is due to heavy back log of subjects. In an effort to minimize this by giving personal attention, during the first year, 15 students are attached to a faculty of Science & Humanities and later on (after first year) to a faculty in their own department, who continues to be his/her mentor for the restof the programme. The mentors meet the students once a month and are generally able to locate students who need some sort of counseling.

The college has a Students Counselor who is a qualified psychologist. She interacts with faculty mentors to identify students with a backlog of arrears, who are emotionally unstable, weak and depressed. Counseling if done for these students on a one-to-one basis as frequently as needed, to advise suitably and follow up. Hence, drop outs are insignificant.

#### 2.3 Teaching - Learning Process

#### 2.3.1 Organisation of Teaching, Learning and evaluation process

As per the university regulations, the college must have 90 working days per semester. With this in mind, a calendar is prepared to give dates of reopening, holidays and dates for other events such as Annual day, Sports Day, Seminar Week, Graduation day etc. This is printed and given to all faculty and students at the beginning of the academic year. In a typical 4 year engineering programme, there are about 45 theory courses and 14 practical courses, besides a Project in the final semester. Of these 47% are predominantly lecture based and the rest 53% for which ICT is extensively used.

The examination comprises two components, the internal assessment component for 20% and the end of semester examination accounting for the rest.

For the Internal assessment, there are three cycles of tests spread evenly over the entire period of the semester. The first cycle test generally commences after the first 15 working days of that semester. One cycle of tests lasts for 3 weeks. The time table for the cycle tests is given atleast a week ahead of commencement of tests. The tests are conducted centrally, during the first two periods of Mondays and Fridays. The end semester examinations commence after the third cycle test.

### **2.3.2** How does IQAC contribute to improve the teaching – learning process?

IQAC is christened as Quality Management System in the college. It is formed around shared pedagogical interests or practice and is centered on faculty and Students as stakeholders. Focus is on productive Teaching and Learning process through effective implementation of curriculum through experiential learning. Ideally it represents multiple Teaching and learning methods such as classroom teaching (Lectures), Assignments, Lab Experiments, Case Studies, Research, Simulations Exercises and mini projects.

QMS identifies a focus of choice that may include active learning, Course Plan, Lesson Plan, Beyond Syllabus exercises, assignment design, application of course concepts, teaching large lecture courses, and integration of technology, to name a few. The QMS then formulates a process through which it engages to focus across the semester. This process may include, but is not limited to:

- Reviewing a sample of Course Plan, Lesson Plan, Assignments and/or class exercises
- Auditing Continual Improvements

### 2.3.3 Student centric learning and exposure to Technology enhanced learning

The teaching-learning process comprises three steps.

The teacher prepares the teaching plan and it is approved by the HoD. The teacher informs the students the availability of this in the intranet, in addition to indicating the location of other sources of information such as books for reference, CDs, illustrations, flow diagrams etc.

In the class, the teacher gives explanations for the uploaded material and gives additional information regarding the same and calls for any queries. In case of problem-oriented subjects, he takes the help of another teacher and gives problems for students to solve in the class itself. This is particularly helpful as in this case the instructions are given on a one to one basis, and the students shed all the inhibitions they might have, thus ensuring student centric learning.

The library has as many as 2500 CDs of live lectures of eminent professors from institutions of repute viz. IITs, in addition to free access to NPTEL lectures and this forms the self learning part of the teaching-learning process.

## 2.3.4 How does the institution nurture critical thinking, creativity and scientific temper among the students to transform them into lifelong learners and innovators?

Practical exposure to students is an important part of teaching to help students nurture critical thinking, creativity and scientific temper. While the library is open till late in the night, the laboratories of the institute are open to desiring students. The student can do experiments and seek the advice from a faculty member for validation and further guidance.

Students are encouraged to develop working models from resources available, thus rendering lifelong learning a passion among students. Students are encouraged to team up with faculty for submitting innovative proposals to the management for funding. External experts scrutinize the proposals and students present their thoughts and arguments in favour of the project proposals. Students are incentivized for their creativity and critical thinking by the institution by providing seed funding for innovative projects. Most of these projects lead to publications in refereed international journals.

### 2.3.5 What are the technologies and facilities available and used by the faculty for effective teaching?

The institute has adopted the e-learning technology and this is used for at least 90% of the courses taught. NPTEL lectures are available for browsing in the library. Further Anna University beams through 'EDUSAT' lectures on specific topics. But the scheduling is a constraint. A large number of CDs are available in the library, on various subjects and as everyone has a lap top, the student can browse through the contents at his own time and pace.

The entire campus is fully Wi-Fi enabled and with repository of teaching materials on the intranet facilitates students' preparation prior to class sessions.

Classrooms have projectors and laptops to ensure that teachers could use all electronic teaching aids at their disposal.

## 2.3.6 How are the students and faculty exposed to advanced level of knowledge and skills (blended learning, expert lectures, seminars, workshops etc.)?

Scientists from Research organizations, persons from industries and academicians from other Universities are invited to deliver lectures to students as well as faculty. Every year students organize an annual seminar on a suitable topic inviting experts and students from other colleges to give lectures, demonstrations etc.

Every department of the institute organizes a National level technical symposium where students and experts from all over the country participate and exchange ideas and concepts related to their fields.

## 2.3.7 Detail (process and the number of students benefitted) on the academic, personal and psycho-social support and guidance services provided to students?

The detailed teaching learning process is described in section 2.3.11 in this report. A mentor is available for every 15 students, who guides the studentsthrough the entire programme and gives academic counseling where necessary. A qualified student counselor is available in the campus, who identifies the students needing psychological counseling and interacts with them on a one-to-one basis. Academic student mentors, help the counselor in identifying the students, who need counseling. It has been observed that counseling is found necessary for students, who are first generation learners, students who could not express themselves in English, those with large number of back logs and also occasionally for those who have relationship issues.

## 2.3.8 Innovative teaching approaches/methods adopted by the faculty and the efforts made by the institution to encourage the faculty to adopt new and innovative approaches.

Faculty extensively use technology and teaching aids along with practical aspects to teach students. Course materials are prepared in advance and shared with students on the intranet. This facilitates students' preparation prior to class sessions. Every classroom has projectors and laptops to ensure faculty deliver their lectures in an innovative way. This ensures that classrooms are a place to interact and exchange ideas rather than just for delivery of lectures.

When innovative teaching was introduced in 2005, faculty had their own reservations and it was adopted only for courses needing elaborate sketching e.g. Engineering Graphics, Basic Mechanical Engineering, Construction methods etc. But over a period of time, having learnt the nuances of it, it is now

adopted extensively across the UG & PG curricula and there is good acknowledgement from students as well.

#### 2.3.9 Library resources used to augment the teaching-learning process.

The college has an excellent library having as many as 88,300 volumes of books, about 303 print version journals and almost 11285 journals which can be browsed on line. Students are asked to refer to the library resources on a topic of their choice and give a lecture to their own classmates, which dispel their stage fear and gives them a chance to explore the avenues of knowledge available in the library. Students can access the library resources even from the comfort of their hostel rooms.

### 2.3.10 Does the institution face any challenges in completing the curriculum within the planned time frame and calendar?

A 90-day working semester is necessary for a student to appear for the semester examinations conducted by the University. The curriculum and the syllabi have been so framed that in about 45 to 55 periods one will be able to complete the syllabus. If due to unavoidable circumstances such as social disturbances, floods, elections etc. the number of regular working days is insufficient, special classes are conducted on Saturdays and curtailing even religious holidays.

#### 2.3.11 Mentoring, counseling, class committee and monitoring teachinglearning

As mentioned earlier, about 15 students are linked to one teacher, who is teaching them and will be their mentor. During the First year, where students are fresh from schools, have their own inhibitions. First year subjects are mostly from Science and Humanities, hence faculty from those departments are identified as mentors. The student can meet his/her mentor and pose his/her adjustment and academic problems and seek redressal. From second year onwards, students move to the departments of their choice and hence one of their department faculty is nominated as a mentor, who will be mentoring them during the next 3 years. The mentor keeps a complete record of the student's accomplishments, his attitudes, interests, weakness etc.

In the first year, students come from a protected environment at the school, to the college, where their counterparts may or may not think and behave as he has been accustomed to. They come across fast learners, slow learners and sometimes they might even feel that they have landed in an institution not to their liking and feel depressed. Such cases are referred to the student counselor, who is a qualified psychologist, who talks to them individually and counsels them as needed.

A class committee, comprising a cross-section of students – slow learners, fast learners, girls, boys, sports-persons and the faculty teaching the class, chaired by one senior professor from the department, is formed during the

beginning of the semester. This committee meets thrice a semester to discuss about the teaching – learning process and to get a feel of difficulties encountered by the students and faculty. During the First meeting, the discussions are about the purpose of the class committee, University regulations, how the students can express their difficulties and get them redressed. The second meeting is after the first Unit test and the Third one will be after the second test. It has been found to be very useful to both the faculty and students; to faculty about the inattentiveness in the class and absenteeism of students and to students that the teaching being fast, not audible etc. For example, the BME students, most of who are Biology students, requested for special classes on computers. Students admitted under rural quota requested for the lectures with an admixture of Tamil and English etc.

Besides the students' attendance, the teacher's log book shows the pace at which the course is conducted and the performance of students during the semester. This is submitted to the Principal to keep him in the know of things.

Hence, the material uploaded on the Intranet, minutes of the class committee meetings and the periodical entries in the teachers log book are good tools to monitor the teaching-learning process.

#### 2.4 Teacher Quality

#### 2.4.1 Recruitment Process and quality of teachers

The teacher being the key person in a teaching institute, every care is taken to recruit quality persons, devoted to teaching. The number of faculty recruited is aimed so that the faculty strength is not less than 1/15 of the number of students with a cadre ratio of 1:2:6 for UG Programmes. For PG, the number of faculty must be at least 3 for an intake of 18 and the faculty student ratio aimed is 1:12, with atleast one Ph.D. holder for each of the programmes. Care is taken to ensure that all HoDs, Professors and Associate Professors are Ph.Ds.

The faculty selection committee is as prescribed by the AICTE and University viz. Principal (Chairman), with HoD, subject expert from IIT / Anna University, a nominee of AICTE and a nominee of Anna University as members. Though the committee meets as and when it is necessary, normally the recruitment is done during summer, so that the teacher is available during the beginning of the academic year itself. The directive from the Management, to have as many Ph.Ds as possible without sacrificing the aptitude to teach and at the same time do research, is always borne in mind. The salary is paid as per Sixth Pay Commission pay scales with dearness allowance as proposed by the Government of Tamil Nadu. Other perquisites include group medical insurance, special allowance for Ph.D., incentives for earning external funded projects, Ph.D. guidance, publications etc. These along with a good working ambience make SSN an excellent institution to work at. The attrition rate is as low as one percent. The following Table gives a glimpse into quality of faculty at present:

| Sl. | Highest<br>Qualification                        | Profe | essor | Assoc<br>Pro |    |    | stant<br>rof. | Total |
|-----|---|-------|-------|--------------|----|----|---------------|-------|
| No. | Qualification                                   | M     | F     | M            | F  | M  | F             |       |
| 1   | D.Sc./D.Litt.                                   | -     | -     | -            | -  | -  | -             | -     |
| 2   | Ph.D.   | 28    | 17    | 78           | 39 | 17 | 20            | 199   |
| 3   | M. Phil.  | -     | -     | -            | -  | 2  | -             | 2     |
| 4   | PG  | 3     | -     | 2            | -  | 29 | 40            | 74    |
|     | Total 275                                       |       |       |              |    |    | 275           |       |
|     | Temporary Teachers and Part-Time Teachers - NIL |       |       |              |    |    |               |       |

All faculty are recruited against permanent vacancies and are regularised after a probation period of one year.

# 2.4.2 How does the institution cope with the growing demand/scarcity of qualified senior faculty to teach new programmes/modern areas (emerging areas) of study being introduced (Biotechnology, IT, Bioinformatics etc.)?

The institute has experienced such a situation, especially in the Computer related divisions, when the IT industry was in boom. It was overcome by announcing an additional compensation of about 20% for Computer trained faculty. But currently it is not adopted.

The institution has in place policies to attract and retain highly qualified faculty members. The institute offers good compensation alongwith other perks and benefits like management funding for projects, research facilities, academic freedom, housing on campus and other welfare schemes. This has ensured that faculty positions in the institute are much sought after. This coupled with low attrition rates has ensured adequate qualified senior faculty for all areas at all times.

## 2.4.3 Providing details on staff development programmes during the last four years elaborate on the strategies adopted by the institution in enhancing the teacher quality.

#### a) Nomination to staff development programmes

A teacher will have to be a lifelong learner; only then, he will be able to teach the current trends to the students besides updating himself. To achieve this, every opportunity is given to him to participate in Seminars, Conferences, FDPs etc. organized by external agencies, university and other institutions. Faculty development programmes and National and International conferences are organized by the respective departments, to propagate the knowledge that is nascent as presented in the following Table for the year 2016-17:

| Sl.<br>No. | Academic Staff Development Programmes | Number of faculty<br>Nominated |
|------------|---------------------------------------|--------------------------------|
| 1          | Refresher courses                     | 8                              |

| 2 | HRD Programmes                             | 6  |
|---|--|----|
| 3 | Orientation Programmes                     | 12 |
| 4 | Staff Training programmes organized by the | 25 |
|   | University                                 |    |
| 5 | Summer/winter schools, workshops etc.      | 8  |

## a) Faculty Training programmes organized by the institution to empower and enable the use of various tools and technology for improved teaching-learning

Number of Faculty Development programmes, conferences, workshops organized by the college from 2012-16 are given below:

| Sl. No. | Description of the Programme   | Number |
|---------|--------------------------------|--------|
| 1       | Faculty Development Programmes | 31     |
| 2       | 2 National Conferences         |        |
| 3       | International Conferences      | 11     |
| 4       | Workshops                      | 98     |
| 5       | Seminars                       | 75     |
| 6       | Content Development            | 12     |

#### b) Percentage of faculty

Faculty members who were invited as resource persons, participated and presented papers in workshops/seminars/conferences as against the total number of faculty of 277 during 2016-17:

| Sl.<br>No. | Description  | Number of faculty |
|------------|--|-------------------|
| 1          | Invited as resource persons in   | 75                |
| 1          | Workshops/Seminars/Conferences organized by external Professional agencies | 75                |
| _          | Participated in external workshops / seminars /                            |                   |
| 2          | conferences recognized by national / international professional agencies   | 147               |
|            | Presented papers in external workshops / seminars /                        |                   |
| 3          | conferences recognized by national / international professional agencies   | 185               |

### 2.4.4 Policies adopted by the Management to improve the knowledge content of faculty

The following policies help improve the academic acumen of the faculty

- Incentive for publication of papers
- Incentive for earning external funded projects
- Incentive for guiding research
- Incentive for organizing a National / International conference

- Seed money for a prospective project, so that on fructification can be submitted to an external funding agency for funding
- Incentive for a worthy innovative idea
- Incentive for applying for / winning a patent
- Travel Grant

The number of faculty who have received such awards during 2016-17 is given below:

| Sl.<br>No. | Incentives based on                              |               | Number of faculty |
|------------|--|---------------|-------------------|
| 1          | Number of papers published in journals of repute |               | 276               |
| 2          | Number of external funded projects               | earned        | 17                |
| 3          | Number of Ph.D. students guided                  |               | 174               |
| 4          | Number of Conferences organized: National        |               | 16                |
|            |  | International | 8                 |
| 5          | Number of Internal funded projects earned        |               | 68                |
| 6          | Innovative ideas created                         |               | 7                 |
| 7          | Number of Patents: Submitted                     |               | 6                 |
|            |  | Earned        | 1                 |
| 8          | Number of faculty granted travel grants          |               | 21                |

# 2.4.5 Give the number of faculty who received awards / recognition at the state, national and international level for excellence in teaching during the last four years. Enunciate how the institutional culture and environment contributed to such performance/achievement of the faculty.

The institute encourages the faculty to adopt innovative teaching practices. These incentives are designed towards excelling in teaching, study tours to Indian and foreign universities and learning from the Best Practices of peers. The focus on travelling to other institutes for study tours, participation in conferences and seminars and formal and informal collaborations lead to expanding the horizons of the faculty and ensures novelty in the teaching process. This has resulted in several awards as mentioned below for our faculty members.

**EEE** 

| Sl.<br>No. | Name of the faculty | Awards / recognition received  |  |
|------------|---------------------|--|--|
| 1          | Dr. V.Kamaraj       | <ul> <li>ISTE Best Engineering College Teacher Award 2013</li> <li>IET CLN Diamond Salute Award, 2014</li> </ul> |  |
| 2          | Dr. V. Rajini       | CTS Best Faculty Award in 2011   |  |
| 3          | Dr. R. Rengaraj     | TATA Rao Gold Medal from Institution of  |  |

|   |                   | Engineers (India) for the publication of best paper in Electrical Engineering Division   |  |
|---|-------------------|--|--|
| 4 | Dr. R. Seyezhai   | <ul> <li>CTS Best Faculty Award in 2013.</li> <li>Best Academic Researcher award - 2015         ASDF-2015</li> <li>Outstanding Faculty in the Field of Power         Electronics By Venus International         foundation, Chennai 2015</li> </ul>  |  |
| 5 | Dr. R. Ramaprabha | <ul> <li>"Excellence in Reviewing Papers" from<br/>International Journal of Power Electronics</li> <li>Outstanding Researcher award" in Aufau<br/>International Awards, Dec 2016</li> <li>IET CLN – Sir C.V.Raman Research award<br/>2014</li> </ul> |  |

#### **ECE**

| Sl.<br>No. | Name of the Faulty       | Awards / Recognitions received by faculty  |
|------------|--------------------------|--|
| 1          | Dr. S. Salivahanan       | <ul> <li>Bharatiya Vidya Bhavan National Award for Best Engineering College Principal from ISTE</li> <li>Chairman of IEEE Microwave Theory and Techniques Society, Chennai Chapter.</li> <li>Past Chairman of IEEE Madras Section.</li> <li>Executive Committee Member of IEEE Madras Section.</li> <li>TATA Rao Gold Medal from Institution of Engineers (India) for the publication of best paper in Electrical Engineering Division.</li> <li>Member of Education Panel, FICCI</li> <li>Chairman, ASSOCHAM - Education &amp; Skill</li> </ul> |
| 1          | Dr. S. Radha             | <ul> <li>Development Expert Committee</li> <li>Recipient of IETE SK Mitra Memorial Award from India council of IETE and TPC GWS 2015.</li> <li>Executive Committee Member of IEEE Madras Section.</li> </ul>   |
| 2          | Dr. K. T. Selvan         | <ul> <li>IEEE AP-S Region 10 Distinguished Speaker,<br/>2015-16 and Past Chairman of IEEE Antenna<br/>and Propagation Society, Chennai Chapter.</li> <li>Fellow, Higher Education Academy (UK).</li> </ul>   |
| 3          | Dr. S. Joseph<br>Gladwin | <ul> <li>Chairman of IEEE Antenna and Propagation<br/>Society, Chennai Chapter.</li> <li>Executive Committee Member of IEEE<br/>Madras Section.</li> </ul>   |

| 4 | Ms. P. Kaythry   | Best NSS Program Officer award consecutively        |
|---|------------------|---|
|   |                  | for four years from Anna University, Chennai.       |
| 5 | Dr. S. Sakthivel | Young Researcher Award (2015) from Centre           |
|   | Murugan          | for Advanced Research and Design, Venus             |
|   |                  | International Foundation, Chennai.                  |
|   |                  | <ul> <li>"Sahyog Teachers 2016 Award" by</li> </ul> |
|   |                  | Redington   |

#### **CSE**

| Sl.<br>No. | Name of the Faulty                      | Awards / Recognitions received by faculty   |  |
|------------|---|---|--|
| 1          | Dr.Shomona Gracia<br>Jacob              | Best Young Teacher Award by the GRABS Educational Charitable Trust.   |  |
| 2          | Dr. Chitra Babu                         | <ul><li>MEC Champion faculty award.</li><li>"Sahyog Teachers 2016 Award" by<br/>Redington</li></ul>   |  |
| 2          | Mr. V. Balasubramanian & Ms. S. Kavitha | MEC Champion faculty award.   |  |
| 3          | Dr. D. Venkata vara<br>Prasad           | <ul> <li>Senior Educator and Scholar award from<br/>National Foundation for Entrepreneurship<br/>Development, Coimbatore Sep 2016</li> <li>CTS Best faculty award in 2012.</li> </ul> |  |
| 4          | Dr.A.Chamundeswari                      | Senior Educator and Scholar award from<br>National Foundation for Entrepreneurship<br>Development, Coimbatore, Sep 2016   |  |

#### IT

| Sl.<br>No. | Name of the<br>Faulty                           | Awards / Recognitions received by faculty  |
|------------|---|--|
| 1          | Mr. R. Vinob<br>Chander and<br>Ms. S. Sasirekha | Won the first prize in May 2015 for the Real-time Parking Management System (RPMS) app developed by them at the Hackathon conducted by Great Indian HP Code Off @ GIDS. They get Round-Trip Tickets to USA for their accomplishment. |
| 2          | Dr. T. Sree<br>Sharmila                         | "Young Women Achiever Award" (Engineering) by Venus International Foundation during March 5, 2016  |
| 3          | Dr. G. Muneeswari                               | "Best Teacher Award" from GRABS Educational<br>Charitable Trust on November 1, 2015  |

#### Chemical

|            | Chemical              |  |  |  |  |
|------------|-----------------------|--|--|--|--|
| Sl.<br>No. | Name of the<br>Faulty | Awards / Recognitions received by faculty  |  |  |  |
| 1          | Dr. R. Parthiban      | <ul> <li>Editorial Board Member in International<br/>Journal of Water Resources and<br/>Environmental Engineering</li> <li>Executive Committee Member, Indian<br/>Institute of Chemical Engineers, Chennai<br/>Regional Centre</li> </ul>  |  |  |  |
| 2          | Dr. V. Jaikumar       | <ul> <li>Glory of Education Excellence Award 2013<br/>by National and International Compendium,<br/>New Delhi.</li> <li>Outstanding Educationalist award 2014</li> </ul>   |  |  |  |
| 3          | Dr.K.Jagannathan      | <ul> <li>Excellent Professional Achievement Award 2016 from Society of Professional Engineers (India)</li> <li>Silver medal for Invention, Innovation &amp; Design Exposition 2015 (iidex2015) held at Universiti Teknologi MARA, Shah Alam, Malaysia.</li> <li>Won Silver medal for Invention, Innovation &amp; Design Exposition 2014 (index2014) held at UniversitTeknologi MARA, Shah Alam, Malaysia during.</li> </ul>      |  |  |  |
| 4          | Dr. R. Anantharaj     | <ul> <li>Editorial Board Member of Journal of Innovative Engineering (JIE)</li> <li>Editorial Board Member of Journal of Computational Methods in Molecular Design (JCMMD)</li> <li>IChemE awards 2014 in Malaysia for The Petrochemical Processing Award in 2014.</li> <li>Full Financial Award by Human Resource Division (HIR), University of Malaya 2013.</li> <li>ProSPER.Net-Scopus Young Scientist Award 2013.</li> </ul> |  |  |  |
| 5          | Dr. P. Senthilkumar   | <ul> <li>Innovative Professional Award from Society of Professional Engineers (India)</li> <li>CTS Best faculty award in 2014.</li> <li>"Young Scientist Award" with a cash award of Rs. 20,000/- from "The Professor Venkatachalam Research Foundation", K.S.Rangasamy College of Technology, Tiruchengode.</li> </ul>  |  |  |  |

|   |               | "Young Scientist Award" from Centre for<br>Advanced Research and Design, Venus<br>International Foundation.   |
|---|---------------|---|
|   |               | <ul> <li>Most Cited Authors Award for top cited article in the year 2012 from Elsevier;         Article Name: Adsorption behavior of nickel         (II) onto cashew nut shell: Equilibrium,         thermodynamics, kinetics, mechanism and process design, Chemical Engineering         Journal, Vol. 167 and 2011, pp. 122-131.</li> <li>"Young Scientist Award" from Aufau         International Awards 2016, organized by an         International Journal titled "Chemical Science         Review and Letters" held at Hotel Silver         Palace, Salem.</li> </ul> |
| 6 | Dr. D. Balaji | Executive Committee Member, Indian Institute of Chemical Engineers, Chennai Regional Centre   |

#### **BME**

| Sl.<br>No. | Name of the<br>Faulty  | Awards / Recognitions received by faculty  |  |  |  |
|------------|------------------------|--|--|--|--|
| 1          | Dr. S. Pravin<br>Kumar | Best Teacher Award from Schneider - Electric India   |  |  |  |
| 2          | Dr. V. Mahesh          | TI design contest Award  |  |  |  |
| 3          | Dr.Mallika Jainu       | <ul> <li>Prof. Satyanarayana Award from Association<br/>of Pharmaceutical Teachers of India</li> <li>International Biopharmaceutical Association<br/>Scholarship Award</li> </ul>  |  |  |  |
| 4          | Ms. B. Geethanjali     | <ul> <li>Project titled "A PDA to quantify driver's attention using EEG biofeedback" guided by Ms B.Geethanjali was presented to six panel members currently working in TCS and Cognizant Was awarded the second prize for further progress of the project</li> <li>TI design contest award, Schneider - Electric India</li> </ul> |  |  |  |
| 5          | Ms. Delpha. J          | Best project - Won the first prize with a cash awar of Rs 50000/- in "National Contest for Demonstrating Innovative Prototypes for Start-Up conducted by National Research Development Corporation (NRDC) in collaboration with Nation Scientific And Industrial Research (NSIR), Minist of Science and Technology                 |  |  |  |

#### Mechanical

| Sl.<br>No. | Name of the Faulty            | Awards/Recognitions received by faculty  |  |  |  |
|------------|-------------------------------|--|--|--|--|
| 1          | Dr. K.S. Vijay<br>Sekar       | CTS Best faculty award in 2015   |  |  |  |
| 2          | Dr. N. Nallusamy              | CTS Best faculty award in 2016   |  |  |  |
| 3          | Dr.A.K.Lakshmi<br>Narayananan | Outstanding Reviewer Award given by Taylor & Francis Group for Reviewing Research Papers for "Materials & Manufacturing Processes" for the consecutive third time during 2016-17 |  |  |  |

#### Civil

| Sl.<br>No. | Name of the<br>Faulty | Awards / Recognitions received by faculty  |
|------------|-----------------------|--|
| 1          | Dr. R. Rajkumar       | Editorial Board Member in International Journal of Design and Manufacturing Technology |

#### **Science and Humanities**

| Sl.<br>No. | Name of the Faulty | Awards / Recognitions received by faculty   |
|------------|--------------------|---|
| 1          |                    | "Young Scientist Award" and a Citation from<br>International Organisation for Crystal Growth at<br>Doshishe University, Kyoto, Japan. |

#### 2.4.6 Faculty Evaluation by students and usage of the same

Feedback about faculty is obtained from students at the end of each semester for each course. A feedback is on issues such as teaching activities and skills, knowledge, innovativeness, usage of ECT, bias-free evaluation etc. The feedback by students is a component of the Faculty evaluation and career enhancement. The feedback is generally used as a mechanism for improvement.

#### 2.5 Evaluation Process and Reforms

#### 2.5.1 Student evaluation

The student evaluation comprises essentially of two components viz. (a) continuous internal assessment and (b) end semester assessment by the University. While the former is for a maximum of 20 marks, the balance is for the latter. The total marks earned in the subject are converted in to letter Grades S, A, B, C, D and E with each letter being given a Grade Point, G in numbers.

Grade Point Average for the semester 
$$GPA = \frac{\sum_{i=1}^{n} C_i GP_i}{\sum_{i=1}^{n} C_i}$$

where  $C_i$  - is the Credit assigned to the course

 $GP_i$  - is the point corresponding to the grade obtained for each course

n - is number of all courses successfully cleared during the particular semester in the case of GPA.

The summation is made for the subjects in that particular semester. When the summation is done for all the subjects of all the preceding semesters and including the current semester, it is Cumulative Grade Point Average CGPA. The student is classified to have passed in First Class with distinction, First or Second class based on CGPA he has earned upto and including the eighth semester for the UG and up to and including the Fourth semester for the PG programmes.

The test schedule is given in advance and is conducted centrally similar to the University examinations. For valid reasons, if a student is absent for a test, he is given a retest at the discretion of the teacher. The teacher offering the course uploads the test marks in the University web portal immediately after the evaluation of every test in his subject.

### 2.5.2 What are the major evaluation reforms of the university that the institution has adopted and what are the reforms initiated by the institution on its own?

The University constitutes a board of examiners separately for central valuation of each category (for various sciences, humanities and for various engineering and technology disciplines) consisting of a Chairman, Chief Examiners and Examiners.

There is a provision in the University for revaluation of the answer scripts as well as for students to obtain photocopies of the evaluated answer scripts. On the recommendations of HoD and Principal, the answer scripts of University examinations are revalued by the University. In case the student is not satisfied with the outcome of the revaluation or the marks obtained by him, university has a provision to go in for a CHALLENGE. However the marks obtained by the student will be the best of all the above.

The institution continuously reviews the evaluation process done internally and necessary changes as and when applicable/ required are implemented. There are three tests which form part of internal evaluation for every subject. The institute encourages the teachers to experiment with various evaluation techniques to test learning of students.

In addition to the above, regular assignments are also part of the evaluation process.

### 2.5.3 How does the institution ensure effective implementation of the evaluation reforms of the university and those initiated by the institution on its own?

For the effective implementation of the reforms advised by the university, the college has an exclusive Examination Cell headed by a Professor for overseeing the conduct of all the internal and external examinations. Question papers are set by different faculty and handed over to the Examination Cell for ensuring smooth conduct of the evaluation.

The results are analysed and reviewed by the HoD so as to plan and execute corrective actions, if any. The above method ensures a fool proof method of implementation of evaluation reforms.

## 2.5.4 Provide details on the formative and summative assessment approaches adopted to measure student achievement. Cite a few examples which have positively impacted the system.

The institution conducts tests every Monday and Friday for the students. Tests are conducted after the completion of roughly 30% of the overall syllabus of a particular course. Atleast three tests are conducted for any particular course. The tests are so designed that students have to understand the concept and apply it to problems to do well in the tests. This takes care of the formative assessment of the students. The final examinations of the subjects and the practical examinations are the summative assessments and they ensure that students have understood the concepts and their applications. Funded projects and mini-projects test their use of these concepts.

## 2.5.5 Detail on the significant improvements made in ensuring rigor and transparency in the internal assessment during the last four years and weightages assigned for the overall development of students

The University prescribes 80% for end-of-semester examinations conducted by the University and 20% for the CIA component, awarded by the college. The internal assessment is the average of three tests conducted for a course during the semester. The University specifies dates for uploading each of the three test marks in its portal. The tests are conducted centrally, on the same fashion as that of a University examination, thus ensuring rigour and transparency, evaluated for a maximum of 100, giving equal weightage for all the tests and uploaded in the portals of the University, on the dates specified. The uploaded marks are available on the portal for the student to see thus, eschewing any complaint. The University computes the internal assessment marks. The behavioural aspects and independent learning are not quantified and included in awarding the IA marks. However, they are taken into consideration

while selecting students as student office bearers for various activities in the college such as Literary club, Music Club, Secretary to organize student seminars etc. in the college.

#### 2.5.6 Graduate Attributes (GA) of the college

The college expects the following Graduate Attributes from the students graduating from the college:

- a. To have good listening skills and ability to communicate
- b. To serve to the society at large
- c. To have excellent engineering knowledge & skills
- d. To use modern tools
- e. To have strong analytical skills
- f. To design and develop solutions
- g. To have individual and team working skills
- h. To be a lifelong learner
- i. To have positive work ethics

The number of students who gain admissions in Institutions of higher learning both in India and overseas, the number of students who get placed in reputed organizations and the count of students who venture as entrepreneurs are indicators of the achievement of the GA.

#### 2.5.7 Grievance Redressal mechanisms

There are two distinct grievances that could come from students, one relating to the college and the other relating to the University. Grievances relating to the college can be addressed to the teacher concerned, or the HoD concerned or the Grievance Redressal Committee (GRC) of the college for redressal. The GRC, generally meets once in a month, or earlier as situations warrant, and try to address the student's grievances. Grievances relating to the University can be addressed to the Registrar or the Controller of Examinations of the University, as the case may be, and routed through the Principal.

#### 2.6 Student Performance and Learning Outcomes

#### 2.6.1 Learning outcomes of the college

**Learning outcomes (LO)** are statements that specify what learners willknow or be able to do as a result of a learning activity. Outcomes are usually expressed as knowledge, skills, or attitudes. Through a series of lectures and practical classes, he tends to absorb the knowledge that is 'spread' in the class. The LOs can be achieved through the classroom teaching and supplemented by tutorials and practicals.

It is expected that the teacher explains the topics in a lucid manner so that the student absorbs them and will be using them in furthering the courses. The verification of the course material by the HoD and the deliberations at the class committee meetings ensure these aspects.

The CIA and ESA are assessments to check if outcomes are achieved. Every subject has lesson plans and every lesson plan has the specific learning outcome. Lesson plans are displayed on the college intranet. All lesson plans are reviewed by the HoDs concerned.

Also in every class the faculty clearly explains the learning outcomes to the students and in the class, evaluation is designed to test the same.

### 2.6.2 Monitoring the progress of the students and communicating them during the progress of the course

The tutorial sessions are the best period when the teacher closely interacts with the students and the student freely expresses his difficulties. Many faculties decide on giving assignments in between the tests and the performance of the students in them again indicates if the student has assimilated what has been taught. The cycle test mark is yet another indication of the performance of students. The college makes it a point to communicate to the parents the marks the student has earned during the first and second cycle of tests so that the parents are aware of the performance of their wards and corrective actions can be initiated by them also. The average pass percentage of the class in the end semester examination is also an indication of the general progress of the class as a whole. The average pass percentages of the batch that passed out in 2015-16 as they passed through various semesters of B.E./B.Tech. degree programmes are indicated in the Table below:

| Sl. | Branch Average pass percentage of the class during the semes |       |       |       |       |       | nester |       |       |
|-----|--|-------|-------|-------|-------|-------|--------|-------|-------|
| No. | Dranch   | 1     | 2     | 3     | 4     | 5     | 6      | 7     | 8     |
| 1   | EEE  | 94.44 | 88.71 | 76.5  | 84.6  | 85.03 | 77.6   | 94.56 | 95    |
| 2   | ECE  | 97.54 | 90.98 | 78.87 | 81.43 | 92.03 | 86.96  | 86.96 | 97.83 |
| 3   | CSE  | 96.82 | 96.03 | 81.12 | 83.22 | 85.33 | 81.21  | 83.78 | 92.47 |
| 4   | IT   | 96.8  | 91.20 | 69.44 | 79.72 | 87.14 | 84.56  | 87.86 | 98.56 |
| 5   | Chemical   | 95.16 | 93.55 | 79.10 | 92.4  | 100   | 93.94  | 98.48 | 100   |
| 6   | BME  | 91.67 | 88.14 | 68.66 | 73.13 | 91.04 | 83.58  | 85.07 | 94.03 |
| 7   | Mech.  | 95.23 | 94.44 | 78.23 | 85.71 | 92    | 89.25  | 92.62 | 97.32 |
| 8   | Civil  | 88.71 | 93.55 | 64.79 | 77.46 | 85.90 | 80.28  | 76.06 | 97.18 |

## 2.6.3 How are the teaching, learning and assessment strategies of the institution structured to facilitate the achievement of the intended learning outcomes?

As mentioned elsewhere the students at the institution are trained to be inquisitive and curious and to master the concepts and their applications. The classroom interactions encourage the presenting and arguing of their technical ideas through project submissions and presentations. The weekly tests ensure that applications and concepts are learned and worked upon. They also provide feedback to the faculty and students.

# 2.6.4 What are the measures/initiatives taken up by the institution to enhance the social and economic relevance (student placements, entrepreneurship, innovation and research aptitude developed among students etc.) of the courses offered?

- Students are trained in communication skills, aptitude and soft skills
- Seminars are conducted right from first year onwards where students are encouraged to present their ideas and improve their communication
- Students are sponsored to conduct national level technical symposiums. Every department conducts one every year. This helps to develop technical aptitude and organisational abilities.
- Students are encouraged to apply for internal funding for innovative ideas and projects. This helps building their research aptitude. Students publish in international refereed journals with the help of their faculty members.
- Spirit of entrepreneurship is inculcated among the students by the Entrepreneurship Development Cell (EDC). The EDC organises events and talks by eminent entrepreneurs.
- Students participate in projects of social relevance through the Youth Red Cross and Rotaract Clubs. Students take up projects such as teaching underprivileged children in rural areas, awareness campaigns etc.

## 2.6.5 How does the institution collect and analyse data on student performance and learning outcomes and use it for planning and overcoming barriers of learning?

The data is collected from the entire faculty at the department level. The head of the department and his office is responsible for collecting all the data from the faculty, monitoring it and disseminating the relevant data for feedback to the students, faculty and parents.

A hard copy sheet is maintained for all the courses which comprises of various parameters and the values achieved corresponding to them. This is signed by the faculty and HoD concerned, and shared periodically with parents. The whole process is reviewed department wise fortnightly by the Principal and the corrective steps taken, if required.

#### 2.6.6 Monitoring the learning outcome

The second and third class committee meetings, invariably analyse and discuss the performance of the students in the corresponding cycle tests. The students are explained the pitfalls and deficiencies so that they can fare well in the end semester examinations.

After the end semester examination results, the Principal convenes a meeting of teachers and discusses with them, if there is any drastically low pass

percentage. The teachers give their explanations, such as lengthy questions, out of the syllabus questions, ambiguous questions and the like. Principal in turn makes suitable suggestions like (a) the teachers can make representation to the University immediately after the examination in a particular course that had low pass percentage so that remedial measures can be taken immediately and (b) suggest ways and means so that they do not recur.

#### CRITERION III: RESEARCH, CONSULTANCY AND EXTENSION

#### 3.1 Promotion of Research

#### 3.1.1 University recognized Research Centres

The Anna University, after due verification of the qualifications and research potential of the Faculty, their publications in journals of repute, Conferences conducted, Funded Projects and patents earned by them etc.have recognized the said departments as Research Centres of Anna University for doing independent research leading to M.S or Ph.D. degrees. Thus, the Departments of Mathematics, Physics, Chemistry, Electrical & Electronics Engineering, Electronics & Communications Engineering, Computer Science & Engineering, Information Technology, Chemical Engineering, Biomedical Engineering and Mechanical Engineering have been recognized as Research Centres of Anna University.

#### 3.1.2 Research Advisory Council (RAC)

After achieving reputation as an excellent academic institute, there has been a paradigm shift to achieve excellence in research. To advise the faculty on the nascent fields of research and also the modern methodologies in current research etc a Research Advisory Council has been established. The composition of the current RAC is given below:

- 1. Dr. Shiv Nadar, Chairman, HCL Technologies Ltd. Chairman
- 2. Dr. Raj Reddy, Professor of Computer Science & Robotics Member Carnegie Mellon University, USA
- 3. Dr. N. Balakrishnan, Associate Director, IISc, Bangalore Member
- 4. Dr. R. Natarajan, Former Chairman, AICTE, New Delhi Member
- 5. Dr. Damodar Acharya, Director, IIT Kharagpur Member
- 6. Ms. Kala Vijakumar, President, SSN Institutions Member
- 7. Dr. S. Salivahanan, Principal, SSN College of Engg. Member
- 8. Dr. S.V. Albal, Professor, SSN College of Engg. Member
- 9. Dr. P. Ramasamy, Dean (Research), SSN College of Engg. Member- Secretary

The RAC meets once in a semester, and reviews the research activities and Research projects obtained by the faculty and students. In addition, it provides advice about the newer avenues of research.

### 3.1.3 What are the measures taken by the institution to facilitate smooth progress and implementation of research schemes/ projects?

Once the project is sanctioned and the first installment of the funding is received the investigator is requested to give the periodicity at which he/she will need the funds to proceed with his project. The investigator is free to spend the amount within the conditions stipulated by the awarding agency and the college does not interfere in the spending. He/she is free to use the facilities available in the campus without any restriction. If the project is part of a doctoral programme, or warranting his time during working hours, some leeway can always be given in the scheduled workload. Library can be freely used by the investigator as frequently as needed. Also he can make use of the finance department for timely submission of periodic reports as well as submitting accounts without delay.

#### **Promotion of faculty participation by internal funding (Sample only)**

**Department of Mechanical Engineering** 

| Бср        | al tillellt of Mecha   | iiicai Li     | Sincering   |                               |
|------------|------------------------|---------------|---|-------------------------------|
| Sl.<br>No. | Name of the<br>Faculty | Year          | Title of the Project  | Amount sanctioned in Rs. Lakh |
| 1          | R. Damodaram           | 2014-<br>2016 | Investigations of the stress<br>corrosion cracking studies of<br>friction stir processed Nickel<br>Aluminium Bronze               | 4                             |
| 2          | D. Anatha – padmanaban | 2014-<br>2016 | Assessment of intergranular corrosion resistance of friction stir and gas tungstun arc welded 316 LN Austenitic stainless steel   | 2                             |
| 3          | M.<br>Dhananchezian    | 2014-<br>2016 | Investigation of machinability and functional characteristics of Nickel based alloys under cryogenic cooling                      | 4.5                           |
| 4          | G. Satheesh<br>Kumar   | 2014-<br>2016 | Design, Development and implementation of Robots for Scavenging Applications  | 2.6                           |
| 5          | S. Somasundaram        | 2015-<br>2017 | Determination and attenuation of noise generated from sunroof of automobile   | 2                             |
| 6          | S. Suresh Kumar        | 2015-<br>2017 | Investigation on the influence of weld residual stress and material defects on ballistic resistance of straight and curved target | 4.25                          |
| 7          | K.Subbaiah             | 2015-<br>2017 | Evaluation of microstructure and mechanical properties of tungsten  | 2                             |

| inert gas welding on AA5083 with<br>Sc and Er Containing Fillers |       |
|--|-------|
| Total  | 21.35 |

**Department of Civil Engineering** 

| Sl. |   |   | Funding      | Amo             | ount            | Date of  |             |
|-----|---|---|--------------|-----------------|-----------------|----------|-------------|
| No  | Investigators   | Project Title   | Agency       | Sanction ed     | Received        | Approval | Status      |
| 1.  | Dr.<br>Mohammed<br>Haneefa &<br>Dr. S.<br>Ramana<br>gopal | The use of Alternative Cementitious Materials for Sustainable concrete – Development of Geo polymer concrete using Fly Ash Slag and Sugarcane Bagasse | SSN<br>Trust | Rs 5.5<br>Lakh  | Rs 2.44<br>Lakh | 16-10-14 | On<br>going |
| 2   | Dr. B.<br>Mahalingam                                      | A Study of Self<br>Compacting<br>Concrete Using<br>Alternative<br>Cementitious<br>Materials   | SSN<br>Trust | Rs 2.25<br>Lakh | Rs 1.46<br>Lakh | 16-10-14 | On<br>going |
| 3   | Dr.R.Vijayal<br>akshmi &<br>Mrs.P.<br>Sangeetha           | Study on the<br>behaviour of<br>concrete filled Stub<br>columns under<br>compression  | SSN<br>Trust | Rs 2.2<br>Lakh  | -               | 30-09-15 | On<br>going |

### 3.1.4 What are the efforts made by the institution in developing scientific temper and research culture and aptitude among students?

#### **Participation of students in Research**

The University by statute requires the PG students to submit at least one research publication in a refereed journal, before earning the degree. However the institute encourages research by even UG students. The second year students, evincing interest in research, are tagged with a Ph.D. scholar, helping the scholar in copying and arranging the research papers identified by the scholar, in a chronological order, fabricating the equipment as directed, making electronic circuits etc. under directions from the scholar. Further, if the UG student publishes a paper in journals of repute, a cash incentive is provided to encourage him. In addition, it encourages them to earn their project funded by the Tamil Nadu State Council for Science and Technology, even if the amount is meager. If a student presents a paper in an International conference, the Registration Charge is reimbursed, depending on the merits of the case. When duly recommended by the HoD, some internal funding is also given to certain

projects proposed by them. The internal funding given to students during 2016-17 to nurture their research potential is given below department wise:

#### **Internal Funded Projects by Students**

| Dept.               | S. No | Y ear  | Faculty In-<br>charge (s) | Title of the Project  | Amount (Rs.) |
|---------------------|-------|--|---------------------------|---|--------------|
|                     | 1     | A. Pommanna Giri (III-Year) M. Karthik (III-Year)  | Dr. V.<br>Kamaraj         | Automated drip irrigation system  | 22,000       |
|                     | 2     | R Aravind Kumar (III-Year) A. Kapildev Kumar (III-Year) R. Rahul (IV-Year) P. Sivaraman (IV-Year)      | Dr. Ranganath<br>Muthu    | Three dimensional image capturing for navigation of mobile robot                                    | 25,000       |
|                     | 3     | G. Anish Kumar (III-Year) Naveen Venugopalan (III -Year) C. Ramaseshan (IV-Year) C. Anirudh (III-Year) | Dr. Ranganath<br>Muthu    | Development and<br>testing of sliding<br>mode controller for<br>robotic<br>manipulation             | 25,000       |
| . Students          | 4     | V. Aishwarya (III Year) C. Kavitha (III Year) R. Kaviya (III Year)                                     | -Dr. R.<br>Seyezhai       | Design and implementation of on board battery charger for plug-in hybrid vehicles                   | 25,000       |
| EEE - B.E. Students | 5     | D. Kavin (III-Year) B. Arun Prasaath (III-Year) K. Agil (III-Year)                                     | Dr. R.<br>Ramaprabha      | Embedded switched Z-source inverter for photovoltaic application                                    | 20,000       |
|                     | 6     | M.S. Aswini (II-Year) H. Akshay Kumar (II-Year) K. Logaanand (II-Year)                                 | Dr. U. Shajith<br>Ali     | Smart spot specific<br>tripping system (<br>The Smart Sneaker)                                      | 10,000       |
|                     | 7     | L. Vignesh (II-Year)  Jyothin Aditya (II-Year)   | Dr. U. Shajith<br>Ali     | Autonomous Self-<br>Navigated robot<br>(Self-Driving Car)   | 4,000        |
|                     | 8     | B.V. Arjun (III-Year) B. Mirudhulla (III-Year) D. Nijandhan (III-Year) R.S. Pavethra (III-Year)        | Dr. M. Balaji             | A method to<br>mitigate accidents<br>by sensing heart<br>beat rate of a person                      | 14,000       |
|                     | 9     | Anirudh S Suresh (II-Year) H. Gokul (II-Year) A. Swetha (II-Year)                                      | Mr. P.<br>Saravanan       | Low cost and<br>compact Automated<br>Electrostatic<br>Precipitator for<br>small scale<br>Industries | 25,000       |

|   |    | S.V. Kanna (II-Year)                                    |                        | Comprehensive  |        |
|---|----|---|------------------------|--|--------|
|   | 10 | Srinath Saranu (II-Year)                                | Mr. M.<br>Senthil      | study of control<br>strategies for   | 25,000 |
|   |    | P.V. Srihari (IV-Year)                                  | Kumaran                | inverted pendulum on a cart  |        |
|   |    | Anirudh V Sridharan<br>(III-Year)<br>Y Nirmal Nathan    | Mr. M.                 | Home security  |        |
|   | 11 | (III-Year) A S Ajithkumaar (III-Year)                   | Pandikumar             | system   | 13,000 |
|   |    | R. Rahul (III-Year)                                     |                        | Demagnetization  |        |
|   | 12 | B. Shiva Shankar<br>(III-Year)<br>M. Karthik (III-Year) | Mr. V.S.<br>Nagarajan  | analysis of interior<br>permanent magnet<br>motor                              | 22,000 |
| - |    | V.K. Meenaapriya  |                        | Multipurpose mini  |        |
|   |    | (II-Year)   |                        | solar charging   |        |
|   | 13 | S. Nandhini Priya                                       | Ms. D.                 | station using hybrid   | 22,000 |
|   | 13 | (II-Year) S.T. Pavithra (II-Year)                       | Umarani                | pulse width<br>modulated Z source<br>inverter                                  | ,      |
|   |    | N. Ajith Balaji (IV-Year)                               |                        | Comparison of<br>Performance of PM<br>Assisted<br>synchronous motor            | 25,000 |
|   |    | R. Gayathri (IV-Year)                                   |                        |  |        |
|   | 14 | R. Mano Venkatesh (IV-Year)                             | Mr. V.S.<br>Nagarajan  |  |        |
|   |    | S. Sivaramakrishnan<br>(III-Year)                       |                        | with conventional motor drives   |        |
|   |    | S. Priyadarshini<br>(III-Year)                          |                        | Curve tracer for<br>photovoltaic panels<br>using weighted<br>resistive network | 15,000 |
|   | 15 | K S Swaathishree  | Ms. S.<br>Malathy      |  |        |
|   |    | (III-Year)  |                        |  |        |
|   |    | S. Swathi (III-Year)                                    |                        | resistive network  |        |
|   |    | K.A. Akash (III-Year)                                   | _                      | Analysis and design  |        |
|   |    | T. Aravinthraj (III-Year)                               | Dr. Mrunal             | of soft-Switching  |        |
|   | 16 | S.R. Dharshini (III-Year)                               | Deshpande              | converter for<br>switched<br>Reluctance motor<br>drive                         | 10,000 |
|   |    | R. Sathish Kumar<br>(IV-Year)                           |                        |  |        |
|   |    | T. Thamilnilavan  | Mr. V.                 | Intelligent energy   |        |
|   | 17 | (IV-Year)   | Thiyagarajan           | conservation solar   | 30,000 |
|   |    | Sai Srujan Palakurthy                                   | 1111, 4541 41411       | inverter (sine wave)   |        |
|   |    | (IV-Year)   | _                      |  |        |
| - |    | Gokul Raj (II-Year)<br>K. Dhivakar (II-Year)            |                        | H6-type  |        |
|   | 18 | A. Karthik (II-Year)                                    | Mr. V.<br>Thiyagarajan | transformer less single-phase  | 22,000 |
|   |    |   |                        | inverter for grid-   |        |

|                     |    |  |                        | tied photovoltaic<br>system  |        |
|---------------------|----|--|------------------------|--|--------|
|                     | 19 | R. Lakshmi Narasimhan (IV-Year) M.G. Aiswarya (IV-Year) Ashwin K Eshwar (IV-Year) R. Rohit (III-Year)                  | Dr. V. Rajini          | Design of double input DC-DC converters using the building block methodology   | 22,000 |
|                     | 20 | Anuj Kumar (IV-Year) R Aravinth (IV-Year) A Arun Kumar (IV-Year) V. Kavicharkravarthy (IV-Year) T. Sudharsan (II-Year) | Dr. R.<br>Seyezhai     | High performance interleaved boost converter for solar LED street lighting applications  | 20,000 |
|                     | 21 | D. Janani (IV-Year) B. Kaviya (IV-Year) S. Aishwarya (III-Year) S.Dharshini Bala (III-Year)                            | -Dr. R.<br>-Deepalaxmi | Modelling and<br>Implementation of<br>impulse current<br>measurement circuit   | 18,000 |
| EEE - M.E. Students | 22 | R. Kavitha (II-Year)   | Dr. V. Rajini          | High setup-up interleaved converter with built-in transformer voltage multiplier cells for sustainable energy application        | 25,000 |
|                     | 23 | S. Bavani (II-Year)  | Dr. M. Balaji          | Design and Implementation of Fault Tolerant Converter Topology for switched reluctance motor Drive                               | 20,000 |
|                     | 24 | M. Kanimozhi (II-Year)   | Dr. R.<br>Ramaprabha   | Investigation on<br>Performance of<br>modified reduced<br>switches 11 level<br>inverter for<br>standalone<br>Photovoltaic system | 20,000 |
|                     | 25 | S. Harika (II-Year)  | Dr. R.<br>Seyezhai     | Investigation of Interleaved voltage source inverter for Photovoltaic Application  | 20,000 |
|                     | 26 | R. Mahalakshmi (II-Year)   | Dr. R.<br>Seyezhai     | Design and implementation of a   | 15,000 |

|            |          |                               |                     | fuel-cell based                        |        |
|------------|----------|-------------------------------|---------------------|--|--------|
|            |          |                               |                     | backup system                          |        |
|            |          |                               |                     | using integrated                       |        |
|            |          |                               |                     | boost converter for                    |        |
|            |          |                               |                     | telecoms                               |        |
|            |          |                               |                     | Controller                             |        |
|            |          |                               |                     | implementation of                      |        |
|            |          | M. Mohana Krishnan            | Dr. R.              | single phase                           | ••••   |
|            | 27       | (II-Year)                     | Ramaprabha          | photovoltaic                           | 20,000 |
|            |          |                               | 1                   | inverter for grid                      |        |
|            |          |                               |                     | connected system                       |        |
|            |          |                               | D D                 | Solar powered                          |        |
|            | 28       | V.K. Vishwhak (II-Year)       | Dr. R.              | electric trolley                       | 25,000 |
|            |          |                               | Seyezhai            | using BLDC drive                       |        |
|            |          |                               |                     | Design and                             |        |
|            |          | C. Localin Jahamalan (II      |                     | implementation of a non-isolated multi |        |
|            | 29       | S. Joselin Jebamalar (II-     | Dr. V. Rajini       | input converter for                    | 20,000 |
|            |          | Year)                         |                     | hybrid electric                        |        |
|            |          |                               |                     | vehicles                               |        |
|            |          | N. Bharath Raj (II-Year)      |                     | Study on the                           |        |
|            | 30       | S. Brathindara (II-Year)      | Dr. S. Radha        | feasibility of energy                  | 20,000 |
|            |          |                               |                     | generation from                        |        |
|            |          | R. Kashyap (II-Year)          |                     | piezoelectric plates                   | 20,000 |
|            |          |                               |                     | fitted on the car tyres                |        |
|            |          | Sai M Anjesh (II-Year)        |                     | tyres                                  |        |
|            |          | A.S. Shaahank                 | Dr. B. S.<br>Sreeja | DroNet                                 |        |
|            |          | Karrthikeyaa (II-Year)        |                     |  |        |
|            | 31       | Thevin Arokiaraj              |                     |  | 18,000 |
| nts        |          | (II-Year)                     |                     |  |        |
| de         |          | T. Ranjeet Kumar              |                     |  |        |
| Students   |          | (II-Year)                     |                     |  |        |
| _          |          | Akilesh<br>Venkatasubramanian |                     | Florible beds -4-1                     |        |
| , a        | 32       | (III-Year)                    | Dr. R.              | Flexible body vitals                   | 18,000 |
| <u>된</u>   | 32       | N. Elakhya (III-Year)         | Jayaparvathy        | monitoring patch for athletes          | 10,000 |
| ECE - B.E. |          | V. Krithika (III-Year)        | -                   | for aunetes                            |        |
|            |          |                               |                     | Fuel level detector                    |        |
|            | 33       | Jayavanta Shakthi Poorna      | Dr. R.              | for consumer                           | 10,000 |
|            |          | (III-Year)                    | Jayaparvathy        | protection in                          | 10,000 |
|            |          | D Claring (IV) V              |                     | vehicles                               |        |
|            |          | R. Shrivatsan (IV- Year)      | -                   | Implementation of a mobile wireless    |        |
|            |          | Nandagopal Srinivasan         | Dr. A.              | sensor network                         |        |
|            | 34       | (IV Year)                     | Jawahar             | using small                            | 18,000 |
|            |          | K. Akash (III-Year)           | Ja w anai           | differential drive                     |        |
|            |          | is. Askabil (III-1 Cal)       |                     | robotic nodes                          |        |
| L          | <u> </u> | 1                             | 1                   | 1000HC HOUCE                           |        |

| 35 | A. Kishore (II-Year) M. Sindhu (II-Year) L. Barath (II-Year) S. Amirthavarshini (II-Year)                              | -Dr. Esther<br>-Florence            | Smart traffic signals  | 25,000 |
|----|--|-------------------------------------|--|--------|
| 36 | S. Indulakshmi (III-Year)  | Dr. Esther<br>Florence              | Flexible cardiac sensor development  | 20,000 |
| 37 | G. Hemanth (II-Year) Ajay Nair (II-Year) K. Harish Kumar (II-Year) V.M. Kumar (II-Year)                                | Mr. W. Jino<br>Hans                 | Smart display<br>system using IOT  | 10,000 |
| 38 | S.S. Ramachandran (II-Year) S. Promodram (II-Year) J. Rishi Ganesh (II-Year)   | Dr. B. S.<br>Sreeja                 | Smart garbage<br>management  | 25,000 |
| 39 | B. Varshini (III-Year) L. Saranya (III-Year) D. Priyadharshini (III-Year)  | Dr. R.<br>Amutha                    | Medication intake<br>adherence with real<br>time activity<br>recognition on IOT    | 15,000 |
| 40 | S. Dyaneshwar (III-Year) G. Jaiyashri (III-Year) K. Monica (III-Year)  | Dr. K.<br>Muthumeenak<br>shi        | A startup for a smart workplace  | 15,000 |
| 41 | Gunupati Sumadhura (II-Year) S. Harini (II-Year) N. Mahalakshmi (II-Year)  | Dr. K.<br>Muthumeenak<br>shi        | Vehicle Speed<br>Controller  | 16,000 |
| 42 | A. Rekha (III-Year) Sowmya Bhatraju (III-Year) S. Srivaishnavi (III-Year)  | Dr. N.<br>Venkateswara<br>n         | Agricultural soil analysis using image processing                                  | 22,000 |
| 43 | K. Arun (III-Year) J. Allen Fernando (III-Year) J.C. Anandha Padmanaban (III-Year) V. Avinash Venkatachalam (III-Year) | Dr. M. Anbu<br>Selvi                | Four quadrant speed<br>control of robotic<br>vehicle using ARM<br>Cortex processor | 10,000 |
| 44 | Prithviraj Prabhu (IV-Year) Rishab Venkataraman (IV-Year) Preetha Ganesh (CSE III-Year)                                | Dr. M. Anbu<br>Selvi<br>Mr. W. Jino | Emulation of a quantum computer using classical analog electronic circuits  E-Bin  | 8,000  |

|               |     | (II-Year)   | Hans                                  |  |        |
|---------------|-----|---|---------------------------------------|--|--------|
|               |     | Nishita Maria Govias  | 1                                     |  |        |
|               |     | (II-Year)   |                                       |  |        |
|               |     | V. Rakesh (II-Year)   | 1                                     |  |        |
|               |     | S. Rakshana (II-Year)   | 1                                     |  |        |
|               |     | Aadesh Samdaria (II-  |                                       |  |        |
|               | 4.0 | Year)   | Mr. C.                                | D 1  | 15.000 |
|               | 46  | K. Raeshak (II-Year)  | Annadurai                             | Robotic floor map  | 15,000 |
|               |     | Pramodh Kumar (II-Year)   | -                                     |  |        |
|               | 47  | Nishanth Vimalesh (III-<br>Year)  | Dr. M. Gulam<br>Nabi Alsath           | Intelligent and<br>interactive road<br>safety system for<br>young bikers       | 25,000 |
|               | 48  | R. Poorani (III-Year)   | Dr. S. Joseph<br>Gladwin              | Wrap the scrap   | 25,000 |
|               |     | G. Pradeep (III-Year)   | Dr. R. Rajavel                        |  |        |
|               | 49  | C. Akshay Kumar (II-<br>Year) M. Nagulan (II-Year) J. Shaktivelu (II-Year) S. Udaya Ezhil (II-Year) | Dr. K.J.<br>Jegadish<br>Kumar         | Smart Seat Belts   | 16,000 |
|               | 50  | K.M. Shreemathi (II-<br>Year)   | Dr. S. Radha                          | Design and<br>development of<br>PDMS membrane<br>for bio applications          | 25,000 |
|               | 51  | 51 R. Kiruthika (II-Year)   | Mrs. S.                               | Reduction of   |        |
|               |     |   | Kirubaveni                            | screening effect on  |        |
| ts            |     |   | Dr.M.Senthil<br>Pandian               | ZnO nanostructure<br>based<br>nanogenerator with<br>self powered gas<br>sensor | 22,000 |
| M.E. Students | 52  | G. Roshini Singh (II-<br>Year)  | Ms. S.<br>Kirubaveni<br>Dr.K.Aravinth | Wideband<br>piezoelectric<br>vibration energy<br>harvester                     | 18,000 |
| CE - M.E.     | 53  | D. Harshita (II-Year)   | Dr. S.<br>Sakthivel<br>Murugan        | Design and<br>development of<br>insulation tester for<br>array hydrophone      | 18,000 |
|               | 54  | R. Devi (II-Year)   | Dr. R.<br>Hemalatha                   | Efficient decision<br>support system for<br>agriculture using<br>ARM processor | 20,000 |
|               | 55  | B. Dhivya Mullai (II-<br>Year)  | Mr. S.<br>Ramprabhu                   | Reduction of<br>vampire power by<br>smart power socket                         | 8,000  |

|                     |    | Ramya Priyadarshini                   | Dr. Chitra          |   |        |
|---------------------|----|---------------------------------------|---------------------|---|--------|
|                     |    | (III-Year)                            | Babu                | Kernel optimization                     | 10.000 |
|                     | 56 | P. Satheesh (III-Year)                | Mr. H. Shahul       | on raspberry Pi3                        | 10,000 |
|                     |    | Simran Modi (III-Year)                | Hamead              |   |        |
|                     |    | Skanda Suresh (II-Year)               | Dr. B.<br>Bharathi  | Multi-level Smart                       |        |
|                     | 57 | Nirupan Ananthamurugan                | Dr. P.              | Parking System                          | 15,000 |
|                     |    | (II-Year)                             | Mirunalini          |   |        |
|                     |    | Shreyas Gopal (II-Year)               |                     |   |        |
|                     |    | S. Gajesh (II-Year)                   |                     |   |        |
|                     |    | Daniel Jeswin                         | D., D               | The nebetic ADM                         |        |
|                     | 58 | Nallathambi                           | Dr. D.<br>Thenmozhi | The robotic ARM                         | 18,000 |
|                     |    | (II-Year)                             | 1 nenmozm           | manipulation                            |        |
|                     |    | S. Arul Thileeban (II-Year)           | 1                   |   |        |
|                     |    | (11-1 601)                            | Ms. B.              |   |        |
|                     |    | C.T.Muthu Annamalai                   | Prabavathy          |   |        |
|                     |    | (III-Year)                            | Dr. D.              | A multilevel secure banking application |        |
| Š                   | 59 |                                       | Thenmozhi           |   | 18,000 |
| - ent               |    | C. Manish Chandra                     | THOMHOZIN           | for visually                            | 10,000 |
| nq                  |    | (III-Year)                            |                     | impaired                                |        |
| · S                 |    | N. Nachiappan (III-Year)              |                     |   |        |
| CSE - B.E. Students |    |                                       | Mrs. S. Angel       |   |        |
| _ ·                 |    |                                       | Deborah             | High speed package delivery bot         | 15,000 |
| SE                  |    |                                       | Mr. K. R.           |   |        |
| C                   | 60 |                                       | Sarath              |   |        |
|                     |    |                                       | Chandran            |   |        |
|                     |    | S. Venkatesh (II-Year)                | Dr. P.              |   |        |
|                     |    | S. Aakash (II-Year)                   | Mirunalini          |   |        |
|                     |    |                                       | Mrs. S. Angel       |   |        |
|                     |    | V. Shanmuga Velayutham                | Deborah             |   |        |
|                     |    | (III-Year)                            | Mr. K. R.           | Travel guide                            |        |
|                     | 61 |                                       | Sarath              | application using                       | 6,000  |
|                     |    | C Chailagh (III Vaar)                 | Chandran            | augmented reality                       | , -    |
|                     |    | S. Shailesh (III-Year) B.Skandharuban | -                   |   |        |
|                     |    | (III-Year)                            | 1                   |   |        |
|                     |    |                                       | Ms. S. Angel        |   |        |
|                     |    | S.N.Sivagami (III-Year)               | Deborah             | AIR quality                             |        |
|                     |    |                                       | Ms. S.              | detection and intelligent route         | 24,000 |
|                     | 62 | B.Sounderyan (III-Year)               | Rajalakshmi         |   |        |
|                     | 32 | R.Sricharan (III-Year)                | -5                  | suggestion using                        |        |
|                     |    | V.Sreenidhi (III-Year)                | 1                   | IoT and data                            |        |
|                     |    | K.R.Uttam Raj (III-Year)              | 1                   | analytics                               |        |
|                     | 63 | S. Kaushik Narayanan                  | Mr. K. R.           | Drowsy driver                           | 12,000 |

