

# **SELF STUDY REPORT**

**FOR**

**1<sup>st</sup> CYCLE OF ACCREDITATION**

**TSSM'S PADMABHOOSHAN VASANTDADA PATIL  
INSTITUTE OF TECHNOLOGY, BAVDHAN,PUNE**

**S. NO. 33/22, OFF PIRANGUT ROAD, NEAR CHANDANI CHOWK, OPPOSITE  
ATHASHREE PROJECT, BAVDHAN (KHURD), PUNE**

**411021**

**[www.pvpittssm.edu.in](http://www.pvpittssm.edu.in)**

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**Submitted To**

**NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL**

**BANGALORE**

**January 2018**

# **1. EXECUTIVE SUMMARY**

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## **1.1 INTRODUCTION**

Padmabhooshan Vasantdada Patil Institute of Technology (PVPIT) is governed by The Shetkari Shikshan Mandal, a charitable Trust registered under Bombay Public Trust Act 1950 and Societies Registration Act 1860. The TSSM started the Padmabhooshan Vasantdada Patil Institute of Technology in the academic year 2006-07. The College is approved by All India Council for Technical Education (AICTE), New Delhi, recognized by Government of Maharashtra Director of Technical Education(DTE) and affiliated to University of Pune.

Prof. T. J. Sawant President TSSM is renowned entrepreneur and educationalist. He strongly believes that establishment of excellent technical institutions is the key solution to the problem of development of techno-economic society. He is also Founder Secretary of Jayawant Shikshan Prasarak Mandal(JSPM) which is established in the year 1998 and is known as a leading education group in India, in the very small span of seven years with a number of institutes such as Engineering, Management , Pharmacy, Diploma, Computer Application and Pre-Primary, Primary, Secondary School in and around Pune in five campuses.

Padmabhooshan Vasantdada Patil Institute of Technology is housed in a spacious campus at Bavdhan (KD), Chandni Chowk, near Kothrud, Pune, which is surrounded by greenery. Under the dynamic leadership of Prof. T. J. Sawant, the institute is progressing by keeping pace with the world.

### **Vision**

To satisfy the aspirations of youth force, who want lead nation towards prosperity through techno-economic development.

### **Mission**

To provide, nurture and maintain an environment of high academic excellence, research and entrepreneurship for all aspiring students, which will prepare them to face global challenges maintaining high ethical and moral standards; by implementing quality practices.

## **1.2 Strength, Weakness, Opportunity and Challenges(SWOC)**

### **Institutional Strength**

- 1. Dedicated and enthusiastic faculty members**
- 2. Conducive environment for teaching-learning**
- 3. Pollution free and well maintained campus**
- 4. Enthusiastic students with innovative abilities**

### **Institutional Weakness**

1. **Consultancy opportunities not explored**
2. **Representation in university bodies**

### **Institutional Opportunity**

1. **Smart city advantage**
2. **Collaboration with industries of Global standards**
3. **Students grooming for Holistic development as Pune is cultural capital of Maharashtra**
4. **MoU's with international universities**

### **Institutional Challenge**

1. **Changing mind set of aspirant from rote learning to thoughtful learning**
2. **Placement in core Industries**

## **1.3 CRITERIA WISE SUMMARY**

### **Curricular Aspects**

Institute is affiliated to Savitribai Phule Pune University (SPPU), and abides to the syllabus as prescribed by SPPU. Senior faculty members have significant contribution in the design and development and implementation of university syllabus and also examination activities.

The existing limited flexibility is appropriately utilized by the institute at two juncture viz. change of branch at commencement of second year of engineering and option of electives available to students at higher level.

Through well structured plan and its effective implementation, institute ensures that the required attributes are developed amongst students. Provision of Add-on courses and industry interaction ensure gap bridging between academia and Industry.

The regular practice of the institute to seek feedback from various stakeholders helps to enhance the quality of curriculum and process of education.

### **Teaching-learning and Evaluation**

Student Enrollment at institute is effective and transparent as the institute follows the rules and regulation of Directorate of Technical Education and admissions are through Centralized System. The admission Process is regulated by Admission Regulating Authority (Government of Maharashtra). Total student strength in the institute is indicative that the institute is amongst the preferred destination for engineering education.

Institutional strategy to identify learning needs of students at commencement of semester helps to groom the

students appropriately so as to reach the expected outcome. The student-teacher ratio is a strong point to implement mentor mentee scheme (Guardian Faculty Member System). The policy of outcome based education and student centric teaching learning process adopted by the institute helps to nurture the students appropriately and cater competent manpower to society.

In association with stakeholders, Programme Outcomes, Programme Specific Outcomes and Course Outcomes are formulated, adopted and practiced by the Institute for all courses. Use of Learning Management System (LMS-MOODLE), Virtual laboratories, Self learning laboratories and smart classroom at each departement highlights adaption of ICT and innovative practices in teaching learning process. There is a good blend of Post Graduates/Doctorates faculty members reflecting better experience.

Appropriate direct and indirect assessment tools are incorporated, which are reviewed for assessing given attribute and modified if required, e.g. online MCQs by end of chapter. The institutional mechanism ensures effective and efficient grievance redressal. Importance is given for implementation of institutional plan for the expected outcome, deviation if any is tackled appropriately.

### **Research, Innovations and Extension**

In quest of excellence, the institute takes efforts to build capacity of individuals in terms of technical expertise, research publications, projects of social benefit and development of nation. Institute provides full infrastructural and administrative support for overall development of students. Faculty members are provided with full monetary benefits of consultancy and the expenses for patenting are taken care by the institute.

Collaborations and MoUs signed with industries and institutes help leverage the R&D activities. Attempts made by the institute for obtaining grants have shown positive impact. Through the R&D activities, the problems faced by sponsoring agencies are resolved to achieve transfer of technology from lab to land.

Institute Reasearch Committee motivates and guides faculty members and students to take up innovative and creative projects, which have resulted into thirty four patents, participation at national and international level competitions and publishing research work in the form of journals/books. In practice, due care is taken in terms of code of ethics and plagiarism. Faculty members as reviewers and editors of international journals inspire peers and promote research culture.

Students and faculty members are extensively motivated for extension activities and volunteer services through the platform of National Service Scheme (NSS). Many students participate in activities, which are conducted at institute, university and state level to learn and demonstrate the spirit of responsibility towards nation and community. The institute solemnizes students for the core universal values like truth and righteousness on all possible platforms like annual cultural festival, sports meet and technical events.

### **Infrastructure and Learning Resources**

The institute provides adequate and quality infrastructure to all incumbents. The need of changing trends in education and technological improvements reflected in market are taken due care and accordingly institute keeps on augmenting its infrastructure. The institute infrastructure satisfies the requirements said by the apex body AICTE. The facilities made available by the institute for sports and cultural activities are also considerable. The supports obtained by students in sports and cultural activities are reflected through the

student achievements in competitions organized at National and State level. Institute has added the provision of learning management system (MOODLE) in its teaching-learning environment. The resources available on the LMS are used by the students and faculty members during regular teaching- learning process in all class room and laboratories which are ICT enabled. The provision of smart board is also made available at selected locations in institutes. Some classrooms equipped with lecture capture facility. One seminar hall is equipped with video conferencing facility for delivering online lectures are the notable features of the Institute. Exclusively designed Training and Placement (T & P) cell provides adequate infrastructure for trainings, placement and co-curricular & extracurricular activities. Ramps and lifts are provided for physically disabled students.

To be in tune with digital world, the library is digitized with,, Autolib software and also provided digital library facility through KOHA and online sharing of contents. The Institute has separate centralized cells for maintenance and to upkeep the infrastructure, campus facilities and equipment's.

### **Student Support and Progression**

An integrated model for student support and progression exists in the institute. The responsibility of extending benefits to the students by means of scholarship and free ships is shouldered by the team consist of social welfare officer, guardian faculty member and concerned staff from administrative department. There exists an effective mechanism to deal with the student services which includes financial aids, personal and career counseling, competency and skill development programs. The need of diverse learner is also taken care by means of Add on courses, practice sessions and remedial actions, if required institute joins hands with external agencies to impart required training to enhance the skills. Right from commencement of semester through established mechanism institute ensures environment of safety and security for students, thus till date no case of ragging and sexual harassment has happened in institute.

The mentor (GFM), HOD and TPO works hand in hand to understand the need and strength of students, so as to groom them properly. Exclusive training sessions are organized through training and placement cell for students so as to ensure success.

Institute provides platform to showcase student's co-curricular and extracurricular activities in which the student's participation is encouraging. Students contribute at National and International technical as well as sports competitions and grab the awards. Institute provides guidance and requisite support for higher educations and various competitive examinations. Every year different social activities are organized under NSS Cell which helps to percolate social and ethical qualities amongst the students.

### **Governance, Leadership and Management**

Leadership at Institute steers the organization towards the institutional vision and mission. The practice adopted by leader reflects the supportive culture and provides opportunities to the stake holders to implement their

creative and innovative idea for the development of organization. Successful reforms in assessment, enhanced utilization of library, effective faculty development program are some of the key achievements of the approach.

Based on the market survey, Institute has developed strategic plan. An effective use of IT resources for teaching-learning and assessment process, in-house ICT based teaching-learning material is part of strategic plan.

The roles and responsibilities of various bodies and committees are well defined. All the policies are developed and documented in “HR-manual” of Institute. The effectiveness, efficiency and transparency in various areas are ensured by implemented in-house developed e-governance system.

Due care is taken by the institute in domain of staff welfare by implementing the schemes. Attempts are made by institute to identify the training needs of employees through TNA; followed by actual training. The performance of faculty member and staff is checked by established online performance appraisal system. Institute conducts internal and external audit regularly. The institute being self-financed institute, major source of funding is through student fees.

IQAC has contributed best practices for the cause of quality assurance. Some reforms in teaching learning process are suggested. On an average seven per year quality initiatives for promoting quality culture are implemented through IQAC.

### **Institutional Values and Best Practices**

In line with vision, institute provides equal opportunity to male and female students to participate and lead in all the educational avenues and it is reflected by participation of students in events like Hakathon, Baja and Acclivity to mention a few. The safety and security of the institute is highly effective and robust aided by modern gadgets.

The importance of environmental and sustainability is imbibed among students by implementing various courses and practices like solar system, rainwater harvesting, use of LED and others. The degradation of environment is taken care by appropriately handling various types of waste generated in institute.

“Unity in diversity” is a feature of a nation and same is the case with us. The gained technical know-how by the students is passed on to society by the students reflecting human values and professional ethics. Institute makes an attempt to nurture the students for holistic development along with professional expertise and nationalism.

Institutional performance is boosted by adopting best practices; mentioned are representative cases i) Multi-monitoring system for overall and holistic development of student ii) Social awareness and practice through National Services Scheme NSS.

The institute devoted to imbibe skill development among the students to enhance the employability and entrepreneurship initiatives. The institute sensitizes the thrust area in mechatronics which is a fast developing technology. Robotics club is the distinct activity of institute which satisfies the aspirations of students by representing India in robowar competition at International level.

NAAC

## 2. PROFILE

### 2.1 BASIC INFORMATION

Name and Address of the College	
Name	Tssm's Padmabhooshan Vasantdada Patil Institute Of Technology, Bavdhan,pune
Address	S. No. 33/22, Off Pirangut road, Near Chandani Chowk, opposite Athashree Project, Bavdhan (Khurd), Pune
City	Pune
State	Maharashtra
Pin	411021
Website	<a href="http://www.pvpittssm.edu.in">www.pvpittssm.edu.in</a>

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Professor	Vilas Arjun Pharande	020-22948005	8975401400	020-22948006	viceprincipal@pvpittssm.edu.in
Principal	Chetankumar Mathuradas Sedani	020-22948002	9067891970	020-22948000	principal_pvpit@tssm.edu.in

Status of the Institution	
Institution Status	Private

Type of Institution	
By Gender	Co-education
By Shift	Day Evening

Recognized Minority institution	
If it is a recognized minority institution	No



**Establishment Details**

Date of establishment of the college	17-10-2006
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<b>University to which the college is affiliated/ or which governs the college (if it is a constituent college)</b>
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<b>State</b>	<b>University name</b>	<b>Document</b>
Maharashtra	Savitribai Phule Pune University	<a href="#">View Document</a>

**Details of UGC recognition**

<b>Under Section</b>	<b>Date</b>
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2f of UGC	
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12B of UGC	
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**Details of recognition/approval by stationary/regulatory bodies like AICTE,NCTE,MCI,DCI,PCI,RCI etc(other than UGC)**

Statutory Regulatory Authority	Recognition/Approval details Institution/Department programme	Day,Month and year(dd-mm-yyyy)	Validity in months	Remarks
AICTE	<a href="#">View Document</a>	10-04-2017	12	Extension of Approval for the current academic year

**Details of autonomy**

Does the affiliating university Act provide for conferment of autonomy (as recognized by the UGC), on its affiliated colleges?	No
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**Recognitions**

Is the College recognized by UGC as a College with Potential for Excellence(CPE)?	No
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Is the College recognized for its performance by any other governmental agency?	No
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Location and Area of Campus				
Campus Type	Address	Location*	Campus Area in Acres	Built up Area in sq.mts.
Main campus area	S. No. 33/22, Off Pirangut road, Near Chandani Chowk, opposite Athashree Project, Bavdhan (Khurd), Pune	Urban	9.09	16598

## 2.2 ACADEMIC INFORMATION

Details of Programmes Offered by the College (Give Data for Current Academic year)						
Programme Level	Name of Programme/Course	Duration in Months	Entry Qualification	Medium of Instruction	Sanctioned Strength	No.of Students Admitted
UG	BE,Mechanical Engineering	36	DIPLOMA IN ENGG	English	60	45
UG	BE,Mechanical Engineering	48	HSC OR DIPLOMA OR BSc	English	120	53
UG	BE,Mechanical Engineering	48	HSC OR DIPLOMA OR BSc	English	120	5
UG	BE,Electronics And Telecommunication Engineering	48	HSC OR DIPLOMA OR BSc	English	60	21
UG	BE,Civil Engineering	48	HSC OR DIPLOMA OR BSc	English	120	31
UG	BE,Computer Engineering	36	DIPLOMA IN ENGG	English	60	48
UG	BE,Computer Engineering	48	HSC OR DIPLOMA OR BSc	English	60	49
PG	ME,Mechanical	24	BE OR	English	24	9

	cal Engineering		BTECH			
PG	ME,Mechanical Engineering	24	BE OR BTECH	English	24	3
PG	ME,Electronics And Tele communication Engineering	24	BE OR BTECH	English	24	11
PG	ME,Civil Engineering	24	BE OR BTECH	English	24	24
PG	ME,Computer Engineering	24	BE OR BTECH	English	24	12

**Position Details of Faculty & Staff in the College**

Teaching Faculty												
	Professor				Associate Professor				Assistant Professor			
	Male	Female	Others	Total	Male	Female	Others	Total	Male	Female	Others	Total
Sanctioned by the UGC /University State Government	18				27				103			
Recruited	8	2	0	10	0	0	0	0	67	36	0	103
Yet to Recruit	8				27				0			
Sanctioned by the Management/Soci ety or Other Authorized Bodies	0				16				19			
Recruited	0	0	0	0	11	5	0	16	10	9	0	19
Yet to Recruit	0				0				0			

<b>Non-Teaching Staff</b>				
	<b>Male</b>	<b>Female</b>	<b>Others</b>	<b>Total</b>
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				94
Recruited	81	13	0	94
Yet to Recruit				0

<b>Technical Staff</b>				
	<b>Male</b>	<b>Female</b>	<b>Others</b>	<b>Total</b>
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				37
Recruited	29	8	0	37
Yet to Recruit				0

### Qualification Details of the Teaching Staff

Permanent Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	8	2	0	1	0	0	0	0	0	11
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	10	5	0	77	45	0	137

Temporary Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	0	0	0	0	0	0	0	0	0	0
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	26	10	0	36

Part Time Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	0	0	0	0	0	0	0	0	0	0
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	0	0	0	0

Details of Visting/Guest Faculties				
Number of Visiting/Guest Faculty engaged with the college?	Male	Female	Others	Total
	0	0	0	0

**Provide the Following Details of Students Enrolled in the College During the Current Academic Year**

Programme		From the State Where College is Located	From Other States of India	NRI Students	Foreign Students	Total
PG	Male	61	3	0	0	64
	Female	37	1	0	0	38
	Others	0	0	0	0	0
UG	Male	1608	14	0	0	1622
	Female	302	1	0	0	303
	Others	0	0	0	0	0

Provide the Following Details of Students admitted to the College During the last four Academic Years					
Programme		Year 1	Year 2	Year 3	Year 4
SC	Male	45	34	30	38
	Female	8	8	10	6
	Others	0	0	0	0
ST	Male	0	0	0	0
	Female	0	0	0	0
	Others	0	0	0	0
OBC	Male	150	137	117	94
	Female	27	14	23	25
	Others	0	0	0	0
General	Male	255	384	367	309
	Female	96	96	109	114
	Others	0	0	0	0
Others	Male	75	81	43	42
	Female	12	4	11	8
	Others	0	0	0	0
Total		668	758	710	636

### 3. Extended Profile

#### 3.1 Programme

**Number of courses offered by the institution across all programs during the last five years**

**Response : 287**

**Number of self-financed Programmes offered by college**

**Response : 0**

**Number of new programmes introduced in the college during the last five years**

**Response : 08**

#### 3.2 Student

**Number of students year wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
2055	2341	1932	1710	1323

**Number of seats earmarked for reserved category as per GOI/State Govt rule year wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
638	646	562	423	340

**Number of outgoing / final year students year wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
549	445	230	275	221

**Total number of outgoing / final year students**

**Response : 502**

#### 3.3 Academic



**Number of teachers year wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
189	177	160	126	101

**Number of full time teachers year wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
151	176	152	122	92

**Number of sanctioned posts year wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
151	176	152	122	92

**Total experience of full-time teachers****Response : 1578****Number of teachers recognized as guides during the last five years****Response : 6****Number of full time teachers worked in the institution during the last 5 years****Response : 346****3.4 Institution****Total number of classrooms and seminar halls****Response : 27****Total Expenditure excluding salary year wise during the last five years ( INR in Lakhs)**

2016-17	2015-16	2014-15	2013-14	2012-13
2944.50	679.33	656.57	544.98	462.87

**Number of computers**

**Response : 617**

**Unit cost of education including the salary component(INR in Lakhs)**

**Response : 1.196**

**Unit cost of education excluding the salary component(INR in Lakhs)**

**Response : .366**

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## 4. Quality Indicator Framework(QIF)

### Criterion 1 - Curricular Aspects

#### 1.1 Curricular Planning and Implementation

##### 1.1.1 The institution ensures effective curriculum delivery through a well planned and documented process

##### Response:

Institute is affiliated to Savitribai Phule Pune University, Pune (SPPU) and follows the curriculum designed by the Board of Studies (BoS) of SPPU for various engineering programs. To achieve educational goals of an institute, institute abides to execute curriculum framework using required potential of resources (Institute has a structured academic plan, for effective implementation and execution of curriculum, the following is the documented process for implementation of curricular plan).

- Before commencement of every academic year, academic calendar of institute is prepared in accordance with academic calendar of SPPU, which include internal test schedule, university examination schedule, department and institution level activities, workshops, guest/expert lectures and industrial visits.
- Head of each department allocates the theory and laboratory courses to faculty members according to area of specialization, skills and experience.
- The department time table for each semester is prepared to indicate specific class and laboratory hours. The class timetables are displayed on common notice board and uploaded on Moodle.
- Every faculty prepares teaching and laboratory plan for the course to be handled by them in line with the university syllabus, which is approved by Head of Department (HoD).
- Faculty prepares extensive lecture notes using university prescribed books and other references. Laboratory manuals are prepared so that students can understand and co-relate theory with practical application.
- Course files are maintained by respective faculty members, which contain all the information necessary for the implementation of the curriculum.
- The course files are evaluated by Academic Monitoring Committee (AMC) with help of concerned HoD before commencement of semester. AMC monitors the progress of theory and laboratory courses conducted according to teaching and laboratory plans.
- Students' attendance and academic progress for individual course is continuously monitored through teaching plan. Periodical tests are conducted for theory subjects and mock examination for practical / oral. The remedial classes are conducted for the students having poor performance in these evaluations.
- For a group of around 20 students a teacher is allocated as Guardian Faculty Member (GFM). GFM conducts a weekly meeting, counseling of students and provide guidance for poor performing students. GFM also addresses the nonacademic issues related to students.
- Faculty is encouraged to impart the curriculum through teaching methods such as Problem Based Learning, Project based Learning, Inquiry training, concept attainment.
- The slow and advance learners are identified based on their test performance and class room interactions. Extra support is provided to them through additional input by conducting classes after regular session.

- Views of experts from industry, academia and alumni on curriculum are taken for improving teaching learning process and academics.
- The institute has ICT based feedback management system, which enables stakeholder-institute interaction for enrichment of teaching-learning process and overall development of student.
- AMC conducts academic audit twice in a semester, ensuring achievement of academic outcome.
- Internal Quality Assurance Cell (IQAC) through its audit takes care for fulfilling quality requirement. It provides feedback to AMC and department for further improvement from perspective of educational quality.

