Sinhgad Academy of Engineering

S.No.40/4A, Kondhwa-Saswad Bypass Road,
Near PMC Octroi Post, Kondhwa, Pune. 411048

Internal Quality Assurance Cell

Annual Quality Assurance Report
2017-18

Submitted
to

National Assessment and Accreditation Council, Bangalore, India

Certificate

This is to certify that the Annual Quality Assurance Report 2017-2018, forwarded to the National Assessment and Accreditation Council, Bangalore is compiled from the data collected from the official records and is true to the best of our knowledge and belief.

(Mr. S. S. Kulkarni)

IQAC Coordinator

(Dr. K. P. Patil)

Principal

Celebrating 25 Years

— OF ACADEMIC EXCELLENCE —

Contents

Part – A

AQAR for the Year: 2017-18

1.	**Details of the Institution**

1.1   Name of the Institution   : Sinhgad Academy of Engineering

1.2   Address Line 1   : Sr.No.40/4A, Near PMC Octroi Post,

      Address Line 2   : Kondhwa-Saswad Bypass Road,Kondhwa

      City/Town   : Kondhwa, Pune.

      State   : Maharashtra

      Pin Code   : 411048

      Institution e-mail address   **:** saeprincipal@sinhgad.edu

      Contact Nos.   : (020)-26934550; (020)-26934297;

                                           (020)-26934441

      Name of the Head of the Institution: : Dr. Kishor P. Patil

      Tel. No. with STD Code: : (020)-26934550

      Mobile: **:** 9545754563

      Name of the IQAC Co-ordinator   **:** Prof. S. S. Kulkarni

      Mobile   : 9922431650

      IQAC e-mail address   : iqac.sae@sinhgad.edu

1.3   NAAC Track ID   **:** MHCOGN26182

1.4   NAAC Executive Committee No.   : EC(SC-21)/DO/2017/21.1 dated 23 JAN.2017
      & Date

1.5   Website address   : http://www.sinhgad.edu
      Web-link of the AQAR   : http://cms.sinhgad.edu/sinhgad_
                                     engineering_institutes/saoe/naac.aspx

1.6   Accreditation Details   :

Sr. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1st Cycle	A	3.01	2016-17	2021-2022
2	2nd Cycle				
3	3rd Cycle				
4	4th Cycle				

1.7 Date of Establishment of IQAC   : 12/10/2015

1.8 Details of the previous year's   : *The AQAR report for the AY 2016-17 was*
         AQAR submitted to NAAC after   *submitted to NAAC through e-mail on*
         the latest Assessment and   *25-07-2017. The report is available online*
         Accreditation by NAAC   *at the link mentioned above.*

1.10 Institutional Status

         Affiliated College   : Yes

         Constituent College   : No

         Autonomous college of UGC   : No

         Regulatory Agency approved Institution : Yes

         (eg. AICTE, BCI, MCI, PCI, NCI)

         Type of Institution   : Co-education   Urban

         Financial Status   : Totally Self-financing

1.11 Type of Faculty/Programme   : Engineering

1.12 Name of the Affiliating University   : Savitribai Phule Pune University, Pune

1.13 Special status conferred by   : Not Applicable
         Central/ State Government

         Autonomy by State/Central Govt. / University: **NA**

         University with Potential for Excellence: **NA**   UGC-CP   : **NA**

         DST Star Scheme   : **NA**   UGC-CE   : **NA**

         UGC-Special Assistance Programme   : **NA**   DST-FIST   : **NA**

         UGC-Innovative PG programmes   : **NA**   Any other (Specify) : **NA**

         UGC-COP Programmes   : **NA**

2. IQAC Composition and Activities

2.1	No. of Teachers	: 11
2.2	No. of Administrative/Technical Staff	: 02
2.3	No. of Students	: 01
2.4	No. of Management Representatives	: 02
2.5	No. of Alumni	: 01
2.6	No. of any other Stakeholder and Community Representatives	: 01
2.7	No. of Employers/ Industrialists	: 01
2.8	No. of other External Experts	: 00
2.9	Total No. of Members	: 19
2.10	No. of IQAC meetings held	: 03

2.11 No. of meetings with various   : 05
Stakeholders   Faculty – 02   Alumni – 01

Others – 01   Student – 01

2.12 Has IQAC received any funding from : NO
UGC during the year?
If yes, mention the amount   : NA

2.13 Seminars and Conferences (only quality related)

i) **No. of Seminars /Conferences / Workshops / Symposia organized by the IQAC**

Total Nos. 03   International – 0   National – 0   State – 2   Institution Level – 1

ii) **Themes**   : (1) Development of Leadership qualities in teachers.

(2) Recent Trends in Application of Mathematics in Engineering and Sciences.

(3) Recent Trends in Machine Learning by Deep Learning approach.

2.14 Significant Activities and contributions made by IQAC

- Improvement in STR
- Motivated faculties for research project grabbed the R & D fund of Rs. 16.66 L in year 17-18

- Organization of 2 State level and 1 Institute level Workshops for development of Faculty
- Started NPTEL Local Chapter

2.15 Plan of Action by IQAC / Outcome

The plan of action chalked out by the IQAC in the beginning of the year towards quality enhancement and the outcome achieved by the end of the year *

Plan of Action	Achievements
1) Encourage the faculty for research activity.	1) The funded research project increased
2) Encourage students to go for skill development program & internship in industry.	2) No. of students pursing such program increased.
3) Students to be motivated to register and complete online courses	3) The number of students registering online NPTEL is increased

(*Pl. refer Annex. III- Details of funded research projects, NPTEL)

2.16 Whether the AQAR was placed in statutory body   **YES   MANAGEMENT**

Provide the details of the action taken

The IQAC status was discussed in Governing Body Meeting in presence of Local Management Committee members.