|                 |            | (III-Year)              | Sarath          | detection with alert      |        |
|-----------------|------------|-------------------------|-----------------|---------------------------|--------|
|                 |            | K. Saket Ram (III-Year) | Chandran        | system                    |        |
|                 |            |                         | Dr. R. S.       |                           |        |
|                 |            | G. B. Krishnap Priya    | Milton          | DEID bood troffic         |        |
|                 |            | (III-Year)              | Ms. S. Angel    | RFID based traffic        |        |
|                 | <i>C</i> 1 |                         | Deborah         | violation detection       | 10.000 |
|                 | 64         | N. XV.:41.1 (TV XV.)    | Ms. S.          | and traffic flow          | 18,000 |
|                 |            | M. Vrithika (III-Year)  | Rajalakshmi     | prediction system         |        |
|                 |            | S. Thirumla Devi (III-  | Ms. M.          | (TVDTPS)                  |        |
|                 |            | Year)                   | Saritha         |                           |        |
|                 |            | D. Nidhigh (II Voor)    | Dr. D.          |                           |        |
|                 | 65         | B. Nithish (II-Year)    | Thenmozhi       | Smart metro water         | 10 000 |
|                 | 03         | Sidharth Divi (II-Year) | Ms. B.          | transportation            | 10,000 |
|                 |            | R.K. Tarun (II-Year)    | Prabavathy      |                           |        |
|                 |            | A. Gautham (III-Year)   | Mrs. S. Angel   |                           |        |
|                 |            | A. Gauthain (III-Tear)  | Deborah         | Automated                 |        |
|                 |            |                         | Mr. K. R.       | applications for          |        |
|                 | 66         | J. Adithya (III-Year)   | Sarath          | energy conservation       | 22,000 |
|                 |            |                         | Chandran        | by reducing               |        |
|                 |            | R. Ramya (III-Year)     |                 | vampire energy            |        |
|                 |            | Rhea Marian (III-Year)  |                 |                           |        |
|                 |            | Rithwin Siva (III-Year) | Ms. A. Beulah   |                           |        |
|                 |            |                         | Ms. S.          |                           |        |
|                 |            | Nishant Mathew          | Rajalakshmi     | Braille                   |        |
|                 |            | (III-Year)              | Ms. S. Angel    |                           |        |
|                 | 67         |                         | Deborah         |                           | 22,000 |
|                 |            | R. Nidhi Bhandari       |                 | Interpretation Pad        |        |
|                 |            | (II-Year)               |                 |                           |        |
|                 |            | Varsha Bhargavi         |                 |                           |        |
|                 |            | Dwarakanathan (II-Year) |                 |                           |        |
|                 |            | S. Mohan Sha (IV-Year)  |                 | Smart Mirror: To maximize |        |
|                 | 68         | S. Nikhil (IV-Year)     | Dr. V. S. Felix |                           | 22,000 |
|                 | 08         | K.R. Nitin (IV-Year)    | Enigo           | productivity and          | 22,000 |
|                 |            | S. Aravind (III-Year)   |                 | time management           |        |
|                 |            | S. Gowtham (III-A)      | Ms. S. V.       | Wild Animal               |        |
|                 |            | S. Gowtham (III-A)      | Jansi Rani      | Intrusion detection       |        |
|                 | 69         |                         |                 | from Forest into          | 25,000 |
|                 | 09         | U. Jagan Kumar (III-A)  | Ms. R.          | residential area          | 23,000 |
|                 |            |                         | Priyadharsini   | using sensor              |        |
|                 |            | U. Karthik (III-A)      |                 | platform                  |        |
| ts              |            |                         | Dr. R.          | Automated                 |        |
| eni             | 70         | S. Murugappan (II-Year) | Srinivasan      | restroom smell alert      | 25,000 |
| - Ind           |            |                         | Dr. T. Sree     | system                    | - ,    |
| - B.E. Students |            | NT'1 '4 X7' 1 X7        | Sharmila        | •                         |        |
| .E              | <b>7</b> 1 | Nikitha Vignesh Kumar   | Dr. T. Sree     | Mobile attendance         | 12,000 |
| - E             | 71         | (II-Year)               | Sharmila        | system                    |        |
| IT              | 70         | S. Neharika (II-Year)   |                 | -                         | 16.000 |
|                 | 72         | V. Sangavi (III-Year)   | Dr. S.          | Predpatrol-               | 16,000 |

|                             |    |  | Louis Paul                                       | visually impaired  |        |
|-----------------------------|----|--|--|--|--------|
|                             |    | K. Monika (IV-Year)  | Mrs. S.<br>Sasirekha                             |  |        |
|                             |    | P. Moohana Priya<br>(IV-Year)  |  |  |        |
|                             |    | G. Gayathri (III-Year)   |  |  |        |
|                             | 82 | J. Chandramowli<br>(II-Year)   | Mr. I. Joe<br>Louis Paul<br>Dr. G.<br>Muneeswari | An online programming judge  | 8,000  |
|                             |    | Aadhithya Dinesh<br>(II-Year)  | Withieswari                                      | programming judge  |        |
|                             |    | K. Harini Priya (II-Year)  |  | Security   |        |
|                             | 83 | R. Lalithalakshmi<br>(II-Year)   | Mr. R. Vinob<br>Chander                          | enhancement at<br>hostel gate by face<br>detection   | 8,000  |
|                             | 84 | Adeeb Tahir (II-Year)<br>Adithya Ganesh (II-Year)  | Mrs. S.<br>Sasirekha                             | Quick Basket   | 8,000  |
|                             | 85 | L. Akshay Karthik (III-Year) Ebenezer Ajay Williams (III-Year) N. Gareshma (III-Year) R. Harini (III-Year) | Dr. S. Chithra                                   | Overhead tank<br>water level<br>monitoring system  | 13,000 |
|                             | 86 | Sainiwetha Saikrishnan (III-Year)  | Dr. R.<br>Parthiban                              | Novel method for the synthesis of  |        |
|                             |    | N. Solai (III-Year)  | Ms. B. Chitra                                    | silver nanocoolant<br>and its application<br>on heat removal in<br>personal computer                   | 25,000 |
| ıts                         | 87 | M. Amruth Varshinee (III-Year)   | Dr. D. Gnana<br>Prakash                          | Growth of Zinc oxide   |        |
| Chemical - B.Tech. Students |    | P. Hema (III-Year)   | Mr. C. Balaji                                    | nanostructures<br>using nano sphere<br>lithography for<br>photovoltaic<br>applications                 | 25,000 |
|                             | 88 | S. Abinaya (III-Year) K.B. Saravana Priya (III-Year) Shriya Sankara Subramanian (III-Year)                 | Dr. D. Gnana<br>Prakash                          | Biodegradation of petroleum oil sludge using microbial consortium                                      | 22,000 |
|                             | 89 | R. Muruganandh (III-Year) M. Prasanth (III-Year) A. Ram Prasanth (III-Year)                                | Dr. D. Balaji                                    | Lactic acid production from papersludge by simultaneous saccharification and fermentation Rhizopus sp. | 22,000 |

| 90 | Prithvinath P. Kamath (II-Year) V. Priyadarshini (II-Year)                                  | Dr. K. P.<br>Gopinath                               | Synthesis of organic multi-purpose cleaning solution  | 22,000 |
|----|---|---|---|--------|
| 91 | P. Varshini (II-Year) B. Babu (III-Year) T. Lionell Sibi (III-Year) N.T. Manohar (III-Year) | Dr. K. P.<br>Gopinath<br>Dr. N.<br>Nallusamy        | Solar Reactor   | 25,000 |
| 92 | V. Samynaathan (II-Year)  R. Sangeetha Iyer (II-Year)                                       | Dr. K. Sathish<br>Kumar<br>Dr. Siluvai<br>Michael   | Synthesis of<br>nanostructured<br>activated carbon<br>from lignocellulosic<br>waste for electric<br>double layer<br>capacitor | 22,000 |
| 93 | B. Neeraja (III-Year) Shriya Kumar (III-Year)   | Dr. K. Sathish<br>Kumar                             | Study on<br>photodegradation of<br>Methylene blue dye<br>using Dysprosium<br>oxide/ Bismuth<br>oxide photocatalyst            | 18,000 |
| 94 | D. Naveen Krishna<br>(III-Year)<br>K. Surya Prakash   | Dr. N. P.<br>Rajesh<br>Dr. R.<br>Parthiban          | Investigations on<br>preparation and<br>characterization of<br>lead based<br>piezoelectric<br>ceramics for sensor             | 25,000 |
| 95 | (III-Year)  Nivetha Thyagarajan (II-Year)  R. Racchana                                      | Dr. D. Gnana<br>Prakash<br>Dr. P. Balaji<br>Bhargav | applications Synthesis and characterization of Silver nanowires for TCE application in Silicon Thin Film                      | 25,000 |
| 96 | (II-Year) B. Shivani (III-Year)  J. Shanmukapriya (III-Year)                                | Dr. D. Gnana<br>Prakash                             | Solar Cells Bio-remediation of pharmaceutical waste water by microbial consortium   | 22,000 |
| 97 | K. Lavanya (III-Year) V. Preetha (III-Year) Sharon Malusha Wilson (III-Year)                | Dr. D. Balaji                                       | Fermentative production of itaconic acid by USTILAGO MAYDIS from biomass waste raw material                                   | 22,000 |
| 98 | Manasa Sadhasivan<br>(II-Year)<br>N. Mayuri (II-Year)                                       | Dr. K. P.<br>Gopinath                               | Microbial production<br>of vanillin from<br>ferulic acid  | 23,000 |

|          |                                    | R. Ananya (III-Year)                    | Dr. K. P.               | Waste water                            |        |
|----------|------------------------------------|---|-------------------------|--|--------|
|          |                                    | K. Amanya (m-1 car)                     | Gopinath                | treatment by                           |        |
|          |                                    |   |                         | adsorption using                       |        |
|          | 99                                 |   | D D G 411               | cotton seeds and                       | 25,000 |
|          |                                    | Akshaya S Nair (III-Year)               | Dr. P. Senthil          | hydrothermal                           | •      |
|          |                                    |   | Kumar                   | catalytic                              |        |
|          |                                    |   |                         | liquefaction of                        |        |
|          |                                    | Keshav V Kumar                          |                         | spent adsorbent Purification           |        |
|          |                                    | (III-Year)                              |                         | Treatement of dyes                     |        |
|          |                                    | C.G. Vignesh (III-Year)                 | Dr. P. Senthil          | wastewater with a                      |        |
|          | 100                                |   | Kumar                   | novel                                  | 25,000 |
|          |                                    | R. Kishore Kumar                        | Kumur                   | microelectrolysis                      |        |
|          |                                    | (III-Year)                              |                         | reactor                                |        |
|          |                                    | V. Neelasaraswathi                      |                         | reactor                                |        |
|          | 101                                | (III-Year)                              | Dr. B.                  | Ultrasound Assisted                    | 22 000 |
|          | 101                                | M.A. Ramya (III-Year)                   | Ambedkar                | Coal Dealkalization                    | 22,000 |
|          |                                    | , |                         |  |        |
|          |                                    | S. Athreya (IV-Year)                    |                         | Kinetics and                           |        |
|          |                                    | K. Anthony Arvind                       |                         | optimization of the                    |        |
|          |                                    | (IV-Year)                               | Dr. K.                  | biodegradation of                      |        |
|          | 102                                |   | Jagannathan             | mixture of Azo                         | 22,000 |
|          |                                    | G. Sudharsan (II-Year)                  | Jagainiathan            | dyes using                             |        |
|          |                                    | G. Sudnarsan (II-1 car)                 |                         | continuous packed                      |        |
|          |                                    |   |                         | bed biofilm reactor                    |        |
|          |                                    | C. Harish (II-Year)                     |                         | Carbon capture                         |        |
|          |                                    | A. Adithya Joseph (II-                  | Dr. P. Senthil<br>Kumar | using solid                            | 25,000 |
|          | 103                                | Year)                                   |                         | adsorbent zeolite                      |        |
|          |                                    | Anirudh (II-Year)                       |                         | 5A and efficient                       |        |
|          |                                    | N. Shruthi (II-Year)                    |                         | disposal of captured carbon dioxide    |        |
|          |                                    | Kasi Muthu (III-Year)                   |                         | Polyhydroxyalkano                      |        |
|          |                                    | Trust Within (III Tear)                 | -                       | ates (PHAs)                            |        |
|          |                                    |   | Dr. V.                  | production from                        | 22,000 |
|          | 104                                | G. Parasuraman (III-                    | Jaikumar                | dairy waste's by                       |        |
|          |                                    | Year)                                   |                         | mixed microbial                        |        |
|          |                                    |   |                         | culture.                               |        |
| 7.0      |                                    | R. Senthil Kumar                        |                         | Development of a low                   |        |
| ınts     | 105                                | (III-Year)                              | Dr. V.E.                | temperature vitrified                  | 16,000 |
|          | 103                                | M. Eashwar Anandh                       | Annamalai               | bond for grinding                      | 10,000 |
| Str      |                                    | (III-Year)                              |                         | wheels using flyash                    |        |
| Þ        |                                    | S. Adithyun (III-Year)                  |                         | Development of a                       |        |
| . B.     | 106                                | S. Anand (III-Year)                     | Dr. V.E.                | method to identify                     | 20,000 |
| ਫ਼       | Mechanical - B.E. Students 106 107 | P. Aravinth (III-Year)                  | Annamalai               | when to dress a                        | 20,000 |
| —<br>nic |                                    | ·                                       |                         | grinding wheel                         |        |
| ha       |                                    | N. Gurunathan (III-Year)                | Dr. V.E.                | Impact of work rest                    |        |
| Tec      | 107                                | Kanduri Venkata Srikar                  | Dr. V.E.<br>Annamalai   | blade design on<br>centerless grinding | 22,000 |
|          |                                    | (III-Year)                              | 2 Minamarai             | performance                            |        |
|          |                                    | 1                                       | 1                       | 1                                      |        |

| T T | T   | 1  |   |        |
|-----|---|--|---|--------|
| 108 | C. G. Subramaniam (II-Year)   | Dr. V.E.<br>Annamalai                    | Impact of metal oxide additives on the rheology of bio diesel   | 22,000 |
| 109 | Srikrishna Srinnivasan (III-Year) K. Srivathsan (III-Year) P. G. Sylesh Kumar (III-Year) S. Vassante Kumar (III-Year) M. Praveen (III-Year) | Dr. N.<br>Nallusamy                      | Experimental investigation on heat transfer enhancement of latent heat storage system containing spherical capsules with internal hollow and solid fins | 25,000 |
| 110 | S. Saravana Kumar<br>(III-Year)<br>S. Vishnu Sankar<br>(III-Year)   | Dr. K.S. Vijay<br>Sekar                  | Development of a fire extinguishing STOVL   | 25,000 |
| 111 | G. Sailalitha (III-Year)  D. Vishal (II-Year)   | Dr. G.<br>Satheesh<br>Kumar              | Design,<br>development and<br>mathematical<br>modeling of finger-<br>like shape memory<br>spring system for<br>prosthetics                              | 25,000 |
| 112 | S. Siddharth Krishna (II-Year) R. Suraj (II-Year) S. Murugappan (II-Year)   | Dr. G.<br>Satheesh<br>Kumar              | All terrain semi-<br>automatic cleaning<br>rover  | 25,000 |
| 113 | R. Ashwin (III-Year) V. Harish Narayanan (III-Year) T. Manoj Kumar (III-Year) K. S. Manoranjan (III-Year)                                   | Dr. K.L.<br>Harikrishna                  | Design and<br>development of<br>bomb defusal<br>robotic arm coupled<br>with drone   | 22,000 |
| 114 | Srivarshith Viriyala (II-Year)  Yashaswin Harathi (II-Year)   | Dr. Siluvai<br>Michael<br>Dr. R. Prakash | Working of an E-<br>Bike on lithium ion<br>batteries coupled<br>with super capacitor  | 22,000 |
| 115 | Shyam Raman<br>(III-Year)   | Mr. R. Vimal<br>Sam Singh                | Fabrication of<br>polymer based<br>flexible substrate<br>for industrial and<br>biomedical<br>applications   | 25,000 |
| 116 | Neil Ashwin Raj<br>(II-Year)<br>B. Vishal (II-Year)   | Mr. C. Arun<br>Prakash                   | Design and fabrication of spherical robots  | 25,000 |

| Nitin Joy (II-Year)   Mr. C. Arun   Prakash   Mr. C. Arun   Mr. C. Arun   Prakash   Mr. C. Arun   Mr. D. S. S. R. Koteswara   Rao   Mr. C. Arun   A5083 over DMR   249 – Micro alloyed steel   Experimental ballistic performance determination of aluminium-poly carbonate sandwich plates   Mr. D.   C. T. Alagappan (II-Year)   Dr. A.K. Lakshminaray   Dr. A.K. Lakshminaray   Dr. K. L.   Harikrishna   Mr. D.   Design and development of autonomous   hexapod for inaccessible environment   Mr. D.   Design and construction of automated   fender/cowcatcher   for trucks   Mr. D.   Ebenezer   Experimental   Design and construction of automated   fender/cowcatcher   for trucks   Mr. D.   Study of electrochemical   properties of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures   Experimental   fabrication and investigations of   Mr. Mr. D.   Experimental   Experimental   fabrication and investigations of   Mr. D.   Experimental   Experimental   fabrication and investigations of   Mr. D.   Experimental   fabrication and investigations of   Mr. Mr. D.   Experimental   fabrication and investigations of   Mr. Mr. D.   |   |     |                            |               | using gyroscopes   |        |
|--|---|-----|----------------------------|---------------|--------------------|--------|
| R. Subramanian (II-Year)   Prakash   highways   Roll cladding of AA5083 over DMR 249 – Micro alloyed steel   Experimental ballistic performance determination of aluminium-poly carbonate sandwich plates   Crashworthiness study on friction stir welded DP98 steel top hat sections   Dr. K.L. Harikrishna   Lakshminaray and development of autonomous hexapod for inaccessible environment   Lakshmin (III-Year)   Dr. K.L. Harikrishna   Design and development of autonomous hexapod for inaccessible environment   Lakshmin (III-Year)   Dr. K.L. Harikrishna   Design and construction of autonomous hexapod for inaccessible environment   Design and construction of autonomous hexapod for inaccessible environment   Design and construction of autonomous hexapod for inaccessible environment   Design and construction of autonomous hexapod for inaccessible environment   Design and construction of autonomous hexapod for inaccessible environment   Design and construction of autonomous hexapod for inaccessible environment   Design and construction of autonomous hexapod for inaccessible environment   Design and construction of autonomated fender/cowcatcher for trucks   Dr. P. Rajesh   Dr.  |   |     | Nitin Joy (II-Year)        | Mr. C. Amin   | Vertical axis wind |        |
| S. Vijay (III-Year)  |   | 117 | R Subramanian (II-Vear)    |               |                    | 25,000 |
| S. Vijay (III-Year)   S. Vijay (III-Year)   Dr. S. Suresh Koteswara Rao   Steel   Experimental ballistic performance determination of aluminium-poly carbonate sandwich plates   Dr. A.K. Lakshminaray anan   Design and development of autonomous hexapod for inaccessible environment   Design and construction of autonomous hexapod for inaccessible environment   Design and construction of autonomous hexapod for inaccessible environment   Design and construction of autonomous hexapod for inaccessible environment   Design and construction of autonomous hexapod for inaccessible environment   Design and construction of autonomous hexapod for inaccessible environment   Design and construction of automated fender/cowcatcher for trucks   Study of electrochemical properties of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures   Experimental fabrication and investigations of   Dr. K. L.   Dr. K. Deebak (II-Year)   Dr. K. |   |     |                            | Takasii       |                    |        |
| S. Vijay (III-Year)   Koteswara Rao   AA5083 over DMR 249 – Micro alloyed steel  |   |     | K. Vetri Selvan (III-Year) | Dr. S.R.      |                    |        |
| S. Vijay (III-Year)   Rao   Steel   Experimental ballistic performance determination of aluminium-poly carbonate sandwich plates   Crashworthiness study on friction stir welded DP980 steel top hat sections   Design and development of autonomous hexapod for inaccessible environment   Design and construction of autonomous hexapod for inaccessible environment   Experimental ballistic performance determination of aluminium-poly carbonate sandwich plates   Crashworthiness study on friction stir welded DP980 steel top hat sections   Design and development of autonomous hexapod for inaccessible environment   Design and construction of autonomous hexapod for inaccessible environment   Experimental properties of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures   Experimental fabrication and investigations of   Dr. K. Der K. Der K. Deebak (II-Year)   Dr. K. Der K. Der K. Der K. Der K. Der K. Deebak (II-Year)   Dr. K. Der K. Der K. Der K. Der K. Der K. Der K. Deebak (II-Year)   Dr. K. Der K. Der K. Der K. Der K. Der K. Deebak (II-Year)   Dr. K. Der |   | 118 |                            |               |                    | 25,000 |
| S. Nishanth (III-Year)   |   |     | S. Vijay (III-Year)        | Rao           | -                  | Í      |
| S. Nishanth (III-Year)   Dr. S. Suresh Kumar   Dr. A.K. Crashworthiness study on friction stir welded DP980 steel top hat sections   Design and development of autonomous hexapod for inaccessible environment   Dr. K.L. Harikrishna   Dr. K.L. Harikrishna   Dr. Design and construction of autonated fender/cowcatcher for trucks   Dr. P. Rajesh   Dr. P. K. Deebak (II-Year)   Dr. P. K. Deebak (II-Year)   Dr. P. K. Deebak (II-Year)   Dr. K. Dr. K. Deebak (II-Year)   Dr. K. Deebak (II-Year)   Dr. K. Dr. K. Dr. K. Dr. K. Dr. K. Dr. K. Deebak (II-Year)   Dr. K. Dr. Crashworthinesand particular development of autonance development of a |   |     | G Sachin (III Voor)        |               |                    |        |
| Dr. S. Suresh Kumar   S. Nishanth (III-Year)   Dr. S. Suresh Kumar   Dr. S. Suresh Study on friction stir welded DP980 steel top hat sections   Design and development of autonomous hexapod for inaccessible environment   Design and construction of automated fender/cowcatcher for trucks   Dr. S. Study of electrochemical properties of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures   Experimental fabrication and investigations of   Dr. K.L.   Dr. K.L.   Dr. K.L.   Dr. S. Suresh Kumar   Design and development of autonomous   Design and construction of automated fender/cowcatcher for trucks   Dr. S. Study of electrochemical properties of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures   Experimental fabrication and investigations of   Dr. K.L.   Dr. K.L.   Dr. K.L.   Dr. S. Suresh Kumar   Dr. S |   |     | O. Saciiii (III-Teal)      |               |                    |        |
| S. Nishanth (III-Year)   Dr. S. Suresh Kumar   determination of aluminium-poly carbonate sandwich plates   |   |     |                            | D 0 0 1       |                    |        |
| M. Prashant (III-Year)   E. Sabarish (III-Year)   E. Sabarish (III-Year)   Dr. A.K. Lakshminaray anan    |   | 119 | C NI de ada (III Vera)     |               |                    | 24,000 |
| Dr. A.K.   Lakshminaray anan   Design and development of autonomous hexapod for inaccessible environment   |   |     | S. Nisnanth (III-Year)     | Kumar         | aluminium-poly     |        |
| M. Prashant (III-Year)   Dr. A.K. Lakshminaray anan   Design and development of autonomous hexapod for inaccessible environment  |   |     |                            |               |                    |        |
| E. Sabarish (III-Year)  E. Sabarish (III-Year)  C. T. Alagappan (II-Year)  Vashist Valsaraj (II-Year)  Arul Noble Jose Rohan (III-Year)  R. Hari Hara Sudhan (III-Year)  Mr. D. Ebenezer  Mr. D. Ebenezer  Mr. D. Ebenezer  Study on friction stir welded DP980 steel top hat sections  Design and development of autonomous hexapod for inaccessible environment  Design and construction of automated fender/cowcatcher for trucks  Study of electrochemical properties of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures  K. Deebak (II-Year)  S. Manoj (II-Year)  Dr. K. L.  Harikrishna  Design and construction of automated fender/cowcatcher for trucks  Study of electrochemical properties of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures  Experimental fabrication and investigations of   |   |     |                            |               |                    |        |
| E. Sabarish (III-Year)    C. T. Alagappan (II-Year)   Design and development of autonomous hexapod for inaccessible environment  |   |     | M. Prashant (III-Year)     | Dr. A.K.      |                    |        |
| 121   C. T. Alagappan (II-Year)   Design and development of autonomous hexapod for inaccessible environment  |   | 120 | E Calandal (III Varia)     | Lakshminaray  | _                  | 25,000 |
| C. T. Alagappan (II-Year)   Design and development of autonomous hexapod for inaccessible environment  |   |     | E. Sabarish (III- Year)    | anan          |                    |        |
| 121   Vashist Valsaraj (II-Year)   Dr. K.L.   Harikrishna   development of autonomous hexapod for inaccessible environment   |   |     | C T Alagannan (II-Year)    |               |                    |        |
| Dr. K.L.   Harikrishna   Har |   |     | C. T. Huguppun (II Teur)   |               | •                  | 22,000 |
| Arul Noble Jose Rohan (III-Year) R. Hari Hara Sudhan (III-Year) M. Durga (III-Year) K. Vijayalakshmi (ECE) (III-Year)  T.S. Murali (II Year)  Design and construction of automated fender/cowcatcher for trucks  Study of electrochemical properties of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures  K. Deebak (II-Year)  K. Deebak (II-Year) S. Manoj (II-Year)  Dr. K. Ebenezer  Design and construction of automated fender/cowcatcher for trucks  25,000  Ebenezer  Dr. P. Rajesh  Experimental fabrication and investigations of   |   | 121 |                            |               | -                  |        |
| Arul Noble Jose Rohan (III-Year) R. Hari Hara Sudhan (III-Year) M. Durga (III-Year) K. Vijayalakshmi (ECE) (III-Year)  T.S. Murali (II Year)  Design and construction of automated fender/cowcatcher for trucks  Study of electrochemical properties of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures  K. Deebak (II-Year)  S. Manoj (II-Year)  Dr. K. Deebak in the properties of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures  Experimental fabrication and investigations of   |   | 121 | Vashist Valsaraj (II-Year) |               |                    |        |
| Arul Noble Jose Rohan (III-Year) R. Hari Hara Sudhan (III-Year) M. Durga (III-Year) K. Vijayalakshmi (ECE) (III-Year)  T.S. Murali (II Year)  B. Hari Hara Sudhan (III-Year)  Mr. D. Ebenezer  Study of electrochemical properties of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures  Experimental fabrication and investigations of   |   |     |                            |               |                    |        |
| Construction of automated fender/cowcatcher for trucks   Study of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures   Experimental fabrication and investigations of  |   |     | A 137 11 7 D 1             |               | environment        |        |
| R. Hari Hara Sudhan (III-Year) M. Durga (III-Year) K. Vijayalakshmi (ECE) (III-Year)  T.S. Murali (II Year)  Dr. P. Rajesh  K. Deebak (II-Year)  K. Deebak (II-Year)  K. Deebak (II-Year)  Dr. F. Rajesh  K. Deebak (II-Year)  Dr. K. Deebak (II-Year)  |   |     |                            |               | Design and         |        |
| Mr. D.   Ebenezer   Study of   electrochemical   properties of   tungsten doping in   vanadium oxide to   enhance the   efficiency of   lithium ion batteries   at various   temperatures   Experimental   fabrication and   investigations of   |   |     | ,                          |               |                    |        |
| M. Durga (III-Year)  K. Vijayalakshmi (ECE) (III-Year)  Study of electrochemical properties of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures  K. Deebak (II-Year)  K. Deebak (II-Year)  S. Manoj (II-Year)  Dr. K. Ebenezer  fender/cowcatcher for trucks  Study of electrochemical properties of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures  Experimental fabrication and investigations of  |   | 122 |                            |               |                    | 25,000 |
| K. Vijayalakshmi (ECE) (III-Year)  Study of electrochemical properties of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures  K. Deebak (II-Year)  S. Manoj (II-Year)  Dr. K. for trucks  Study of electrochemical properties of tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures  Experimental fabrication and investigations of  |   |     |                            |               | fender/cowcatcher  | 23,000 |
| T.S. Murali (II Year)  Dr. P. Rajesh  Dr. P. Rajesh  T.S. Murali (II Year)  Dr. P. Rajesh  Dr. P. Rajesh  Experimental fabrication and investigations of   |   |     |                            |               |                    |        |
| 123 T.S. Murali (II Year)  Dr. P. Rajesh  Dr. P. Rajesh  T.S. Murali (II Year)  Dr. P. Rajesh  Dr. P. Rajesh  Experimental fabrication and investigations of   |   |     | (III-Year)                 |               |                    |        |
| T.S. Murali (II Year)  Dr. P. Rajesh  Experimental fabrication and investigations of  |   |     |                            |               |                    |        |
| T.S. Murali (II Year)  Dr. P. Rajesh  T.S. Murali (II Year)  Dr. P. Rajesh  Tungsten doping in vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures  K. Deebak (II-Year)  S. Manoj (II-Year)  Experimental fabrication and investigations of  |   |     |                            |               |                    |        |
| T.S. Murali (II Year)  Dr. P. Rajesh  vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures  K. Deebak (II-Year)  S. Manoj (II-Year)  Dr. K  vanadium oxide to enhance the efficiency of lithium ion batteries at various temperatures  Experimental fabrication and investigations of   |   |     |                            |               |                    |        |
| T.S. Murali (II Year)  Dr. P. Rajesh enhance the efficiency of lithium ion batteries at various temperatures  K. Deebak (II-Year) S. Manoj (II-Year)  Dr. K. Rajesh Experimental fabrication and investigations of   |   |     |                            |               |                    |        |
| Experimental   S. Manoj (II-Year)   Dr. K  |   | 123 | T.S. Murali (II Year)      | Dr. P. Rajesh |                    | 25,000 |
| lithium ion batteries at various temperatures     K. Deebak (II-Year)   Experimental fabrication and investigations of   |   |     |                            |               |                    |        |
| K. Deebak (II-Year)  S. Manoj (II-Year)  Experimental fabrication and investigations of  |   |     |                            |               |                    |        |
| K. Deebak (II-Year)  S. Manoj (II-Year)  Experimental fabrication and investigations of  |   |     |                            |               | at various         |        |
| S. Manoj (II-Year)  fabrication and investigations of  | _ |     |                            |               |                    |        |
| Dr. K investigations of  |   |     |                            |               |                    |        |
|  |   |     | S. Manoj (II-Year)         | -             |                    |        |
| 124   magnagium galgium   25 0001  |   | 124 |                            | Dr. K.        | magnesium-calcium  | 25,000 |
| G.Namratha (II-Year)  Rajkumar   Inagliestum-carcium   25,000   carbonate  |   | 144 | G Namratha (II-Year)       | Rajkumar      |                    | 25,000 |
| composite in   |   |     | On turnum (II 10ui)        |               |                    |        |
| simulated body   |   |     |                            |               | -                  |        |

|                            |     |   |  | fluids   |        |
|----------------------------|-----|---|--|--|--------|
|                            | 125 | Jithin Jacob John (II-<br>Year)   | Dr. S.R.<br>Koteswara<br>Rao                                 | Joining of<br>Aluminium 7075<br>and Magnesium ZM<br>21 using diffusion<br>Bonding                                  | 20,000 |
|                            | 126 | G. Jeyavel (II-Year)  | Dr. K.L.<br>Harikrishna<br>Dr. A. K.<br>Lakshmi<br>Narayanan | Comparative<br>studies on cold<br>metal transfer and<br>friction stir cladding<br>of copper and<br>stainless steel | 22,000 |
| E. Students                | 127 | K. Rajesh (II-Year)   | Dr. S. Suresh<br>Kumar                                       | Experimental<br>ballistic studies on<br>CNT-Glare fiber<br>metal laminates for<br>aerospace<br>applications        | 25,000 |
| Mechanical - M.E. Students | 128 | S.P. Raghavan (II-Year)   | Dr. K.<br>Rajkumar   | Investigation on<br>surface textured<br>cutting tool for<br>sustainable<br>machining of Ti-<br>Alloys              | 25,000 |
|                            | 129 | S. Arputharaj (II-Year)   | Dr.R.<br>Damodaram   | Plasma arc welding<br>of DMR-249A<br>Steel: Mechanical,<br>microstructural and<br>corrosion aspects                | 22,000 |
|                            | 130 | S. Gokul (II-Year)  | Dr. A.K.<br>Lakshmi<br>Narayanan                             | Dissimilar Friction<br>stir welding of<br>409M-304 grade<br>stainless steels for<br>rail coach<br>applications     | 25,000 |
| Civil - B.E. Students      | 131 | V. Gokul (II-Year) J. Mohamed Kamal (II-Year) V. B. Shalini (II-Year) Sangeetha Menon (II-Year) | Dr. S.<br>Ramanagopal<br>Dr. R.<br>Vijayalakshmi             | Comparative Study On The Performance of Self Compacting Concrete Replaced With Various Mineral Admixtures          | 22,000 |
| Civil - B                  | 132 | C. Acash (II-Year) R. M. Manimanickam (II-Year) K. P. Priyadharshini (II-Year)                  | Dr. Y. K. Sabapathy  | Flexural Strength<br>Of Concrete Beams<br>Reinforced With<br>Short Rigid Glass<br>Fibres                           | 18,000 |

|     |     | V. Srilekha (II-Year)     |                    |                                   |        |
|-----|-----|---------------------------|--------------------|-----------------------------------|--------|
|     |     | V. Jawahar (II-Year)      |                    | Experimental Study                |        |
|     |     | N. Raghavi (II-Year)      |                    | On Strength                       |        |
|     |     |                           | D W W              | Properties Of                     |        |
|     | 133 |                           | Dr. Y. K.          | Concrete                          | 20,000 |
|     |     | K. Vaishnavi (II-Year)    | Sabapathy          | Reinforced With                   | ,      |
|     |     | ,                         |                    | Scrap Copper                      |        |
|     |     |                           |                    | Fibres                            |        |
|     |     | R. Balamurukan (II-Year)  |                    | Eff f                             |        |
|     |     | A. Jai Vigneshwar         |                    | Effect of                         |        |
|     | 134 | (II-Year)                 | Dr. S. V.          | Eccentricity in                   | 22,000 |
|     | 154 | N. Prathibha Devi         | Sivapriya          | Laterally Loaded Pile Kept in The | 22,000 |
|     |     | (II-Year)                 |                    | _                                 |        |
|     |     | A. Shrinidhi (II-Year)    |                    | Slope                             |        |
|     |     | A. Poonguzhali (II-Year)  |                    | Assessment of                     |        |
|     |     | P. Ravi Kumar (II-Year)   |                    | Toxicity Factor of                |        |
|     |     |                           | Dr. Srinath        | Various Industrial                |        |
|     | 135 | S. Surya Prakash (II-     | Rajagopalan        | Domestic Waste                    | 22,000 |
|     |     | Year)                     | Kajagopaian        | Water Effluents to                |        |
|     |     | 1 car)                    |                    | Zebrafish (Danio                  |        |
|     |     |                           |                    | Rerio)                            |        |
|     |     | V. R. Rakesh Raj          |                    | Experimental Study                |        |
|     | 10- | (II-Year)                 | Dr. R.<br>Rajkumar | on the Behaviour of               | 22,000 |
|     | 136 | S. Rakesh (II-Year)       |                    | Beam Column                       |        |
|     |     | A. S. Annal (II-Year)     |                    | joints With Welded<br>Wire Mesh   |        |
|     |     | R. Amirtha (III-Year)     |                    | Partial Replacement               |        |
|     |     | Dharshana Rajasekar       |                    | of Natural                        |        |
|     |     | (III-Year)                | Dr. Y. K.          | Aggregate By EOF                  |        |
|     | 137 | Jemshia S Canis           |                    | Steel Slag in                     | 18,000 |
|     |     | (III-Year)                | Sabapathy          | Manufacturing of                  |        |
|     |     | B. S. Vignesh (III-Year)  |                    | Stabilised Unfired                |        |
|     |     | M. V. Yokesh (III-Year)   |                    | Clay Bricks                       |        |
|     |     | K. Abinaya (III-Year)     |                    | Partial Replacement               |        |
|     |     | D. Dharshika (III-Year)   |                    | Of Natural                        |        |
|     | 138 | Y. Harika (III-Year)      | Dr. Y.K.           | Aggregates By EOF                 | 15,000 |
|     | 150 | D. Mahesh (III-Year)      | Sabapathy          | Steel Slag in                     | 15,000 |
|     |     | B. Pown Krishnan          |                    | Manufacturing Of                  |        |
|     |     | (III-Year)                |                    | Hollow Blocks                     |        |
|     |     | J. Gokul Krishna (I-Year) |                    | The Influence Of                  |        |
|     |     | S. M. Ramasamy (I-Year)   |                    | Bone Shaped                       |        |
| 139 | 139 | D. Sabarish (I-Year)      | Dr. Y. K.          | Aluminium Fibres                  | 18,000 |
|     |     |                           | Sabapathy          | In Strength                       | ,      |
|     |     | C.N.A. Nitish (I-Year)    |                    | Properties Of                     |        |
|     |     | C. Vichen Vandlan         |                    | Concrete Shaar Caracity Of        |        |
|     |     | S. Vishnu Vardhan         | Dr. Y. K.          | Shear Capacity Of                 |        |
|     | 140 | (I-Year)                  |                    | Reinforced                        | 18,000 |
|     |     | K. Udhaya Prabhu          | Sabapathy          | Concrete Beams                    |        |
|     |     | (I-Year)                  |                    | With Coated E-                    |        |

|                    |  | K. Mukeshwaraa (I-Year)  |  | Glass Fibres   |                          |
|--------------------|--|--|--|--|--------------------------|
|                    | 141  | B. Mukul Anand (II-Year) G. Vishnu Aravind (II-Year) A. Prasanth (II-Year) K. Yogesh Kumar (II-Year) | Dr. R.<br>Rajkumar                               | Experimental Study<br>on Concrete with M<br>Sand and Fly Ash<br>Subjected TO<br>Fatigue Loading    | 22,000                   |
|                    | 142  | S. Kim Nepheg (III-Year) M. Sai Pradeep (III-Year) T. Ajith Kumar (III-Year)                         | Dr. B.<br>Mahalingam                             | Light Weight Construction Materials Using EPS And FLYASH   | 25,000                   |
|                    | 143  | M. Abinaya (III-Year) S. Deepika (III-Year) S. Kertana (III-Year)                                    | Dr. V.<br>Mahesh                                 | Attention<br>enhancement<br>system using virtual<br>reality for adhd<br>patients                   | 13,000                   |
|                    | 144  | S. Viswanath (II-Year) G. Praveen Kumar (II-Year)  | Ms. M.<br>Dhanalakshmi                           | External aid for<br>amyotrophic lateral<br>sclerosis (ALS)<br>patients.                            | 25,000                   |
|                    | 145  | R. Divya (II-Year) K.T. Meghna Murali (II-Year) R. Manuj (II-Year)                                   | Ms. R. Nithya                                    | Development of electronic nose for diagnosis of tuberculosis                                       | 25,000                   |
| dents              | 146  | M. Annamalai (III-Year) K. Deepa (III-Year) A. Dhanuja (III-Year)                                    | Ms. B. Divya<br>Ms. J. Delpha                    | Indian sign<br>language converter<br>using sEMG  | 25,000                   |
| BME - B.E Students | 147  | K. Bargavi (III-Year) R. Haripriya (III-Year) V. Sandhya (III-Year)                                  | Ms. N. Laxmi                                     | EOG controlled<br>motorized wheel<br>chair for the<br>disabled                                     | 25,000                   |
| BMI                | R. Rathi Adarshi (III-Year)  148 R. Shuruthi Sree (III-Year) S.A. Jerome Jayakar (II-Year)  Ms. R. Nithy |  | Development of<br>lower extremity<br>exoskeleton | 18,000   |                          |
|                    | 149  | N. Abinaya (III-Year)  B.N. Shaalu Shree (III-Year)  | Dr. N.P.<br>Rajesh<br>Dr. R.<br>Subashini        | Investigations on Design and fabrication of dielectric resonator antennas using ZrTiO <sub>4</sub> | 25,000                   |
|                    | 150  | S. Abinaya (III-Year) N. Divya Raghavi (III-Year) S. Manasvi (III-Year) S. Pushpika (III-Year)       | Dr. Sachin<br>Gaurishankar<br>Sarate             | Temperature measurement for hypoglycemic condition   | 18,000<br><b>2942000</b> |

## 3.1.5 Give details of the faculty involvement in active research (Guiding student research, leading Research Projects, engaged in individual/collaborative research activity, etc.

The institution has setup Centre of Excellence (CoEs) for certain specialized areas to ensure interdepartmental collaborative research. The CoEs are in the following areas:

- Energy
- Materials
- Speech Technology
- Healthcare Technology
- Machine Learning
- Smart Technology

The institution has entered into a MoU with various R&D organizations & Universities such as DST, NIOT, NRB, IGCAR, AICTE, IBM etc. and has been awarded collaborative Projects, funded by them.

In addition to the above, through the MOU it has with foreign Universities such as Carnegie Mellon University and National Tsing Hua University, faculty and research scholars are involved in R& D activities through scholar exchange programmes with these Universities. The organisations with which the college has MOUs and the resulting research activities are indicated below:

#### MOUs signed with Industries and associated research activities:

**Department of Electrical & Electronics Engineering** 

| Sl.<br>No. | Organisation with which there is an MOU | Associated research/other activity | Remarks |
|------------|---|------------------------------------|---------|
| 1          | Steinbeis Solar Research Center         | Conducted a workshop               |         |
| 2          | Starcom Information Technology Ltd.     |                                    |         |
| 3          | Hibres Technologies                     |                                    |         |

**Department of Electronics & Communications Engineering** 

| Sl.<br>No. | Organisation with which there is an MOU | Associated research/other activity | Remarks   |
|------------|---|------------------------------------|---|
| 1          | Enixs Technologies                      | Joint EDA / SoPC Lab centre        | Altera's 15-<br>User Quartus II<br>Perpetual<br>Licence |

| 2  | Cranes Software International Limited, Bangalore (University Program Partner of Texas Instruments, India)   | <ul> <li>Teaching/Research Lab setup at SSNCE in the area of Embedded Systems/ Microcontrollers</li> <li>Analog Teaching Lab using ASLK Starter Kits at SSNCE</li> <li>Pure MCU (Teaching/Research) lab setup at SSNCE in the area of Embedded systems</li> <li>Connectivity attach MCU (Teaching/Research) lab setup at SSNCE in the area of Embedded systems</li> </ul> | Development<br>kits based on<br>TIMSP430 and<br>Analog System<br>Laboratory Kit |
|----|---|---|---|
| 3  | Intel India   | Low Power Computing Systems Lab based on Intel Atom processor   | Collaboration<br>program of Intel<br>Atom based<br>embedded<br>curriculum       |
| 5. | Regional Telecom<br>Training Centre<br>(RTTC) – BSNL –<br>Chennai.  | Providing Inplant/Lab training,<br>doing project work in RTTC,<br>and Joint Research &<br>development activities  |   |
| 6. | Fraunhofer- Gesellschaftzur Forderung der angewandtenForschung e.V (FhG), Germany and AEM, Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR (AEM-FHR) Germany | Collaboration in the field of<br>Antenna gain measurement<br>techniques   |   |
| 7. | Tata Elxsi, Chennai   | To provide a platform to build an strong and on-going relationship between TEL and SSN CE Industry  |   |

**Department of Computer Science & Engineering** 

| Sl.<br>No. | Organisation with which there is an MOU | Associated research/other activity                     | Remarks |
|------------|---|--|---------|
| 1.         | Catepillar India Private Limited        | Internships, Student projects, Consultancy, Placements | -       |
| 2.         | Manatec Electronics PVT LTD             | Consultancy work, Student project                      | -       |
| 3.         | TATA EIXSI LTD                          | Student projects, internships                          | -       |

| 4. | Computer Sciences Corporation India Private Ltd | Student projects | - |
|----|---|------------------|---|
|----|---|------------------|---|

**Department of Chemical Engineering** 

| Sl.<br>No. | Organisation with which there is an MOU | Associated research/other activity | Remarks            |
|------------|---|------------------------------------|--------------------|
| 1          | M/s.Armats Biotek Private               | Associated                         | Nil                |
|            | Limited 26.08.2013                      | research                           |                    |
| 2          | M/s.Sheenlac Paints Limited,            | Associated                         | Separation process |
|            | Chennai05.08.2015                       | research                           | with Ionic liquid  |

**Department of Biomedical Engineering** 

| CI         | Organisation with     | Associated                 |                                 |
|------------|-----------------------|----------------------------|---------------------------------|
| Sl.<br>No. | which there is an MOU | research/other<br>activity | Remarks                         |
| 1          | Neolight, LLC, USA    | Industry-Institute         | Industry specific training      |
|            |                       | collaboration              | program, Consultancy project    |
|            |                       |                            | & organizing                    |
|            |                       |                            | seminar/conferences             |
| 2          | Aries Biomed          | Industry-Institute         | Industry specific training      |
|            | technology            | collaboration              | program, Consultancy project    |
|            |                       |                            | & organizing                    |
|            |                       |                            | seminar/conferences             |
| 3          | Wild box technologies | Industry-Institute         | Industry specific training      |
|            |                       | collaboration              | program, Consultancy project    |
|            |                       |                            | & organizing                    |
|            |                       |                            | seminar/conferences             |
| 4          | Texas Instruments     | Industry-Institute         | Industry specific training      |
|            |                       | collaboration              | program, Consultancy project    |
|            |                       |                            | & organizing                    |
|            |                       |                            | seminar/conferences             |
| 5          | Phoenix Medical       | Industry-Institute         | Projects for UG students under  |
|            | system                | collaboration              | non-degree bases                |
| 6          | SRMC, Porur           | Hospital-Institute         | Hospital visit & external       |
|            |                       | interaction                | research grant                  |
| 7          | Chettinad Super       | Hospital-Institute         | Diagnostic services, surgeries, |
|            | speciality Hospital   | interaction                | health checkup                  |
| 8          | Itie knowledge        | Industry-Institute         | Students visit for advanced     |
|            | solution              | Interaction                | research work                   |
| 9          | Mediscan group of     | Medical Laboratory-        | Exchange of technical data in   |
|            | Institution           | Institute                  | biomedical science field        |
|            |                       | Collaboration              |                                 |

**Department of Mechanical Engineering** 

| Department of Mechanical Engineering |   |  |  |  |
|--------------------------------------|---|--|--|--|
| Sl.<br>No.                           | Organisation with which there is an MOU   | Associated research/other activity   |  |  |
| 1.                                   | M/s Ecologikol Advisors India<br>Pvt. Ltd., Chennai. (MOU dt.<br>March 1, 2016) | Joint Research with Dr. N. Lakshmi<br>Narasimhan on Building Cooling and was<br>offered an internship during May 25-28, 2016<br>under faculty internships. |  |  |
| 2.                                   | M/s Barola Aero Sports,<br>Chennai. (MOU dt. March 1,<br>2016)                  | Training Programme planned during Sep/Oct 2016   |  |  |

**Department of Civil Engineering** 

| Sl.<br>No. | Organisation with which there is an MOU | Associated research/other activity | Remarks       |
|------------|---|------------------------------------|---------------|
| 1          | JSW Steel Ltd. Salem                    | Strength and Durability            | 18.02.2015 to |
|            | Works                                   | studies on SMS Slag                | 17.02.2018    |
| 2          | P.A Footwear Pvt. Ltd.,                 | Beneficial use of WB               | On going      |
|            | Tannery Division,                       | Leather Scraps                     |               |
|            | Ranipet                                 |                                    |               |

# 3.1.6 Give details of workshops/training programmes/sensitization programmes conducted/organized by the institution with focus on capacity building in terms of research and imbibing research culture among the staff and students.

The details of Conferences / Workshops / Seminars Organized during the last four years are given below:

| Year                     | Department | Programme   |
|--------------------------|------------|---|
| January 10 – 11,<br>2013 | Mechanical | Workshop on "Fundamentals of CFD".  |
| January 22 – 23,<br>2013 | BME        | Workshop on "Recent Advancement in Diagnostic and Therapeutic Equipments and their Applications". |
| January 25, 2013         | Physics    | Workshop on "Underwater Acoustics (OWUA)".  |
| January 24 – 25, 2013    | Mechanical | National Conference on "Strategies for Successful Interaction with Industries".                   |
| January 31, 2013         | Chemical   | Workshop on "MATLAB".   |
| February 02, 2013        | CSE        | Workshop on "Android Hackathon".  |
| February 06, 2013        | CSE        | Open Source Conference on "OS Ready".   |
| February 19, 2013        | Mechanical | Workshop on "Innovation and Creativity for Product Development".                                  |
| February 22, 2013        | Mechanical | Workshop on "Friction surfacing and Stir welding of ferrous alloys SURSTIR '13".                  |
| February 26, 2013        | Chemical   | National Student Conference on "Recent<br>Advancement in Chemical Engineering<br>(RACE)".         |

|                    |                 | T   |
|--------------------|-----------------|---|
| March 22, 2013     | EEE             | Workshop on "Control of Power Converters with FPGA using MATLAB Xlinx Interface". |
|                    |                 |   |
| March $01 - 02$ ,  | PPP             | Second National Conference on "Power  |
| 2013               | EEE             | System, Power Electronics and Drives, PSPED                                       |
|                    |                 | 2013".  |
| March 14 – 16,     | BME             | International Conference on "Biosignals,  |
| 2013               | BIVIE           | Images and Instrumentation (ICBSII 2013)".  |
| March 15, 2013     | Mechanical      | Workshop on "Research Trends in Finite  |
| Water 13, 2013     | Mechanical      | Element Analysis".  |
| March 16 – 16,     | Mechanical      | Workshop on "Aero Modelling".   |
| 2013               | Mechanical      | workshop on Aero Wodening.  |
| March 15 – 16,     | ECE             | Seminar on "Advances in Wireless  |
| 2013               | ECE             | Communications".  |
|                    |                 | National Workshop on "Control of Power  |
| March 22, 2013     | EEE             | Converters using MATLAB Xilinx Interface".  |
|                    |                 | National Conference on "Cyber physical  |
| April 02-03, 2013  | ECE             | system: Application and Challenges".  |
| April 09, 2013     | BME             | Workshop on "Digital Signal Processors".  |
| April 07, 2013     | DNIL            | Workshop on "Automotive Technical cum   |
| April 09, 2013     | Mechanical      |   |
|                    |                 | Practical Training".  |
| 4 '1 10 2012       | ECE             | National Conference on "Emerging Trends in  |
| April 10, 2013     | ECE             | Information and Communication Technologies  |
|                    |                 | (NCETICT-2K13)".  |
| April 10, 2013     | ECE             | National Conference on "The road to writing                                       |
| 7 pm 10, 2015      | LCL             | better papers".   |
| April 13, 2013     | Mechanical      | Workshop on "Research Avenues in Thermal  |
| 11pm 13, 2013      |                 | Engineering".   |
| May 06-08,2013     | EEE             | CSIR Workshop on "Power Conversion  |
| Way 00-06,2015     | BBB             | Technologies for Renewable Energy Systems".                                       |
| July 20, 2013      | ECE             | Seminar on "Research and Publishing"  |
| T 1 24 2012        | PPP             | Workshop on "Emerging Energy Scenario in  |
| July24, 2013       | EEE             | India and its Challenges".  |
| X 1 07 04 0010     | <b>7.1</b> (7.1 | National Seminar on "Transforms on Signal and                                     |
| July 25-26, 2013   | BME             | Image Processing".  |
|                    |                 | National Conference on "Advancements in   |
| August 2, 2013     | Chemical        | Adsorption Science and Technology".   |
| August 7, 2013     | Mechanical      | Workshop on "Aero Modelling Hand gliders".  |
| 1105000 1, 2013    | Micchanical     | National Workshop on "Hands on Training in  |
| August 8, 2013     | Chemical        | Heavy Metal Analysis: Atomic Adsorption   |
| 11ugust 0, 2013    | Chemicai        | Spectroscopy".  |
|                    |                 | ISTE Seminar on "Role of Science and  |
| August 17, 2013    | EEE             |   |
|                    |                 | Humanities in IIT's and Engineering College".                                     |
| August 19-20, 2013 | ECE             | Workshop on "Trends and Developments in   |
|                    |                 | Signal Processing and its Applications".  |
| August 19-20, 2013 | <u>IT</u>       | Workshop on "SOA in Practice".  |
| August 27-28, 2013 | IT              | Workshop on "Ethical Hacking".  |
| September 3, 2013  | IEEE            | Workshop on "Solar Lamp Design – Hands on".                                       |
| September 17, 2013 | IEEE            | Workshop on "Solar lamp Design contest".  |

| September 20, 2013     | CSE        | Workshop on "Introduction to Medical Imaging   |
|------------------------|------------|--|
| -                      | CSE        | and Classification Techniques".  |
| September 20-21, 2013  | EEE        | National Workshop on "Advanced Power Electronics Interfaces for Distributed Energy".                                     |
| September 20-21, 2013  | ECE        | National Workshop on "ARM mbed Cortex M Processor Platform".   |
| September 20-21, 2013  | IT         | National level Workshop on "Fundamental<br>Analysis and Processing of Image and video<br>with Computing Techniques".     |
| September 21, 2013     | CSE        | Workshop on "Python Programming".  |
| September 26, 2013     | I-Cell     | National Conference on "Recent Trends in Chemical Energy and Environmental Engineering".                                 |
| October 3, 2013        | Mechanical | Workshop on "Alternative Sources of Energy Issues and Challenges".   |
| October 4, 2013        | Chemical   | National Level Conference on "Nano Biotechnology".   |
| October 4-5, 2013      | CSE        | Workshop on "Natural Language Processing".   |
| October 5, 2013        | Chemical   | Research Seminar on "ANN Modeling for the treatment of industrial effluent using electrochemical reactor".               |
| November 11 13, 2013   | ECE        | Workshop on "Electromagnetics".  |
| December 5, 2013       | ECE        | "Reflect Array Antenna Design".  |
| December 6 – 7, 2013   | SASE       | Workshop on "Software Architecture for Managers".  |
| January 7 – 9, 2014    | EEE        | International Conference on "Electrical Energy Systems – ICEES 2014".  |
| January 16, 2014       | SSN CE     | Workshop on "Group Discussion and Interview".  |
| January 27, 2014       | CSE        | Organized ACM Code County 2.0  |
| February 4, 2014       | Mechanical | Workshop on "Automotive Technical cum Practical Training".   |
| February 10 & 11, 2014 | BME        | Workshop on "MIMICS Innovation Suite:<br>Engineering on Anatomy".  |
| February 14, 2014      | CSE        | Workshop on "Open Stack".  |
| February 15, 2014      | Chemistry  | Workshop on "Recent Trend in Nuclear Magnetic Resonance Spectroscopy and Imaging".                                       |
| February 17, 2014      | CSE        | Workshop on "Blended Learning through Massively Empowered Class Rooms".  |
| February 27 & 28, 2014 | Chemical   | International Conference on "Recent<br>Advancements in Chemical, Environmental and<br>Energy Engineering (RACEEE 2014)". |
| March 4 & 5, 2014      | Mechanical | Workshop on "Annual Glider".   |
| March 14 & 15,<br>2014 | EEE        | National Workshop on "Electromagnetic Design & Analysis of Electrical Machines".   |

| March 18, 2014           | Mechanical  | Workshop on "Recent Advancement in Alternate Energy Sources".  |
|--------------------------|-------------|--|
| March 19, 2014           | CSE         | Workshop on "Natural Language Processing".   |
| March 21, 2014           | BME         | National Conference on "Bioelectronics,<br>Biomaterials and Medical Devices (NCBBM<br>2014)".                  |
|                          | Chemical    | National Seminar on "Industry Institute Interaction"   |
| March 21 & 22,<br>2014   | ECE         | Workshop on "System Design Using TI MSP430 MCU".   |
| March 28, 2014           | Chemical    | Workshop on "Artificial Neural Network".   |
| April 4 & 5, 2014        | ECE         | Workshop on "Embedded Systems and Industrial Applications".  |
| April 7, 2014            | ECE         | Seminar on "Introduction to Electromagnetic Compatibility".  |
| April 10, 2014           | EEE         | National Conference on "Recent Trends in Power and Energy Engineering (RTOEE 2014)".                           |
| April 18, 2014           | ECE         | National Conference on "Information & Communication Technology (NCICT2K 14)".                                  |
| April 19, 2014           | ISTE/SSN CE | Seminar on "An Engineering Approach to Solve Social Problems".   |
| June 20 – 29, 2014       | Mechanical  | Workshop on "Automotive Design and Development".   |
|                          | Civil       | Seminar on "Study on Space Composite Truss".   |
| July 18 & 19, 2014       | EEE         | National Level Workshop on "Power Conversion for Smart Grids".   |
| July 19, 2014            | SSN ACM     | Workshop on"LaTeX".  |
| July 22, 2014            | ECE         | TI Analog Design Contest   |
| August 7, 2014           | Chel        | 4th National Level Conference on Recent<br>Trends in "Chemical, Energy & Environmental<br>Engineering (CEEE)". |
| August 21 & 22, 2014     | ECE         | Two Day National Workshop on "Cryptography & Network Security".  |
| September 12 & 13, 2014  | ECE         | Workshop on "Comprehensive Hands on Experience on Mems Design & Simulation UsingIntellisuite Software".        |
| September 18, 2014       | SSN CE      | IEEE Student Branch Workshop on "Women Safety".  |
| September 18, 2014       | Chemical    | National Level Seminar on "Application of Nanotechnology for Pollution Abatement (ANPA)".                      |
| September 19, 2014       | Civil       | Technical Workshop on "Engineering for Ocean Hydrocarbon Exploration".   |
| September 18 to 20, 2014 | Physics     | National Level Workshop on "Radiological Aspects of Fly Ash & Environmental Radioactivity".                    |

| September 19, 2014      | Chemical    | One Day Workshop on "Recent Practices in Chemical & Pharmaceutical Industries".                 |
|-------------------------|-------------|---|
| September 25, 2014      | Chemical    | National Level Seminar on "Global Warming – Causes, Impacts & Remediation".                     |
| October 6, 2014         | Mechanical  | One Day Workshop on "CFD Using Star CCM+".  |
| October 10, 2014        | Mechanical  | One Day Workshop on "Energy Efficiency".  |
| October 10 & 11, 2014   | ECE         | Two Day Workshop on "Cognitive Software Defined Radio".   |
| October 17, 2014        | Mechanical  | National Level Workshop on "XFEM Based Fracture Mechanics & its Applications".                  |
| October 30, 2014        | ECE & Maths | Seminar on "Recent Developments in Medical Image Processing".                                   |
| November 1, 2014.       | EEE         | International Conference on "Recent Advances in Science & Engineering".                         |
| November 4, 2014        | Chemical    | Seminar on "New Launch of TSQ 8000 Evo GCMS/MS".  |
| November 5 to 7,2014    | ECE         | IEEE AP-S Workshop on "Advanced Antenna Technology".  |
| November 6,2014         | ECE         | Speech on the topic"Emerging Broadband<br>Technologies of Optical Wireless<br>communication".   |
| November 11, 2014       | ECE         | Seminar on "Mathematica software and its features".   |
| November 13 to 15, 2014 | EEE         | Workshop on "Smart Grid & Solar PV System design".  |
| November 27, 2014       | EEE         | "Simulation and Implementation of Sensored Control of Three Phase BLDC Motor Drive using FPCA". |
| December 16 & 18, 2014  | EEE         | National Workshop on "Energy Management system in micro grids".                                 |
| January 06, 2015        | IT          | Workshop on "Cyber security and Forensics"  |
| January 08, 2015        | Mechanical  | International Conference on "sustainable Energy Resources, Materials and Technologies".         |
| January 23, 2015        | EEE         | National Workshop on "Electrical Drives for Defence Applications".                              |
| February 04, 2015       | Physics     | Workshop on "Metrohm Autolab<br>Electrochemistry".  |
| February 5 – 7, 2015    | Chemical    | Training program on "MALAB and Simulink"  |
| February 6 – 7, 2015    | IT          | Workshop on "Fundamental Analysis and Processing of Image and Video with Computing Techniques". |
| February 6 – 7,<br>2015 | Mathematics | Workshop on "Computational Fluid Dynamics".   |

|                      |               | National Conference on "Recent Trends in                                       |
|----------------------|---------------|--|
| February 12, 2015    | Chemical      |  |
|                      |               | Chemical, Energy and Environmental   |
| Fohmsoms 12 12       |               | Engineering (CEEE)".   |
| February 12-13, 2015 | ECE & EEE     | Workshop on "TI Analog System Design by using ASLK Pro".                       |
|                      |               | National conference on "Distributed Machine                                    |
| February 20-21, 2015 | CSE           | Learning (NCDML 2015)".  |
| February 26-27,      |               | National conference on "Power Electronics and                                  |
| 2015                 | EEE           | Renewable Energy Systems (PEARES 2015)".                                       |
| February 27-28,      |               | National conference on "Sustainable trends in                                  |
| 2015                 | Chemical      | energy and environmental resources (STEER)".                                   |
| March 3 -4, 2015     | EEE           | Workshop on "Solar PV System Design".  |
| March 4, 2015        | Mechanical    | Workshop on "Non Destructive Testing".   |
| March 6, 2015        | CSE           | Workshop on "Big Data and Hadoop".   |
| March 10-11, 2015    | BME           | Workshop on "Cadence Tool".  |
|                      |               | National Conference on "Advances in Civil                                      |
| March 19-20, 2015    | Civil         | Engineering".  |
| March 21, 2015       | ECE           | Seminar on "Entrepreneurship".   |
| March 21, 2015       | CSE           | Workshop on "Introduction to Linux".   |
|                      |               | National conference on "Information  |
| March 21, 2015       | IT            | Technology – NCIT 2K15".   |
| March 30-31, 2015    | ECE & Physics | Workshop on "Modelling Photonic Devices".                                      |
| March 31 & April     | DME           | Workshop on "Embedded Development Module                                       |
| 1, 2015              | BME           | Using Lab VIEW".   |
| April 4, 2015        | IT            | Seminar on "Data Analytics".   |
| April 9-10, 2015     | ECE           | National conference on "Information and  |
| 71pm 7-10, 2013      | LCL           | Communication Technology (NCICT 2k15)".  |
|                      |               | National conference on "Recent Trends in                                       |
| April 10, 2015       | Chemical      | Clean Technology for Sustainable Environment                                   |
|                      |               | (CTSE)".   |
| April 29-30, 2015    | ECE & IT      | Workshop on "Technologies for speaker and                                      |
| r                    |               | language recognition".   |
| June, 2 – 12, 2015   | Chemical      | One day National Workshop on "Water &  |
| . ,                  |               | Wastewater Analysis (WWWA)".   |
| June 26, 2015        | EEE           | Workshop on "MatLab-Xilinx System  Congreted Interface with Hands on Practice" |
| July 1 4 2015        | CCE           | Generated Interface with Hands on Practice".                                   |
| July 1 – 4 2015      | CSE           | Workshop on "Upa Yoga".  SAE SSN Collegiate Club Conducted "Tier –             |
| July 13 & 14, 2015   | SSN CE        | I".  |
| July 14, 2015        | SSN - IEEE    | Workshop on "Learn 1000 words in 6 hours".                                     |
| July 14, 2015        | BME           | Organized an "Interactive Technical Q & A".                                    |
| July 17 & 18, 2015   | CSE           | Oraganized a workshop on "LaTeX".  |
|                      | Civil         | Workshop on "Recent Advances in  |
| July 27, 2015        |               | Geotechnical Engineering".   |
|                      | Maths         | Organized the State Level Symposium  |
|                      |               | "eXLog2K15".   |
| July 29, 2015        | BME           | Workshop on "Labview".   |