File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

### 1.1.2 Number of certificate/diploma program introduced during the last five years

Response: 20

#### 1.1.2.1 Number of certificate/diploma programs introduced year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
9	6	2	1	2

File Description	Document
Details of the certificate/Diploma programs	<a href="#">View Document</a>
Minutes of relevant Academic Council/BOS meetings	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>

### 1.1.3 Percentage of participation of full time teachers in various bodies of the Universities/ Autonomous Colleges/ Other Colleges, such as BoS and Academic Council during the last five years

Response: 0.13

#### 1.1.3.1 Number of teachers participating in various bodies of the Institution, such as BoS and Academic Council year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
0	0	1	0	0

File Description	Document
Any additional information	<a href="#">View Document</a>
Details of participation of teachers in various bodies	<a href="#">View Document</a>

## 1.2 Academic Flexibility

<b>1.2.1 Percentage of new courses introduced of the total number of courses across all programs offered during the last five years</b>  <b>Response:</b> 31.36	
1.2.1.1 How many new courses are introduced within the last five years  Response: 90	
File Description	Document
Minutes of relevant Academic Council/BOS meetings.	<a href="#">View Document</a>
Details of the new courses introduced	<a href="#">View Document</a>
<b>1.2.2 Percentage of programs in which Choice Based Credit System (CBCS)/Elective course system has been implemented</b>  <b>Response:</b> 100	
1.2.2.1 Number of programs in which CBCS/ Elective course system implemented.  Response: 12	
File Description	Document
Minutes of relevant Academic Council/BOS meetings.	<a href="#">View Document</a>
Name of the programs in which CBCS is implemented	<a href="#">View Document</a>
<b>1.2.3 Average percentage of students enrolled in subject related Certificate/ Diploma programs/Add-on programs as against the total number of students during the last five years</b>  <b>Response:</b> 7.89	
1.2.3.1 Number of students enrolled in subject related Certificate or Diploma or Add-on programs year	

wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
337	209	177	20	50

File Description	Document
Details of the students enrolled in Subjects related to certificate/Diploma/Add-on programs	<a href="#">View Document</a>

### 1.3 Curriculum Enrichment

#### 1.3.1 Institution integrates cross- cutting issues relevant to Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum

##### Response:

##### Gender Issues:

- Institute follows admission rules of DTE for reservation of male and female students.
- Institute organizes health checkup camp for girls and lady Faculty members.
- The institute has established a Women's Grievance Cell to sensitize the students and employees on gender issues, make them aware of the social, moral, and legal implication of gender discrimination. The cell is committed to create and maintain an environment in which students, teachers and non-teaching staff can work together in an atmosphere which is free of gender violence and gender discrimination.
- Awareness through various seminars is done.

##### Environment and Sustainability (E&S):

- As a conscious effort and contribution towards Green IT and environment awareness, institute encourages students to adopt go green methods viz maintaining, submitting and presenting records electronically instead of printouts
- The long term effect would be seen when nation develops and this leads to sustainable environment. Sustainability is achieved by reducing e-waste, implementing green technologies, adopting energy efficient and effective technologies. The curriculum supports all the mentioned techniques.
- To maintain ecology and ecosystem, it is necessary to understand impact of human behavior and technological advancement that exists in various courses such as Environmental Engineering and Energy Audit and Management are implemented at different levels. It deals with various issues regarding parameters such as pollution, concept of water supply and its treatment and their applications in modern era. Also different types of energy sources and energy conservations as well as Indian and global energy scenario is dealt.

- Environmental impact assessment and management regarding development of nation is initialized through courses such as Air Pollution and control.
- The institute takes additional efforts for making students sensitive towards environmental issues, through Tree Plantation Programs, Gram swachata Abhiyan .
- Final year students are encouraged to take projects which address environmental issues.

#### Human Values:

- Imparting effective human rights education according to legislative fundamentals which help individual to identify and adapt personal and social values for welfare of society through course 'Value education, Human rights and legislative procedures' forms part of curricula.
- The institute has formed an anti-ragging committee chaired by senior faculty of the institute.
- The institute takes additional efforts through National Social Service (NSS) for making students sensitive towards Human values. NSS organizes Blood Donation Camps, teaching rural children, adaption of village, Diwali festival snacks distribution to slum area,.
- NSS students educated the society on digital technology to enhance the growth of cashless economy under 'VISAKA (Vittiya saksharta Abhiyan)'.

File Description	Document
Any Additional Information	<a href="#">View Document</a>

#### 1.3.2 Number of valued added courses imparting transferable and life skills offered during the last five years

**Response:** 8

1.3.2.1 Number of value-added courses imparting transferable and life skills offered during the last five years

**Response:** 8

File Description	Document
Details of the value-added courses imparting transferable and life skills	<a href="#">View Document</a>
Brochure or any other document relating to value added courses.	<a href="#">View Document</a>

#### 1.3.3 Percentage of students undertaking field projects / internships

**Response:** 26.99

1.3.3.1 Number of students undertaking field projects or internships

**Response:** 547

File Description	Document
Institutional data in prescribed format	<a href="#">View Document</a>
List of students enrolled	<a href="#">View Document</a>

## 1.4 Feedback System

**1.4.1 Structured feedback on curriculum obtained from 1) Students 2) Teachers 3) Employers 4) Alumni 5) Parents For design and review of syllabus semester wise/ year wise**

**A.Any 4 of the above**

**B.Any 3 of the above**

**C. Any 2 of the above**

**D. Any 1 of the above**

**Response:** A.Any 4 of the above

File Description	Document
Any additional information	<a href="#">View Document</a>
Action taken report of the Institution on feedback report as stated in the minutes of the Governing Council, Syndicate, Board of Management	<a href="#">View Document</a>
URL for stakeholder feedback report	<a href="#">View Document</a>

**1.4.2 Feedback processes of the institution may be classified as follows:**

**A. Feedback collected, analysed and action taken and feedback available on website**

**B. Feedback collected, analysed and action has been taken**

**C. Feedback collected and analysed**

**D. Feedback collected**

**Response:** A. Feedback collected, analysed and action taken and feedback available on website

File Description	Document
URL for feedback report	<a href="#">View Document</a>



## Criterion 2 - Teaching-learning and Evaluation

### 2.1 Student Enrollment and Profile

#### 2.1.1 Average percentage of students from other States and Countries during the last five years

**Response:** 0.55

##### 2.1.1.1 Number of students from other states and countries year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
10	12	13	11	6

File Description	Document
List of students (other states and countries)	<a href="#">View Document</a>
Institutional data in prescribed format	<a href="#">View Document</a>

#### 2.1.2 Average Enrollment percentage (Average of last five years)

**Response:** 68.35

##### 2.1.2.1 Number of students admitted year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
685	777	752	670	485

##### 2.1.2.2 Number of sanctioned seats year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
1275	1289	1127	847	592

File Description	Document
Institutional data in prescribed format	<a href="#">View Document</a>

#### 2.1.3 Average percentage of seats filled against seats reserved for various categories as per applicable reservation policy during the last five years

**Response:** 47.94

2.1.3.1 Number of actual students admitted from the reserved categories year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
317	278	234	213	187

File Description	Document
Institutional data in prescribed format	<a href="#">View Document</a>

## 2.2 Catering to Student Diversity

**2.2.1 The institution assesses the learning levels of the students, after admission and organises special programs for advanced learners and slow learners**

**Response:**

Based on state level merit, the entire admission process is controlled by Pravesh Niyantran Sameeti, Government of Maharashtra. Institute and department organizes orientation program for newly admitted students. The allotted seats to this institute has diverse learning styles and wide range of low merit to high merit students. Thus, need exists to identify the learning style and to develop a common platform catering to the need of all learners, as they progress in graduation. In order to achieve this, the students are first classified on the basis of their qualifying marks and through the established mechanism of the institute, which involves student capability analysis. On the basis of data received from subject incharge, Guardian Faculty Member (GFM) analyzes the students for their learning level through a pre-defined format aproved by IQAC and classify into three categories viz advanced, average and slow learners. Well designed course manual is made available on web to all students, which also address the need of average learner.

Response to special educational/learning needs of advanced learners:

- Additional self-learning material on advanced topics and topics beyond syllabus is provided.
- The institute encourages advanced learners to take-up mini projects, undergo internships in industry and industry sponsored projects.
- Providing extended facilities to file a patent or product design.
- Institute promotes advance learners by organizing and participating technical events held at national and international level.
- Add-on courses beyond the curriculum are identified, designed and developed and offered.
- Encourage student for civil service examinations such as UPSC and MPSC.
- EDC cell has been formed at institute level to aware students about Entrepreneurship.
- Promoting students for GATE, GRE, TOFEL, GMAT, CAT.JRF, JTO and PSU.
- Promoting interdisciplinary projects at BE level, PG level as well as interdisciplinary competition such as ROBOCON, Supra, BAJA and GO-Karting.

Response to needs of slow learners:

- Pre-requisite content is covered before starting the topic.
- First year department organizes training programs for handling engineering aids like drafting tools, scientific calculator and basics of computer.
- Additional video content of the topics is made available on MOODLE.
- Based on the performance in internal tests, assignments, practice sessions and remedial lectures are conducted to ensure learning upto required extent.
- Personal counselling on academics by subject teacher and counselling by GFM on other stress related issues.
- The facility of self learning lab equipped with department library, Virtual lab, NPTEL videos, Recorded video conference lectures at VC room on various topics is available.

### 2.2.2 Student - Full time teacher ratio

**Response:** 11.02

File Description	Document
Institutional data in prescribed format	<a href="#">View Document</a>

### 2.2.3 Percentage of differently abled students (Divyangjan) on rolls

**Response:** 0

#### 2.2.3.1 Number of differently abled students on rolls

File Description	Document
Institutional data in prescribed format	<a href="#">View Document</a>
Any other document submitted by the Institution to a Government agency giving this information	<a href="#">View Document</a>
List of students(differently abled)	<a href="#">View Document</a>

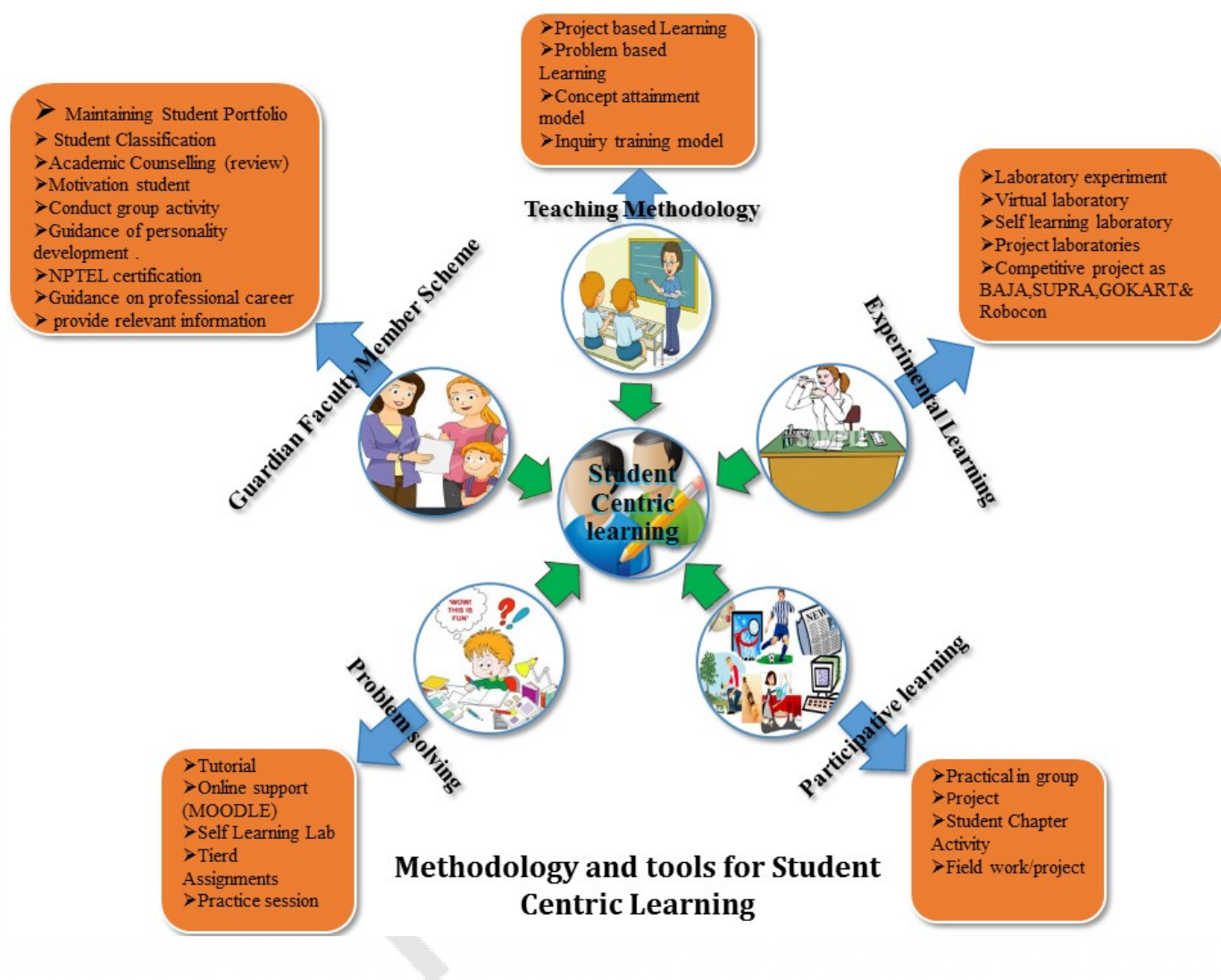
## 2.3 Teaching- Learning Process

### 2.3.1 Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences

**Response:**

The institute emphasizes and adopts student centric methods for better understanding of the subject. The institute has implemented MOODLE for providing a platform for students to discuss and interact with teachers and peers. The teachers are provided with all the necessary support (infrastructural as well as administrative) for developing skills among the students. The systematic efforts by the institute in this

regard include experimental learning, participative learning and various problem solving methodologies, as shown in figure below.



Teachers prepare the teaching plan, both for theory and laboratory practical well in advance. The teaching plan and the laboratory plan include teaching methodology, teacher activity, student activity, learning material and assessment tools. The laboratory plan and the self assessment of practical for students and faculties are employed for assessing the understanding level of students.

The institute adopts a strategy for making students more active in acquiring knowledge and skills through various activities in class, fieldwork, and the use of computer-assisted learning packages. Efforts are made to make students more aware of what they are doing and why they are doing it, by using self-learning laboratories and presentations. Teachers provide guidance for selecting project/seminar topic, research papers. Project log books are maintained for ascertaining the smooth progress of their project work during the academic year. Also, the institute has implemented GFM scheme for understanding

various issues related to learning difficulties of the students and resolving them.

Institute organizes many co-curricular and extracurricular activities, where the students are encouraged to actively participate and demonstrate what they have learnt during the semester. ACCLIVITY and INDRADHANUSHYA are some of technical activities. Students are also encouraged to participate in other activities outside the campus at different levels. Institute provides all support for the students to participate in international and national level competitions like FMB World Championship (China), BAJA and SUPRA organized by Society of Automotive Engineers (SAE), ROBOCON and GOKART. Students also have been participating in State level competitions like FIRODIYA and PURUSHOTTAM KARANDAK regularly. The methodology adopted for effective implementation of student centric learning in the institute includes problem-based learning, group project work, and use of the case method, classroom workshops, group presentations, use of a web-conferencing and using learning logs for students to record their educational experience. Students and faculty member's efforts in the various activities are appreciated in newsletters, wall magazine and institute magazine. Student performance is monitored by formative and summative assessment during the course using tools like quizzes, assignments, tests, mock orals and practical, multiple choice question (MCQ) tests, open book tests, project competitions and presentations. In every department all faculties prepares rubrics as per the activities related to curriculum. Alongwith greenboard the classroom are equipped with LCD projector, OHPs and smart TV. This enable to share NPTEL videos, e-books resources with student during classroom teaching. The digital facilities provided encourage faculty to adapt advance teaching methodologies. Regular feedback from all stakeholders is taken for improving performance of students and faculty members.

### 2.3.2 Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources etc.

**Response:** 100

#### 2.3.2.1 Number of teachers using ICT

**Response:** 184

File Description	Document
List of teachers (using ICT for teaching)	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>
Provide link for webpage describing the " LMS/ Academic management system"	<a href="#">View Document</a>

### 2.3.3 Ratio of students to mentor for academic and stress related issues

**Response:** 13.7

#### 2.3.3.1 Number of mentors

**Response:** 148



File Description	Document
Year wise list of number of students, full time teachers and students to mentor ratio	<a href="#">View Document</a>

### 2.3.4 Innovation and creativity in teaching-learning

#### Response:

Institute has made a mark in Innovations and constantly pursues innovative strategies in its system with the help of different practices as elaborated below:

**1. Innovative development of laboratories:** Laboratories are designed and developed in line with industrial requirements. The required standards are followed during conduct of experiments. Innovative operating manuals for each setup/instrument are developed by the faculty members and are made available to the students for use.

#### 2. Self-learning laboratory:

Self-learning laboratory is used to design and explore transformational learning environments. The topic wise video lectures from National Programme on Technology Enhanced Learning (NPTEL) help to understand concepts in-depth. The use of virtual laboratories gives opportunity to learner for simulating/optimizing the situation. Individual understands his learning level through self-testing. The provision of MOOCs can be explored in the laboratory to learn and certify oneself at global level.

**3. Using e-resources:** e-Resources aids the faculty members to deal with abstract concepts in the classroom. Assignments are given to the students which helps them to bog down to greater details. The inherent characteristics of e-resource to use it anytime anywhere are taken advantage of which is aided by the high broadband Wi-Fi availability in the campus.

**4. Establishing Activity cells:** Development of specific attributes amongst the students is achieved through activity cells. Honesty, hard-work, team-work, social work, national integrity and development are imbibed amongst students through these cells purposefully through specific activities.

**5. Closed monitoring for effective system performance:** Academic monitoring committee at the institute level and department level ensures implementation of academic plan for achieving the set targets. The established mechanism provides opportunity to the committee to get information about the status of academic activities at any given moment thereby making it feasible to take corrective actions if required. Such close monitoring has boosted the institute results especially at final year.

**6. Self-analysis through SWOC:** Annually, SWOC is carried out at departmental and institute level. Efforts, institutional strength like faculty and infrastructure is utilized to train the candidate effectively and efficiently. The area of weakness to have strong linkages with stake holders is underlined. The opportunity to become MOU with industries need to explore. The higher rate of technological changes needs to be incorporated in the Add-on which may pose challenge in time to come.

**7. Audio video recording of lectures:** It is used to record the lectures delivered by faculty, which is further used to carry out teaching analysis. Similarly, it is used to record student presentations and mock interviews which help to improve upon their performance.

**8. Skill building through model competitions:**

Technical skill building is promoted by organizing model making competitions. The constraints like, economy, environment, time, energy and efforts are highlighted in the problem definition. Also, these competitions ensure contemporary skill building amongst Students as well as faculties. It also provides opportunity to the students to exhibit skills to probable employer/sponsor.

## 2.4 Teacher Profile and Quality

### 2.4.1 Average percentage of full time teachers against sanctioned posts during the last five years

**Response:** 100

File Description	Document
Year wise full time teachers and sanctioned posts for 5 years	<a href="#">View Document</a>
List of the faculty members authenticated by the Head of HEI	<a href="#">View Document</a>

### 2.4.2 Average percentage of full time teachers with Ph.D. during the last five years

**Response:** 5.3

#### 2.4.2.1 Number of full time teachers with Ph.D. year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
14	8	6	4	5

File Description	Document
List of number of full time teachers with PhD and number of full time teachers for 5 years	<a href="#">View Document</a>

### 2.4.3 Teaching experience of full time teachers in number of years

**Response:** 8.58

File Description	Document
List of Teachers including their PAN, designation,dept and experience details	<a href="#">View Document</a>

#### 2.4.4 Average percentage of full time teachers who received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during the last five years

**Response:** 5.21

2.4.4.1 Number of full time teachers receiving awards from state /national /international level from Government recognised bodies year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
25	7	3	3	1

File Description	Document
Institutional data in prescribed format	<a href="#">View Document</a>
e-copies of award letters (scanned or soft copy)	<a href="#">View Document</a>

#### 2.4.5 Average percentage of full time teachers from other States against sanctioned posts during the last five years

**Response:** 2.87

2.4.5.1 Number of full time teachers from other states year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
7	5	3	2	3

File Description	Document
List of full time teachers from other state and state from which qualifying degree was obtained	<a href="#">View Document</a>

## 2.5 Evaluation Process and Reforms

### 2.5.1 Reforms in Continuous Internal Evaluation(CIE) system at the institutional level

**Response:**



Earlier, the process of continuous internal evaluation was in existence; however, the emphasis was different. It has been changed from teacher centered to student centric outcome based system. The process of continuous evaluation is employed through various tools like, assignments, online multiple choice questions, chapter tests, practicals and in-sem examination. These tools act as direct assessors whereas tools like, debate, quiz, survey, discussions, competitions, act as indirect assessors. To assess the pre-defined learning outcome, appropriate tools are employed and the record of the same is maintained in designed format. The strategy like double blind review is employed by the institute in assessing the practicals. At one end, faculty member assesses the student learning whereas opportunity is provided to the student for self-assessment. It is expected that, the assessment of faculty and student in this regards should match tentatively. Any major miss-match highlights lacuna in assessment. Either the student has rated high or has underestimated him self. In such a scenario, faculty is supposed to provide appropriate feedback to the candidate so as to achieve the outcomes. The assessment of practicals not only ensures the course outcome but also ensures the required achievement in terms of program specific outcome and program outcomes. This process also brings transparency in assessment and boosts confidence among faculty as well as students.

The online test of the students has relieved the faculty to certain extent from assessment work thereby making more time available to resolve students' problems. Also the online test helps the learner to know exactly where the strength exists and where the weakness. As a result of this, the student can focus on weak part and improve the same.

Continuous evaluation through assignments helps to know the student capabilities to deal with subjective matter, express alternative and creative solutions, power of communication, covering breadth and depth of situation, and accordingly, train them.

Adaptation of tool like 360 feedback provides opportunity to assess the students indirectly at individual level. The seminars and projects are assessed based on program specific outcomes and program outcomes. The project reviews given by third party are taken into account seriously for improvement, if any.

The recently adopted tool like student profile helps to trace the successive progress of the candidate during the course of program and it helps the institute to strengthen the candidate through appropriate training in required domain.

The selection of candidate in various companies is used as a tool to assess and evaluate the institutional processes from the perspective of effectiveness. The analyzed results are provided by training and placement cell to IQAC for quality enhancement.