Part – B

Criterion – I

Curricular Aspects

1.1 Details about Academic Programmes

Level of the Programme	Number of existing Programmes	Number of programmes added during the year	Number of self-financing programmes	No. of value added or Career Oriented programmes
PhD	**2**	-	**2**	-
PG	**5**	-	**5**	-
UG	**5**	-	**5**	-
PG Diploma	-	-	-	-
Advance Diploma	-	-	-	-
Diploma	-	-	-	-
Certificate	-	-	-	-
Others	-	-	-	-
Total	**12**	-	**12**	-

1.2 Flexibility of the Curriculum: ~~CBCS/Core~~/Elective option / ~~Open options~~

The Institute offers elective subjects from the list of subjects given in the University curriculum. The provision of open elective is available to opt the elective from the list of other department to meet interdisciplinary interest. The list of electives offered branch wise is given below

Elective Subjects- BE E&Tc

Digital Image Processing

Embedded Systems and RTOS

Electronics Product Design

Audio Video Engineering

Wireless Networks

Biomedical Signal Processing

Elective Subjects- BE Computer

Business Analytic and Intelligence

Embedded Security

Cyber Security

Data Mining Techniques &Applications

Elective Subjects- BE Mechanical

Reliability Engineering

Operation Research

Automobile Engineering

Finite Element Analysis

 Energy Audit

Gas Turbine

Elective Subjects- BE IT

Cloud Computing

Business Intelligence

Information Storage and Retrieval

Internet of Things

Elective Subjects- BE Civil

Systems Approach in Civil Engineering

Architecture & Town Planning

Advanced Engineering Geology with Rock Mechanics

TQM & MIS in Civil Engineering

Earthquake Engineering

Hydropower Engineering

Construction Management

1.3   Pattern of programmes:

Pattern	Number of programmes
Semester	**12**
Trimester	**0**
Annual	**0**

1.4   Feedback from stakeholders*
   (On all aspects)

Feedback taken from   : Alumni, Parents, Employers and Students

Mode of feedback   : Online and Manual

(*Pl. refer Annex.-IV)

1.5   Whether there is any revision/update of regulation or syllabi, if yes, mention their salient aspects.

- Yes, SPPU is regularly updating the syllabi. The Teachers from this Institute are actively participating in this updating process. The marking scheme is changed to credit system, progressively and audit course (non credit) has been introduced.
- Recently SPPU has revised syllabi of TE- Information Technology, Electronics &Telecommunication Engineering, Mechanical Engineering, Civil Engineering and Computer Engineering.

Salient Aspects:

In Mechanical Engineering the new structure and syllabus was introduced for third year from 2017-18 and credit system will be followed.

- Mechanical engineering outcomes have been identified and curriculum and syllabus have been structured in such a way that the courses meet these outcomes.
- The outcomes are related to engineering concepts, skills, software, knowledge, system design and also weightage is given for practical related subjects.
- These outcomes will be acquired by the students at the time of graduation.
- Each course in the programme defines clear instructional objectives which are mapped to the course outcomes.

Similarly, the structure and syllabus of Third Year (T.E.) is modified and the new syllabus was introduced for from 2017-18 and evaluation based on credit system was carry forward in Electronics and Telecommunication Engineering.

- Accordingly the program outcomes, course outcomes and evaluation methodology have been restructured to minimize the gap.

- Care has been taken in appropriate weightage allocation to the evaluation of understanding of engineering concepts, development of different skills, ability to design and test the software related problems, hands on or practical implementation of the concept, etc..

- Each course in the programme defines clear instructional objectives which are mapped to the course outcomes.

- Industry focused subject like Mechatronics is introduced in the curriculum along with the audit course

The Computer TE (2015 Course) syllabus was modified considering the need of curriculum / industry. It was modified considering the feedback taken from stakeholders.

- This helped the students to learn all the core subjects from practical point of view.

- New subjects were added as follows:

    i. Information Systems and Engineering Economics (ISEE)
    ii. Web Technology(WT)
    iii. Embedded System and Internet of Things (ESIOT)

- This helped the students to understand advanced topics in embedded IoT and lead them to understand research in network domain as well.

- Skill Development Lab (2015 Course) syllabus modified to understand employ Integrated Development Environment (IDE) for implementing and testing of software solution.

In Civil Engineering the new structure and syllabus was introduced from 2016-17 (w.e.f. June 2017) and credit system will be followed. Civil engineering outcomes have been identified and curriculum and syllabus have been structured in such a way that the courses meet these outcomes. Following are the salient aspects of the revised syllabi:

- 2015 pattern syllabus teaching hours are reduced to 3 hrs per week which was 4 hrs per week in 2012 pat for Foundation engineering subject, also site visit is introduced in 2015 pattern syllabus.

- In 2012 pattern syllabus FM-II and HWRE were combined subject, in 2015 pattern separate oral examination is introduced.

- Extra term work assignments are introduced for Environmental Engg-I syllabus 2015 pattern along with following syllabus changes: Municipal Solid Waste: Concept of Municipal Solid waste management, Sources, Classifications, Treatment (composting

&anaerobic digestion) Disposal (sanitary land fill) Principle of coagulation, Term Work : Assignment : Study of Water intake structures.

- For advanced surveying syllabus 2015 pattern teaching hours are reduced from 4 hrs per week to 3 hrs per week also oral examination is converted to term work for 50 marks.

- In 2012 pattern seminar additional syllabus introduced to Seminar and Technical Communication along with practical hours reduced to 1 hour per week.

In 2017-18, SPPU introduced revised syllabus of TE IT. Following modifications have been made in TE IT syllabus with respect to 2012 course.

- In Data Base Management Systems, new technologies like Hbase & Hadoop are added.

- Software Engineering & Project Management which was previously Software Engineering is upgraded with addition of project management concepts.

- In Operating System, scope of each unit is reduced. Topics like memory management techniques in Linux, Android OS are omitted. In associated laboratory, new concepts like shell programming and one more way of interprocess communication (system V) have been introduced.