|                    |              | 6 <sup>th</sup> National Conference on "Chemical, Energy                   |
|--------------------|--------------|--|
| July 31, 2015      | Chemical     | & Environmental Engineering".  |
| July 31, & August  | CSE          | Workshop on "Embedded Software   |
| 1, 2015            | CSL          | Development".  |
| August 1, 2015     | SSN CE       | National Workshop on "Simulation Softwares                                 |
|                    |              | for Power Electronics".  Organized Workshop on "Biomedical Statistics      |
| August 4, 2015     | BME          | & Information Technology Influencing the                                   |
|                    |              | Current Medical Field".  |
|                    |              | National Workshop on "Design of Digital                                    |
| August 7, 2015     | EEE          | Controllers in FPGA using MATLAB System                                    |
| August 12 & 13,    |              | Generator – Hands on".  Workshop on "MSP430 Wireless Interfacing           |
| 2015               | ECE          | Modules"   |
| September 4 & 5,   | Maths        | Workshop on "Advanced in Applied   |
| 2015               | Mauis        | Engineering Mathematics".  |
| September 9 & 10,  | ECE          | Workshop on "Embedded Systems".  |
| 2015               |              | National Workshop on "COMSOL   |
| September 11, 2015 | Chemical     | Multiphysics".   |
| September 18 & 19, | CCE          |  |
| 2015               | CSE          | Workshop on "Model Checking".  |
| September 22, 2015 | Chemical     | National Workshop on Instrumental Methods of                               |
| September 24 – 26, |              | Analysis (IMA)".  National Seminar on "Finite Element Methods              |
| 2015               | Maths        | (NSFEM 2015)".   |
|                    | Chemical     | National Conference on "Clean Technology for                               |
| September 25, 2015 |              | Sustainable Environment (CTSE)".   |
| October 9, 2015    | ECE          | Workshop on "Internet of Things".  |
| October 14, 2015   | English      | Organized the prize-giving ceremony of the 'SSN Creative Writing Contest'. |
| October 15 – 17,   | <u> </u>     | Organized a workshop on "Advanced Data                                     |
| 2015               | CSE          | Structures & Algorithms".  |
| October 16 & 17,   | ECE          |  |
| 2015               | ECE          | Workshop on "Cadence Tools".   |
| October 19,2015    | ECE          | Workshop on "Antenna & RF/Microwave  |
| ,                  |              | Simulations using CST Studio Suite 2015".                                  |
| October 20, 2015   | Civil        | Seminar on "Drought Vulnerability Assessment                               |
|                    |              | in Irrigated Agriculture".   |
| October 28, 2015   | CSE          | Workshop on "How to write a Research Paper".                               |
| November 27, 2015  | Chemical     | National Workshop on "Writing Scientific                                   |
| November 30 –      |              | Research Paper".  Organized FDTP on "EC6602 – Antenna &                    |
| December 7, 2015   | ECE          | Wave Propagation".   |
|                    | Mechanical   | National Conference on "Recent Advances in                                 |
| December 12, 2015  | ivicchanical | Materials & Manufacturing".  |

| January 8 – 11,<br>2016  | IT       | Organized a "Winter School on Speech & Audio Processing (WiSSAP – 2016), on the theme "Speech Prosody" |
|--------------------------|----------|--|
| January 20 – 22,<br>2016 | ECE      | AP-S workshop on "Key Electromagnetic Concepts"  |
| January 22 & 23, 2016    | SASE     | Workshop on Architecting for the Cloud"  |
| February 1 & 2, 2016     | IT       | Workshop on "Research Prospects in Image Fusion & Registration".                                       |
| February 4, 2016         | EEE      | Seminar on "Steel Structures".   |
| February 9, 2016         | Chemical | Technical Talk on "Emerging Trends in Process Automation with DCS & PLC Overview".                     |
| February 12, 2016        | CSE      | National Level Seminar on "Predictive Analytics – Big Data & Health Care".                             |
| February 18, 2016        | EEE      | Guest Lecture on "Resonant Converters".  |
| February 19 & 20, 2016   | English  | National Conference on "Teaching English Language to the 21st Century Learners".                       |
| February 20, 2016        | EEE      | Workshop on "Hands on Workshop on Pspice & Psim".  |
| February 22 & 23, 2016   | BME      | Workshop on "Digital Signal Processing"  |
| February 27, 2016        | EEE      | Guest Lecture on "Power System Protection Application in Smart Grid Systems".                          |
| March 1, 2016            | EEE      | Workshop on "PSpice & PSim"  |
| March 3 & 4, 2016        | BME      | National Level Workshop on "Advancement in Biomedical Engineering & Sciences".                         |
| March 7, 2016            | BME      | Guest Lecture on "Lasers in Ophthalmology & OCT".  |
| March 7, 2016            | Mech     | Guest Lecture on "Advanced Materials & Manufacturing".   |
| March 7, 2016            | IT       | Workshop on "Fundamental Analysis & Processing of Image & Video with Computing Techniques".            |
| March 9, 2016            | BME      | Guest Lecture on "Visual Evoked Potential – Principle & Clinical Applications".                        |
| March 17, 2016           | Civil    | Workshop on "Recent Advancement in Remediation".   |
| March 17 – 19,<br>2016   | EEE      | International Conference on "Electrical Energy Systems ICEES 16".                                      |
| March 18, 2016           | Chemical | National Conference on "Recent Trends in Chemical, Energy & Environmental Engineering".                |
| March 18, 2016           | CSE      | National Conference on "Internet of Things & Data Analytics, IoTDA 16".                                |
| March 21, 2016           | Mech     | Workshop on "New Trends in Welding Technology".  |
| March 21 & 22,<br>2016   | Physics  | National Level Conference on "Advanced Materials".   |

| March 22 & 23, 2016    | IT       | Workshop on "The Internet of Things – Hands – on with Raspberry Pi".   |
|------------------------|----------|--|
| March 23, 2016         | BME      | Guest Lecture on "Restoring Hearing through Technology".   |
| March 23, 2016         | CSE      | Workshop on "Version Control System Using Git".  |
| March 23 – 25,<br>2016 | ECE      | Hosted the IEEE International Conference on "Wireless Communication, Signal Processing & Networking (WiSPNET16)".      |
| March 31, 2016         | ECE      | Guest Lecture on "Soft Skills Training for Students".  |
| March 31, 2016         | BME      | Guest Lecture on "Polymers for Medical Applications: Macro to Nono".   |
| April 1, 2016          | Mech     | National Level Workshop on "Refresher course in Finite Element Analysis".  |
| April 1, 2016          | Mech     | Guest Lecture on "Introduction to New Product Development".  |
| April 2, 2016          | IT       | Organized a National Level Project<br>Competition VIVID 2016   |
| April 7, 2016          | IT       | Guest Lecture on "Role of IEEE Women Empowerment"  |
| April 16, 2016         | BME      | Guest Lecture on "Medical Image Registration & Image Segmentation Using Active Contours".                              |
| April 25 & 26, 2016    | Mech     | International Conference on "Mechanical Engineering Design (ICMED 2016)".  |
| April 29, 2016         | ECE      | Lecture on "4G & Beyond".  |
| May 6, 2016            | Mech     | National Level Conference on "Processing & Characterization of Advanced Engineering Materials".                        |
| June 16, 2016          | Chemical | National Level Workshop & Hands Training on "Instrumental Methods of Analysis (IMA)".                                  |
| June 20 & 21, 2016     | ECE      | National Level Conference on "Research Challenges in VLSI Design & Embedded System for Wireless Communication System". |
|                        | CSE      | Guest Lecture on "Three Pillars of Analytics"  |
| July 18, 2016          | Mech     | Guest Lecture on "MEMS AND Multi-Criteria Design Making".  |
| July 19, 2016          | IT       | Guest Lecture on "Cyber Warfare and Security Measures".  |
| July 22, 2016          | ECE      | Seminar on "Information Coding Techniques".  |
| July 24, 2016          | Civil    | Guest Lecture on "Special types of Concrete".  |
| July 27, 2016          | ECE      | Workshop on "Wireless Sensor Nodes-Telos B and C Mote".  |
| July 27, 2010          | IT       | Guest Lecture on "Evolutionary Computation and Applications".  |
| July 28, 2016          | CSE      | Guest Lecture on "Machine Learning".   |

| August 04, 16                            | BME         | A Hands-on workshop on cardio-thoracic equipments by Bio-Vision Medical Systems  |
|--|-------------|--|
| August 05, 2016                          | Chemical    | Workshop on Introduction to Computational Fluid Dynamics   |
| August 05, 2016                          | CSE         | Two day workshop on "Computational thinking" for the Istyear CSE students.   |
| August 12, 2016                          | Chemical    | Workshop on Process Flow Diagram (PFD) and<br>Piping & Instrumentation Diagram (P & ID) for<br>Engineers   |
| August 19, 2016                          | Chemical    | National Conference on Chemical Energy and<br>Environmental Engineering (CEEE)   |
| August 22, 2016                          | CSE         | SSN-CSI students chapterevent on "coding for placements"   |
| August 29, 2016                          | CSE         | SSN-CSI students chapterevent on, Technical Aptitude and Puzzle Solving  |
| September 1 – 2, 2016                    | BME         | Hands on Workshop on PIC Micro-controller programming by Galwin Technologies   |
| September 6 – 16,<br>2016                | CSE         | FDTP - Cryptography and Network Security   |
| September 09, 2016                       | MBA         | Consulting – A Practitioner's Perspective  |
| September 9 – 10, 2016                   | Chemical    | Student Level National Symposium (INVENTE 2k16)  |
| September 15, 2016                       | Civil       | Second National Conference on Advances in Civil Engineering  |
| September 19, 2016                       | CSE         | SSN-CSI students chapterevent on, Reverse coding and content writing   |
| September 21, 2016                       | Chemical    | Workshop on Green & Sustainable Technologies for Zero Emissions -2016  |
| September 23, 2016                       | Chemical    | Workshop on Writing Scientific Research Paper – Phase II   |
| September 26, 2016                       | CSE         | Talk on Innovation in Industry and Data<br>Warehouse Concept   |
| September 30, 2016 & October 01, 2016    | CSE         | Two day workshop on "Machine Learning in Intelligent Image Processing"   |
| October 06, 2016                         | MBA         | The future of e-Commerce in India  |
| October 31, 2016 to<br>November 04, 2016 | ECE         | FDP on Electromagnetics  |
| November 23, 2016                        | ВМЕ         | Lecture on Deep learning by<br>Mr.VigneshBaskaran, Data Scientist, Darts-ip,<br>Master of Artificial Intelligence, KU<br>LeuvenBelgium (SSN Alumnus) |
| November 28, 2016                        | ВМЕ         | Seminar on "Advancements in Biomedical Engineering" by Dr. VivekIndramohan, School of Health Sciences, Birmingham City University.                   |
| December 01-03, 2016                     | Mathematics | Third National Conference on Reliability and Safety Engineering  |

| December 01 - 03, 2016   | ECE         | FDP on Antenna Design and Measurement Techniques   |
|--------------------------|-------------|--|
| December 08, 2016        | CSE         | Workshop on, C++ STL   |
| December 12-13, 2016     | ECE         | IEEE-INAE Symposium on Electromagnetic Education and Research  |
| December 12-19,          | EEE         | FDP - EE 6602 - Embedded Systems   |
| 2016                     | Chemical    | FDP on Modern Separation process in Environmental Applications (MSPEA)   |
| January 4 - 6, 2017      | ECE         | Workshop on Internet of Things for Industrial Applications   |
| January 7, 2017          | ECE         | Teacher's Conclave   |
| January 10, 2017         | English     | A One day workshop on "Teaching 'Speaking' within the Framework of the School Curriculum                             |
| January 10 - 11,<br>2017 | IT          | International Conference on Computer,<br>Communication ans Signal Processing, ICCCSP<br>- 2017                       |
| January 21, 2017         | Chemistry   | Advanced Materials and Supramolecular Chemsitry  |
| January 30-31 2017       | Civil       | Seminar on Repair and Rehabilitation of Structures   |
| January 30-31 2017       | EEE         | National Workshop on "Power System Analysis using Advanced Simulation Softwares".                                    |
| February 01, 2017        | BME         | "MEMS - Microfluidic Systems", SSNCE by<br>Mr. VigneswaranNarayanamurthy, Universiti of<br>Malaysia Pahang, Malaysia |
| F.1 02 2017              | Chemical    | National Conference on Sustainable Trends in Energy and Environmental Resources (STEER)                              |
| February 02, 2017        | CSE         | SSN-CSI students chapterevent on, Sci-Tech Quiz  |
| February 03-04,          | Civil       | National Conference on Disaster Mitigation,<br>Responsiveness and Management   |
| 2017                     | Physics     | Two Day Workshop on Advanced Functional Materials  |
| February 06, 2017        | BME         | "Rehabilitation Engineering" at BME seminar<br>hall by Dr. Sunder, MBBS, MD - Physical<br>Medicine & Rehabilitation  |
| February 08, 2017        | MBA         | Union Budget 2017-18   |
| February 29, 2017        | Chemical    | National Conference on Advances in Chemical,<br>Biological and Environmental Engineering:<br>(ACBEE)                 |
| February 9-10, 2017      | IT          | Machine Learning Techniques for Image-Based Applications   |
|                          | ECE         | Hand on training on "MEMS design tools"  |
| February 10, 2017        | Mathematics | MATH and MATLab workshop   |
| February 15, 2017        | CSE         | SSN-CSI students chapterevent on, Code from Home   |
| February 17, 2017        | Chemical    | Workshop on Writing Scientific Research Paper - Phase III  |

| February 17-18, 2017 | CSE         | SSN-CSI student chapter organized two daysWorkshop on Latex software  |
|----------------------|-------------|---|
| February 20, 2017    | CSE         | IEEE, ACM and CSI student chapter organized workshop on , Research Methodology  |
| February 10, 2017    | Chemical    | 2nd International Conference on "Recent<br>Advancements in Chemical, Environmental &<br>Energy Engineering" (RACEEE-2017)                           |
| February 23-24, 2017 | IT          | Phython Programming   |
|                      | Mathematics | eXLog2k17   |
| February 25, 2017    | CSE         | SSN-CSI students chapter event on, Python Programming   |
|                      | English     | A One day FDP on "Recent Trends in ELT"   |
|                      | IT          | Workshop on Cyber Awareness Program-<br>Insight Perspective (CAP IS)  |
| March 03, 2017       | EEE         | National Workshop on Control And<br>Automation  |
|                      | Chemical    | National Conference on Sustainable Energy and<br>Environmental Science, Engineering and<br>Technology   |
|                      | EEE         | International Conference on Power and Embedded drive Control (ICPEDC 2017)  |
| March 16-18, 2017    | BME         | IEEE Sponsored International Conference on Biosignals, images and instrumentation (ICBSII 2017).  |
| March 17-18, 2017    | Chemical    | National Conference on Green Chemical<br>Process and Sustainable Technologies (GCPST<br>2017)   |
| March 21, 2017       | MBA         | Emotional Intelligence  |
| Waten 21, 2017       | CSE         | CSI Project Colloquium  |
| March 22-24, 2017    | ECE         | IEEE International Conference on Wireless<br>Communications, Signal processing and<br>Networking (WiSPNET-2017)                                     |
|                      | IT          | VIVID 2017  |
| March 24, 2017       | Civil       | Workshop on Construction Management – Best Practices  |
|                      | CSE         | Workshop on, Machine Learning   |
| March 25, 2017       | CSE         | Two-Day National Workshop on "'Computational Platforms for Research in Bioinformatics:Challenges at the Interface of Computer Science and Biology". |
| March 27- 28, 2017   | Physics     | Two day Workshop on Advances in Radiation Monitoring & Environmental Technology   |
| March 29, 2017       | CSE         | SSN-ACM student chapter conducted onsite programming contest, Code County   |
| March 30-31, 2017    | EEE         | Hands-on Workshop on Power Electronics & Drives   |

| March 31, 2017        | Mechanical | National Conf. for Mechanical Engineering<br>Research Scholars (MERS-2017)                              |  |  |  |  |
|-----------------------|------------|---|--|--|--|--|
|                       | IT         | Seminar on open research problems in Internet of Things   |  |  |  |  |
| April 04, 2017        | IT         | RSS SNA 2017  |  |  |  |  |
| April 07-08, 2017     | English    | A Two day National Conference on 'Does INPUT equal INTAKE while teaching English as a Second Language?' |  |  |  |  |
| April 20, 2017        | ECE        | Workshop on Hands on Introduction to Arduino for Beginners  |  |  |  |  |
| May 11- June 10, 2017 | Chemistry  | 6th Chemistry Research Drive  |  |  |  |  |

### 3.1.7 Provide details of prioritised research areas and the expertise available with the institution.

The prioritised research areas are as follows:

- Energy
- Materials
- Speech Technology
- Healthcare Technology
- Machine Learning
- Smart Technology

## 3.1.8 Enumerate the efforts of the institution in attracting researchers of eminence to visit the campus and interact with teachers and students?

The institution has set up a Research Advisory Council (RAC) to oversee research activities, provide vision and connect with the research community in India and abroad. The RAC consists of eminent researchers in India and abroad and is given in section 3.1.2.

Apart from this, International conferences are organized by departments where eminent researchers are invited for keynote speeches and possible collaboration in the areas of research.

## 3.1.9 What percentage of the faculty has utilized Sabbatical Leave for research activities? How has the provision contributed to improve the quality of research and imbibe research culture on the campus?

Around 25% of institution faculty is currently pursuing their Ph.Ds from reputed institutions in India and abroad. They take sabbaticals as and when required for their research activities. This ensures that the faculty is exposed to new ideas and new avenues of research which they can conduct at the institution.

## 3.1.10 Provide details of the initiatives taken up by the institution in creating awareness/advocating/transfer of relative findings of research of the institution and elsewhere to students and community

The institution has started an Innovation and Incubation Centres to ensure that the research findings can be converted to products wherever possible and be showcased to the students, faculty and industry. This motivates the other students to do research and also helps with industry tie ups. Another initiative is setting up of an incubation centre where faculty who are interested in commercialization of their research can avail of funding and mentorship.

#### 3.2 Resource Mobilization for Research

## 3.2.1 What percentage of the total budget is earmarked for research? Give details of major heads of expenditure, financial allocation and actual utilization.

To promote research in the college, the Management has provided specific amounts for R&D activities during its annual budget. The budget provision made for research during 2012 to 2016 are given below:

| Particulars | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 |        |
|-------------|---------|---------|---------|---------|---------|--------|
| (Rs. Lakhs) | Actual  | Actual  | Actual  | Actual  | Budget  | Actual |
| Capex       | 21      | 51      | 470     | 157     | 114     | 120.5  |
| Salary Cost | 61      | 65      | 69      | 73      | 82      | 102    |
| Other Opex  | 37      | 77      | 107     | 168     | 62      | 63     |
| Total       | 119     | 194     | 646     | 398     | 258     | 285.54 |

# 3.2.2 Is there a provision in the institution to provide seed money to the faculty for research? If so, specify the amount disbursed and the percentage of the faculty that has availed the facility in the last four years?

Yes. The amount disbursed by the institution and the percentage of faculty who have availed this facility is shown below.

|      | Total internal fund          |          | Number of Facult               | y          |  |
|------|------------------------------|----------|--------------------------------|------------|--|
| Year | provided (Lakh of<br>Rupees) | On Rolls | Who have availed this facility | Percentage |  |
| 2012 | 47.18                        | 257      | 18                             | 7.0        |  |
| 2013 | 61.03                        | 264      | 22                             | 8.56       |  |
| 2014 | 84.91                        | 265      | 40                             | 15.09      |  |
| 2015 | 97.06                        | 267      | 40                             | 14.98      |  |
| 2016 | 111.58                       | 275      | 42                             | 15.27      |  |

### 3.2.3 What are the financial provisions made available to support student research projects?

Management funds the promising student research projects. About a hundred student projects are funded every year by the management. These projects usually lead to publications in refereed international journals. The Table below shows the funding received by student projects from the management:

**Seed Fund disbursed to Students** 

|                      | Till<br>2011 | 2012 | 2013 | 2014  | 2015  | 2016  | Total |
|----------------------|--------------|------|------|-------|-------|-------|-------|
| Number of projects   | 15           | 28   | 50   | 100   | 135   | 150   | 478   |
| Funding (Rs. InLakh) | 4            | 5.93 | 11   | 20.27 | 26.55 | 29.42 | 97.15 |

The detailed information is given in Section 3.1.4.

# 3.2.4 How does the various departments/units/staff of the institute interact in undertaking inter-disciplinary research? Cite examples of successful endeavors and challenges faced in organizing interdisciplinary research.

The interdisciplinary research is in the formation stage and is proposed in six major areas. They are Energy, Materials, Speech Technology, Healthcare, Machine Learning and Smart Technology. Researchers from different departments contribute and collaborate in a particular area and meet regularly to review and discuss the research projects under their areas.

### 3.2.5 How does the institution ensure optimal use of various equipment and research facilities of the institution by its staff and students?

The institution ensures that labs and other equipment are available to the researchers irrespective of their department at any time of the day. There are no restrictions on the lab timings and their usage for the researchers. The Head of the Department ensures that all researchers have access to the equipment in a fair and transparent manner. This ensures that the facilities are used optimally.

## 3.2.6 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facility? If 'yes' give details.

The institution has many labs funded by the industry as well by the alumni in various departments. Some of the industries which have funded labs at the institute include Danfoss, CTS, Intel among others.

# 3.2.7 Enumerate the support provided to the faculty in securing research funds from various funding agencies, industry and other organisations. Provide details of ongoing and completed projects and grants received during the last four years.

Many new incentives have been introduced to give a boost to the research involvement of the faculty. Management has been giving seed money to start a research project, so that once it shows signs of success, the faculty can apply for external funding. Further, faculty is sponsored for higher studies like Ph.D. Travel grant and registration charges to attend national and international Conferences are met by the SSN Trust. The faculty actively involved in research, are given a reduced workload so that they can concentrate on their research. They are free to use the ICT facilities available in the campus and the expenditure for testing their samples/circuitry at an outside agency/organization is met by the college. The services of the accounts department are made available to them for settling the accounts of the research Projects and timely submission of the completion reports. The list of on-going funded projects earned by the faculty as on date is given below:

**Department of Electrical and Electronics Engineering** 

| Sl.<br>No. | Name of the<br>Faculty                  | Funding<br>Agency | Title of Project  | Amount<br>in Rs.<br>Lakh | Date of<br>Approv<br>al | Status    |
|------------|---|-------------------|---|--------------------------|-------------------------|-----------|
| 1          | Ms. S.<br>Krishnaveni<br>Dr. V. Rajini  | SSN<br>Trust      | High voltage pulse<br>generator based on<br>high gain DC-DC<br>converter for PEF food<br>processing | 2.15                     | 2017                    | Ongoing   |
| 2          | Dr. R.<br>Seyezhai<br>Ms. D.<br>Umarani | SSN<br>Trust      | High efficiency PV module integrated converter based on cascaded quasi-Z-source inverter            | 4.25                     | 2017                    | Ongoing   |
| 3          | Dr. Mrunal<br>Deshpande                 | SSN<br>Trust      | Design and development of switched reluctance motor drive with minimum torque ripple                | 3.85                     | 2017                    | Ongoing   |
| 4          | Dr. V. Rajini                           | AICTE             | Modernization of High<br>Voltage lab as a<br>unified power Lab                                      | 19.54                    | 2014                    | Ongoing   |
| 5          | Dr. V. Rajini                           | MNRE              | A novel fused<br>converter for SPV-<br>wind based hybrid<br>systems to power rural<br>telephony     | 34                       | 2014-16                 | Ongoing   |
| 6          | Dr.                                     | C-WET             | Study and Control of  | 7.75                     | 2011-                   | Completed |

|    | Ranganath<br>Muthu            |  | Grid Weak Connected<br>Matrix Converter<br>based DFIG System   |               | 2015          |           |
|----|-------------------------------|--|--|---------------|---------------|-----------|
| 7  | Dr.<br>Ramaprabha             | SSNCE  | Design and development of efficient Building integrated PV system under partial shaded conditions        | 19.54         | 2013-16       | Ongoing   |
| 8  | Dr.<br>Ramaprabha             | DST –<br>WoS A   | Design and Development of Flywheel based Power Conditioning System for a Renewable energy fed Micro grid | 17.1          | 2014-17       | Ongoing   |
| 9  | Dr. R.<br>Seyezhai            | AICTE  | Development of Cascaded source Multilevel Inverter for Photovoltaic Applications                         | 24.5          | 2013-<br>2016 | Ongoing   |
| 10 | Dr. R<br>Seyezhai             | SSN<br>Trust   | Solar Electric Vehicle using BLDC Drive  | 4.5           | 2013-<br>2016 | Ongoing   |
| 11 | Dr. M. Balaji                 | Science<br>and<br>Engineer<br>ing<br>Research<br>Board | Design and Development of Hybrid Switched Reluctance Motor Drive   | 22.9          | 2015          | Ongoing   |
| 12 | Mr.<br>P.Saravanan            | DST-<br>SERB   | Design and Development of Axial Flux Switched Reluctance Motor based Battery operated Vehicle            | Rs.45<br>Lakh | 2015          | Ongoing   |
| 13 | Mr. V. N.<br>Thiyagaraja<br>n | Horizon<br>Solution<br>s Ltd                           | Smart Street Lighting<br>System  | 1.0           | 2015          | Ongoing   |
| 14 | Mr. V. N.<br>Thiyagaraja<br>n | SSN<br>Trust   | Electromechanical characterization of SiR-EPDM blends  | 2.63          | 2012          | Completed |
| 15 | Mr. V. N.<br>Thiyagaraja<br>n | SSN<br>Trust   | Design of D-<br>STATCOM for<br>Reactive Power<br>Compensation for<br>Wind Turbine Systems                | 3.5           | 2009-<br>2012 | Completed |
| 16 | Mr. V. N.<br>Thiyagaraja<br>n | SSN<br>Trust   | Efficient Energy<br>Utilization of Solar PV<br>Array under Partial                                       | 9.19          | 2009-12       | Completed |

|  |  | Shadow |  |  |
|--|--|--------|--|--|

**Department of Electronics and Communication Engineering** 

|     | Principal   | ctronics and Com  |                                 |                   | Amount     | in Rs              |             |
|-----|---|---|---------------------------------|-------------------|------------|--------------------|-------------|
| Sl. | Investigators /   | Project Title   | Funding                         | Dura              | (Lak       |                    | Current     |
| No. | Co Investigators  | Troject Title   | Agency                          | tion              | Sanctioned | Utilized           | Status      |
| 1   | Dr. B. S. Sreeja<br>Dr. S. Radha  | Electromagnetic<br>infrared energy<br>harvester on<br>flexible substrate  | SSN<br>Trust                    | 2016<br>-<br>2018 | 2.13       |                    | On<br>going |
| 2   | Dr. S. Sakthivel<br>Murugan   | Facility<br>enhancement of<br>underwater<br>acoustic research<br>laboratory   | SSN<br>Trust                    | 2016<br>-<br>2017 | 3.40       |                    | On<br>going |
| 3   | Dr.T.Nagarajan (PI) (Dept. of IT) Dr.P.Vijayalaks hmi (Co - PI) Dr.B.Bharathi (Co-PI) (Dept. of CSE) Ms.Sasirekha (Co - PI) (Dept. of IT) | Speech enabled interactive enquiry system in Tamil  | Tamil<br>Virtual<br>Academ<br>y | 2016<br>-<br>2017 | 9.52       | In<br>progre<br>ss | on<br>going |
| 4   | Dr.S.Salivahana<br>n r.S.Radha  | Fund for<br>Improvement of<br>S&T<br>Infrastructure   | DST -<br>FIST                   | 2014<br>-<br>2019 | 50         | In progre          | on<br>going |
| 5   | Dr.T.Nagarajan<br>(PI) (Dept. of<br>IT)<br>Dr.P.Vijayalaks<br>hmi<br>(Co-PI)<br>Dr.A.Shanina<br>(Co-PI) (Dept.<br>of IT)                  | Development of<br>Text-to-speech<br>synthesis for<br>Indian languages   | MCIT                            | 2012<br>-<br>2015 | 77         | In progre          | on<br>going |
| 6   | Dr.R.Srinivasan<br>(PI) (Dept. of<br>IT)<br>Mr.K.K.Nagaraj<br>an<br>(Co-PI)   | Study of soft<br>errors in 65nm<br>gate length<br>CMOS SRAM<br>and 30nm gate<br>length FINFET,<br>Tunnel FET and<br>Junction-less FET<br>based SRAM | DRDO                            | 2012<br>-<br>2015 | 30.5       | 29.47              | Comple ted  |

|    |  | using TCAD  |  |                       |       |       |               |
|----|--|---|--|-----------------------|-------|-------|---------------|
| 7  | Dr.B.S.Sreeja<br>Dr.S.Radha  | Hardware implementation of SPWM control for Standalone Hybrid Renewable Energy using DSP processor  | Linton<br>Universi<br>ty<br>College,<br>Malaysi<br>a | 2014-<br>2015         | 4.4   | 4.31  | on<br>going   |
| 8  | Dr.S.Radha (PI)<br>Dr.Premanand<br>V.Chandramani<br>(PI)                 | Intel Embedded<br>Curriculum<br>Initiative in India   | INTEL  | 2011<br>-<br>2014     | 4     | 4     | Comple<br>ted |
| 9  | Dr.S.Radha (PI)<br>Dr.S.Sakthivel<br>Murugan (Co-<br>PI)                 | Design and Hardware Implementation of an Adaptive Filter to Improve the Signal to Noise Ratio due to Wind Driven Ambient Noise in Shallow Water | NIOT   | 2010<br>-<br>2012     | 20.6  | 20.11 | Comple<br>ted |
| 10 | Dr.P.Vijayalaks<br>hmi (PI)<br>Dr.T.Nagarajan<br>(Co-PI) (Dept<br>of IT) | An Assessment<br>and Intelligibility<br>modification<br>system for<br>Dysarthric<br>speakers  | AICTE  | 2011<br>-<br>2012     | 9     | 9     | Comple ted    |
| 11 | By Dept.<br>Faculty and<br>Students                                      | No. of Internal<br>Funded Projects -<br>35  | SSN<br>Trust   | 2011-<br>till<br>date | 73.47 | 73.47 | Comple ted    |

**Department of Computer Science & Engineering** 

| Sl.<br>No. | Faculty  | Title of Project                      | Funding<br>Agency | Amount<br>(in Lakh) |          | Date of      | Status      |
|------------|--|---------------------------------------|-------------------|---------------------|----------|--------------|-------------|
| 110.       |  |                                       |                   | Sanc<br>tioned      | Received | Appro<br>val | Status      |
|            |  | 2015 – 20                             | )16 Extern        | al Fundii           | ng       |              |             |
| 1.         | Mr. H. Shahul Hamead Dr. T. T. Mirnalinee Dr. S. Sheerazudd in Mr. K. R. Sarath Chandran | Prototyping<br>green network<br>model | SSN<br>Trust      | 5.10                |          | 2017         | Ongoi<br>ng |

| 2. | Dr.<br>Shomona<br>Gracia<br>Jacob                                     | Investigation on the effect of Gene and Protein Mutants in the Onset of Neuro- Degenerative Brain Disorders (Alzheimer's Disease and Parkinson's Disease): A Computational study | Science<br>and<br>Engineeri<br>ng<br>research<br>Board –<br>Young<br>Scientist<br>Scheme-<br>External<br>- DST | 16.10 | 6.86 | 09.11.<br>15 | On<br>going   |  |  |
|----|---|--|--|-------|------|--------------|---------------|--|--|
|    | Dr.<br>Venkatavar<br>a Prasad<br>Dr. J.<br>Suresh                     | Projects using GPU computing   | nVIDIA<br>– 3 GPU  | 4.00  | 4.00 | July<br>2015 | On<br>Going   |  |  |
| 4. | Dr. T. Nagarajan Dr. B. Bhararthi, Dr. P.Vijayalak shmi, S. Sasirekha | Speech<br>enabled<br>interactive<br>enquiry system<br>in Tamil   | Tamil<br>Virtual<br>Academy  | 9.52  | 9.52 | Feb<br>2016  | On<br>Going   |  |  |
| 5. | Ms. K.<br>Lekshmi   | Classification and segmentation of nuclei in hepatocellular carcinoma and dysplastic tumors of Histopathology Images   | Global<br>Health<br>City   | -     | -    | June<br>2016 | On<br>Going   |  |  |
|    | 2013 – 2014 External Funding  |  |  |       |      |              |               |  |  |
| 6. | Dr. T.T.<br>Mirnalinee<br>(with<br>students)                          | An Innovative Approach for Building an Intelligent Network to Maintain Water Quality   | Chellam<br>mal Agro<br>(State<br>Agency)   | 0.25  | 0.25 | Sep.<br>2013 | Comp<br>leted |  |  |

**Department of Information Technology** 

|            | artiment of im   | ormation Techi   |                                 | Amor           | ınt(Rs)  | Date of      |             |
|------------|--|--|---------------------------------|----------------|----------|--------------|-------------|
| Sl.<br>No. | Faculty  | Title of Project   | Funding<br>Agency               | Sanctio<br>ned | Received | Approv<br>al | Status      |
|            |  | Exte   | ernal Fund                      | ling           | l        |              |             |
| 1          | Dr.T. Nagarajan Dr. P. Vijayalakshm i Dr. B. Bharathi Ms. S. Sasirekha | Speech-<br>Enabled<br>Interactive<br>Enquiry<br>System in<br>Tamil   | Tamil<br>Virtual<br>Academ<br>y | 9.52L          | -        | 2016         | On<br>going |
| 2          | Dr.T.<br>Nagarajan<br>Dr. P.<br>Vijayalakshm<br>i Dr. A.<br>Shahina    | Development of TEXT to Speech System in Indian Languages - High quality text to speech synthesis and small footprint TTS integrated with disability aids |                                 | 76.6L          | 76.6L    | 2011         | On<br>going |
|            |  | Funde  | d by SSN                        | Trust          | •        |              |             |
| 1          | Dr. P. Vasuki<br>Mr.V.<br>Thanikachala<br>m                            | Cognitive mode intelligent intera tutoring system assist students to improve their programming sk  | active<br>to                    | 2.55           |          | 2017         | Ongoi<br>ng |
| 2          | Dr.N.Bhalaji,<br>Dr. S. Chithra<br>Mr.K.Kabilan                        | Customization of protocols for sociapplications usin QOE   | cietal                          | 3.3 L          | 0.21L    | 2015         | On<br>going |
| 3          | Dr.G.<br>Muneeswari  | Multiagent Process Scheduling for NOC based Multicore Systems  |                                 | 1.2 L          | NIL      | 2015         | On<br>going |
| 4          | Mr.Joe Louis<br>Paul,<br>Ms.S.Sasirekh<br>a<br>Ms.R.Swathik<br>a       | Disaster Manage<br>System-Next<br>Generation   | ement                           | 3.45 L         | NIL      | 2015         | On<br>going |

| 5 | Dr. T. Sree<br>Sharmila                        | Development of high<br>resolution imaging<br>algorithm for<br>underwater acoustic<br>images                       | 3 L   | 2.8 L  | 2014 | On<br>going |
|---|--|---|-------|--------|------|-------------|
| 6 | Dr. S.<br>Karthika                             | Joint link prediction by<br>attribute inference in<br>clandestine social<br>network for curbing<br>future attacks | 3.5 L | -      | 2014 | On<br>going |
| 7 | Ms. S.<br>Mohanavalli<br>Ms. Srividya          | Big data Analytics for economic disparity mining  | 2.3 L | 1      | 2014 | On<br>going |
| 8 | Mr. R. Vinob<br>Chander                        | Being Smarter with Smart Objects  | 3.5 L | 0.85 L | 2014 | On<br>going |
| 9 | Mr. K. K.<br>Nagarajan<br>Dr. R.<br>Srinivasan | Ergonomics through image processing   | 0.6 L | 0.6 L  | 2012 | On<br>going |

**Department of Chemical Engineering** 

| Sl. |  |   | Funding  | Date of  | Amoun       | t in lakh |          |  |
|-----|--|---|--|----------|-------------|-----------|----------|--|
| No. | Faculty                                    | Title of Project  | Agency   | Approval | Sanction ed | Received  | Status   |  |
| 1.  | Dr. D. Balaji<br>Dr. D. Gnana<br>Prakash   | Design and development of bio calorimeter for in-line monitoring and control of bio process system for enhanced production of enzymes | SSN<br>Trust   | 2017     | 4.55        |           | On going |  |
| 2.  | Dr. R.<br>Anantharaj<br>Dr. B.<br>Ambedkar | Desulphurizati on of Diesel oil using ionic liquids with quantum chemical prediction and validation                                   | SSN<br>Trust   | 2017     | 3.30        |           | On going |  |
| 3.  | Dr. R.<br>Anantharaj                       | Solvent<br>screening,<br>synthesis,<br>characterizatio<br>n and<br>application of   | DST-<br>SERB<br>(Young<br>Scientist<br>Scheme<br>(Start- | 09.11.15 | 19.08       | -         | On going |  |

|     | T              | 1                |        | 1         |      | 1    | 1         |
|-----|----------------|------------------|--------|-----------|------|------|-----------|
|     |                | potential        | up     |           |      |      |           |
|     |                | solvent for      | Grant) |           |      |      |           |
|     |                | removal of       |        |           |      |      |           |
|     |                | endocrine        |        |           |      |      |           |
|     |                | disrupts         |        |           |      |      |           |
|     |                | chemicals from   |        |           |      |      |           |
|     |                | water matrices   |        |           |      |      |           |
| 4.  | Dr.K.Sathish   | Synthesis of     |        |           |      |      |           |
|     | Kumar          | metal            | 222    |           |      |      |           |
|     | Dr.K.Ramakris  |                  | SSN    |           |      |      |           |
|     | hnan           | for drug         | Trust  | 04.01.10  | 8.25 | 8.25 | Completed |
|     |                | delivery         |        |           |      |      |           |
|     |                | •                |        |           |      |      |           |
| _   | Mar D Dard and | applications     |        |           |      |      |           |
| 5.  | Mrs.R.Pushpal  | Preparations of  | SSN    |           |      |      |           |
|     | atha           | Magnetic         | Trust  | 09.07.10  | 5.0  | 3.08 | Completed |
|     |                | nanoparticles    | Trust  | 03107110  | 2.0  |      | 1         |
|     |                | in silica matrix |        |           |      |      |           |
| 6.  | Dr.P. Senthil  | Rapid removal    |        |           |      |      |           |
|     | Kumar&         | of Heavy metal   |        |           |      |      |           |
|     | Dr.K. Sathish  | ions from        |        |           |      |      |           |
|     | Kumar          | waste water /    | SSN    | 20.12.11  | 0.5  | 0.5  |           |
|     |                | wastewater       | Trust  | 30.12.11  | 8.5  | 8.5  | Completed |
|     |                | using newly      | 11000  |           |      |      |           |
|     |                | prepared low-    |        |           |      |      |           |
|     |                | cost adsorbent   |        |           |      |      |           |
| 7.  | Dr.D. Gnana    | Hydrotropic      |        |           |      |      |           |
| /٠  | Prakash        | extraction of    |        |           |      |      |           |
|     | Fiakasii       |                  | COM    |           |      |      |           |
|     |                | bioactive        | SSN    | 28.12.12  | 8.5  | 4.6  | Completed |
|     |                | compounds        | Trust  |           |      |      | -         |
|     |                | using            |        |           |      |      |           |
|     |                | Ultrasonication  |        |           |      |      |           |
| 8.  | Dr.R.          | Noval            |        |           |      |      |           |
|     | Saravanathami  | photocatalytic   |        |           |      |      |           |
|     | zhan &         | reactor for the  | COM    |           |      |      | 0         |
|     | Dr.P.Senthil   | treatment of     | SSN    | 09.11.13  | 2.5  | 2.5  | On<br>·   |
|     | Kumar          | industrial       | Trust  |           |      |      | going     |
|     |                | effluents        |        |           |      |      |           |
|     |                |                  |        |           |      |      |           |
| 9.  | Dr.K.P.        | Feasibility      |        |           |      |      |           |
| /•  | Gopinath       | studies on       |        |           |      |      |           |
|     | Sopmani        | biodiesel        |        |           |      |      |           |
|     |                |                  |        |           |      |      |           |
|     |                | production       | SSN    | 00 11 12  | 2.5  | 2.5  | On        |
|     |                | from macro       | Trust  | 09.11.13  | 2.5  | 2.5  | going     |
|     |                | and micro        |        |           |      |      |           |
|     |                | Algae isolated   |        |           |      |      |           |
|     |                | from various     |        |           |      |      |           |
|     |                | water bodies     |        |           |      |      |           |
| 10. | Dr.C.          | Experimental     | SSN    | 16.10.14  | 5.5  | 5.5  | On        |
|     | Ravikumar &    | investigation    | Trust  | 10,10,1-7 | 5.5  | 3.3  | going     |

|     | Mrs.B.Chitra | of heat transfer |       |          |   |   |         |
|-----|--------------|------------------|-------|----------|---|---|---------|
|     |              | enhancement      |       |          |   |   |         |
|     |              | using stable     |       |          |   |   |         |
|     |              | nanofluids as    |       |          |   |   |         |
|     |              | coolant for      |       |          |   |   |         |
|     |              | automobile       |       |          |   |   |         |
|     |              | radiators.       |       |          |   |   |         |
| 11. | Dr.J.        | Potential        |       |          |   |   |         |
|     | Dhanalaskhmi | Applications of  |       |          |   |   |         |
|     | & Dr. B.     | Ionic Liquids    |       |          |   |   |         |
|     | Ambedkar     | in reducing      | SSN   | 30.09.15 | 4 | 4 | Onacina |
|     |              | CO2              | Trust | 30.09.13 | 4 | 4 | Ongoing |
|     |              | Capture Proces   |       |          |   |   |         |
|     |              | s Energy         |       |          |   |   |         |
|     |              | Demand           |       |          |   |   |         |

**Department of Biomedical Engineering** 

| Sl. | Faculty                                       | Title of Project   | Funding      | Amount(i   | n Lakh)  | Date of  | Status      |
|-----|---|--|--------------|------------|----------|----------|-------------|
| No. |   |  | Agency       | Sanctioned | Received | Approval | Status      |
| 1   | Ms. R. Nithya<br>Ms. D.<br>Kanchana           | Design and<br>development<br>of orthotic<br>exoskeleton<br>for lower limb<br>rehabilitation  | SSN<br>Trust | 1.50       |          | 2017     | On<br>going |
| 2   | Dr. S.<br>Guruprakash,<br>Dr. R.<br>Subashini | Nano-particle<br>based<br>strategies to<br>combat<br>orthopedic<br>implant<br>associated<br>infections   | SSN<br>Trust | 6          | 6        | 2014     | On<br>going |
| 3   | Dr. R.<br>Sivaramakrish<br>nan                | Ocimum<br>sanctum<br>extract coating<br>on biomaterial<br>surfaces to<br>prevent<br>bacterial<br>adhesion and<br>promote tissue<br>integration | SSN<br>Trust | 2.5        | 2.3      | 2015     | On<br>going |
| 4   | Dr. S. Pravin<br>Kumar                        | Cardiac risk<br>monitoring<br>system   | SSN<br>Trust | 3.5        | 3.5      | 2015     | On<br>going |
| 5   | Dr. A. Kavitha                                | Implementatio<br>n of finite<br>element  | SSN<br>Trust | 7          | 7        | 2015     | On<br>going |

| analysis | (FEA)   |  |  |
|----------|---------|--|--|
| in bone  |         |  |  |
| biomec   | nanics  |  |  |
| for desi | gning   |  |  |
| suitable |         |  |  |
| implant  | s using |  |  |
| MIMIC    | S and   |  |  |
| 3D prin  | ting    |  |  |
| technol  |         |  |  |

**Department of Mechanical Engineering** 

| Sl.<br>No. | Name of faculty   | Title of the R&D project  | Funding agency          | Amount<br>in Rs.<br>Lakh | Period      |
|------------|---|---|-------------------------|--------------------------|-------------|
| 1.         | Dr. K. Rajkumar   | Fabrication and investigation on the tribo and bio degradation of Mg (AZ91D) – CaCO <sub>3</sub> composite                | SSN<br>Trust            | 2.07                     | 2017        |
| 2.         | Mr. D. Ebenezer   | Diffusion bonding of<br>Aluminium alloy 7075 to<br>magnesium alloy AZ91   | SSN<br>Trust            | 6.40                     | 2017        |
| 3          | Dr. K. L.<br>Harikrishna<br>Dr. A. K.<br>Lakshminarayana<br>n | Improving the corrosion resistance of rare earth magnesium alloy welds using micro arc oxidation                          | SSN<br>Trust            | 4.20                     | 2017        |
| 4          | Dr.Ve.Annamalai   | Industry-Institute Partnership<br>Cell  | AICTE                   | 11                       | 2012-<br>15 |
| 5          | Dr.K.S.Vijay<br>Sekar   | Experimental and finite element investigation of the machining process with composite materials                           | AICTE                   | 18.65                    | 2012-<br>15 |
| 6          | Dr. B. Anand<br>Ronald  | Magnetic moulding of A/SiCp of metal matrix composites.   | DST                     | 9.26                     | 2013        |
| 7          | Dr.N.Lakshmi<br>Narasimhan                                    | Studies on Enhancement of<br>Charging/Discharging<br>Characteristics of an<br>encapsulated Latent Heat<br>Thermal Storage | Engineers<br>India Ltd. | 1                        | 2015        |
| 8          | Dr.K.S.Vijay<br>Sekar   | Develop. of a Low cost Automated Unmanned Aerial Vehicle for crop damage inspection                                       | Engineers<br>India Ltd  | 0.5                      | 2015        |
| 9          | Dr.Ve.<br>Annamalai   | Design and Fabrication lab<br>(under the "Innovation in<br>Teaching Learning Practice")                                   | AICTE<br>MODROB         | 5.94                     | 2015        |
| 10         | Dr.K.Babu   | Study of Mechanical Properties<br>& Surface Features of Steels  | AICTE<br>RPS            | 9.41                     | 2015        |

|    |                       | Quenched in CNT Nanofluid  |                              |       |      |
|----|-----------------------|--|------------------------------|-------|------|
|    |                       |  |                              |       |      |
| 11 | Dr.M.S.Alphin         | Handle Vibration Design  | SERB-<br>DST                 | 17    | 2015 |
| 12 | Dr.G.Sathishkum<br>ar | Smart Street Lighting System   | Horizon<br>Engg<br>Solutions | 1     | 2015 |
| 13 | Dr. R.<br>Damodaram   | Friction surfacing for repair of alloy 718 components                        | DST-<br>SERB                 | 27.89 | 2016 |
| 14 | Dr.Ve.<br>Annamalai   | Reclamation of abrasives from<br>Bonded, Coated and Sanitary<br>ware rejects | DST                          | 74.16 | 2016 |

**Department of Civil Engineering** 

| Sl.<br>No. | Name of faculty                        | Title of the R&D project   | Funding agency | Amount<br>in Rs.<br>Lakh | Period |
|------------|--|--|----------------|--------------------------|--------|
| 1          | Dr. R. Srinath<br>Dr. B.<br>Mahalingam | In-situ remediation of hexavalent chromium in soil and aquifers          | SSN<br>Trust   | 4.60                     | 2017   |
| 2          | Dr. S. V. Siva<br>Priya                | Effect of eccentricity in latterly loaded pile group in a sloping ground | SSN<br>Trust   | 2.62                     | 2017   |

**Department of Chemistry** 

|            |                               | v   |                |                    |        |
|------------|-------------------------------|---|----------------|--------------------|--------|
| Sl.<br>No. | Name of faculty               | Title of the R&D project  | Funding agency | Amount in Rs. Lakh | Period |
| 1          | Dr. S. I.<br>Davis<br>Presley | Approaches to asymmetric synthesis of pipecolic acid and alpha napthl ethyl amine | SSN Trust      | 2.50               | 2017   |

#### SSNRC

| Sl.<br>No. | Name of faculty              | Title of the R&D<br>project  | Funding agency | Amount in Rs.<br>Lakh | Period |
|------------|------------------------------|--|----------------|-----------------------|--------|
| 1          | Dr. M.<br>Senthil<br>Pandian | Characterization of<br>electron and hole<br>transport materials<br>and perovskites for<br>optimizing solar cells<br>efficiency | SSN Trust      | 2.80                  | 2017   |
| 2          | Dr.K.Arav<br>inth            | High performance<br>lead free piezoelectric<br>energy harvesting   | SSN Trust      | 2.25                  | 2017   |

**Inter-department Collaboration** 

| Sl. | Name of faculty   | Title of the R&D  | Funding   | Amount in | Period  |
|-----|---|---|-----------|-----------|---------|
| No. |   | project   | agency    | Rs. Lakh  | 1 01100 |
| 1   | PI: Dr. M.<br>Anbuselvi (ECE)<br>Co-PI: Dr. P.<br>Saravanan (EEE)                 | Battery operated<br>autonomous<br>vehicle with IoT  | SSN Trust | 2.91      | 2017    |
| 2   | PI: Mr. K. R. Sarath<br>Chandran-CSE<br>Co-PI: Dr.<br>Premanand V.<br>Chandramani | Energy aware multimedia processing in handheld devices through real time hardware reconfiguration   | SSN Trust | 4.38      | 2017    |
| 3   | PI: Dr. Julie<br>Charles<br>Co-PI: Dr. K.<br>Sathish Kumar -<br>CHEM              | Synthesis and characterization of ternary conducting polymers doped with various concentrations of prussian blue and metal oxides for supercapacitor applications | SSN Trust | 4.25      | 2017    |

#### 3.3 Research Facilities

### 3.3.1 What are the research facilities available to the students and research scholars within the campus?

The students and research scholars are permitted to use the research facilities available in the institution and the details of these facilities are listed below:

**Department of Electrical and Electronics Engineering** 

| Sl.<br>No. | Laboratory                   | Research Equipment   | Cost in<br>Rs. Lakh |
|------------|------------------------------|--|---------------------|
| 1          | Solar Energy<br>Research Lab | Single clamp on Power quality analyzer (Fluke 345)   | 1.25                |
| 2          | Solar Energy<br>Research Lab | Digital Storage Oscilloscope: MSO 6014A (with standard accessories) along with 4 Numbers of Agilent N2791A voltage differential probe and 1 number of Fluke 80i-110S-100A DC/70A AC 100kHz BW clamp on current probe |                     |
| 3          | Solar Energy                 | Integrated Flywheel-motor generator set  | 1.23                |

|    | Research Lab                       |  |       |
|----|------------------------------------|--|-------|
| 4  | Solar Energy<br>Research Lab       | Solar PV array   | 1.74  |
| 5  | Renewable Energy<br>Conversion Lab | Scopecorder  | 10.86 |
| 6  | Renewable Energy<br>Conversion Lab | Spectrum Analyzer  | 2.1   |
| 7  | Renewable Energy<br>Conversion Lab | SiC MOSFET Based Boost Converter<br>Kit  | 1.52  |
| 8  | Renewable Energy<br>Conversion Lab | Three-phase Hybrid Multilevel Inverter Trainer   | 2.9   |
| 9  | Renewable Energy<br>Conversion Lab | 1KWp Hybrid Solar power system   | 1.89  |
| 10 | High Voltage Lab                   | AC, DC Source  | 8.17  |
| 11 | High Voltage Lab                   | Arc Resistance Measurement ASTMD 495,Surface Resistance, Volume resistance Measurement ASTM D257 |       |
| 12 | High Voltage Lab                   | Impulse Source   | 8.9   |
| 13 | High Voltage Lab                   | Agilent DSO  | 4.5   |
| 14 | High Voltage Lab                   | Condition Monitoring set up  | 2.52  |
| 15 | High Voltage Lab                   | Fluke meter  | 3.65  |

**Department of Electronics and Communication Engineering** 

| Sl.<br>No. | Laboratory                        | Research Equipment                     | Cost in Rs. Lakh |  |
|------------|-----------------------------------|--|------------------|--|
|            |                                   | Synopsis Software tool                 | 4.8              |  |
| 1          |                                   | ADS Special University Package         | 11.96            |  |
|            |                                   | Memsic - TPR 2420 CA Telos B Motes     | 1.81             |  |
|            |                                   | Signal Analyzer -7GHz with 89600A      |                  |  |
|            |                                   | vector Signal Analysis software        | 16.53            |  |
|            |                                   | (special Education Package) – 1        |                  |  |
|            |                                   | License                                |                  |  |
|            | Research Project<br>Laboratory I  | Broad Band Horn Antenna                | 0.88             |  |
|            |                                   | Underwater Acoustic Research Lab –     |                  |  |
|            |                                   | 6 Element Array Hydrophone, Acoustic   |                  |  |
|            |                                   | Transmitter, Acoustic Amplifier, Two 8 | 5.54             |  |
|            |                                   | Channel Data Acquisition System,       |                  |  |
|            |                                   | Portable UPS                           |                  |  |
|            |                                   | RF Absorbers                           | 1.11             |  |
|            |                                   | Basic SDR System, Model: USRP          | 1.45             |  |
|            |                                   | B200 Kit, Antenna, SDR Simulator       |                  |  |
|            | Research Project<br>Laboratory II | MSO 1.5 GHz                            | 14.32            |  |
|            |                                   | Single ended probe                     | 1.36             |  |
| 2          |                                   | WSN Test Bed Components                | 4.74             |  |
|            |                                   | Antenna Turn table with MAST           | 4.74             |  |
|            |                                   | AD-080GE Multispectral camera with     | 4.82             |  |
|            |                                   | cables and mounting jai                |                  |  |
|            |                                   | Logic Analyzer                         | 8.14             |  |

| with 40-pin cable connector  Software Radio Educational Lab Station: Two NI USRP-2920 Bundles with Lab Materials  Academic Lab VIEW Premium Suite (1User) ASL 1 Seat(s) NOT CONCURRENT 1 year(s) Academic Site License Research Standard Service Program Communication Systems MIMO Teaching Bundle, 2x USRP-2901, Cables, Courseware  4 Low Power System Computing Lab  with 40-pin cable connector Software Radio Educational Lab Station: Two NI USRP-2920 Bundles with Lab Materials  Academic Lab VIEW Premium Suite (1User) ASL 1 Seat(s) NOT CONCURRENT 1 year(s) Academic Site License Research Standard Service Program Communication Systems MIMO Teaching Bundle, 2x USRP-2901, Cables, Courseware | 63   |  |
|---|------|--|
| Software Radio Educational Lab Station: Two NI USRP-2920 Bundles with Lab Materials Academic Lab VIEW Premium Suite (1User) ASL 1 Seat(s) NOT CONCURRENT 1 year(s) Academic Site License Research Standard Service Program Communication Systems MIMO Teaching Bundle, 2x USRP-2901, Cables, Courseware  4 Low Power System Computing Lab Arduino board   | 63   |  |
| Wireless Technology Laboratory  CONCURRENT 1 year(s) Academic Site License Research Standard Service Program Communication Systems MIMO Teaching Bundle, 2x USRP-2901, Cables, Courseware  Arduino board  Arduino board   | 63   |  |
| Wireless Technology Laboratory  CONCURRENT 1 year(s) Academic Site License Research Standard Service Program Communication Systems MIMO Teaching Bundle, 2x USRP-2901, Cables, Courseware  Arduino board  Output  Arduino board   |      |  |
| Wireless Technology Laboratory  (1User) ASL 1 Seat(s) NOT CONCURRENT 1 year(s) Academic Site License Research Standard Service Program Communication Systems MIMO Teaching Bundle, 2x USRP-2901, Cables, Courseware  4 Low Power System Computing Lab Arduino board  0  |      |  |
| CONCURRENT 1 year(s) Academic Site License Research Standard Service Program  Communication Systems MIMO Teaching Bundle, 2x USRP-2901, Cables, Courseware  Low Power System Computing Lab  Arduino board   |      |  |
| Laboratory  Laboratory  CONCURRENT T year(s) Academic Site License Research Standard Service Program  Communication Systems MIMO Teaching Bundle, 2x USRP-2901, Cables, Courseware  Low Power System Computing Lab  Arduino board   |      |  |
| Site License Research Standard Service Program Communication Systems MIMO Teaching Bundle, 2x USRP-2901, Cables, Courseware  4 Low Power System Computing Lab Arduino board   | 2.27 |  |
| Communication Systems MIMO Teaching Bundle, 2x USRP-2901, Cables, Courseware  4 Low Power System Computing Lab  Arduino board   | 2.27 |  |
| Teaching Bundle, 2x USRP-2901, Cables, Courseware  Low Power System Computing Lab  Arduino board  | 2.27 |  |
| Cables, Courseware  Low Power System Computing Lab  Cables, Courseware  Arduino board   | 2.27 |  |
| 4 Low Power System Computing Lab Arduino board  |      |  |
| Computing Lab Arduno board  |      |  |
| Intellisuite MEMS Software 5  | 0.81 |  |
|   | 5.15 |  |
| ()ntical Natwork  | 0.99 |  |
| Research Lab  | ).58 |  |
| Nano Positioner 1   | .31  |  |
|   | 7.46 |  |
|   | 4.05 |  |
| 1   | 3.77 |  |
| Antenna Measurement Trainer &   | 2.31 |  |
| Components  |      |  |
| 6   | ).77 |  |
|   | .17  |  |
| Wireless Digital Communication  | 2.14 |  |
| Training System  Global Positioning System Kit  1   | .09  |  |
|   | 3.37 |  |
| Spectrum Analyzer -1GHz   | .96  |  |
| / I communication Lab   | 0.47 |  |
| CST Software  | 1.83 |  |
| 8   P(1   ab-/  | 0.64 |  |
|   | 2.9  |  |
| Hardware Individual Locks for Tanner  |      |  |
| Tool  | 1.0  |  |
| Xiliny-foundation ISE series  | 0.52 |  |
| software(25 User)   | 0.53 |  |
| Cadence University Rundle Fullsuite   | 5.0  |  |
| ARM-9 Evaluation  | 2.07 |  |
| board(LPC3250),USB JTAg)  |      |  |
|   | 2.41 |  |
|   | 2.0  |  |
| Digital storage Oscilloscope 4  |      |  |

**Department of Computer Science and Engineering** 

| Sl.<br>No. | Laboratory                        | Research Equipment   | Qty | Cost in<br>Rs. Lakh |
|------------|-----------------------------------|--|-----|---------------------|
| 1          | SSN - CTS Open<br>Source Lab      | Acer Power PC with Intel Pentium Core 2 Duo E4700 @ 2.6 GHz Processor G31 Intel Chipset Motherboard 4GB (2x2GB) DDRII RAM, 160GB SATA HDD, DVD Writer On- board Graphics & Sound, Gigabit LAN PCI Express Slot, 2 x PCI Slots, 6 x USB Ports Acer PS/2 104 Keys Key Board, Acer PS/2 Optical Mouse, Linux Acer 18.5 Wide TFT Color Monitor | 2   | 0.58                |
| 2          |                                   | Acer Power PC with Intel Pentium Core 2 Duo E4700 @ 2.6 GHz Processor G31 Intel Chipset Motherboard 4GB (2x2GB) DDRII RAM, 160GB SATA HDD, On-board Graphics & Sound, Gigabit LAN PCI Express Slot, 2 x PCI Slots, 6 x USB Ports Acer PS/2 104 Keys Key Board, Acer PS/2 Optical Mouse, Linux Acer 18.5 Wide TFT Color Monitor             | 17  | 4.74                |
| 3          |                                   | CISCO CE 500 – 24 Port<br>10/100 Mbps Switch & Passive<br>Components   | 1   | 0.73                |
| 4          |                                   | SERVER – IBM   |     |                     |
| 5          |                                   | BLADECENTER S CHASIS WITH C14 2z950/1450W PSU, 20GB (1x2GB) DDR3 RAM, 4x300GB HDD, USB Keyboard and Mouse, THINKVISION L714 17 " LCD Monitor, RACK – Netrack 17U 600/1000  | 1   | 7.7                 |
| 6          | High Performance<br>Computing Lab | 1.86GHz Dualcore 512MB<br>DDR, 80 GB SATA 18x DVD<br>Writer, 15" Color Monitor,<br>HCL 107 PS/2 Mechanical   | 16  | 5.21                |

|    | Keyboard, 3 Button Scroll<br>Optical Mouse, 500 W Speaker<br>with Mike   |    |      |
|----|--|----|------|
| 7  | Ethernet Routing Switch 3510-24T   | 1  | 0.9  |
| 8  | Intel PD 2.8GHz, 1GB DDR2 x 2, 80 GB, 16x DVD Writer, 17" Color Monitor, HCL 107 Mech PS/2 Mech PS/2, Opt USB Mouse,   | 1  | 0.52 |
| 9  | 8GB DDR II RAM (68 x 2 GB) has been installed  | 68 | 0.95 |
| 11 | 1.86GHz Dualcore 512MB<br>DDR, 80 GB SATA 18x DVD<br>Writer, 15" Color Monitor,<br>HCL 107 PS/2 Mechanical<br>Keyboard, 3 Button Scroll<br>Optical Mouse, 500 W Speaker<br>with Mike | 16 | 5.21 |

**Department of Information Technology** 

| Sl.<br>No. | Laboratory   | Research<br>Equipment | Configuration  | Cost in Rs.<br>Lakhs |
|------------|--------------|-----------------------|--|----------------------|
| 1          | Research Lab | Desktop               | Apple e-Mac 1.42GHZ, 160<br>GB Hard Disk, 512 MB RAM   | 2.98                 |
| 2          |              | Desktop               | HP Compaq Pro 6305 SSF,<br>AMD A8 3.2 GHZ,<br>8 GB DDR 3 RAM, 500 GB<br>HDD  | 2.89                 |
| 3          |              | Desktop               | Intel Pentium D 3.40 GHZ, 2<br>GB DDR II RAM, 80 GB<br>HDD   | 0.67                 |
| 4          |              | Server                | Intel Xeon 3.00Ghz<br>2 GB RAM, 80 GB HDD  | 2.1                  |
| 5          | TCAD Lab     | Software              | TCAD Software  | 7.43                 |
| 6          |              | Server                | FujiStu 2xQuad Core Xeon<br>2.66Ghz 16GB RAM 2x160<br>GB Sata Hardisk 26 Inch LCD<br>Monitor   | 4.99                 |
| 7          |              | Server                | FujiStu 2x Intel Xeon E5649<br>2.53GHz 16GB RAM, SATA 2<br>500GB Hard Disk, Fujistu 22<br>inch LED monitor, NVIDA<br>Quadro 600 1GB Display card | 9.97                 |
| 8          | Speech Lab   | Server                | Processor – INTEL XEON<br>E5506, 2.13 GHZ, RAM - 8GB<br>X 4 - DBR3, HARD DISK -<br>600 GB X 2 – SATA,DVD   | 1.43                 |

|   |         | Drive – SATA -DVD W/R,<br>Monitior – HCL, LED 18.5"<br>TFT, Mouse – 2BUHON<br>Optical USB, Keyboard – 104<br>KEY USB, NIC – Onboard,<br>Display Card – ON Board  |     |
|---|---------|--|-----|
| 9 | Desktop | HCL – PC Processor – INTEL CORE 15 2400, 3.10 GHZ, RAM - 4GB X 2 - DDR3, Hard Disk - 500 GB X 1 – SATA, DVD Drive – SATA - DVD W/R, Monitior – HCL, LED 18.5" TFT, MOUSE – 3BUHON Optical USB, Keyboard – 104 KEY USB, NIC – Onboard, Display CARD – ON Board, Sound Card – On Board | 3.0 |