### **2.5.2 Mechanism of internal assessment is transparent and robust in terms of frequency and variety**

#### **Response:**

Transparency in the assessment is of prime importance for building faith in the system. The mechanism adopted for internal assessment ensures transparency by involving various stake holders as elaborated below:

1. Assessment of practical by adopting approach of double blind review where in student is one of the parties.
2. Generation of the online question paper through auto-generation and online assessment of the students wherein intervention by any of the individuals does not exist and the results are available to the students directly and immediately.
3. Assessment of activities like seminars, mini-projects, projects, along with third party review brings transparency in the process.
4. In case of requirement, the moderation of the assessment and declaration of results prior to moderation and after moderation brings in transparency.
5. Immediate declaration of assessment along with specific remark provided to the students gives the justification of assessment and highlights the transparency.
6. The assessment of the activities based on outcome leaves little scope for judgmental assessment and thus highlights qualitative and quantitative perfection.
7. The assessment policies are verified by IQAC and declared to the students in advance.

The robustness of mechanism reflects in consistently good final year results. Following part constitutes the robustness of the mechanism:

1. The expected level of the outcome is specified and declared to the assessor which helps the assessor to set the assignment accordingly.
2. Declaration of assessment method by providing assessment scheme and complete solutions of the assignments to the students after conduction of assessment.
3. The declared scheme helps the assessor to assess the students in expected domain thereby ensuring the outcome under the situation that the assignment is assessed either by one or the other faculty.
4. The practical assessment is based on the result obtained by the experts after conducting the experiments under specified conditions. In required cases, rather than process, the outcome is focused for assessment. For example, solving real life problem.
5. The assignments are moderated by the academic monitoring committee before releasing.

The assessment provides idea about the course outcome achievement and hence must be used as an online quality tool. Thus, the opportunity for improvement can be availed taking into account above lying principle, the frequency of assessment is decided as follows:

1. Unit-wise assignment and online test: tentatively, two weeks
2. Topic-wise online test: Weekly
3. Practical assessment: weekly
4. Seminar and project: weekly (minor)/monthly (major)
5. Mid-term test: once in a semester (particularly for FE and SE)
6. Preliminary test: once in a semester
7. Internship and in-plant training: once in a year (particularly for TPO)
8. Feedback: at willingness of students, weekly, monthly
9. Other assessment: as per the plan declared by the faculty member.

Institute recognizes the potential and barriers of the learner in terms of expressing their strengths and learning achievements. Thus, variety of tools as mentioned above is employed for assessment.

### **2.5.3 Mechanism to deal with examination related grievances is transparent, time-bound and efficient**

#### **Response:**

The Institute Examinations committee is constituted for conduction of university examinations and making policy decisions in regard to organizing and holding examinations and to deal with examination related grievances from students.

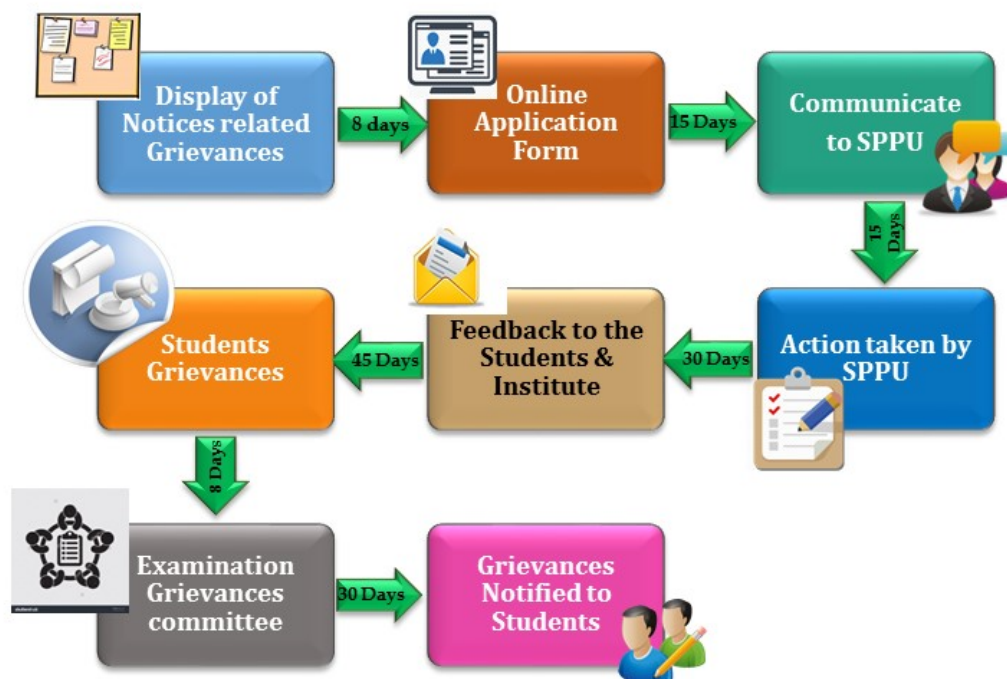
The following are the common grievances which are normally addressed in the past by the committee.

1. Absenteeism in paper/Subject: Student may be marked absent for particular paper/subject, even after appearing for that paper.
2. Non receipt of mark sheet after declaration of result
3. Non declaration of result of student
4. Inability of submission of Examination form by student within time
5. Non issue of Hall ticket for Examination.
6. Name correction in mark sheet
7. Special Examination for students participated in University tournaments
8. Re-Evaluation

The working mechanism of this committee is represented in the figure 2

1. Under all cases of grievances, the institute examination committee is responsible to help students to solve their issue. Student's application along with the endorsement of CEO and principal and all necessary documents is submitted to university.
2. The office representative takes the follow up from university on as per norms
3. As per our past experience, the problems get resolved within a week time and corresponding student gets modified/corrected documents from university.
4. In exceptional cases, it takes two weeks time from the university. Thus, the mechanism to deal with examination related grievances is time bound and efficient.
5. Those students who get fewer marks than expectation or fails in the subject have to apply for photo copy of answer sheet.
6. Conventionally, the university has a process of providing a photo copy and revaluation to deal with such grievances.
7. As per university rules, the student has to apply on-line on university website through his login and provide the necessary details related to his complaint.
8. After submitting on-line form, a hard copy of application with necessary fees has to be deposited in the college office.
9. University provides soft copy of answer sheet on student's email ID within a month.
10. A printout of scan copy of answer sheet is also provided to student on his request by college office.
11. With the photo copy of answer sheet received, student can further apply for revaluation within ten days.
12. Student then apply online through his login and submit hard copy of application with necessary fees to college office.

Similar procedure is adapted for internal examination grievances.



### 2.5.3 Mechanism to deal with examination related grievances is transparent, time-bound and efficient

### 2.5.4 The institution adheres to the academic calendar for the conduct of CIE

#### Response:

The institute has an Academic Monitoring Committee (AMC) which is responsible for monitoring and smooth conduction of the academic processes in the institute. The AMC prepares the institute level academic calendar with reference to the university academic calendar at the start of the semester. The departments prepare their own academic calendars based on the institute academic calendar.

The internal assessment techniques adopted by the faculty for their respective subjects are communicated to the students at the start of the semester along with the schedule to ensure well preparedness of the students for the same. Such activities are scheduled by taking the department academic calendar into consideration.

The AMC schedules periodic audits of each department in order to ensure that the assessment activities mentioned in the respective academic calendar are carried out as per schedule. The deviations if any are brought to the notice of the concerned head of the department and corrective action is sought.

The corresponding head identifies the time slot for assessment in consultation with departmental AMC, class teacher, and GFM in case of deviation. The identified slot is conveyed to the students and faculty with

considerable time span. The faculty is supposed to complete the assessment without fail this time. The assessment results are declared. The reasons for delayed assessment are found out and attempts are made to eliminate such hurdles in future.

In particular case, where student is not completing the expected activities leading to delayed assessment, under such cases, the student is counseled and made to complete the activities timely. However, if positive results are not turned out, then the parents are involved in guiding and counseling the candidate. Parent is made a part of assessment process with respect to timely completion of activity.

Rewards and incentives always help to accomplish the task effectively and efficiently. Thus, institute has instituted rewards to the candidates in terms of certificates, giving due recognition by publishing the achievements on departmental wall magazines, news bulletin, and declaring in departmental student association.

## 2.6 Student Performance and Learning Outcomes

**2.6.1 Program outcomes, program specific outcomes and course outcomes for all programs offered by the Institution are stated and displayed on website and communicated to teachers and students**

### **Response:**

Institute has stated Program Outcomes (POs), Program Specific Outcomes (PSOs) and Course Outcomes (CO)s for all the programs. It is displayed on website and communicated to teachers and students. The mechanism of the communication of stated POs, PSOs and COs is as mentioned below.

The display of **Program outcomes, program specific outcomes and course outcomes** are displayed at following locations through the banners / display boards / charts for the knowledge of faculty and students.

#### 1. Departmental entrance

1. Prominent places in the department such as Head of the department's office classrooms,
2. Laboratories, corridors.
3. Wall paper of computers in the department which are used by faculty members.
4. Departmental wall magazine
5. Laboratory manuals
6. Departmental news letters
7. Journal certificates
8. Letter of correspondence
9. Course file of faculty
10. Project diary



**Figure 3:- Places of Communication**

Students are encouraged and urged to write POs, PSOs, and COs in their note book and laboratory journals. Guardian Faculty Members conducts meeting with students and discuss POs, PSOs, COs. HOD meeting with faculty members is also an effective mechanism to communicate program outcomes, program specific outcomes and course outcomes. Every faculty member explains the learning outcomes to the students at the beginning of each course. Learning outcomes are explained to the parents during parent meetings.

Teachers are involved in the formulation of COs and PSOs. Also they will get brief idea through meetings. For continuous improvement, staff training is arranged for achievement of corresponding Cos

File Description	Document
COs for all courses (exemplars from Glossary)	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

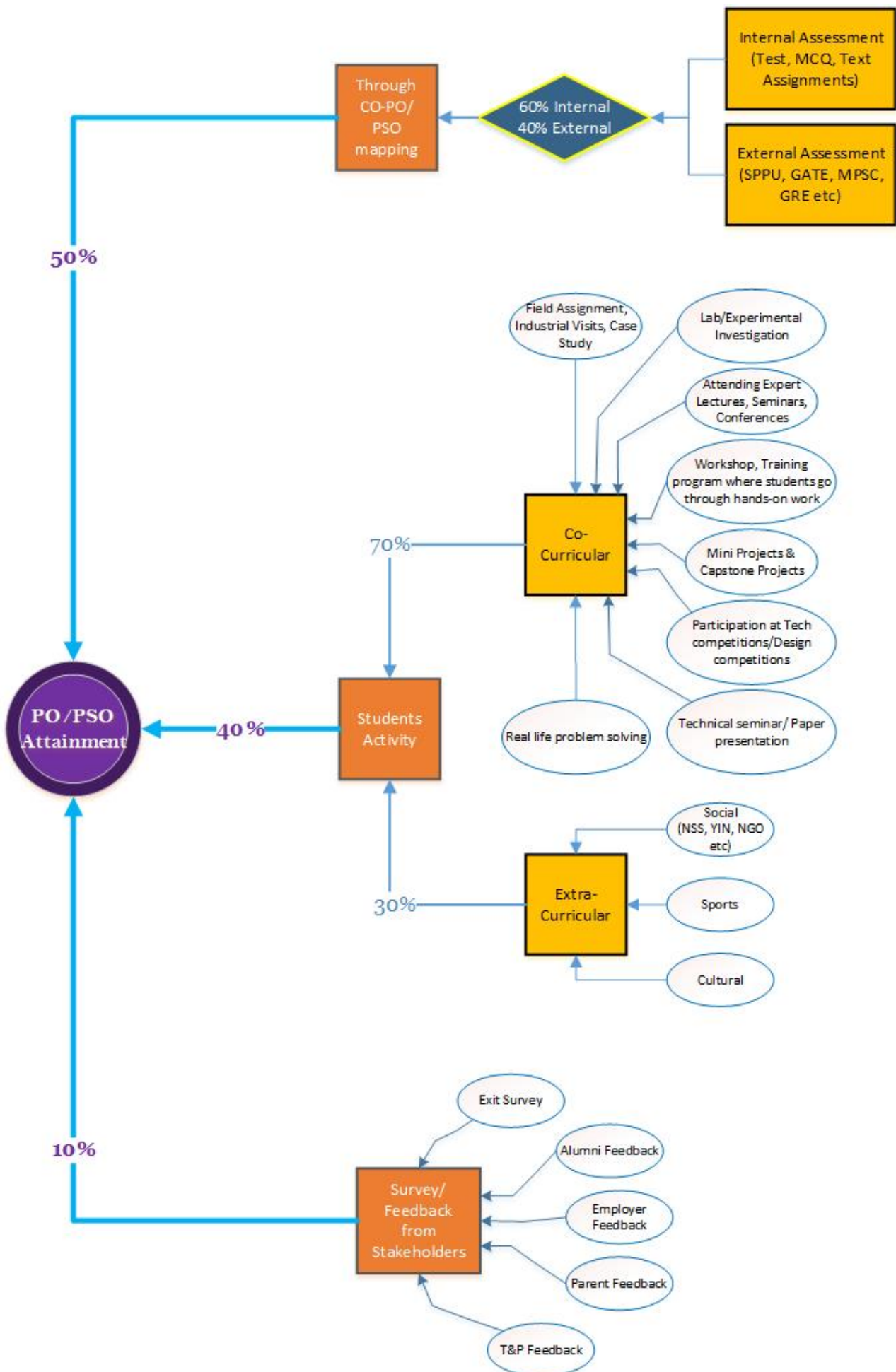
### 2.6.2 Attainment of program outcomes, program specific outcomes and course outcomes are evaluated by the institution

**Response:**

Following flow chart depicts strategy for assessment of attainment of program outcomes, program specific outcomes and course outcomes

Each Course Outcome (CO) is mapped with POs/PSOs. The course coordinator defines the strategy for attainment of each CO through tests, miniproject, lab work and students activities to be performed by students. All questions of internal tests are mapped with COs. Being affiliated institute, 60% weightage is for external tests and 40% for internal test. The performance of students in projects, lab work and student's activities are mapped with COs by well designed rubric. Through direct tools like test, projects, performance rubric and student's portfolio, the attainment of COs is evaluated at mid sem and end sem. Through mapped COs, the attainment of POs/PSOs is evaluated. The indirect tools like course end survey, exit survey are employed to get perception of self evaluation. For getting overall attainment of POs/PSOs, the weightage for attainment through test is 50%, weightage for attainment through student's activity is 40% and that for indirect tools through various surveys and feedback is 10%.

The assessment process resulting in attainments is evaluated by course coordinator and program coordinator are conveyed to students and parents. Based on the level of attainments, the action plan for improvement is suggested in next cycle.





**2.6.3 Average pass percentage of Students****Response:** 89.36

2.6.3.1 Total number of final year students who passed the university examination

Response: 1630

2.6.3.2 Total number of final year students who appeared for the examination

Response: 1824

File Description	Document
Institutional data in prescribed format	<a href="#">View Document</a>

**2.7 Student Satisfaction Survey****2.7.1 Online student satisfaction survey regarding teaching learning process****Response:**

File Description	Document
Database of all currently enrolled students	<a href="#">View Document</a>

## Criterion 3 - Research, Innovations and Extension

### 3.1 Resource Mobilization for Research

**3.1.1 Grants for research projects sponsored by government/non government sources such as industry ,corporate houses, international bodies, endowment, chairs in the institution during the last five years**

**Response:** 70.65

3.1.1.1 Total Grants for research projects sponsored by the government/non-government sources such as industry, corporate houses, international bodies, endowments, Chairs in the institution year wise during the last five years(INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
26.83	16.74	6.77	12.83	7.48

#### File Description

#### Document

e-copies of the grant award letters for research projects sponsored by non-government

[View Document](#)

List of project and grant details

[View Document](#)

**3.1.2 Percentage of teachers recognised as research guides at present**

**Response:** 3.26

3.1.2.1 Number of teachers recognised as research guides

Response: 6

#### File Description

#### Document

Institutional data in prescribed format

[View Document](#)

**3.1.3 Average number of research projects per teacher funded by government and non government agencies during the last five years**

**Response:** 0.16

3.1.3.1 Number of research projects funded by government and non-government agencies during the last five years

Response: 57

File Description	Document
Supporting document from Funding Agency	<a href="#">View Document</a>
List of research projects and funding details	<a href="#">View Document</a>

## 3.2 Innovation Ecosystem

### 3.2.1 Institution has created an ecosystem for innovations including incubation centre and other initiatives for creation and transfer of knowledge

#### Response:

#### Ecosystem for innovation

To create an ambience for research and innovation by faculty and students, the institute implements and executes a systematic mechanism through which, an ecosystem supporting identification and nurturing research aptitude are taken care of. Institute has an Institute Research Committee (IRC) which encourages faculty and students for research, which supports interdisciplinary and multidisciplinary projects and publications in journals. IRC along with various departments arranges interactions by eminent personalities from industry, R&D organizations and institutions of repute to inform about the latest development in the respective domains. A common platform for students, "PIDEA" is made available which nurtures patent and product development, concept development, skill enhancement and hardware technology. The functioning of PIDEA center is shown in figure-3.2.1.

**Institute makes sure of the timely availability and release of resources for research activities.** In-house resources are provided to Project Investigator (PI) beyond working hours and required consumables are made available. The management encourages the faculty members by sharing 100% consultancy earning to the PI as per policy. They are also provided administrative and infrastructural support for carrying out research/consultancy work. Institute facilitates timely auditing and submission of utilization certificate to the funding authority through accounts staff. The Industry Interaction Cell helps identifying relevant industries for the domain expertise available through faculty members for consultancy. Departmental brochures highlighting their strengths are publicized and communicated to the industry.

**Institute also provides support in terms of technology and information need.** The departments have sufficient numbers of computers with 100 mbps internet speed connections and the required and relevant licensed and open source software which help the researchers to carry out their activities. The institute accommodates an up-to-date library with state of the art infrastructure and resources like reference books, journal paper, conferences proceedings, e-journals etc.

#### Incubation centre

Incubation centre has also been established at institute which provides required support to incubate for product/process development, identifying the investors/sponsors, identifying market, compiling with legal requirement and support for overall activities.

#### Other initiatives for creation and transfer of knowledge

Efforts are made by the institution in creating and transferring knowledge by developing scientific temper and research attitude and aptitude among students and many other activities.

The following are a few representative platforms through which knowledge is created and transferred amongst students and faculty:

- Student chapters of professional bodies of national and international repute like SAE, ASHRAE, etc. are formed in the college.
- In-house technical magazines
- Participation in prestigious competitions like SUPRA, BAJA, Go-Kart, Robo-War, Robo-Con, etc.
- Internships and Industrial visits.
- MOUs with different agencies including industries and R&D organizations
- Support and guidance to students like funding, library resources and interactions with eminent persons in various technical domains.
- Employing adjunct faculties with industrial experience
- Visits by Eminent personalities, scientists and professors
- Interaction with eminent academicians from IITs through NPTEL.
- ACCLIVITY a state level technical event is organized by the institute every year and attracts eminent personalities and students from across the state
- Organizing Faculty Development Programs by involving industry personalities

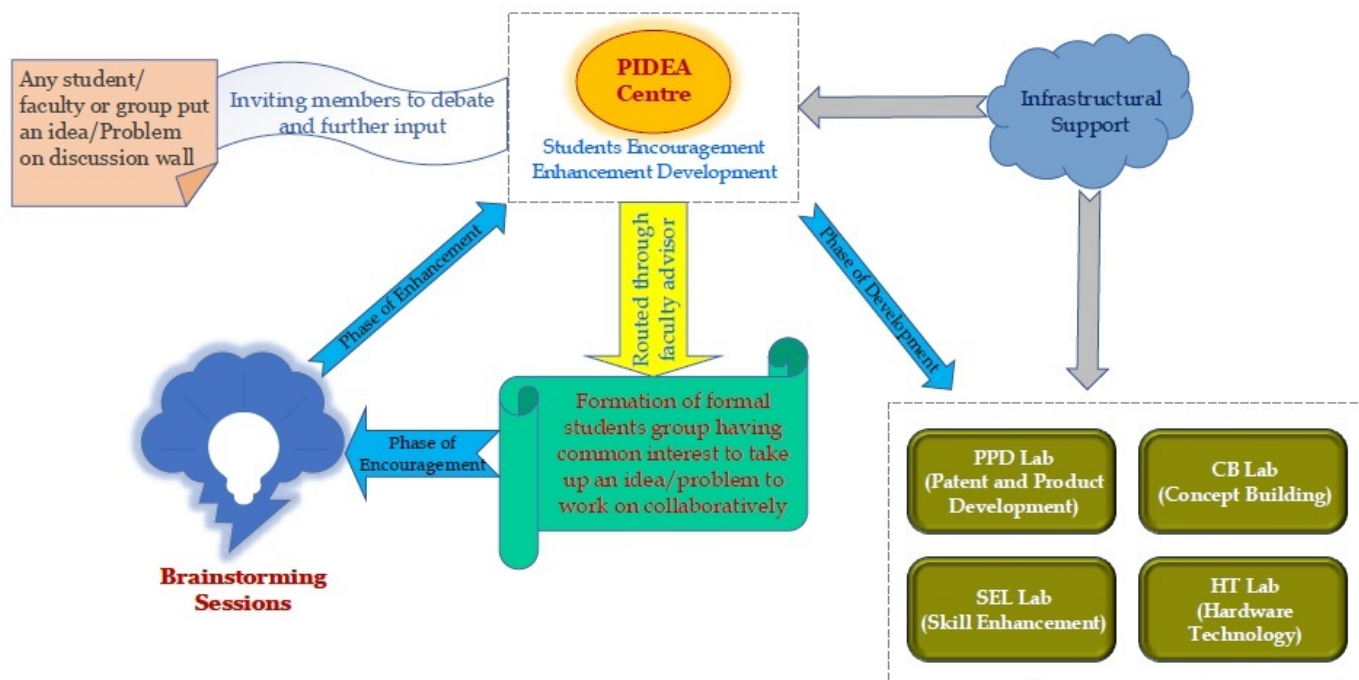


Fig. 3.2.1: PIDEA center at the institute.