- New subject, Human Computer Interaction is introduced in this syllabus which is matching with the industry standards.

- In Laboratory of Computer Network Technology changes carried out are: 1) TCP utilities and some network Commands. 2) Demonstration of IOT Application using Arduino / Rasberry Pi Kit. 3) Configure Access Control lists – Standard & Extended using Network Simulator.

- New assignment, Huffman tree has been introduced in Design & Analysis of Algorithms and earlier Warshall and Floyd's algorithm is removed.

- Another new subject. Data Science & Big Data Analytics has been introduced which has immense scope and demand in IT industry

1.6   Any new Department/Centre introduced during the year.   **NO.**

Criterion – II

Teaching, Learning and Evaluation

2.1   Total No. of permanent faculty

Assistant Professors	130
Associate Professors	06
Professors	05
Others	01
Total	142

2.2   No. of permanent faculty with Ph.D. : 15

2.3   No. of Faculty Positions Recruited (R) and Vacant (V) during the year

	Recruited	Vacant
Asst. Professors	130	00
Associate Professors	06	31
Professors	05	16
Others	01	00
Total	142	00

2.4   No. of Guest and Visiting faculty and Temporary faculty: **NO**

2.5   Faculty participation in conferences and symposia

No. of Faculty	International level	National level	State Level
Attended Seminars/ Workshops	9	2	1
Presented papers	13	2	1
Resource Persons	0	0	2

2.6   Innovative processes adopted by the institution in Teaching and Learning:

- Techniques like Video Lectures, Puzzles, Quiz, Crosswords, Role Play, Animation, are used in Teaching Learning Process.

- Use of ICT techniques are effectively implemented

- The activities like STP-Student Training Programme, Skill Development, AMCAT, QALR, VAP etc. are organized for the students

- Unit wise lectures of each subject are kept on K point server which student can access from anywhere.

- Subject like Structural Design is taught using Project Based Learning.

2.7   Total No. of actual teaching days   : 180
during this academic year

2.8   Examination/ Evaluation Reforms initiated by the Institution (for example: Open Book Examination, Bar Coding,   Double Valuation, Photocopy, Online Multiple Choice Questions)

The Institute has implemented three evaluation reforms viz.

1. On line Examination   : 01
2. Mock Test   : 04
3. Open Book test   : 14

The set of multiple choice questions are given to students for preparation of examinations.

- The Institute has started Online Mock Examinations for Phase-1 and 2 examinations of SPPU.

2.9   No. of faculty members involved in curriculum restructuring / revision / syllabus development

Member of Board of Study	Faculty	Curriculum Development Workshop
01	04	14

2.10 Average percentage of attendance of students : **80%**

2.11 Course/Programme wise distribution of pass percentage

Title of the Programme	Total no. of students appeared	Division/Class (in percentage)				
		Distinction	First	Second	Third	Pass
E&TC	172	47.09	36.05	4.07	0	87.21
Mechanical	265	59.6	23.4	2.64	0	85.66
Computer	195	87.69	5.64	0	0	93.33
IT	69	68.11	24.63	1.44	0	94.2
Civil	130	50.7	30.7	6.15	0	87.55

2.12 How does IQAC Contribute/Monitor/Evaluate the Teaching & Learning processes:

The IQAC plays a vital role in planning monitoring and evaluation of Teaching Learning.

I) Planning

IQAC provides the guidelines for planning of each semester by considering / discussing the following points.

- Result of previous semester
- Placement statistics and feedback of employers.
- Feedback of Students, Faculty, Alumni, Parents
- Expert opinion
- Outcome analysis

II) Monitoring

- Monitoring of the teaching plan and other activities are undertaken by HOD and academic coordinator
- The attendance and performance of students is monitored continuously and discussed in Principal meeting weekly.

III) Evaluation

- The feedback from students about teaching is taken online at mid of semester and analyzed in IQAC meeting. The corrective measures are taken accordingly
- The appraisal is filled by teacher at end of every academic year
- Corrective action taken on the same

- The policies are decided as per the vision and mission of Institute and objective of NAAC.

2.13 Initiatives undertaken towards faculty development

Faculty / Staff Development Programmes	No. of Programs	No. of faculty benefitted
Refresher courses	0	0
UGC – Faculty Improvement Programme	2	110
HRD programmes	0	0
Orientation programmes	0	0
Faculty exchange programme	0	0
Staff training conducted by the university	1	55
Staff training conducted by other institutions	3	24
Summer / Winter schools, Workshops, etc.	16	16
Others	6	6

2.14 Details of Administrative and Technical staff

Category	Number of Permanent Employees	Number of Vacant Positions	Number of permanent positions filled during the Year	Number of positions filled temporarily
Administrative Staff	26	00	00	00
Technical Staff	32	00	00	00

Criterion – III

Research, Consultancy and Extension

3.1 Initiatives of the IQAC in Sensitizing/Promoting Research Climate in the institution

The IQAC is taking lot of efforts to promote research climate in the Institute by

1. Motivating faculty and students to undertake any On line course run by NPTEL and IIT Spoken Tutorial as per their choice and to carry out the research project, writing paper and consultancy project
2. Recommending Study leave for higher education
3. Providing financial support in registration fees for on line course run by NPTEL along with attending STTP/ FDP, publishing papers in Conferences etc.
4. Making Research laboratories available to the Faculty

Recommending financial and other support for student research project like BAJA, SUPRA, ROBOCON etc

3.2 **Details regarding major projects**

	Completed (1)	Ongoing (2)	Sanctioned (3)	Submitted (4)
Number	00	01	00	00
Outlay in Rs. Lakhs	00	16.66 L	00	00