**Department of Chemical Engineering** 

| Sl.<br>No. | Laboratory                   | Research Equipment                                 | Cost in Rs.<br>Lakh |
|------------|------------------------------|--|---------------------|
| 1.         |                              | Jasco UV Visible Spectrophotometer                 | 4.52                |
| 2.         | 7D 1 1 1 A 1 1               | Rotary Evaporator                                  | 1.26                |
| 3.         | Technical Analysis<br>Lab    | Vibra Cell Ultrasonic Processor 750<br>W (VCX-750) | 4.18                |
| 4.         |                              | Fume Hood  | 0.85                |
| 5.         | Mechanical Operations<br>Lab | Pulverizer   | 0.57                |
| 6.         | Heat Transfer Lab            | Single effect evaporator with mini boiler          | 0.59                |
| 7.         |                              | Horizontal test rig – Condenser                    | 0.82                |
| 8.         |                              | RTD Studies in CSTR in Series                      | 1.31                |
| 9.         |                              | Temperature dependent kinetics                     | 0.53                |
| 10.        |                              | Double Beam Atomic Absorption                      | 6.36                |
|            | Chemical Reaction            | Spectrophotometer                                  |                     |
| 11.        | Engineering Lab              | Fluid Solid Catalytic Reactor                      | 0.6                 |
| 12.        |                              | RTD Studies in CSTR                                | 0.69                |
| 13.        |                              | Orbital Shaking Incubator outer SS                 | 0.99                |
| 14.        |                              | RTD studies in PFR                                 | 0.65                |
| 15.        |                              | Experimental Water Cooling Tower                   | 1.48                |
| 16.        | Mass Transfer Lab            | York Scheibels Extraction Unit                     | 2.16                |
| 17.        | wass Hallstel Lau            | Rotary Drier                                       | 0.95                |
| 18.        |                              | Rotary Shaker – MT lab                             | 0.61                |
| 19.        |                              | Flow level integrated process                      | 1.44                |
|            | Process Control Lab          | controller   |                     |
| 20.        | FIOCESS COMMON LAD           | Flow controller – PC lab                           | 0.97                |
| 21.        |                              | Flow controller – PC lab                           | 1.13                |

| 22  |                     | Y 1 11 FC11                            | 0     |
|-----|---------------------|--|-------|
| 22. |                     | Level controller – PC lab              | 0.61  |
| 23. |                     | Level controller – PC lab              | 0.64  |
| 24. |                     | Pressure controller – PC lab           | 0.51  |
| 25. |                     | Pressure controller – PC lab           | 0.66  |
| 26. |                     | Control Valve Characteristics – PC lab | 0.84  |
| 27. |                     | Centrifugal pump test rig              | 0.63  |
| 28. | Fluid Mechanics Lab | Reciprocating pump                     | 0.6   |
| 29. |                     | Gear Pump test rig                     | 0.6   |
| 30. |                     | BOD Incubator                          | 0.75  |
| 31. |                     | Bio Reactor                            | 0.97  |
| 32. |                     | Laminar Air flow Horizontal            | 0.59  |
| 33. |                     | FTIR system spectrometer               | 10.26 |
| 34. |                     | High Performance Liquid                | 11.86 |
|     |                     | chromatography                         |       |
| 35. |                     | Gas Chromatography                     | 8.76  |
| 36. |                     | Auto Clave                             | 3.38  |
| 37. |                     | Photo Reactor                          | 0.99  |
| 38. |                     | Refrigerated Circulating Bath          | 0.98  |
| 39. |                     | Orbital Incubator shaker               | 0.98  |
| 40. |                     | Bomb Colorimeter                       | 0.78  |
| 41. |                     | Junkers Gas Colorimeter                | 0.78  |
| 42. | Environmental Lab   | Auto clave – Vertical                  | 0.63  |
| 43. | Elivironinental Lau | Muffle Furnace                         | 0.58  |
| 44. |                     | Cooling Centrifuge                     | 1.26  |
| 45. |                     | Deep Freezer                           | 1.0   |
| 46. |                     | Spm Filter - Vacuum Pump               | 0.69  |
| 47. |                     | High temperature Vacuum furnace        | 2.16  |
|     |                     | with Quartz tube 100 mm ID and         |       |
|     |                     | heating zone 300 mm length with        |       |
|     |                     | temperature range above ambient to     |       |
|     |                     | 1400° C; combined with vacuum          |       |
|     |                     | pump, 100 LPM maximum flow – HT        |       |
|     |                     | lab                                    |       |
| 48. |                     | Electronic Balance, 200 gm, 0.1 mg     | 0.59  |
|     |                     | accuracy – CRE lab                     |       |
| 49. |                     | Gas Analyzer                           | 0.69  |

**Department of Biomedical Engineering** 

| Depa       | Department of Biomedical Engineering |  |                     |  |  |
|------------|--------------------------------------|--|---------------------|--|--|
| Sl.<br>No. | Laboratory                           | Research Equipment                               | Cost in Rs.<br>Lakh |  |  |
|            | Diagnostics and Thomasouties         | Medical simulator package –<br>TENS, FES, Emotiv | 2.52                |  |  |
| 1          | Diagnostics and Therapeutic Lab      | Electro Surgery Safety<br>Analyzer               | 7.49                |  |  |
|            |                                      | Cube 3D Printer                                  | 1.51                |  |  |
|            |                                      | Mimics - FEA Module                              | 5.87                |  |  |
| 2          | Bio-medical Instrumentation          | RMS 32-ch EEG machine and                        | 6.06                |  |  |
| _          | Lab                                  | EP –system                                       |                     |  |  |

|   |                            | Bio-radio basic kit                   | 7.05  |
|---|----------------------------|---------------------------------------|-------|
|   |                            | Function generators(0-10)MHz -11 Nos. | 1.32  |
| 3 | Medical Software Lab       | DSO (0-50) MHz – 6 Nos.               | 1.81  |
| 3 |                            | MIMICS Base                           | 10.41 |
|   |                            | MIMICS- FEA Module and                |       |
|   |                            | Cube 3D Printer                       | 6.04  |
| 4 | Pathology and Microbiology | Co2 Incubator                         | 2.04  |
|   | laboratory                 | Magnus Trinocular                     |       |
|   |                            | fluorescent Microscope                | 4.98  |

**Department of Mechanical Engineering** 

| Sl<br>No | Laboratory    | Research equipment  | Cost<br>(Rs. In<br>lakh) |
|----------|---------------|---|--------------------------|
| 1        | Manufacturing | Table Top FSW Machine   | 1.69                     |
| 2        | Lab           | Automated Attached for FSW machine  | 2.21                     |
| 3        |               | UTM with High Temperature Testing   | 8.84                     |
| 4        |               | Optical Microscope with Image Analysing Software  | 10.09                    |
| 5        |               | Stress corrosion test rig (C-Ring)  | 2.89                     |
| 6        |               | Pin-on-Disc Wear Tester   | 4.37                     |
| 7        |               | Miller Dynasty GTAW machine   | 5.05                     |
| 8        |               | Autolinear Attachment for GTAW machine  | 1.5                      |
| 9        |               | Vickers Hardness Testing Machine  | 1.34                     |
| 10       |               | MEMS development boards   | 1.54                     |
| 11       |               | Dynamometers (Turning, drilling and milling)  | 8.5                      |
| 12       | CAD Lab       | ABAQUS software   | 8.5                      |
| 13       | Thermal Lab   | Solar parabolic trough collector  | 2.9                      |
| 14       | Workshop      | All purpose mixer   | 4.83                     |
| 15       |               | Pilot plant for vitrified products [Curing oven, Hydraulic press, High temperature furnace]                               | 6.89                     |
| 16       |               | Honing machine  | 2.59                     |
| 17       |               | Super finishing attachment  | 2.66                     |
| 18       |               | Pilot plant facility for coated abrasives   | 18.25                    |
| 19       |               | Coated disc evaluation machine  | 5.14                     |
| 20       |               | Coated fabric size conversion machine   | 4.83                     |
| 21       | Research Lab  | Ultrasound processor  | 5.98                     |
| 22       | Thermal lab   | Computer interfaced single cylinder air cooled DI Diesel engine loaded with Eddy current Dynamometer and Data Acquisition | 2.5                      |
| 23       | Energy lab    | AVL Five Gas analyser and AVL smoke meter   | 4.5                      |
| 24       | Metrology lab | Surface roughness tester  | 1.68                     |

**Department of Civil Engineering** 

| Sl.<br>No. | Laboratory                              | Research Equipment   | Cost in Rs.<br>Lakh |
|------------|---|--|---------------------|
| 1          | Concrete and Highway<br>Engineering Lab | Pan mixer, Oven for<br>Geopolymerization (300°C capacity),<br>Flow table for cement paste and<br>mortar, SCC testing equipments,<br>Accelerated Curing Tank, Jaw<br>Crusher, Electrically operated<br>Pulverizer | 6.54                |
| 2          | Environmental Engineering Lab           | Refrigerated Universal Centrifuges,<br>Orbital Shaker, Deep Freezer  | 4.6                 |
| 3          | Strength of Material<br>Lab             | Data Acquisition System  | 2.48                |

**Department of Physics** 

| Sl. | Laboratory                           | Research Equipment   | Cost in Rs.   |
|-----|--------------------------------------|--|---|
| No. | Laboratory                           | Research Equipment   | Lakh  |
| 1   | Luminescence                         | Fluorescence spectrophotometer (UV-Vis)  | Donated by CLRI-Chennai                               |
| 2   | Luminescence                         | UV-Vis. Spectrophotometer  | Donated by<br>CLRI-<br>Chennai                        |
| 3   | Luminescence -                       | Thermoluminescence Set-up  | 4.5   |
| 4   | Optical Research and<br>Networks Lab | Optical Spectrum Analyser (600nm-1700nm)   | 11.20   |
| 5   | Optical Research and<br>Networks Lab | Tunable ECL laser source (1520-1650nm)   | 7.2   |
| 6   | Optical Research and<br>Networks Lab | Broadband laser source (1480nm-1650nm)   | 1.2   |
| 7   | Optical Research and<br>Networks Lab | 3 axis nanopositioner with sensors   | 1.1   |
| 8   | Optical Research and<br>Networks Lab | Michelson Interferometer set-up  | 1.012   |
| 9   | Optical Research and<br>Networks Lab | Intellisuite MEMS design suite   | 5.15  |
| 10  | Optical Research and<br>Networks Lab | Intellisuite MEMS design suite,<br>Coventorware, L-Edit (Tanner),<br>COMSOL Multiphysics-MEMS<br>modules | Sponsored<br>by NPMASS<br>for SSN -<br>NMDC<br>centre |
| 11  | Sonic & Ultrasonic<br>Lab, PSRC      | Digital Storage Oscillator   | 0.67  |
| 12  | Sonic & Ultrasonic<br>Lab, PSRC      | Ultrasonic Pulser/Receiver with probes   | 5.01  |
| 13  | Sonic & Ultrasonic                   | Omnidirectional hydrophones and  | 1.7   |

|    | Lab, PSRC          | needle hydrophone                      |         |
|----|--------------------|--|---------|
| 14 | Sonic & Ultrasonic | Spin Coating unit                      | Donated |
|    | Lab, PSRC          |  |         |
| 15 | Sonic & Ultrasonic | Digital magnetic stirrer with hotplate | Donated |
|    | Lab, PSRC          |  |         |
| 16 | Sonic & Ultrasonic | IR heater                              | Donated |
|    | Lab, PSRC          |  |         |
| 17 | Crystal Growth Lab | Diamond wheel – Cutter                 | 4.8     |
| 18 | Crystal Growth Lab | Weighing balance                       | 0.60    |
| 19 | Crystal Growth Lab | Constant temperature bath (3)          | 2       |
| 20 | Ceramic Technology | Ball mill                              | 8.0     |
|    | Lab                |  |         |
| 21 | Crystal Growth Lab | Bridgman facility 3nos                 | 1.0     |
| 22 | Crystal Growth Lab | TSSG facility 2                        | 5.0     |

**Department: Chemistry** 

| Sl.<br>No. | Laboratory                | Research Equipment                        | Cost (in Rs.<br>Lakh) |
|------------|---------------------------|---|-----------------------|
|            | Material Synthesis        | Tube Furnace                              | 2                     |
| 1          | Lab                       | Calendaring Machine                       | 4                     |
| 2          | Energy Storage Device Lab | Glove Box for Lithium Battery Fabrication | 15                    |
| 2          | Device Lab                | Battery Cycling System                    | 9                     |
|            |                           | Photo Catalytic Reactor                   | 0.75                  |
| 3          | Photo Cotalytic Lab       | Total Carbon Analyser                     | 8.5                   |
| 3          | Photo Catalytic Lab       | UV-Visible Spectrophotometer              | 2.6                   |
|            |                           | Hydrogen Gas Analyser                     | 3                     |

## 3.3.2 What are the institutional strategies for planning, upgrading and creating infrastructural facilities to meet the needs of researchers especially in the new and emerging areas of research?

To meet the needs of researchers especially in the new and emerging areas of research, the Institution continuously indentifies and procures new equipment for research work and also submits proposals for getting MODROBS from AICTE. The institution has already procured a project worth Rs. 19.51 Lakh in 2013 and Rs.5.94 Lakh in 2015.

The Institution constantly encourages faculty to apply to various funding agencies like AICTE, DST, MNRE, NRB, AERB, IGCAR, NIOT, DIT, BRNS, etc. through their various schemes to establish research facilities through sanctioned funded projects.

In department budget allocation, funds have been allocated separately for R & D through which latest software and equipment can be procured to carry out the research.

Faculty and students are always encouraged to interact with industries and research institutes for exploring new avenues of collaborative research.

The Institution reviews the research progress of the researchers. If the progress is promising, funding is provided to them through internal funded project schemes.

Sophisticated instruments, modeling tools, data processing software, and modern equipment are purchased every year for upgrading and creating the research infrastructural facilities to meet the needs of new and emerging areas of research.

# 3.3.3 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facilities? If 'yes', what are the instruments / facilities created during the last four years.

Organizations have supplied equipment for pursuing research in the campus. The institute was provided with three Danfoss Drives by Danfoss Industries for the Electrical Engineering Department, an entire lab with 15 high end computers given by Cognizant Technology Solutions for the CSE Department, WSN Test Bed components, Antenna Turn table with MAST and AD-08E Multi spectral camera were all procured under DST FIST. INTEL has sponsored a lab for the Department of ECE for doing Research. The equipment for PG labs have been procured with research in mind. The equipment that can possibly be listed under this head is indicated in Section 3.3.1.

## 3.3.4 What are the research facilities made available to the students and research scholars outside the campus / other research laboratories?

Research facilities available at Research Institutes, R & D organizations and industries are made available to our faculty, students and research scholars by entering MoUs for mutual benefit.

Institutional membership from the leading libraries like British Council Library, INDEST – AICTE Consortium Membership, DELNET – Developing Library Network, MALIBNET – Madras Library Network, Anna University – Industrial Association Scheme Membership etc., allow our faculty, students and research scholars to use these resources.

UG and PG students are encouraged to do their project work at Research organizations and Industries like IGCAR, ISRO, DANFOSS, BHEL, SAMEER etc.

Anna University recognized Ph.D. supervisors are permitted to carry out collaborative research work in Anna University, Chennai.

## 3.3.5 Provide details on the library/information resource center or any other facilities available specifically for the researchers?

The central library of the institution is fully computerized by automating the issue of books through RF ID and bio-metric equipment. The library has 35,068 titles (83,000 volumes) covering major areas of Science, Engineering and Management. The library has the following facilities for the faculty, students and research scholars:

| Description                          | Details   |  |  |
|--------------------------------------|---|--|--|
| Online Access                        | OPAC - to provide book search, book availability status, book renewal and reservation through campus Wi-Fi  |  |  |
|                                      | INDEST – AICTE Consortium Membership  |  |  |
| Library                              | DELNET – Developing Library Network   |  |  |
| Library<br>Networking                | MALIBNET – Madras Library Network   |  |  |
|                                      | Anna University – Industrial Association Scheme<br>Membership and British Council Library Membership  |  |  |
| Internet<br>Facilities               | Library members are able to connect to Wi-Fi from all areas inside the Library to access the subscribed online resources such as e-journals, e-books etc. |  |  |
| Scholarly<br>journal<br>subscription | National – 221; International - 77  |  |  |

#### **Digital Library**

| IEL – Level 2 (unlimited user)                        | 306 e-Journals<br>7073 IEEE Conference<br>1889 IEEE standards with all back<br>files |
|---|--|
| ACM – Association for Computing Machinery             | 136 Journals   |
| ASCE - American Society for Civil Engineering         | 36 Journals  |
| ASME - American Society for<br>Mechanical Engineering | 29 Journals  |
| ASTM - American Society of<br>Testing and Materials   | 6 Journals with<br>13,000 Journals Articles  |
| JGATE – Engineering                                   | 4532 Journals  |

| Science Direct – Engineering +<br>Computer Science | 275 Journals  |
|--|---------------|
| Science Direct – Chemical<br>Engineering           | 30 Journals   |
| Springer Link                                      | 586 Journals  |
| McGraw-Hill e-book                                 | 321 books     |
| JGATE – Management                                 | 4329 Journals |
| EBSCO Host- Management                             | 1155 Journals |
| NPTEL Video  | 110 Numbers   |
| NPTEL Web Courses                                  | 129 Numbers   |

## 3.3.6 What are the collaborative research facilities developed/created by the research institutes in the college. For ex. Laboratories, library, instruments, computers, new technology etc.

The collaborative research facilities developed/created are listed in Section 3.3.3.

#### 3.4 Research Publications and Awards

#### 3.4.1 Major research achievements of the staff and students

The details of Patents obtained and filed are given below:

**Intellectual Property Rights Obtained** 

| Sl.<br>No. | Title  | Inventors                          | Department | Number                        |
|------------|--|------------------------------------|------------|-------------------------------|
| 1          | System and method for<br>automated handling of<br>document processing<br>workload                        | Dr. Sriram<br>Kailasam             | CSE        | US<br>2012/0057191<br>A1      |
| 2          | Dynamic pre-resolve charge recovery logic  | Dr. V.S.<br>Kanchana<br>Bhaaskaran | ECE        | Publication Date : 07/02/2014 |
| 3          | A process for preparing<br>bulk synthesis of fine<br>particle single-phase<br>battery grade S            | Dr. Siluvai<br>Michael             | Chemistry  | MY – 122753-A                 |
| 4          | An improved process for<br>the preparation of<br>lithiummanganese oxide<br>useful as cathode<br>material | Dr. Siluvai<br>Michael             | Chemistry  | C01B0060021;<br>C01B0060024   |
| 5          | A process for the  | Dr. Siluvai                        | Chemistry  | C07D2330000                   |

|   | preparation of  | Michael              |           |                      |
|---|---|----------------------|-----------|----------------------|
|   | composition useful for                                    |                      |           |                      |
|   | treatment of  |                      |           |                      |
|   | electrodeposited zinc                                     |                      |           |                      |
|   | nickel alloy to enhance                                   |                      |           |                      |
|   | corrosion resistance.                                     |                      |           |                      |
| 6 | Process for preparation of intermediaries of bendamustine | Dr. Davis<br>Presley | Chemistry | WO 2012/007966<br>A2 |
| 7 | Test strip for free chlorine analysis                     | Dr. K. Yamuna        | Chemistry | US005491094A         |
| 8 | Calorimetric test strips                                  | Dr. K. Yamuna        | Chemistry | US006541269A         |

**Intellectual Property Rights Patents Filed** 

| Sl.<br>No. | Name of the faculty   | Title of the patent  | Year        | Reference No.                   |
|------------|---|--|-------------|---------------------------------|
| 1          | Mohan Sha S.,<br>Nikil S., Nitin K.R.<br>and Dr.V.S. Felix<br>Enigo | Smart Mirror with Voice<br>Control   | 2017        | TEMP/E-<br>1/15510/2017-<br>CHE |
| 2          | Dr. Y.K. Sabapathy  | Fabrication of Connecting<br>Rods using Fibre Reinforced<br>Plastics by Continual<br>Winding under Tension         | 2016        | 201641035709                    |
| 3          | Kavitha S and<br>Thyagharajan K.K                                   | Multimodality medical image fusion with optimal parameter estimation in disease diagnosis                          |             | 2454/CHE/2015                   |
| 4          | Dr. B. S. Sreeja,<br>Dr. S. Radha,                                  | Compact Mushroom Shaped<br>Multiband Antenna with slot<br>loaded elliptical Microstrip<br>and improved Performance | 08.07.2016  | 201641023407                    |
| 5          | Dr.V.Rajini   | Modular intelligent transformer  | 2016        | E-2/1326/2016-<br>CHE           |
| 6          | Dr.K.Jayakumar  | Semi-Automatic Brake Coupled Clutch For Manual Transmission System   | 17-11-2016- | 201641039248-                   |
| 7          | Dr.B.S.Sreeja,<br>Dr.S.Radha,<br>C.Joshitha                         | Novel 3T head actuation<br>mechanism with low<br>actuation voltage for bistable<br>switching mechanism             | 2015 - 2016 | 201641012220                    |
| 8          | Ms Esther Florence<br>S, Dr K Malathi,<br>Mr Vimal<br>Samsingh R,   | Method And Apparatus For<br>Non-Destructive Testing Of<br>Composites Using Planar<br>Sensor                        | 2015 - 2016 | 5338/CHE/2015                   |
| 9          | Mr. S. Ramprabhu,<br>Dr.K.Malthi,                                   | A Method and device for a passive Reconfigurable   | 2015 - 2016 | 5621/CHE/2015                   |

|    | T   | T   |             |                    |
|----|---|---|-------------|--------------------|
|    | Mr. M. Balaji   | Frequency Selective Surface   |             |                    |
| 10 | Dr. Gulam Nabi<br>Alsath,<br>Dr. K. Malathi,<br>Ms. L. Livya  | A Device and Method to<br>Fabricate Ultra-wideband<br>Microstrip Grid Array<br>Antenna (GAA)  | 2015 - 2016 | 5337/CHE/2015      |
| 11 | Dr. Gulam Nabi<br>Alsath,<br>Dr. K. Malathi   | Shared Aperture Multi-<br>service Antenna for<br>Automotive Communications  | 2014 - 2015 | 6413/CHE/2014      |
| 12 | Esther Florence S,<br>Dr. K Malathi,<br>Vimal Samsingh R  | Novel fully integrated multi-<br>layer woven electro-textile<br>patch antenna   | 2015 - 2016 | 5620/CHE/2015      |
| 13 | Kanchana Rajaram,<br>Chitra Babu. S.M.<br>Sindhu  | A System and Method for<br>Secured Messaging among<br>Web Services with Pluggable<br>API's  | 2015        | 17/CHE/2015        |
| 14 | D.Venkata Vara<br>Prasad, Sathya<br>Madhusudhanan &<br>Suresh Jaganathan                                | uCLUST: A System &<br>Method for Clustering<br>Unstructured Big Data  | 2015        | 736/CHE/2015       |
| 15 | Sathish<br>Palaniappan, Naren<br>T Kesh,<br>Vidhya Lakshmi,<br>Angel Deborah,<br>Naveen. H.             | Universally Compatible and<br>Accessible, Software<br>Controlled Expandable<br>Home Automation System<br>for Energy conservation and<br>Differently Abled | 2015        | 5729/CHE/2015      |
| 16 | J. Suresh &<br>Karthika<br>Veeramani  | A System and Method for Face Recognition using Regularized Discriminant Analysis  | 2014        | 01322/CHE/201<br>4 |
| 17 | J. Suresh & Priya<br>Stephen  | System and Method for<br>Verifying Face/Objects using<br>Linear Regression and<br>Discriminant Methods  | 2014        | 01321/CHE/201<br>4 |
| 18 | Dr.Gulam Nabi<br>Alsath,<br>Dr.K.Malathi,<br>Aswathi K Sarma,<br>A.Henridass,<br>Raviteja,<br>Sangeetha | Mutual coupling reduction in MIMO Antenna with serpentine type structure resonator  | 2013 - 2014 | 2660/CHE/2014      |
| 19 | Aswin V, Deepak S & Shivkanth B   | Fuzzy Inference Model for Disease Diagnostics   | 2013        | 5373/CHE/2013      |
| 20 | Dr.Gulam Nabi<br>Alsath,<br>Dr.K.Malathi,<br>A.K.Shrivastav   | Dual band notched dielectric resonator reflect array for C/X band   | 2012 - 2013 | 1374/CHE/2012      |
| 21 | A. Srinivasan & J.  | System and Method for   | 2012        | 889/CHE/2012A      |

|    | Suresh  | Optimized Video<br>Compression  |                               |                      |
|----|---|---|-------------------------------|----------------------|
| 22 | Mr.N.Prabagarane,<br>Prasaanth M,<br>Sabarish Karthik,<br>Yuvika Ashwina                    | A method and apparatus for<br>transmit preprocessing<br>assisted joint VBLAST /<br>STBC MIMO system   | 2009 - 2010                   | 322/CHE/2010         |
| 23 | Dr. Prita Nair and<br>M. Renilkumar   | Photonic crystal based<br>tunable optical channel drop<br>filter  | 2011                          | No.1559/CHE/2<br>011 |
| 24 | G. Anandha babu<br>and P. Ramasamy  | Growth of an efficient nonlinear optical $D-\pi-A-\pi-D$ type benzophenone derivative single crystal  | 2009                          | No.<br>1005/CHE/2009 |
| 25 | Sathish<br>Palaniappan, Naren<br>T Kesh,<br>Vidhya Lakshmi,<br>Angel Deborah,<br>Naveen. H. | Universally Compatible and<br>Accessible, Software<br>Controlled Expandable<br>Home Automation System<br>for Energy conservation and<br>Differently Abled | 26/10/2015                    | 2015-2016            |
| 26 | D.Venkata Vara<br>Prasad,<br>Sathya<br>Madhusudhanan,<br>Suresh Jaganathan                  | uCLUST: A System &<br>Method for Clustering<br>Unstructured Big Data  | 16/02/2015                    | 2014-2015            |
| 27 | Kanchana Rajaram,<br>Chitra Babu,<br>S.M. Sindhu  | A System and Method for<br>Secured Messaging among<br>Web Services with Pluggable<br>API's  | 12/01/2015                    | 2014-2015            |
| 28 | Aswin V,<br>Deepak S,<br>Shivkanth B  | Fuzzy Inference Model for<br>Disease Diagnostics  | 21/11/2013                    | 2013-2014            |
| 29 | J. Suresh,<br>Priya Stephen   | System and Method for<br>Verifying Face/Objects using<br>Linear Regression and<br>Discriminant Methods  | 13/03/2014                    | 2013-2014            |
| 30 | J. Suresh,<br>Karthika<br>Veeramani   | A System and Method for Face Recognition using Regularized Discriminant Analysis  | 13/03/2014                    | 2013-2014            |
| 31 | A. Srinivasan,<br>J. Suresh   | System and Method for<br>Optimized Video<br>Compression   | 09/03/2012<br>&<br>13/09/2013 | 2011-2012            |
| 32 | Dr.V.Jaikumar   | UV Curable acrylate and<br>Metheacrylate Prepolymers,<br>synthesis, characterization<br>and Application   | 02-11-2015                    | 5924/CHE/2015        |

| 33 |   | UV curable biscresol Epoxy<br>DI(Math) Acrylate<br>prepolymers, synthesis,<br>characterization and<br>Application | 24.02.2016 | 201641006428  |
|----|---|---|------------|---------------|
| 34 | Dr.K.Sathish<br>Kumar   | Dual delivery of gene and protein using poly-L-lysine and gold nanoparticles                                      | 29-01-2014 | 376/CHE/2014  |
| 35 | S. Saravana<br>Prakash, S. Pravin<br>Kumar and S.<br>Rajendiran     | Multi stance smartphone support for microscopes   | (SRU) 2015 | 6299/CHE/2015 |
| 36 | Dr. G. Muneeswari,<br>Nandita Viswanath<br>and Vaishnavi<br>Pakyala | Smart Heel for Women<br>Safety  | May 2016   | 201641015622  |
| 37 | Dr. V.E.Annamalai<br>Dr.K.Elangovan                                 | Portable Micromachining<br>Apparatus  | 05-09-2012 | 3657/CHE/2012 |
| 38 | Mr. D. Ebenezer   | Air inlet regulating device for fluid driven two stroke engines   | 06.11.2012 | 4646/CHE/2012 |
| 39 | Dr.M.Suresh   | Air conditioner cum auxiliary cooler with evaporative condenser   | 30.10.2013 | 4882/CHE/2013 |
| 40 | Dr.M.Suresh   | Multipurpose hand-held cooling cum cleaning device  | 30.10.2013 | 4883/CHE/2013 |
| 41 | Dr. K. S. Vijay<br>Sekar  | Hybrid bumper system  | 03.12.2014 | 6062/CHE/2014 |

# 3.4.2 Does the Institute publish or partner in publication of research journal(s)? If 'yes', indicate the composition of the editorial board, publication policies and whether such publication is listed in any international database?

No.

#### 3.4.3 Details of publications by the faculty and students:

The number of Journal papers and the books authored by the faculty & Research scholars of SSN during 2012-13 to 2016-17 is given below.

| Dept. | Books | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 |
|-------|-------|---------|---------|---------|---------|---------|
| EEE   | 2     | 57      | 61      | 106     | 78      | 66      |
| ECE   | 4     | 39      | 61      | 62      | 91      | 57      |
| CSE   | 8     | 85      | 48      | 44      | 38      | 27      |
| IT    | -     | 19      | 7       | 48      | 22      | 15      |

| Chem. | 3  | 28 | 10 | 33 | 49  | 32 |
|-------|----|----|----|----|-----|----|
| BME   | -  | 15 | 27 | 24 | 10  | 11 |
| Mech. | 13 | 20 | 16 | 36 | 125 | 75 |
| Civil | -  | 2  | 1  | 10 | 12  | 10 |
| S & H | 12 | 34 | 24 | 30 | 92  | 60 |
| MBA   | 2  | 12 | 4  | 5  | 11  | 12 |

### The details of journal publications by the faculty of various departments during the year 2016-17 are given below:

#### **Department: Electrical and Electronics Engineering**

- M. Venmathi and R. Ramaprabha, "Investigation on Fuzzy Logic Based Centralized Control in Four-Port SEPIC/ZETA bidirectional Converter for Photovoltaic Applications", International Journal on Advances in Electrical and Computer Engineering, Vol. 16, No. 1, pp. 53-60, 2016, (Print ISSN: 1582-7445, Online ISSN: 1844-7600), SJR Impact factor 0.26. (DOI: 10.4316/AECE.2016.01008).
- 2. G. Ramya and R. Ramaprabha, "Fuzzy logic controller for partial shaded photovoltaic array fed modular multilevel converter", IET Power Electronics, Vol. 9, No. 8, pp. 1694-1702, 2016, (Online ISSN 1755-4543; Print ISSN 1755-4535), SJR Impact factor 1.08. (DOI: 10.1049/iet-pel.2015.0737).
- 3. J. Anitha Roseline, M. SenthilKumaran, V. Rajini, "Generalized space vector control for current source inverters and rectifiers", Archives of Electrical Engineering. Volume 65, Issue 2, Pages 235–248, ISSN (Online) 2300-2506, DOI: 10.1515/aee-2016-0016, June 2016.
- 4. R.Seyezhai and M.S.Rajan, "Capacitor Voltage Balancing Control for Modular Multilevel Cascaded Inverter Based on Phase Shifted Pulse Width Modulation Technique", Advances and Natural Applied Science, 2016, pp.205-214.
- R.Seyezhai, M.Sudhakaran, "Fault Identification and Diagnosis of Induction Motor Using Neural Networks", Middle-East Journal of Scientific Research 24 (6): pp.2009-2012, 2016. DOI: 10.5829/idosi.mejsr.2016.24.06.23585. ISSN 1990-9233.
- 6. Anuradha R, Anbuselvi M and Saravanan P, "Torque Ripple Minimisation Of BLDC Motor Using Vector Control Algorithm", International Journal of Emerging Technology in Computer Science & Electronics (IJETCSE) ISSN: 0976-1353 Volume 23, pp:94-97. Issue 2 June 2016, India.
- 7. M.Tamilarasi and R.Seyezhai, "A review of optimization algorithms for the modeling of proton exchange membrane fuel cell", AIP Journal of renewable & Sustainable Energy, Vol.8, Issue 3, June 2016, pp.034301-1-04301-13. ISSN: 1941-7012.
- 8. R. Seyezhai and V. Aarthi (Passed out PG batch 2016), "Simulation and Implementation of AC-DC Interleaved Boost Converter With Voltage Multiplier For PHEV", ICTACT Journal On Microelectronics, July 2016. Volume: 02, Issue: 02, Pp.247256. ISSN: 2395-1680.
- G.R.Venkatakrishnan, J. Mahadevan, R.Rengaraj, "Grey Wolf Optimizer For Economic Dispatch With Valve Point Loading", International Journal Of Advanced Engineering Technology (IJAET), Vol. 7, No. 3, pp. 158-163, July 2016.E ISSN:0976-3945

- 10. Saravanan P, Senthil Kumaran M and Arumugam R, "FPGA Based Speed Control of SRM with Optimized Switching Angles by Self Tuning", Circuits and Systems, vol. 7, pp: 1530-1545, July 2016. 2153-1285.
- 11. R.Seyezhai and M.Sudhakaran, "Modeling and Analysis of Variable Frequency Inverted Sine PWM Technique for a Hybrid Cascaded Multilevel Inverter", Journal of Circuits and Systems, July 2016, Vol.7, pp.2633-2650.
- 12. Chitravalavan R. Seyezhai, "Design and Experimentation of FPGA-Based Soft-Switched Interleaved Boost Converter for Telecommunication System Circuits and Systems," 7, July 2016, pp.2702-2711 ISSN: 2153-1285.
- 13. R.Seyezhai, and V.Chamundeeswari, "Comparative Analysis of Analog and Digital Controllers for Negative Output SuperliftLuo Converter (NOSLC)", Circuits and Systems, 2016, 7, pp.1689-1700. doi.org/10.4236/cs.2016.78146. ISSN: 2153-1285.
- 14. Murugesan Kullan, Ranganath Muthu, Jebamalai Benny Mervin, Vijayenthiran Subramanian, "Design of DSTATCOM Controller for Compensating Unbalances" in Journal of Circuits and Systems, Vol.7, No.9 July 2016, PP. 2362-2372.
- 15. R.Deepalaxmi, C.Preethi, V.Preethi and R.Priyadharshini, "Design and development of prototype model of long duration impulse current generator" in International Journal of Advanced Scientific research and Management (IJASRM), Vol 1, Issue 6, PP 70-74, September 2016. [ISSN 2455-6378].
- V.Rajini, W.Abithamemala, "Motor current signatures and their envelopes as tools for fault diagnosis", Intelligent Automation and soft computing, Taylor and Francis, ISSN: 1079-8587 (Print) 2326-005X (Online), DOI:10.1080/10798587.2016.1225338.
- 17. Vaishnavi D, Sundari E, Sangeetha T V, Shrinidhi S and Saravanan P, "Design and development of computational intelligence for enhanced adaptive cruise control using Arduino", Applied Mechanics and Materials, Vol.852, pp:782-787, ISSN: 1662-7482
- 18. Prashaanth R, Sindhu S L, Veena S, Srilakshmi P S and Saravanan P, "Low cost battery operated vehicle using joystick control for physically challenged", Applied Mechanics and Materials, Vol.852, pp:788-793, ISSN: 1662-7482
- 19. Mahadevan J, Venkatakrishnan G R, Rengaraj R, "Differential evolution algorithm with parameter adaptation strategy for optimal design of hybrid renewable energy system", Journal of Electrical Engineering, Vol.16, 3rd Edition, pp. 419 429, 2016.
- Siva Kumar A; Muthu Selvan N B, "Reduction of Source Current Harmonics in R and RL Load with Active Filter at Source End", Asian Journal of Research in Social Sciences and Humanities, Vol. 6, No. 10, pp. 298-310, October 2016. DOI:10.5958/2249-7315.2016.01015.7, ISSN 2249-7315.
- 21. A.BharathiSankar and R. Seyezhai, "Performance Analysis of Multilevel Inverter for BLDC drive application", Advances in Natural & Applied Sciences, 2016, special: 9 (7), pp.190-200, ISSN:1995-0772.
- 22. P.Priya, G.ShabbeerBasha, S.V.SujithNiranjan and R. Seyezhai, "Investigation of SiC MOSFET Based Quadratic Boost Converter for Photovoltaic Applications", Int. Journal of Precious Engineering Research and Applications, IJPERA, ISSN: 2456-2734, Vol. 1, Issue 3,October 2016, pp.26-29.
- 23. S.Hemapriya, M.Sudhakaran and R.Seyezhai, "Implementation of Robust Industrial Machinery Predictive Maintenance and Control Using Modern

- Technology", International Journal of Electrical Engineering, SSRG, 2016, pp.22-27.ISSN No: 2348-8379.
- 24. R.Seyezhai and D.Umarani, "Study of Z-Source Inverter Impedance Networks Using 2ω Analysis for Photovoltaic Applications", Applied Mechanics and Materials, Vol.852, October 2016, pp.867-874. ISBN-13, 978-3-03835-777-3.
- 25. R.Seyezhai, K.Deepak, R.Gowtham, T.Hariharan and Manimaran, "Simulation and Implementation of e-cycle using BLDC drive", International Journal of Advanced research in basic engineering, science & technology, Vol.2, Issue-10, October 2016, ISSN -2395-695X,pp.1-12.
- 26. R. Ramaprabha, G. Ramya, U. Ashwini and A.H. FathimaHumaira, "Realization of a Photovoltaic Fed Sparse Alternating Current (AC)-Link Inverter", The Journal of Engineering Research (TJER) (ISSN: 1726-6009), Vol. 13, No. 2, pp. 149-159, TJER 2016.
- 27. R.Seyezhai and V.Chamundeeswari, "An Approach towards Pulse Data Transmission Using Modified Negative Luo Converter (MNLC) for Telecoms", Circuits and Systems, 2016, 7, 2712-2728. ISSN:2153-1285.
- 28. Thiyagarajan V., "Comparative analysis of PWM techniques for Photovoltaic application with HERIC inverter" in Journal of Advances in Chemistry, Vol. 12, no. 16, pp. no. 4950-4955.
- 29. Rajini V and Anoop J, "Large Signal Modeling of DC-DC Converter with Multiplier Cells for High Voltage Generation" World Applied Sciences Journal 34 (10): 1414-1421, 2016,ISSN 1818-4952, DOI: 10.5829/idosi.wasj.2016.1414.1421.
- 30. Nivedhitha, T., Sahithya, S., Vaishnavi, G. and R. Seyezhai, "Investigation of High Gain Switched Capacitor DC-DC Converter For PV Applications", International Journal of Current Research, Vol. 8, Issue, 11, November, 2016.(ISSN:0975-833X). pp:40448-40455.
- 31. R.Seyezhai and S.Harika, "Analysis of Modulation strategies for two-stage Interleaved voltage source inverter for photovoltaic applications", International Journal of Advanced research in basic engineering, science & technology, Vol2, Issue-11, November 2016. pp.1-12. ISSN -2395-695X.
- 32. R.Seyezhai and R.Mahalakshmi, "Review of Integrated Power Factor Correction (PFC) Boost converter topologies for Telecommunication systems", International Journal of Advanced research in basic engineering, science & technology Vol2, Issue-1, November 2016,,pp.13-23. ISSN -2395-695X.
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### 3.4.4 Details of research awards and recognition received by the faculty and incentives given to faculty.

Please refer to Sections 2.4.4 and 2.4.5.

#### 3.5 Consultancy

### 3.5.1 Give details of the systems and strategies for establishing institute-industry interface.

The institution has a centralized placement cell to interact with industry. The cell headed by the Senior Manager - Placement acts as a liaison between industries and the academia. Every department has a faculty member who is the department placement co-ordinator. They liaison with industry not only for student placements but also for other industry requirements such as consultancy and joint projects.

The alumni of the institution play an important role in interacting with industry. The graduates of the institute are well regarded and have been instrumental in placements as well as collaborations.

Being part of a larger umbrella organization - Shiv Nadar Foundation created by our Founder, who heads one of the largest IT conglomerates in India, we draw on the expertise from HCL Technology for various projects and events.

### 3.5.2 What is the stated policy of the institution to promote consultancy? How is the available expertise advocated and publicized?

Every department has a faculty member nominated to the centralised placement cell who works in tandem with the Placement Officer not only to place students but also for collaborations with industry and to obtain consultancy projects. The said faculty member is aware of all the expertise available for the industry in his/her department and pitches the same to the industry through talks or pamphlets wherever applicable.

### 3.5.3 How does the institution encourage the staff to utilize their expertise and available facilities for consultancy services?

Consultancy and research are given due weightage in assessing the faculty members for their annual appraisals. An incentive of 1% of the amount generated through consultancy work is given to the Principal investigator. The academic and administrative workload is reduced while executing consultancy work.

### 3.5.4 List the broad areas and major consultancy services provided by the institution and the revenue generated during the last four years.

The details are given in section 3.5.5.

## 3.5.5 What is the policy of the institution in sharing the income generated through consultancy (staff involved: Institution) and its use for institutional development?

As of now, most of the consultancy services to industries and organizations are advisory in nature. Currently the apportionment of the income is on a case to case basis. The college is working on implementing the ratio. The list of such services done so far is indicated below:

**Department of Electrical and Electronics Engineering** 

| Sl.<br>No. | Year | Faculty         | Organization<br>to which<br>consultancy is<br>offered | Area of consultancy | Amount<br>earned<br>(Rs. In<br>Lakh) |
|------------|------|-----------------|---|---------------------|--------------------------------------|
| 1          | 2016 | 1.Dr.A.Kavitha  | Horizon   | 3D Prosthetic       |                                      |
|            | -    | 2.Ms.R.Nithya   | Engineering   | limbs-Design        | 7                                    |
|            | 2017 | 3.Ms.D.Kanchana | Solutions   | and                 |                                      |
|            |      |                 | waterloo,   | characterization    |                                      |
|            |      |                 | Canada  |                     |                                      |

| 2 | 2015 | Dr.R.Rengaraj | Siechem<br>Technologies<br>Pvt Ltd,<br>Pondicherry | Performance<br>Improvement of<br>High speed<br>Extrusion and<br>rewinding lines<br>for Wires and<br>Cables | 4   |
|---|------|---------------|--|--|-----|
| 3 | 2011 | Dr.R.Arumugam | Lucas-TVS  | Weekend Training Programme on "Finite Element Analysis on Electromagnetic Design" Nov/Dec, 2011            | 0.9 |

**Department of Electronics and Communication Engineering** 

| Department of Electronics and Communication Engineering |      |   |  |                                     |                                   |  |
|---|------|---|--|-------------------------------------|-----------------------------------|--|
| Sl.<br>No.  | Year | Faculty   | Organization to<br>which<br>consultancy is<br>offered        | Area of consultancy                 | Amount<br>earned<br>Rs.<br>(lakh) |  |
| 1   | 2016 | Dr Sakthivel<br>Murugan   | SRM<br>University  | Under Water<br>Acoustic<br>Research | 5750                              |  |
| 2   | 2016 | Dr Sakthivel<br>Murugan   | Sathyabama<br>University                                     | Under Water<br>Acoustic<br>Research | 5750                              |  |
| 3   | 2016 | Dr.S.Radha, Dr. K.T. Selvan, Dr.M.Gulam Nabi Alsath, Dr.S.Esther Florence, Dr.S.Ramprabhu | Adhiparasakthi<br>Engineering<br>College,<br>Melmaruvathur   | RF and<br>Microwave<br>measurements | 5750                              |  |
| 4   | 2016 | Dr.S.Radha, Dr. K.T. Selvan, Dr.M.Gulam Nabi Alsath, Dr.S.Esther Florence, Dr.S.Ramprabhu | Sri<br>Venkateswara<br>College of<br>Engineering,<br>Chennai | RF and<br>Microwave<br>measurements | 5750                              |  |
| 5   | 2017 | Dr.S.Radha, Dr. K.T. Selvan, Dr.M.Gulam Nabi Alsath, Dr.S.Esther Florence, Dr.S.Ramprabhu | Sri Venkateswara College of Engineering, Chennai             | RF and<br>Microwave<br>measurements | 5750                              |  |

| 6 | 2017                   | Dr.S.Radha, Dr. K.T. Selvan, Dr.M.Gulam Nabi Alsath, Dr.S.Esther Florence, Dr.S.Ramprabhu | Hindustan<br>University   | RF and<br>Microwave<br>measurements                         | 8625 |
|---|------------------------|---|---|---|------|
| 7 | 2014<br>– till<br>date | Dr.S.Radha Dr.K.T.Selvan Ms.S.Esther Florence Dr.M.Gulam Nabi Alsath Mr.S.Ramprabhu       | Academicians<br>and Research<br>Scholars of<br>other institutes | RF and<br>Microwave<br>Measurements                         | 0.97 |
| 8 | 2012-<br>2014          | Dr.R.Rajavel  | IGCAR -<br>Kalpakkam  | Course on Digital Signal Processing at BARC Training School | 0.45 |
| 9 | 2012                   | Dr.S.Radha<br>Dr.R.Jayaparvathy<br>Dr.R.Kishore<br>Dr.K.Muthumeenakshi                    | HCL<br>Technologies   | Industry oriented short course on Wireless Technologies     | 1.97 |

**Department of Computer Science and Engineering** 

| Sl.<br>No. | Year          | Faculty  | Organization<br>to which<br>consultancy is<br>offered | Area of consultancy   | Amount<br>earned<br>(Rs) |
|------------|---------------|--|---|---|--------------------------|
| 1          | 2014-         | Dr.Chitra babu,  | Caterpillar   | Cloud   | Nil                      |
|            | 2015          | Dr. T. T. Mirnalinee,  | India Pvt.Ltd,  | computing,  |                          |
|            |               | Dr. V. Felix Enigo   | Chennai   | Analytics   |                          |
| 2.         | 2015-         | Dr.Chitra babu,  | Caterpillar   | Cloud   | Nil                      |
|            | 2016          | Dr. R. Kanchana  | India Pvt.Ltd,  | computing,  |                          |
|            |               |  | Chennai   | Distributed   |                          |
|            |               |  |   | computing,  |                          |
| 3.         | 2015-2016     | Dr.Chitra Babu<br>Mr. H. Shahul<br>Hammed<br>Dr. Felix Enigo | Manatec<br>Electronics Pvt.<br>Ltd                    | Kernel, Optimization, Development of Android Application for Tyre Pressure Monitoring | Nil                      |
| 4.         | 2015-<br>2016 | Dr.T.T.Mirnalinee,<br>Dr.R.Kanchana,<br>Dr.V.S.Felix Enigo   | ACI Systems<br>and<br>Automation,<br>Chennai, India   | Image Processing Application  | Nil                      |

Department: Information Technology

| Sl.<br>No. | Year  | Faculty          | Organization<br>to which<br>consultancy is<br>offered | Area of consultancy | Amount<br>earned<br>(Rs.) |
|------------|-------|------------------|---|---------------------|---------------------------|
| 1          | 2015- | Dr. T. Nagarajan | Tamil Virtual   | Speech-enabled      | 15,000                    |
|            | 16    |                  | Academy   | interactive         |                           |
|            |       |                  |   | enquiry system      |                           |
|            |       |                  |   | in Tamil            |                           |
| 2          | 2015- | Dr. N. Bhalaji   | HCL   | Project New         | 2,90,000                  |
|            | 16    |                  | Technologies  | Vistas              |                           |

**Department of Chemical Engineering** 

| Sl.<br>No. | Year | Faculty  | Organization to<br>which<br>consultancy is<br>offered  | Area of consultancy                  | Amount<br>earned<br>(Rs. In<br>Lakh) |
|------------|------|--|--|--------------------------------------|--------------------------------------|
| 1          | 2015 | Anantharaj R,<br>Sathish Kumar K&<br>Parthiban R | M/s. Sheenlac<br>Paints Limited.<br>Chennai600<br>098. | Separation process with Ionic Liquid | 2.5                                  |

**Department of Biomedical Engineering** 

| Sl.<br>No. | Year | Faculty         | Organization to<br>which<br>consultancy is<br>offered | Area of consultancy | Amount<br>earned<br>(Rs. In<br>Lakh) |
|------------|------|-----------------|---|---------------------|--------------------------------------|
| 1          | 2016 | Dr. A. Kavitha, | Horizon   | 3D Prosthetic       | 7.0                                  |
|            |      | Ms. R. Nithya,  | Engineering   | limbs- Design and   |                                      |
|            |      | Ms. D. Kanchana | Solutions,  | Characterization    |                                      |
|            |      |                 | Waterloo,   |                     |                                      |
|            |      |                 | Canada  |                     |                                      |

**Department of Mechanical Engineering** 

| Sl.<br>No. | Year | Faculty   | Company             | Nature of Consultancy  | Revenue<br>in (Rs. In<br>Lakh) |
|------------|------|-----------|---------------------|--|--------------------------------|
| 1          | 2011 |           | Wendt India Ltd     | Training on Innovation for Wendt Teams   | 0.45                           |
| 2          | 2012 | Dr. V.E.  | MMTCL               | Training on Knowledge<br>Management  | 0.15                           |
| 3          | 2012 | Annamalai | Fenner India<br>Ltd | Training on FTR (First Time<br>Right product development)<br>Training on Problem Solving | 0.3                            |
| 4          | 2012 |           | Apollo Tyres        | Training on Innovation   | 0.3                            |

| 5  | 2015 | TAFE. Sembiam Training on TRIZ          | 0.05       |
|----|------|---|------------|
| 6  | 2015 | TAFE. Sembiam Project Review, R&D C     | CFTs 0.08  |
| 7  | 2015 | TAFE Sembiam Training on TRIZ           | 0.3        |
| 8  | 2015 | Tube Training on Creativity &           | & 0.1      |
|    |      | Investments Innovation                  |            |
| 9  | 2015 | Shanthi Gears, Training on Creativity & | & 0.1      |
|    |      | Coimbatore Innovation                   |            |
|    |      |   |            |
| 10 | 2016 | John Deere, Training on TRIZ            | and        |
| 10 | -17  | Pune Creativity [18 & 19-6              | 08-16] 0.3 |
|    | 2016 | Ashok Turining on TD17 127              | 7 0 20     |
| 11 | 2016 | I evland                                | 0.3        |
|    | -17  | Chennai 01-17]                          |            |

**Department of Science and Humanities** 

| Sl.<br>No. | Year    | Faculty         | Organization<br>to which<br>consultancy is<br>offered | Area of consultancy | Amount<br>earned<br>(Rs. In<br>Lakh) |
|------------|---------|-----------------|---|---------------------|--------------------------------------|
| 1          | 2010-11 | Dr.V.S.Gayathri | HCL   | Corrosion           | 1.9                                  |
|            |         | and Dr.K.Yamuna |   |                     |                                      |
| 2.         | 2014-15 | Dr.V.S.Gayathri | Adarsh Line   | Material            | 1.0                                  |
|            |         | and Dr.K.Yamuna | Connectors  | Modification        |                                      |

**Department of Management Studies** 

| Sl.<br>No. | Faculty   | Organisation                      | Year                    | Area of consultancy                              | Amount<br>earned<br>(Rs) |
|------------|---|-----------------------------------|-------------------------|--|--------------------------|
| 1          | Dr.Srinivas<br>Gumparthi &<br>Dr.K.Sampath<br>Kumar   | HCL Tech                          | 2013-14<br>&<br>2014-15 | Banking &<br>Risk<br>Management                  | 200,000/-                |
| 2          | Prof.B.Srinivasan,<br>Dr K Sampath<br>Kumar,<br>Dr.M.Kavitha, &<br>Dr.Srinivas<br>Gumparthi | L&T ECC                           | 2014-15<br>&<br>2015-16 | Financial<br>Intelligence                        | 1,20,000/-               |
| 3          | Prof.R.Natarajan  | Maxwell<br>Academy<br>Private Ltd | 2015-16<br>&<br>2016-17 | Value Stream<br>Mapping<br>through<br>Toyota Way | 54,000/-                 |

- 3.6 Extension Activities and Institutional Social Responsibilities
- 3.6.1 How does the institution promote institution-neighbourhood community network and student engagement, contributing to good

### citizenship, service orientation and holistic development of students?

The institution encourages promotion of community service through setting-up of various forums and cells to guide the students in these directions. Some of the initiatives are Good Citizens Cell, Youth Red Cross, Rotaract Clubs etc. The Institute also partners with industry bodies to conduct survey and social work in the areas surrounding its campus. One such successful initiative of the college is "Samudhay", which enumerated the economic, literacy, cultural and health needs of 16 surrounding villages.

## 3.6.2 What is the Institutional mechanism to track students' involvement in various social movements / activities which promote citizenship roles?

Faculty members are assigned to all the student bodies, clubs and societies which encourage student involvement in social activities. Faculty keep track of all the activities including the objectives, finances, outcomes and initiatives and present them to the management every month. A faculty member acts as an adiviser for Student Affairs and monitors the functioning of all the clubs.

### 3.6.3 How does the institution solicit stakeholder perception on the overall performance and quality of the institution?

The parent body of the institute commissions a survey by a reputed independent market research agency to solicit the perception of the students, parents and industry.

# 3.6.4 How does the institution plan and organize its extension and outreach programmes? Providing the budgetary details for last four years, list the major extension and outreach programmes and their impact on the overall development of students.

#### **Outreach Programmes**

The institution was selected to conduct a 10 day Computer Training Programme for Police Personnel by the Government of Tamil Nadu which was successfully done and appreciated by the trainees and their officers.

The Women Empowerment Cell is part of its parent organization at Anna University. Through this, at the instance of the Govt. of Tamil Nadu, the institute trained women from Kanchipuram district, numbering about 30, in fundamentals of computers and gave them training to set up Information Kiosks, to disclose the processes of day to day activities dealing with the government and public bodies for their clients' needs such as changing address

in a ration card, Patta transfer, RTI act, applying for women self help group etc. Most of them are earning their livelihood, by establishing Information Kiosks in their own villages.

#### 3.6.5 National Service Scheme (NSS) and Youth Red Cross (YRC)

There is a unit of NSS with one Programme Officer and 100 student volunteers, another unit of YRC with about 100 student members with a corresponding Coordinating Officer and a Women Empowerment Cell in the college with a woman faculty member in-charge of it.

#### Efforts for acquisition of service attitude by students

The NSS wing of the college conducts programmes in villages around the college to educate the villagers on hygiene & sanitation, literacy, women and their status in the society – how to improve it, the employment opportunities available for the youth of the village, protected water supply system, ecology, girls education, awareness of AIDS etc. Students stay in the village for about 10 days a year, live with the villagers, refurbish the school buildings, give a patient hearing to the woes of villagers, discuss with them possible remedies, arrange a veterinary clinic, arrange for health check up by doctors etc. These have certainly inculcated in the minds of the participant students, the dignity of labour and a desire to serve the have-nots.

In addition to these, the NSS and YRC wings jointly organize blood donation camps and organ donation awareness camps in conjunction with the NGOs in the city, the neighbouring Rotary clubs and hospitals. These have been so successful that the hospitals and Rotary clubs are willing to associate themselves with all such activities of the student community. Tobacco is the villain for many human illnesses. The entire campus is tobacco free and a pledge taken by 4000 students, with their palms painted with anti tobacco slogans organized in the campus has gained entry in the Guinness book of world records.

Students in most of the remote villages do not have any idea about the possible scopes for higher studies after +2, and the various scholarship schemes available for them for higher education. Even their parents think that higher education, which will light up the lives of their wards in the future, is beyond their reach. To dispel this, students conduct a programme called 'Vidiyal' (meaning dawn) in at least 27 Government Higher Secondary schools spread over four backward districts, Vellore, Thiruvannamalai, Krishnagiri and Dharmapuri of Tamil Nadu. This programme was very much appreciated by the Collectors of the respective districts and the Directors of Higher Education.

|            | The list of activities                | conducted by YR       | C in the year 2016-1'                 | 7 is as below:                       |
|------------|---------------------------------------|-----------------------|---------------------------------------|--------------------------------------|
| Sl.<br>No. | Name of the Event                     | Date                  | Venue                                 | No. of<br>Volunteers<br>participated |
| 1          | Campus cleaning                       | 04.04.2017            | SSN CE                                | 50                                   |
| 2          | Orphanage visit                       | 04.03.2017            | Annai Fathima<br>illam,<br>Karapakkam | 40                                   |
| 3          | Blood donation                        | 28.02.2017            | SSN CE                                | 25                                   |
| 4          | Hospital cleaning                     | 19.02.2017            | Kilpauk Govt.<br>Hospital             | 40                                   |
| 5          | Beach Cleaning                        | 18.02.2017            | Marina beach,<br>Chennai              | 40                                   |
| 6          | Stem cell<br>registration<br>campaign | 11February<br>2017    | SSN CE                                | 30                                   |
| 7          | Village camp                          | 26-28 January<br>2017 | Siruthavur,<br>Kancheepuram<br>Dt.    | 70                                   |
| 8          | Orphanage visit                       | 02.10.2016            | Arul illam,<br>Kolapakkam             | 40                                   |
| 9          | Campus cleaning camp                  | 28-09-2016            | SSN CE                                | 40                                   |
| 10         | Blood donation                        | 15.09.2016            | SSN CE                                | 25                                   |
| 11         | Eye Camp                              | 06.09.2016            | SSN CE                                | 20                                   |
|            | Study camp on                         |                       |                                       |                                      |

#### Partnership with University for extension activities

'Child and Drug

abuse

The NSS unit of the college is part of the NSS wing of the affiliating University viz. Anna University. The University periodically involves the Programme Officers, of the colleges under its control, for discussion with them about the activities that could be initiated for the betterment of the society at large and specifically that of the villages around.

05.08.2016

SSN CE

30

In pursuance of the 'Clean India' campaign, students did an extensive survey of about 800 households in about 6 villages to assess the requirements particularly, the lack of toilets and lack of proper drinking water facilities.

#### Benefits reaped by the villages because of the activities

The NSS & YRC units of the college have repaired the school buildings and provided protected water supply lines to the school from the village overhead tank, arranged health camps for the school children, villagers and ladies from the village separately so that they could continue their treatment in the hospitals brought for the health camp. They choose to do them for three continuous years in the same village so that the fruition of their efforts is visible.

#### Benefits reaped by the institution by the outreach activities

The institution has earned the good will of the neighbouring villages and has been getting some work force as employees at the college.

3.6.6 Give details on social surveys, research or extension work (if any) undertaken by the college to ensure social justice and empower students from under-privileged and vulnerable sections of society?

In pursuance of the 'Clean India' campaign, students did an extensive survey of about 800 households in about 6 villages to assess the requirements particularly, the lack of toilets and lack of proper drinking water facilities.

Please refer to Section 3.6.5.

3.6.7 Reflecting on objectives and expected outcomes of the extension activities organized by the institution, comment on how they complement students' academic learning experience and specify the values and skills inculcated.

The activities ensure that the students are aware about their surroundings. They become sensitive to the needs of the societies and the activities are designed to ensure that students are well rounded and aware of their responsibilities towards the society apart from just excelling in their own careers.

By living with the villagers, the students tend to understand the dignity of labour, the difficulties faced by the villagers and these in turn shape them into socially aware citizens conscious of their responsibilities to their communities and society at large.

3.6.8 How does the institution ensure the involvement of the community in its reach out activities and contribute to the community development? Detail on the initiatives of the institution that encourage community participation in its activities?

The activities being organized such as Flood Relief, Blood Donation Camps, Clean India campaign etc are not possible without the involvement of the community as a whole, be it the staff residing nearby or the residents of villages. All these require a commitment from all the stakeholders. This commitment is built up by first reaching out to the community through their members working for our college.

## 3.6.9 Give details on the constructive relationships forged (if any) with other institutions of the locality for working on various outreach and extension activities.

The NSS unit of the college is part of the NSS wing of the affiliating University viz. Anna University. The University periodically involves the Programme Officers of the colleges under its control, discusses with them the activities that could be initiated for the betterment of the society at large and specifically that of the villages around.

## 3.6.10 Give details of awards received by the institution for extension activities and/contributions to the social/community development during the last four years.

The college NSS Unit has received the Best NSS Programme Officer Award, Best NSS Unit award and 11 volunteers received the Best NSS Volunteer Award for three successive years and State Award for one year from Anna University, Chennai.

#### 3.7 Collaboration

The MoUs with Industries, R & D organizations, NGOs and Universities of repute are listed in 3.1.5. The college has been conducting National and International conferences on various themes. These conferences have several sessions chaired by eminent scientists besides academicians from reputed institutions. Some of them are funded by the SSN Trust and others by funding agencies. A list of National / International conferences organized by the college during 2016-17 is given below:

| August 19, 2016          | Chemical    | National Conference on Chemical Energy and Environmental Engineering (CEEE)                    |  |  |  |  |  |
|--------------------------|-------------|--|--|--|--|--|--|
| September 15, 2016       | Civil       | Second National Conference on Advances in Civil Engineering                                    |  |  |  |  |  |
| December 01-03, 2016     | Mathematics | Third National Conference on Reliability and Safety Engineering                                |  |  |  |  |  |
| January 10 - 11,<br>2017 | IT          | International Conference on Computer,<br>Communication ans Signal Processing,<br>ICCCSP - 2017 |  |  |  |  |  |
| February 02, 2017        | Chemical    | National Conference on Sustainable Trends<br>in Energy and Environmental Resources<br>(STEER)  |  |  |  |  |  |
| February 03-04, 2017     | Civil       | National Conference on Disaster<br>Mitigation, Responsiveness and<br>Management                |  |  |  |  |  |

| February 29, 2017 | Chemical   | National Conference on Advances in<br>Chemical, Biological and Environmental<br>Engineering: (ACBEE)                      |  |  |  |  |
|-------------------|------------|---|--|--|--|--|
| February 10, 2017 | Chemical   | 2nd International Conference on "Recent<br>Advancements in Chemical, Environmental<br>& Energy Engineering" (RACEEE-2017) |  |  |  |  |
| March 03, 2017    | Chemical   | National Conference on Sustainable Energy<br>and Environmental Science, Engineering<br>and Technology                     |  |  |  |  |
|                   | EEE        | International Conference on Power and Embedded drive Control (ICPEDC 2017)  |  |  |  |  |
| March 16-18, 2017 | BME        | IEEE Sponsored International Conference on Biosignals, images and instrumentation (ICBSII 2017).                          |  |  |  |  |
| March 17-18, 2017 | Chemical   | National Conference on Green Chemical<br>Process and Sustainable Technologies<br>(GCPST 2017)                             |  |  |  |  |
| March 22-24, 2017 |            | IEEE International Conference on Wireless   |  |  |  |  |
| March 24, 2017    | ECE        | Communications, Signal processing and Networking (WiSPNET-2017)   |  |  |  |  |
| March 24, 2017    | Civil      | Workshop on Construction Management –<br>Best Practices   |  |  |  |  |
| March 31, 2017    | Mechanical | National Conf. for Mechanical Engineering<br>Research Scholars (MERS-2017)  |  |  |  |  |
| April 07-08, 2017 | English    | A Two day National Conference on 'Does INPUT equal INTAKE while teaching English as a Second Language?'                   |  |  |  |  |

#### CRITERION IV: INFRASTRUCTURE AND LEARNING RESOURCES

#### **4.1 Physical Facilities**

### 4.1.1 What is the policy of the Institution for creation and enhancement of infrastructure that facilitate effective teaching and learning?