File Description	Document
Link for Additional Information	<a href="#">View Document</a>

**3.2.2 Number of workshops/seminars conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices during the last five years****Response:** 37

3.2.2.1 Total number of workshops/seminars conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
12	8	8	6	3

File Description	Document
Report of the event	<a href="#">View Document</a>
List of workshops/seminars during the last 5 years	<a href="#">View Document</a>

**3.3 Research Publications and Awards****3.3.1 The institution has a stated Code of Ethics to check malpractices and plagiarism in Research****Response:** Yes

File Description	Document
Any additional information	<a href="#">View Document</a>
Institutional data in prescribed format	<a href="#">View Document</a>

**3.3.2 The institution provides incentives to teachers who receive state, national and international recognition/awards****Response:** Yes

File Description	Document
e- copies of the letters of awards	<a href="#">View Document</a>
List of Awardees and Award details	<a href="#">View Document</a>

**3.3.3 Number of Ph.D.s awarded per teacher during the last five years****Response:** 0.17

3.3.3.1 How many Ph.Ds awarded within last five years

Response: 1

File Description	Document
URL to the research page on HEI web site	<a href="#">View Document</a>
List of PhD scholars and their details like name of the guide , title of thesis, year of award etc	<a href="#">View Document</a>

**3.3.4 Number of research papers per teacher in the Journals notified on UGC website during the last five years**

Response: 0.12

3.3.4.1 Number of research papers in the Journals notified on UGC website during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
21	15	19	26	05

File Description	Document
List of research papers by title, author, department, name and year of publication	<a href="#">View Document</a>

**3.3.5 Number of books and chapters in edited volumes/books published and papers in national/international conference proceedings per teacher during the last five years**

Response: 0.09

3.3.5.1 Total number of books and chapters in edited volumes / books published, and papers in national/international conference-proceedings year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
04	19	19	15	07

File Description	Document
List books and chapters in edited volumes / books published	<a href="#">View Document</a>

**3.4 Extension Activities**



### 3.4.1 Extension activities in the neighbourhood community in terms of impact and sensitising students to social issues and holistic development during the last five years

#### Response:

A systematic plan and event calendar is prepared every year with an aim to extend services in the neighbourhood community and sensitize students towards social issues and holistic development. These include

Joining hands with

- Local government (Gram Panchayat), Municipal Corporation, Police
- Public in general
- Adopting nearby villages under Unnat Bharat Abhiyan Scheme.
- Celebration of birth anniversaries of National heroes.
- NGOs
- Camps on Blood donation, environment conservation

Various activities conducted for the sensitizing students are as shown in Fig. 3.4.1. These activities add to overall development of the students and nurture value education. Through these, we have been able to imbibe various qualities to become a good citizen.

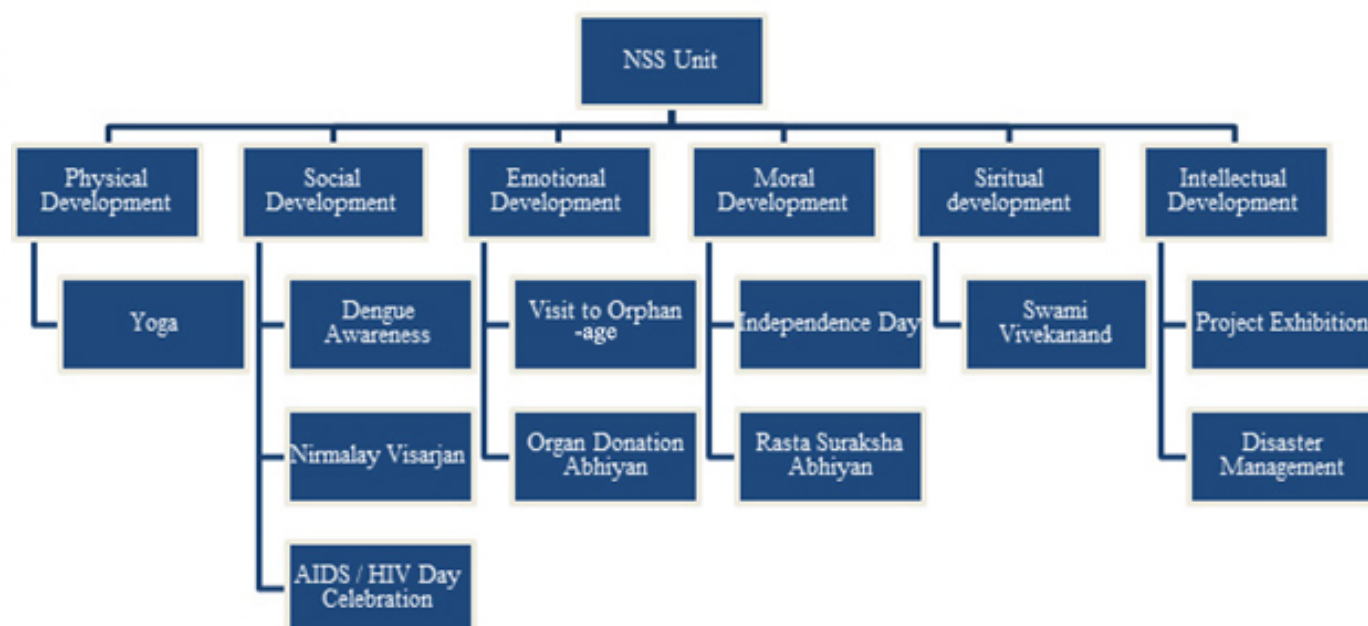


Fig. 3.4.1: Activities conducted for sensitizing students for Social and Holistic development

Institute follows a mechanism for students' involvement in various social activities which promote citizenship roles. Institute receives an activity calendar from SPPU University for yearly activities on NSS platform. Faculty representatives from the institute are deputed for Empanelled Training Institute (ETI) for training, which are responsible for smooth conduction and organization of various events. Students are enrolled to the NSS unit through Guardian Faculty Member (GFM) scheme and departmental faculty representative. Besides this, the institute organizes other activities also as per need and availability of time

without affecting academics.

The spirit of voluntary work through sustained community interaction and link between campus and community is enthralled amongst students, which reflects on the personality development of students through community service. Various activities conducted towards community services and appreciations received are also reported in point no. 3.4.2 to 3.4.4 of the SSR.

Student volunteers have contribute in the field of mass literacy, environment preservation, watershed management, health education, disaster management, adolescent health development, HIV/AIDs awareness, homes for the homeless, communal and social harmony etc. in past years.

Various activities which have resulted in terms of patriotism, national services and students are briefed below with their impact as mentioned.

Sr. No.	Activity	Impact on students
1	Water conservation and Plastic Kachara Mukta Abhiyaan, Tree plantation, AIDS/HIV day celebration	<b>Social development:</b> Students are motivated for the comm they are made aware of their responsibility towards social iss
2	Yoga Day Celebration	<b>Physical Development:</b> Students are made aware of the b and exercise session is conducted by the experts.
3	Netradan Abhiyaan, Blood Donation Camp,	<b>Emotional Development:</b> Ethical values developed during camps help students become emotionally involved in very issues.
4	Independence Day and Republic Day Celebration	<b>Moral Development:</b> Qualities like patriotism and righteous in students
5	Swami Vivekananda and their thought	<b>Spiritual Development:</b> Various session on the work a Swami Vivekananda are discussed. His work motivates a faculty for striving to better life.

Planned Activities in current year:

1. Disaster management workshop
2. Session on Rights to Information (RTI)
3. Traffic monitoring and controlling activity
4. Nirmalya Visarjan during Ganesh Festival
5. Arranging visit and cultural program for Orphanage
6. Personality development workshop
7. Gender sensitization and human sexuality.

### 3.4.2 Number of awards and recognition received for extension activities from Government /recognised bodies during the last five years

**Response:** 34

3.4.2.1 Total number of awards and recognition received for extension activities from Government /recognised bodies year wise during the last five years



2016-17	2015-16	2014-15	2013-14	2012-13
15	9	6	2	2

File Description	Document
e-copy of the award letters	<a href="#">View Document</a>
Number of awards for extension activities in last 5 years	<a href="#">View Document</a>

### 3.4.3 Number of extension and outreach programs conducted in collaboration with industry, community and Non-Government Organisations through NSS/NCC/Red cross/YRC etc., during the last five years

**Response: 61**

3.4.3.1 Number of extension and outreach programs conducted in collaboration with industry,community and Non-Government Organisations through NSS/NCC/Red cross/YRC etc.,year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
16	12	10	13	10

File Description	Document
Number of extension and outreach programs conducted with industry,community etc for the last five years	<a href="#">View Document</a>
Reports of the event organized	<a href="#">View Document</a>

### 3.4.4 Average percentage of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the last five years

**Response: 66.23**

3.4.4.1 Total number of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
1515	1478	1217	1094	891

File Description	Document
Average percentage of students participating in extension activities with Govt. or NGO etc.	<a href="#">View Document</a>
Report of the event	<a href="#">View Document</a>

### 3.5 Collaboration

#### 3.5.1 Number of linkages for faculty exchange, student exchange, internship, field trip, on-the-job training, research, etc during the last five years

**Response: 158**

##### 3.5.1.1 Number of linkages for faculty exchange, student exchange, internship, field trip, on-the-job training, research, etc year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
55	38	29	24	12

File Description	Document
Copies of collaboration	<a href="#">View Document</a>
Number of Collaborative activities for research, faculty etc.	<a href="#">View Document</a>

#### 3.5.2 Number of functional MoUs with institutions of national, international importance, other universities, industries, corporate houses etc. during the last five years (only functional MoUs with ongoing activities to be considered)

**Response: 68**

##### 3.5.2.1 Number of functional MoUs with institutions of national, international importance, other universities, industries, corporate houses etc. year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
22	14	14	10	8

File Description	Document
Details of functional MoUs with institutions of national, international importance, other universities etc. during the last five years	<a href="#">View Document</a>
e-copies of the MoUs with institution/ industry/ corporate house	<a href="#">View Document</a>

NAAC

## Criterion 4 - Infrastructure and Learning Resources

### 4.1 Physical Facilities

**4.1.1 The institution has adequate facilities for teaching- learning. viz., classrooms, laboratories, computing equipment, etc.**

**Response:**

Efficiency and effectiveness of the teaching-learning process is always augmented by the infrastructure. Institute has taken due care to make the infrastructure available as per the norms of AICTE. In some of the cases, the infrastructure exceeds the norms. The additional coaching to the students through the measures like practice sessions, remedial classes, extra lectures, and expert lectures are conducted without any hassles. The classrooms are well equipped with ICT facilities which aid the faculty members to adopt appropriate teaching methodology. The practices like use of online resources, virtual laboratories are possible in classroom itself as the provision of Wi-Fi exists there. The structure and built-up of the classroom provide opportunity to the faculty and the students to carry out the activities like, presentations, small role plays, demonstrations and group discussions.

The need of training the students in small groups and academic counseling is well identified and is fulfilled through the infrastructure by providing separate tutorial rooms. Fully equipped laboratories are available to the faculty and students. The spare capacity and facilities of the laboratories are utilized by the students and faculty to accomplish extra Lab practice, skill development, and innovative work of their choice.

To gain the confidence and to validate the process designed for theory and practical classes, it is required to have the fabrication of the corresponding items. This need is fulfilled by providing the facility of workshop. Due care is taken to accommodate all the candidates through proper scheduling.

The IT infrastructure is provided in all the departments exclusively. The computers to student's ratio is 1:4 which is surpassed quite ahead by our institute. All the computers are in LAN. In addition to the availability of computer laboratories in each department, a central computer center is also made available. Due care is taken to keep the IT infrastructure updated and its smooth functioning is ensured through central administration with the help of powerful server maintained specifically in server room. Institute has the Blade server (DELL Power edge T630 Server) which functions for specific purposes such as web hosting and virtualization.

The institute also has a dedicated activity room called PIDEA's Room. Here the students gather in their spare time and discuss on the new concepts or ideas which would enhance their knowledge.

Heart of any of the educational institute is its library which plays an important role in promoting and progress of knowledge. Institute has developed the library into two domains: the traditional library hosting printed books, reading hall, reference section and repository. The second modern part of the library is developed by employing the digital content which provides easy access to the user for e-resources. It is to be noted that all the e-resources can be accessed from any point, at any time in the campus.

The well designed and fully equipped seminar halls does exist to interact with a large crowd or to deliver expert lectures.

File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

#### **4.1.2 The institution has adequate facilities for sports, games (indoor, outdoor) gymnasium, yoga centre etc. and cultural activities**

##### **Response:**

The institute focuses on overall development of the students through co-curricular and extra-curricular activities. Outdoor and indoor sports contribute significantly in grooming students. Qualities like leadership, team spirit, and competitiveness can be inculcated amongst the students through such sports activities.

The Institute takes utmost care to provide adequate facilities for the sports arena. The institute has an open ground with provision for sports where cricket, football, volleyball, kabaddi, and kho-kho can be practiced and tournaments can be hosted. Indoor games like, carom, chess and table-tennis can also contribute towards developing specific attributes such as planning and intellectual thinking amongst the students. Inter-departmental sports, games and competitions are held in the institute. The winners in such competitions are awarded with certificates and participants are appreciated. The institute encourages the students to participate in various colleges, zonal, inter zonal, state and national level sports activities. In these activities students have participated and won different prizes. The sports room was established in 2007, having an area of 70 sq. mtr. The ground is also available for outdoor sports such as Volleyball (162 sq. mtr.), Kabaddi and Kho-Kho. Provision for sports like Box Cricket and Futsal is availed by students. By considering different sports activities in and off the campus, the user rate is around 200 users/week.

For physical and mental health, Yoga is promoted and practiced in the institute. A Yoga center is available to the students where they can practice Yoga. 'International Yoga Day' is organized in the institute to increase awareness amongst the students. Institute has a yoga centre of area 70 sq. mtr., established in the year 2016. User rate is around 2 hrs/fortnight.

The institute also believes that cultural activities are an integral part of overall development of a person. Every year, a theme is set for cultural activities based on problems addressed by the nation such as, "Save a Girl Child", "Farmers Prosperity through Engineering Innovations", "Environmental awareness" and "Human values". Apart from this, college organizes various cultural events under the ambit of "INDRADHANUSHYA". Students are also encouraged to participate in various cultural events organized at university level, intra and intercollegiate events viz. 'Purushottam Karandak', 'Firodiya Karandak', 'Konkan Karandak' and University Karandak(AVISHKAR), organized in Pune.

'Purushottam Karandak' the state level cultural event is about energy, enthusiasm, dedication, creativity, persistence and much more, started by Rambhau Datye in the memory of Late Mr. Purushottam Ramachandra (Marathi Director, Singer & Actor). 'Firodiya Karandak' is also a state level cultural event which was started in 1974 as the brainchild of Suryakant Kulkarni. The main aim of the competition is to give a platform for college students to showcase their artistic musings. The competition slowly evolved from being a drama competition to one where elements like, sculpture, pottery, painting, orchestra, puppet dancing and various such events were incorporated. The Cultural Activity room has an area of 135 sq. mtr.

The user rate is around one dedicated full week in an academic year. The participants avail the facility frequently.

File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

#### 4.1.3 Percentage of classrooms and seminar halls with ICT - enabled facilities such as smart class, LMS, etc

**Response:** 100

##### 4.1.3.1 Number of classrooms and seminar halls with ICT facilities

Response: 27

File Description	Document
Number of classrooms and seminar halls with ICT enabled facilities	<a href="#">View Document</a>
any additional information	<a href="#">View Document</a>

#### 4.1.4 Average percentage of budget allocation, excluding salary for infrastructure augmentation during the last five years.

**Response:** 15.34

##### 4.1.4.1 Budget allocation for infrastructure augmentation, excluding salary year wise during the last five years (INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
1889.92	13.80	18.57	17.34	20.66

File Description	Document
Details of budget allocation, excluding salary during the last five years	<a href="#">View Document</a>
Audited utilization statements	<a href="#">View Document</a>

## 4.2 Library as a Learning Resource

#### 4.2.1 Library is automated using Integrated Library Management System (ILMS)

##### Response:

The institute has user friendly & fully automated 'Auto Lib Software' of 1.0.0 version, installed in 2010 as Integrated Library Management System (ILMS). Auto Lib software provides powerful information management solutions to enable and to distribute content seamlessly. It is an integrated software package encompassing all aspects of library management. It helps library to give fastest library services to the user by using barcode. Using this software user can generate I-CARDS, print barcodes on any laser printer, spine labels and data on book cards. It takes care of the following activities:

- Book Ordering and serial control made simple.
- Circulation i.e. Issue, Returns, Renewal, Recall, Reservation/ Reservation cancel, overdue report, Statics and sending e-mails for transactions.
- Book Accession e-register and Online Public Access Catalogue.
- Search the database using important fields such as accession number, call number, author, title, edition, year, publisher, subject, keywords, availability etc.
- Handles plenty of records more efficiently.
- Simple and fast counter transactions
- Online stock verification support. online stock verification of library resources using Barcode Scanner, Data Capturing Unit and generate reports of books such as - missing, lost, issued, binding, transferred condemned, available, etc.
- Efficient circulation management system
- Sorting / printing large number of reports and can export into Excel file formats
- GUI interface
- Display / printing of records in AACR formats
- Interface to barcode scanners / printers / smart card
- User ID and password for various menus
- Database security, backup and recovery

The institute simultaneously using Koha web based multilingual open source software. It is full featured MARC based integrated library system to fulfill the functional requirement of libraries. Koha has state of the art web based interface, enhanced content and substance, provides faceted navigation, provisions

keyword searching, up-gradation and development through user contribution and provides Rich Site Summary (RSS) feeds that make it unique integrated library software in the world.

Features of koha:-

- Union catalog facility
- Customizable search
- Circulation and borrower management
- Full acquisitions system including budgets and pricing information (including supplier and currency conversion)
- Simple acquisitions system for the smaller library
- Serials system for magazines or newspapers
- Reporting

File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

#### 4.2.2 Collection of rare books, manuscripts, special reports or any other knowledge resources for library enrichment

##### Response:

Institute has number of handbooks for different branches of engineering as well engineering reports (under graduate and post graduate) are available for student reference. Subject wise information like educational videos including NPTEL lectures, course material available on industrial websites, research papers, e-books and study materials are maintained as knowledge resource. Institute has special collection of competitive exam i.e. GRE, GATE, TOEFL, ILTS, IAS, UPSC, MPSC. Institute has many reference books on engineering & collection of biographies of some famous personalities. It also provides National Digital library of India facility for huge collection of e-learning resources.

Name of the book/ manuscript / special report	Name of the publisher	Name of the author	Number of copies	Year of publishing
Materials Handling Hand book	Wiley publication, Vol. II, 2nd edition	Kulwiec Raymond A.	2	2012
Automotive Hand Book	Wiley Publishing House, 8th edition	Bosch	1	2011
Automotive Hand Books	Bentley Publishers, 8th edition	Bosch	1	2012
Handbook Of Digital System Design	CRC Press Publication, 2nd edition	Lin Wen C	1	1990
The Digital Signal Processing	CRC Press	Madiseti Vijay	1	2012



Handbook , Digital Signal Processing Fundamental	Publication, 2nd edition	K.			
Digital Signal Processing Handbook, Video, Speech, Audio Signal	CRC Press Publication, 2nd edition	Madiseti Vijay K.	1	2012	
Digital Signal Processing Handbook, Wireless, Networking,	CRC Press Publication, 2nd edition	Madiseti, Vijay K.	1	2012	
Mechanical Behavior Of Materials	Springer publication, Vol. II	Francois Dominique	1	2013	
Mechanical Behavior Of Materials	Springer Publication, Vol. I	Pineau Andre	1	2012	
Software Defined Radio	Wiley Publication	Bard John, J. Vincent, Kovarik	3	2013	
Construction project management	Tata McGraw Hill, 3rd edition	Chitkara K.K.	2	2015	

File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

#### 4.2.3 Does the institution have the following:

- 1.e-journals
- 2.e-ShodhSindhu
- 3.Shodhganga Membership
- 4.e-books
- 5.Databases

A. Any 4 of the above

B. Any 3 of the above

C. Any 2 of the above

D. Any 1 of the above

**Response:** A. Any 4 of the above

File Description	Document
Any additional information	<a href="#">View Document</a>
Details of subscriptions like e-journals,e-ShodhSindhu,Shodhganga Membership etc.	<a href="#">View Document</a>

#### 4.2.4 Average annual expenditure for purchase of books and journals during the last five years (INR in Lakhs)

**Response:** 53.88

4.2.4.1 Annual expenditure for purchase of books and journals year wise during the last five years (INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
160.70	34.68	43.22	12.43	18.36

File Description	Document
Audited statements of accounts	<a href="#">View Document</a>
Details of annual expenditure for purchase of books and journals during the last five years	<a href="#">View Document</a>

#### 4.2.5 Availability of remote access to e-resources of the library

**Response:** Yes

File Description	Document
Details of remote access to e-resources of the library	<a href="#">View Document</a>

#### 4.2.6 Percentage per day usage of library by teachers and students

**Response:** 8.23

4.2.6.1 Average number of teachers and students using library per day over last one year

Response: 182

File Description	Document
Details of library usage by teachers and students	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>

## 4.3 IT Infrastructure

### 4.3.1 Institution frequently updates its IT facilities including Wi-Fi

#### Response:

As per the need of the curriculum, the institution frequently reviews and upgrades its IT facilities and has required computing facilities which include hardware, software and networking. Suggestions and recommendations from all stakeholders are considered to facilitate necessary up gradation of infrastructure to promote excellent teaching-learning environment at the institution. Deployment of IT infrastructure is done through system administration team. All the academic and administrative IT infrastructure requirements are addressed by this team. The following are the strategies for deploying and upgrading IT infrastructure and associated facilities.