3.3 **Details regarding minor projects**

	Completed (1)	Ongoing (2)	Sanctioned (3)	Submitted (4)
Number	10	11	00	32
Outlay in Rs. Lakhs	14.5L	14.58L 50% utilized	00	91.88L

3.4 **Details on research publications**

	International	National	Others
Peer Review Journals	63	1	0
Non-Peer Review Journals	28	0	0
e-Journals	0	0	0
Conference proceedings	12	14	0

3.5 Details on Impact factor of publications:

Range	Average	h-index	Nos. in SCOPUS
1.0 – 5.1	1.375	18.55	10

3.6 Research funds sanctioned and received from various funding agencies, industry and other organisations

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects	**2 years**	**ISRO**	**16.66L**	**5.95L**
Minor Projects	**2 years**	**BCUD**	**14.50L**	**7.29L**
Interdisciplinary Projects	--	--	--	--
Industry sponsored	--	--	--	--
Projects sponsored by the University/ College	--	--	--	--
Students research projects *(other than compulsory by the University)*	--	--	--	--
Any other(Specify)	--	--	--	--
Total	--	--	--	--

3.7 No. of books published

                                 i) With ISBN No.   : 18
                                   ii) Chapters in Edited Books : 0
                                   iii) Without ISBN No.   : 0

3.8 No. of University Departments receiving funds from   : Not Applicable

3.9 University funds for colleges   : Not Applicable

3.10 Revenue generated through consultancy   : Nil

3.11 No. of conferences organized by the Institution

Level	International	National	State	University	College
Number	0	0	0	0	0
Sponsoring agencies	-	-	-	-	-

3.12 No. of faculty served as experts, chairpersons or resource persons : 39

3.13 No. of collaborations

International	National	Any other
00	18	00

3.14 No. of linkages created during this year : 17

3.15 Total budget for research for current year in lakhs :

From Funding agency	From Management of University/College	Total
22.545	0.80	23.345

3.16 No. of patents received this year

Type of Patent		Number
National	Applied	**07**
	Granted	**00**
International	Applied	**00**
	Granted	**00**
Commercialised	Applied	**00**
	Granted	**00**

3.17 No. of research awards/ recognitions received by faculty and research fellows of the institute in the year

International	National	State	University	Dist	College	Total
00	03	00	00	00	00	03

3.18 No. of faculty from the Institution who are Ph. D. Guides is **04** and students registered under them are **08.**

3.19 No. of Ph.D. awarded by faculty from the Institution is **0.**

3.20 No. of Research scholars receiving the Fellowships (Newly enrolled + existing ones)-**Nil**

3.21 No. of students Participated in NSS events: (at various levels)

University: **100**   State: **0**   National: **0**   International level: **0**

3.22 No. of students participated in NCC events: **NA**

3.23 No. of Awards won in NSS: **Nil**

3.24 No. of Awards won in NCC: **NA**

3.25 No. of Extension activities organized :

University Forum: **14**   College Forum: **0**   NCC: **0**

NSS: **0**   Any other: **0**

3.26 Major Activities during the year in the sphere of extension activities and Institutional Social Responsibility NSS

As a social responsibility, the Institute has taken initiatives in organizing Social programmes such as

1. Seminar on Power of Habit
2. Seminar on Will Power to excel
3. Leadership Development Program
4. Visit to Kondhwa Hospital- Fruit Donation
5. Speech Competition
6. Skill Development Program
7. Traffic Rule Awareness Rally

8. Swatch Bharat Abhiyan- Road Cleaning Program

9. Tree Plantation

10. Visit to orphan school - donation of grocery items

11. Health Awareness Program

12. Swatch Bharat Abhiyan- Parvati Hill Cleaning

13. Essay Competition

14. Voter Card Awareness Rally

Criterion – IV

Infrastructure and Learning Resources

4.1   Details of increase in infrastructure facilities: OFFICE

Facilities	Existing	Newly created	Source of Fund	Total
Campus area	5 Acres	-	Self	5 Acres
Class rooms	31	-	Self	31
Laboratories	52	-	Self	52
Seminar Halls	03	-	Self	03
No. of important equipments purchased (≥ 1-0 lakh) during the current year.	17	-	Self	17
Value of the equipment purchased during the year (Rs. in Lakhs)	7.70 L		Self	7.70
Others	0.93L		Self	0.93L

4.2   Computerization of administration and library

The Library is automated with Easy Lib library management software and the operations of cataloguing, circulation, stock verification have been automated. Online Public Access catalogue (OPAC) enables user to search the books in the possession of the library. Softwares used in Admin office: 1. Gems :- Used for faculty details, all type of leaves, students data and students' placement information. 2. Tally :- Used for accounts purpose 3. Paywhiz :- Used for Salary and TDS purpose 4. Aspire :- Used for fees and students' information purpose

4.3   Library services:

	Existing 1-07-2016 to 30-06-2017		Newly added In 1-07-2017 to 30-06-2018		Total	
	No.	Value	No.	Value	No.	Value
Text Books	419	218223	113	55926	532	274149
Reference Books	746	432442	88	53538	834	485980
e-Books	NIL	NIL	NIL	NIL	NIL	NIL

	Existing 1-07-2016 to 30-06-2017		Newly added In 1-07-2017 to 30-06-2018		Total	
	No.	Value	No.	Value	No.	Value
Journals	108	389150	109	390665	217	`779815
e-Journals	449	946137	470	11,90,652	919	21,36,789
Digital Database &others	NIL	NIL	NIL	NIL	NIL	NIL
CD & Video	28	NIL	10	NIL	38	NIL

4.4 Technology up gradation (overall)

	Total Comp-uters	Comp-uter Labs	Inter-net	Brow-sing Cent-res	Comp-uter Cent-res	Office	Dept.	Others
Existing	599	22	55mbps	-	-	1	06	-
Added	00	00	NIL	-	-	00	00	--
Total	599	22	55mbps	-	-	01	06	