The stated policy is to provide world class infrastructure to the students of the institute. In line with this policy, the institute has a sprawling campus spread over 250 acres with modern buildings, technology-enabled classrooms (Eg. E-learning, Moodle-based teaching etc.), well stocked libraries, spacious hostels for the students, seminar halls and auditoria. The institute focuses on overall development of students and hence, infrastructure for sports and extracurricular activities is a very important focus. The institute has a modern indoor sports complex as well as facilities for outdoor sports such as Basketball and Tennis alongwith an international standard cricket ground and football field.

#### 4.1.2 Infrastructural facilities available

The college has 105 classrooms, 86 spacious laboratories and 10 seminar halls for the conduct of the courses for all the eight UG and twelve PG programmes. In addition, 190 faculty rooms, rest rooms exclusively for boys and girls and a students' activity centre for organizing students' events centrally, such as blood donation camp, entrepreneur week etc., separate halls for the conduct of examinations, two drawing halls, a hall for NSS activity are available.

For Sports, besides spacious play fields and courts for outdoor games, there is a Sports Centre housing a basketball court of international standard, two squash courts, a spacious hall for a number of indoor games and two fitness centres separately for boys and girls.

The physical academic infrastructure and information on the supporting infrastructure are shown in the following tables:

| Physical     | Infrastruct | ture for acad | demic activities |
|--------------|-------------|---------------|------------------|
| I II , DICUI |             | unt tot ucus  |                  |

| Sl. |       |     | Class<br>ooms        |    | torial<br>ooms       | Lab         | oratories            | Seminar<br>Halls |                      | Departmental<br>Library |                      |
|-----|-------|-----|----------------------|----|----------------------|-------------|----------------------|------------------|----------------------|-------------------------|----------------------|
| No. | Dept  | No  | Unit<br>Area<br>Sq.m | No | Unit<br>Area<br>Sq.m | No          | Unit<br>Area<br>Sq.m | No               | Unit<br>Area<br>Sq.m | No                      | Unit<br>Area<br>Sq.m |
| 1   | EEE   | 8   | 100                  | 1  | 54                   | 14          | 227.5                | 1                | 194                  | 1                       | 78                   |
| 2   | ECE   | 16  | 95                   | 3  | 58.7                 | 12          | 136                  | 1                | 100                  | 1                       | 100                  |
| 3   | CSE   | 6 3 | 115<br>48            | 3  | 48                   | 12          | 117                  | 1                | 188                  | 1                       | 60                   |
| 4   | IT    | 6   | 115                  | 2  | 49                   | 7           | 137<br>180           | 2                | 152                  | 1                       | 120                  |
| 5   | Chem  | 4   | 112<br>55            | 2  | 55                   | 6           | 210                  | 1                | 196                  | 1                       | 54                   |
| 6   | BME   | 3   | 112.5                | 2  | 112                  | 6           | 241                  | 1                | 196                  | 1                       | 24                   |
| 7   | Mech  | 10  | 93.2                 | 1  | 101                  | 15          | 245                  | 1                | 125                  | 1                       | 56                   |
| 8   | Civil | 4 2 | 112<br>55            | 2  | 55                   | 8           | 241<br>55            | 1                | 196                  | 1                       | 54                   |
| 9   | S & H | 13  | 93                   | 4  | 93                   | 1<br>1<br>1 | 300<br>300<br>150    | -                | -                    | -                       | -                    |
| 10  | MBA   | 6   | 90                   | 2  | 30                   | 2           | 151                  | 1                | 350                  | 1                       | 315                  |

**Career Development Cell** 

|              | Location          | No | Area of Each<br>Room (sqm) | Overall<br>Area<br>(sqm) |
|--------------|-------------------|----|----------------------------|--------------------------|
|              | Interview Rooms   | 18 | 8                          | 144                      |
|              |                   | 1  | 30                         | 30                       |
|              | Meeting Rooms     | 2  | 18                         | 36                       |
| First Floor  |                   | 2  | 21                         | 42                       |
|              | Discussion room   | 1  | 23                         | 23                       |
|              | Electrical Room   | 1  | 9                          | 9                        |
|              | Dining Room       | 1  | 41                         | 41                       |
|              | Dean Room         | 1  | 18                         | 18                       |
|              | Office 1          | 1  | 18                         | 18                       |
|              | Placement Officer | 1  | 13                         | 13                       |
|              | Toilet - Students | 1  | 44                         | 44                       |
|              | Toilet - Staffs   | 1  | 16                         | 16                       |
|              |                   |    |                            | 434                      |
|              | Computer Lab      | 1  | 151                        | 151                      |
|              | Examination Hall  | 1  | 341                        | 341                      |
| Second Floor | Electrical Room   | 1  | 9                          | 9                        |
| Second Floor | Utility Room      | 1  | 20                         | 20                       |
|              | Toilet - Students | 1  | 44                         | 44                       |
|              | Open Terrace      | 1  | 97                         | 97                       |
|              |                   |    |                            | 662                      |

**Supporting Infrastructure** 

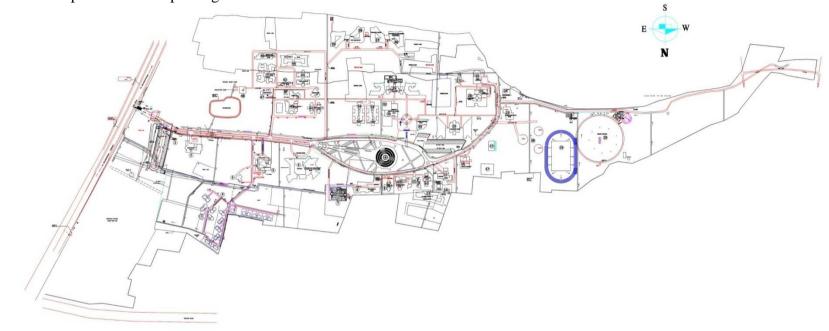
| Sl.<br>No. | Description       | Details of facility available  |  |  |  |  |  |  |  |
|------------|-------------------|--|--|--|--|--|--|--|--|
| 1          | Auditoria         | One each of 1000, 300, 200 capacity.   |  |  |  |  |  |  |  |
| 2          | Sports facilities | Indoor One basketball court, 2 badminton courts, table tennis hall, 2 squash courts and two fitness centres one for boys and the other for girls.  Outdoor Cricket ground of International standards with pavilion and facility for net practice, Foot ball ground surrounded by running track, Synthetic Tennis court two Nos., Volley ball court one & two Basket ball courts with gallery and flood lights. |  |  |  |  |  |  |  |
| 3          | Power             | TNEB Power supply with sanctioned load 1320 kVA  |  |  |  |  |  |  |  |

|    |                               | Number of Diesel Generators: 8 with a total capacity 1580 kVA.   |
|----|-------------------------------|--|
| 4  | Networking                    | Entire campus networked with fibre optic cables; 24 hour Internet connectivity with a band width of 310 Mbps; about 450 Wi-Fi points spread over the entire campus including hostels.  |
| 5  | Medical Aid                   | A full fledged doctor, nurse and an emergency van available; A dispensary with two beds and essential medicines available for the use of students and faculty in the quarters.   |
| 6  | Transport                     | 42 buses available for students to commute from the city to the college and back.  |
| 7  | Community service             | One NSS and One YRC Units are functioning  |
| 8  | Park, Green cover,            | The entire area is landscaped and a park by name   |
|    | STP and rain water harvesting | Vamasundari park is available in the campus over an area of about 3 acres. A full fledged STP is available and the treated water is being used for maintaining the landscaping and park. The rainwater over the area is drained into a pond thus harvesting rain water. Nine 7m diameter and three 15m diameter shallow wells serve the water needs of the campus. |
| 9  | Drinking water                | Drinking water is provided through 7 Nos. of RO units of 500 litres per hour for the hostels and canteen and 70 Nos. of RO units of 50 litres per hour for the academic blocks.  |
| 10 | Quarters                      | Quarters are available for 65 families within the campus.  |
| 11 | Canteen                       | Canteen has a seating capacity of 750.   |
| 12 | Food Courts                   | Four numbers of food courts are available.   |

Page 163

#### 4.1.3 Master Plan

The master plan of the campus is given below:



|   | BUILDING<br>NUMBER | BUILDING NAME       | BUILDING<br>NUMBER | BUILDING NAME         | BUILDING<br>NUMBER | BUILDING NAME         | BUILDING<br>NUMBER | BUILDING NAME        |           |
|---|--------------------|---------------------|--------------------|-----------------------|--------------------|-----------------------|--------------------|----------------------|-----------|
|   | 1                  | TEMPLE              | 17                 | OUT DOOR GAMES        | 27                 | PLACEMENT & HR OFFICE | 37                 | RESEARCH CENTRE      |           |
| COLUMN TO LO COLUMN TO LO COLUMN TO | 2                  | SASE AND SACE BLOCK | 18                 | HELIPAD               | 28                 | WORKSHOP              | 38                 | CH.E BLOCK           |           |
| SSN INSTITUTIONS  | 3                  | GUEST HOUSE         | 19                 | FOOTBALL GROUND       | 29                 | MECHANICL BLOCK       | 39                 | BME BLOCK            |           |
|   | 4                  | STAFF QUARTERS      | 20                 | CRICKET GROUND        | 30                 | ADMINISTRATIVE BLOCK  | 40                 | ANIMAL HOUSE         | SITE MAP  |
| KALAVAKKAM - 603 110  | 5                  | AUDITORIUM BLOCK    | 21                 | CRICKET PAVILION      | 31                 | CENTRAL LIBRARY       | 41-45              | GENTS HOSTELS        | CIID WILL |
|   | 6                  | SoMCA BLOCK         | 22                 | STORE ROOM CUM TOILET | 32                 | COMPUTER CENTRE       | 46                 | GENTS DINING HALL    |           |
|   | 7-13               | LADIES HOSTELS      | 23                 | HUMANITIES BLOCK      | 33                 | IT BLOCK              | 47                 | SECONDARY SUBSTATION |           |
|   | 14                 | UG SUMP             | 24                 | PRIMARY SUBSTATION    | 34                 | CSE BLOCK             | 48                 | STP                  |           |
|   | 15                 | CANTEEN             | 25                 | MINI AUDITORIUM       | 35                 | ECE BLOCK             | <b>A</b>           | YOU ARE HERE         |           |
|   | 16                 | SPORTS COMPLEX      | 26                 | CORE LAB              | 36                 | EEE BLOCK             | 1                  | 100 ARE TIERE        |           |

### 4.1.4 How does the institution ensure that the infrastructure facilities meet the requirements of students with physical disabilities?

Provision of wheel chairs, ramps for most of the buildings, location of most of the labs in the ground floor and disabled friendly toilets are features meant to assist students with physical disabilities.

#### 4.1.5 Residential facilities

The details of hostels and the residential quarters for the faculty and staff within the campus are shown below:

**Details of Staff Quarters within the Campus** 

| Sl.<br>No. | Details of the Quarters             | Floors | Unit Area in<br>Sq.m |
|------------|-------------------------------------|--------|----------------------|
| 1          | Principal Quarters (1 No.)          | G+1    | 170                  |
| 2          | Professors Quarters (4 Nos.)        | G+1    | 1020                 |
| 3          | (2 Nos.)                            | G+1    |                      |
| 4          | Asso. Professors Quarters (4 Nos.)  | G+1    | 1332                 |
| 5          | (6 Nos.)                            | G+2    |                      |
| 6          | Asst. Professors Quarters (12 Nos.) | G+1    | 2700                 |
| 7          | (18 Nos.)                           | G+2    |                      |
| 8          | Non-teaching                        |        |                      |
| 9          | Lab Attenders (12 Nos.)             | G+1    | 624                  |
| 10         | Lab Assistant (6 Nos.)              | G+2    | 430                  |

#### **Details of Students Hostels**

| Name of                                      | Tl. Pl.            | Carpet             |                 |               |      | m with<br>. toilet                   |      | ngle<br>ooms                         | Double<br>Rooms |                                      | Triple<br>Rooms |                                      |
|--|--------------------|--------------------|-----------------|---------------|------|--------------------------------------|------|--------------------------------------|-----------------|--------------------------------------|-----------------|--------------------------------------|
| the<br>Hostels                               | Area<br>in<br>Sq.m | Area<br>in<br>Sq.m | No. of<br>Rooms | Total<br>beds | Nos. | Cp.<br>Area<br>in<br>Sq.ft./<br>Room | Nos. | Cp.<br>Area<br>in<br>Sq.ft./<br>Room | Nos.            | Cp.<br>Area<br>in<br>Sq.ft./<br>Room | Nos.            | Cp.<br>Area<br>in<br>Sq.ft./<br>Room |
| LH –I  | 3085               | 2715               | 88              | 176           | 0    | 0                                    | 0    | 0                                    | 88              | 165                                  | 0               | 0                                    |
| LH –II                                       | 1557               | 1370               | 48              | 80            | 4    | 109                                  | 12   | 113                                  | 32              | 183                                  | 0               | 0                                    |
| LH –III                                      | 2191               | 1928               | 48              | 142           | 1    | 120                                  | 0    | 0                                    | 0               | 0                                    | 47              | 235                                  |
| LH-IV  | 4905               | 4316               | 96              | 290           | 2    | 120                                  | 0    | 0                                    | 0               | 0                                    | 96              | 235                                  |
| LH-V<br>(PG)                                 | 14585              | 12835              | 517             | 449           | 94   | 168                                  | 347  | 97                                   | 4               |                                      |                 |                                      |
| LH-V<br>(PG)<br>interna<br>tional<br>Student |                    |                    |                 | 72            | 72   | 199                                  |      |                                      |                 |                                      |                 |                                      |
| LH-VI  | 6164               | 5424               | 131             | 393           |      |                                      |      |                                      |                 |                                      | 131             | 235                                  |

| Total          | 32487 | 28588 | 928  | 1602 | 173 |     | 359 |     | 124 |     | 274 |     |
|----------------|-------|-------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| GH –I          | 3923  | 3452  | 112  | 224  | 0   | 0   | 0   | 0   | 112 | 165 | 0   | 0   |
| GH –II         | 3657  | 3218  | 96   | 192  | 0   | 0   | 0   | 0   | 96  | 183 | 0   | 0   |
| GH –III<br>PG  | 1683  | 1481  | 75   | 75   | 8   | 125 | 67  | 97  | 0   | 0   | 0   | 0   |
| GH-IV          | 5516  | 4854  | 96   | 284  | 2   | 120 | 0   | 0   | 0   | 0   | 94  | 235 |
| GH-V           | 9990  | 8791  | 189  | 569  | 2   | 120 | 0   | 0   | 0   | 0   | 189 | 235 |
| GH-VI<br>(PG)  | 9675  | 8514  | 245  | 245  | 111 | 120 | 134 | 100 | 0   | 0   |     | 0   |
| GH-VII<br>(PG) | 10777 | 9484  | 327  | 327  | 185 |     | 142 |     |     |     |     |     |
| Total          | 45221 | 39794 | 1140 | 1916 | 308 |     | 343 |     | 208 |     | 283 |     |

### 4.1.6 What are the provisions made available to students and staff in terms of health care on the campus and off the campus?

An allopathic doctor is available round the clock in the campus. A qualified nurse, a small clinic with two beds, essential emergency drugs, a van to commute between the nearby Chettinad Hospitals and the college, are made available, to meet the health needs of students and residents of the campus.

#### **4.1.7** Common Facilities available on the campus

A placement cell, headed by a qualified Senior Manager - Placement, with an office is available in the campus. The Placement activities start during the early seventh semester and continue till the end of the eighth semester. An exclusive building of about 1800 sq.m. has been built for placement activities, near the library so that online tests and interviews can be conducted without detriment to classroom and library activities of the college.

Please refer to Sections 2.5.7 and 4.1.2.

#### 4.2 Library as a Learning Resource

# 4.2.1 Does the library have an Advisory Committee? Specify the composition of such a committee. What significant initiatives have been implemented by the committee to render the library, student/user friendly?

Yes, the library has an Advisory Committee.

One of the HoDs is the Chairman for the Library Advisory Committee, and one faculty from each department are members with Librarian as the Secretary. For the year 2015-16, the HoD, Mechanical Engineering Department was the Chairman. The objectives derived for the committee are:

• To provide general directions to the Library.

- To review the functioning of the library with regard to its support to the conduct of academic programmes of the institute.
- To outline the library collection & development policy and ensure its implementation.
- To monitor and evaluate, from time to time, trends and developments in library related information, usage of ICT, networking, library automation, library cooperation etc., and to direct the library towards modernisation.
- To evaluate the suggestions made by the library users and adopt them if feasible.

#### 4.2.2 Provide details of the following:

• Total area of the library : 1800 Sq.m.

• Total seating capacity : 150

• Working hours (throughout the year):

Working days -8.00 am to 8.40 pm Holidays -8.00 am to 3.40 pm

• Layout of the Library

Individual reading carrels : 764 Sq.m.

(no individual cabins are given, the figure indicates reading area provided)

Lounge area for browsing and relaxed reading : 101 Sq.m. IT zone for accessing e-resources : 86 Sq.m.

# 4.2.3 How does the library ensure purchase and use of current titles, print and e-journals and other reading materials? Specify the amount spent on procuring new books, journals and e-resources during the last four years.

The faculty, after requisite research and interaction with their colleagues and research counterparts, submit their suggestions for the required books to their HoDs. This is discussed in the departmental faculty meeting and after a consensus indicated to the Library committee, which recommends the list to the Principal who in turn directs the librarian for procurement within the assigned the budget. Occasionally, books are purchased directly from book exhibitions and the purchase ratified later. As far as journals are concerned, they are subscribed as a package as recommended by the AICTE and also through information from Professional societies. The number of books procured for the library and the cost incurred during the past 4 years are given in the following Table:

| Library    |        | CFY – 1<br>2013-14) | 1      | CFY – 2<br>2014-15) | -      | CFY – 3<br>2015-16) | _      | CFY – 4<br>2016-17) |
|------------|--------|---------------------|--------|---------------------|--------|---------------------|--------|---------------------|
| holdings   | Number | Total<br>Cost Rs.   |
| Text books | 5251   | 22,04,880           | 4696   | 23,02,875           | 5132   | 25,01,065           | 312    | 1,27,471            |

| Reference Books                                | 145              | 7,94,462  | 117              | 6,81,937  | 166              | 13,46,532 | 25               | 1,03,669 |
|--|------------------|-----------|------------------|-----------|------------------|-----------|------------------|----------|
| General and<br>Story books                     | 440              | 90,947    | 645              | 56,891    | 620              | 60,238    | 8                | 1030     |
| Journals/<br>Periodicals                       | 293              | 15,63,886 | 320              | 17,21,242 | 363              | 23,93,722 | 15               | 29,336   |
| e-resources                                    | 12 Data<br>bases | 40,46,259 | 12 Data<br>bases | 47,82,719 | 12 Data<br>bases | 52,31,705 | 1 Data<br>base ) | 4,35,528 |
| DVD - English<br>Movies                        | -                | -         | -                | -         | -                | -         | -                | -        |
| RF ID and<br>Library<br>Management<br>Software | -                | -         | -                | 2230625   | -                | -         | -                | -        |

### **4.2.4** Provide details on the ICT and other tools deployed to provide maximum access to the library collection?

- OPAC
- Library Management Software KOHA
- Electronic Resource Management package for e-journals

| IEL – Level 2 (unlimited user)                        | 306 e-Journals<br>7073 IEEE Conference<br>1889 IEEE standardswith all back<br>files |
|---|---|
| ACM – Association for Computing Machinery             | 136 Journals  |
| ASCE - American Society for Civil<br>Engineering      | 36 Journals   |
| ASME - American Society for<br>Mechanical Engineering | 29 Journals   |
| ASTM - American Society of<br>Testing and Materials   | 6 Journals with<br>13,000 Journals Articles   |
| JGATE – Engineering                                   | 4532 Journals   |
| Science Direct – Engineering +<br>Computer Science    | 275 Journals  |
| Science Direct – Chemical<br>Engineering              | 30 Journals   |
| Springer Link   | 586 Journals  |
| McGraw-Hill e-book                                    | 321 books   |

| JGATE – Management     | 4329 Journals |
|------------------------|---------------|
| EBSCO Host- Management | 1155 Journals |
| NPTEL Video            | 110 Numbers   |
| NPTEL Web Courses      | 129 Numbers   |

- Federated searching tools to search articles in multiple databases: J-Gate Engineering and Management
- Library Website: http://www.ssn.net/twiki/bin/view/SsnIntranet/ The library can be accessed through Intranet
- In-house/remote access to e-publications: Department News Letters
- Library automation : KOHA Library s/w
- Total number of computers for public access: 20

Total No. of printers for public access: 5-Canon 8080 model

- Internet band width/ speed
   Institutional Repository
   310 Mbps
   -Nil-
- Content management system for e-learning: It is done by the Departments
- Participation in Resource sharing networks /consortia:
   AICTE Consortium

Average number of walk-ins
 Average number of books issued/returned
 Ratio of library books to students enrolled
 20:1

Average number of books added

4.2.5 Provide details on the following items:

during last three years : 17212 Vols.

Average number of login to OPAC
500
Average number of login to e-resources
300

Average number of e-resources downloaded

/printed : 200

- Number of information literacy trainings organized: -Nil-
- Details of "weeding out" of books and other materials: So far, no books or other materials have been weeded out from the library.

#### 4.2.6 Give details of the specialized services provided by the library

Manuscripts : -Nil-

- Reference
  - 1. Location of materials is displayed in the stack area.
  - 2. Help Desk Library Assistants are always available for Personal assistance to identify various library resources and provide library services.

- 3. Library related information / queries are provided by the Librarian through intercom / phone and email.
- Book search assistance through OPAC software.
- Reprography: 5 numbers Canon 8080 model
- ILL (Inter Library Loan Service):

DELNET, MLIBNET, Anna University and British Council

- Information deployment and notification: Through Display Board
- Down load: Facility available & permitted
- Printing : Five printers are available
- Reading list / Bibliography compilation : OPAC Online Public Access Catalogue

In-house/remote access to e-resources : Available
 User Orientation and awareness : Available
 Assistance in searching Databases : Available
 INFLIBNET/IUC facilities : Not available

### 4.2.7 Enumerate on the support provided by the Library staff to the students and teachers of the college.

- 1. To arrange Inter Library Loan.
- 2. Online learning facilities such as NPTEL.
- 3. Send articles through email.

### 4.2.8 What are the special facilities offered by the library to the visually/physically challenged persons? Give details.

Ramp with handrails is available for physically challenged persons. Braille material is not available in the library for use of the visually challenged persons.

### 4.2.9 Does the library get the feedback from its users? If yes, how is it analysed and used for improving the library services.

Feedback form is used for rating the library services. Based on this we have introduced (a) barcode (b) RF ID (c) online renewals and (d) Book Bank for Rural Scholarship students.

#### **4.3 IT Infrastructure**

### **4.3.1** Give details on the computing facility available (hardware and software) at the Institution:

• Computers and their configuration: 2,230 computers are available in the college.

The cluster of computers and their configurations are given below:

| Sl. No. | Type    | Configuration     | Number |
|---------|---------|-------------------|--------|
| 1       | Desktop | HCL Intel Core i7 | 81     |

| 2  | Desktop | HCL Intel Core i5                 | 389 |
|----|---------|-----------------------------------|-----|
| 3  | Desktop | HCL Intel Core 2 duo              | 401 |
| 4  | Desktop | HCL Pentium D                     | 150 |
| 5  | Desktop | HCL PIV                           | 80  |
| 6  | Desktop | HCL AMD Athlon                    | 38  |
| 7  | Laptop  | HCL Laptop                        | 115 |
| 8  | Desktop | Dell Intel core i5                | 181 |
| 9  | Laptop  | Dell Laptop                       | 24  |
| 10 | Desktop | HP AMD Desktop                    | 576 |
| 11 | Laptop  | HP Laptop                         | 66  |
| 12 | Server  | Server                            | 50  |
| 13 | Thin    | Sun thin client + HCL thin client | 30  |
| 14 | Apple   | Apple                             | 49  |

• Computer-student ratio : 1:2; Besides every student has a

laptop

Stand alone facilityLAN facilityAvailableAvailable

• Wi-Fi facility : The entire campus is Wi-Fi enabled;

No. of Wi-Fi points 450

• Licensed Software : Campus wide software available

• Number of nodes with Internet facilities: All computers have internet facility

### **4.3.2** Detail of the computer and internet facility made available to the faculty and students on the campus and off-campus:

The Internet facility is available for all faculty and students in campus. The college is about 35 km away the city; hence, it is for the individual, to have the net connection on his/her own for Off-campus browsing.

### 4.3.3 What are the institutional plans and strategies for deploying and upgrading the IT infrastructure and associated facilities?

The bandwidth has been progressively increased from 256 kbps to 310 Mbps over a period of 20 years as the need arises. For ease of access, the entire campus has been made Wi-Fi enabled with about 450 Wi-Fi points spread over the entire campus, including hostel rooms, library, labs and canteen thus enabling the student to browse the web from a location convenient to them. One printer per 15 computers is provided in the labs, Central and departmental offices and hostels besides library. This is generally done at the request of the faculty concerned or HoD or Librarian.

# 4.3.4 Provide details on the provision made in the annual budget for procurement, upgradation, deployment and maintenance of the computers and their accessories in the institution for the last four years.

There is a group designated as Computer and Internet Software COmmittee (CISCO), headed by a senior professor, with a mandate to recommend to the management the need for upgrading existing machines, replacing the obsolete ones with new ones, maintenance of the networking system, purchase of ancillaries such as switches, routers, printers etc. The AMC is given only for those equipment, which could not be repaired and maintained by the technical staff of the college. Based on the recommendations of the committee, provision is made in the annual budget. The suggestions for upgradation normally comes from the departments, discussed in the departmental faculty meetings and then forwarded to CISCO group to take them forward. In addition, heavy duty printers and associated servers etc., as specified by the University for the conduct of examinations are also made available. The provision made in the annual budget during the past four years is given in the following Table:

| Particulars      | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 20     | 16-17  |
|------------------|---------|---------|---------|---------|--------|--------|
| (Rs. Lakhs)      | Actual  | Actual  | Actual  | Actual  | Budget | Actual |
| Procurement Made | 140     | 210     | 345     | 53      | 402    | 359    |
| Upgradation      | 17      | 49      | 59      | 68      | 85     | 11.13  |
| Replacement      | 16      | 22      | 70      | 8       | 60     | 63     |
| Maintenance      | 19      | 36      | 28      | 36      | 48     | 29     |
| Total            | 191     | 317     | 501     | 164     | 594    | 462.13 |

# 4.3.5 How does the institution facilitate extensive use of ICT resources including development and use of computer-aided teaching/learning materials by its staff and students?

Most of the circulars to and replies from the faculty, unless mandated to be in printed form, are by default through e-mail. The information about academic schedule (other than that from university), transport, events information, visits of dignitaries are all posted on the Web. The pre-class material by the teacher, as indicated earlier, is uploaded in the intranet for students to prepare for the following class. The student can even post his doubts to the teacher through intranet. All classrooms are equipped with a laptop, a roof mounted LCD projector, white screen facilitating the teacher to project teaching material he might have brought or directly from the net, which the students can see or access them later; thus, making the class more interesting. The teacher also indicates information on various resources available. Students, forming their own groups, interchange ideas, get to know the schedule of events

and other information through the intranet. Thus, the ICT resources are extensively used in the campus.

4.3.6 Elaborate giving suitable examples, on how the learning activities and technologies deployed (access to on-line teaching-learning resources, independent learning, ICT enabled classrooms/learning spaces etc.) by the institution, place the student at the centre of teaching-learning process and render the role of a facilitator for the teacher.

A typical entry in the teacher's log book submitted to the HoD is indicated below.

#### SSN COLLEGE OF ENGINEERING

Rajiv Gandhi Salai (OMR) Kalavakkam - 603 110

#### **CLASS RECORD**

CLASS : V SEH, MECH-B

SUBJECT: ME2303 DESIGN OF HIC

PERIOD : JULY-2014 ELEMENTS

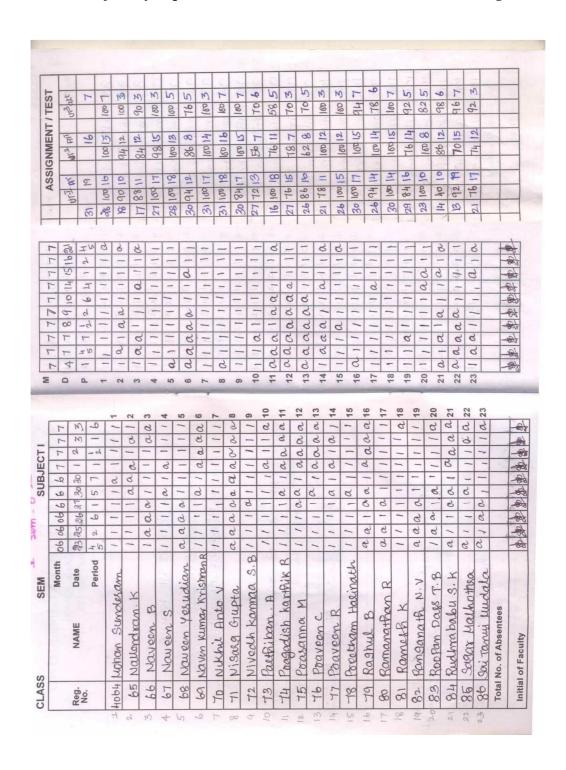
DESIGNATION ASSOCIATE PROFESSOR

SSI

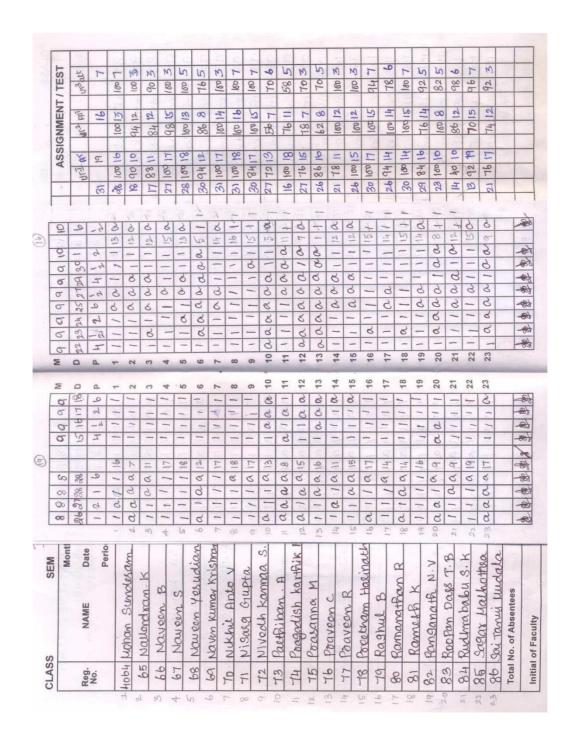
### SSN COLLEGE OF ENGINEERING

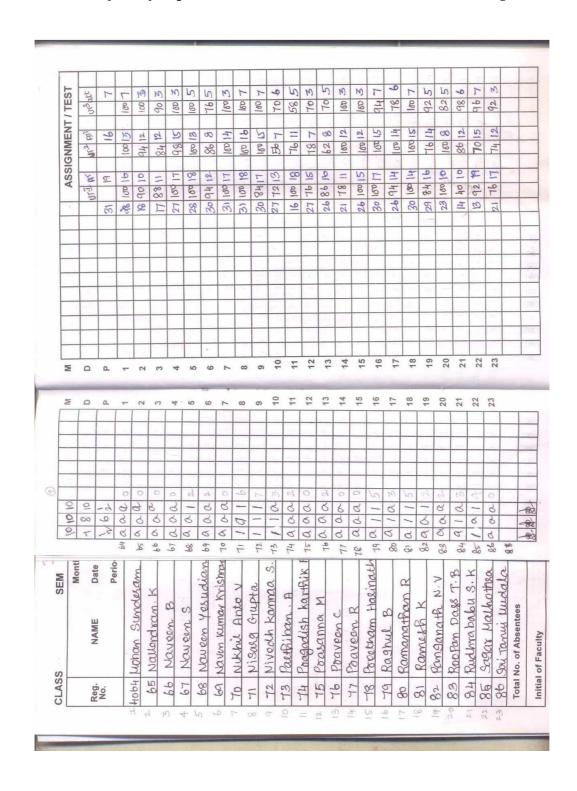
Rajiv Gandhi Salai (OMR) Kalavakkam - 603 110

|                      | 22111111111111 |          |          |                     |
|----------------------|----------------|----------|----------|---------------------|
|                      |                |          |          |                     |
|                      |                |          |          |                     |
| NAME                 | . S.St         | RESH     | KUHAR    | ***********         |
| DESIGNATIO           | N. ASSOC       | TATE     | PROFESS  | OR                  |
| DEPARTMEN            | T: MECHE       | ANICAL   | ENGIG    |                     |
|                      |                |          |          |                     |
|                      |                |          |          |                     |
| Subject: I: H        | E 2303         | DESIG    | N OF HI  | C ELEHEN            |
| Month<br>Reviewed by | First          | Second   | Third    | Final               |
| HOD                  | Mark           | lymli    | letuli   | Muli                |
| Principal            | 4              | 8        | 2        | 2                   |
|                      |                |          |          |                     |
|                      |                |          |          |                     |
| Subject : II :       | 4E 2404 (      | Computer | aided Si | mulation 4 analysis |
| Month                | First          | Second   | Third    | Final               |
| Reviewed by          |                |          |          |                     |
| HOD                  | Han            | felm     | Muli     | leful.              |
| Principal            | 4              | 8        | 8        | 2                   |
| Frincipal            |                |          |          |                     |



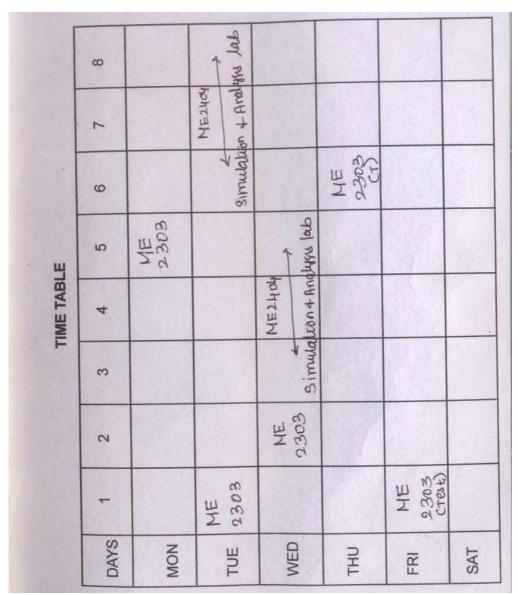
|       | Monti                  | 7   | -    | 1      | 7 7  | 00       | 8   | <b>N</b> | Σ  | 00  | 00     | 00     | 8            | 8   | 8    | 00 |    |        | ASSI     | ASSIGNMENT | ENT | /TEST | S   |
|-------|------------------------|-----|------|--------|------|----------|-----|----------|----|-----|--------|--------|--------------|-----|------|----|----|--------|----------|------------|-----|-------|-----|
| Reg.  | NAME Date              | 22  | 100  | 200    | 3131 | エ        | 70  | 9        | D  | 3 4 | = 8    | 12 14  | 00           | -   | 2021 | as |    | Ura    | H        | ara and    | HI  | 000   | art |
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| inhi. | 4 Hobbs Company        | -   | -    | -<br>- | ठ    | -<br>-   | 1   | -        | -  | -   | ح<br>ح | -      | -            | -   | 9    | ~  | *  | 200    | 10       | 90         | 10  | 8     | 7   |
| 1001  | Mullian Survoissam     | 01  | -    | _      | 8    | 20<br>20 | -   | 7        | 2  | -   | -      | ~      | 9            | 8   | 9    | 8  | 30 | 3 90   | 01       | 146        | 12  | 8     | 10  |
| 00    | N                      | 00  | 7    | 8      | 0    | 170      | -   | m        | 3  | 8   | 9      | 9      | -            | _   | _    | 8  | 1  | 80     | 11       | 18         | 12  | 90    | W   |
| 99    |                        | 7   | -    | -      | 8    | 27 1     | 1 / | 4        | 4  | -   | -<br>- | -      | 1            | _   | 9    | 1  | 27 | 1 100  | 11       |            | 15  | 09/   | W   |
| 0     | C                      | 10  | 1    | 1 1    | a    | 13       | 1   | 22       | 10 | -   | - 1    | -      | -            | -   | 8    | 20 | 28 | 3 100  | 18       |            | 50  | 100   | 5   |
| 80    | 68 Nauven Yesudian     | -   | ~    | 2      | 1 1  | -        | -   | 9        | 9  | 8   | B      | -      | –<br>ਰ       | 1   | 1    | 8  | 3  | 460    | 21       | 88         | 90  | 76    | n   |
| 5     | 2                      | -   | 1 1  | -      | 1    | 31       | -   | 7 1      | 1  | 1 0 | -      | -      | <del>-</del> | 1   | -    | -  | 3  | 001    | 11       | 100        | 14  | 09)   | W   |
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|       | Rumandthan K           | 00  | - 1  | -      | 1    | 200      | -   | 18       | 18 | -   | - /    | 8      | -            | -   | -    | -  | 3  | 30 100 | 11       | 160        | 10  | 100   | 7   |
| 000   |                        | 10  | -    | -      | -    | 1 46     | -   | 119      | 19 | d   | 0      | _      |              | -   | 9    | -  | 29 | H8 6   | 16       | 76         | 14  | 92    | 72  |
| 400   | 3#                     | 2   | 1 1  | -      | 8    | - PS     | -   | OC 20    | 20 | લ   | ag     | 8      | 2            | 10  | -    | -  | 23 | 3 100  | 10       | 09/        | 00  | 82    | 5   |
| 000   | 63 Rootan Dass 1: B    | 7   |      | 9      | 20   | 141      | B   | 27       | 21 | 1   | - B    | R      | 9            | 2   | a 1  | B  | 7  | 1 40   | 01       | 88         | 2   | 98    | 9   |
| 700   |                        | 27  | 8    | 9      | 2    | 10       | 8   | 1 22     | 22 | -   | 1 1    | -      | - 8          | 9   | 8    | -  | 20 | 3 92   | 4        | 70         | 5   | 96    | 1   |
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| Total | Total No. of Absentees | -   |      |        |      |          |     |          |    |     |        |        |              |     |      |    |    |        |          |            |     |       |     |
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The uploaded learning material relating to the course "Linear Integrated Circuits" for third semester, EEE and the course 'Solar Energy Storage Systems' for third semester M.E. Power Electronics & Drives is available at the following addresses of SSN intranet for viewing.

# Sample E -learning contents for some of the courses offered are indicated below

http://www.ssn.net/twiki/bin/view/Main/LIC2015
(3rd semester EEE)
http://www.ssn.net/twiki/bin/view/Main/SOLARANDENERGYSTORAGESY
STEMS
(3rd semester M.E. PED)

http://www.ssn.net/twiki/bin/view/EceIntranet/EC2302-B-13 (5th semester

ECE - Principles of Digital Signal Processing)

http://www.ssn.net/twiki/bin/view/EceIntranet/AE-VL7201(E)-13 (3rd semester M.E. – Applied Electronics – CAD for VLSI)

Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam-603110

http://www.ssn.net/twiki/bin/view/MechIntranet/MechEngDynofMach

(ME6505 Dynamics of machines -MS.Alphin V sem A section

http://www.ssn.net/twiki/bin/view/MechIntranet/MechStrenofmater (ME 6411-

Mfg Tech lab II-M.Dhanancezhian-IV sem A Section)

http://www.ssn.net/twiki/bin/view/CivilIntranet/CE2401AY1516 (B.E. Civil

Engg. - VII Semester - CE2401 Design of Reinforced Concrete & Brick

Masonry Structures – Ms. P. Sangeetha)

http://www.ssn.net/twiki/bin/view/PhyIntranet/PhyElearning

http://www.ssn.net/twiki/bin/view/EceIntranet/EceEngPhy-A-15

# 4.3.7 Does the institute avail of the National Knowledge Network connectivity directly or through the affiliating university? If so what are the services availed of?

Anna University relays lectures in certain topics of subjects, generally found by student community to be tough, as interactive lectures through EDUSAT, with the help of experts in the subjects. To the extent the time tables permit, students assemble at a hall in the college, where it is projected, and if they have any doubt, they clarify it, with the exponent on line for the benefit of all viewers.

To obviate the difficulty of non synchronisation of the relay time and the time of availability of student, the college has procured some lectures in the form of CDs, and they are available at the library, which a desiring student can view in the room meant for this purpose; alternatively, he can borrow the CD from the library and view it in his laptop at his own place of convenience. As many as 2000 such CDs are available in the library for students to use.

# 4.4 Maintenance of Campus Facilities

# **4.4.1** Financial resources for maintenance and up keep of campus facilities:

The funds allotted for various facilities and spent for maintenance of the same are given below for four years:

| Particulars | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016   | 5-17   |
|-------------|---------|---------|---------|---------|--------|--------|
| (Rs Lakhs)  | Actual  | Actual  | Actual  | Actual  | Budget | Actual |
| Building    | 1,712   | 1,523   | 2,677   | 2,257   | 3,825  | 2533   |
| Furniture   | 50      | 81      | 116     | 26      | 73     | 100    |
| Lab         | 73      | 148     | 286     | 253     | 155    | 152    |
| Equipments  |         |         |         |         |        |        |
| Computer    | 172     | 252     | 339     | 99      | 439    | 423    |
| Vehicle     | 27      | 6       | 4       | -       | 4      | 3      |
| Total       | 2,042   | 2,010   | 3,422   | 2,635   | 4,496  | 3211   |

# **4.4.2** Institutional mechanism for maintenance and upkeep of the infrastructure

There are specific personnel appointed for maintenance of infrastructure (buildings, furniture and transport). These people, on a daily basis, will report to the Head of Construction & Facilities (HoC & F) any breakages and other maintenance requirements, and HoC & F arranges to get them rectified. The technical staff attached to the respective laboratories service the equipment to the extent possible. When they become non serviceable, they report the matter to the faculty in-charge of the laboratory and he in turn refers the same to the HoD, who arranges to get them repaired. Due to the large number of computers and networking, a Systems Administrator and a Network administrator with their staff look after the maintenance of computers and the networking. Any major fault is reported to the Professor in-charge of CISCO, who then arranges to undertake the repairs.

# 4.4.3 Calibration of various equipment and instruments

This is left to the faculty in-charge of the respective laboratories, to decide when the meters are to be calibrated and instruments serviced. Calibration of one meter in a particular group is outsourced to a Standards Organisation or its authorized agents. Using this calibrated meter as the standard, the other meters are calibrated by the technicians in the laboratory. The equipment are serviced annually by the local technical staff and if it is beyond their capacity, they refer it to the HoD, who arranges for repairing them.

## 4.4.4 Maintenance of sensitive equipment, Power and Water supply

The power is supplied by the Electricity Board with a peak load of 1320 kVA, and it is augmented by eight diesel generators capable of giving a backup power of 1580 kVA. The generators are maintained as and when the repair occurs, on a call basis; the day-to-day maintenance is done by the technical staff attached to the substation. There are about 120 UPS systems of various capacities in the campus, for server rooms and the lab equipment needing uninterrupted power supply. They are normally maintained by an AMC.

Water supply is from nine 7m diameter and three 15m diameter shallow wells. Water is pumped to the over-head reservoir and the outflow to the campus is by gravity. The drinking water is through 7 Nos. of 500 litres RO plants for the hostels & canteen and 70 Nos. of 50 litres per hour RO plants for the academic blocks, providing drinking water supply to the campus  $24 \times 7$  at various service points. There is a Sewage Treatment Plant (STP), which effectively treats the waste water. This treated water is used for maintaining the green campus.

## CRITERION V: STUDENT SUPPORT AND PROGRESSION

# **5.1 Student Mentoring and Support**

# 5.1.1 College Calendar

The college calendar, which is distributed to all faculty and students, contains besides Vision and Mission of the college, information regarding first and last working days of odd and even semesters, probable dates for cycle tests, dates for prominent events, holidays, facilities available and hostel rules (University regulations & rules are available in the University website).

# **5.1.2** Student scholarship schemes

SSN is known for its liberal scholarship schemes that ensure 'nobody is deprived of quality Engineering education for want of funds'. Certain features of the scholarship scheme are mentioned below:

### General:

The institution offers attractive student scholarships to encourage merit and to make education accessible to students of all economic strata. The Institution has initiated a thriving tradition of about 500 scholarships extended every year to meritorious and deserving students.

# Types of scholarships:

There are seven types of scholarships:

- (i) Merit Scholarships
- (ii) Merit cum Means Scholarships
- (iii) Tuition fee waiver Scholarships
- (iv) Walk-in Walk-out Scholarships
- (v) Rural Scholarships and
- (vi) PG Scholarships
- (vii) Sports Scholarships

# Merit Scholarships

Scholarships are awarded to meritorious students, based on their academic performance at the qualifying examinations for fresher; and in the case of senior students, the performance during the previous year. The scholarship also offers a waiver of tuition fees and special fees. All the engineering and MBA programs at this Institution are covered under the scholarship program.

## Merit-cum-Means Scholarships

Every academic year, several scholarships are awarded on the criteria of merit-cum-means. The scholarship offers a waiver of tuition fees and special fees. Academic performance and demonstrated economic need are the key criteria for this scholarship.

# Waiver of Tuition Fees

First year students of the College who secure the highest marks in the +2 examinations have their entire tuition fees waived for the first academic year. Similarly, senior students are offered scholarships on the basis of their previous year's performance.

# Walk-in-Walk-out Scholarships

The Top Ten Rank holders of any State or Central Board Examination at the +2 or any equivalent level are entitled to pursue the B.E. or B.Tech. degree at SSN College of Engineering without payment of tuition fees and special fees.

# Scholarship to Toppers of Rural Government Higher Secondary Schools

Twenty five scholarships are awarded to Government School Toppers from rural areas to pursue the B.E. or B. Tech. degree at SSN College of Engineering from the academic year 2008 - 09.

# Post Graduate Scholarships

In order to promote research and encourage meritorious students to pursue post graduate studies, scholarships are awarded to candidates with University rank or GATE score of 90+ percentile admitted to M.E. /M. Tech. programmes in Engineering.

## Sports Scholarships

Sports Scholarships are awarded to students with an outstanding record in sports. Typically, students who have represented the State at National level competitions conducted by accredited Sports Boards are also eligible for the same.

#### Others

In addition to the above, Scholarships are awarded by the Alumni of the college and also by external philanthropists for students who excel in Specific Games and also for Fine Arts like Classical Music as well.

The quantum of the above scholarships, disbursed during 2016-17 is given below:

| Sl.<br>No. | Type of Scholarship             | Course                      | Total<br>No. of<br>students | Total<br>Scholarship<br>in Rs. |
|------------|---------------------------------|-----------------------------|-----------------------------|--------------------------------|
| 1          | Merit Scholarship               | B.E./B. Tech. /<br>M.E./MBA | 139                         | 57,29,000                      |
| 2          | Walk-in Walk-out<br>Scholarship | B.E./B. Tech. /<br>M.E.     | 5                           | 7,50,100                       |

| 3 | Means Scholarship                          | B.E./B.Tech. / M.E.<br>/MBA | 50 | 23,93,325   |  |  |  |
|---|--|-----------------------------|----|-------------|--|--|--|
| 4 | Rural Scholarship                          | B.E./B. Tech.               | 99 | 1,85,66,580 |  |  |  |
| 5 | Sports Scholarship                         | B.E./B. Tech. /<br>M.E.     | 22 | 5,58,000    |  |  |  |
| 6 | Vidya Gyan<br>Scholarship                  | B.E./B. Tech.               | 7  | 14,85,740   |  |  |  |
| 7 | Alumni Scholarship                         | B.E./B. Tech. /<br>M.E./MBA | 20 | 7,45,000    |  |  |  |
| 8 | Staff Ward's Scholarship                   | B.E./B. Tech. /<br>M.E./MBA | 8  | 1,40,000    |  |  |  |
| 9 | AICTE Fee Waiver                           | B.E./B. Tech.               | 76 | 15,20,000   |  |  |  |
| 7 | Classical Carnatic Music Vocal Scholarship | B.E. / B. Tech.             | 4  | 2,10,000    |  |  |  |
|   | Total 430 3,20,97,745                      |                             |    |             |  |  |  |

# 5.1.3 What percentage of students receive financial assistance from State Government, Central Government and other National agencies?

About 25% of students apply and get the State and Central Government Scholarships under various scholarship schemes and the amount is directly credited into their bank accounts.

# 5.1.4 Specific support services / facilities available for students

While the State and Central Governments take care of financially and socially deprived students from SC/ST, OBC, the Management extends a helping hand to economically weaker students, rural students, students who are excelling in sports, Fine Arts etc as described in 5.1.2. by way of a large number of scholarships.

Ramps and special toilets have been constructed for the students with physical disabilities. A full-fledged doctor, a qualified nurse, a two bed clinic and a van meet the emergency medical needs of those living in the campus. Chettinad Medical college Hospitals always extend a helping hand to SSNites.

The institution though admits students under NRI and PIO quota as permitted by the Government, it does not admit other over seas students.

Though the institution as such is not conducting coaching classes for competitive examinations, a group of students with the help of Alumni of SSN do conduct such classes for GATE, TOEFL and TNPSC examinations on their own. When they want class rooms, SSN provides them free of rent. Special classes for the needy in English and Foreign languages are conducted. Special

coaching classes in the regular subjects are also conducted during evenings for the benefit of rural, lateral entry and vocational stream students.

It is the policy of the Institution that good innovative ideas come from a free mind. This is best achieved by making students participate in as many extra curricular activities as they desire. To facilitate this, we have several clubs like elocution club, quiz club, music club and fine arts club in which students eagerly participate irrespective of region, board, language, sex or community.

Special classes are conducted for slow learners during the First and second semesters, as mentioned earlier. During third semester, special classes are conducted for lateral entry students, specifically in Mathematics and English communication. During the first year, to facilitate Tamil medium students, special classes are conducted, after college hours to remove the inhibitions they might have, to attend classes conducted in English, irrespective of the communal status.

A qualified psychologist student counsellor, available in the campus, freely mingles with students to gain their confidence, identifies and mentors students with depression, psychological problems and even gender related issues. A team of faculty with a lady faculty as Chairperson is available, to deal with cases of sexual harassment within the campus. It is noteworthy that, so far, there was no need for a meeting of that team.

Each major department publishes a quarterly magazine, to highlight the activities of the department. It also encourages the students to exhibit their literary, scientific achievements and artistic talents.

# 5.1.5 Describe the efforts made by the institution to facilitate entrepreneurial skills, among the students and the impact of the efforts.

The institution has set up an Entrepreneurship Development Cell (EDC) on campus. EDC is purely a student run body and encourages entrepreneurial spirit by organizing B Plan contests, events and talks by entrepreneurs.

The institution has also entered into an MoU with Ministry of MSME to set up an incubation centre and provide funding opportunities to emerging entrepreneurs in the MSME space.

5.1.6 Enumerate the policies and strategies of the institution which promote participation of students in extracurricular and co-curricular activities such as sports, games, Quiz competitions, debate and discussions, cultural activities, etc.

SSN offers excellent facilities for sports. There are gyms and playing areas for various sports. Dedicated coaches at the sports centre help students fine tune their games. Sports tournaments are organized and students participate in tournaments in other states and cities. Sports uniforms are sponsored either by management or other industry organizations.

Management funds students to conduct technical and cultural festivals. Students are encouraged to participate in cultural fests in other colleges.

English Literary Club, Dramatic club, EDC, SSN MUN, Departmental Associations, NSS, YRC and others are adequately encouraged to keep the students engaged in several extra curricular and co-curricular activities on campus and also outside.

5.1.7 Enumerating on the support and guidance provided to the students in preparing for the competitive exams, give details on the number of students appeared and qualified in various competitive exams such as UGC-CSIR- NET, UGC-NET, SLET, ATE / CAT / GRE / TOFEL / GMAT / Central /State services, Defense, Civil Services, etc.

Career Development Cell of the institute organizes talks and events by experts from various fields of the industry. It also ensures that various external agencies conduct classes on campus to train students on GRE/GMAT, GATE, IAS, TNPS examinations etc. Officers from defense services address students. Also, experts from foreign universities address the students on nuances of studying abroad from time to time.

## 5.1.8 What type of counselling services are made available to the students

A qualified psychologist student counsellor, available in the campus, freely mingles with students to gain their confidence, identifies and mentors students with depression, psychological problems and even gender related issues. A team of faculty is available, to deal with cases of sexual harassment within the campus. It is noteworthy that so far there was no need for a meeting of that team.

5.1.9 Does the institution have a structured mechanism for career guidance and placement of its students? If 'yes', detail on the services provided to help students identify job opportunities and prepare themselves for interview and the percentage of students selected during campus interviews by different employers.

Placement training is given to all students during their Third year, during the college hours, allotting two hours a week in the time table itself, using external trainers. The success of the training is reflected in the number of

companies visiting the campus for placement. The companies which have visited the campus, the programmes and the percentage of students who were placed during the previous four years are shown in the following Table:

|            |       | the previous four years are shown in the for                  |                | % of     |
|------------|-------|---|----------------|----------|
| Sl.<br>No. | Year  | Companies visited   | Eligible       | students |
| 110.       |       |   | Programmes     | placed   |
| 1          | 2012- | Thought Works Technologies Ltd                                | B.E./B.Tech.   | 90.16%   |
| 2          | 13    | Arabian Industries LLC (New)                                  | B.E.           |          |
| 3          |       | Ashok Leyland Ltd   | B.E./B.Tech.   |          |
| 4          |       | Lister Technology Ltd   | B.E./B.Tech.   |          |
| 5          |       | Athena Health Technology Ltd                                  | B.E./B.Tech.   |          |
| 6          |       | Zoho Composition I td (Nov.)                                  | B.E./B.Tech. / |          |
|            |       | Zoho Corporation Ltd (New)                                    | M.E./M.Tech.   |          |
| 7          |       | Ascendant Technology  | B.E./B.Tech.   |          |
| 8          |       | Hospira (New)   | B.E./B.Tech.   |          |
| 9          |       | Ericson India Global Service Ltd (New)                        | B.E./B.Tech.   |          |
| 10         |       | Intiv Internat (Dyt) I td (Navy)                              | B.E./B.Tech. / |          |
|            |       | Intix Internet (Pvt) Ltd (New)                                | M.E./M.Tech. / |          |
| 11         |       | Microsoft India, India Development Centre,<br>Hyderabad (New) | B.E./B.Tech.   |          |
| 12         |       | Renault Nissan Tech & Business Centre India                   | B.E./B.Tech. / |          |
|            |       | Pvt. Ltd.   | M.E./M.Tech.   |          |
| 13         |       | Rane Group of Company   | B.E.           |          |
| 14         |       | Exeter group of company                                       | B.E.           |          |
| 15         |       | Larsen & Toubro Ltd, Mumbai.(New)                             | B.E.           |          |
| 16         |       | Sanmar Engineering Technology (ENG.DIV)                       | B.E.           |          |
| 17         |       | Sanmar Engineering Technology                                 | D.F.           |          |
|            |       | (Foundry.DIV)   | B.E.           |          |
| 18         |       | Chemplast Sanmar Ltd (Chemical Div)                           | B.E.           |          |
| 19         |       | Ford Motors India.  | B.E.           |          |
| 20         | 1     | Ford Technology Services India.                               | B.E./B.Tech.   |          |
| 21         |       | Larsen & Toubro Ltd - ECC Division                            | B.E.           |          |
| 22         |       | Global Analytics India (New)                                  | B.E./B.Tech.   |          |
| 23         |       |   | B.E./B.Tech. / |          |
|            |       | Cognizant Technology Solutions Ltd.                           | M.E./M.Tech.   |          |
| 24         | 1     | I. C I. 4   | B.E./B.Tech. / |          |
|            |       | Infosys Ltd   | M.E./M.Tech.   |          |
| 25         |       | LICI Tashnalagy I td  | B.E./B.Tech. / |          |
|            |       | HCL Technology Ltd  | M.E./M.Tech.   |          |
| 26         |       | Intergraph Consulting Ltd (New)                               | B.E./B.Tech.   |          |
| 27         |       | Tata Elxsi Ltd  | B.E./B.Tech.   |          |
| 28         |       | Petrofac Engineering Ltd                                      | B.E./B.Tech.   |          |
| 29         |       | Flextronics   | B.E./B.Tech.   |          |
| 30         |       | MU Sigma  | B.E./B.Tech.   |          |
| 31         | 1     | Madras Cement (New)   | B.E.           |          |
| 32         | 1     | Enii Varay (Navy)   | B.E./B.Tech. / |          |
|            |       | Fuji Xerox (New)  | M.E./M.Tech.   |          |
| 33         |       | Technip India (New)   | B.E./B.Tech.   |          |

| 34 | Enzen Global Solution Ltd (New)                | B.E./B.Tech. |       |
|----|--|--------------|-------|
| 35 | Computer Science Corporation                   | B.E./B.Tech. |       |
| 36 | Siva Group (New)                               | B.E./B.Tech. |       |
| 37 | L&T Valdel Engineering Services Pvt. Ltd.      |              |       |
| 37 | (New)  | B.E./B.Tech. |       |
| 38 | Zifo Technology, Chennai (New)                 | B.E.         |       |
| 39 | Temenos (New)                                  | B.E.         |       |
| 40 | Asahi India Glass Ltd, Gurgaon. (New)          | B.E./B.Tech. |       |
| 41 | Health Mantra India Ltd, Bangalore (BME)       | B.E./B.Tech. |       |
| 42 | NTT DATA GLOBAL DELIVERY                       |              |       |
|    | SERVICES Ltd                                   | B.E./B.Tech. |       |
| 43 | MYBOWERBIRD                                    | B.E./B.Tech. |       |
| 44 | L&T Infotech, Mumbai. (New) (VLSI)             | M.E          |       |
| 45 | Albatross Solutions                            | B.E.         |       |
| 46 | Lucas TVS Ltd. (M.E. PED)                      | M.E          |       |
| 47 | Concentrix                                     | B.E.         |       |
| 48 | Global English                                 | B.E.         |       |
| 49 | Composite Pipe Industries LLC, Oman.(New)      | B.E.         |       |
| 50 | Saint Gobain Glass India                       | B.E./B.Tech. |       |
| 51 | Hyundai Motor India Engineering Pvt. Ltd, R    | D.F.         |       |
|    | & D, Hyderabad.                                | B.E.         |       |
| 52 | PNB Paribas (New)                              | B.E./B.Tech. |       |
| 53 | Black N Green, Chennai. (New)                  | B.E./B.Tech. |       |
| 54 | Nokia India Pvt. Ltd.                          | B.E./B.Tech. |       |
| 55 | Hibrise Technologies Pvt. Ltd (New)            | B.E.         |       |
| 56 | Trimble Spime India Tech. Pvt. Ltd             | B.E./B.Tech. |       |
| 57 | American Megatrends India Pvt. Ltd (AMI INDIA) | B.E./B.Tech. |       |
| 58 | Info Trellis, Chennai.                         | B.E./B.Tech. |       |
| 59 | Visteon  | B.E.         |       |
| 60 | Accenture Technologies                         | B.E./B.Tech. |       |
| 61 | Xitadel  | B.E./B.Tech. |       |
| 62 | Lucid Software Technologies                    | B.E./B.Tech. |       |
| 63 | IBM, Bangalore                                 | B.E./B.Tech. |       |
| 64 | City Union Bank                                | MBA          | 73.4% |
| 65 | L & T Infotech                                 | MBA          |       |
| 66 | Zoho   | MBA          |       |
| 67 | GSK  | MBA          |       |
| 68 | One Globe Systems                              | MBA          |       |
| 69 | Janalakshmi Finance Services                   | MBA          |       |
| 70 | Vista Soft                                     | MBA          |       |
| 71 | ITC  | MBA          |       |
| 72 | Covenant India                                 | MBA          |       |
| 73 | Shriram Capital                                | MBA          |       |
| 74 | HCL Tech                                       | MBA          |       |
| 75 | Sundaram Fasteners                             | MBA          |       |
| 76 | TCS  | MBA          |       |
| 77 | Loyal Textile Mills                            | MBA          |       |