The up gradation of computer systems is taken up on a periodic basis as and when the necessity arises. For example, whenever the new technology or new processor based systems are introduced in the market, the systems are upgraded. Also, the system replacement is done with new systems whenever a particular system is found beyond repair. The old computers are used for hardware and networking courses being introduced as add-on courses. Also updation in Wi-Fi routers takes place periodically.

- The IT infrastructure is also upgraded in terms of the software again due to frequent revisions and updations in the newer software released.
- Interactive boards for ICT based teaching and learning process.
- Electronic Notice Boards to make information more accessible to the students, through internet.
- More and more digitalization of library, paper free governance to protect the environment.
- Up gradation in Wi-Fi access points with increase in broadband speed.
- Updation of Server.

Apart from these, the institution has yearly subscription of Microsoft Campus agreement through which all software products like Windows Operating system, Microsoft office, Visual studio, Microsoft server, SQL server and Dot Net Framework are updated on yearly basis. The open source softwares are updated on quarterly basis (as per requirement of subject).

File Description	Document
Link for Additional Information	<a href="#">View Document</a>

### 4.3.2 Student - Computer ratio

**Response:** 3.29

File Description	Document
Student - Computer ratio	<a href="#">View Document</a>

**4.3.3 Available bandwidth of internet connection in the Institution (Lease line)**

&lt;5 MBPS

5-20 MBPS

20-35 MBPS

35-50 MBPS

**Response:** >=50 MBPS

File Description	Document
Any additional information	<a href="#">View Document</a>
Details of available bandwidth of internet connection in the Institution	<a href="#">View Document</a>

**4.3.4 Facilities for e-content development such as Media Centre, Recording facility, Lecture Capturing System (LCS)****Response:** Yes

File Description	Document
Facilities for e-content development such as Media Centre, Recording facility,LCS	<a href="#">View Document</a>
Link to photographs	<a href="#">View Document</a>

**4.4 Maintenance of Campus Infrastructure****4.4.1 Average Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component, as a percentage during the last five years****Response:** 22.26

4.4.1.1 Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component year wise during the last five years (INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
126.50	152.81	189.29	174.39	109.55

File Description	Document
Audited statements of accounts.	<a href="#">View Document</a>
Details about assigned budget and expenditure on physical facilities and academic facilities	<a href="#">View Document</a>

#### 4.4.2 There are established systems and procedures for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc.

##### Response:

The institute has policies for daily maintenance, preventive maintenance and breakdown maintenance.

**Daily maintenance:** Wherever required complete Cleaning, Lubrication, Repair, and Inspect (CLRI) procedure is adopted. Maintenance chart is filled on daily basis which is supervised by the concerned. It is ensured that no equipment/infrastructure faces emergency maintenance. Daily maintenance provides opportunity to avoid emergency situations.

**Preventive maintenance:** As per the schedule, all the preventive maintenance activities are carried out resulting in upkeep of infrastructure and equipment. Also, it helps to ensure availability of infrastructure for ready use. Preventive maintenance is carried out under supervision of maintenance cell. The corresponding records are maintained in designed formats. Point to note that the system is online for record keeping and instructing the maintenance employees to act upon. Before commencement of semester the corresponding cells ensure that no preventive maintenance activity is pending and the infrastructures as well as laboratories are functioning correctly as per standards.

**Breakdown maintenance:** In case of breakdown maintenance, alternate arrangement for the required infrastructure and the equipment is made so as to avoid hampering of activities. In case, if the maintenance is beyond the reach of maintenance cell, then the work is outsourced to third party. In case the equipment are beyond repair or have lost the significance from the perspective of utility, they are write-off through the defined mechanism of the institute. Due care is taken to write-off environmental sensitive material.

In any of the cases, the problem is conveyed by the process owner to the maintenance team and accordingly the manpower is deputed to resolve the same. It is expected that the process owner should certify satisfactory condition of infrastructure or that of equipment after maintenance thereby closing the case. Also, the provision of dead-stock verification helps to identify the availability and loss of equipment. The process of dead-stock verification is carried out twice in a year by the designated committee.

Utmost care is taken to maintain conducive environment in library. Annually, stock taking is mandatory process for library. The printed periodicals accumulated during the year are bound together so as to prolong their life and avoid loss. Also, after inspection of all the books, the identified books are re-bound. In case of loss of book, the book needs to be replaced by the user.

With respect to utility of the infrastructure and all other facilities, planning is carried out before commencement of semester at central level. Barring the common facilities, like, sports complex and library, every department has exclusive infrastructure with them and thus, no hurdle is faced for implementing various activities. Within the department, resource utilization plan is also developed and

conveyed to the concerned so as to avoid the inconvenience and loss of academics.

File Description	Document
Link for Additional Information	<a href="#">View Document</a>

NAAC

## Criterion 5 - Student Support and Progression

### 5.1 Student Support

#### 5.1.1 Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years

**Response:** 50.69

5.1.1.1 Number of students benefited by scholarships and freeships provided by the Government year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
1160	1256	935	822	620

File Description	Document
Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years	<a href="#">View Document</a>
Upload self attested letter with the list of students sanctioned scholarships	<a href="#">View Document</a>

#### 5.1.2 Average percentage of students benefited by scholarships, freeships, etc. provided by the institution besides government schemes during the last five years

**Response:** 14.95

5.1.2.1 Total number of students benefited by scholarships, freeships, etc provided by the institution besides government schemes year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
273	501	357	365	03

File Description	Document
Any additional information	<a href="#">View Document</a>
Number of students benefited by scholarships and freeships besides government schemes in last 5 years	<a href="#">View Document</a>

**5.1.3 Number of capability enhancement and development schemes –**

- 1.For competitive examinations
- 2.Career counselling
- 3.Soft skill development
- 4.Remedial coaching
- 5.Language lab
- 6.Bridge courses
- 7.Yoga and meditation
- 8.Personal Counselling

**A. 7 or more of the above**

**B. Any 6 of the above**

**C. Any 5 of the above**

**D. Any 4 of the above**

**Response:** A. 7 or more of the above

File Description	Document
Any additional information	<a href="#">View Document</a>
Details of capability enhancement and development schemes	<a href="#">View Document</a>
Link to Institutional website	<a href="#">View Document</a>

**5.1.4 Average percentage of student benefited by guidance for competitive examinations and career counselling offered by the institution during the last five years**

**Response:** 42.07

5.1.4.1 Number of students benefited by guidance for competitive examinations and career counselling offered by the institution year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
842	956	773	738	600



File Description	Document
Number of students benefited by guidance for competitive examinations and career counselling during the last five years	<a href="#">View Document</a>

### 5.1.5 Average percentage of students benefited by Vocational Education and Training (VET) during the last five years

**Response:** 0

5.1.5.1 Number of students attending VET year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
0	0	0	0	0

File Description	Document
Details of the students benefited by VET	<a href="#">View Document</a>

### 5.1.6 The institution has a transparent mechanism for timely redressal of student grievances including sexual harassment and ragging cases

**Response:** Yes

File Description	Document
Details of student grievances including sexual harassment and ragging cases	<a href="#">View Document</a>
Minutes of the meetings of student redressal committee, prevention of sexual harassment committee and Anti Ragging committee	<a href="#">View Document</a>

## 5.2 Student Progression

### 5.2.1 Average percentage of placement of outgoing students during the last five years

**Response:** 45.88

5.2.1.1 Number of outgoing students placed year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
131	150	142	126	142

File Description	Document
Self attested list of students placed	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>
Details of student placement during the last five years	<a href="#">View Document</a>

### 5.2.2 Percentage of student progression to higher education (previous graduating batch)

**Response:** 23.32

#### 5.2.2.1 Number of outgoing students progressing to higher education

Response: 128

File Description	Document
Upload supporting data for student/alumni	<a href="#">View Document</a>
Details of student progression to higher education	<a href="#">View Document</a>

### 5.2.3 Average percentage of students qualifying in state/national/ international level examinations during the last five years (eg: NET/SLET/GATE/ GMAT/CAT, GRE/ TOFEL/ Civil Services/State government examinations)

**Response:** 33.22

#### 5.2.3.1 Number of students qualifying in state/ national/ international level examinations (eg: NET/SLET/GATE/GMAT/CAT, GRE/TOFEL/Civil Services/State government examinations) year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
05	13	15	30	16

#### 5.2.3.2 Number of students who have appeared for the exams year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
103	86	46	42	38

File Description	Document
Number of students qualifying in state/ national/ international level examinations during the last five years	<a href="#">View Document</a>

### 5.3 Student Participation and Activities

#### 5.3.1 Number of awards/medals for outstanding performance in sports/cultural activities at national / international level (award for a team event should be counted as one) during the last five years.

**Response:** 27

5.3.1.1 Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one) year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
05	13	02	05	02

File Description	Document
e-copies of award letters and certificates	<a href="#">View Document</a>
Number of awards/medals for outstanding performance in sports/cultural activities at national/international level during the last five years	<a href="#">View Document</a>

#### 5.3.2 Presence of an active Student Council & representation of students on academic & administrative bodies/committees of the institution

**Response:**

The objective of the student council is to develop the career, personality and organizational skills through extracurricular, co-curricular activities. This platform provides opportunity to the student community to express their opinions about the institute and recommend the suggestions as per their expectations. Also, it acts as a link between institute administration and students. Student council has opportunity to represent the institute at the university level to put up and address students' problems and expectations. The student council plays a vital role in organizing annual events like, annual social gathering and annual technical fest.

Participation of students in academic and administrative bodies/committees is encouraged to develop adaptable, responsive individuals and inculcate teamwork and leadership qualities in the students. As per the guidelines of SPPU, sports committee with student representation exists in the institute. The sports coordinator ensures participation of maximum students in all types of sports activities organized by the

institute and SPPU. Every year institute organizes in-house sports activities and also deputed students to participate outside institute, in consultation with sports committee. Discipline committee consists of class representatives from all branches along with faculty members in institute to ensure discipline in academics, co-circular and extra-circular activities.

Institute provides opportunities for the students to participate in various academic and administrative activities by allowing their representation on various institutional committees. The most important committee with respect to academics is curriculum development committee wherein students are invitees and allowed to express their academic requirements to be incorporated in the curricula. Their opinion about content, implementation, assessment and evaluation and result declaration is taken into account here before finalizing the curriculum. The important feature of the academics is involvement of the students in continuous assessment which is a part and mandatory requirement in the institute. This boosts the confidence amongst the students about their capacity building and brings in transparency in evaluation process. Also, there is representation of students in Entrepreneurship Development Cell. This EDC cell motivates the students to develop the entrepreneurship qualities and produce successful entrepreneurs along with leadership qualities to enhance the ethical business practices.

Students have representation on Internal Quality Assurance Cell of the institute which sets the targets and benchmarks for the academic processes. Also, students have representation on departmental chapters, professional chapters which ensures strong linkage between institute, department and students, resulting in achievement of expected program outcomes. Student representation on the Grievance Redressal Cell provides moral support to the students to raise their grievance, if any, and also brings transparency between institute and students with respect to the process adopted for the grievance redressal and final decision taken by the GRC.

Student representation on the library committee is another avenue for the students to put up their demands about learning material which may include availability of material in time and quantity. Also, this representation helps the students to express the problems faced by them (if any) and utilization of library resources.

File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

### 5.3.3 Average number of sports and cultural activities/ competitions organised at the institution level per year

**Response:** 11.8

5.3.3.1 Number of sports and cultural activities / competitions organised at the institution level year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
21	15	8	7	8

File Description	Document
Number of sports and cultural activities / competitions organised per year	<a href="#">View Document</a>
Report of the event	<a href="#">View Document</a>

## 5.4 Alumni Engagement

### 5.4.1 The Alumni Association/Chapters (registered and functional) contributes significantly to the development of the institution through financial and non financial means during the last five years

#### Response:

**The Padmabhooshan Vasantdada Patil Institute of Technology Alumni Association (PPAA)** has been registered with registrar of societies as per society act 1860 at Pune bearing registration number: Maharashtra/412/2013/Pune. PPAA is functional from its establishment as an independent entity. The Institute has a vibrant network of alumni. Every year the annual Alumni Meet provides a platform for the students to renew old bonds with the Alma-mater, foster new ties and relive the nostalgic college moments. Alumni can access alumni activities through Alumni Portal and day to day activities of Institute through website. Feedback from alumni decides the way ahead for overall development of all stakeholders. The institute effectively networks and collaborates with alumni which have seen a progressive increase in the number of alumni interacting with the students every year.

PPAA has been established with the objectives mentioned below

- To have a platform to establish links between the alumni, existing students and staff of the institute.
- To implement suggestions for improving in-house activities to make students more employable.
- To increase liaison with industries through alumni's to have better placements.
- Participation of alumni in activities contributing to the general development of the department / institute.
- To have expert guidance for current batch students by the alumni's as regards of professional requirements and industrial / emerging technological trends.
- To inculcate the culture for overall development of the institute through alumni contribution.

In accordance with the formulated objectives, PPAA has been working to its utmost fulfillment. The development of the institute has been continuously going on by contribution of alumni through financial and non financial means. The nonfinancial means through which alumni contributes the institute are as mentioned below

- Alumni is formally a part of the teaching learning process through which modes like expert lecture, project work, organizing industrial visits, study tours and mentoring students.
- Presentations/workshops for students in the areas of Career Awareness and Career Planning and provide perspective and tools to help them introspect and come up with their own career direction based on their interests, abilities, values and personality.

- One on one session with students to provide Career Coaching and guidance based on their unique talents, interests and circumstances. The goal is to enable the students to discover and realize their potential.
- Guidance to final year students for selection of the industry oriented project work
- Helping the institute for identifying and making available the Guest lecturers for the academic and industry oriented development of the students.
- Contribution towards academic excellence and faculty development
- Guidance towards the student activities and student development.
- Establishing Memorandum of understanding between the institute and alumni entrepreneurs.
- Annual gift program helps the department to enrich the departmental laboratories and library.

Alumni also contribute for development of the institute providing financial aid which in turn is utilized for the student's activities, student development and infrastructure development.

File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

#### 5.4.2 Alumni contribution during the last five years

<1 Lakh

1 Lakh - 3 Lakhs

3 Lakhs - 4 Lakhs

4 Lakhs - 5 Lakhs

**Response:** ? 5 Lakhs

File Description	Document
Any additional information	<a href="#">View Document</a>
Alumni association audited statements	<a href="#">View Document</a>

#### 5.4.3 Number of Alumni Association / Chapters meetings held during the last five years

**Response:** 13

##### 5.4.3.1 Number of Alumni Association /Chapters meetings held year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
03	03	03	03	01

File Description	Document
Any additional information	<a href="#">View Document</a>
Number of Alumni Association / Chapters meetings conducted during the last five years.	<a href="#">View Document</a>

NAAC

## Criterion 6 - Governance, Leadership and Management

### 6.1 Institutional Vision and Leadership

#### 6.1.1 The governance of the institution is reflective of an effective leadership in tune with the vision and mission of the institution

**Response:**

Vision and Mission of institute:

**Vision:** “To satisfy the aspirations of youth force, who want to lead nation towards prosperity through techno-economic development.”

**Mission:** “To provide, nurture and maintain an environment of high academic excellence, research and entrepreneurship for all aspiring students, which will prepare them to face global challenges maintaining high ethical and moral standards; by implementing quality practices.”

- The institute is in favour of adopting effective, efficient and contemporary practices to achieve the vision. The plan for achievement of vision through mission and objectives is put before the stake holders effectively thereby making the roles and responsibilities of every stake holder clear to them. The leadership ensures availability of required support to the stake holders for executing their duties. Decentralization and operational transparency are the features of the institute. Participative management gives boost to the institute's operation. In consultation with stake holders, institute gives input to the students to achieve better career, to become Entrepreneur, going for higher studies, to become a part of social and civil services. Institute offers better career to the students through value added courses, Skill development programme, signing MoU with industry etc. arranged awareness seminars to become entrepreneur and for higher studies. Institute motivates the students for social services. Institute also give the guidance to student for preparation of civil services. In consultation with stake holders, leader sets the target in line with vision and mission. Through the closed loop mechanism, the effectiveness and efficiency of the operations is ensured. Institute keeps itself abreast of the development in educational, industrial, and social changes so as to fulfil the corresponding needs. The information about these changes is collected through contributions of various cells, committees, and stake holders of the institute.
- The Institute has a perspective plan for its development in accordance with its vision. Keeping in mind the previous experiences of stakeholder suggestions and the changing scenario in the field of engineering, the perspective plan has been designed for the next five years by our institute. These include major objectives such as accreditation by National and International bodies introducing recognized research centre for all branches, permanent affiliation to Savitribai Phule Pune University, autonomy of the institute, establishing centre of excellence and foreign collaborations for higher studies and student placement. Better industry institute relationship through MOUs will enhance the activities of Entrepreneurship Development Cell. The institute will work for establishing and developing incubation centres required help to prospective entrepreneurs.
- Institute understands that along with better management practices and better leadership, faculty members plays a vital role in institutional achievements. As stated earlier through participative management, the faculties are involved in various decision making bodies of the institute such as Internal Quality Assurance Cell (IQAC), Academic Monitoring Cell (AMC), Departmental Advisory Board (DAB), Grievance Redressal Cell (GRC), Anti-Ragging Cell, signing MoUs with



academics, research and industrial institutions, liasoning with various agencies such as affiliating university, Directorate of Technical Education (DTE), Maharashtra and All India Council for Technical Education (AICTE), New Delhi.

File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

### 6.1.2 The institution practices decentralization and participative management

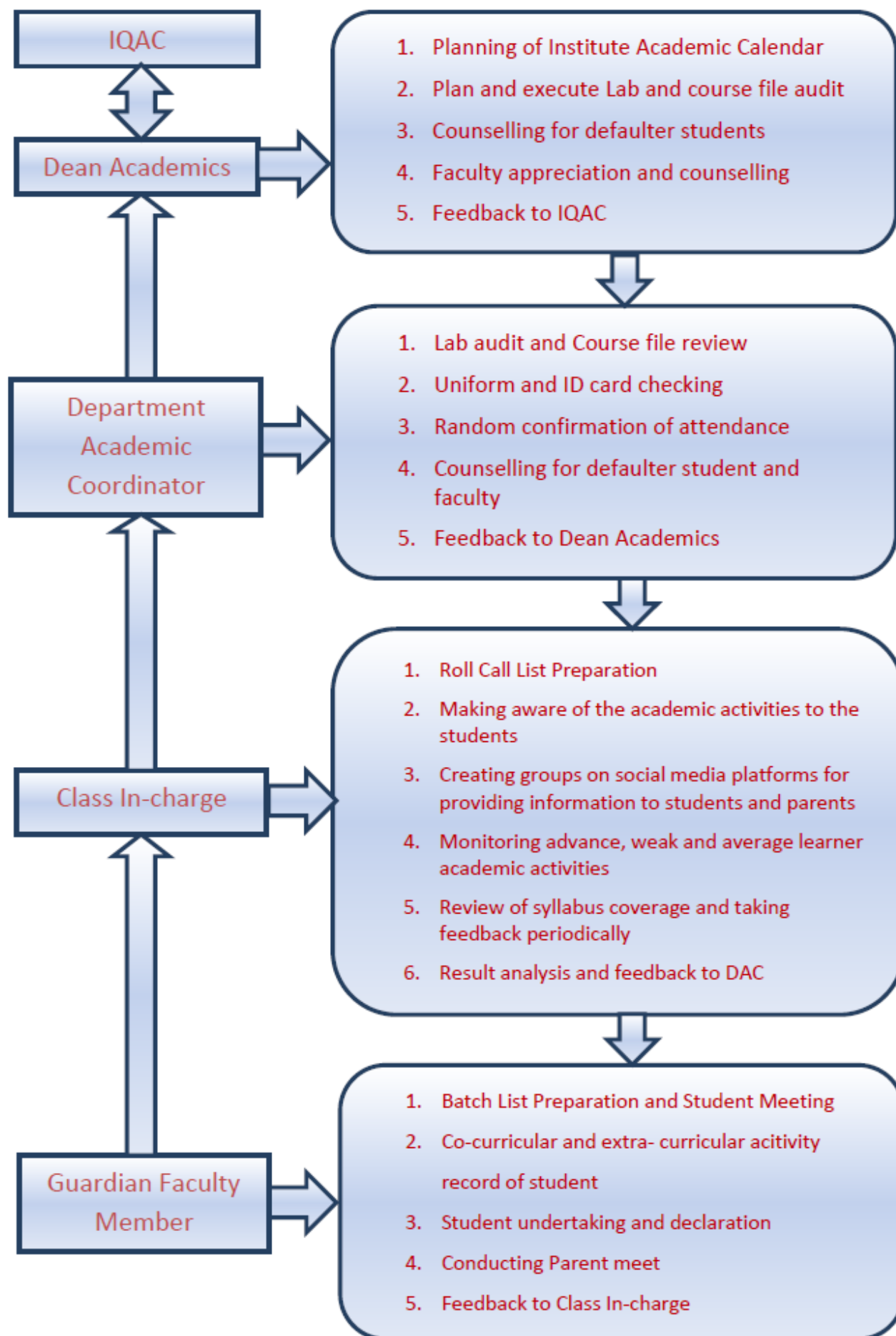
#### Response:

The institute follows participative and active role of all stake holders in process of academic practices. A case study of Academic Monitoring Committee (AMC) involving faculty members, students and parents is depicted below, reveals effective decentralization and participative management at the institute.

#### Case study: Academic Monitoring Committee (AMC)

AMC is Institute level committee responsible for designing, regulating and implementing different academic policies. It is meant for smooth conduction of academics throughout the institute.

AMC is headed by Dean Academics along with the representative from each department acting as Departmental Academic Coordinator.