4.5 Computer, Internet access, training to teachers and students and any other programme for technology - **Nil**

4.6 Amount spent on maintenance in lakhs :

i. ICT : 00

ii. Campus Infrastructure and facilities : 3.60389

iii. Equipments : 3.65087

iv. Others : 0.84342

v. **Total : 8.09818**

Criterion – V

Student Support and Progression

5.1   Contribution of IQAC in enhancing awareness about Student Support Services

In continuation with all the facilities provided by institute, following facilities have been added from this year
1. K-point recording of topic wise lectures are made available to students
2. For NPTEL on line courses students are motivated
3. ROBOCLUB activities have been increased

5.2   Efforts made by the institution for tracking the progression
1. Continuous monitoring and assessment of student
2. Remedial classes for slow learner
3. Students project like BAJA, SUPRA, ROBOCON for advance learner
4. TG scheme for monitoring and counselling
5. Conducting of AMCAT/ QALR test
6. Internship opportunity improved by collaboration with foreign university.
7. History card for all the students

5.3   (a) Total Number of students

UG	PG	Ph.D	Others
3345	39	08	00

(b) No. of students outside the state   : 236

        Men : 75.35%, Women: 24.65%

(c) No. of international students   : NA

(d) Details of Students   : As follows

This year (FE to BE Students) 2017-18						This year (FE) 2017-18					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
1983	297	30	724	0	3034	422	72	14	150	0	658

        Demand ratio :   **0.89**   Dropout %   :   **1.79%**

21

5.4   Details of student support mechanism for coaching for competitive examinations (If any)

To build the competitive attitude in the students, following support mechanisms have been provided
1. Student Training Program
2. QALR
3. AMCAT
4. Seminars on higher education are conducted.

No. of students beneficiaries: 2491

5.5   No. of students qualified in these examinations

NET	: 00	IAS/IPS	: 00
SET/SLET	: 00	STATE PSC	: 00
GATE	: 19	UPSC	: 00
CAT	: 00	Others	: 00

5.6   Details of student counselling and career guidance:

Students' counselling done at 2 levels.

1. TG: One teacher guardian is appointed for 20 students who take care of the problems of students.
2. He/She is also counselling the students.
3. The meeting of the students and TG is conducted fortnightly.
4. Regular encouragement of the students for the advancement in their career is an usual practice of this Institute.
5. Medical problems of the students are also undertaken and further assistance if required is provided from the campus doctors.

No. of students benefited : TG   – 3345
                                          Special Counselling   – 00

5.7   Details of campus placement

On campus			Off Campus
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed
178	**693**	**126**	**1**

5.8   Details of gender sensitization programmes   : 00

5.9   Students Activities SPORTS AND CULTURAL

5.9.1. No. of students participated in Sports, Games and other events

	State/ University Level	**National Level**	**International Level**
Sports, Games and other events	01	40	00
Cultural Events	357	00	00

5.9.2. No. of medals /awards won by students in Sports, Games and other events

	State/ University Level	**National Level**	**International Level**
Sports, Games and other events	02	00	00
Cultural Events	03	00	00

5.10   Scholarships and Financial Support

	Number of students	**Amount Rs./-**
Financial support from institution	03	139896
Financial support from government	1293	82131899
Financial support from other sources	15	300000
Number of students who received International/ National recognitions	-	-

5.11   Student organised / initiatives

	State/ University Level	**National Level**	**International Level**
Fairs	01	00	00
Exhibition	02	01	00

5.12   No. of social initiatives undertaken by the students (Club I/C)   : 08

5.13   Major grievances of students (if any) redressed   : 00

Criterion – VI

Governance, Leadership and Management

6.1 State the Vision and Mission of the institution SELF

Vision Statement

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"We are committed to produce not only good engineers but good human beings, also."

Mission Statement

"Holistic development of students and teachers is what we believe in and work for. We strive to achieve this by imbibing a unique value system, transparent work culture, excellent academic and physical environment conducive to learning, creativity & technology transfer. Our mandate is to generate, preserve and share knowledge for developing a vibrant Society."

6.2 Does the Institution has a management Information System

YES. Institute use GEMS software for office and technical work.

6.3 Quality improvement strategies adopted by the institution for each of the following:

6.3.1. Curriculum Development

- The curriculum is developed by SPPU Pune gets upgraded after every 4 years. Revised syllabus of TE implemented from 2017-18

- Faculties are actively participating in the process of design and development of curriculum at various levels such as member BOS, coordinators for subject revision, etc. The faculties attend the syllabus revision workshop

- The course objectives and course outcomes are analyzed regularly to find the gap if any, and the domain experts along with the subject teachers are deciding the corrective measures such as Content beyond syllabi, Industrial visit, The guest lectures, Workshop, etc.

6.3.2. Teaching and Learning

- ICT based Teaching Learning process is followed

- Innovative teaching methodologies are included in teaching plan like cross word puzzle, role play etc.

- Content beyond syllabus is planned to meet the objectives

- Course allocation is done to faculties prior to start of semester

- Teaching Plan is prepared and made available to student

- Implementation is done and monitored as per plan

6.3.3. Examination and Evaluation

- Examination is conducted as per norms rules and regulations by SPPU Pune

- Formative and summative assessment is done

6.3.4. Research and Development

- Policies for R&D and consultancy are finalized and made available to faculty

- Faculty and students are motivated and promoted to carry out research

- Student and faculty are encouraged to file the patents

6.3.5. Library, ICT and physical infrastructure / instrumentation

The Library is automated with Easy Lib library management software and the operations of cataloguing, circulation, stock verification have been automated. Online Public Access catalogue (OPAC) enables user to search the books in the possession of the library.

6.3.6. Human Resource Management

- The service rules, Pay-packages and other facilities are given to faculty and staff as per norms by SPPU & Govt. Of Maharashtra.