| Smartmegh Solutions  | 78 |               | Smortmanh Calutions                         | MDA          |         |
|--|----|---------------|---|--------------|---------|
| Aspire Systems   |    | -             |   |              |         |
| Sinto Bharath  |    |               |   |              |         |
| Sinto Bharath  |    | 1             |   |              |         |
| Madras Cements   |    |               |   |              |         |
| State  |    |               |   |              |         |
| BNY Mellon   |    |               |   |              |         |
| Axis Bank  |    |               |   |              |         |
| Eurocon Tiles  |    |               |   |              |         |
| Butterfly Appliances   | 86 |               | Axis Bank                                   | MBA          |         |
| TNQ Books & Journals   MBA   | 87 |               | Eurocon Tiles                               | MBA          |         |
| Pring Apps   | 88 |               | Butterfly Appliances                        | MBA          |         |
| 91   | 89 |               | TNQ Books & Journals                        | MBA          |         |
| 91   | 90 |               | Tring Apps                                  | MBA          |         |
| 92   93   Kumaran Systems   MBA   Real Image Media   MBA   Auro Media   MBA   Systech Solutions   MBA   MBA  | 91 |               |   | MBA          | 1       |
| Stumaran Systems   |    | 1             |   |              |         |
| Real Image Media   |    | 1             |   |              | 1       |
| Auro Media   MBA   Systech Solutions   MBA   MBA   99   Acres   MBA   99   Acres   MBA   Enzotech   MBA   B.E./B.Tech.   1   |    | -             |   |              | -       |
| Systech Solutions   MBA   99 Acres   MBA   99 Acres   MBA     1  |    | 1             |   |              | -       |
| 99   |    | 1             |   |              |         |
| Section  |    |               |   |              |         |
| 1  |    |               |   |              | -       |
| The Elitists   |    | 2012          |   |              | 00.010/ |
| Thought Works Technologies Ltd B.E./B.Tech. Mu Sigma B.E./B.Tech. Zoho Corporation Ltd B.E./B.Tech. M.E./M.Tech.  Latent View Analytics B.E./B.Tech. M.E./M.Tech.  Lister Technology Ltd B.E./B.Tech. M.E./M.Tech.  Lister Technology Ltd B.E./B.Tech. TTC Paper Board & Speciality Paper Division Multicoreware, Chennai B.E./B.Tech. M.E./M.Tech.  Dell India R&D B.E. Ascendant Technology B.E./B.Tech. Loyal Textiles B.E. Danfoss India. B.E./M.E  Info Trellis India B.E./B.Tech. Indian Navy B.E./B.Tech. Wipro Technology B.E./B.Tech. Cognizant Technology B.E./B.Tech. Trimble Information Technologies India Pvt. Ltd L&T ECC B.E. Infosys Technology B.E./B.Tech. M.E./M.Tech. B.E./B.Tech. B.E./B.Tech. B.E./B.Tech. M.E./M.Tech. B.E./B.Tech. B.E./B.Tech. B.E./B.Tech. M.E./M.Tech. B.E./B.Tech. M.E./M.Tech. B.E./B.Tech. M.E./M.Tech.   |    |               |   |              | 90.01%  |
| Mu Sigma   B.E./B.Tech.  |    | 14            |   |              |         |
| Sample   |    | -             |   |              | -       |
| Zoho Corporation Ltd  M.E./M.Tech.  B.E./B.Tech. / M.E./M.Tech.  Itister Technology Ltd  B.E./B.Tech.  ITC Paper Board & Speciality Paper Division  B.E./B.Tech.  Multicoreware, Chennai  Dell India R&D  Ascendant Technology  B.E./B.Tech.  Loyal Textiles  Danfoss India.  B.E. / M.E  Info Trellis India  B.E./B.Tech.  Indian Navy  B.E./B.Tech.  Wipro Technology  B.E./B.Tech.  Cognizant Technology  B.E./B.Tech.  Trimble Information Technologies India Pvt.  Ltd  L&T ECC  Infosys Technology  B.E./B.Tech. / M.E./M.Tech.  B.E./B.Tech.  |    | -             | Mu Sigma                                    |              |         |
| Latent View Analytics   B.E./B.Tech.   | 5  |               | Zoho Corporation Ltd                        |              |         |
| Latent View Analytics  M.E./M.Tech.  Lister Technology Ltd  B.E./B.Tech.  ITC Paper Board & Speciality Paper Division  B.E./B.Tech.  Multicoreware, Chennai  Dell India R&D  B.E./B.Tech.  Ascendant Technology  B.E./B.Tech.  Loyal Textiles  Danfoss India.  B.E./M.E  Info Trellis India  B.E./B.Tech.  Indian Navy  B.E./B.Tech.  Indian Navy  B.E./B.Tech.  Cognizant Technology  B.E./B.Tech.  Trimble Information Technologies India Pvt. Ltd  L&T ECC  Infosys Technology  B.E./B.Tech. / M.E./M.Tech.  B.E./B.Tech. / B.E./B.Tech.  B.E./B.Tech.  B.E./B.Tech.  B.E./B.Tech.  B.E./B.Tech.  B.E./B.Tech.  B.E./B.Tech.  B.E./B.Tech.  B.E./B.Tech.  |    |               | 1   |              |         |
| Comparison of the Information Technology Infosys India Pvt. Infosys Technology Infosys India Infosys Infosys India In | 6  |               | Latent View Analytics                       |              |         |
| B  |    |               | •   |              |         |
| Multicoreware, Chennai   B.E./B.Tech. / M.E./M.Tech.   |    |               |   |              |         |
| Multicoreware, Chennai  M.E./M.Tech.  Dell India R&D B.E.  Ascendant Technology B.E./B.Tech.  Loyal Textiles B.E.  Danfoss India. B.E./M.E  Info Trellis India B.E./B.Tech.  Indian Navy B.E./B.Tech.  Wipro Technology B.E./B.Tech.  Cognizant Technology B.E./B.Tech.  Trimble Information Technologies India Pvt. Ltd B.E./B.Tech.  |    |               | ITC Paper Board & Speciality Paper Division |              |         |
| Dell India R&D   B.E.  | 9  |               | Multicoreware Chennai                       |              |         |
| Ascendant Technology   B.E./B.Tech.  |    |               | ·   | M.E./M.Tech. |         |
| Loyal Textiles   | 10 |               | Dell India R&D                              | B.E.         |         |
| Danfoss India.   B.E. / M.E  | 11 |               | Ascendant Technology                        | B.E./B.Tech. |         |
| Info Trellis India   B.E./B.Tech.  | 12 |               | Loyal Textiles                              | B.E.         |         |
| Indian Navy   B.E./B.Tech.   | 13 |               | Danfoss India.                              | B.E. / M.E   |         |
| Wipro Technology   B.E./B.Tech.  | 14 |               | Info Trellis India                          | B.E./B.Tech. |         |
| Wipro Technology   B.E./B.Tech.  | 15 |               | Indian Navy                                 | B.E./B.Tech. |         |
| Cognizant Technology  B.E./B.Tech. / M.E./M.Tech.  Trimble Information Technologies India Pvt. Ltd  B.E./B.Tech.  B.E./B.Tech.  B.E./B.Tech.  B.E./B.Tech.  B.E./B.Tech.  B.E./B.Tech.  M.E./M.Tech.   |    |               |   |              |         |
| Cognizant Technology  M.E./M.Tech.  Trimble Information Technologies India Pvt. Ltd  B.E./B.Tech.  L&T ECC B.E.  Infosys Technology  B.E./B.Tech. / M.E./M.Tech.   |    | 1             |   |              | 1       |
| Trimble Information Technologies India Pvt. Ltd  B.E./B.Tech.  L&T ECC B.E.  Infosys Technology  B.E./B.Tech. / M.E./M.Tech.   | 1  |               | Cognizant Technology                        |              |         |
| Infosys Technology  B.E./B.Tech. / M.E./M.Tech.  | 18 |               |   |              |         |
| Infosys Technology  B.E./B.Tech. / M.E./M.Tech.  | 19 | 1             | L&T ECC                                     | B.E.         | ]       |
| Infosys Technology M.E./M.Tech.  |    | 1             |   |              | 1       |
|  |    |               | Infosys Technology                          |              |         |
|  | +  | <del>-1</del> |   |              | 1       |

| 22 | Mismoshin Chamai                         | D.E.           |  |
|----|--|----------------|--|
| 22 | Microchip, Chennai.                      | B.E.           |  |
| 23 | Unisys India Pvt. Ltd.                   | B.E.           |  |
| 24 | Sanmar Engineering Technology (Eng. Div) | B.E.           |  |
| 25 | Sanmar Engineering Technology (Foundry.  | B.E.           |  |
|    | Div)                                     |                |  |
| 26 | Chemplast Sanmar Ltd (Chemical Div)      | B.E.           |  |
| 27 | Ford Motors India                        | B.E.           |  |
| 28 | Ford Business Services Centre Pvt. Ltd.  | B.E.           |  |
| 29 | Ford Technologies Services India (FTSI)  | B.E./B.Tech.   |  |
| 30 | Zifo Technology                          | B.E.           |  |
| 31 | Indix India Ltd, Chennai.                | B.E./B.Tech. / |  |
|    | maix maia Eta, Chemiai.                  | M.E./M.Tech.   |  |
| 32 | Fuji Xerox, Japan                        | B.E./B.Tech. / |  |
|    | Tuji Aciox, Japan                        | M.E./M.Tech.   |  |
| 33 | Hibrise Technology                       | B.E.           |  |
| 34 | Polaris Financial Technology Ltd         | B.E./B.Tech.   |  |
| 35 | Verizon Data Service India Pvt. Ltd.     | B.E./B.Tech. / |  |
|    | Verizon Data Service India Pvt. Ltd.     | M.E./M.Tech.   |  |
| 36 | Mobius Knowledge Services                | B.E./B.Tech.   |  |
| 37 | Datacert                                 | B.E./B.Tech.   |  |
| 38 | Sundaram Clayton                         | B.E.           |  |
| 39 | Prodapt Solutions                        | B.E./B.Tech.   |  |
| 40 | India Property Online Pvt. Ltd.          | B.E./B.Tech.   |  |
| 41 | Zoho Corporation - Developing & Content  | B.E./B.Tech. / |  |
|    | Writer Division                          | M.E./M.Tech.   |  |
| 42 | Precision Equipment Pvt. Ltd, Chennai.   | B.E./B.Tech.   |  |
| 43 | Flextronics India Ltd                    | B.E./B.Tech.   |  |
| 44 | Sonata Software India Ltd                | B.E./B.Tech.   |  |
| 45 | Godrej And Boyce Mfg. Co. Ltd.           | B.E.           |  |
| 46 | Visteon Technical & Services Centre      | B.E.           |  |
| 47 | viscon recinical & services centre       | B.E./B.Tech. / |  |
| 47 | BNP Paribas India Solutions              | M.E./M.Tech.   |  |
| 48 |  | B.E./B.Tech. / |  |
| 40 | Intergraphs Solution Ltd                 | M.E./M.Tech.   |  |
| 49 |  | B.E./B.Tech. / |  |
| 49 | IBM, Bangalore.                          | M.E./M.Tech.   |  |
| 50 | Alcatel Lucent                           |                |  |
| 50 |  | B.E./B.Tech.   |  |
| 51 | Saint-Gobain Glass India                 | B.E./B.Tech.   |  |
| 52 | Asahi Glass India.                       | B.E./B.Tech.   |  |
| 53 | Ba Continuum India Pvt. Ltd.             | B.E./B.Tech.   |  |
| 54 | Technip India Pvt. Ltd.                  | B.E.           |  |
| 55 | Computer Science Corporation             | B.E./B.Tech.   |  |
| 56 | Athena Health Technologies, Chennai.     | B.E./B.Tech.   |  |
| 57 | Kone Elevator India Pvt. Ltd.            | B.E./B.Tech.   |  |
| 58 | Citrisys Solutions                       | B.E./B.Tech.   |  |
| 59 | Tata Consultancy Services                | B.E./B.Tech.   |  |
| 60 | L & T Infotech                           | B.E./B.Tech. / |  |
|    | D & T Information                        | M.E./M.Tech.   |  |

| 62         Shasun Pharmaceuticals Ltd         B.E./B.Tech.           64         Coding Mart Technologies, Chennai.         B.E./B.Tech.           65         Saipem India.         B.E./B.Tech.           66         Cofrugal Technologies Pvt. Ltd.         B.E./B.Tech.           67         Igate Global Solutions Ltd, Bangalore.         B.E.           68         Health Mantra, Bangalore.         B.E.           69         Practo Technologies Pvt. Ltd.         B.E.           70         Excelacom Technologies         B.E./B.Tech.           71         Saint-Gobain (Adhesive Division)         B.E.           72         Tata Communications         B.E.           73         L&T - Powai, Mumbai.         B.E./B.Tech.           74         Nokia Software Solutions         B.E./B.Tech.           75         Sinto Bharat, Chennai.         B.E.           76         Tata Elxis Ltd         B.E./B.Tech.           77         Indiapiston, Chengalpat.         B.E.           80         Vydn Technologies, Chennai.         B.E.           81         Bary Appal         B.E./B.Tech.           80         Vydn Technologies, Chennai.         B.E.           81         B.E./B.Tech.           82         Sam                                   | 61  | Rane Group Of Companies, Chennai.     | B.E. |       |
|---|-----|---------------------------------------|------|-------|
| 63         Coding Mart Technologies, Chennai.         B.E./B.Tech.           64         Saipem India.         B.E./B.Tech.           65         Samsung Research India. Bangalore.         B.E./B.Tech.           66         Cofrugal Technologies Pvt. Ltd.         B.E./B.Tech.           67         Igate Global Solutions Ltd, Bangalore.         B.E.           68         Health Mantra, Bangalore.         B.E.           69         Practo Technologies Pvt. Ltd.         B.E.           70         Excelacom Technologies         B.E./B.Tech.           71         Saint-Gobain (Adhesive Division)         B.E.           72         Tata Communications         B.E.           73         L&T - Powai, Mumbai.         B.E./B.Tech.           74         Nokia Software Solutions         B.E./B.Tech.           75         Sinto Bharat, Chennai.         B.E.           76         Tata Elxsi Ltd         B.E./B.Tech.           77         Indiapiston, Chengalpat.         B.E.           78         Archean Groups         B.E.           80         Vvdn Technologies, Chennai.         B.E.           81         Parry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E         |     |                                       |      | -     |
| 64         Saipem India.         B.E./B.Tech.           65         Samsung Research India. Bangalore.         B.E./B.Tech.           66         Cofrugal Technologies Pvt. Ltd.         B.E./B.Tech.           67         Igate Global Solutions Ltd, Bangalore.         B.E.           68         Health Mantra, Bangalore.         B.E.           69         Practo Technologies Pvt. Ltd.         B.E.           70         Excelacom Technologies         B.E./B.Tech.           71         Saint-Gobain (Adhesive Division)         B.E.           72         Tata Communications         B.E.           73         L&T. Powai, Mumbai.         B.E./B.Tech.           74         Nokia Software Solutions         B.E./B.Tech.           75         Sinto Bharat, Chennai.         B.E.           76         Tata Elxis Ltd         B.E./B.Tech.           79         Ebay Paypal         B.E./B.Tech.           80         Vvdn Technologies, Chennai.         B.E.           81         Parry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E./B.Tech.           83         Indus Ind Bank         MBA           84         Indus Indus Industries (Murugappa Group)         B.E.         |     |                                       |      | -     |
| 65         Samsung Research India. Bangalore.         B.E./B.Tech.           66         Cofrogal Technologies Pvt. Ltd.         B.E./B.Tech.           67         Igate Global Solutions Ltd, Bangalore.         B.E.           68         Health Mantra, Bangalore.         B.E.           69         Practo Technologies Pvt. Ltd.         B.E.           70         Excelacom Technologies B.E./B.Tech.           71         Saint-Gobain (Addesive Division)         B.E.           72         Tata Communications         B.E.           73         B.E./B.Tech.           74         Nokia Software Solutions         B.E./B.Tech.           75         Sinto Bharat, Chennai.         B.E.           76         Tata Elxsi Ltd         B.E./B.Tech.           77         Indiapiston, Chengalpat.         B.E.           78         Archean Groups         B.E.           80         Vvdn Technologies, Chennai.         B.E.           81         Parry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E./B.Tech.           83         HCL Infosystems         MBA           84         Indus Ind Bank         MBA           85         MBA         MBA<                                   |     | <u> </u>                              |      |       |
| 66         Cofrugal Technologies Pvt. Ltd.         B.E. B.E.           67         Igate Global Solutions Ltd, Bangalore.         B.E.           68         Health Mantra, Bangalore.         B.E.           69         Practo Technologies Pvt. Ltd.         B.E.           70         Excelacom Technologies         B.E./B.Tech.           71         Saint-Gobain (Adhesive Division)         B.E.           72         Tata Communications         B.E.           73         L&T - Powai, Mumbai.         B.E./B.Tech.           74         Nokia Software Solutions         B.E./B.Tech.           75         Sinto Bharat, Chennai.         B.E.           76         Tata Elxsi Ltd         B.E./B.Tech.           77         Indiapiston, Chengalpat.         B.E.           79         Ebay Paypal         B.E.B.Tech.           80         Vvdn Technologies, Chennai.         B.E.           81         Parry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E./B.Tech.           83         HCL Infosystems         MBA           84         Industries (Murugappa Group)         B.E.           83         MBA         MBA           84   |     | 1                                     |      | 1     |
| 67         Igate Global Solutions Ltd, Bangalore.         B.E.           68         Health Mantra, Bangalore.         B.E.           69         Practo Technologies Pvt. Ltd.         B.E.           70         Excelacom Technologies         B.E./B.Tech.           71         Saint-Gobain (Adhesive Division)         B.E.           72         Tata Communications         B.E./B.Tech.           73         L&T-Powai, Mumbai.         B.E./B.Tech.           74         Nokia Software Solutions         B.E./B.Tech.           75         Sinto Bharat, Chennai.         B.E.           76         Tata Elxsi Ltd         B.E./B.Tech.           78         Indiapiston, Chengalpat.         B.E.           79         Ebay Paypal         B.E./B.Tech.           80         Vvdn Technologies, Chennai.         B.E.           81         Parry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E./B.Tech.           83         HCL Infosystems         MBA           84         Industries (Murugappa Group)         B.E.           83         HCL Technologies         MBA           84         Industries (Manata Manata |     |                                       |      | 1     |
| 68         Health Mantra, Bangalore.         B.E.           69         Practo Technologies Pvt. Ltd.         B.E.           70         Excelacom Technologies         B.E.B.Tech.           71         Saint-Gobain (Adhesive Division)         B.E.           72         Tata Communications         B.E.           74         Nokia Software Solutions         B.E.B.Tech.           74         Nokia Software Solutions         B.E.B.Tech.           75         Sinto Bharat, Chennai.         B.E.           76         Tata Elxsi Ltd         B.E.B.Tech.           77         Indiapiston, Chengalpat.         B.E.           79         B.E. B.E.         B.E.B.Tech.           80         Vvdn Technologies, Chennai.         B.E.B.Tech.           81         Parry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E.B.Tech.           83         HCL Infosystems         MBA           84         Indus Ind Bank         MBA           85         ING Vysya Bank         MBA           86         HCL Technologies         MBA           87         CTS         MBA           88         Naukri.com         MBA   |     |                                       |      |       |
| 69         Practo Technologies Pvt. Ltd.         B.E.           70         Excelacom Technologies         B.E./B.Tech.           71         Saint-Gobain (Adhesive Division)         B.E.           72         Tata Communications         B.E./B.Tech.           73         L&T - Powai, Mumbai.         B.E./B.Tech.           74         Nokia Software Solutions         B.E./B.Tech.           75         Sinto Bharat, Chennai.         B.E.           76         Tata Elxsi Ltd         B.E./B.Tech.           77         Indiapiston, Chengalpat.         B.E.           79         Ebay Paypal         B.E./B.Tech.           80         Vvdn Technologies, Chennai.         B.E.           81         Parry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E./B.Tech.           84         Indus Ind Bank         MBA           84         Indus Ind Bank         MBA           85         MBA         MBA           86         HCL Infosystems         MBA           87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA   |     |                                       |      |       |
| To  |     |                                       |      |       |
| 71         Saint-Gobain (Adhesive Division)         B.E.           72         Tata Communications         B.E.           73         L&T - Powai, Mumbai.         B.E.B.Tech.           74         Nokia Software Solutions         B.E.B.Tech.           75         Sinto Bharat, Chennai.         B.E.           76         Tata Elxsi Ltd         B.E.B.Tech.           77         Indiapiston, Chengalpat.         B.E.           78         Archean Groups         B.E.           80         B.E.M.Tech.           80         Vvdn Technologies, Chennai.         B.E.           81         Parry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E.B.Tech.           83         HCL Infosystems         MBA           84         Indus Ind Bank         MBA           85         Indus Ind Bank         MBA           86         HCL Technologies         MBA           87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA </td <td></td> <td>ĕ</td> <td></td> <td></td>  |     | ĕ                                     |      |       |
| 72         Tata Communications         B.E.           73         L&T - Powai, Mumbai.         B.E./B.Tech.           74         Nokia Software Solutions         B.E./B.Tech.           75         Sinto Bharat, Chennai.         B.E.           76         Tata Elxsi Ltd         B.E./B.Tech.           77         Indiapiston, Chengalpat.         B.E.           79         Ebay Paypal         B.E./B.Tech.           80         Vvdn Technologies, Chennai.         B.E.           81         B.E./B.Tech.           80         Vvdn Technologies, Chennai.         B.E.           81         B.E./B.Tech.           80         Vvdn Technologies, Chennai.         B.E./B.Tech.           81         B.E./B.Tech.           82         Samsung Electronics India Pvt. Ltd.         B.E./B.Tech.           83         HCL Infosystems         MBA           84         Indus Ind Bank         MBA           85         Indus Ind Bank         MBA           86         HCL Technologies         MBA           87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90<  |     | č                                     |      |       |
| 73         L&T - Powai, Mumbai.         B.E./B.Tech.           74         Nokia Software Solutions         B.E./B.Tech.           75         Sinto Bharat, Chennai.         B.E.           76         Tata Elxsi Ltd         B.E./B.Tech.           177         Indiapiston, Chengalpat.         B.E.           78         Archean Groups         B.E.           79         Bbay Paypal         B.E./B.Tech.           80         Vvdn Technologies, Chennai.         B.E.           81         Parry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E./B.Tech.           83         HCL Infosystems         MBA           84         Indus Ind Bank         MBA           85         ING Vysya Bank         MBA           86         HCL Technologies         MBA           87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           95         RBS         MBA  |     |                                       |      | -     |
| 74         Nokia Software Solutions         B.E./B.Tech.           75         Sinto Bharat, Chennai.         B.E           76         Tata Elxsi Ltd         B.E./B.Tech.           77         Indiapiston, Chengalpat.         B.E.           78         Archean Groups         B.E.           80         B.E./B.Tech.           80         Vvdn Technologies, Chennai.         B.E.           81         Parry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E./B.Tech.           83         HCL Infosystems         MBA           84         Indus Ind Bank         MBA           85         Indus Ind Bank         MBA           86         HCL Technologies         MBA           87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS   |     |                                       |      |       |
| 75         Sinto Bharat, Chennai.         B.E.           76         Tata Elxsi Ltd         B.E./B.Tech.           77         Indiapiston, Chengalpat.         B.E.           78         Archean Groups         B.E.           80         B.E./B.Tech.           81         Bebay Paypal         B.E./B.Tech.           81         Parry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E./B.Tech.           84         HCL Infosystems         MBA           84         Indus Ind Bank         MBA           85         Indus Ind Bank         MBA           86         HCL Technologies         MBA           87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA  |     |                                       |      |       |
| 76         Tata Elxsi Ltd         B.E./B.Tech.           77         Indiapiston, Chengalpat.         B.E.           78         Archean Groups         B.E.           80         Ebay Paypal         B.E./B.Tech.           80         Vvdn Technologies, Chennai.         B.E.           81         Barry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E./B.Tech.           83         HCL Infosystems         MBA           84         Indus Ind Bank         MBA           85         ING Vysya Bank         MBA           86         HCL Technologies         MBA           87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View  |     |                                       |      |       |
| 77         Indiapiston, Chengalpat.         B.E.           78         Archean Groups         B.E.           79         Ebay Paypal         B.E./B.Tech.           80         Vvdn Technologies, Chennai.         B.E.           81         Parry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E./B.Tech.           83         HCL Infosystems         MBA           84         Indus Ind Bank         MBA           85         ING Vysya Bank         MBA           86         HCL Technologies         MBA           87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           106         Citi Bank         MBA           107         MBA         MBA           108         MBA         MBA   |     | · · · · · · · · · · · · · · · · · · · |      |       |
| 78         Archean Groups         B.E.           79         Ebay Paypal         B.E./B.Tech.           80         Vvdn Technologies, Chennai.         B.E.           81         Parry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E./B.Tech.           83         HCL Infosystems         MBA           84         Indus Ind Bank         MBA           85         ING Vysya Bank         MBA           86         HCL Technologies         MBA           87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MB   |     |                                       |      |       |
| Rectangle   |     |                                       |      |       |
| 80         Vvdn Technologies, Chennai.         B.E.           81         Parry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E./B.Tech.           83         HCL Infosystems         MBA           84         Indus Ind Bank         MBA           85         ING Vysya Bank         MBA           86         HCL Technologies         MBA           87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA   |     |                                       |      |       |
| 81         Parry Agro Industries (Murugappa Group)         B.E.           82         Samsung Electronics India Pvt. Ltd.         B.E./B.Tech.           83         HCL Infosystems         MBA           84         Indus Ind Bank         MBA           85         ING Vysya Bank         MBA           86         HCL Technologies         MBA           87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA  |     |                                       |      |       |
| 82         Samsung Electronics India Pvt. Ltd.         B.E./B.Tech.           83         HCL Infosystems         MBA           84         Indus Ind Bank         MBA           85         ING Vysya Bank         MBA           86         HCL Technologies         MBA           87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105   |     |                                       |      |       |
| 83         HCL Infosystems         MBA         66.6%           84         Indus Ind Bank         MBA         MBA           85         ING Vysya Bank         MBA         MBA           86         HCL Technologies         MBA         MBA           87         CTS         MBA         MBA           88         Naukri.com         MBA         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105 </td <td></td> <td></td> <td></td> <td></td>  |     |                                       |      |       |
| 84         Indus Ind Bank         MBA           85         ING Vysya Bank         MBA           86         HCL Technologies         MBA           87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA   |     |                                       |      |       |
| 85         ING Vysya Bank         MBA           86         HCL Technologies         MBA           87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA   | 83  | •                                     | MBA  | 66.6% |
| 86         HCL Technologies         MBA           87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA   |     |                                       |      |       |
| 87         CTS         MBA           88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA   | 85  | ING Vysya Bank                        | MBA  |       |
| 88         Naukri.com         MBA           89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA  | 86  |                                       | MBA  |       |
| 89         Janalakshmi Finance Services         MBA           90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA  | 87  | CTS                                   | MBA  |       |
| 90         TCS         MBA           91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA  | 88  |                                       | MBA  |       |
| 91         GRE Edge         MBA           92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA   | 89  | Janalakshmi Finance Services          | MBA  |       |
| 92         Videocon         MBA           93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA   | 90  | TCS                                   | MBA  |       |
| 93         99 acres.com         MBA           94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA   | 91  | GRE Edge                              | MBA  |       |
| 94         GATI India         MBA           95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA   | 92  | Videocon                              | MBA  |       |
| 95         RBS         MBA           96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         ITC Hotels         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA  | 93  | 99 acres.com                          | MBA  |       |
| 96         Citi Bank         MBA           97         Latent View         MBA           98         TTK Prestige         MBA           100         ITC Hotels         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA   | 94  | GATI India                            | MBA  |       |
| 97Latent ViewMBA98TTK PrestigeMBA99ITC HotelsMBA100Smartmegh ConsultantsMBA101Karya TechnologiesMBA102JustdialMBA103ICICI SecuritiesMBA104VodafoneMBA105Axis BankMBA106Echo VMEMBA107KVN PromoMBA   | 95  | RBS                                   | MBA  |       |
| 98         TTK Prestige         MBA           99         ITC Hotels         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA  | 96  | Citi Bank                             | MBA  |       |
| 99         ITC Hotels         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA  | 97  | Latent View                           | MBA  |       |
| 99         ITC Hotels         MBA           100         Smartmegh Consultants         MBA           101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA  | 98  | TTK Prestige                          | MBA  | ]     |
| 101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA  | 99  |                                       | MBA  | 1     |
| 101         Karya Technologies         MBA           102         Justdial         MBA           103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA  | 100 | Smartmegh Consultants                 | MBA  | ]     |
| 103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA  | 101 | Karya Technologies                    | MBA  | ]     |
| 103         ICICI Securities         MBA           104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA  | 102 | Justdial                              | MBA  | ]     |
| 104         Vodafone         MBA           105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA   |     |                                       |      | ]     |
| 105         Axis Bank         MBA           106         Echo VME         MBA           107         KVN Promo         MBA  |     |                                       |      | 1     |
| 106Echo VMEMBA107KVN PromoMBA   |     |                                       |      | 1     |
| 107 KVN Promo MBA   |     |                                       |      | 1     |
|   |     |                                       |      | 1     |
| 108 Aspire Systems MBA  |     |                                       |      | 1     |

| 109 |       | Akzo Nobel                                 | MBA            |         |
|-----|-------|--|----------------|---------|
| 110 |       | Shiksha.com                                | MBA            |         |
| 1   | 2014- | Amazon.com                                 | B.E./B.Tech.   | 91.35%  |
| 2   | 15    |  | B.E./B.Tech. / | 71.5570 |
|     | 10    | Zoho Corporation                           | M.E./M.Tech.   |         |
| 3   |       | Mu Sigma                                   | B.E./B.Tech.   |         |
| 4   |       | With Digina                                | B.E./B.Tech. / |         |
| -   |       | Vembu Technology                           | M.E./M.Tech.   |         |
| 5   |       | Ascendant Technology                       | B.E./B.Tech.   |         |
| 6   |       | L&T ECC Division                           | B.E.           |         |
| 7   |       | Success Factors                            | B.E./B.Tech.   | -       |
| 8   |       | Success Factors                            | B.E./B.Tech. / |         |
| 0   |       | Latent View Analytical                     | M.E./M.Tech.   |         |
| 9   |       | Lister Technology                          | B.E./B.Tech.   |         |
| 10  |       | Fidelity India, Bangalore                  | B.E./B.Tech.   |         |
|     |       | Fidenty india, bangaiore                   |                |         |
| 11  |       | Vulcan Technology, Chennai                 | B.E./B.Tech. / |         |
| 10  |       | TTC Device Deviction                       | M.E./M.Tech.   |         |
| 12  |       | ITC Paper Board Division                   | B.E./B.Tech.   |         |
| 13  |       | Polaris FT                                 | B.E./B.Tech.   |         |
| 14  |       | Thoughtwokrks Technology                   | B.E./B.Tech. / |         |
| 1.5 |       | 2,   | M.E./M.Tech.   |         |
| 15  |       | Accenture Technology                       | B.E./B.Tech. / |         |
|     |       | 23   | M.E./M.Tech.   |         |
| 16  |       | Cognizant Technology                       | B.E./B.Tech. / |         |
| 1.  |       | 2  | M.E./M.Tech.   |         |
| 17  |       | Infosys Technology                         | B.E./B.Tech. / |         |
| 10  |       |  | M.E./M.Tech.   |         |
| 18  |       | Wipro Technology                           | B.E./B.Tech.   |         |
| 19  |       | Bosch Ltd                                  | B.E./B.Tech.   |         |
| 20  |       | Multicoreware Technology                   | B.E./B.Tech. / |         |
|     |       |  | M.E./M.Tech.   |         |
| 21  |       | Temenos                                    | B.E./B.Tech.   |         |
| 22  |       | Aspire Systems                             | B.E./B.Tech.   |         |
| 23  |       | Infotrellis                                | B.E./B.Tech.   |         |
| 24  |       | TATA Communications                        | B.E./B.Tech.   |         |
| 25  |       | L&T Infotech Ltd                           | B.E./B.Tech. / |         |
|     |       |  | M.E./M.Tech.   | ]       |
| 26  |       | Tech Mahendra Ltd                          | B.E./B.Tech.   | ]       |
| 27  |       | Verizon                                    | B.E./B.Tech. / |         |
|     |       | VEHZOH                                     | M.E./M.Tech.   |         |
| 28  |       | Prodapt Solutions Ltd                      | B.E./B.Tech.   |         |
| 29  |       | Excellacom                                 | B.E./B.Tech.   |         |
| 30  |       | Daimler India Commercial Vehciles Pvt. Ltd | B.E.           |         |
| 31  |       | Thorogood, Banglore.                       | B.E./B.Tech.   |         |
| 32  |       |  | B.E./B.Tech. / |         |
|     |       | Fuji Xerox, Japan.                         | M.E./M.Tech.   |         |
| 33  |       | HP R&D, Banglore.                          | B.E./B.Tech.   |         |
| 34  |       | Danfoss India                              | B.E./B.Tech.   | ]       |

| 25 | D   | DE /DT 1       |  |
|----|---|----------------|--|
| 35 | Datacert India, Chennai.                      | B.E./B.Tech.   |  |
| 36 | Intergraph, Hyderabad.                        | B.E./B.Tech.   |  |
| 37 | Sundaram Fasteners                            | B.E.           |  |
| 38 | Sanmar Engineering Division                   | B.E.           |  |
| 39 | Sanmar Chemplast                              | B.E.           |  |
| 40 | Wipro Global Infrastructure Services          | B.E.           |  |
| 41 | Saint-Gobain India, Chennai.                  | B.E.           |  |
| 42 | BA Continuum India                            | B.E./B.Tech.   |  |
| 43 | Ford Technologies Service India.              | B.E./B.Tech.   |  |
| 44 | Ford Motors                                   | B.E.           |  |
| 45 | Caterpillar India Pvt. Ltd.                   | B.E./B.Tech.   |  |
| 46 | Computer Science Corporation Ltd              | B.E./B.Tech.   |  |
| 47 | Mobius Knowledge Services                     | B.E./B.Tech.   |  |
| 48 | Evive Software Pvt. Ltd.                      | B.E./B.Tech.   |  |
| 49 | HCL Technologies Ltd.                         | B.E./B.Tech.   |  |
| 50 | Petrofac Engineering Services India Pvt. Ltd. | B.E.           |  |
| 51 |   | B.E./B.Tech. / |  |
| 31 | Astra Zeneca                                  | M.E./M.Tech.   |  |
| 52 | Ashok Leyland Ltd.                            | B.E.           |  |
| 53 | Microchip India                               | B.E./B.Tech.   |  |
| 54 | Wheroemp mara                                 | B.E./B.Tech. / |  |
| 34 | TATA Elxsi                                    |                |  |
|    | Clabal Analadia                               | M.E./M.Tech.   |  |
| 55 | Global Analytics                              | B.E./B.Tech.   |  |
| 56 | NMSworks Software Pvt. Ltd.                   | B.E./B.Tech.   |  |
| 57 | GlobalSoft Solutions                          | B.E./B.Tech.   |  |
| 58 | ideas2it Technologies Pvt. Ltd.               | B.E./B.Tech.   |  |
| 59 | Technip                                       | B.E./B.Tech.   |  |
| 60 | Flextronics                                   | B.E./B.Tech.   |  |
| 61 | Lucid software India, Chennai.                | B.E./B.Tech.   |  |
| 62 | CaratLane, Chennai.                           | B.E./B.Tech. / |  |
|    | Carathane, Chemiai.                           | M.E./M.Tech.   |  |
| 63 | Rane Groups, Chennai.                         | B.E.           |  |
| 64 | Shriram Transport & Finance Ltd.              | B.E.           |  |
| 65 | Karya Technology India Pvt. Ltd.              | B.E./B.Tech.   |  |
| 66 |   | B.E./B.Tech. / |  |
|    | Oracle India Pvt. Ltd, Hyderabad.             | M.E./M.Tech.   |  |
| 67 | Visa Inc, Bangalore.                          | B.E./B.Tech.   |  |
| 68 | Flipkart Internet Pvt. Ltd.                   | B.E./B.Tech.   |  |
| 69 | Plintron India, Chennai.                      | B.E./B.Tech.   |  |
| 70 | Bonfigiloli Transmissions Pvt. Ltd.           | B.E./B.Tech.   |  |
| 71 | Manali Petro Chemicals Ltd.                   | B.E./B.Tech.   |  |
| 72 | Fesh Desk                                     | B.E./B.Tech.   |  |
| 73 |   | B.E./B.Tech. / |  |
| 13 | Enmas GB Power Systems Project Ltd.           | M.E./M.Tech.   |  |
| 74 | Symantas Coffinger and Carriage India Dut     |                |  |
| /4 | Symantec Software and Services India Pvt.     | B.E./B.Tech.   |  |
| 75 | Ltd,  | DE/DTack /     |  |
| 75 | Turbo Energy Ltd.                             | B.E./B.Tech. / |  |
|    |   | M.E./M.Tech.   |  |

| 76  |             | Sellerworx                                | B.E./B.Tech.    |         |
|-----|-------------|---|-----------------|---------|
| 77  |             | SAP Labs India Ltd, Bangalore.            | B.E./B.Tech.    |         |
| 78  |             | Cloudcherry Analytics Pvt. Ltd, Chennai.  | B.E.            |         |
| 81  |             |   | B.E./B.Tech. /  |         |
|     |             | Hyundai Motor India Ltd.                  | M.E./M.Tech.    |         |
| 82  |             | TransSys Solutions Pvt. Ltd.              | B.E.            |         |
| 83  |             | Sunoida Solutions Pvt. Ltd.               | B.E./B.Tech.    |         |
| 84  |             | HCL Technologies                          | MBA             | 80%     |
| 85  |             | Smartmegh Consultants                     | MBA             | 0070    |
| 86  |             | Axis Bank                                 | MBA             |         |
| 87  |             | BNP Paribas                               | MBA             |         |
| 88  |             | HCL Infosystems                           | MBA             |         |
| 89  |             | CTS                                       | MBA             |         |
| 90  |             | Aditya Birla Insurance                    | MBA             |         |
| 91  |             | Kotak Mahindra Bank                       | MBA             |         |
| 92  |             | Sensiple Software                         | MBA             |         |
| 93  |             | GRE Edge                                  | MBA             |         |
| 94  |             | TCS                                       | MBA             |         |
| 95  |             | ICICI Securities                          | MBA             |         |
| 96  |             | ITC                                       | MBA             |         |
| 97  |             | Cerebrus Consultants                      | MBA             |         |
| 98  |             | Hexaware Technologies                     | MBA             |         |
| 99  |             | ING Vysya                                 | MBA             |         |
| 100 |             | HDFC Mutual Fund                          | MBA             |         |
| 101 |             | Titan                                     | MBA             |         |
| 102 |             | AMUL India                                | MBA             |         |
| 103 |             | Magicbricks.com                           | MBA             |         |
| 103 |             | Hitachi                                   | MBA             |         |
| 105 |             | Turbo Energy                              | MBA             |         |
| 106 |             | Bhartiya Fashions                         | MBA             |         |
| 107 |             | Dell India                                | MBA             |         |
| 108 |             | Janalakshmi Financial Services            | MBA             |         |
| 109 |             | IndusInd Bank                             | MBA             |         |
| 110 |             | Credit Mantri                             | MBA             |         |
| 111 |             | Idea Cellular                             | MBA             |         |
| 111 |             | Preethi Kitchen Appliances                | MBA             |         |
| 113 |             | Audi Cars                                 | MBA             |         |
| 113 |             | SRF Ltd.                                  | MBA             |         |
| 115 |             | Vodafone                                  | MBA             |         |
| 116 |             | Reliance Communication                    | MBA             |         |
| 1   | 2015-       | Johnson Controls India Pvt. Ltd. Chennai. | B.E / B.Tech.   | 87.08%  |
| 2   | 2015-<br>16 | Zifo Technology, Chennai.                 | B.E / B.Tech.   | 07.00/0 |
| 3   | 10          | Mu Sigma Business Solutions Pvt. Ltd.     | B.E / B.Tech.   |         |
| 3   |             | The Signia Dusiness Bolutions I vt. Ltd.  | B.E / B.Tech. & |         |
| 4   |             | Amazon.com                                | M.E./MTech.     |         |
|     |             |   | B.E / B.Tech. & |         |
| 5   |             | Real Image Media Technology, Chennai.     | M.E./MTech.     |         |
| 6   |             | Temenos                                   | B.E / B.Tech.   |         |
| U   |             | 1 CHICHOS                                 | D.L./ D.T.C.II. |         |

| 7  | ThoughtWorks Technology              | B.E / B.Tech. & M.E./MTech.   |
|----|--------------------------------------|-------------------------------|
| 8  | Fidelity India, Bangalore            | B.E / B.Tech.                 |
|    | ,                                    | B.E / B.Tech. &               |
| 9  | Zoho Corporation                     | M.E./MTech.                   |
| 10 | Sundaram Auto Components Ltd.        | B.E / B.Tech.                 |
| 11 | Harita Fehrer Ltd (Sundaram Clayton) | B.E / B.Tech.                 |
| 12 | Evive Software Pvt. Ltd.             | B.E / B.Tech. & M.E./MTech.   |
| 13 | Intellect Design (Polaris)           | B.E / B.Tech.                 |
| 14 | DELL R&D, Bangalore.                 | B.E / B.Tech.                 |
| 15 | Lister Technology                    | B.E / B.Tech.                 |
| 13 | Lister reciniology                   | B.E / B.Tech. &               |
| 16 | TATA Elxsi, Bangalore.               | M.E./MTech.                   |
|    |                                      | B.E / B.Tech. &               |
| 17 | Trimble Technology, Chennai.         | M.E./MTech.                   |
|    |                                      | B.E / B.Tech. &               |
| 18 | Volante Tech.                        |                               |
| 10 | To a No.                             | M.E./MTech.                   |
| 19 | Latent View Analytics, Chennai.      | B.E / B.Tech. B.E / B.Tech. & |
| 20 | Go Frugal, Chennai.                  | M.E./MTech.                   |
| 21 | Fresh Desk, Chennai.                 | B.E / B.Tech.                 |
| 22 | Multicoreware Technology             | B.E / B.Tech.                 |
| 23 | Verizon Verizon                      | B.E / B.Tech.                 |
| 23 | VCHZOII                              | B.E / B.Tech. &               |
| 24 | Infotrellis                          | M.E./MTech.                   |
|    |                                      | B.E / B.Tech. &               |
| 25 | Hyundai Motor India Ltd.             | M.E./MTech.                   |
|    |                                      | B.E / B.Tech. &               |
| 26 | Infosys Technology                   | M.E./MTech.                   |
|    |                                      | B.E / B.Tech. &               |
| 27 | Cognizant Technology                 |                               |
|    |                                      | M.E./MTech.                   |
| 28 | L&T ECC, Chennai.                    | B.E / B.Tech. &               |
| 20 | W. T. I.                             | M.E./MTech.                   |
| 29 | Wipro Technology                     | B.E / B.Tech.                 |
| 30 | Accenture Technology                 | B.E / B.Tech.                 |
| 31 | TATA Consultancy Services            | B.E / B.Tech. & M.E./MTech.   |
| 32 | SRF Ltd, Chennai.                    | B.E / B.Tech.                 |
| 33 | Robert Bosch, Coimbatore.            | B.E / B.Tech.                 |
| 34 | Ashok Leyland Ltd.                   | B.E / B.Tech.                 |
| 35 | ABB India Ltd, Bangalore.            | B.E / B.Tech.                 |
| 36 | Dow Chemicals Ltd, Chennai.          | B.E / B.Tech.                 |
| 37 | Fuji Xerox, Japan.                   | B.E / B.Tech. &               |
| 51 | 1 uji Moron, sapan.                  | 2.2, 2.1com a                 |

|     |   | N. D. O. C. D   |
|-----|---|-----------------|
|     |   | M.E./MTech.     |
| 38  | Sundram Fasteners, Chennai.                 | B.E / B.Tech. & |
| 36  | Sundram rasteners, Chemiar.                 | M.E./MTech.     |
| 39  | SAP Labs India, Bangalore.                  | B.E / B.Tech.   |
| 40  | KLA Tencor                                  | B.E / B.Tech.   |
| 41  | CherryTin Online Pvt. Ltd.                  | B.E / B.Tech.   |
| 42  | McKinsey & Company                          | B.E / B.Tech.   |
| 43  | Sanmar Engineering Division                 | B.E / B.Tech.   |
| 44  | Sanmar Chemplast Division                   | B.E / B.Tech.   |
| 4.5 |   | B.E / B.Tech. & |
| 45  | Deloitte Consulting India Pvt. Ltd.         | M.E./MTech.     |
| 4.5 |   | B.E / B.Tech. & |
| 46  | Global Analytics Inc, Chennai.              | M.E./MTech.     |
| 47  | BA Continuum India. Chennai.                | B.E / B.Tech.   |
| 48  | MRF India Pvt. Ltd                          | B.E / B.Tech.   |
|     | 1.1.01 1.101 2.00                           | B.E / B.Tech. & |
| 49  | Valeo India Pvt. Ltd.                       | M.E./MTech.     |
|     |   | B.E / B.Tech. & |
| 50  | Coda Global Software Solutions Pvt. Ltd.    | M.E./MTech.     |
| 51  | Brakes India Pvt. Ltd.                      | B.E / B.Tech.   |
| 31  | Brakes mula I vt. Ltd.                      | B.E / B.Tech. & |
| 52  | Jus Pay                                     | M.E./MTech.     |
| 53  | Technip India Pvt. Ltd, Chennai.            | B.E / B.Tech.   |
| 54  | FL Smidth, Chennai.                         | B.E / B.Tech.   |
| 55  | Samsung R&D Institute India, Bangalore.     | B.E / B.Tech.   |
| 33  | Samsung ReD institute india, Dangalore.     | B.E / B.Tech. & |
| 56  | Avnet, Chennai.                             | M.E./MTech.     |
| 57  | Torry Harris Business Solutions Ltd         | B.E / B.Tech.   |
| 58  | Toshiba Machine Pvt. Ltd., Chennai.         | B.E / B.Tech.   |
|     |   | B.E / B.Tech.   |
| 59  | Alcatel Lucent                              | B.E / B.Tech. & |
| 60  | HealthifyMe Wellness Products & Services    |                 |
|     | Pvt. Ltd.                                   | M.E./MTech.     |
| 61  | AstraZeneca, Chennai.                       | B.E / B.Tech.   |
| 62  | Huawei Technology India Pvt. Ltd.           | B.E / B.Tech.   |
| 63  | CNS Inc                                     | B.E / B.Tech.   |
| 64  | Microchip India                             | B.E / B.Tech. & |
| 04  | Theroemp maia                               | M.E./MTech.     |
| 65  | Hexagon Capability Center India Pvt. Ltd    | B.E / B.Tech. & |
|     | Tiexagon Capability Center india 1 vt. Ett  | M.E./MTech.     |
| 66  | Valued Epistemics India Pvt. Ltd.           | B.E / B.Tech.   |
| 67  | Jaze Network Pvt. Ltd.                      | B.E / B.Tech.   |
| 68  | Software AG Bangalore Technologies Pvt. Ltd | B.E / B.Tech.   |
|     |   |                 |

| 69         |      | Ababil Healthcare Pvt Ltd                        | B.E / B.Tech.          |               |
|------------|------|--|------------------------|---------------|
|            |      |  | B.E / B.Tech. &        |               |
| 70         |      | URJANET Energy Solutions                         | M.E./MTech.            |               |
| 71         |      | Penna Cement Ltd                                 | B.E / B.Tech.          |               |
|            |      | Unitech Transfer GmbH-German Centre for          | B.E / B.Tech. &        |               |
| 72         |      | Automation and Robotics Germany                  | M.E./MTech.            |               |
| 73         |      | Renault Nissan                                   | B.E / B.Tech.          | 1             |
| 74         |      | Saint Gobain                                     | B.E / B.Tech.          |               |
| 75         |      | HCL Technologies Ltd.                            | B.E / B.Tech.          | 1             |
| 76         |      | Bally Technologies                               | B.E / B.Tech. &        |               |
|            |      | •  | M.E./MTech.            |               |
| 77         |      | The Hindu  | B.E / B.Tech.          |               |
| 78         |      | CSS Corporation, Chennai.                        | M.E./ M.Tech.          |               |
| 79         |      | ZoomRx Healthcare Technology Solutions Pvt. Ltd. | B.E / B.Tech.          |               |
| 80         |      | TCS BPS  | MBA                    | 80%           |
| 81         |      | TCS Ltd  | MBA                    |               |
| 82         |      | SPR Constructions                                | MBA                    |               |
| 83         |      | Unlimited Innovations                            | MBA                    |               |
| 84         |      | Colgate  | MBA                    |               |
| 85         |      | Kotak Mahindra Bank                              | MBA                    | =             |
| 86         |      | Axis Bank  | MBA                    |               |
| 87         |      | Systwo   | MBA                    |               |
| 88         |      | CTS  | MBA                    |               |
| 89         |      | RANE   | MBA                    | -             |
| 90         |      | CGM CMA  | MBA                    |               |
| 91         |      | Zoho Corp  | MBA                    |               |
| 92         |      | Big Bazaar                                       | MBA<br>MBA             |               |
| 93         |      | Sensiple ITC                                     | MBA                    | 1             |
| 95         |      | FSS  | MBA                    |               |
| 96         |      | Bajaj Corp                                       | MBA                    |               |
| 97         |      | Secova   | MBA                    | 1             |
| 98         |      | HCL Tech   | MBA                    |               |
| 99         |      | Deloitte   | MBA                    | 1             |
| 100        |      | SBA Info Sol                                     | MBA                    |               |
| 101        |      | Tube Investments                                 | MBA                    | 1             |
| 102        |      | Smartmegh  | MBA                    | 1             |
| 103        |      | Payoda Technologies                              | MBA                    |               |
| 104        |      | Kotak Insurance                                  | MBA                    |               |
| 105        |      | Aditya Birla                                     | MBA                    | ]             |
| 106        |      | Kent RO  | MBA                    | ]             |
| 107        |      | Cerebrus Consultants                             | MBA                    | 1             |
| 108        |      | ISS  | MBA                    | 1             |
| 109        |      | Indus Ind Bank                                   | MBA                    | 0/ 0          |
| Sl.<br>No. | Year | Companies visited                                | Eligible<br>Programmes | % of students |

|    |        |  |                              | placed |
|----|--------|--|------------------------------|--------|
| 1  | 2016 - | Dow Chemicals  | B.E / B.Tech                 | pracea |
|    | 2017   |  | B.E / B.Tech /               |        |
| 2  |        | Amazon.com   | M.E / M.Tech                 |        |
| 2  |        | Deal Image Media Technology Changi   | B.E / B.Tech /               |        |
| 3  |        | Real Image Media Technology, Chennai.  | M.E / M.Tech                 |        |
| 4  |        | Code Clobel Channei  | B.E / B.Tech /               |        |
| 4  |        | Coda Global, Chennai.  | M.E / M.Tech                 |        |
| 5  |        | Dell (Networking)  | B.E / B.Tech                 |        |
| 6  |        | Xome   | B.E / B.Tech                 |        |
| 7  |        | ThoughtWorks Technology  | B.E / B.Tech /               |        |
|    |        |  | M.E / M.Tech                 |        |
| 8  |        | TCS CTO  | B.E                          |        |
| 9  |        | Juspay   | B.E / B.Tech /               |        |
|    |        | v do pay   | M.E / M.Tech                 |        |
| 10 |        | Nationstar Mortgage  | B.E / B.Tech /               |        |
| 14 | -      |  | M.E / M.Tech                 |        |
| 11 | -      | Temenos  | B.E / B.Tech                 |        |
| 12 |        | Sirius   | B.E / B.Tech /               |        |
| 12 |        | M. C.  | M.E / M.Tech                 |        |
| 13 |        | Mu Sigma   | B.E / B.Tech                 |        |
| 14 |        | Zoho Corporation   | B.E / B.Tech /               |        |
| 15 |        | Zoom RX  | M.E / M.Tech<br>B.E / B.Tech |        |
| 16 | 1      | Fidelity   | B.E / B.Tech                 | 82.5   |
| 10 | 1      | Fidenty  | B.E / B.Tech /               | 82.3   |
| 17 |        | Trimble Solutions  | M.E / M.Tech                 |        |
| 18 |        | Zifo R&D Solutions   | B.E / B.Tech                 |        |
| 19 |        | Fresh Desk   | B.E / B.Tech                 |        |
| 20 |        | Latent View Analytics  | B.E / B.Tech                 |        |
|    |        |  | B.E / B.Tech /               |        |
| 21 |        | GoFrugal   | M.E / M.Tech                 |        |
| 22 |        | 0.1.:0.6   | B.E / B.Tech /               |        |
| 22 |        | Sahaj Software   | M.E / M.Tech                 |        |
| 23 |        | AstraZeneca  | B.E / B.Tech                 |        |
| 24 |        | Intellect Design   | B.E / B.Tech                 |        |
| 25 |        | Verizon  | B.E / B.Tech                 |        |
| 26 |        | Multicoreware  | B.E / B.Tech                 |        |
| 27 |        | Saint-Gobain - women   | B.E / B.Tech                 |        |
| 28 |        | CTS  | B.E / B.Tech                 |        |
| 29 |        | TCS Summer intern cum offer  | B.E                          |        |
| 30 |        | L&T Construction (ECC)   | B.E / B.Tech                 |        |
| 31 |        | Infosys  | B.E / B.Tech /               |        |
|    | _      | •  | M.E / M.Tech                 |        |
| 32 |        | Accenture  | B.E / B.Tech                 |        |
| 33 |        | Wipro  | B.E / B.Tech                 |        |
| 34 |        | Infotrellis, Chennai.  | B.E / B.Tech /               |        |
| ٥, |        | and the state of t | M.E / M.Tech                 |        |

| 25         | 0.14                                       | D.F.           |  |
|------------|--|----------------|--|
| 35         | Soliton                                    | B.E            |  |
| 36         | Capgemini                                  | B.E / B.Tech   |  |
| 37         | ELGi                                       | B.E            |  |
| 38         | L&T Infotech                               | B.E / B.Tech   |  |
| 39         | Hyundai Motors India                       | B.E / M.E      |  |
| 40         | Maveric Systems                            | B.E / B.Tech   |  |
| 41         | TATA Communications                        | B.E / B.Tech / |  |
|            |  | M.E / M.Tech   |  |
| 42         | Amazon cloud support Engineer              | B.E / B.Tech / |  |
| 72         |  | M.E / M.Tech   |  |
| 43         | Ashok Leyland                              | B.E / B.Tech   |  |
| 44         | Johnson Contorls                           | B.E / B.Tech   |  |
| 45         | Sanmar Groups                              | B.E / B.Tech   |  |
| 46         | Fuji Xerox, Japan.                         | B.E / B.Tech / |  |
| 40         | Tuji Aciox, Japan.                         | M.E / M.Tech   |  |
| 47         | EY, Chennai.                               | B.E / B.Tech   |  |
| 48         | Havagan Hydanahad                          | B.E / B.Tech / |  |
| 46         | Hexagon, Hyderabad.                        | M.E / M.Tech   |  |
| 40         | H  | B.E / B.Tech / |  |
| 49         | Hasura, Chennai.                           | M.E / M.Tech   |  |
| 50         | BA Continuum Ltd, Chennai.                 | B.E / B.Tech   |  |
| <i>7</i> 1 | W. ID. Cl.                                 | B.E / B.Tech / |  |
| 51         | Visual Bi, Chennai.                        | M.E / M.Tech   |  |
| 50         | M. I.E. G.P. D. J. I. I. I. I.             | B.E / B.Tech / |  |
| 52         | Mytrah Energy (India) Pvt. Ltd, Hyderabad. | M.E / M.Tech   |  |
| 53         | Nokia, Chennai.                            | B.E / B.Tech   |  |
| - 1        |  | B.E / B.Tech / |  |
| 54         | Renault Nissan, Chennai.                   | M.E / M.Tech   |  |
|            |  | B.E / B.Tech / |  |
| 55         | Technicolor, Chennai.                      | M.E / M.Tech   |  |
| 56         | Aricent Tech (VLSI)                        | M.E            |  |
| 57         | Steria, Chennai.                           | B.E / B.Tech   |  |
|            |  | B.E / B.Tech / |  |
| 58         | HCL, Noida.                                | M.E / M.Tech   |  |
|            |  | B.E / B.Tech / |  |
| 59         | Newgen, Chennai.                           | M.E / M.Tech   |  |
|            |  | B.E / B.Tech / |  |
| 60         | Photon, Chennai.                           | M.E / M.Tech   |  |
|            |  | B.E / B.Tech / |  |
| 61         | Zoho Corporation (Content Role)            | M.E / M.Tech   |  |
| 62         | MRF Ltd                                    | B.E            |  |
|            |  | B.E / B.Tech / |  |
| 63         | SAP Labs India, Bangalore.                 | M.E / M.Tech   |  |
| 64         | Rotork, Chennai.                           | B.E            |  |
|            | Radial Omnichannel Technologies India Pvt  |                |  |
| 65         | Ltd  | B.E / B.Tech   |  |
| 66         | Blue Star, Chennai.                        | M.E            |  |
| 67         | Global Analytics                           | B.E / B.Tech / |  |
| U/         | Olovai Alialytics                          | D.E / D.Tech / |  |

|     |   | M.E / M.Tech   |  |
|-----|---|----------------|--|
| 68  | Visteon, Chennai.                           | B.E            |  |
| 69  | CSS Corp, Chennai.                          | M.E / M.Tech   |  |
| 70  | Samsung R&D, Bangalore.                     | B.E / B.Tech   |  |
| 71  | TAFE, Chennai.                              | B.E            |  |
| 72  | HCL (BME), Noida.                           | B.E            |  |
| 73  | National Payments Corporation.              | M.E / M.Tech   |  |
| 74  | Saint-Gobain, Chennai.                      | B.E / B.Tech   |  |
| 7.5 | T '10 C                                     | B.E / B.Tech / |  |
| 75  | Lucid Software                              | M.E / M.Tech   |  |
|     | ** . 5 . 1                                  | B.E / B.Tech / |  |
| 76  | Huawei, Bangalore.                          | M.E / M.Tech   |  |
|     |   | B.E / B.Tech / |  |
| 77  | CaratLane, Chennai.                         | M.E / M.Tech   |  |
|     |   | B.E / B.Tech / |  |
| 78  | Pipecandy, Chennai.                         | M.E / M.Tech   |  |
| 79  | DBS Bank                                    | B.E / B.Tech   |  |
| 80  | Royal Enfield, Chennai.                     | B.E / B.Tech   |  |
| 81  | SPIC, Chennai.                              | B.Tech         |  |
| 82  | Brakes India                                | B.E            |  |
| 83  |   | B.E            |  |
|     | Philips Healthcare                          |                |  |
| 84  | Thirumalai Chemicals                        | B.Tech         |  |
| 85  | Omics International                         | B.E            |  |
| 86  | iYantras (Airbots)                          | B.E / B.Tech / |  |
|     |   | M.E / M.Tech   |  |
| 87  | EmbedUR Systems                             | B.E / B.Tech / |  |
|     | 2   | M.E / M.Tech   |  |
| 88  | Scriplogix                                  | B.E / B.Tech / |  |
|     |   | M.E / M.Tech   |  |
| 89  | Business Octane                             | B.E / B.Tech   |  |
| 90  | TheMediTube, Chennai.                       | B.E / B.Tech   |  |
| 91  | SportsMechanics                             | B.E / B.Tech / |  |
| 71  | Sportsivicentaines                          | M.E / M.Tech   |  |
| 92  | Manali Petrochemicals                       | B.Tech         |  |
| 93  | TPF Software                                | B.E / B.Tech / |  |
| 93  | 1FF Software                                | M.E / M.Tech   |  |
| 0.4 | Aiima Caft                                  | B.E / B.Tech / |  |
| 94  | Ajira Soft                                  | M.E / M.Tech   |  |
| 95  | VWR Lab Products Pvt.Ltd.,Coimbatore        | B.E / B.Tech   |  |
| 96  | HCL Technolgies Ltd                         | B.E / B.Tech   |  |
| 97  | COSGrid Networks                            | B.E / B.Tech   |  |
| 98  | Toshiba Machine                             | B.E            |  |
|     |   | B.E / B.Tech / |  |
| 99  | IDBI Federal Insurance                      | M.E / M.Tech   |  |
|     | Healthcare Techology innovation Centre(off- |                |  |
| 100 | campus)                                     | B.E            |  |
| 101 | CBRE South Asia Pvt. Ltd                    | B.E            |  |
| 101 | CDRE SOUII ASIA F VI. LIU                   | D.E            |  |

# 5.1.10 Does the institution have a student grievance redressal cell? If yes, list (if any) the grievances reported and redressed during the last four years.

Yes. Please refer to Section 2.5.7.

# 5.1.11 What are the institutional provisions for resolving issues pertaining to sexual harassment?

A qualified psychologist student counsellor, available in the campus interacts proactively with the students, identifies and mentors students with adjustment issues, psychological problems and even gender related issues. A team of faculty with a lady faculty as Chairperson is available, to deal with cases of sexual harassment within the campus. The institute has not faced any cases of sexual harassment till date.

# 5.1.12 Is there an anti-ragging committee? How many instances (if any) have been reported during the last four years and what action has been taken on these?

Anti ragging committee is functioning as directed by the Affiliating University.

# **5.1.13** Enumerate the welfare schemes made available to students by the institution.

Scholarships are one of the key areas providing for students' welfare. Students are offered scholarships in various categories such as Merit, Merit-cum-Means, Rural Scholarships, Walk-in Walk-out out scholarships etc.

Students availing rural scholarships are offered free education alongwith material support such as laptops and additional training and mentoring.

# 5.1.14 Does the institution have a registered Alumni Association? If 'yes', what are its activities and major contributions for institutional, academic and infrastructure development?

Institution has an Alumni Association with chapters in different parts of India, Europe, US & Asia. The institute is currently under process of registering the Association.

The alumni meet twice a year; once in campus on every first Saturday of January. The alumni contribute to research by sponsoring student projects, in placements by providing contacts and training to the current students and through scholarships. The alumni have provided Rs. 9.75 Lakh worth of

scholarships in 2016-17 and sponsored research labs contributing Rs. 11 Lakh towards lab facilities.

The alumni studying abroad also help in research by coordinating with faculty of Universities abroad.