**Activities conducted by AMC:**

- AMC monitors the teaching learning process. It prepares the academic calendar of the institute which is a reflection of University's academic calendar that includes curricular, co-curricular, extracurricular activities.
- Academic calendar is meticulously planned and prepared in advance by Dean academics and ensures the proper implementation of the academic calendar.
- Head of the department is responsible for confirmation and observation of academic activities.
- Dean academics confirm lab and course file audit, does defaulter counseling, takes action against findings, issues appreciation and show cause notice and gives input to IQAC
- Departmental AMC does lab and course file audit before commencement of semester and in the middle of semester, random confirmation of attendance once in a month, ensures student and faculty uniform and ID card and takes action on defaulter student and faculty and gives feedback to dean academics
- Departmental AMC prepares daily attendance report of each class and submits it to Dean Academics twice a day.
- Class Incharge ensures smooth conduction of practical and lecture of class, Prepare roll call list, does result analysis, takes feedback and syllabus coverage after 15 days, does student counselling and undertaking two times and takes monthly attendance.
- Class Incharge conducts average, weak and advance learner activity at class level and gives feedback to department AMC.
- GFM does batchwise student list, collect student biodata and conduct meeting with student to resolve their problems. The students whose attendance/performance is poor are identified by the GFM and the same is informed to the parents through telephonic conversation and by post.
- GFM collects student participation certificate, undertaking, declaration and leave forms and keeps record of Parent meeting and gives feedback to class In-Charge.

File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

**6.2 Strategy Development and Deployment****6.2.1 Perspective/Strategic plan and Deployment documents are available in the institution****Response:**

Based on available resources and keeping in view the role of HEI, the perspective /strategic plan of institute is prepared for the next five years.. As per the objectives of the institute and the strategic plan, ICT based LMS is implemented for effective development and deployment of curriculum from the year 2016-17.

**Example: Effective Use of ICT based tool for learning management (MOODLE)**

MOODLE (Modular Object-Oriented Dynamic Learning Environment) is a learning management system that is being utilized by our institution to present information and learning experiences for the students. The Moodle platform is an Open Source Learning Management System, mainly aimed at improving the quality of teaching-learning experience and at enhancing flexibility slightly reducing class time.

Moodle software is very useful to the Students, Faculty and Management for effective teaching-learning process. Everyone has his/her personal login id and password. Every faculty of the institute uploads study material on Moodle through their login. On Moodle every resource related to course is available like e-books, notes, PPTs, Assignments, NPTEL Video links, NPTEL PDF Links, other Video links, Virtual lab links, research papers links, case studies, objective type questions, list of models and simulations links, links of MOOC, List of Industries related to subjects. Moodle also has interactive materials related to subjects beyond syllabus is available like chat room, forum, messaging for faculty and students.

Feedbacks are taken from internal and external stakeholders on Moodle. The Students gives weekly and monthly feedbacks of his/her course. They also give feedback about their department. Faculty also gives feedback to respective Head of Department about department. Head of department gives feedback to faculty and Principal. Administrative section also gives feedback of respective faculty to management. Academic monitoring done through Moodle.

Following feedbacks are taken through Moodle

- Alumni Feedback
- Employer/Industry Feedback
- External Peer/Academician Feedback
- Faculty to Head of Department Feedback
- Head of Department to Faculty Feedback
- Head of Department to Principal Feedback
- Parent Feedback
- Principal to Head of Department Feedback
- Student to Department Feedback Monthly
- Student to Faculty Feedback Monthly
- Student to Faculty Feedback Weekly

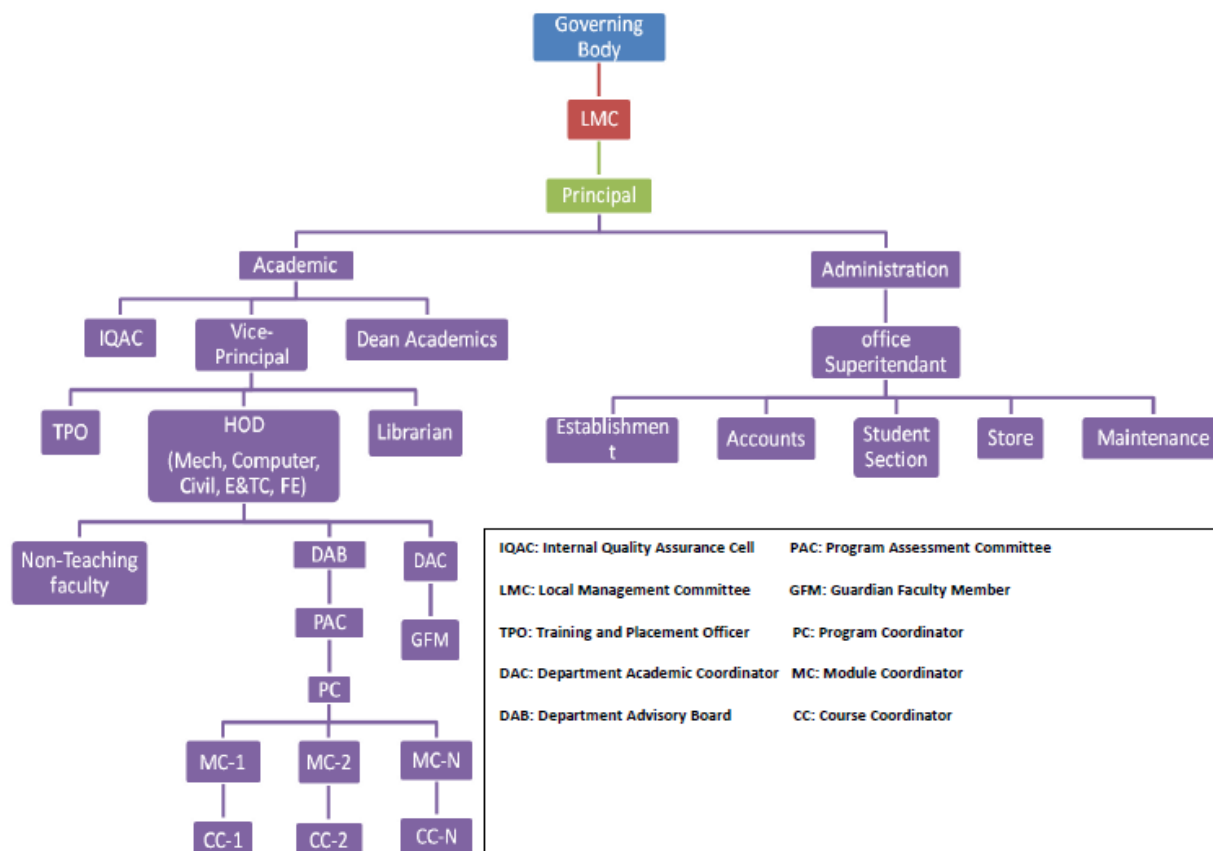
The Institute has Performance Appraisal System through Moodle for teaching and non-teaching staff. Self-appraisal forms filled by each faculty are reviewed by HODs and the Principal.

File Description	Document
Any additional information	<a href="#">View Document</a>
Strategic Plan and deployment documents on the website	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

**6.2.2 Organizational structure of the institution including governing body, administrative setup, and functions of various bodies, service rules, procedures, recruitment, promotional policies as well as**

**grievance redressal mechanism****Response:**

Our Institute is having a well structured Governing Body and Local Management Committee. The Institute's function is based on the organizational chart shown in Figure. Decision will be made by GB and LMC is disseminated by Principal through Vice Principal, Academic Coordinator and HoDs.



File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

**6.2.3 Implementation of e-governance in areas of operation: 1.Planning and Development 2. Administration 3. Finance and Accounts 4. Student Admission and Support 5.Examination**  
**A. All 5 of the above**

**B. Any 4 of the above**

**C. Any 3 of the above**

**D. Any 2 of the above**

**Response:** A. All 5 of the above

File Description	Document
Details of implementation of e-governance in areas of operation Planning and Development,Administration etc	<a href="#">View Document</a>
Screen shots of user interfaces	<a href="#">View Document</a>

#### **6.2.4 Effectiveness of various bodies/cells/committees is evident through minutes of meetings and implementation of their resolutions**

**Response:**

Institute forms various Committees/bodies/cells and their functions are properly defined, considering the overall development of the institute. For effective implementation and improvement of the institute following committees are formed:

## Principal

Academic Monitoring Committee  
(responsible for designing, regulating and implementing different academic activities)

Grievance Redressal Cell  
(To look into the complaints lodged by any student)

SC/ST Cell  
(Ensure fulfillment of reservation for SC/ST in all matters )

Training and Placement Cell  
(Responsible for activities related to student Placement)

Student Welfare Cell  
(To plan various student welfare activities)

R&D Cell  
(Responsible for conducting Research activities in the institute )

Library Advisory Board  
(Responsible for overall functioning of Library)

National Service scheme  
(Aim to include social welfare in students)

Women's Grievance Redressal Cell  
(Prevent Sexual harassment of female student, teaching and non teaching staff)

Anti-Ragging Cell  
(Prevention of ragging in the institution)

As per the guidelines given by Savitribai Phule Pune University, a resolution is passed in the Governing Body to form "National Service Scheme" cell at our Institute. Institute always feels responsible towards society. The institute organizes various activities to create awareness about social problems and issues.

### Example: National Service scheme

**National Service Scheme (NSS)**, under the Ministry of Youth Affairs & Sports Govt. of India, was launched in Gandhiji's Birth Centenary Year 1969, in 37 Universities including SPPU, Pune, where our students involved with primary focus on the development of personality of students through community service.

The unit typically comprises students. They are managed internally by NSS committee of our institute. NSS has given us a platform to develop a sense of social and civic responsibilities in students and society,

to use their knowledge in finding practical solutions to individual and community problems, to develop capacity to meet emergencies and natural disasters, to bring happiness and smile on many faces.

We created a hub to deliver services to the society by showcasing student's awareness. So it's not simply an association; it's a reason to achieve our objective and carry on the legacy for the coming years. We started this activity from academic year 2014 in the month of February. Following are the different activities conducted by NSS from February 2014 to till date.

Sr. No	Event	Date
1	Quit India Movement	9/8/2017
2	Swacha aani Swasth Bharat Abhiyaan	1/8/2017
3	Yoga Day	21/6/2017
4	Shiv Jayanti	20/2/2017
6	Health check-up and Blood Donation Camp	19/1/2017
7	Plastic Kachra Nirmulan	12/1/2017
8	Swami Vivekanand yanche vichar ani aajcha Yuvak	12/1/2017
9	Mahanetradaan Abhiyaan	4/1/2017
10	Worlds AIDS Day	1/12/2016
11	Tree Plantation	19/7/2016
12	Swachha Bharat Abhiyan	10/2/2015
13	Blood Donation Camp	16/1/2015
14	Blood Donation Camp	22/9/2014

In this regard meeting of HOD's and NSS co-ordinators was arranged by Principal, formed NSS committee at Institute level, instructions are given to Deaprtments to form department level committee by arranging further meetings. Then HOD's have formed departmental level committee and took meetings. Then students members are added in committee.

One Activity Successfully Implemented: The NSS unit of our institute had organized an Eye donation awareness camp "Maha Netradan Abhiyan-2017" on 04th Jan 2017.

In this programme, Mr. Ravindra Bodake, Kiskinda Pratisthan for Blind students, Campus Director Prof. Vijay Sawant and Dr. K. N. Barbole Principal PVPIT and all the members of the Social Responsibility Cell were present.

In this programme Mr. Ravindra Bodake shared his experience with the students about the problems blind people facing. Eyes are one of the most important sensory organs in the human body because it renders vision and the power to see. Statistics show that there are 15 million blind people in India. Visually impaired people feel that their life is incomplete as they can just touch, feel and smell things but can't see it. The programme concluded after filling the forms for eye donation. Total 70 Students and faculties fill the form shows their awareness regarding eye donation and its importance. (Additional information is attached herewith)



File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

## 6.3 Faculty Empowerment Strategies

### 6.3.1 The institution has effective welfare measures for teaching and non-teaching staff

#### Response:

List of Welfare Schemes provided by institute:

- **Provident Fund Facility for Staff- *Employees Provident Fund Scheme*** (EPF) is the main *scheme* under the *Employees'* Provident Funds and Miscellaneous Provisions Act. All eligible staff members avail the facility.
- **Group Insurance for all Staff- *Group* Personal Accident Policy** is provided to all employees of the institute. Group insurance is covered by United India Insurance (Policy No. 1610004216P115407675).
- **Health checkup and counseling facility for Staff-** A health checkup/ medical Facility gives employees health feedback, this can motivate them to make better lifestyle choices and prevent future health problems. Institute has signed MoU and tie up with Hospital. 74 staff members are availing the medical facility.
- **Providing college uniform to non-teaching staff (Security Personal and peons)-** Our Institute provided free uniform non-teaching staff.
- **Free inhouse training programs for faculty-** Having expertise in engineering education, available with sister institutes, free in-house training programs on Teaching Pedagogy and administrative training for Heads of department were conducted regularly.
- **Accommodation facility for non-teaching staff- The institute provides accommodations to non-teaching staff as per need.**
- **Patent filing fees-** The institute has a policy to encourage innovations and creativity amongst the students and faculty members by providing 100% financial assistance to file the Patents.
- **Providing financial aid for professional membership:** For Professional development of faculty, institute provides 100% financial support to all faculty to attend workshops/conferences and professional membership.
- **Reimbursement for faculty membership who act as faculty advisor of student chapters.:** Student's chapters are formed in all the departments viz. ACM, IETE, SAE and ISTE for which institute provides membership fees to all faculty advisor.

File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

**6.3.2 Average percentage of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies during the last five years****Response:** 30.97

6.3.2.1 Number of teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
64	68	53	21	20

File Description	Document
Any additional information	<a href="#">View Document</a>
Details of teachers provided with financial support to attend conferences,workshops etc. during the last five years	<a href="#">View Document</a>

**6.3.3 Average number of professional development /administrative training programs organized by the institution for teaching and non teaching staff during the last five years****Response:** 7.4

6.3.3.1 Total number of professional development / administrative training programs organized by the Institution for teaching and non teaching staff year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
08	08	10	06	05

File Description	Document
Reports of the Human Resource Development Centres (UGC ASC or other relevant centres).	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>
Details of professional development / administrative training programs organized by the Institution for teaching and non teaching staff	<a href="#">View Document</a>

**6.3.4 Average percentage of teachers attending professional development programmes viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programme**

**during the last five years****Response:** 29.1

6.3.4.1 Total number of teachers attending professional development programs, viz., Orientation Program, Refresher Course, Short Term Course, Faculty Development Programs year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
58	73	62	17	10

File Description	Document
IQAC report summary	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>
Details of teachers attending professional development programs during the last five years	<a href="#">View Document</a>

**6.3.5 Institution has Performance Appraisal System for teaching and non-teaching staff****Response:**

Yes, Institution has Performance Appraisal System for teaching and non-teaching staff. Performance appraisal is divided into three categories and done annually at the end of each Academic Year.

**CATEGORY-I: TEACHING, LEARNING AND EVALUATION RELATED ACTIVITIES**

Provides information regarding:

- Lectures, seminars, tutorials, practicals, project, contact hours undertaken by faculty as allocated.
- Lectures or other teaching duties performed in excess of defined norms.
- Preparation and imparting of knowledge/instruction as per curriculum.
- Use of participatory and innovative teaching-learning methodologies.

**CATEGORY- II: CO-CURRICULAR, EXTENSION AND PROFESSIONAL DEVELOPMENT RELATED ACTIVITIES**

It includes:

- Student related co-curricular extension and field based activities
- Contribution to Corporate life and management of the department and institution through participation in academic and administrative committees and responsibilities
- Professional Development activities.

**CATEGORY -III: RESEARCH AND DEVELOPMENT**

It includes:

- Publications
- Sponsored Projects
- Patent
- Research Guidance

Self-appraisal forms filled by each faculty are reviewed by HODs and the Principal. The outcome of performance appraisal reports is used for reviewing the annual progress of faculty. The outcome of the performance appraisal is that each faculty/staff becomes aware of self-weaknesses and tries to improve oneself in those areas so that they can score better in the next year. The remarks obtained in the Performance appraisal report contributes to the decision about faculty appreciation.

Though the size of non teaching category staff is less compared to teaching staff, their contribution to the efficient functioning of the Institute is great.

Management of the Institute has taken efforts to improve service conditions of the technical employees; they are expected to contribute their best for the betterment of the Institute.

With this in view, performance of non teaching staff is observed and evaluated on the basis of behavior, conduct, sincerity towards work, regularity, job knowledge, attitude towards students and co-workers, etc. Promotions and increments in salaries may be given on their performance.

File Description	Document
Any additional information	<a href="#">View Document</a>

## 6.4 Financial Management and Resource Mobilization

### 6.4.1 Institution conducts internal and external financial audits regularly

**Response:**

- The institute has a mechanism for internal and external audit. We have our own internal audit mechanism where internal audit is an ongoing continuous process in addition to the external auditors to verify and certify the entire Income and Expenditure and the Capital Expenditure of the Institute each year. Qualified Internal Auditors from external resources have been permanently appointed and a team of staff under them do a thorough check and verification of all vouchers of the transactions that are carried out in each financial year. Likewise an external audit is also carried out on an elaborate way on yearly basis. The institutional accounts are audited regularly by both Internal and external audits. So far there have been no major findings / objections. Minor errors of omissions and commissions when pointed out by the audit team are immediately corrected / rectified and precautionary steps are taken to avoid recurrence of such errors in future.

File Description	Document
Any additional information	<a href="#">View Document</a>

#### 6.4.2 Funds / Grants received from non-government bodies, individuals, Philanthropists during the last five years (not covered in Criterion III)

**Response:** 37.76

6.4.2.1 Total Grants received from non-government bodies, individuals, philanthropists year wise during the last five years (INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
7.81	10.35	3.19	6.99	9.42

File Description	Document
Annual statements of accounts	<a href="#">View Document</a>
Details of Funds / Grants received from non-government bodies during the last five years	<a href="#">View Document</a>

#### 6.4.3 Institutional strategies for mobilisation of funds and the optimal utilisation of resources

**Response:**

The major sources of institutional receipt/ funding are Fees received from the students. Deficit has been managed by funding from TSSM trust. The Top Management has a well-defined procedure to monitor effective and efficient utilization of available resources for infrastructure development and teaching learning process. All the major financial transactions are monitored by the Campus Director and approved by the President. Institute has also a well defined policy for handling the available financial resources. In the beginning of every academic year, the budget is prepared by various departments and sections in the prescribed format as per the circular issued by the Principal Budget for the departments is prepared by concerned HODs, in consultation with the department laboratory in-charge and other faculty.

Accordingly, all the administrative and academic heads are requested to submit the budget required for the subsequent financial year. Along with this all coordinators of different cells viz., R& D Cell, Exam Cell, T&P Cell, NSS Cell, EDC Cell etc. are instructed to submit their budget to Principal. Before preparation of budget all heads of department do consultation with their laboratory in-charges considering following factors during allocation of funds such as, requirements against removal of outdated, new requirements as per change in curriculum, requirements for design of new experiment, etc. Final consolidation of the budget is carried out in consultation with the senior faculty members, seeking justification for the need of budgeted item and its utilization. The heads then submit their requirements and associated budget to the Principal.

Principal reviews the budgets received from all Heads of the Department. A draft budget of the college is prepared in consultation with all heads and senior faculty members of the College, by giving due weightage to the long term -short term goals of the college, expansion plans and availability of funds. The budget is then submitted to the management for approval.

File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

## 6.5 Internal Quality Assurance System

### 6.5.1 Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes

#### Response:

The Institute is committed in the provision and Continuous improvement of quality teaching and learning process through IQAC. It also focuses on overall development of students through certificate programmes for skill development, training programmes, and other co-curricular and extra-curricular activities that expand their horizon of knowledge. IQAC has mechanisms for academic auditing and adopting quality management strategies in all academic and administrative aspects.

The best practices institutionalized as a result of IQAC initiatives are elaborated below:

#### 1. Laboratory Enhancement:

Some of the lacunae that were observed during IQAC audits from quality perspective are availability of standards in the laboratory, implementation of industrial practices and availability of standard experimental results. To overcome this, IQAC has recommended "Laboratory Enhancement Scheme" which would ensure correct functioning of all the instruments and setups, availability of standard, results of the experiments, availability of required setup as per curriculum, fulfilling the need of pre-requisite and gaps, if any. Also, in case of requirement, due care is taken to fulfill the need of value added courses or add-on courses. Also, the scheme demands to have the operational procedures displayed near setups, so that it becomes guide for the students for conducting the experiments on their own. This will provide opportunity to the students to conduct the experiments of his choice under supervision of faculty. This practice has boosted students' confidence to undertake new practicals. Further it resulted in two more advantages, viz., making the students life-long learner by absorbing the habit of self-learning and the second advantage is system becomes more student centric. Students started sharing the experience gained through practical with each other.