- The facilities like **(1)** EPF, **(2)** Gratuity, **(3)** GIS, **(4)** EMBF and leaves like Casual Leave (**CL**), Study Leave (**SL**), Medical Leave (**ML**), Maternity Leave, Earned Leave (**EL**) and Vacation are given to faculty and staff as per norms.

- Promotion and assistance for professional development.

- Support for higher education.
- Performance appraisal evaluates quantitatively and qualitatively the academic, administrative and research contribution of the faculty and staff.

6.3.7. Faculty and Staff recruitment

- Well defined procedure is followed for local selection
- Roster and University selection procedure is as per SPPU norms

6.3.8. Industry Interaction / Collaboration

- The III cell is actively interacting with Industry
- 60+ reputed organizations are working with the Institute under MOUs
- Different National/International activities like Guest Lectures, workshop, internship, projects, project sponsorship, faculty training are carried out

6.3.9. Admission of Students

- The entire admission process of the student is governed as per norms by AICTE, DTE and Govt. Of Maharashtra.

6.4 Welfare schemes for SELF

Teaching	Non-Teaching	Students
- Gratuity - Study Leave - Staff development - Staff Quarters - Medical Facility - GIS	- Gratuity - Study Leave - Staff development - Staff Quarters - Medical Facility - GIS	- Students' Insurance - Earn & Learn Scheme

6.5 Total corpus fund generated : Nil

6.6 Whether annual financial audit has been done : Yes / ~~No~~

6.7 Whether Academic and Administrative Audit (AAA) has been done? SELF

Audit Type	External Audit		Internal Audit	
	Y/N	Agency	Y/N	Authority
Academic	Yes	SPPU, NAAC, DTE	Yes	IQAC
Administrative	Yes	M/s. K. S. Mali & Co. (Chartered Accountant)	Yes	Internal Audit Department, STES, Erandwane, Pune-411004

6.8 Does the University/ Autonomous College declares results within 30 days? **NA**

For UG Programmes: Yes/No   For PG Programmes: Yes/No

6.9 What efforts are made by the University/ Autonomous College for Examination Reforms?

Not Applicable

6.10 What efforts are made by the University to promote autonomy in the affiliated/constituent colleges?

Not Applicable

6.11 Activities and support from the Alumni Association

- Alumni meet- The Institute is organizing an Alumni meet every year
- Interaction of Alumni with Faculty- For taking feedback from our Alumni, an interaction of Alumni is arranged at Institute with faculty
- Guest lecture of Alumni- The guest lecture of Alumni is arranged at Department level in order to establish an interaction between present and passed out students
- Any achievement of Alumni is shared with present students to motivate them
- Placement Assistance -Some of the Alumni either entrepreneur or working at senior positions in Industry are offering assistance for placement of the students from this Institute

6.12 Activities and support from the Parent – Teacher Association

- The institute is in continuous contact with parents
- For First and Second Year Engineering students, an orientation/induction program is organized every year
- The major intention behind organizing this orientation programme is to introduce faculty with parents
- For every class, Teacher Guardian system is implemented, where 20 students are allotted to one faculty member. This faculty member is establishing communication with the parents either online or offline.
- The academic, extracurricular or any other progress of the student is informed to the parents and both of them are solving the problems faced by the students if any.

6.13 Development programmes for support staff

- The supporting staff is encouraged for improving their academic /educational qualification
- Some of the programmes are also organized by the Departments to improve their professional skills like soft skills, different software training, etc. for example demonstration of video editing tools was organized by Department of information Technology for supporting staff to develop video editing skill in supporting staff.

6.14 Initiatives taken by the institution to make the campus eco-friendly

1. The separate collection of dry waste, wet waste and e waste is done. The standard E waste disposal procedure is followed.
2. Tree Plantation activities are regularly carried out.
3. Rain water harvesting.
4. Sewage treatment plant.
5. Bio-gas plant.
6. Solar Panels for hot water supply.
7. 7.Approaching towards paperless communication

Criterion – VII

Innovations and Best Practices

7.1   Innovations introduced during this academic year which have created a positive impact on the functioning of the institution. Give details.

1. Students are encouraged to enrol for various online courses conducted by IIT Bombay such as Advance C, Python etc.

2. New Software named "ASPIRE" has been introduced for administrative work along with TALLY, GEMS and ZOOM.

7.2   Provide the Action Taken Report (ATR) based on the plan of action decided upon at the beginning of the year (HOD)(e mail has been sent)

Sr. No.	Task	Action Taken	Outcome
1	Motivation created among students to participate in national, International competitions like BAHA, SUPRA, Quadbike, egokart	Given Orientation, conducted Seminars, Training to students for developing the skills of students. Infrastructure & funds generated to support the students competitions	14 Prizes won by students in national, International competitions like BHAJA,SUPRA ,Quad-bike, ego-kart and 120 students benefitted
2	Training the Civil Engineering students in soft ware required for Civil Industry	Department of Civil Engineering has conducted in house three weeks training course (VAP) on "AUTOCAD 2D" by CADD CENTER.	50 second year students have been benefitted by the Training
3	Improvement in mass recruitment	10 hours training to final year students on GD & PI	159 students placed till date

7.3   **Give two Best Practices of the institution**

- **"Teacher Guardian"** scheme for continuous academic monitoring of students accompanied by "Student Training Program" for technical as well as soft skill enhancement of students for improved employability

- Enhancing the quality of technical education through Guest Lectures by eminent personalities, Industry interactions as well as inculcating passion in student and faculties towards the pursuit of research

7.4   Contribution to environmental awareness / protection

- Tree Plantation drive has been conducted within and outside the Institute campus

- Monitoring the effective utilization of water in campus

- Environmental awareness program has been conducted for students and staff

7.5   Whether environmental audit was conducted?   **Yes**

7.6   Any other relevant information the institution wishes to add. (for example SWOT Analysis)(HOD) (to be discussed in the meeting with Principal)

1. **Strengths**
    - **(i)**   State of art infrastructure.
    - **(ii)** Experienced and dedicated faculty.
    - **(iii)** Located in an Industrial hub.
    - **(iv)** Support from founding society.