# **5.2 Student Progression**

# 5.2.1 Progressing to higher education or employment

| Sl. | Student Progression                    | Progression as a percentage during |         |         |         |  |
|-----|--|------------------------------------|---------|---------|---------|--|
| No. | Student Frogression                    | 2012-13                            | 2013-14 | 2014-15 | 2015-16 |  |
| 1   | UG to PG                               | 17.35                              | 14.34   | 18.34   | 17.4    |  |
| 2   | PG to Ph.D.                            | 6.03                               | 2.63    | 3.45    | 0.65    |  |
| 3   | Employed through Campus<br>Recruitment | 60.58                              | 67.05   | 67.63   | 65.23   |  |
| 4   | Employed other than Campus recruitment | 8.17                               | 9.34    | 5.02    | 4.05    |  |

## **MBA**

| Sl. | Student Progression                       | Expressed as a percentage in the year |         |         |         |  |
|-----|---|---------------------------------------|---------|---------|---------|--|
| No. |   | 2012-13                               | 2013-14 | 2014-15 | 2015-16 |  |
| 1   | UG to PG                                  | Not Applicable                        |         |         |         |  |
| 2   | PG to Ph.D.                               |                                       |         |         |         |  |
| 3   | Employed through Campus Recruitment       | 75                                    | 74      | 70      | 80      |  |
| 4   | Employed other than<br>Campus recruitment | 20                                    | 20      | 25      | -       |  |

# 5.2.2 Programme wise progression of students over a period of 4 years,

# **Department of Electrical and Electronics Engineering**

| Sl. | Year of | No. of Students<br>admitted in 1 <sup>st</sup> yr +         | Number of Students who have success completed |                |               | iccessfully    |
|-----|---------|---|---|----------------|---------------|----------------|
| No. | Entry   | those admitted thro'<br>Lateral entry in 2 <sup>nd</sup> yr | First<br>Year                                 | Second<br>Year | Third<br>Year | Fourth<br>Year |
| 1   | 2015-16 | 124+19  | 107   |                |               |                |
| 2   | 2014-15 | 124+23  | 110   | 99             |               | -              |
| 3   | 2013-14 | 120+22  | 113   | 102            | 113           | -              |
| 4   | 2012-13 | 123+24  | 118   | 124            | 114           | 140            |
| 5   | 2011-12 | 124+20  | 113   | 117            | 119           | 135            |
| 6   | 2010-11 | 121+24  | 114   | 126            | 112           | 141            |
| 7   | 2009-10 | 116+16  | 116   | 112            | 104           | 131            |
| 8   | 2008-09 | 120+11  | 117   | 114            | 117           | 130            |

**Department of Electronics and Communication** 

| Sl. | Year of | No. of Students<br>admitted in 1 <sup>st</sup> yr                | Number of Students who have successfully completed |                |               |                |
|-----|---------|--|--|----------------|---------------|----------------|
| No. | Entry   | + those admitted<br>thro' Lateral entry<br>in 2 <sup>nd</sup> yr | First<br>Year                                      | Second<br>Year | Third<br>Year | Fourth<br>Year |
| 1   | 2015-16 | 124+17   | 102  | -              | -             | -              |
| 2   | 2014-15 | 127+21+3   | 120  | 114            | -             | -              |
| 3   | 2013-14 | 120+24+1   | 115  | 113            | 104           | -              |
| 4   | 2012-13 | 121+19+2   | 128  | 105            | 120           | 135            |
| 5   | 2011-12 | 125+21+1   | 105  | 106            | 118           | 139            |
| 6   | 2010-11 | 123+18+4   | 111  | 105            | 100           | 134            |
| 7   | 2009-10 | 115+15+3   | 108  | 104            | 95            | 120            |
| 8   | 2008-09 | 122+11+1   | 105  | 112            | 117           | 121            |

**Department of Computer Science Engineering** 

| CI         | Year of | No. of Students<br>admitted in 1 <sup>st</sup> yr                | Number of Students who have successfully completed |                |               |                |
|------------|---------|--|--|----------------|---------------|----------------|
| Sl.<br>No. | Entry   | + those admitted<br>thro' Lateral entry in<br>2 <sup>nd</sup> yr | First<br>Year                                      | Second<br>Year | Third<br>Year | Fourth<br>Year |
| 1          | 2015-16 | 128  | 108  |                |               |                |
| 2          | 2014-15 | 124+19   | 110  | 101            | 1             | -              |
| 3          | 2013-14 | 120+22   | 113  | 102            | 100           | -              |
| 4          | 2012-13 | 123+24   | 118  | 124            | 114           | 124            |
| 5          | 2011-12 | 124+20   | 113  | 117            | 119           | 135            |
| 6          | 2010-11 | 121+24   | 114  | 126            | 112           | 141            |
| 7          | 2009-10 | 116+16   | 117  | 112            | 104           | 131            |
| 8          | 2008-09 | 120+11   | 117  | 114            | 117           | 130            |

**Department of Information Technology** 

| Sl. | Year of | No. of Students<br>admitted in 1 <sup>st</sup> yr                | Number of Students who have successfully completed |                |               |                |
|-----|---------|--|--|----------------|---------------|----------------|
| No. | Entry   | + those admitted<br>thro' Lateral entry in<br>2 <sup>nd</sup> yr | First<br>Year                                      | Second<br>Year | Third<br>Year | Fourth<br>Year |
| 1   | 2015-16 | 139  | 102  |                |               |                |
| 2   | 2014-15 | 140  | 101  | 105            |               |                |
| 3   | 2013-14 | 134  | 110  | 105            | 110           |                |
| 4   | 2012-13 | 143  | 116  | 106            | 117           | 127            |
| 5   | 2011-12 | 148  | 115  | 87             | 106           | 139            |
| 6   | 2010-11 | 149  | 104  | 97             | 110           | 130            |
| 7   | 2009-10 | 132  | 101  | 108            | 103           | 114            |
| 8   | 2008-09 | 131  | 100  | 91             | 102           | 117            |

# **Department of Chemical Engineering**

Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam-603110

| SI. | No. of Students admitted in 1st yr |  |               | Number of Students who have successfully completed |               |                |  |
|-----|------------------------------------|--|---------------|--|---------------|----------------|--|
| No. | Entry                              | + those admitted<br>thro' Lateral entry in<br>2 <sup>nd</sup> yr | First<br>Year | Second<br>Year                                     | Third<br>Year | Fourth<br>Year |  |
| 1   | 2015-16                            | 61+8   | 53            | 1  | 1             | -              |  |
| 2   | 2014-15                            | 64+9   | 62            | 63   | -             | -              |  |
| 3   | 2013-14                            | 63+7   | 54            | 56   | 55            | -              |  |
| 4   | 2012-13                            | 61+6   | 57            | 61   | 62            | 65             |  |
| 5   | 2011-12                            | 61+6   | 52+6          | 61   | 64            | 64             |  |
| 6   | 2010-11                            | 31+4+1   | 22+4+1        | 30   | 35            | 36             |  |
| 7   | 2009-10                            | 26+3   | 23+3          | 19   | 25            | 27             |  |
| 8   | 2008-09                            | 29+2   | 25+2          | 29   | 29            | 28             |  |

**Department of Biomedical Engineering** 

| SI. | Year of | No. of Students admitted in 1st yr                               | Number of Students who have successfully completed |                |               |                |
|-----|---------|--|--|----------------|---------------|----------------|
| No. | Entry   | + those admitted<br>thro' Lateral<br>entry in 2 <sup>nd</sup> yr | First<br>Year                                      | Second<br>Year | Third<br>Year | Fourth<br>Year |
| 1   | 2015-16 | 62+3   | 54   | -              | -             | -              |
| 2   | 2014-15 | 60+8   | 34   | 46             | -             | -              |
| 3   | 2013-14 | 60+4   | 56   | 48             | 61            | -              |
| 4   | 2012-13 | 58+9   | 52   | 49             | 56            | 57             |
| 5   | 2011-12 | 57+9   | 47   | 36             | 61            | 52             |
| 6   | 2010-11 | 62+5   | 39   | 47             | 54            | 65             |
| 7   | 2009-10 | 57+5   | 46   | 39             | 51            | 60             |
| 8   | 2008-09 | 57+3   | 51   | 34             | 50            | 57             |

**Department of Mechanical Engineering** 

| Sl. | Year of | No. of Students<br>admitted in 1st yr                            | Number of Students who have successfully completed |                |               |                |  |
|-----|---------|--|--|----------------|---------------|----------------|--|
| No. | Entry   | + those admitted<br>thro' Lateral<br>entry in 2 <sup>nd</sup> yr | First<br>Year                                      | Second<br>Year | Third<br>Year | Fourth<br>Year |  |
| 1   | 2015-16 | 126 + 23 = 149   | 126  | -              | -             | -              |  |
| 2   | 2014-15 | 122 + 23 = 145   | 116  | -              | -             | -              |  |
| 3   | 2013-14 | 120 + 23 = 143   | 113  | 126            | -             | -              |  |
| 4   | 2012-13 | 126 + 23 = 149   | 119  | 126            | 133           | -              |  |
| 5   | 2011-12 | 125 + 20 = 145   | 106  | 123            | 132           | 142            |  |
| 6   | 2010-11 | 63 + 10 = 73   | 50   | 56             | 62            | 70             |  |
| 7   | 2009-10 | 60 + 7 = 67  | 46   | 54             | 58            | 66             |  |
| 8   | 2008-09 | 60 + 5 = 65  | 50   | 51             | 58            | 62             |  |

| TD 4 4            | e    | ~· ·ı   | 100 | •   | •     |
|-------------------|------|---------|-----|-----|-------|
| <b>Department</b> | OT 1 | ( :ivii | Hng | ภาก | ering |

| Sl. | Year of | No. of Students<br>admitted in 1st yr                            | Number of Students who have successfully completed |                |               |                |
|-----|---------|--|--|----------------|---------------|----------------|
| No. | Entry   | + those admitted<br>thro' Lateral<br>entry in 2 <sup>nd</sup> yr | First<br>Year                                      | Second<br>Year | Third<br>Year | Fourth<br>Year |
| 1   | 2015-16 | 63 + 06  | 55   | -              | -             | -              |
| 2   | 2014-15 | 63 + 09  | 54   | 57             | -             | -              |
| 3   | 2013-14 | 63 + 10  | 57   | 55             | 45            | -              |
| 4   | 2012-13 | 63 +11   | 52   | 55             | 57            | 69             |
| 5   | 2011-12 | 62 + 08  | 53   | 62             | 62            | 69             |

#### **MBA**

| Sl. | Year of | No. of<br>Students                | Number of Stu      | uccessfully         |            |
|-----|---------|-----------------------------------|--------------------|---------------------|------------|
| No. | entry   | admitted in<br>1 <sup>st</sup> yr | 1 <sup>st</sup> Yr | 2 <sup>nd</sup> Yr. |            |
| 1   | 2015-16 | 113                               | 96                 | -                   |            |
| 2   | 2014-15 | 111                               | 95                 | 109                 | Not        |
| 3   | 2013-14 | 119                               | 52                 | 113                 | Applicable |
| 4   | 2012-13 | 108                               | 80                 | 98                  |            |

# 5.2.3 How does the institution facilitate student progression to higher level of education and / or towards employment?

The Career Development Cell helps students towards employment by guiding them based on their aptitude, attitude and interest. Students are also given counseling by faculty members on higher education, and facilities are made available to them in terms of expert talks and coaching classes to take the best decision toward their future objectives.

# **5.2.4** Support provided by the Institution for slow learners

Special classes are conducted for slow learners during the first and second semesters, as mentioned earlier. During third semester, special classes are conducted for Lateral entry students, specifically in Mathematics and English communication skills.

# 5.3 Student participation and activities

- 5.3.1 List the range of sports, games, cultural and other extracurricular activities available to students. Provide details of participation and program calendar. &
- 5.3.2 Furnish the details of major student achievements in cocurricular, extracurricular and cultural activities at different levels: University / State / Zonal / National / International, etc. for the previous four years.

# Student participation and Activities A. Sports:

Excellent facilities are available in the college for sports as listed below:

- 1. Cricket ground of International standard with pavilion.
- 2. Indoor sports complex with facilities for
  - a. Basketball
  - b. Squash courts -2 Nos.
  - c. A Hall for indoor games such as chess, caroms & Table tennis
  - d. Badminton court 2Nos.
- 3. Tennis courts with synthetic flooring 2 Nos.
- 4. A 400m standard track
- 5. Provision for net practice
- 6. Basketball courts 2 Nos.
- 7. Volleyball courts -2 Nos.
- 8. Separate indoor fitness centres for both boys and girls
- 9. Football court

The Table below gives the list of Individual and Team event achievers of the college in various sports events held during the year 2016-17:

| Academic Year<br>2016-17 | Name of The Event  | Position             | Type of Event |
|--------------------------|--|----------------------|---------------|
| S.ARUN                   | He represented the country in                              |                      |               |
| (I year Mech)            | the 17 <sup>th</sup> Asian Roller Skating                  | III                  |               |
|                          | Championship held at China                                 |                      |               |
|                          | and he secured the bronze                                  | 1 4th                | International |
|                          | medal.   | 14 <sup>th</sup>     |               |
|                          | He has nonnegated the country                              | Rank                 |               |
|                          | He has represented the country in the World Roller Skating |                      |               |
|                          | Championship held at Italy.                                |                      |               |
| D.ANANTH                 | He has represented the country                             |                      |               |
| (I Year MECH)            | in the ITTF world Junior circuit                           | _                    |               |
|                          | Chinese Taipei International                               |                      |               |
|                          | Table tennis tournament held at                            |                      |               |
|                          | China.   | I                    |               |
|                          |  |                      |               |
|                          | He has secured the gold medal                              |                      | International |
|                          | in the ITTF Indian open junior                             | -4 -                 |               |
|                          | and cadet international Table                              | 7 <sup>th</sup> Rank |               |
|                          | tennis tournament held at                                  |                      |               |
|                          | Indore.  |                      |               |
|                          | He has represented the country                             | _                    |               |
|                          | in the Asian junior and cadet                              |                      |               |

|                           | open Table tennis tournament held at Bangkok.  |    |               |
|---------------------------|--|----|---------------|
|                           | He has represented the country<br>in the world junior Table Tennis<br>championship held at Cape<br>town, south Africa. |    |               |
| B.V.RAMYA                 | She has participated in the  |    |               |
| TULASI                    | mixed double event in the OUE  | _  |               |
| (IV Yr CIVIL)             | Singapore international  |    |               |
|                           | Badminton series held at Singapore.  |    |               |
|                           | Singapore.   | I  | International |
|                           | She has represented the Chennai smashers' team along with  |    |               |
|                           | P.V.Sindhu in the Premier Badminton league tournament and the team had clinched the title.                             | -  |               |
|                           | title.   |    |               |
|                           | She has participated the Syed<br>Modi International Grand prix<br>gold Badminton tournament at                         |    |               |
|                           | Lucknow  |    |               |
| N.HEMAPRIYA               | She has represented the Anna   |    | International |
| ( IV Yr ECE)              | University chess team in the   | II |               |
|                           | World inter University Chess   |    |               |
|                           | tournament held at Kualaumpur and the team secured the silver  |    |               |
|                           | medal.   |    |               |
| N.Mayuri                  | She has participated in the  |    | National      |
| (II yr Chem)              | senior national squash   |    |               |
| Y 7011                    | championship held at Mumbai.   |    | XX 1          |
| L.Bharath<br>( II yr ECE) | He has represented Tamilnadu state in the Under-19 National  |    | National      |
| (II yi ECE)               | Chess championship held at   |    |               |
|                           | Rajamundry.  |    |               |
| U.Vishal                  | He has represented the   |    | National      |
| ( IV yr Civil)            | Tamilnadu state under-23   |    |               |
|                           | cricket team in the C.K.Nayudu   |    |               |
|                           | trophy against Gujarth, Baroda   |    |               |
| M.Sandya                  | and Saurastra Cricket teams  She has participated in the First   |    |               |
| (II yr ECE)               | BCF international FIDE rated   |    |               |
|                           | chess tournament held at Delhi   |    |               |
|                           | and she received the best  |    |               |
|                           | women player award.  |    | National      |
|                           | She has represented the  |    |               |
|                           | Sile has represented the   |    | l             |

|                          | Tamilnadu chess team in the 15 <sup>th</sup> National women Chess |          |           |
|--------------------------|---|----------|-----------|
|                          | championship held at Bopal.                                       |          |           |
| G.Chandramouleshwar      | He has participated in the All                                    |          | National  |
| (II Yr Civil)            | India senior ranking Badminton                                    |          | Trational |
| (II II CIVII)            | tournament held at Gujarat and                                    |          |           |
|                          | he lost the match in quarter                                      |          |           |
|                          | final.  |          |           |
| Academic Year<br>2016-17 | Team Achievements   | Position | Level     |
| SPORTS FEST 2017         | Organized by VNRVJIET,  | I        | National  |
|                          | Hyderabad.  |          |           |
|                          | Tennis, Table Tennis,   |          |           |
|                          | Basketball & Chess –Women   |          |           |
|                          | Chess, Table Tennis - Men   |          |           |
| VIE 2017                 | Organized by Jain University,                                     | I        | National  |
|                          | Bangalore   |          |           |
|                          | Tennis (M)  |          |           |
| REVELS CUP 2017          | Organized by MIT, Manipal.  | I        | National  |
|                          | Table Tennis (M), Tennis (M)                                      |          |           |
|                          | & Chess (M)   |          |           |
| GECFEST 2017             | Organized by Gudivallru   |          |           |
|                          | Engineering college,  |          |           |
|                          | Vijayawada.   | I        | National  |
|                          | Table Tennis (M&W), Tennis  |          |           |
|                          | (M&W) & Basketball (M &W).  |          |           |
| KL TROPHY                | Organized by KL University.                                       | I        | National  |
|                          | Badminton (W), Chess  |          |           |
|                          | (M&W)& Table Tennis(M   |          |           |
|                          | &W).  |          |           |
| RIVIERA                  | Organized by VIT University                                       | I        | National  |
|                          | Vellore.  |          |           |
|                          | Squash (W)  |          |           |
| COLLOSEUM 2017           | Organized by SASTRA   | I        | State     |
|                          | University  |          |           |
|                          | Chess (M&W), Tennis (M&W)   |          |           |
|                          | & Badminton (M)   |          |           |
| PSG TROPHY               | Organized by PSG Arts   | I        | State     |
|                          | &Science college  |          |           |
|                          | Table Tennis ( M)   |          |           |
| AC MUTTAIAH              | organized by SVCE,  | I        | State     |
| ROLLING TROPHY           | Sriperumpudur   |          |           |
|                          | Cricket (M)   |          |           |
|                          | Organized by KAMRAJAR   | I        | State     |
| KAMARAJAR                | Engg College, Virudunagar   |          |           |
| TROPHY                   | Badminton (M &W)  |          |           |
| SA Trophy                | Organized by SA ENGG  | I        | State     |
|                          | College, chennai  |          |           |
|                          | Tennis(M), Table Tennis(M)  |          |           |

## **B.** Extracurricular activities

Students are encouraged to participate in as many events as per their interest, so that they learn to work in teams, improve interpersonal communications and develop a bonding for the institution. The following clubs, which are active:

- a. English Literary club
- b. Oratory club
- c. Quiz club
- d. Fine Arts club
- e. Tamil Mandram
- f. Theatre Club
- g. Film Club
- h. Music Club
- i. Dance Club

The following list gives the names of achievers during the events held in 2015-16.

## **Music Club**

# 120 db accomplishments (Light Music Band)

- 1) First place at SRM Medical College
- 2) Second place at Stanley Medical College
- 3) Third place at Madras Medical College
- 4) Finalists at Festember 2015

The Music Club has a tie up with the Ashwin Maharaj Foundation in their Music Therapy project. The SMC sends a different band every month to perform for cancer patients at the Adyar Cancer Institute.

# **Individual accomplishments:**

### 1) Bishwanth

Third place at NIFT Bangalore

First place at NMIT Bangalore

Represented India at the Waken Metal Festival with 'Vidyut'

Headlined at 'fete de la music'

# 2) Shiv Rekhi and Akshay T

Performed at various venues with their band 'Spine Shatter'

### 3) Samuel Abhishek

Performed at various venues with his band 'That Band'

# 4) Anandh SRB

Scored music for various short films

# 5) Notable flute performances by Visveshawar

• Performed at the prestigious Ramanathapuram palace as a part of navaratri festival in October 2015.

- Live broadcast of flute recital in All India Radio, Madras 'A' Channel: June 2016
- Performed alongside Shri. Sriram Parasuram in the Thureeyam festival, Payyanur, Kerala, June 2016

### **Dance Club N2K:**

- College dance team won many competitions held in various parts of the state and established themselves as professional dance team of Tamilnadu.
- First place at Nakshatra, Vels Institutions
- Second Place at VIT Chennai
- Second Place at Ethiraj College culturals
- Third Place at WCC
- Third Place at Loyola

The entire crew was involved in a song in a film "Yaanum Theeyavan"

# **Lights Out Please (The Theatrical Club):**

In association with Crea Shakti, they've staged 6 public shows.

They have also been placed first in IIT Saarang Theatricals and in Dramalog conducted by Goethe Institute.

NIT Festember - 2nd Place, Public Shows - Rumours Ulle Veliye

# **Quiz Club:**

Brought many a laurel to this institution and have made SSN a well known name in the quizzing circle. They won the 1<sup>st</sup> place at the MOP JIF Quiz, 1<sup>st</sup> place in Techofes India Quiz and IFMR Biz Quiz.

# **English Literary Club:**

- ✓ ELC members took part in the NIT Trichy culturals, Festember which was held in September and won several prizes.
- ✓ They have been the winners of various literary events like debate, shipwreck, JAM and creative writing conducted by prestigious institutions like CEG and IIT.

### **SSN Film Club:**

Film Club enthusiastically engages in covering student activities all through the year. There were 15 short films directed in a span of one year out of which a few were massive hits. Whatsapp Kadhal, directed by Pradheep, got the Best Short Film Award in IIT Saarang, NIT Festember and became sensational on YouTube with over 4 lakh views.

# **SSN MUN (Model United Nations)**

• MOP MUN Delegates from SSN won laurels and swept the awards at the following MUNs 2015.

Young Leaders Conference 2015, SRM MUN 2015, VIT Chennai MUN 2015, St. Joseph's MUN

- Vishal Vasanth, was invited to be part of the Executive Board at London International MUN
- SSN bagged the best delegation awards at HYLC 2015 and SRM MUN 2015
- Mr. Jerry Thomas, IV B.E. (ECE) has been selected as one of the top three winners (from 566 essays in a competition from all over the country) in Climate Change organised by the European Union and The Hindu. He will be sent on a study tour to Europe in June next year.

## C. Societal activities

We have an NSS cell and a YRC cell, which, under the guidance of two faculty members as coordinators, are fully involved in social activities; Our NSS team has won the best NSS team, best NSS volunteer and best NSS coordinator awards from the Anna University.

In addition, the cell organized several rallies creating awareness for wearing helmet, need to vote, need for women's education, awareness rallies to bring to the fore evils of alcohol, evils of use of tobacco etc. About 3000 of our students painted their palms with the logo against the use of tobacco, on a day and this has earned an entry in the Guinness Book of world records.

The activities of the students in the above units during 2016-17 are given below:

**NSS activities -2016 -2017** 

| Sl.<br>No. | Name of the Event                | Date                          | Venue               | No. of<br>Volunteers<br>participated |
|------------|----------------------------------|-------------------------------|---------------------|--------------------------------------|
| 1          | Lateral Entry Guidance Programme | 27 <sup>th</sup> July 2016    | Lecture Hall        | 40                                   |
| 2          | Ethu Sudhandiram                 | 12 <sup>th</sup> Aug.<br>2016 | Seminar Hall        | 200                                  |
| 3          | Maatram Aaguhga                  | 24 <sup>th</sup> Aug.<br>2016 | Seminar Hall        | 100                                  |
| 4          | NSS Orientation                  | 7 <sup>th</sup> Sep.2016      | Mini Audi           | 100                                  |
| 5          | Blood donation<br>Camp           | 13 <sup>th</sup> Sep. 2016    | ECE Block,<br>SSNCE | 250                                  |
| 6          | NSS Day<br>Celebration           | 28 <sup>th</sup> Sep. 2016    | Mini Audi           | 250                                  |
| 7          | Rural Students Meet<br>Up        | 1 <sup>st</sup> Oct. 2016     | Lecture Hall        | 40                                   |
| 8          | Daan Ustaav                      | 2 <sup>nd</sup> Oct. 2016     | Besant Nagar        | 170                                  |
| 9          | Organic Farming                  | 3 <sup>rd</sup> Oct. 2016     | SSN Campus          | 30                                   |

| 10 | Disaster<br>Management<br>Training | 7 <sup>th</sup> Nov. 2016                          | Thiruporur-<br>Community Hall  | 20  |
|----|------------------------------------|--|--------------------------------|-----|
| 11 | Turtle Walk – Clean<br>UP          | 7 <sup>th</sup> &? 8 <sup>th</sup> Jan<br>2017     | Patinapakkam                   | 65  |
| 12 | National Youth<br>Conference       | 12 <sup>th</sup> to 15 <sup>th</sup> Jan<br>2017   | Rohtak,Haryana                 | 02  |
| 13 | Youth Day<br>Celebrations          | 19 <sup>th</sup> Jan 2017                          | Manapakkam,<br>Chennai         | 33  |
| 14 | Lake Walk                          | 22 <sup>nd</sup> Jan. 2017                         | Chennai                        | 40  |
| 15 | National Voters<br>Day             | 25 <sup>th</sup> Jan 2017                          | Seminar Hall                   | 50  |
| 16 | Campus Cleanliness<br>Drive        | 13 <sup>th</sup> Feb to 28 <sup>th</sup> Feb. 2017 | SSNCE                          | 15  |
| 17 | Tree Plantation                    | 21 <sup>st</sup> & 22 <sup>nd</sup><br>Feb. 2017   | SSNCE Campus                   | 20  |
| 18 | Turtle Walk                        | 25 <sup>th</sup> Feb. 2017                         | Inajmbakkam to<br>Besant Nagar | 20  |
| 19 | Blood donation<br>Camp             | 28 <sup>th</sup> Feb. 2017                         | Mini Audi                      | 250 |
| 20 | Volunteers<br>Workshop             | 2 <sup>nd</sup> & 3 <sup>rd</sup><br>March 2017    | Anna Univeristy                | 3   |
| 21 | Blind Home visit                   | 25 <sup>th</sup> March<br>2017                     | Madavaram,<br>Chennai          | 35  |
| 22 | March Past                         | 31 <sup>st</sup> March<br>2017                     | SSNCE                          | 40  |
| 23 | NSS Conclave                       | 8 <sup>th</sup> April 2017                         | IIT Madras                     | 5   |

# YRC Activities for the year 2016-17:

| Sl.<br>No. | Name of the Event      | Date               | Venue                                 | No. of<br>Volunteers<br>participated |
|------------|------------------------|--------------------|---------------------------------------|--------------------------------------|
| 1          | Campus cleaning        | 04.04.2017         | SSN CE                                | 50                                   |
| 2          | Orphanage visit        | 04.03.2017         | Annai Fathima<br>illam,<br>Karapakkam | 40                                   |
| 3          | Blood donation         | 28.02.2017         | SSN CE                                | 25                                   |
| 4          | Hospital cleaning      | 19.02.2017         | Kilpauk Govt.<br>Hospital             | 40                                   |
| 5          | Beach Cleaning         | 18.02.2017         | Marina beach,<br>Chennai              | 40                                   |
| 6          | Stem cell registration | 11February<br>2017 | SSN CE                                | 30                                   |

|    | campaign                            |                       |                                    |    |
|----|-------------------------------------|-----------------------|------------------------------------|----|
| 7  | Village camp                        | 26-28 January<br>2017 | Siruthavur,<br>Kancheepuram<br>Dt. | 70 |
| 8  | Orphanage visit                     | 02.10.2016            | Arul illam,<br>Kolapakkam          | 40 |
| 9  | Campus cleaning camp                | 28-09-2016            | SSN CE                             | 40 |
| 10 | Blood donation                      | 15.09.2016            | SSN CE                             | 25 |
| 11 | Eye Camp                            | 06.09.2016            | SSN CE                             | 20 |
| 12 | Study camp on 'Child and Drug abuse | 05.08.2016            | SSN CE                             | 30 |

### **D.** Other Activities:

To infuse the entrepreneurial spirit among students, a week long series of events are conducted by Entrepreneurship Development Cell, every year, where the students exhibit their marketing skills by selling a product specified by the team, through advertisement, slogans, organizing events etc. on a specified day. The best seller gets a prize. Other events include B-Plan contests and SSN Youth Conference (SYCON)

A model United Nations meeting (MUN) is held with participation from several colleges in and around Tamil Nadu. This event has won praise and appreciation from media and public.

An annual event that students eagerly look for, is INSTINCTS, meant to make a forum for other colleges to present their histrionic talents, SSN being the host. There are as many as 30,000 footfalls during this three day event.

# 5.3.3 How does the college seek and use data and feedback from its graduates and employers, to improve the performance and quality of the institutional provisions?

Feedback is taken from the company executives who come to recruit the students on the performance of the past students. Placement cell works closely with industry and participates in industry interaction programs to gather this information.

The institute regularly interacts with the Alumni to benchmark best practices and implement them wherever necessary.

# 5.3.4 How does the college involve and encourage students to publish materials like catalogues, wall magazines, college magazine, and

### other material? List the publications/ materials brought out by the students during the previous four academic sessions.

Students of all departments publish a quarterly magazine detailing the activities of the department and other news items relevant to their areas.

The following are the magazines published by the Institute and the departments:

- 1. Vibrations Institute
- 2. Redeem EEE
- 3. Impulse ECE
- 4. Smriti CSE
- 5. IdentITy-IT
- 6. Synergy BME
- 7. Spark Chemical
- 8. Aspire Mechanical
- 9. CivicZone Civil

The Institution magazine "Vibrations" is published quarterly in printed version, and the department magazines are uploaded in the college intranet.

## 5.3.5 Does the college have a Student Council or any similar body? Give details on its selection, constitution, activities and funding.

The institution does not have a student council, but there are societies / clubs the heads of which are part of the council which oversee all the cultural activities at SSN. Similarly, the heads of the technical clubs are responsible for all technical activities at SSN.

### 5.3.6 Give details of various academic and administrative bodies that have student representatives on them.

Every class has a class committee which consists of the students and faculty members. Class committee sets the rules and the regulations for the class behavior. It serves as the voice of the students in front of faculty and has a say in academic matters such as conduct of tests and so on. The class committee meets twice a semester.

The Institution also provides avenues for the development of technical skills, updating knowledge, personality development and service to the society through various technical associations / societies.

- Association of Electrical and Electronics Engineers (AEEE)
- Association of Electronics and Communication Engineers (AECE)
- Association of Computer Engineers (ACE)
- Association of Information Technologists (AIT)
- Association of Chemical Engineers (ACE)

- Association of Biomedical Engineers (**ABE**)
- Association of Mechanical Engineers (AME)
- The Student Branch of the Institute of Electrical and Electronics Engineers Inc. (IEEE)
- Association of civil Engineers (ACE-CIVIL)
- Indian Society for Technical Education (ISTE)
- IETE Student Forum
- Student Chapter of Association of Computing Machinery (ACM)
- Computer Society of India (CSI)
- Entrepreneurship Development Cell (**EDC**)
- National Service Scheme (NSS)
- Youth Red Cross (**YRC**)
- Tamil Mandram
- English Literary Club (ELC)
- Fine Arts Club
- Music Club
- Dance Club
- Drama Club
- Photography Club
- Management Association
- Rotaract Students' Chapter
- Electrical Research Fraternity (**ERF**)

### 5.3.7 How does the institution network and collaborate with the Alumni and former faculty of the Institution?

The institution has a very active alumni cell with a full-fledged Alumni Officer. The institute has Alumni chapters in US, Chennai, Europe, Bangalore, Hyderabad and other locations. The office bearers of the chapters meet twice a year. On every first Saturday of January, the alumni meet called 'Tribute' is organized in Chennai at SSN campus, and on every first Saturday of February, the alumni meet is organized in US.

### CRITERION VI: GOVERNANCE, LEADERSHIP AND MANAGEMENT

### 6.1 Institutional Vision and Leadership

#### 6.1.1 The Vision and Mission statements of the Institution are:

#### Vision Statement

To be a world-class institution for technical education and scientific research for the public good.

#### **Mission Statement**

### SSN will strive continuously to

- Make a positive difference to the society through education
- Empower students from all socio-economic strata to level the academic and professional playing field
- ➤ Be a centre of excellence in education in emerging technologies in tandem with the industry and industrial trends
- ➤ Build world class research facilities on par with the finest in the world and broaden students' horizons beyond classroom education
- ➤ Nurture talents and entrepreneurship and enable all-round personality development in students

#### **The Trust:**

The SSN Trust was founded in 1994 by Dr. Shiv Nadar, Chairman, HCL Technologies and (Late) Justice Pratap Singh, a legal luminary and judge of the Madras High Court. The Trust has established SSN College of Engineering in 1996 and the SSN School of Management in 1998. The SSN Institutions are managed by a Board of Management, comprising:

| 1. | Dr. Shiv Nadar, Founder, SSN Trust   | Permanent<br>Special Invitee |
|----|--|------------------------------|
| 2. | Mr. R. Srinivasan, Director and CEO,<br>Redington Ltd., Global Management and<br>Business Leader | Chairman                     |
| 3. | Ms. Roshini Nadar Malhotra,<br>Trustee, SSN Trust  | Member                       |
| 4. | Mr. T.S. Krishnamurthy,<br>Former Chief Election Commissioner                                    | Member                       |
| 5. | Dr. M.S. Ananth, Former Director, IIT-Madras   | Member                       |
| 6. | Mr. Subbiah Nagarajan, Senior Advisor,<br>Daimler India Commercial Vehicle                       | Member                       |
| 7. | Mr. Sriram Rajagopal,<br>Vice President, Human Resources, Cognizant                              | Member                       |
| 8. | Mr. P. Sivaprasad,<br>Advocate, Madras High Court  | Member                       |
| 9. | Ms. Kala Vijayakumar,<br>President, SSN Institutions   | Member Secretary             |

SSNCE has the legacy of having Dr. Shiv Nadar, a beacon in IT industry, and an embodiment of Philanthropy, guiding the college. The Board of Management meets at least twice a year to take stock of the current situation and progress made and makes policy decisions to improve the functioning of the college to take it forward.

To monitor and advise college on academic matters, the college has a Governing Council comprising educationists, meeting once a semester. The composition of the Governing Council is as follows:

| 1. | Mr. | Sivaprasad, |
|----|-----|-------------|
|----|-----|-------------|

Advocate, Madras High Court Chairman

2. Ms. Kala Vijayakumar,

President, SSN Institutions Member

3. Mr. K. Ananthakrishnan,

Chief Technology Officer,

Tata Consultancy Services Ltd. Member

4. Dr. P. Swaminathan,

(Formerly) Scientist, IGCAR Member

5. Dr. V. Sankaranarayanan,

Director (University Projects)

B.S. Abdur Rahman University Member

6. Nominee of Anna University Member

7. Nominee of Commissioner of

Technical Education,

Directorate of Technical Education, TN Member

8. Nominee of AICTE

SRO, AICTE Member

9. Dr. S. Salivahanan, Principal

SSN College of Engineering Member Secretary

## 6.1.2 What is the role of the top Management, Principal and Faculty in design and implementation of its quality policy and plans?

The top management and the Principal ensure that the QMS committee carries out its objectives in an effective way. The QMS committee reports to the Principal of the college, and he and the top management review the activities of the QMS committee every quarter.

### 6.1.3 What is the involvement of the leadership in ensuring:

- The policy statements and action plans for fulfillment of the stated mission
- Formulation of action plans for all operations and incorporation of the same into the institutional strategic plan
- Interaction with stakeholders
- Proper support for policy and planning through need analysis, research inputs and consultations with the stakeholders
- Reinforcing the culture of excellence
- Champion organizational change

The Principal and the HoDs concerned take decisions in all academic matters. The President conducts periodic discussions with the faculty and students and offers them suggestions. She also discusses with the Principal, Chairman of the Board of Management on important matters related to the college functioning, and decision is taken by her through building consensus. Implementation is stressed by the leadership of the institution. Most rules and regulations are circulated among staff, and decision is taken only after a thorough discussion with the stakeholders. The final decision taken is circulated among all stakeholders for adoption.

The discussions normally emanate from the faculty, in the faculty meeting with the HOD, then in the HoDs meeting with the Principal, and then with Principal and HoDs meeting with the President. Most of the information travel from bottom to top for approval by the Management, be it organising conferences, permitting a faculty to travel overseas for presenting a paper, etc. If it is negated, reasons are given for negation. If there is a common rule governing all concerned, it comes from top to bottom, that too after initiating a talk with the faculty or HoDs as it might concern.

## 6.1.4 What are the procedures adopted by the institution to monitor and evaluate policies and plans of the institution for effective implementation and improvement from time to time?

Please refer to Section 6.1.3.

### 6.1.5 Give details of the academic leadership provided to the faculty by the top management?

Dr. Shiv Nadar, CEO, Shiv Nadar Foundation, Mr. R. Srinivasan, Chairman, Board of Management of SSNCE are doyens of Management. Atleast one member of the Governing Council is in the Management Cadre of an industry. Their wise counsel is always available for any major decisions.

### 6.1.6 How does the college groom leadership at various levels?

The college has identified the second rung of leadership, and these leaders are given opportunities by the management to develop their skills and competencies in leadership and groom their team. These leaders as a cohort attend leadership conclave of the parent body and undergo training and are exposed to talks by motivational leaders as well as interact with other leaders of the organization.

## 6.1.7 How does the college delegate authority and provide operational autonomy to the departments / units of the institution and work towards decentralized governance system?

The department heads have both academic and financial autonomy. HoDs and Principal are given imprest amount by the management so that they can use it for any expenditure in their department/institute and is replenished once a month. As far as academic aspects are concerned, the HoDs are permitted to take routine decisions in accordance with the situations in exigencies and get it ratified by the Principal later.

### 6.1.8 Does the college promote a culture of participative management? If 'yes', indicate the levels of participative management.

Major decisions are usually taken after brainstorming and by consensus. Once a decision is taken, the implementation is done by a succession of officers / faculty.

#### **6.2** Strategy Development and Deployment

### 6.2.1 Does the Institution have a formally stated quality policy? How is it developed, driven, deployed and reviewed?

Quality Management System team of SSN IQAC consisting of faculty representatives is the prime body that develops, drives and deploys the quality policy. This is reviewed by the Top Leadership and Principal. The institute is ISO 9001:2015 certified by TUV Nord, and it audits the quality annually.

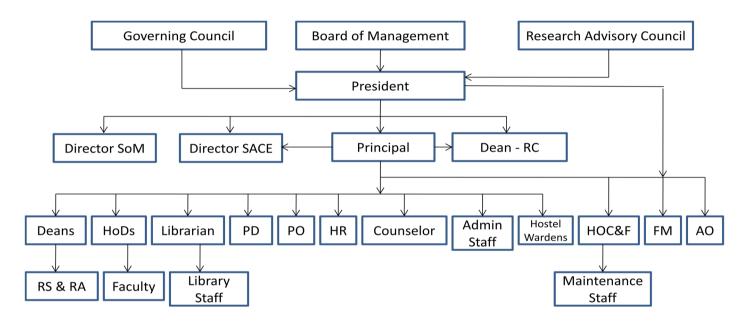
### 6.2.2 Does the Institute have a perspective plan for development? If so, give the aspects considered for inclusion in the plan.

Projections of the institute for 5 years are presented to the management for consideration, and it either approves or suggests modifications of the proposals. The institute has applied for a deemed University status to the UGC, and the UGC is yet to come for inspection.

#### **6.2.3** Internal organization structure

The organizational structure of the college is given below:

### ORGANISATIONAL STRUCTURE



### **LEGENDS**

HoD – Head of Department

PD -Director of Physical Education

PO – Placement Officer

HOC & F – Head of Construction & Facilities

AO – Alumni Officer

FM – Finance Manager

SACE – School of Advanced Career Education

# 6.2.4 Give a broad description of the quality improvement strategies of the institution for each of the following Teaching & Learning, Research & Development, Community engagement, Human resource management and Industry interaction

Of the five, Teaching Learning, Research and HR management are taken care of by QMS of ISO of the college.

Teaching must culminate with good pass percentage, good placements, creation of start-ups and increased number of students opting for higher studies.

R & D must result in earning projects and patents. HR management must ensure quality and motivate teachers.

# 6.2.5 How does the Head of the institution ensure that adequate information (from feedback and personal contacts etc.) is available for the top management and the stakeholders, to review the activities of the institution?

All the departments share a monthly report covering all the activities of their departments with the Head of the Institutions which is then shared with the leadership. Quarterly reviews happen for all departments where they present their achievements and shortcomings to the Head of the Institution and the leadership.

## 6.2.6 How does the management encourage and support involvement of the staff in improving the effectiveness and efficiency of the institutional processes?

The President, the management representative, interacts with the faculty of each department in turns and gets to know the activities and their suggestions towards improvement of the processes. Joint brainstorming sessions are held once a month with all the Heads of the department.

### 6.2.7 Enumerate the resolutions made by the Management Council in the last year and the status of implementation of such resolutions.

The following additional courses / increase in intake was approved by the Board of Management in the meeting held on 29.01.2015.

### **Increase in intake:**

- 1. Increase in intake from 120 to 180 in ECE
- 2. Increase in intake from 120 to 180 in CSE

### **New Programs:**

- 1. M.E. in Biometrics and Cyber Security with an intake of 18
- 2. M.E. in Power Systems Engineering with an intake of 18 Applications have been submitted to AICTE and Anna University for approval to start these programs from the academic year 2016 17.

The Board of Management in its meeting held on 30.10.2015 approved to establish SSN Innovation Centre and sanctioned an amount of Rs.14 Lakh for the same.

The SSN Innovation and Incubation Centres are functioning with effect from September 03, 2016.

Increase in intake from 120 to 180 in ECE and in CSE is approved by AICTE and Anna University from the academic year 2017-18.

## 6.2.8 Does the affiliating university make a provision for according the status of autonomy to an affiliated institution? If 'yes', what are the efforts made by the institution in obtaining autonomy?

Anna University, to which the institute is affiliated, has not given autonomy to any of the affiliating colleges till 2014. Post that it has informed that the institutes interested in getting autonomous status can apply for the same and SSN College has submitted its application to Anna University for obtaining autonomy. The Inspection committee from Anna University inspected our college on 18.07.2016 in order to forward the application to UGC.

# 6.2.9 How does the Institution ensure that grievances / complaints are promptly attended to and resolved effectively? Is there a mechanism to analyse the nature of grievances for promoting better stakeholder relationship?

Grievances are striven to be resolved in the Class Committee meetings for the students. In addition, there is a Grievance Redressal Committee for students. The faculty can express his / her grievances to the HoD and then to the Principal. If it is not resolved he / she can refer to a committee comprising the Principal and other HoDs.

## 6.2.10 During the last four years, had there been any instances of court cases filed by and against the institute? Provide details on the issues and decisions of the courts on these?

No.

## 6.2.11 Does the Institution have a mechanism for analyzing student feedback on institutional performance? If 'yes', what was the outcome and response of the institution to such an effort?

The parent body, viz. Shiv Nadar Foundation commissions a perception survey from a reputed market research team which interacts with a wide cross section of students cutting across branches, years and genders and obtains feedback. This feedback is communicated to top leadership for requisite action.

### **6.3** Faculty Empowerment Strategies

### 6.3.1 What are the efforts made by the institution to enhance the professional development of its teaching and non teaching staff?

At the time of starting the college, many faculty members were raw graduates, and the Management deputed faculty to do their Masters programme either through part time or if not feasible, through full time. At a certain stage, everyone was an M.E./M.Tech. Subsequently the faculty members were deputed for doing Ph.D. and now over 75% of the faculty members are with Ph.D. More than 149 faculty became research supervisors and they are guiding the faculty from SSN and other institutions who are pursuing Ph.D.

Non-teaching staff are encouraged to acquire additional skills and qualifications.

## 6.3.2 What are the strategies adopted by the institution for faculty empowerment through training, retraining and motivating the employees for the roles and responsibility they perform?

Faculty are encouraged to organize and attend national and international conferences. The SSN Trust provides funds as seed money to the faculty for their research activities. Study and recreational tours are organized for the faculty periodically.

## 6.3.3 Provide details on the performance appraisal system of the staff to evaluate and ensure that information on multiple activities is appropriately captured and considered for better appraisal.

The Institution has arrived at a faculty appraisal methodology over a period of time. It comprises, a self assessment based on the work load, qualifications, pass percentage of the classes the incumbent has taught, research publications etc. Another section of assessment is done by the HoD, mostly relying on the faculty's regularity, returning the test sheets in time, his research activities, his attitude to work as a team etc. and a third component by the Principal, counting mostly on his involvement in the development of the Institute. Obviously different weightages are given to each aspect.

The form was discussed with the teaching faculty over many sittings, and finality was reached. The marks obtained, together with the credit given by students through their feedback is considered during career advancement evaluation. Any negative indication is brought to the notice of the faculty, by the Principal, allowing him to mend himself. This is never used as a tool for penalizing the faculty, unless it is of serious nature, affecting the regulation of the institute.

6.3.4 What is the outcome of the review of the performance appraisal reports by the management and the major decisions taken? How are they communicated to the appropriate stakeholders?

Please refer to Section 6.3.3.

6.3.5 What are the welfare schemes available for teaching and non teaching staff? What percentage of staff have availed the benefit of such schemes in the last four years?

### **Teaching Staff:**

The following incentives help in improving the working ambience and academic acumen of the faculty

- Faculty Performance Incentive
- Subsidy on housing loan interest
- Laptops at subsidized cost
- Incentive for publication of papers
- Incentive for earning external funded projects
- Incentive for guiding research
- Incentive for organizing a National / International conference
- Seed money for a prospective project, so that on fructification can be submitted to an external funding agency for funding
- Incentive for a worthy innovative idea
- Incentive for obtaining a patent
- Travel Grant
- Group Medical Insurance
- Free Transport

### **Non-Teaching Staff:**

- Education, support sum of Rs. 10,000 per child per year (Maximum two children)
- Gift for marriage and new born baby
- Diwali Bonus Rs. 7,000 every year
- Twenty one days Earned leave for every year

- Fee concession for the wards of staff members who secured admission in SSN institutions
- Group Medical Insurance
- Monthly Food allowance
- Part time B.E./M.E.
- Free Transport

All the Non-teaching staff are availing the above listed benefits.

## 6.3.6 What are the measures taken by the Institution for attracting and retaining eminent faculty?

The benefits listed above, with good academic ambience and freedom attract and retain eminent faculty to the institution.

### **6.4** Financial Management and Resource Mobilisation

### 6.4.1 What is the institutional mechanism to monitor effective and efficient use of available financial resources?

Institution and its parent body employ a finance and accounting team through which all the expenses and use of financial resources are monitored by the leadership. As a second level of check the finance team of the parent body, viz. Shiv Nadar Foundation further monitors all transactions.

## 6.4.2 What are the institutional mechanisms for internal and external audit? When was the last audit done and what are the major audit objections? Provide the details on compliance.

The institution has adequate mechanism for auditing by both internal and external auditors. The parent body of the institute publishes the audited financial account through an annual report which is in public domain. The last annual report was released in June 2016.

# 6.4.3 What are the major sources of institutional receipts/funding and how is the deficit managed? Provide audited income and expenditure statement of academic and administrative activities of the previous four years and the reserve fund/corpus available with Institutions, if any.

The Trust has provided initial funding during the formative years i.e. 1996-97 for the physical assets such as land, building, roads, equipment for the various departments, furniture, water supply and sanitation, power supply, computers and networking etc. Over a period of time, as and when programmes were added, the additional infrastructure necessary was also funded by the Trust. Loans have also been taken from the HCL Technologies, when necessary.

As of now the only income to the college is by way of fees collected from the students. The major expenditure is for the salary and maintenance of the infrastructure. The college is not charging any capitation fee and hence, the budget will always be deficit.

The audited income and expenditure statements for the four years 2012-13 to 2015-16 are given below:

|   | Schedule               |                            | As at<br>March 31, 2016 |  | As a<br>March 31, 201 |
|---|------------------------|----------------------------|-------------------------|--|-----------------------|
|   |                        |                            | (INR)                   | _  | (INF                  |
| Sources of Funds  |                        |                            |                         |  |                       |
| Corpus fund   | 1                      |                            | 481,886,790             |  | 651,717,829           |
| Secured Loans   | 2                      |                            | 35,324                  |  | -                     |
| Unsecured loans   | 3                      |                            | 787,300,000             |  | 617,200,000           |
| Total   |                        | -                          | 1,269,222,114           |  | 1,268,917,829         |
| Application of Funds  | •                      |                            |                         |  |                       |
|   |                        |                            |                         |  |                       |
| Fixed Assets Net written down value                         | 4                      | 4 276 740 270              |                         | 1,299,004,586  |                       |
| Net written down value<br>Capital work in progress          |                        | 1,276,740,270<br>4,437,254 | 1,281,177,524           | 14,142,516   | 1,313,147,102         |
|   |                        | 4,407,204                  | 1,201,111,024           | 1.1,1.12,010   | ,,0.10,1.11,102       |
| nyestments  | 5                      |                            | 5,000,000               |  | 5,025,000             |
| Current Assets  |                        |                            |                         |  |                       |
| Sundry debtors  | 6                      | 10,758,980                 |                         | 5,003,830  |                       |
| Cash and bank balances                                      | 7                      | 249,010,482                |                         | 184,389,805  |                       |
| Other current assets  | 8                      | 108,195,930                |                         | 84,425,341   |                       |
| cans and advances   | 9                      | 35,485,574<br>403,450,967  |                         | 28,825,705<br>302,644,681  |                       |
|   | 40                     |                            |                         |  |                       |
| ess: Current Liabilities and Provisions Current liabilities | 10                     | 270 004 744                |                         | 240.683.325  |                       |
| Provisions  |                        | 279,024,711<br>141,381,666 |                         | 111,215,629  |                       |
| ,   |                        | 420,406,377                |                         | 351,898,954  |                       |
| let Current Assets/ (Llabilities)                           |                        | ,                          | (16,955,410)            |  | (49,254,273           |
| Fotal   |                        | -                          | 4 000 000 444           | _  | 4 000 047 000         |
| otal  |                        | =                          | 1,269,222,114           | =  | 1,268,917,829         |
| Significant Accounting Policies and                         | 15                     |                            |                         |  |                       |
| Notes to Accounts   |                        |                            |                         |  |                       |
| The Schedules referred to above form an integral            | part of the Balance Sh | eet.                       |                         |  |                       |
| This is the Balance Sheet referred to in our report         | of even date.          |                            |                         |  |                       |
| For Price Waterhouse Chartered Accountants                  | LLP                    |                            |                         | For and on behalf of   | SSN Trust             |
| irm Registration Number : 012754N/N500018                   |                        |                            |                         |  |                       |
| lanalahi  |                        |                            |                         | 1 Nat  | •                     |
|   |                        |                            |                         | Kom.   |                       |
| Abhishek Rara<br>Partner                                    |                        |                            |                         | Roshni Nadar Malh  | otra                  |
| Membership No. 077779                                       |                        |                            |                         | Trustee  |                       |
| Wellbership No. 077775                                      |                        |                            |                         | ) LABORATION OF THE PARTY OF TH |                       |
|   |                        |                            | F                       | Pawan K. Danwar  |                       |
|   |                        |                            | 9                       | Chief Financial Offic  | er                    |
|   |                        |                            |                         |  |                       |
| Place: GURGAON<br>Date: JUHE 04, 2016                       |                        |                            |                         | Place: DELHI   |                       |

SSN Trust

Income and Expenditure Account for the year ended March 31, 2016

|   | Schedule | Year Ended<br>March 31, 2016<br>(INR) | Year Ended<br>March 31, 2015<br>(INR) |
|---|----------|---------------------------------------|---------------------------------------|
| Income  |          |                                       |                                       |
| Tuition fees and other collection from students       | 11       | 599,385,601                           | 563,863,784                           |
| Donation received                                     |          | 1,761,603                             | 1,140,160                             |
| Other income  | 12       | 53,047,299                            | 57,079,529                            |
| Total   |          | 654,194,503                           | 622,083,473                           |
| Expenditure   |          |                                       |                                       |
| Personnel cost Other operating and general expenses   | 13<br>14 | 493,334,585<br>. 238,127,119          | 449,462,465<br>212,997,512            |
| Depreciation/amortisation                             | 4        | 92,563,837                            | 100,525,385                           |
| Total   |          | 824,025,542                           | 762,985,362                           |
| Excess of expenditure over income /(Net Deficit)      |          | (169,831,039)                         | (140,901,889)                         |
| Significant Accounting Policies and Notes to Accounts | 15       |                                       |                                       |

The Schedules referred to above form an integral part of the Income and Expenditure Account. This is the Income and Expenditure Account referred to in our report of even date.

For Price Waterhouse Chartered Accountants LLP Firm Registration Number: 012754N/N500016

Abhishek Rara

Partner Membership No. 077779

Place: GURGAOH Date: JUHE 04, 2016 For and on behalf of SSN Trust

Roshni Nadar Malhotra

1100.00

Pawan K. Danwar Chief Financial Officer

Place: DELHI Date: JUNE 04,246

PLACE: NEW DELY! DATE: JUNE 20, 2015

| Schedule   March 31, 2015  | SSN Trust   |  |               |               |                                       |               |
|--|---|--|---------------|---------------|---------------------------------------|---------------|
| Sources of Funds    March 31, 2015   | Balance Sheet as at March 31, 2015  |  |               |               |                                       |               |
| Sources of Funds    March 31, 2015   |   |  |               |               |                                       |               |
| (NR)      |   | Schedule                                   |               |               | * .                                   |               |
| Sources of Funds   |   |  |               |               |                                       |               |
| Trisecured loans   2   | Sources of Funds  |  | _             | (iiii)        | -                                     | (INK)         |
|  | Corpus fund   | 1  |               | 651 717 820   |                                       | 700 040 740   |
| Application of Funds  Fixed Assets   3   | Insecured loans   |  |               |               |                                       |               |
| Application of Funds Fixed Assets  alter written down value  alter written down value  1,289,004,586 14,142,518 1,313,147,102 10,582,987 1,293,764,116  5,025,000  5, | Total   |  | _             | 1.268.917.829 |                                       | 1 303 919 718 |
| 1,289,004,586  | Application of Funda  |  | _             | 1,000,000,000 |                                       | 1,000,010,110 |
| Let written down value   |   |  |               |               |                                       |               |
| 2apital work in progress   | Fixed Assets  | 3  |               |               |                                       |               |
| Table   Work in progress   14,142,516   1,313,147,102   10,582,987   1,293,764,116   | Net written down value  |  | 1,299,004,586 |               | 1.283,181,129                         |               |
| Surrent Assets   Sundry debtors   Substitution      | apital work in progress   |  |               | 1,313,147,102 |                                       | 1,293,764,116 |
| Surrent Assets   Sundry debtors   Sundry debtors   Sundry debtors   Sundry debtors   Sundry debtors   Sundry debtors   Subsets and bank balances   Sundry debtors   Subsets and bank balances   Subsets and bank balances   Subsets   Subs   | nvestments .  | 4  |               | 5,025,000     |                                       | 5,025,000     |
| Sundry debtors   S   | Current Assets  |  |               |               |                                       |               |
| Sest and benk balances   6   |   | 5  | E 003 830     | •             | 2 500 455                             |               |
| ther current assets one and advances  8 28,825,705 002,644,681  283,701,768  ess: Current Liabilities and Provisions urrent.liabilities ess: Current Liabilities 240,683,325 207,913,166  rovisions 111,215,629 70,658,018 278,571,184  et Current Assets/ (Liabilities)  otal  14  otes to Accounting Policies and 14  otes to Accounting Policies and 14  otes to Accounts  be Schedules referred to above form an integral part of the Balance Sheet. his is the Balance Sheet referred to in our report of even date.  or Price Waterhouse Chartered Accountants LLP Irm Registration Number: 012754N/N500016  Roshni Nadar Malhotra Trustee  |   |  |               |               |                                       |               |
| bass and advances  8 28,825,705 302,644,681 283,701,768  ess: Current Liabilities and Provisions 9 urrent Liabilities — 240,683,325 207,913,166 70,658,018 278,571,184  et Current Assets/ (Liabilities) 351,898,954 (49,254,273) 5,130,602  et Current Assets/ (Liabilities) 440,683,325 70,658,018 278,571,184 278,571,184 278,571,184  grafficant Accounting Policies and 14 oles to Accounts  the Schedules referred to above form an integral part of the Balance Sheet, his is the Balance Sheet referred to in our report of even date.  Price Waterhouse Chartered Accountants LLP ror Registration Number: 012754N/NS00018  Roshni Nadar Malhotra Trustee Roshni Nadar Malhotra Trustee Rembership No. 077779  lace: TOKYO  |   |  |               |               |                                       |               |
| ess: Current Liabilities and Provisions  9 240,683,325. 240,683,325. 270,598,018 276,571,184  111,215,629 351,898,954  4(49,254,273)  5,130,602  14  25,130,602  1,268,917,829  1,303,919,718  278,571,184  5,130,602  1,268,917,829  1,303,919,718  278,571,184  5,130,602  1,268,917,829  1,303,919,718  278,571,184  5,130,602  1,268,917,829  1,303,919,718  283,701,765  207,913,166  70,658,018  278,571,184  5,130,602  1,268,917,829  1,303,919,718  278,571,184  5,130,602  1,268,917,829  1,303,919,718  283,701,765  207,913,166  70,658,018  278,571,184  5,130,602  1,303,919,718  283,701,765  207,913,166  70,658,018  278,571,184  5,130,602  1,303,919,718  283,701,765  207,913,166  70,658,018  278,571,184  5,130,602  1,303,919,718  283,701,765  283,701,765  207,913,166  70,658,018  278,571,184  5,130,602  1,303,919,718  283,701,765  207,913,166  70,658,018  278,571,184  5,130,602  1,303,919,718  283,701,765  207,913,166  70,658,018  278,571,184  5,130,602  1,303,919,718  283,701,765  207,913,166  70,658,018  278,571,184  5,130,602  1,303,919,718  283,701,765  207,913,166  70,658,018  278,571,184  5,130,602  1,303,919,718  283,701,765  207,913,166  70,658,018  278,571,184  5,130,602  1,303,919,718  283,701,765  207,913,166  70,658,018  278,571,184  5,130,602  1,303,919,718  283,701,765  207,913,166  70,658,018  278,571,184  5,130,602  1,303,919,718  283,701,765  207,913,166  70,658,018  278,571,184  5,130,602  1,303,919,718  283,701,765  207,913,166  70,658,018  278,571,184  5,130,602  1,303,919,718  283,701,765  283,701,765  207,913,166  70,658,018  278,571,184  5,130,602  1,303,919,718  283,701,782  1,303,919,718  283,701,782  1,303,919,718  283,701,782  283,701,78 |   |  |               |               |                                       |               |
| ses: Current Liabilities and Provisions  240,683,325. 207,913,166  70,658,018 278,571,184  | and auvances  | 0  |               |               |                                       |               |
| Current Liabilities 240,883,325 207,913,166 70,658,018 278,571,184 | and Compat Linkilling and Device  | •  |               |               | 200,101,100                           |               |
| rovisions    111,215,629   70,656,018   278,571,184   278,571,184   5,130,602     1268,917,829   1,303,919,718     1303,919,718     14   15   15   15   15   15   15   15  |   | 9  | 240 683 325   |               | 207 042 400                           |               |
| tet Current Assets/ (Liabilities)  otal  (49,254,273)  1,268,917,829  1,303,919,718  (49,254,273)  5,130,602  1,303,919,718  Identificant Accounting Policies and oles to Accounts  the Schedules referred to above form an integral part of the Balance Sheet. his is the Balance Sheet referred to in our report of even date.  or Price Waterhouse Chartered Accountants LLP rom Registration Number: 012754N/NS00016  Roshni Nadar Malhotra Trustoe  Roshni Nadar Malhotra Trustoe  Roshni Nadar Malhotra Trustoe  Pawan K Downey  Bace: TOKYO   | rovisions   |  |               |               |                                       |               |
| otal  (49,254,273)  5,130,602  otal  1,268,917,829  1,303,919,718  Ignificant Accounting Policies and oles to Accounts  the Schedules referred to above form an integral part of the Balance Sheet, his is the Balance Sheet referred to in our report of even date.  or Price Waterhouse Chartered Accountants LLP rom Registration Number: 012754N/N500016  Roshni Nadar Malhotra Trustoe  Roshni Nadar Malhotra Trustoe  Roshni No. 077779  Idace: TOKYO  |   |  |               |               |                                       |               |
| ignificant Accounting Policies and 14 lotes to Accounts  The Schedules referred to above form an integral part of the Balance Sheet. his is the Balance Sheet referred to in our report of even date.  Or Price Waterhouse Chartered Accountants LLP For and on behalf of SSN Trust  Weights Registration Number: 012754N/N500016  Roshni Nadar Malhotra Trustoe  Pawan K Dawang Chartered Accountants CLP Roshni Nadar Malhotra Trustoe  Pawan K Dawang Chartered Accountants CLP Roshni Nadar Malhotra Trustoe  Pawan K Dawang Chartered Accountants CLP Roshni Nadar Malhotra Trustoe  Pawan K Dawang Chartered Accountants CLP Roshni Nadar Malhotra Trustoe   | et Current Assets/ (Liabilities)  |  |               | (49,254,273)  | 2.0,0.1,104                           | 5,130,602     |
| indes to Accounts  The Schedules referred to above form an integral part of the Balance Sheet.  This is the Balance Sheet referred to in our report of even date.  The Price Waterhouse Chartered Accountants LLP For and on behalf of SSN Trust For and on behalf of SSN Trust  Abhishak Rara  Partner dembership No. 077779  Pawan K Downey  | otal  |  | . =           | 1,268,917,829 | -                                     | 1.303.919.718 |
| Total to Accounts  The Schedules referred to above form an integral part of the Balance Sheet, his is the Balance Sheet referred to in our report of even date.  The Price Waterhouse Chartered Accountants LLP for and on behalf of SSN Trust im Registration Number: 012754N/N500016  Roshishak Rara Partner Membership No. 077779  Pawan K Downey Chartered Accountants LLP for and on behalf of SSN Trust in the Partner form to the Pawan K Downey Charter for the Pawan K D |   |  | _             |               | -                                     |               |
| he Schedules referred to above form an integral part of the Balance Sheet. his is the Balance Sheet referred to in our report of even date.  or Price Waterhouse Chartered Accountants LLP  Irm Registration Number: 012754N/N500016  Roshishak Rara Partner Idembership No. 077779  Pawan K Downer  Pawan K D |   | 14   |               |               |                                       |               |
| his is the Balance Sheet referred to in our report of even date.  or Price Waterhouse Chartered Accountants LLP from Registration Number: 012754N/N500016  Roshishak Rara Partner lembership No. 077779  Pawan K Downer  Pawan | otes to Accounts  |  |               |               |                                       |               |
| For and on behalf of SSN Trust  Registration Number: 012754N/N500016  Roshni Nadar Malhotra Trustoe  Roshni No. 077779  Hace: TOKYO  |   |  |               |               |                                       |               |
| Roshni Nadar Malhotra Trustoe Hace: TOKYO  | he Schedules referred to above form an integra<br>his is the Balance Sheet referred to in our repor | I part of the Balance :<br>t of even date. | Sheet.        |               |                                       | * 1           |
| Roshni Nadar Malhotra Trustoe Hace: TOKYO  |   |  |               |               |                                       |               |
| Abhishak Rara Partner Roshni Nadar Malhotra Trustoe Place: TOKYO  Pawan K Down   |   | LLP  |               |               | For and on behalf of                  | SSN Trust     |
| Abhishek Rara Partner Permbership No. 077779  Pawan K Dawar  | THE REGISTRATION NUMBER: 01275419/N500016   |  |               |               | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 11            |
| Abhishek Rara Partner Permbership No. 077779  Pawan K Dawar  | lanakhu   |  |               | 12            | Oaker                                 |               |
| rarther Trustee Trustee Hawaii Kalendra Tok'yo   |   |  |               | 13            | •                                     |               |
| lembership No. 077779  | artner  |  |               |               |                                       | notra         |
|  | lembership No. 077779   |  |               |               | B                                     | West          |
| ate: STINE 22, 2015  |   |  |               |               | Pawan K Danwar                        |               |
|  | ate: JUNE 22, 2015  |  |               |               |                                       | er            |

SSN Trust
Income and Expenditure Account for the year ended March 31, 2015

|   | Schedule | Year Ended<br>March 31, 2015<br>(INR) | Year Ended<br>March 31, 2014<br>(INR) |
|---|----------|---------------------------------------|---------------------------------------|
| Income  |          | (1117)                                |                                       |
| Tuition fees and other collection from students       | 10       | 563,863,784                           | 523,681,472                           |
| Donation received                                     |          | 1,140,160                             | 984,073                               |
| Other income  | 11       | 57,079,529                            | 51,132,253                            |
| Total   |          | 622,083,473                           | 575,797,798                           |
| Expenditure   |          |                                       |                                       |
| Personnel cost  | 12       | 449,462,465                           | 365,473,946                           |
| Other operating and general expenses                  | 13       | 212,997,512                           | 205,161,081                           |
| Depreciation/amortisation                             | 3        | 100,525,385                           | 90,343,278                            |
| Total   |          | 762,985,362                           | 660,978,305                           |
| Excess of expenditure over income (Net Deficit)       |          | (140,901,889)                         | (85,180,507)                          |
| Significant Accounting Policies and Notes to Accounts | 14       |                                       |                                       |

The Schedules' referred to above form an integral part of the Income and Expenditure Account. This is the Income and Expenditure Account referred to in our report of even date.

For Price Waterhouse Chartered Accountants LLP Firm Registration Number: 012754N/N500016

Abhishek Rara

Partner Membership No. 077779

Place: TUNE 22, 2015

For and on behalf of SSN Trust

Chief Financial Officer

PLACE: NEW DELLI DATE: JUNE 22, 2015

| SS | N | Tr | us | t |  |
|----|---|----|----|---|--|
|    |   |    |    |   |  |

Balance Sheet as at March 31, 2014

|                                     |        | Schedule |               | 4                                |               |                                  |
|-------------------------------------|--------|----------|---------------|----------------------------------|---------------|----------------------------------|
|                                     |        | Schedule |               | As at<br>March 31, 2014<br>(INR) |               | As at<br>March 31, 2013<br>(INR) |
| Sources of Funds                    |        |          | _             | live of                          | 15/2 8        | (intro)                          |
| Corpus fund                         |        | 1        |               | 792,619,718                      |               | 877,800,225                      |
| Unsecured loans                     |        | 2        |               | 511,300,000                      |               | 421,000,000                      |
| Total                               |        |          | _             | 1,303,919,718                    |               | 1,298,800,225                    |
| Application of Funds                |        |          |               |                                  |               |                                  |
| Fixed Assets                        |        | 3        |               |                                  |               |                                  |
| Net written down value              |        |          | 1,283,181,129 |                                  | 1,297,312,013 |                                  |
| Capital work in progress            |        |          | 10,582,987    | 1,293,764,116                    | 10,042,721    | 1,307,354,734                    |
| Investments                         |        | 4        |               | 5,025,000                        |               | 5,025,000                        |
| Current Assets                      |        |          |               |                                  |               |                                  |
| Sundry debtors                      |        | 5        | 3,509,455     |                                  | 147,010       |                                  |
| Cash and bank balances              |        | 6        | 189,469,575   |                                  | 187,551,723   |                                  |
| Other current assets                |        | 7        | 63,993,605    |                                  | 46,092,572    |                                  |
| Loans and advances                  |        | 8        | 26,729,151    |                                  | 25,164,188    |                                  |
|                                     |        |          | 283,701,786   |                                  | 258,955,493   |                                  |
| Less: Current Liabilities and Provi | isions | 9        |               |                                  |               |                                  |
| Current liabliities                 |        |          | 207,913,166   |                                  | 216,741,286   |                                  |
| Provisions                          |        |          | 70,658,018    |                                  | 55,793,716    |                                  |
|                                     |        |          | 278,571,184   |                                  | 272,535,002   |                                  |
| Net Current Assets/ (Liabilities)   |        |          |               | 5,130,602                        |               | (13,579,509                      |
| Total                               |        |          | -             | 1,303,919,718                    |               | 1,298,800,225                    |

The Schedules referred to above form an integral part of the Balance Sheet. This is the Balance Sheet referred to in our report of even date.