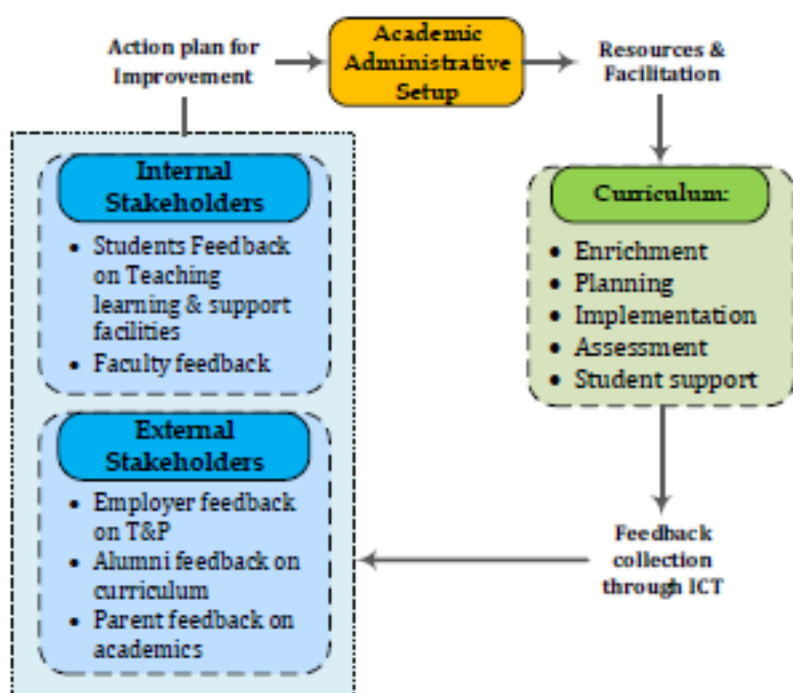
**1.360 degree feedback system:** The Institute deploys a 360 degree feedback system to ensure and improve the quality of teaching learning process. Feedback is collected from students, alumni,



employers and parents. The stake holders are invited to visit the campus and various infrastructural facilities, interact with the members of faculty to obtain necessary information on the overall performance and quality of institution. Parent Teachers meetings are conducted to inform academic performance, to provide constructive suggestions, to enhance student abilities and the overall performance. Training and Placement cell gives feedback and suggestions to head of department for student performance improvement. Institute considers all stake holders feedback while planning the activities.

Institute also collects feedback from the Employers during Campus Interviews and Alumni during alumni meets. They give valid suggestions on curriculum development as well as infrastructure facilities. It helps in designing the training modules prepared by T & P cell. Institute takes students feedback online through Moodle software. They give feedback by anonymously logging into the software, to get free, fair and real feedback.

The feedback questionnaire mainly concentrates on teaching-learning aspect and a comment section where students can give their suggestions. After analyzing student's feedback, instructions are given to individual faculty member and it is used for improving the quality of Teaching-Learning-Process. Counselling of the teachers is done by senior professors to make corrective actions.



File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

**6.5.2 The institution reviews its teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals through IQAC set up as per norms**

**Response:**

Taking into account the need of stakeholders, IQAC has decided to bring-in reforms in teaching learning process. To cite the examples, following are the cases:

**Enhancement of course file content:** The effectiveness of teaching-learning process is enhanced by faculty involvement in improving quality and effectiveness of course content. IQAC has recommended developing enhanced course file for diversified students with different capabilities, their learning styles, and faculty deliverance considering learning needs of students.

The course file prepared contains following points which cover many categories of teaching and learning tools.

- Tier assignments, work book, case studies to revise, remember and understand.
- List of Online resources, links of journals and weblinks to provide latest updates and ongoing research trends of the topic.
- PPTs, NPTEL / other video links, list of Models and list of Simulations to visualize and experience actual concept and applications in real life.

The important part of the course file is teaching learning and assessment plan. It contains teaching method being adopted, the reference material for the students, scheduled dates for teaching particular topic, teaching activities, and activities expected from students during teaching to learn and finally it conveys information about the assessment methodology and tools being adopted by the faculty members. This information available in advance provides opportunities to all the stakeholders, viz., laboratory in-charge, department, institute, and the students to prepare themselves well in advance so as to achieve the expected outcome without hurdles.

**Use of interactive digital teaching learning resources:** As per the recommendation of IQAC, institute has decided to switch over from traditional teaching learning process to student centric system. However, this switchover demands changes in many of the domains, one of which is availability of corresponding teaching learning material. The major challenge to make this teaching learning material available was staff training to develop the corresponding material. The required training is imparted to the faculty members by the training team of the parent organization. Also, the required infrastructure for developing such teaching learning material is made available at the institute. This infrastructure includes hardware like high end multimedia ready PCs, software like moodle, web cameras, etc.

With the help of developed infrastructure, training imparted and the support extended; faculty members have designed and developed excellent highly interactive teaching learning material suitable for student centric system. The adaptation of these resources has exhibited improved interest of faculty members and students in updating the course content. Students are observed involving highly in learning process and are demanding such course content more which reflects the success of this improving teaching learning material adaptation.

The need of advance learners is also taken care by making the facility available to them for registering and attending various MOOCs as per their interest and recommendations by the concerned faculty members. This has provided opportunity to the advanced learner to get certified through global agencies and has widened the possibility of getting employed with the best of the best employer.



File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

### 6.5.3 Average number of quality initiatives by IQAC for promoting quality culture per year

**Response:** 8.6

#### 6.5.3.1 Number of quality initiatives by IQAC for promoting quality year-wise for the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
14	09	07	07	06

File Description	Document
Number of quality initiatives by IQAC per year for promoting quality culture	<a href="#">View Document</a>
IQAC link	<a href="#">View Document</a>

### 6.5.4 Quality assurance initiatives of the institution include:

- 1.Regular meeting of Internal Quality Assurance Cell (IQAC); timely submission of Annual Quality Assurance Report (AQAR) to NAAC; Feedback collected, analysed and used for improvements
- 2.Academic Administrative Audit (AAA) and initiation of follow up action
- 3.Participation in NIRF
- 4.ISO Certification
- 5.NBA or any other quality audit

**A. Any 4 of the above**

**B. Any 3 of the above**

**C. Any 2 of the above**

**D. Any 1 of the above**

**Response:** A. Any 4 of the above

File Description	Document
Any additional information	<a href="#">View Document</a>
Details of Quality assurance initiatives of the institution	<a href="#">View Document</a>
e-copies of the accreditations and certifications	<a href="#">View Document</a>
Annual reports of institution	<a href="#">View Document</a>

**6.5.5 Incremental improvements made during the preceding five years (*in case of first cycle*) Post accreditation quality initiatives (*second and subsequent cycles*)**

**Response:**

NAAC

## 1. Academic improvement:

Particulars	2012-13	2013-14	2014-15	2015-16	2016-17
Evaluation reforms	University exams	Internal and University exams	Involvement of suggestions from external examiners for student evaluation along with university exam	Mock Oral and Practical exam before university exams	Introduction of co-guides from industries/other faculty for interdisciplinary/project related activities and evaluation
Teaching learning approach	Traditional teaching learning approach			Student centric approach	Focus on self-learning
Teaching learning methodology	Traditional & OHP		Adaptation of methodologies like LCD Projector for Presentation	Provided digital course contents	Provided quality learning material through Moodle, Use of NPTEL Video for better understanding
Learning support	Traditional		Focus on group through GFM activity		Additional support through LMS – MOODLE
Teacher student contact hours	As per norms of university		Additional hour per week as compared to university norms		Availability of teacher support 24/7 through MOODLE and social media
From 2017-18 institute uses interactive board and smart class room for teaching learning process					

## 2. Administrative improvement

Particulars	2012-13	2013-14	2014-15	2015-16	2016-17
Faculty performance	offline	offline	Offline and Students Feedback	Offline and Students Feedback	Offline and Students Feedback
Academic monitoring	Traditional	Traditional	Traditional, Students Feedback and AMC	Traditional, Students Feedback and AMC	Through Moodle
Governance	Traditional	Traditional	Traditional	Traditional	E-Governance
Infrastructural improvement	10 MBPS Bandwidth	14 MBPS Bandwidth	34 MBPS Bandwidth	64 MBPS Bandwidth	64 MBPS Bandwidth

File Description	Document
Any additional information	<a href="#">View Document</a>

## Criterion 7 - Institutional Values and Best Practices

### 7.1 Institutional Values and Social Responsibilities

#### 7.1.1 Number of gender equity promotion programs organized by the institution during the last five years

**Response:** 14

7.1.1.1 Number of gender equity promotion programs organized by the institution year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
04	04	02	02	02

File Description	Document
Any additional information	<a href="#">View Document</a>
Report of the event	<a href="#">View Document</a>
List of gender equity promotion programs organized by the institution	<a href="#">View Document</a>

#### 7.1.2

##### 1. Institution shows gender sensitivity in providing facilities such as:

1. Safety and Security
2. Counselling
3. Common Room

**Response:**

##### a) Safety and Security-

The Institute has recognized the distinct aspects of education from gender perspective. Institute takes necessary measures to make students aware about gender rights and equity. Institute has given the provision for insurance policy for girls and boys. Anti-Ragging committee and Women grievance cell exist in the institute to resolve the student's grievances. This cell conduct programs on women related issues on International Women's Day. The programs related to gender equality are also conducted in annual social gathering "INDRADHANUSHYA" and techno-socio event "ACCLIVITY". Ladies and gents security guards work 24X7 in institute. Institute campus including main gate, corridors, examination section, and entry of all buildings, canteen, library and hostels are monitored by CCTV cameras.

Transport facility is available from all corners of Pune for student and faculty. First aid box is available in all laboratories and common places of the institute. Institute has a tie up with Sahayadri Hospital, Kothrud

which also includes ambulance service in case of emergency.

**b) Counseling:** Institute through Guardian Faculty Member (GFM) provides academic, career, financial and psycho-social counseling to the students. Professional counselor of the institute delivers common counseling sessions on gender equality and stress related issues for all the students. The institution has taken efforts to consult with professional consultant in case of any critical cases.

**c) Common Room:** Institute has separate boy's common room and girl's common room with hygienic facilities. Sick room is also available along with necessary facilities.

File Description	Document
Any additional information	<a href="#">View Document</a>

### 7.1.3 Alternate Energy initiatives such as:

#### 1. Percentage of annual power requirement of the Institution met by the renewable energy sources

**Response:** 1.87

#### 7.1.3.1 Annual power requirement met by the renewable energy sources (in KWH)

Response: 3600

#### 7.1.3.2 Total annual power requirement (in KWH)

Response: 192420

File Description	Document
Any additional information	<a href="#">View Document</a>
Details of power requirement of the Institution met by renewable energy sources	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

### 7.1.4 Percentage of annual lighting power requirements met through LED bulbs

**Response:** 28.83

#### 7.1.4.1 Annual lighting power requirement met through LED bulbs (in KWH)

Response: 29998

#### 7.1.4.2 Annual lighting power requirement (in KWH)

Response: 104052

File Description	Document
Any additional information	<a href="#">View Document</a>
Details of lighting power requirements met through LED bulbs	<a href="#">View Document</a>

**7.1.5 Waste Management steps including:**

- **Solid waste management**
- **Liquid waste management**
- **E-waste management**

**Response:**

All the waste generated in the campus is managed as given below.

- **Solid Waste Management:-**

Solid waste management plant of 525 cubic feet capacity is operational in the campus. Green and wet waste is processed and converted for preparing organic fertilizer. The estimated generation of solid waste in campus is about 30 to 35kg/day which is collected by sweeper and workers from various departments, canteen and garden. Seven aerobic composting pits of size 5 feet x 5 feet x 3 feet are provided to compost both waste. Minimum 30-45 days are required to complete one cycle of composting. Castings generated in terms of manure are utilized as an organic fertilizer for gardening.

- **Liquid Waste Management**

The plumbing wastewater collected from various places like, wash basin, toilet, water cooler, kitchen basin, etc. is conveyed to 20m x 10m x 3m size septic tank for treatment. Cleaning of Septic tank is done regularly by municipal sludge collecting vehicle.

Hazardous Chemicals are kept separately in the laboratory away from the reach of students. Lab In-charge and lab-assistant takes care of the chemicals and safety norms in the laboratory are strictly followed. Students are made aware of the hazardous chemicals and safety aspects when they are given instructions before utilizing the chemicals. The Chemicals used in the experiments are diluted and after usage the chemical waste gets mixed with routine waste water.

- **E-waste management**

The generated e-waste is given to the authorized dealers who purchase the scrap and reuse the useful components. The electronic and electrical instruments under repair are given to the students during the lab sessions to dismantle and reassemble, which helps application oriented learning. Articles on e-waste management are also frequently displayed on the Notice Boards.

File Description	Document
Any additional information	<a href="#">View Document</a>

### 7.1.6 Rain water harvesting structures and utilization in the campus

#### Response:

In institute premises, to achieve rain water harvesting (RWH) the pipes are laid down from the roof of all the buildings to collect, convey and recharge by disposing of in dry bore well. After recharge, rise in ground water table increases the water level in well. Ground water then utilized from well for the various purposes such as drinking, gardening etc. in the campus.

Also to account conservation and preservation of natural resource, drip and sprinkler irrigation system is used for gardening.

File Description	Document
Any additional information	<a href="#">View Document</a>

### 7.1.7 Green Practices

- Students, staff using
  - a) Bicycles
  - b) Public Transport
  - c) Pedestrian friendly roads
- Plastic-free campus
- Paperless office
- Green landscaping with trees and plants

#### Response:

The institute is located in pollution free area and it is surrounded with greenery and mountains.

- 1.College provides bus facilities to the students and staffs with an aim to avoid the use of individual vehicles and initiatives are taken to sensitize students and staff members in utilizing the public transport system in order to reduce the carbon emission. The institute actively promotes an idea of vehicle pooling to both staff and students.
- 2.NSS actively organized and conducted **“Plastic Kachara Nirmulan”**under **Yuva Mahotsav** to participate and support **Swacha Bharat Abhiyan**.
- 3.The institute has implemented LMS (MOODLE) for the academics and other activities to reduce paper usage. The institute encourage tto less use of paper during admission process and other adminitrative activities. General information is communicated to stakeholders through social media.
- 4.Tree plantation is carried out during monsoon period every year to make the campus as green as



possible. The activities are performed by gardeners and NSS students.

5. Institute provides battery operated E- rickshaw facility which consumes electric energy and produces almost zero pollution in the environment. It is used for short distance travelling from campus to chandani chowk for needful students and staff.

File Description	Document
Any additional information	<a href="#">View Document</a>

### 7.1.8 Average percentage expenditure on green initiatives and waste management excluding salary component during the last five years

**Response:** 3.16

7.1.8.1 Total expenditure on green initiatives and waste management excluding salary component year wise during the last five years(INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
17.34	18.46	22.57	19.58	25.19

File Description	Document
Green audit report	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>
Details of expenditure on green initiatives and waste management during the last five years	<a href="#">View Document</a>

### 7.1.9 Differently abled (Divyangjan) Friendliness Resources available in the institution:

1. Physical facilities
2. Provision for lift
3. Ramp / Rails
4. Braille Software/facilities
5. Rest Rooms
6. Scribes for examination
7. Special skill development for differently abled students
8. Any other similar facility (Specify)

**A. 7 and more of the above**

**B. At least 6 of the above**

**C. At least 4 of the above**

**D. At least 2 of the above**

**Response:** A. 7 and more of the above

File Description	Document
Resources available in the institution for Divyangjan	<a href="#">View Document</a>
link to photos and videos of facilities for Divyangjan	<a href="#">View Document</a>

#### **7.1.10 Number of Specific initiatives to address locational advantages and disadvantages during the last five years**

**Response:** 15

7.1.10.1 Number of specific initiatives to address locational advantages and disadvantages year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
5	2	3	3	2

File Description	Document
Number of Specific initiatives to address locational advantages and disadvantages	<a href="#">View Document</a>

#### **7.1.11 Number of initiatives taken to engage with and contribute to local community during the last five years (Not addressed elsewhere)**

**Response:** 11

7.1.11.1 Number of initiatives taken to engage with and contribute to local community year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
5	1	3	1	1

File Description	Document
Report of the event	<a href="#">View Document</a>
Details of initiatives taken to engage with local community during the last five years	<a href="#">View Document</a>

**7.1.12**

**Code of conduct handbook exists for students, teachers, governing body, administration including Vice Chancellor / Director / Principal /Officials and support staff**

**Response:** Yes

File Description	Document
Any additional information	<a href="#">View Document</a>
URL to Handbook on code of conduct for students and teachers , manuals and brochures on human values and professional ethics	<a href="#">View Document</a>

**7.1.13 Display of core values in the institution and on its website**

**Response:** Yes

File Description	Document
Provide URL of website that displays core values	<a href="#">View Document</a>

**7.1.14 The institution plans and organizes appropriate activities to increase consciousness about national identities and symbols; Fundamental Duties and Rights of Indian citizens and other constitutional obligations**

**Response:** Yes

File Description	Document
Any additional information	<a href="#">View Document</a>
Details of activities organized to increase consciousness about national identities and symbols	<a href="#">View Document</a>

**7.1.15 The institution offers a course on Human Values and professional ethics**

**Response:** Yes

File Description	Document
Provide link to Courses on Human Values and professional ethics on Institutional website	<a href="#">View Document</a>

**7.1.16 The institution functioning is as per professional code of prescribed / suggested by statutory bodies / regulatory authorities for different professions**

**Response:** Yes

File Description	Document
Provide URL of supporting documents to prove institution functions as per professional code	<a href="#">View Document</a>

**7.1.17 Number of activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties during the last five years**

**Response:** 61

7.1.17.1 Number of activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties year wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
16	12	10	13	10

File Description	Document
List of activities conducted for promotion of universal values	<a href="#">View Document</a>

**7.1.18 Institution organizes national festivals and birth / death anniversaries of the great Indian personalities**

**Response:**

**National Festival Report**

The institute celebrates various festivals to develop social sensitivity and awareness of unity, amongst the budding engineers of future India.

Independence Day is celebrated to mark the independence of India. India became independent on August 15, 1947, after the British left the country. We dedicate this day to all those brave leaders and freedom fighters who gave freedom to our country, on this day and to recall the sacrifice done by our heroes and to pass it to our students, institute arranged some formal events including flag-hoisting and march-past in which overall conduction and arrangement done by the students only.

Gandhi Jayanti is celebrated in the remembrance of the birth anniversary of the Father of the Nation, Mohandas Karamchand Gandhi. Who is also known as "Bappu". Every year, institute used celebrates this auspicious occasion to dedicate Bappu's life and struggle for independence. On the same day institute runs a social awareness program called 'Swachh Bharat Abhiyan' since last two years. On this occasion students and staff members are involved in cleaning their work spaces inside the institute as well as around the institute campus.

Republic Day is celebrated on January 26 to commemorate the adoption of constitution. On this day, various formal events including flag-hoisting and march-past are organized and which are followed by "constitution awareness program" in which students and staff members got information of their duties towards our nation and rights given to them by our constitution. By organizing such type of events institute does its share to immerse patriotism and awareness to next generation.

Our institute observed the National Youth Day with the primary aim of sensitizing the students about the philosophies, principles and ideas of Swami Vivekananda. On 12 January which is his birth anniversary. The students were motivated to be good citizens of India, thus contributing to the development of the country. A lecture was delivered to students which includes the inspiring stories of Swami Vivekananda's life briefed to the students made the session more interesting and captivating.

Along with this institute used to organized programs on the birth/ death anniversaries of great Indian personalities like Shivaji Maharaj on Shiv Jayanti, Dr. B R. Ambedkar the writer of Constitution of India, Dr. Sarvapalli Radhakrishnan on Teacher's day, Sir Vishveshwarayya on Engineer's Day, Prof. S. R. Ranganathan on Library Day on 27 September and on 1st May institute celebrated Maharashtra day and labor day.

#### **7.1.19 The institution maintains complete transparency in its financial, academic, administrative and auxiliary functions**

##### **Response:**

The institute owns and follows very transparent policy for all the stakeholders which is governed by the local management committee. In every academic year, budget is planned and prepared as per the requirement and displayed. Purchasing is done through a proper channel and after verifying at least three quotations. We have a transparent fees collection policy for any kind of fees with the challan generated by the account department and it will be deposited to the Jaywant Multicredit Cooperative Society, Bavdhan along with requisite slip.

Academic policy includes academic calendar, load distribution, time table, portfolio allotment, continuous assessment scheme, department advisory board, academic monitoring committee; yearly academic annual report is maintained and discussed amongst all stakeholders.

Administrative policy includes management interaction with faculty or concern people for implementing each policy decision e.g. faculty development programs, Seminars, Annual gathering and social awareness activities in addition to this HR manual is also available, de-centralization is properly maintained from higher authority to staff members. Every department administration includes audited student associations.

Lastly, for auxiliary functions required for student assistance like Canteen, reprography and Stationary centers are available at institute campus, higher authority instructs canteen management as well as reprography center owner to display recent rate card for clear and transparent transactions

## 7.2 Best Practices

### 7.2.1 Describe at least two institutional best practices (as per NAAC Format)

#### Response:

#### 1. Title: Multi-monitoring system

Institute practices multi-monitoring system for students at two levels.

**I. Administrative level:** This includes monitoring by Principal, Dean Academics, Head of Department, Departmental Academic coordinator and Guardian Faculty Member.

**II. Academic level:** This includes monitoring by Principal, Dean Academics, Head of Department, Departmental Academic coordinator, module coordinator, course coordinator and subject teacher.

#### 2. Goal:

- To achieve aspiration of youth.
- Effective interaction between Teacher-student-Parent.
- To provide academic support to the student in improving their academic performance.
- To ensure holistic development of student.

#### 3. Context

The student of current generation is multidimensional and undergoing heavy academics along with social and financial concerns. To maintain the focus on overall and holistic development, the monitoring of student is essential for better performance in academics and other activities. The institute committed by its vision to be responsible for students overall development.