2. **Weaknesses:**
    - **(i)**   Low publication rate of faculty at international journals.
    - **(ii)** Inadequate patents and consultancy.
    - **(iii)** No academic flexibility as an affiliated college.

3. **Opportunities:**

   (i) May be developed as a centre of excellence in engineering in collaboration with educational institute in the locality.

   (ii) Introduction of job-oriented Add-on courses.

   (iii) Support from industries in state.

   (iv) Widening scope for consultancy and add financial resources.

   (v) Interdepartmental collaboration for research.

4. **Challenges:**

   (i) Involving more industries for development.

   (ii) Creating more research facility for faculty.

   (iii) Attracting better quality students and faculty.

   (iv) Widening scope for more extra-curricular and collaborative work.

   (v) Add on bridge courses to meet the ever changing industries requirement.

8. Plans of institution for next year

   Plan of IQAC for Academic year 2018-19:

   Besides the regular day-to-day Planning, Implementation, Monitoring and Correction of Quality of holistic development of students, IQAC is taking up the following weaknesses for improvement.

   1. IQAC will try to establish a solid linkage between the Institute and Industry to take   projects that are the requirements of the society.

   2. Training the students and improvement in the number of students placed

   3. More efforts will be taken to widen the consultancy services.

   4. Efforts to increase the consultancy services by using the available resources and expertise.

Mr. S. S. Kulkarni   **Dr. K. P. Patil**
Coordinator, IQAC   *Chairperson, IQAC*

Annexure I

Abbreviations:

AMCAT	-	Aspiring Minds' Computer Adaptive Test
CAS	-	Career Advanced Scheme
CAT	-	Common Admission Test
CBCS	-	Choice Based Credit System
CE	-	Centre for Excellence
COP	-	Career Oriented Programme
CPE	-	College with Potential for Excellence
DPE	-	Department with Potential for Excellence
GATE	-	Graduate Aptitude Test
NET	-	National Eligibility Test
PEI	-	Physical Education Institution
QALR	-	Quantitative Aptitude and Logical Reasoning
SAP	-	Special Assistance Programme
SF	-	Self Financing
SLET	-	State Level Eligibility Test
SPPU	-	Savitribai Phule Pune University
STP	-	Student Training Program
TEI	-	Teacher Education Institution
UPE	-	University with Potential Excellence
UPSC	-	Union Public Service Commission

Annexure II

Academic Calender (2017-18) SEM-I (SE)

1	Commencement of Academic Semester	15/06/2017 **(Thu)**
2	AMCAT Test	10-13/07/2017 (Mon-Thu)
3	SE Mock Online + Theory Examination - 2 Units [25 Marks]	19 - 21/07/2017 **(Wed-Fri)**
4	Declaration of Result (Online Exam) & Submission of Mark sheets to HOD	21/07/2017 **(Fri)**
5	Mid-Term Submission	31/07 - 04/08/2017 **(Mon-Fri)**
6	(SE Mock Online + Theory Exam) 2 Units [25 Marks]	22-24/08/2017 **(Tue-Thu)**
7	Declaration of Result (SE Mock) Online Examination	28/08/2017 **(Mon)**
8	Conclusion of Class room teaching	29/09/2017 **(Fri)**
9	Prelim Exam (50 Marks / 2 Hours) Online (1 to 4 Unit)+Theory	03-06/10/2017 **(Tue-Fri)**
10	Declaration of Prelim Results, submission of mark sheets. Prelim Exam and discussion of Paper with Students	09/10/2017 **(Mon)**
11	Mock Oral / Repeat Turns for Practical Submission Work	09-13/10/2017 **(Mon-Fri)**
12	Issue of Term Grant Certificate to All Clear students in Prelim Exam and Mock Practical	13/10/2017 **(Fri)**
13	**SPPU** Practical / Oral Examination	30/10 to 06/11/2017 (Mon-Mon
14	**SPPU** Theory Examinations	14/11 to 11/12/2017 (Tue-Mon)
15	SPPU Online Exam (Phase I +II)	To be Declared by SPPU
16	Commencement of Second Term for the Year 2017-18	18/12/2017 (Mon)

(Dr. K. P. Patil)
Principal

Academic Calender (2017-18) SEM-I (TE)

1	Commencement of Academic Semester	15/06/2017 **(Thu)**
2	AMCAT	10 - 13/07/2017 **(Mon-Thu)**
3	TE InSem MOCK Exam (25 Marks) 2 Units	17 - 21/07/2017 **(Mon-Fri)**
	MID TERM SUBMISSION	31/07 - 04/08/2017 **(Mon-Fri)**
4	**SPPU** InSem Examination TE/BE (30Marks) 3 Units	08-12/08/2017 (Tue-Sat)
6	Conclusion of Class room teaching	29/09/2017 **(Fri)**
7	Prelim Exam (70 Marks / 2.5 Hours) (TE Theory Exam) All 6 Units	03-06/10/2017 **(Tue-Fri)**
8	Declaration of Prelim Results, submission of mark sheets. Prelim Exam and discussion of Paper with Students	09/10/2017 **(Mon)**
9	Mock Oral / Repeat Turns for Practical Submission Work	09-13/10/2017 **(Mon-Fri)**
10	Issue of Term Grant Certificate to All Clear students in Prelim Exam and Mock Practical	13/10/2017 **(Fri)**
11	**SPPU** Practical / Oral Examination	24/10 to 06/11/2017 (Tue-Mon
12	**SPPU** Theory Examinations	14/11 to 11/12/2017 (Tue-Mon)
13	Commencement of Second Term for the Year 2017-18	18/12/2017 (Mon)