For Price Waterhouse Firm Registration Number - 012754N Chartered Accountants

Abhishek Rara Partner Membership No. 077779

Place: Singapole Date: June 03,2014

For and on behalf of SSN Trust

PLACE: Noida DATE: June 03,2014 SSN' Trust

Income and Expenditure Account for the year ended March 31, 2014

| Income  | Schedule |     | Year Ended<br>March 31, 2014<br>(INR) | Year Ended<br>March 31, 2013<br>(INR) |
|---|----------|-----|---------------------------------------|---------------------------------------|
|   |          | * * |                                       |                                       |
| Tuition fees and other collection from students | 10       |     | 523,681,472                           | 451,711,859                           |
| Donation received                               |          |     | 984,073                               | 588,701                               |
| Other income                                    | .11      |     | 51,132,253                            | 46,634,876                            |
|   |          |     |                                       |                                       |
| Total   |          |     | 575,797,798                           | 498,935,436                           |
| Expenditure                                     |          |     |                                       |                                       |
| Personnel cost                                  | 12       |     | 365,473,946                           | 323,860,479                           |
| Other operating and general expenses            | 13       |     | 205,161,081                           | 176,789,977                           |
| Depreciation/amortisation                       | 3        |     | 90,343,278                            | 89,843,467                            |
| Total   |          |     | 660,978,305                           | 590,493,923                           |
| Excess of expenditure over income (Net Deficit) |          |     | (85,180,507)                          | (91,558,487)                          |

The Schedules referred to above form an integral part of the Income and Expenditure Account. This is the Income and Expenditure Account referred to in our report of even date.

For Price Waterhouse

Firm Registration Number - 012754N Chartered Accountants

Significant Accounting Policies and Notes to Accounts

Abhishek Rara

Partner
Membership No. 077779

Place: Singapore Date: June 03, 2014

For and on behalf of SSN Trust

Roshni Nadar Malhotra Trustee PLACE: Noida

DATE: June 03,2014

| Salance Sheet as at March 31, 2013   | au removement de l'est est au l'est le de le décent de les comment et l'est de | The street of th | and the people in the State last, where the Last. A section we accompany | MARKET STATE OF THE STATE OF TH |  |
|--|--|--|--|--|--|
|  |  |  | 1 4  |  |  |
|  | Schedule   |  | As at March 31, 2013 (INR)   |  | As a<br>March 31, 2013<br>(INR           |
| Sources of Funds   |  | No. (Married)  | na n                                 | · · ·  |  |
| Corpus fund  | 1  |  | 877,800,225  |  | 969,358.71                               |
| Unsecured loan   | 2  |  | 421,000,000  | 75.72  | 377,600,000                              |
| Total  |  | 2004   | 1,298,800,225  |  | 1,346,958,71                             |
| Application of Funds   |  |  |  |  |  |
| Firmed Assesser  | 3  |  |  |  |  |
| Fixed Assats Net written down value  | 9  | 1,297,312,013  |  | 1,325,901,452  |  |
| Capital work in progress   |  | 10.042.721   | 1,307,354,734  | 15,190,748   | 1,341,092,20                             |
| Investments  | 4  |  | 5,025,000  |  | 18,336,0                                 |
| AND AND THE PROPERTY OF  |  |  |  |  |  |
| Current Assets   | Š  | 187 551,723  |  | 181,831,713  |  |
| Cash and bank balances   |  | 46 092,572   |  | 29,962,794   |  |
| Other current assets   | 6  | 25,311,198   |  | 22,328,140   |  |
| Loans and advances   | 7  | 258 955,493  |  | 234,122,647  |  |
| Less: Current Liabilities and Provisions   | 8  |  |  |  |  |
| Current liabilities  |  | 216,741,286  |  | 210,969,820  |  |
| Provisions   |  | 55,793,716   |  | 35,622,329   | _  |
| to the second se |  | 272.535,002  |  | 246,592,149  | 17,000200,000000000000000000000000000000 |
| Net Current Assets/ (Liabilities)  |  |  | (13,579,509)   |  | (12,459,                                 |
| Total  |  |  | 1,298,800,225  |  | 1,346,958,                               |
|  |  |  |  |  |  |
| Significant Accounting Policies and<br>Notes to Accounts   | 13   |  |  |  |  |
|  | Conservation of the Color  | es Chest   |  |  |  |
| The Schedules referred to above form an  |  | or pister.   |  |  |  |
| This is the Balance Sheet referred to in o   | ur report of even date.  |  |  |  |  |
| For Price Waterhouse   |  |  |  | For and on beh   |  |
| Firm Registration Number - 012754N<br>Chartered Accountants  |  |  |  | 1900 180   | ,  |
| Suditales Accountants  |  |  |  | 10   | 9  |
| 0 0 10 100   |  |  |  | 1700   | -  |
| X Myan   |  |  |  | Jan. Hal   |  |
| Abhishek Rara  |  |  |  | Roshni Nadar   | Malhotra                                 |
| Partner  |  |  |  | Trustee  |  |
| Membership No. 077779  |  |  |  |  |  |
| Place aurginon   |  |  |  | Place : K  | ne ida                                   |
| Date: May 16, 2013   |  |  |  |  |  |
|  |  |  |  | Dale no  | cy 16,2013                               |

| ncome and Expenditure Account for the year e                 | ended March 31, 2013             | -,-,                    |                                  |
|--|----------------------------------|-------------------------|----------------------------------|
|  | Schedule                         | Year Ended              | Year Ended                       |
|  | * *                              | March 31, 2013<br>(INR) | March 31, 2012<br>(INR)          |
| ncome  |                                  | (mary)                  | link                             |
| union fees and other collection from students                | 9                                | 451,711,859             | 390,142,489                      |
|  |                                  |                         |                                  |
| Donation received  |                                  | 588,701                 | 862,358                          |
| Other income   | 10                               | 46,634,876              | 42.016,443                       |
| Total  |                                  | 498,935,436             | 433,021,29                       |
| Expenditure  |                                  |                         |                                  |
| Personnel cost   | 11                               | 323,860,479             | 270,680,38                       |
| Other operating and general expenses                         | 12                               | 176,789,977             | 165,544,48                       |
| Depreciation/amortisation                                    | 3                                | 89,843,467              | 88,400,15                        |
| Total  |                                  | 590,493,923             | 524,625,0                        |
| Excess of expenditure over income                            |                                  | [91,558,487]            | (91,603,73                       |
| Significant Accounting Policies and Notes to Accounts        | 13                               |                         |                                  |
| The Schedules referred to above form an integral part of the | ne Income and Expenditure. Accou | int.                    |                                  |
| This is the Income and Expenditure Account referred to in    | our report of even date.         |                         |                                  |
| For Price Waterhouse   |                                  |                         | For and on behalf of SSN Trust   |
| Firm Registration Number - 012754N                           |                                  |                         |                                  |
| Chartered Accountants  |                                  |                         | got hal                          |
| Musik  |                                  |                         | aple                             |
| Abhishek Rara<br>Partner                                     |                                  |                         | Roshni Nadar Malhotra<br>Trustee |
| Membership No. 077779  |                                  |                         |                                  |
| Place: Gurgarn   |                                  |                         | Place - Noida                    |
| Place: Gurgary<br>Date: May 16,2012                          |                                  |                         |                                  |
| 3  |                                  |                         | Date - May 16, 2013              |

## 6.4.4 Give details on the efforts made by the institution in securing additionalfunding and the utilization of the same (if any): Nil

### 6.5 Internal Quality Assurance System (IQAS)

### **6.5.1** Internal Quality Assurance Cell (IQAC)

SSN has set up a Quality Management System under the aegis of SSN – Internal Quality Assurance Cell (SSN – IQAC) for education and research. SSN is one of the early educational institutes to be certified by ISO 9000:1998 in the year 2000, and it is a pioneer in setting International Quality Standards in education and research. At present, SSN is certified by TUV India Limited (TUV Nord Group) with latest version of ISO 9001: 2015

Some of the quality initiatives by the institutions are highlighted below:

- It has created a Repository of Academic Resources for innovative teaching methods and research contributions in the field of Science, Engineering, Technology and Management.
- Improvement of credibility and image: This initiative has established premier position among all the stakeholders of the society. The college is now the first choice for all aspiring students and a quality resource bank for Employers.
- **Improvement of customer satisfaction** One of the quality management principles of the IQAC is to improve customer satisfaction by planning and striving to meet customer requirements. SSN has always striven for improving customer satisfaction.
- **Better process integration** SSN has achieved overall process interactions through the process approach of IQAC. This initiative has resulted in improvements in efficiency and effectiveness of academic delivery system.
- Improved evidence based decision making A management principle of quality assurance of IQAC is the need to use evidence-based decision making. SSN has inculcated this culture among all internal stakeholders.
- Created a continual improvement culture Continual improvement is another management principle of quality assurance of IQAC. SSN has adopted and integrated this culture to every quality system in the organization for improving processes and organizational output.
- **Engagement of employees** SSN Employees are involved in the improvements of the processes they work with, and they are happier and more engaged employees.
- 6.5.2 Does the institution have an integrated framework for Quality assurance of the academic and administrative activities? If 'yes', give details on its operationalisation.

Yes.

Every department has at least one IQAC Coordinator. Depending on the size and number of programs offered by the department, it has multiple coordinators. Apart from coordinators, each department has two qualified internal auditors. Auditors perform semi annual quality audits periodically and submit reports for continual improvements. All staff members are provided with orientation, and all staff members undergo periodical audit of their academic and administrative activities.

6.5.3 Does the institution provide training to its staff for effective implementation of the Quality assurance procedures? If 'yes', give details enumerating its impact.

Yes.

The institution organizes training programme periodically for internal auditors and lead auditor by inviting quality training experts and also by qualified internal auditors and Departmental Coordinators.

## 6.5.4 Does the institution undertake Academic Audit or other external review of the academic provisions? If 'yes', how are the outcomes used to improve the institutional activities?

The institution was inspected by a Peer Review committee comprising eminent academicians from all over the country led by Dr. R. Natarajan, former Chairman, AICTE. Its observations were made available to the top management as a review document.

The institution analyses the results of university examination after every semester and decides as to how best the percentage of result can be improved. This meeting is attended by the faculty of respective departments. For NBA, the college has conducted a mock accreditation drill to bring out any shortcomings in the process which has already been indicated so that a corrected version can be uploaded on the web.

## 6.5.5 How are the internal quality assurance mechanisms aligned with the requirements of the relevant external quality assurance agencies/regulatory authorities?

Every year an audit is carried out by external auditors and internal audit is carried out once in six months. The observation, opportunity for improvement and non-conformity indicated by the auditors are rectified at the earliest.

## 6.5.6 What institutional mechanisms are in place to continuously review the teaching learning process? Give details of its structure, methodologies of operations and outcome?

The academic Quality Management System team meets once a year to review the proper functioning of the teaching learning process.

## 6.5.7 How does the institution communicate its quality assurance policies, mechanisms and outcomes to the various internal and external stakeholders?

Every department publishes a monthly magazine comprising the events in the department including conferences, research publications and visits of eminent scientists. This is electronically sent to all stakeholders namely teachers, students, alumni and industries for their perusal and comments if any.

### Chapter VII INNOVATION AND BEST PRACTICES

#### 7.1 Environment Consciousness

### 7.1.1 Does the institute conduct a Green Audit of its campus and facilities?

The institution has not conducted a Green Audit of its campus and facilities, *per se*. Nevertheless, it is conscious of the need for keeping the campus green and eco-friendly. The steps taken are: The virgin greenery of the campus is maintained. To compensate for the loss of greenery due to the built up area, extensive green coverage has been created. The sewage is treated with a full fledged STP, and the treated water is extensively used to maintain the lawn and watering the trees. Periodical maintenance is done to the STP, so that it functions efficiently throughout the year without interruption.

The rain water is diverted through wide green shallow channels spread over the entire campus which are connected to a pond located on the North East end of the campus, thus ensuring the conservation of rainwater. The college is about 5 km from the sea, and deep wells will result in saline water intrusion and hence, all the sixteen wells spread over the entire campus are shallow, not more than 10m deep. There is a network of well laid out lined channels, which, during heavy rains, discharge the surface water into the *nallah* there by preventing flooding.

The bank of solar panels located in the open terrace, is essentially used for research; yet, it is used to light partially the street lamps in the campus during nights. A wind mill is on the cards for erection, near the EEE block.

The power position is rather bleak in the state; hence, we are left with no alternative other than relying on the diesel power for the effective running of the Institute. Perhaps, after commissioning of the second unit of IGCAR, the reliance on the DG sets may decrease.

## 7.1.2 What are the initiatives taken by the college to make the campus eco-friendly?

The institution periodically de-silts the two lakes on the sides of the campus, and annually cleans the feeder channels of the wild growth, thus maintaining the water body. The extensive growth of trees in the campus is ample proof of the intent of the Management to make the campus eco-friendly. The college periodically issues instructions to switch off the lights, fans and AC units when not in use, contributing to a certain extent for the conservation of energy. Vamasundari Park, over an area of three acres in the midst of the campus is a very good example for the attitude of the Institute to maintain the green cover in the campus. Hazardous materials/chemicals are not used in any

of the laboratories. The e-waste is periodically segregated, collected and sent to Thirupporur Panchayat and the Panchayat sends it for reclamation.

#### 7.2 Innovations

### 7.2.1 Innovations introduced during the last four years

### **Digital delivery of Courses**

All classrooms are digitally enabled, with dedicated laptop, projector and Wi-Fi connectivity. Most lectures are through power point presentations uploaded in Intranet and available for students at any point of time.

### **Beyond Syllabus Learning**

Beyond syllabus learning is encouraged through workshops, conferences and guest lectures. On an average, each department conducts one conference, five workshops and five guest lectures every year. Students get an exposure to external world and industry activity through these interventions.

#### **Research Orientation at UG level**

The Institution has a system of calling for proposals from students, evaluating them through external experts and then sanctioning funds for projects, if worthwhile. For example, in 2016 August, 150 projects have been sanctioned with a funding support of Rs.29.42 Lakh. This benefits 360 students guided by 86 faculty. Such a support has helped in creating a conducive atmosphere for research, leading to students publishing in International Journals of repute.

#### **Emphasis on Project Based Learning**

Several external trainers are brought in to expose students to Automotive and Robotics areas. This has resulted in our students fabricating their own cars for competitions like SUPRA, BAJA etc., conducted by Society of Automotive Engineers (SAE). As a highlight to all these achievements, the Management has started an Innovation Club in 2016, guided by Prof. Idichandy of IIT Madras.

### **Facilitation of Leadership Development**

Every year students are permitted to run a major cultural event called "INSTINCTS" and department level technical Symposiums. This exposes the students to event management and networking thereby, enabling Leadership Development.

### **7.3 Best Practices**

| 1. Title of the Practice   |           |  |  |  |
|--|-----------|--|--|--|
| (1) Usage of electronic media in (2) Early induction of a student into |           |  |  |  |
| teaching & Learning:   | research. |  |  |  |

### 2. Goal

This is being extensively used for almost all the courses, so that the student is able to understand the topic better.

The aim is to see that the student has a clear perception of what is being taught and he is able to pursue it on his own, based on the material provided by the instructor.

The aim is to create a desire in the students to pursue research either as a career or as a part of earning a research degree e.g. M.S. or Ph.D.

### 3. The Context

The faculty teaching a subject splits the syllabus into convenient modules, so that the prerequisites of one module have already been taught to the student earlier, and there is cogency. For each module, he/she prepares a set of information, sketches, graphs etc. and uploads it in the intranet, which the student can browse and see and understand at his own pace and comes prepared to the following class. The teacher elaborates the uploaded notes with illustrations or case studies or even videos, so that the topic gets embedded into the minds of the students. In addition, he gives a set of locations, where additional explanations are given or where information for further studies is available.

> http://www.ssn.net/twiki/bin/view/ PhyIntranet/PhyElearning http://www.ssn.net/twiki/bin/view/ EceIntranet/EceEngPhy-A-15

Over a period of a year, it is possible to identify a student, who has a research potential or ambition. During his second year, he can be tagged on to a research scholar, who is pursuing research i.e. Ph.D. to assist him in Literature survey, formation of a circuit or fabrication of an experimental set up, during his free time without detriment to his own studies. He will be asked to study, understand and reproduce in his own words an already published article. Thus he will get himself involved in the nuances of research.

### 4. The Practice

It has been made mandatory for the entire faculty to pursue, except for those teaching subjects like Mathematics, Accounting, Ethics etc. which need elaborate use of chalk and talk. It is being overseen by the HoD concerned. The students express their opinion either in the class committee meetings or in their feedback on the teacher.

Encouragement is given to students to submit a project proposal, on an item he feels will qualify as a research topic or innovation, for funding by the Trust. A team of faculty scrutinizes the methodology and grants or suggests improvements for funding.

### 5. Evidence of Success

The evidence of success is the percentage passes and the marks earned in the subject over a period of say three years.

|   | Sl. | Subject                              | Pass percentages in the years |             |             |  |  |
|---|-----|--------------------------------------|-------------------------------|-------------|-------------|--|--|
| ] | No. | Subject                              | 2013-<br>14                   | 2014<br>-15 | 2015-<br>16 |  |  |
|   | 1   | PH 2161<br>Engineering<br>Physics II | 98.00                         | 98.00       | 96.2        |  |  |

The evidence of success is the number of students, who choose research as a career, after graduation

| Sl.<br>No. | Branch   | have opt<br>a caree<br>their d | opted for research as<br>reer after completing<br>ir degree in the year<br>14 2014-15 2015-16 |         |  |  |  |
|------------|----------|--------------------------------|---|---------|--|--|--|
|            |          | 2013-14                        | 2014-15   | 2015-16 |  |  |  |
| 1          | EEE      | 2                              | 4   | -       |  |  |  |
| 2          | ECE      | 4                              | 5   | 10      |  |  |  |
| 3          | CSE      | 1                              | 3   | 1       |  |  |  |
| 4          | IT       | 2                              | 1   | -       |  |  |  |
| 5          | Chemical | 3                              | ı   | 1       |  |  |  |
| 6          | BME      | -                              | 1   | 11      |  |  |  |
| 7          | Mech     | 2                              | 3   | 3       |  |  |  |

### 6. Problems Encountered and Resources Required

In this age of Internet and mobiles usurping all the time of the student, it is rather difficult to make him go through the pre class material posted in the intranet prior to the class. Except for the unit test spread over a period of 90 days, it is difficult to test the class, on a specific topic. The college being an affiliated one, the pattern of question paper, of which the student is more concerned, is not eliciting the knowledge but ability to reproduce and the teacher has no say in this. Over a period of time it will certainly change.

The continuous engagement of the student with his own programme and the lack of time, normally prevents him to take a serious look at research, even during his free time.

8. Contact Details

Name of the Principal : S. Salivahanan Work Phone : 044-27469700

Name of the Institution : Sri Sivasubramaniya Nadar College of Engg.

Rajiv Gandhi Salai (OMR)

Kalavakkam – 603110, Tamil Nadu

Web Site : www.ssn.edu.in

City: Kalavakkam : Mobile: 09444189433

Pin Code : 603110

Fax : 044-27469772 Accredited Status : Accredited

E-Mail : Principal: salivahanans@ssn.edu.in

Institution: info@ssn.edu.in

#### POST ACCREDITATION INITIATIVES

### Early induction of students into research

The students who are expressive and exhibit some intuitive ideas are selected based on their performance in the tests and other college activities, irrespective of the domains. Such students are tagged on to one of the Ph.D. scholars, essentially to assist him in the scholar's research. He gets to know the broad area in which the Ph.D. scholar is interested. The scholar gives an article dealing with the fundamentals of the area in which he intends doing research. The student is asked to write the same paper, in his own style, thus making him understand the experimentation or circuitry or fabrication the author has done and its limitations. The student is informed of the locations where further information is available. The student gets to know the area in which he would like to pursue, in case he is to do research. He might propose a project, with the guidance of a teacher, and if found that it could be tried, the Trust would fund it to the extent possible, thus moulding him to research. Quite a number of projects are being funded by the Trust to encourage students to venture into their innovative ideas.

### **Project based learning**

There is a saying "Seeing is believing and doing betters it". In pursuance of this it is felt, a small project could be given to students while they are in their Fourth semester itself, something in which they may be interested. The student gives his ideas; faculty examines them and even if it is remotely feasible, allows him to experiment, without worrying about the failure. He may create a circuitry or programme to make, say, an unmanned level crossing safe, make a machine to bowl the ball during net practice, what to do to maintain the whiteness of the white board over a period of time and the like. He presents his ideas to a set of juries and they may give some more suggestions, and they may recommend it for funding by the Trust. They may or may not be successful in their effort, but this helps them understand the sequence to be followed, intricacies of events and introduces him to the challenges in the projects. Incidentally it also prepares him to face a failure as well, upright. It has been experimented in most of the departments for implementations, and we are still in the evolving stage.

### Research included in the QMS

There has been a paradigm shift to research from 2000 onwards. In order to make it shape in an orderly fashion, it was also brought into the folds of QMS from 2013. Hence, the publications, projects both internal and externally funded, purchase of equipment for research, travel cost, and the settling of accounts have been brought under the QMS.

### SRI SIVASUBRAMANIYA NADAR COLLEGE OF ENGINEERING

(Approved by AICTE, New Delhi and Affiliated to Anna University) Rajiv Gandhi Salai (OMR), Kalavakkam – 603 110, TN, India. Tel :+91 44 27469700 Fax :+91 44 27469772

www.ssn.edu.in

Administrative Office: 211/95, V.M. Street, Mylapore, Chennai - 600 004. Telefax : +91 44 24982656, 24986474

### DECLARATION BY THE HEAD OF THE INSTITUTION

I certify that the data included in this Self-Study Report (SSR) are true to the best of my knowledge.

The Self Study Report (SSR) is prepared by the institution after internal discussions, and no part thereof, has been outsourced.

I am aware that the Peer team will validate the information provided in this SSR during the peer team visit.

S. Salival

Signature of the Head of the Institution with seal

> Dr. S. Salivahanan Principal Sri Sivasubramaniya Nadar College of Engineering Rajiv Gandhi Salai (OMR) Kalavakkam - 603 110

Place: Kalavakkam - 603110

Date: June 05, 2017





#### SRI SIVASUBRAMANIYA NADAR COLLEGE OF ENGINEERING

(Approved by AICTE, New Delhi and Affiliated to Anna University)
Rajiv Gandhi Salai (OMR), Kalavakkam – 603 110, TN, India.
Tel: +91 44 27469770
Fax: +91 44 27469772

Administrative Office: 211/95, V.M. Street, Mylapore, Chennai - 600 004. Telefax: +91 44 24982656, 24986474

#### CERTIFICATE OF COMPLIANCE

(Affiliated Colleges)

This is to certify that Sri Sivasubramaniya Nadar College of Engineering, Rajiv Gandhi Salai (OMR), Kalavakkam – 603110 fulfils all norms

- 1. Stipulated by the affiliating University and
- 2. Regulatory Council /Body[such as UGC, NCTE, AICTE, MCI, DCI, BCI, etc.] and
- 3. The affiliation and recognition is valid as on date.

In case the affiliation / recognition is conditional, then a detailed enclosure with regard to compliance of conditions by the institution will be sent.

It is noted that NAAC's accreditation, if granted, shall stand cancelled automatically, once the institution loses its University affiliation or Recognition by the Regulatory Council, as the case may be.

In case the undertaking submitted by the institution is found to be false then the accreditation given by NAAC is liable to be withdrawn. It is also agreeable that the undertaking given to NAAC will be displayed on the college website.

S. Solind

Principal / Head of the Institution (Name and Signature with Office seal)

Dr. S. Salivahanan Principal Sri Sivasubramaniya Nadar College of Engineering Rajiv Gandhi Salai (OMR) Kalavakkam - 603 110

Date: June 05, 2017 Place: Kalavakkam - 603 110





## **AICTE Approval Letters (2016-17)**



All India Council for Technical Education (A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001 PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 <u>www.aicte-India.org</u>

F.No. Southern/1-2811256746/2016/EOA

Date: 25-Apr-2016

To,

The Principal Secretary (Higher Education) Govt. of Tamii Nadu, N. K. M. Bid. 6th Floor Secretariat, Chennal-600009

Sub: Extension of approval for the academic year 2016-17

Ref: Application of the Institution for Extension of approval for the academic year 2016-17

SIr/Madam,

In terms of the provisions under the Ali India Council for Technical Education (Grant of Approvals for Technical Institutions)
Regulations 2012 notified by the Council vide notification number F-No.37-3/Legal/2012 dated 27/09/2012 and norms standards, procedures and conditions prescribed by the Council from time to time, I am directed to convey the approval to

| Regional Office              | Southern  | Application Id        | 1-2811256746   |  |  |
|------------------------------|---|-----------------------|--|--|--|
| Name of the Institute        | SRI SIVASUBRMANIYA<br>NADAR COLLEGE OF<br>ENGINEERING | Permanent Id          | 1-1229101  |  |  |
| Name of the<br>Society/Trust | SSN TRUST   | Institute Address     | RAJIV GANDHI SALAI (OMR)<br>KALAVAKKAM - 603 110<br>KANCHIPURAM DIST<br>TAMIL NADU, KALAVAKKAM, KANCHIPURAM,<br>Tamil Nadu, 603110 |  |  |
| Institute Type               | Unaided - Private                                     | Society/Trust Address | NO.211/95, V.M.STREET<br>TAMIL NADU,CHENNAI,CHENNAI,Tamil<br>Nadu,600004   |  |  |

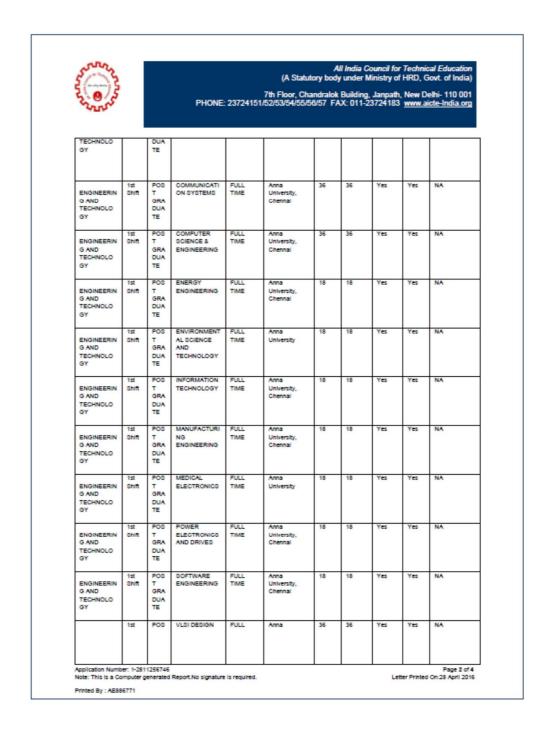
| Opted for change from | No             | Opted for change of | No             | Opted for change of | No             |
|-----------------------|----------------|---------------------|----------------|---------------------|----------------|
| Women to Co-ed and    |                | name                |                | site                |                |
| Vice versa            |                |                     |                |                     |                |
|                       |                |                     |                |                     |                |
| Change from Women to  | Not Applicable | Change of name      | Not Applicable | Change of site      | Not Applicable |
| Co-ed approved and    |                | Approved            |                | Approved            |                |
| Vice versa            |                |                     |                |                     |                |
|                       |                |                     |                |                     |                |

| Application ld: 1-2811256746 |              | Course          | 92                     | Affiliating Body | 5-16                           | proved for  | al status              | Gulf quota<br>tatus | on/Twining                  |  |
|------------------------------|--------------|-----------------|------------------------|------------------|--------------------------------|-------------|------------------------|---------------------|-----------------------------|--|
| Program                      | Shift        | Level           |                        | FullPart Ti      |                                | Intake 2018 | Intake Appr<br>2016-17 | NRI Approv          | PIO / FN / C<br>Approval st | Foreign<br>Collaborario<br>Program A<br>status |
| ENGINEERIN<br>G AND          | 1st<br>Shift | POS<br>T<br>GRA | APPLIED<br>ELECTRONICS | FULL             | Anna<br>University,<br>Chennal | 18          | 18                     | Yes                 | Yes                         | NA .   |

Application Number: 1-2811256746 Note: This is a Computer generated Report.No signature is required.

Page 1 of 4 Letter Printed On:28 April 2016

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| ENGINEERIN<br>G AND<br>TECHNOLO<br>GY | Shift        | T<br>GRA<br>DUA<br>TE         |   | TIME         | University,<br>Chennal         |     |     |     |     |      |
|---------------------------------------|--------------|-------------------------------|---|--------------|--------------------------------|-----|-----|-----|-----|------|
| ENGINEERIN<br>G AND<br>TECHNOLO<br>GY | 1st<br>Shift | UND<br>ER<br>GRA<br>DUA<br>TE | BIOMEDICAL<br>ENGINEERING                       | FULL<br>TIME | Anna<br>University,<br>Chennal | 60  | 60  | Yes | Yes | NA   |
| ENGINEERIN<br>G AND<br>TECHNOLO<br>GY | 1st<br>Shift | UND<br>ER<br>GRA<br>DUA<br>TE | CHEMICAL<br>ENGINEERING                         | FULL         | Anna<br>University,<br>Chennal | 60  | 60  | Yes | Yes | NA.  |
| ENGINEERIN<br>G AND<br>TECHNOLO<br>GY | 1st<br>Shift | UND<br>ER<br>GRA<br>DUA<br>TE | CIVIL<br>ENGINEERING                            | TIME         | Anna<br>University,<br>Chennal | 60  | 60  | Yes | Yes | NA . |
| ENGINEERIN<br>G AND<br>TECHNOLO<br>GY | 1st<br>Shift | UND<br>ER<br>GRA<br>DUA<br>TE | COMPUTER<br>SCIENCE &<br>ENGINEERING            | TIME         | Anna<br>University,<br>Chennal | 120 | 120 | Yes | Yes | NA.  |
| ENGINEERIN<br>G AND<br>TECHNOLO<br>GY | 1st<br>Shift | UND<br>ER<br>GRA<br>DUA<br>TE | ELECTRICAL<br>AND<br>ELECTRONICS<br>ENGINEERING | TIME         | Anna<br>University,<br>Chennal | 120 | 120 | Yes | Yes | NA . |
| ENGINEERIN<br>G AND<br>TECHNOLO<br>GY | 1st<br>Shift | UND<br>ER<br>GRA<br>DUA<br>TE | ELECTRONICS<br>&<br>COMMUNICATI<br>ON ENGG      | FULL         | Anna<br>University,<br>Chennal | 120 | 120 | Yes | Yes | NA.  |
| ENGINEERIN<br>G AND<br>TECHNOLO<br>GY | 1st<br>Shift | UND<br>ER<br>GRA<br>DUA<br>TE | INFORMATION<br>TECHNOLOGY                       | FULL         | Anna<br>University,<br>Chennal | 120 | 120 | Yes | Yes | NA.  |
| ENGINEERIN<br>G AND<br>TECHNOLO<br>GY | 1st<br>Shift | UND<br>ER<br>GRA<br>DUA<br>TE | MECHANICAL<br>ENGINEERING                       | FULL<br>TIME | Anna<br>University,<br>Chennal | 120 | 120 | Yes | Yes | NA.  |

The above mentioned approval is subject to the condition that are six-Adubramaniya nadar college of engineering shall follow and adhere to the Regulations, guidelines and directions issued by AICTE from time to time and the undertaking / affidavit given by the institution along with the application submitted by the institution on portal.

In case of any differences in content in this Computer generated Extension of Approval Letter, the content information as approved

Application Number: 1-2811256746 Note: This is a Computer generated Report No signature is required. Page 3 of 4 Letter Printed On:28 April 2016

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by the Executive Council / General Council as available on the record of AICTE shall be final and binding.

Strict compliance of Anti-Ragging Regulation:- Approval is subject to strict compliance of provisions made in AICTE Regulation notified vide F. No. 37-3/Legal/AICTE/2009 dated July 1, 2009 for Prevention and Prohibition of Ragging in Technical institutions. In case institution falls to take adequate steps to Prevent Ragging or falls to act in accordance with AICTE Regulation or falls to punish perpetrators or incidents of Ragging, it will be liable to take any action as defined under clause 9(4) of the said Regulation.

Note: Validity of the course details may be verified at www.aicte-india.org

Dr. Avinash S Pant

The Regional Officer,
All India Council for Technical Education
Shastri Bhawan 26, Haddows Road
Chennal - 600 006, Tamii Nadu

- 2. The Director Of Technical Education,
- The Registrar,
   Anna University
- The Principal / Director, SRI SIVASUBRIMANIYA NADAR COLLEGE OF ENGINEERING RAJIV GANDHI SALAI (OMR) KALAVAKKAM 603 110 KANCHIPURAM DIST TAMIL NADU, KALAVAKKAM,KANCHIPURAM, Tamil Nadu,603110
- 5. The Secretary / Chairman, SSN TRUST NO.211/95, V M STREET TAMIL NADU, CHENNAI, CHENNAI, Tamil Nadu, 600004
- 6. Guard File(AICTE)

Application Number: 1-2811256746
Note: This is a Computer generated Report.No signature is required.

Page 4 of 4 Letter Printed On:28 April 2016

Printed By : AE886771



All India Council for Technical Education (A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001 PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

F.No. Southern/1-2811134224/2016/EOA

Date: 25-Apr-2016

To

The Principal Secretary (Higher Education) Govt. of Tamil Nadu, N. K. M. Bld. 6th Floor Secretariat, Chennai-600009

Sub: Extension of approval for the academic year 2016-17

Ref: Application of the Institution for Extension of approval for the academic year 2016-17

Sir/Madam

In terms of the provisions under the All India Council for Technical Education (Grant of Approvals for Technical Institutions) Regulations 2012 notified by the Council vide notification number F-No.37-3/Legal/2012 dated 27/09/2012 and norms standards, procedures and conditions prescribed by the Council from time to time, I am directed to convey the approval to

| Regional Office              | Southern                    | Application Id        | 1-2811134224  |
|------------------------------|-----------------------------|-----------------------|---|
| Name of the Institute        | SSN SCHOOL OF<br>MANAGEMENT | Permanent Id          | 1-6075311   |
| Name of the<br>Society/Trust | SSN TRUST                   | Institute Address     | RAJIV GANDHI SALAI (OMR) KALAVAKKAM - 603110 KANCHIPURAM DIST., KALAVAKKAM, KANCHIPURAM, Tamii Nadu, 603110 |
| Institute Type               | Unaided - Private           | Society/Trust Address | SSN TRUST<br>21/95 V M STREET<br>MYLAPORE<br>CHENNAI,CHENNAI,CHENNAI,Tamii Nadu,600004                      |

| Opted for change from<br>Women to Co-ed and<br>Vice versa | No             | Opted for change of<br>name | No             | Opted for change of site   | No             |
|---|----------------|-----------------------------|----------------|----------------------------|----------------|
| Change from Women to<br>Co-ed approved and<br>Vice versa  | Not Applicable | Change of name<br>Approved  | Not Applicable | Change of site<br>Approved | Not Applicable |

To conduct following courses with the intake indicated below for the academic year 2016-17

| Application Id: 1-2811134224 |              |                        | Course                                       | Affiliating Boo | Affiliating Body               | -16         |              |             | / Gulf quota<br>status   | on/Twining<br>pproval                           |
|------------------------------|--------------|------------------------|--|-----------------|--------------------------------|-------------|--------------|-------------|--------------------------|---|
| Program                      | Shift        | Level                  |  | FullPartTin     |                                | Intake 2015 | Intake Appro | NRI Approva | PIO/FN/G<br>Approval sta | Foreign<br>Collaborario<br>Program Ap<br>status |
| MANAGEME<br>NT               | 1st<br>Shift | POS<br>T<br>GRA<br>DUA | MASTERS IN<br>BUSINESS<br>ADMINISTRATI<br>ON | FULL<br>TIME    | Anna<br>University,<br>Chennal | 120         | 120          | NA          | NA                       | NA NA   |

Application Number: 1-2811134224 Note: This is a Computer generated Report.No signature is required. Page 1 of 3 Letter Printed On:26 April 2016

Printed By: ae886783



All India Council for Technical Education (A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001 PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

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|---|--|----|--|--|--|--|
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| ı |  |    |  |  |  |  |
| I |  |    |  |  |  |  |

The above mentioned approval is subject to the condition that SSN SCHOOL OF MANAGEMENT shall follow and adhere to the Regulations, guidelines and directions issued by AICTE from time to time and the undertaking / affidavit given by the institution along with the application submitted by the institution on portal.

| Application Id: 1-2811134224 |              |                                 | Name of the<br>Course  | Full/Part Time | Affiliating Body | Course Closure Status |
|------------------------------|--------------|---------------------------------|--|----------------|------------------|-----------------------|
| Program                      | Shift        | Level                           |  |                |                  |                       |
| MANAGE<br>MENT               | 1st<br>Shift | POST<br>GRADUAT<br>E<br>DIPLOMA | POST<br>GRADUATE<br>DIPLOMA IN<br>MANAGEMENT<br>: (Last Approved<br>Intake 60) | FULL TIME      | None,            | Pending <sup>s</sup>  |

In case of any differences in content in this Computer generated Extension of Approval Letter, the content/information as approved by the Executive Council / General Council as available on the record of AICTE shall be final and binding.

Strict compliance of Anti-Ragging Regulation:- Approval is subject to strict compliance of provisions made in AICTE Regulation notified vide F. No. 37-3/Legal/AICTE/2009 dated July 1, 2009 for Prevention and Prohibition of Ragging in Technical Institutions. In case Institution fails to take adequate steps to Prevent Ragging or fails to act in accordance with AICTE Regulation or fails to punish perpetrators or incidents of Ragging, it will be liable to take any action as defined under clause 9(4) of the said Regulation.

Note: Validity of the course details may be verified at www.aicte-india.org

Vice - Chairman, AICTE

Copy to:
1. The Regional Officer,
All India Council for Technical Education
Shastri Bhawan 26, Haddows Road
Chennai - 800 008, Tamil Nadu

- 2. The Director Of Technical Education,
- 3. The Registrar, Anna University, Chennai
- The Principal / Director, SSN SCHOOL OF MANAGEMENT

Application Number: 1-2611134224 Note: This is a Computer generated Report.No signature is required.

Page 2 of 3 Letter Printed On:26 April 2016

Printed By: ae886783



All India Council for Technical Education (A Statutory body under Ministry of HRD, Govt. of India)

7th Floor, Chandralok Building, Janpath, New Delhi- 110 001 PHONE: 23724151/52/53/54/55/56/57 FAX: 011-23724183 www.aicte-India.org

RAJIV GANDHI SALAI (OMR) KALAVAKKAM - 603110 KANCHIPURAM DIST., KALAVAKKAM,KANCHIPURAM, Tamil Nadu,603110

5. The Secretary / Chairman, SSN TRUST SSN TRUST 21/95 V M STREET MYLAPORE CHENNAI, CHENNAI, CHENNAI, Tamil Nadu,600004

6. Guard File(AICTE)

Application Number: 1-2811134224 Note: This is a Computer generated Report.No signature is required. Printed By: ae886783

Page 3 of 3 Letter Printed On:26 April 2016

# Anna University Affiliation Letters (2016-17)



### **ANNA UNIVERSITY**

**CHENNAI - 600 025, INDIA** 

Phone: (O) 22352161, 22357004

Fax : 91-44-2235 1956 Gram : ANNATECH

Date: 13-05-2016

E-mail: registrar@annauniv.edu

Lr No. 02 /AFFLN/CAI/AU/2016-17/3122

То

The Principal,

Sri Sivasubramaniya Nadar College of Engineering,Rajiv Gandhi Salai (OMR) Kalavakkam 603 110 Kanchipuram District.-603110

Sir

Sub: AU - AFFILIATION - Provisional Affiliation for the existing course(s) / New course(s) / variation in intake - U.G. / P.G. for the academic year 2016-17 Granted - Reg.

Ref: 1. Your application for affiliation for the academic year 2016-17

2. AICTE Approval for the academic year 2016-17.

l am to inform that under the provisions of Section 7.6.1 of the Statutes for affiliation of Anna University, Chennai, Provisional Affiliation for the continuation of the existing course(s) / new course(s) / variation in intake in the existing course(s) is granted for the following U.G / P.G. courses with the sanctioned intake mentioned against each course for the academic year 2016-17 at Sri Sivasubramaniya Nadar College of Engineering, Rajiv Gandhi Salai (OMR) Kalavakkam 603 110 Kanchipuram District.-603110.

| Sl.        | D       | C(-)                               | Sanctioned Intake |         |  |
|------------|---------|------------------------------------|-------------------|---------|--|
| No. Degree |         | Course(s)                          | 2015-16           | 2016-17 |  |
| 1          | B.E.    | Bio-Medical Engineering            | 60                | 60      |  |
| 2          | B.E.    | Civil Engineering                  | 60                | 60      |  |
| 3          | B.E.    | Mechanical Engineering             | 120               | 120     |  |
| 4          | B.Tech. | Chemical Engineering               | 60                | 60      |  |
| 5          | M.E.    | Communication Systems              | 36                | 36      |  |
| 6          | M.E.    | Energy Engineering                 | 18                | 18      |  |
| 7          | M.E.    | Manufacturing Engineering          | 18                | 18      |  |
| 8          | M.E.    | Medical Electronics                | 18                | 18      |  |
| 9          | M.E.    | Software Engineering               | 18                | 18      |  |
| 10         | M.E.    | VLSI Design                        | 36                | 36      |  |
| 11         | M.Tech. | Environmental Science & Technology | 18                | 18      |  |
| 12         | M.Tech. | Information Technology             | 18                | 18      |  |

The above said Provisional Affiliation is being granted subject to the fulfillment of the conditions mentioned below:

- Production of Originals of AICTE / COA / DGS approval and all other related documents for verification, whenever demanded by the University.
- Verification by a Committee towards the fulfillment of the conditions mentioned above and the
  continued fulfillment of the requirements for the above-mentioned course(s) as per the norms and
  standards of AICTE / University and the laboratory requirements as per the curricula and syllabi of
  Anna University, Chennai for the above courses. In the event of any violation/infringement of the above

AM Copy to : A0

S. Salive 1 of 2

said conditions and / or the provisions of Anna University, Chennai Act / Statutes / Regulations, AICTE Act, norms & standards / regulations / guidelines or any other law being in force, suitable action including suspension / withdrawal of affiliation of course(s) may be initiated against the college.

• Students should not be admitted for the above course(s) for the next academic year without obtaining \*the order of continuation of provisional affiliation for the next academic year from the University.

The Provisional Affiliation is granted without prejudice to the right of the University of requiring production of certificate required under Section 37-B of TAMILNADU Reforms (LC) Act 1961 subject to the decision of the Hon'ble High Court of Madras in W.A. No. 3454 / 2002 batch and W.A. No. 3482 / 2002 batch.



Copy to:

DEC

ANNA UNIVERSITY

- 1. The Director of Technical Education, DOTE campus, Chennai 600 025.
- The Regional Officer, Southern Regional Office, AICTE, 26, Haddows Road, Shastri Bhawan, Chennai 600 006.
- Master file.



### **ANNA UNIVERSITY**

**CHENNAI - 600 025, INDIA** 

Phone: (O) 22352161, 22357004

Fax : 91-44-2235 1956 Gram : ANNATECH

E-mail: registrar@annauniv.edu

Lr. No. 467 / CAI / Permanent Affln. / 2014-15

Dated: 06.11.2014

To

The Principal, Sri Sivasubramaniya Nadar College of Engineering, Rajiv Gandhi Salai (OMR) Kalavakkam, Kanchipuram District – 603 110.

Sir,

Sub: Permanent Affiliation - Granting of Permanent Affiliation for the existing

programmes - 2014-15 - Reg.

Ref: Your application for the grant of Permanent Affiliation.

I am to inform that under the provisions of section 7.6.2 of the Anna University statutes for affiliation, Permanent Affiliation for the existing programme(s) is granted for the following B.E. / B.Tech. / B.Arch. / M.E. / M.Tech. / M.B.A / M.C.A programme(s) with the sanctioned intake indicated against each from the academic year 2014-15 at **Sri Sivasubramaniya Nadar College of Engineering**, Rajiv Gandhi Salai (OMR) Kalavakkam, Kanchipuram District – 603 110.

| SI.<br>No. | Degree | Programme(s)                      | Sanctioned intake | Year from which<br>Permanent<br>Affiliation is granted |
|------------|--------|-----------------------------------|-------------------|--|
| 1.         | M.B.A. | Master of Business Administration | 120               |  |
| 2.         | M.E.   | Computer Science and Engineering  | 36                | 2014-15  |
| 3.         | M.E.   | Applied Electronics               | 18                |  |
| 4.         | M.E.   | Power Electronics and Drives      | 18                |  |

The above said status of Permanent Affiliation is granted subject to the following conditions:

- The college should obtain extension of approval by the UGC / AICTE / COA / DGS as
  applicable for every academic year for the above mentioned programmes with the
  corresponding sanctioned intake. In the absence of extension of approval from the
  appropriate authority, the Permanent Affiliation now granted will not be valid.
- In case of increase in intake granted by the appropriate authority for a
  permanently affiliated programme, the college should apply to the University for
  the grant of affiliation for the increased intake and orders of the University should
  be obtained for increasing the intake of the permanently affiliated programme.

- The college should continue to fulfill the requirements for the above mentioned programmes as per the norms and standards of the University and the laboratory requirements as per the curricula and syllabi of Anna University, Chennai for these programmes.
- 4. The college should strictly adhere to and comply with the provisions of Anna University Act / Statutes / Regulations norms and standards / guidelines or any other law time being in force.
- 5. The permanent affiliation granted may be suspended / withdrawn after adopting the procedures laid down in the Regulations, if the college fails to comply with the provisions made in this behalf or the college has failed to observe / implement any of the conditions of affiliation or the college has conducted in a manner which is prejudicial to the interests of University education and/or students.
- 6. Notwithstanding the granting of Permanent Affiliation, the university reserves its right to inspect the college to verify the continued fulfillment of the affiliation requirements as prescribed by the University for the Programmes concerned.
- 7. The Permanent Affiliation is granted without prejudice to the right of the University of requiring production of certificate required under Section 37-B of Tamil Nadu Land Reforms (LC) Act 1961 subject to the decision of the Hon'ble High Court of Madras in W.A.No. 3454 / 2002 batch and W.A.No. 3482 / 2002 batch.
- The Management is directed to submit a duly signed undertaking on a Rs.100/non-judicial stamp paper to the Registrar, Anna University Chennai, Chennai-600
  025, within 15 days from the date of receipt of this letter to the effect that the
  conditions specified above will be fulfilled.



Yours sincerely

REGISTRAR

REGISTRAR

ANNA UNIVERSITY

1. The Commissioner of Technical Education, Chennai – 600 025HENNAI-600 025

- 2. The Controller of Examinations, Anna University Chennai, Chennai 600 025.
- 3. The Director, Student Affairs, Anna University Chennai, Chennai 600 025.
- 4. The Director, Academic Courses, Anna University Chennai, Chennai 600 025.
- 5. Master File.

To

A.M.

Copy to: Director-Somca

HOD | CSE

EEE

A.O.





### ANNA UNIVERSITY

**CHENNAI - 600 025, INDIA** 

Phone: (O) 22352161, 22357004 (R) 22420095 Fax : 91-44-2235 1956

Gram : ANNATECH
E-mail : registrar@annauniv.edu

Lr. No. 087 / CAI / Permanent Affln. / 2013-14

Dated:21.04.2014

3 0 MAI 2013

1488

To

The Principal.

Sri Sivasubramaniya Nadar College of Engineering, Rajiv Gandhi Salai (OMR) Kalavakkam Village, Kanchipuram District - 603 110.

Sir,

Sub: Permanent Affiliation - Granting of Permanent Affiliation for the existing programmes – 2013-14 – Reg.

Ref: 1. Resolution 53.3 of 53<sup>rd</sup> SCA meeting held on 04.10.2013.

2. Resolution 228.26 of 228th Syndicate held on 28.01.2014.

\*\*\*\*\*

I am to inform that under the provisions of section 7.6.2 of the Anna University statutes for affiliation, **Permanent Affiliation** for the existing programme(s) is granted for the following B.E. / B.Tech. / B.Arch. / M.E. / M.Tech. / M.B.A / M.C.A programme(s) with the sanctioned intake indicated against each from the academic year 2013-14 at **Sri Sivasubramaniya Nadar College of Engineering**, Rajiv Gandhi Salai (OMR) Kalavakkam Village, Kanchipuram District - 603 110.

|  | SI.<br>No. | Degree  | Programme(s)                              | Sanctioned intake | Year from which<br>Permanent Affiliation is<br>granted |  |
|--|------------|---------|---|-------------------|--|--|
|  | 1          | B.E.    | Computer Science and Engineering          | 120               | 2013-14  |  |
|  | 2          | B.E.    | Electrical and Electronics<br>Engineering | 120               |  |  |
|  | 3          | B.E.    | Electronics and Communication Engineering | 120               |  |  |
|  | 4          | B.Tech. | Information Technology                    | 120               |  |  |

The above said status of Permanent Affiliation is granted subject to the following conditions:

The college should obtain extension of approval by the UGC / AICTE / COA / DGS
as applicable for every academic year for the above mentioned programmes with
the corresponding sanctioned intake. In the absence of extension of approval from
the appropriate authority, the Permanent Affiliation now granted will not be valid.

- 2. In case of increase in intake granted by the appropriate authority for a permanently affiliated programme, the college should apply to the University for the grant of affiliation for the increased intake and orders of the University should be obtained for increasing the intake of the permanently affiliated programme.
- .3. The college should continue to fulfill the requirements for the above mentioned programmes as per the norms and standards of the University and the laboratory requirements as per the curricula and syllabi of Anna University, Chennai for these programmes.
- 4. The college should strictly adhere to and comply with the provisions of Anna University Act / Statutes / Regulations norms and standards / guidelines or any other law time being in force.
- 5. The permanent affiliation granted may be suspended / withdrawn after adopting the procedures laid down in the Regulations, if the college fails to comply with the provisions made in this behalf or the college has failed to observe / implement any of the conditions of affiliation or the college has conducted in a manner which is préjudicial to the interests of University education and/or students.
- Notwithstanding the granting of Permanent Affiliation, the university reserves its
  right to inspect the college to verify the continued fulfillment of the affiliation
  requirements as prescribed by the University for the programmes concerned.
- 7. The Permanent Affiliation is granted without prejudice to the right of the University of requiring production of certificate required under Section 37-B of Tamil Nadu Land Reforms (LC) Act 1961 subject to the decision of the Hon'ble High Court of Madras in W.A.No. 3454 / 2002 batch and W.A.No. 3482 / 2002 batch.
- 8. The Management is directed to submit a duly signed undertaking on a Rs.20/- non-judicial stamp paper to the Registrar, Anna University Chennai, Chennai-600 025, within 15 days from the date of receipt of this letter to the effect that the conditions specified above will be fulfilled.



Yours sincerely

REGISTRAR
211-YREGISTRAR
ANNA UNIVERSITY
CHENNAI-600 025

Copy to:

- 1. The Commissioner of Technical Education, Chennai 600 025.
- 2. The Controller of Examinations, Anna University Chennai, Chennai 600 025.
- 3. The Director, Student Affairs, Anna University Chennai, Chennai 600 025.
- 4. The Director, Academic Courses, Anna University Chennai, Chennai 600 025

To 5. Master File.

A.M.

Copy to: A.O.

HADS | CSE, EEE, ECE & IT

S. Saliva 5/14

## **NAAC** Accreditation Certificate



### राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद

विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान

### NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

An Autonomous Institution of the University Grants Commission

प्रो. एच. ए. रंगनाथ निदेशक Prof. H.A. Ranganath Director FASC, FNASC, FEAI, FNA.,

NAAC/A&AOC/EC-54/69/2011/

January 10, 2011

The Principal
Sri Sivasubramaniya Nadar College of Engineering
Rajiv Gandhi Road
Kalavakkam - 603110
Tamil Nadu

Dear Principal,

Wishing you a Happy and Prosperous New Year - 2011

I am glad to inform you that the outcome of the Assessment and Accreditation exercise of your institution has been processed and approved by the Executive Committee of NAAC and your institution has been *Accredited* for a period of five years with a CGPA of 3.13 on a four point scale at A *Grade* valid from 08/01/2011. The provisional certificate of accreditation will be sent to you shortly. However, the original certificate of accreditation with the quality profile will be presented to the heads of accredited institutions during the "NAAC Accreditation Awards Ceremony" to be convened in due course. I am sure the detailed peer team report given to you already by the peer team will enable the institution to initiate further quality enhancement measures.

With best wishes,

Yours sincerely,

(H. A. Ranganath)

पिए ओए वाक्स नं. 1075, नागरभावी, वेंगलूर - 560 072, भारत P.O.Box No. 1075, Nagarbhavi, Bangalore - 560 072, INDIA दूरभाषा Phone : + 91-80-23210267, 23005112, 114, 115, Fax : +91-80-23210268

ई-मेल : e-mail: director.naac@gmail.com वैवसाइट Website : www.naac.gov.in







# राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद

### NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

### Quality Profile

Name of the Institution : Sri Sivasubramaniya Nadar College of Engineering

Place: Kalavakkam, Tamil Nadu

| Criteria                                  | Weightage<br>( W <sub>i</sub> ) | Criterion-Wise<br>Grade<br>Point Averages<br>(Cr <sub>i</sub> GPA) | $W_i X Cr_i GPA$                                   |
|---|---------------------------------|--|--|
| l. Curricular Aspects                     | 050                             | 2.70   | 135  |
| II. Teaching-Learning and Evaluation      | 450                             | 3.00   | 1350   |
| III. Research, Consultancy and Extension  | 100                             | 3.00   | 300  |
| IV. Infrastructure and Learning Resources | 100                             | 3.65   | 365  |
| V. Student Support and Progression        | 100                             | 3.30   | 330  |
| VI. Governance and Leadership             | 150                             | 3.10   | 465  |
| VII. Innovative Practices                 | 050                             | 3.70   | 185  |
| Total                                     | $\sum_{i=1}^{7} w_i = 1000$     |  | $\sum_{i=1}^{7} \Sigma(W_i \times Cr_i GPA) = 313$ |

Institutional Score = 
$$\frac{\sum\limits_{i=1}^{7}(W_i \ X \ Cr_i GPA)}{\sum\limits_{i=1}^{7}W_i} = \frac{3130}{1000} = \boxed{3.13}$$

Grade = A

Descriptor =

VERY GOOD

HARaujan





This certification is valid for a period of Five years with effect from January 08th 2011
An institutional CGPA on four point scale in the range of 3.01 - 4.00 denotes A grade
(Very Good), 201 - 3.00 denotes B grade (Good), 1.51 - 2.00 denotes C grade (Satisfactury)
Scores rounded off to the nearest integer

### **NBA Accreditation Letters**

#### NATIONAL BOARD OF ACCREDITATION

NBCC Place, East Tower, 4<sup>th</sup> Floor, Bhisham Pitamah Marg, Pragati Vihar, New Delhi-110 003 Tel: +91 11 2436 0620, 2436 0654 Telefax: +91 11 2436 0682



F.No.33-124-2010-NBA

rine Principal
Sri Sivasubramaniya Nadar College of Engineering (SSN)
Rajiv Gandhi Salai (OMR),
Kalavakkam – 603 110,
Kanchipuram Dist.,
Tamil Nata. The Principal Tamil Nadu

Subject: Accreditation status of programmes applied by Sri Sivasubramaniya Nadar College Of Engineering (SSN), Rajiv Gandhi Salai (OMR), Kalavakkam – 603 110, Kanchipuram Dist.,, Tamil Nadu

This has reference to your application dated 30-11-2013 in Tier-II format seeking accreditation by National Board of Accreditation to Engineering programmes offered by Sri Sivasubramaniya Nadar College Of Engineering (SSN), Rajiv Gandhi Salai (OMR), Kalavakkam – 603 110, Kanchipuram Dist.,, Tamil Nadu.

An Expert Team conducted an on-site evaluation of the programmes during 9th – 11th January, 2015. The
reports submitted by the Expert Team were considered by the concerned Committees constituted for the purpose in
NBA. The competent authority has approved the following accreditation status to the programmes as given in the table

| SI. No.                                   | Name of the<br>Programme<br>(UG)                | Basis of<br>Evaluation | Accreditation Status | Period of<br>validity<br>w.e.f.<br>01.07.2015 | Remarks  |  |
|---|---|------------------------|----------------------|---|--|--|
| (1)                                       | (2)   | (3)                    | (4)                  | (5)   | (6)  |  |
| 1. Electrical and Electronics Engineering |   | Tier-II<br>Document    | Accredited           | 5 years                                       | Accreditation status<br>granted is valid for<br>the period indicated<br>in col.5 or till the |  |
| 2.  | Electronics and<br>Communication<br>Engineering | Tier-II<br>Document    | Accredited           | 5 years                                       | program has the approval of the competent authority,   |  |
| 3.  | Computer Science and Engineering                | Tier-II<br>Document    | Accredited           | 5 years                                       | whichever is earlier.  |  |
| 4.  | Information<br>Technology                       | Tier-II<br>Document    | Accredited           | 5 years                                       |  |  |
| 5.  | Biomedical Tier-II Document                     |                        | Accredited           | 5 years                                       |  |  |

- It may be noted that only students who graduate during the validity period of accreditation, will be deemed to have graduated with an NBA accredited degree.
- 4. The accreditation status awarded to the programmes as indicated in the above table does not imply that the accreditation has been granted to Sri Sivasubramaniya Nadar College Of Engineering (SSN), Rajiv Gandhi Salai (OMR), Kalavakkam 603 110, Kanchipuram Dist.,, Tamil Nadu as a whole. As such the institution should nowhere along with its name including on its letter head etc. write that it is accredited by NBA because it is programme accreditation and not institution accreditation. If such an instance comes to NBA's notice, this will be viewed seriously. Complete name of the programme(s) accredited, level of programmes and the period of validity of accreditation, as well as the date from which the accreditation is effective should be mentioned unambiguously whenever and wherever it is required to indicate the status of accreditation by NBA.
- 6. The accreditation status of the above programmes is subject to change on periodic review, if needed by the NBA. It is desired that the relevant information in respect of accredited programmes as indicated in the table in paragraph 2, appears on the website and information bulletin of the Institute.

2

- 7. The accreditation status awarded to the programmes as indicated in table in paragraph 2 above is subject to maintenance of the current standards during the period of accreditation. If there are any changes in the status (major changes of faculty strength, organizational structure etc.), the same are required to be communicated to the NBA, with an appropriate explanatory note.
- Copies of the Comprehensive Report submitted by the Chairman of the Expert Committee along with the detailed report submitted by the Expert team which visited Institute for the programmes evaluated is enclosed for reference and to take necessary action to overcome the shortcomings, if any, pointed out by the Expert Team.

Thanking you,

Yours faithfully,

(Dr. Anil Kumar Nassa) Member Secretary

Encls: 1.Copy of Report of Chairman of the Visiting Team. 2.Copy of Expert Reports of the Visiting Team.

Copy to:

- The Secretary,
   Department of Technical Education
   Government of Tamil Nadu, Chennai 600 009,
   Tamil Nadu
- The Vice Chancellor Anna University, Guindy Chennai – 600 025 Tamil Nadu

#### NATIONAL BOARD OF ACCREDITATION

NBCC Place, East Tower, 4<sup>th</sup> Floor, Bhisham Pitamah Marg, Pragati Vihar, New Delhi-110 003 Tel: +91 11 2436 0620-22, 2436 0654 Telefax: +91 11 2436 0682 Website: www.nbaind.org



F.No.33-124/2010-NBA

Dated: 28-09-2016

To,

The Principal Sri Sivasubramaniya Nadar College of Engineering Rajiv Gandhi Salai (OMR) Kalavakkam - 603 110 Kancheepuram, Tamil Nadu

Subject: Accreditation status of programmes applied by Sri Sivasubramaniya Nadar College of Engineering, Rajiv Gandhi Salai (OMR), Kalavakkam - 603 110, Kancheepuram, Tamil Nadu.

Sir,

This has reference to your application dated 23-12-2013 in Tier-II format seeking accreditation by National Board of Accreditation to PG Engineering programmes offered by Sri Sivasubramaniya Nadar College of Engineering, Rajiv Gandhi Salai (OMR), Kalavakkam - 603 110, Kancheepuram-601301, Tamil Nadu.

2. An Expert Team conducted on-site evaluation of the programmes during 13th – 15th May, 2016. The report submitted by the Expert Team was considered by the concerned Committees constituted for the purpose in NBA. The competent authority in NBA has approved the following accreditation status to the programmes as given in the table below:

| S.No. | Name of the<br>Programme<br>(PG)  | Basis of<br>Evaluation | Accreditation Status | Period of validity   | Remarks  |
|-------|-----------------------------------|------------------------|----------------------|--|--|
| (1)   | (2)                               | (3)                    | (4)                  | (5)  | (6)  |
| 1.    | Power Electronics &<br>Drives     |                        | Accredited           | Academic Years<br>2016-2017 to<br>2020-2021 i.e.,<br>upto 30-06-2021 | Accreditation status granted is valid for the period indicated in Col.5 or till the program has the approval of the competent authority, whichever is earlier. |
| 2.    | Applied Electronics               |                        | Accredited           |  |  |
| 3.    | Communication<br>Systems          | Tier-II<br>Document    | Accredited           |  |  |
| 4.    | Computer Science &<br>Engineering |                        | Accredited           |  |  |

- It may be noted that only students who graduate during the validity period of accreditation, will be deemed to have graduated with an NBA accredited degree.
- 4. The accreditation status awarded to the programmes as indicated in the above table does not imply that the accreditation has been granted to Sri Sivasubramaniya Nadar College of Engineering, Rajiv Gandhi Salai (OMR), Kalavakkam 603 110, Kancheepuram-601301, Tamil Nadu as a whole. As such, the Institution should nowhere along with its name including on its letter head etc. write that it is accredited by NBA because it is programme accreditation and not Institution accreditation. If such an instance comes to NBA's notice, this will be viewed seriously. Complete name of the programme(s) accredited, level of programmes and the period of validity of accreditation, as well as the date from which the accreditation is effective should be mentioned unambiguously whenever and wherever it is required to indicate the status of accreditation by NBA.

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\_2\_

- 5. The accreditation status of the above programmes is subject to change on periodic review, if needed by the NBA. It is desired that the relevant information in respect of accredited programme as indicated in the table in paragraph 2, appears on the website and information bulletin of the Institute.
- 6. The accreditation status awarded to the programmes as indicated in table in paragraph 2 above is subject to maintenance of the current standards during the period of accreditation. If there are any changes in the status (major changes of faculty strength, organizational structure etc.), the same are required to be communicated to the NBA, with an appropriate explanatory note.
- 7. Copy of the Report of Chairman of the Visiting Team and Evaluators' Reports in respect of the above programmes are also enclosed.

Yours faithfully,

(Dr. Anil Kumar Nassa) Member Secretary

Encls: 1.Copy of Report of Chairman of the Visiting Team.2. Copies of Expert Reports of the Visiting Team.

#### Copy to:

- The Principal Secretary (Higher Education)
   Government of Tamil Nadu,
   N.K.M. Building, 6th Floor, Secretariant
   Chennai- 600 009
- 2. The Vice Chancellor Anna University, Guindy Chennai- 600025
- The Commissioner
   Directorate of Technical Education
   Sardar Patel Road, Guindy,
   Chennai-600 025
   Tamil Nadu
- 4. Master Accreditation Folder of the State