(Dr. K. P. Patil)
Principal

Academic Calender (2017-18) SEM-I (BE)

1	Commencement of Academic Semester	15/06/2017 **(Thu)**
2	BE InSem MOCK Exam (25 Marks) 2 Units	17 - 21/07/2017 **(Mon-Fri)**
3	**SPPU** InSem Examination BE (30Marks) 3 Units	08-12/08/2017 (Tue-Sat)
4	MID TERM SUBMISSION	31/07 - 04/08/2017 **(Mon-Fri)**
5	Conclusion of Class room teaching	29/09/2017 **(Fri)**
6	Prelim Exam (70 Marks / 2.5Hour) (BE Theory Exam) All 6 Units	03-06/10/2017 **(Tue-Fri)**
7	Declaration of Prelim Results, submission of mark sheets. Prelim Exam and discussion of Paper with Students	09/10/2017 **(Mon)**
8	Mock Oral / Repeat Turns for Practical Submission Work	09-13/10/2017 **(Mon-Fri)**
9	Issue of Term Grant Certificate to All Clear students in Prelim Exam and Mock Practical	13/10/2017 **(Fri)**
10	**SPPU** Practical / Oral Examination	30/10 to 06/11/2017 (Mon-Mon
11	**SPPU** Theory Examinations	14/11 to 11/12/2017 (Tue-Mon)
12	Commencement of Second Term for the Year 2017-18	18/12/2017 (Mon

(Dr. K. P. Patil)
Principal

Annexure III

Funded Research Projects

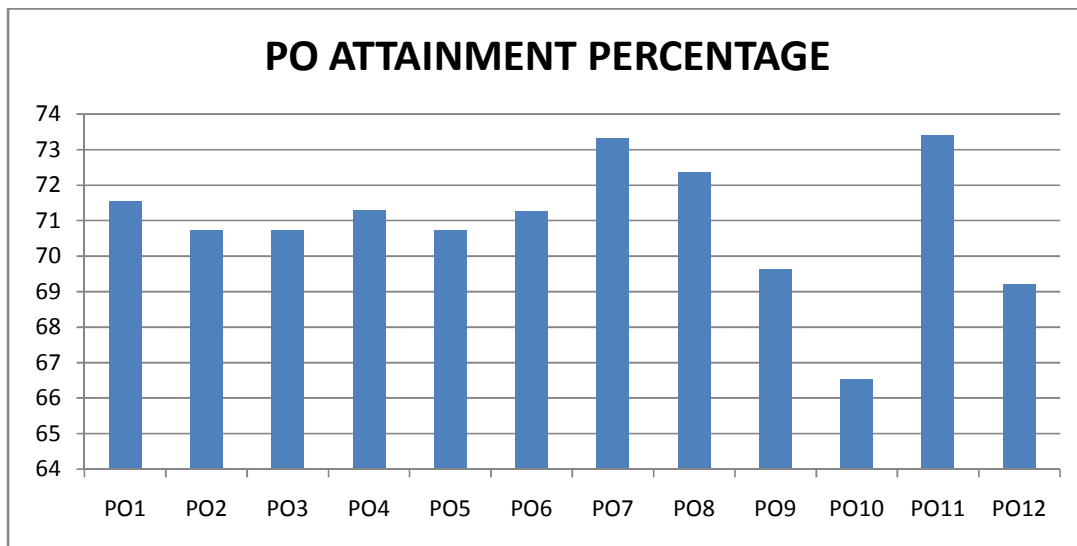**Research Funds sanctioned and received from various funding agencies, industry and other organizations**

Nature of Project	Duration Year	Name of the Funding Agency	Total Grant sanctioned	Received
Major Project	2 yr	ISRO	Rs.16.66 lakhs	Rs. 5.95lakhs Rs. 10.71 lakhs
Minor projects	2 yr	BCUD, SPPU	14,58,000/-	Rs.7,29,000/- (Remaining amount yet to be received)

Details of NPTEL participation

Course Run	Present	Gold	Elite	Successful	Participation	Topper
Jan-Apr 2018	29	0	17	9	3	1
Jun-Dec 2017	30	1	17	5	7	2
Total	59	1	34	14	10	3

Annexure IV

Feedback Analysis

TOTAL PO ATTAINMENT (2017-18)												
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
DIRECT METHOD(70)	6.79	6.76	6.76	6.84	6.75	6.75	6.96	6.65	6.43	6.42	6.80	6.80
INDIRECT METHOD(30)	8.00	7.80	7.80	7.80	7.82	8.00	8.20	8.60	8.20	7.20	8.60	7.20
AVERAGE	7.40	7.28	7.28	7.32	7.29	7.38	7.58	7.63	7.32	6.81	7.70	7.00
PERCENTAGE	71.53	70.72	70.72	71.28	70.71	71.25	73.32	72.35	69.61	66.55	73.4	69.2

Questions for feedback

Sr. No.	Question	Rating(A-C)
1	What is your comfort ability level with the problems based on Basic Engineering, Science, Design Engineering and Telecommunication?	
2	Can you identity, formulate, solve and implement the solution for engineering, managerial and societal problems? How much you are confident to tackle the assigned job and work out solution of the problems?	
3	What is your capability to design and conduct and experiments, analyze and interpret data through simulated industrial environment?	
4	How much success you are gaining in solving multidisciplinary problems by systematic approach?	
5	How much you are inclined towards the continuous up gradation of your knowledge through consistent learning?	
6	What extent of economical, environmental, social ethical and technological requirements you can fulfil by designing the products, processes and systems?	
7	According to you, how much you are effective in verbal and no verbal communication?	
8	As per your opinion how, much you feel confident in facing challenges in the carrier, developing the team leadership and managerial along with project management skills?	
9	Grade your research and development thirst in your carrier.	

Date   **Signature of Student**