#### 4. The practice

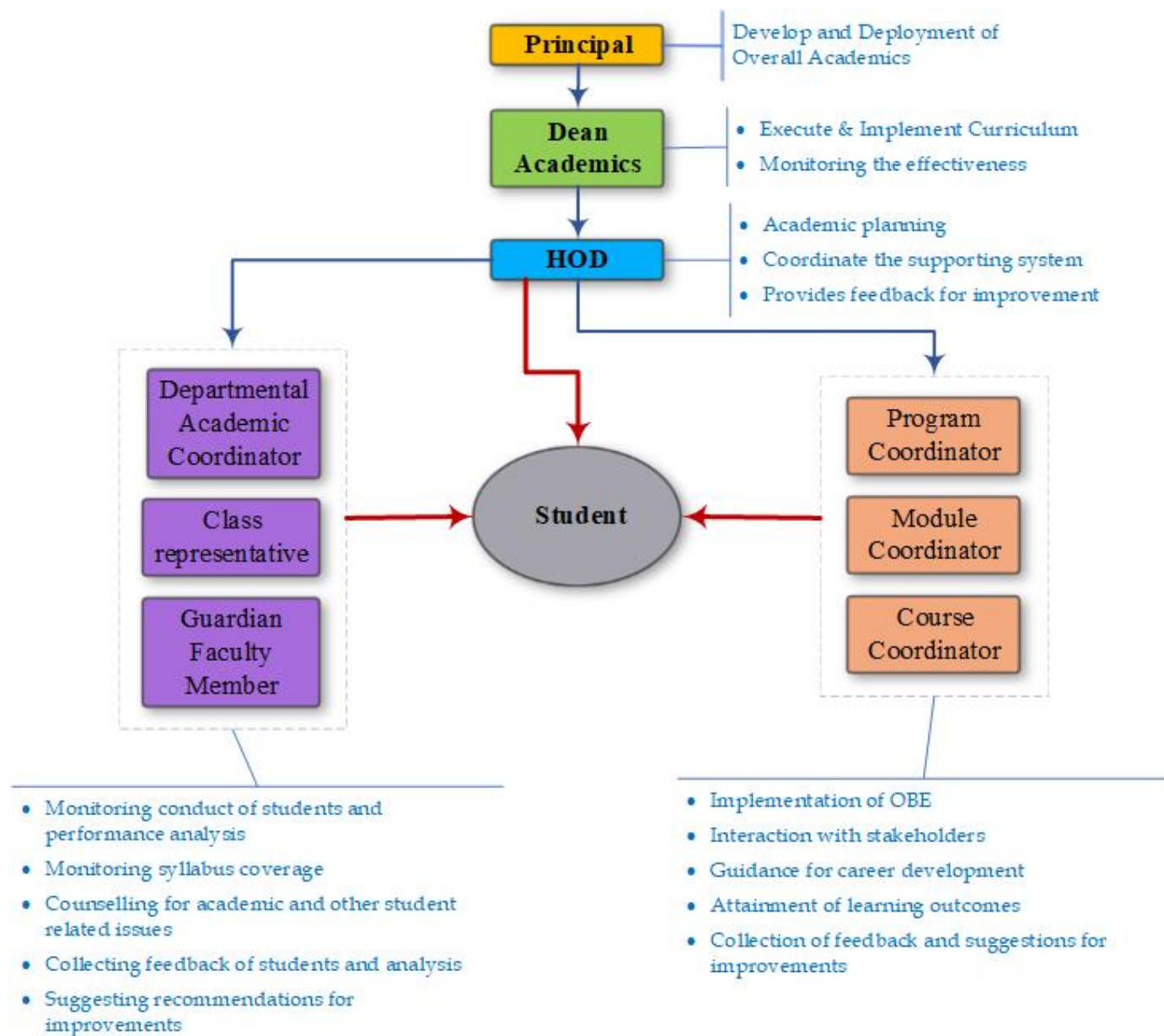


Fig- Multimonitoring System

**I. Administrative level:** Principal as a head of institute monitors whole system at the academic as well as at the administrative level. Under the guidance of Principal one faculty is deputed as Dean Academics (DA) at college level and one faculty from each department is appointed as departmental academic coordinator (DAC). DA is responsible to execute implement and monitor effectiveness of curriculum. DA and DAC prepare academic calendar at the beginning of each semester which includes different activities like tests, assignment execution, seminars, workshops, industrial visits, cultural-social-technical activities and schedule of meetings with Principal, academic coordinator and HOD. DAC is responsible for maintaining records of monthly attendance, status of syllabus completion and records of GFM activities. GFM is a guardian faculty member of a particular class who plays important role in mentoring of students, monitoring their attendance, preparation of monthly attendance. GFM also acts as mediator between institute and parents.

**II. Academic level:** In each department, different modules are formed as per the requirement which is controlled by the program coordinator. Each module is coordinated by module coordinator. For a particular course one faculty is appointed as a course coordinator. In the start of each semester, Faculty Development

Program is arranged to prepare teaching plan, practical plan, unit wise question bank, MCQs, assignments of respective subjects which is monitored by HOD. The advantages of implementing the multi monitoring system in institute is that it leads to an efficient exchange of information by following ways

- 1.Efficient lines of communication enhance productivity and allow for quick decision-making.
- 2.Heads are involved in the day-to-day operations, which allow them to make decisions through the viewpoint of subordinates.
- 3.This system helps in overall development, achievement of students which is beneficial for growth of the institute.

## **5. Evidence of success**

- Friendly interaction with stakeholders.
- Academic performance is increased.
- Smooth conduction of the academics.
- Team spirit among faculty and students.

## **6. Problems encountered and resource required**

- Time constraint for completion of the activity due to hectic schedule.

## **7. Motivation**

- Publicity by university rankers.
- Interaction between faculty and student is enhanced.
- Two hours are reduced from load of faculty members to get proper time for research and future plan of the institute.

## **Best Practice-2**

### **Title of the Practice- Social Awareness and Practice through National Services Scheme (NSS)**

NSS is an extension programme, an integral part of higher education. The College aspires to produce responsible engineering graduate and aware of social impact of engineering solution and contribution to national development.

### **Goal**

- To provide social dimension to the educational system and inculcate social responsibility and commitment in students
- To make competent engineers with the spirit of professionalism and responsible citizenship.
- To bring forth the team spirit and leadership qualities of the students and broaden their social outlook that will help them work for the welfare of the community

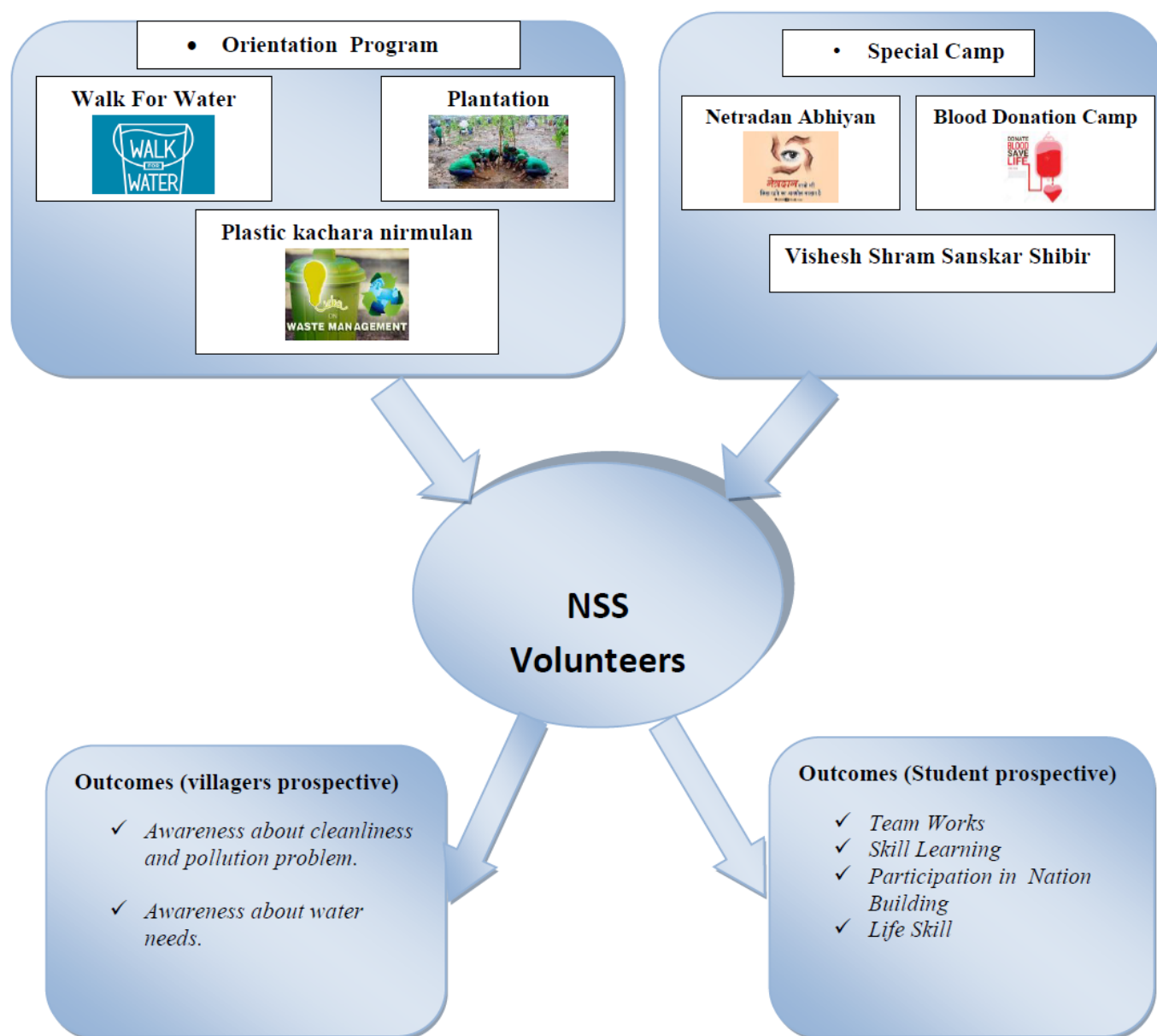
### **The Context**

Social service has a connotation of giving away things for free. This strategy seldom empowers the beneficiary. Instead, working out and implementing an engineering solution to a social problem enables the



beneficiary to stand on their own feet. In the process, the enabler as well as the enabled are empowered; the enabled because they are part of the solution and the enabler because they have learned engineering practices in a given context. In this case, our engineering students are the enablers and hence at the end of the day they become 'competent engineers with the spirit of professionalism and responsible citizenship.

## The Practice



The students are first made aware of NSS activity at the first year (FE) through introductory sessions. They start working on live NSS projects such as blood donation, tree plantation, Plastic kacharamuktabhiyan, Bharat swachaabhiyan, Health Checkup Camp, MahaNetradanAbhiyan, Nisarg Maitri and Mulyashikshan Shibir, Rashtriya Rasta Surksha Abiyan, Walk for Water, PUC Testing etc. and attend an residential camp in the month of December. NSS-TSSM's PVPIT has adopted Chikhalgaon, a village in the Pirangut area, This has helped in building a affinity with the villagers and understanding their problems. Activities undertaken by the students with the co-operation of the villagers for the development. The students groups

in the villages face several problems regarding access to education, health facility, drinking water supply, power supply and transport. Organizing awareness camps, meetings, conducting competitions and screening documentaries are the common techniques adopted by all the groups to perform their tasks and realize their goals.

#### **Evidence of Success -**

The services of NSS have yielded satisfactory results to various disciplines as fruits of their hard labour and selfless service. The outcome of the outstanding performances of NSS is highlighted below:

- Created good rapport with the village leaders and the people
- Imparted social and moral values
- Helped to create healthy and pollution - free villages ,city
- Given awareness of fatal diseases like AIDS.
- Tackled health hazards by maintaining good health and hygiene

#### **Outcome (Students)**

- They have been exposed to social problems.
- They have been aware of their responsibilities and commitment to the society.
- The peer group relationship has been improved.
- The volunteers have acted as instruments in bringing about social transformation.

#### **Problems Encountered and Resources Required -**

NSS group has found the public reluctant to involve themselves in the extension activities proposed by the college because of inadequacy of time and the necessity to earn their livelihood.

Financial and human resource constraints have restricted our activity to areas in and around.

Efforts have also been taken to solve these problems by representing them to the Panchayat Presidents and the officials concerned.

File Description	Document
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

## **7.3 Institutional Distinctiveness**

### **7.3.1 Describe/Explain the performance of the institution in one area distinctive to its vision, priority**

**and thrust****Response:****Robotics Club**

The institute devoted to imbibe skill development among the students to enhance the employability & entrepreneurship initiatives. The technological changes in outside world trigger the need to match the pace of engineering education. The institute sensitize the thrust area in Mechatronics which is fast developing technology.

Robotics Club is started by students group in 2013 & coordinated by senior faculty of domain expertise from mechanical, computer, E&TC, departments. Within short period of time the robotics club is popular among the students & it took proactive participation in competition like Robowar, Roborace, Robocon, E-bike, Go-cart, Supra, BAJA, & so on at state, national & International level.

At present stage the club is matured to offer short term courses on skill development to interested students community across the city.

**Objectives:**

1. To develop problem solving & design skills in robotics.
2. To update students about recent technological changes in industry.
3. To generate revenue through consultancy.
4. To enhance employment and entrepreneur ability.
5. To offer consultancy & product development services to external agencies & revenue generation.

**Facilities:**

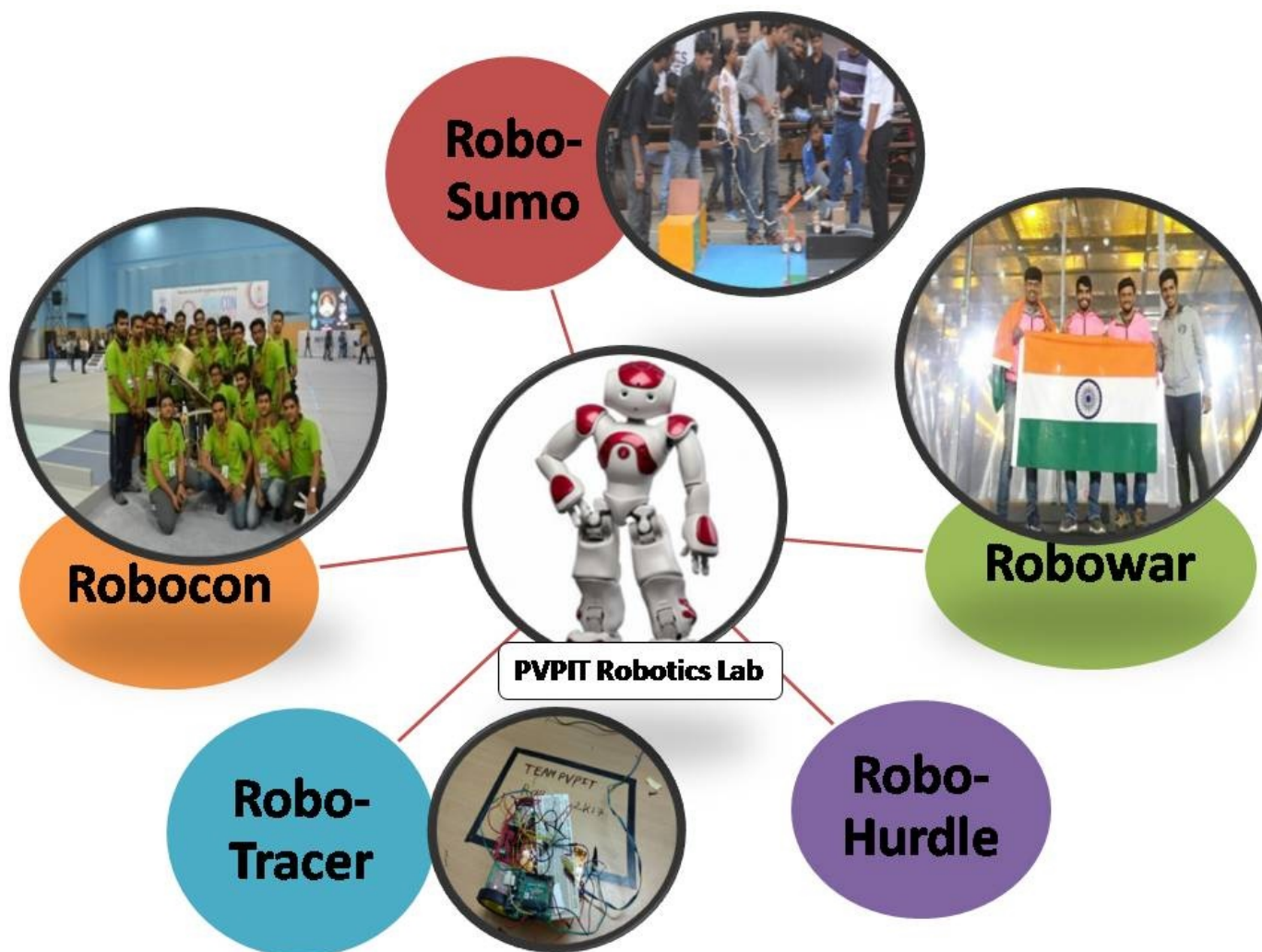
1. Hydraulic, pneumatic components
2. Computers, PCB Printing, Soldering, Sensors, software's.
3. Bench vice, grinder, drill, Files, cutters, tool box.
4. Central machine shop with CNC/Drill/ milling and Lathe
5. Geared motors, drivers, controllers, wheels.

**Fund Generation:** Rs.10,80,000

Funds provided by:

- TSSM Management
- Mechanical Engineering Students Association (MESA)
- Civil Engineering Students Association (CESA)
- Computer Engineering Students Association (CESA)
- Electronics Engineering Students Association (EESA)

**Actual Practice: Various activities done under robotics lab:**



**Outcomes & Achievements:** Team PVPIT have participated in robocon international competition held at balewadi stadium pune .Team have developed a specific task fulfilling robot and participated better in that competition.

Miss. Manasi Sawant participated in Robocon 2017, Gandharva 2017 (VIT Pune-Robosot & Track Mania-the robo competitions), Technovanza 2016,VJTI Mumbai- ,Robovr 2016, IIT Bombay.

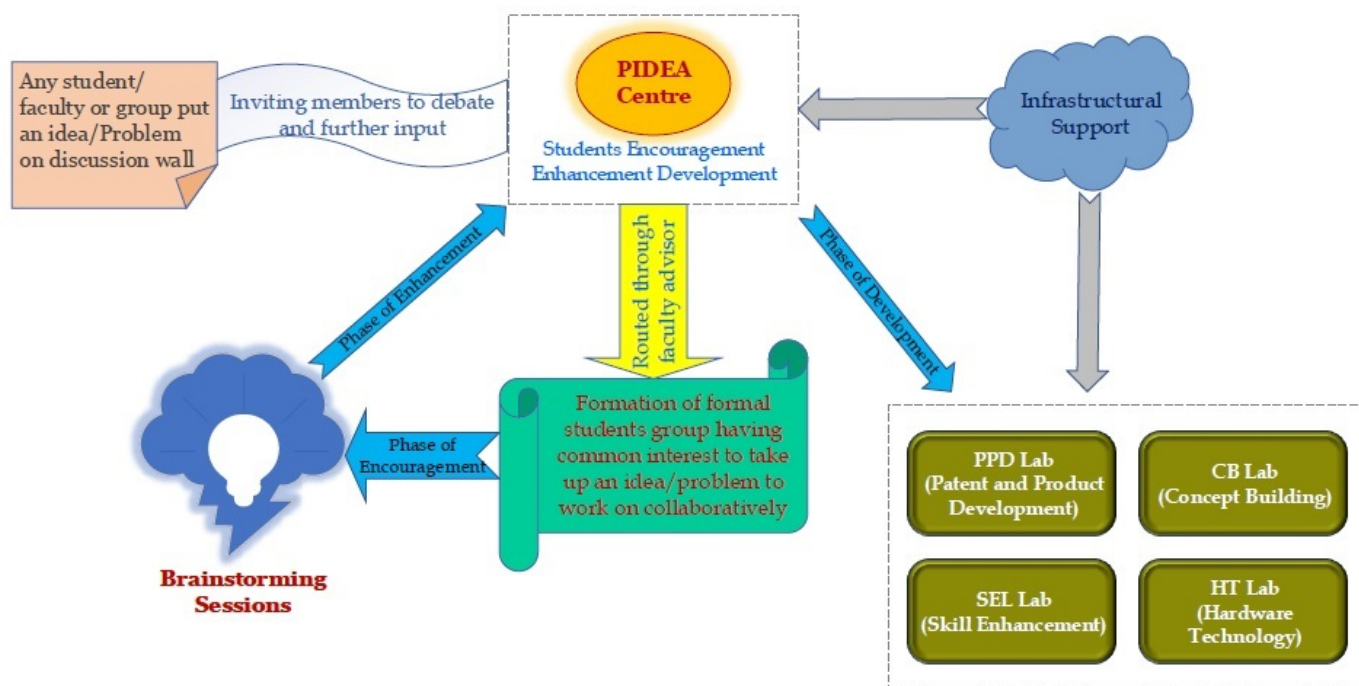
1. World cup robowar competition at china in 2017.-Third cash prize wonY 10,000 i.e. Rs. 96000.
2. International robowar competition 2013at IIT Mumbai-Won first prize
3. International robowar competition 2014 at IIT Mumbai-Won first prize
4. International robowar competition 2015 at IIT Mumbai-Won first prize
5. International robowar competition 2016 at IIT Mumbai-Won Third first prize

Thus the robotics club is the institute's distinct activity of institute which satisfies the aspirations of students by leading India in robowar competition.

**Current Development:**

- This year some students participated in robotics competitions held at VJTI Mumbai and IIT Mumbai.

- In future various robots will be made in this robotics club activity to participate & won the international competitions by making skilled engineers. This activity is helpful for student's placement & their carrier growth by making them skilled intelligent technocrats.
- To promote the interdisciplinary ideas innovation, products & projects; the institute established the PIDEA centre in 2017. This is students common interest group at institute level to showcase their talent at common platform.



File Description	Document
Any additional information	<a href="#">View Document</a>

## 5. CONCLUSION

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### **Additional Information :**

Engineering has always been an important driving force behind the technological innovations that metamorphose a country towards development, growth and prosperity. Reformation and restructuring of engineering education system became inevitable due to transformations brought by technological innovations globally. It became imperative to augment knowledge, amalgamate skills and values & integrate technology to stay competitive in the era of Globalization and Liberalization which propelled advancement in technology, management and social framework.

### **Concluding Remarks :**

Our institute is striving continuously for the mission of enhancing quality education. It is reflected in our teaching learning process for which we have dedicated faculty members who take keen interest in nurturing the students for development. The environment is conducive for the growth and students are given ample scope from the point of view of learning and enhancement of their skills so that they can participate in real life. We also give them facility for competitions in the outside world. The institute is proud to mention that our students have not only competed at the national level but are now competing at international level. Related to national development, regular programs are conducted for interaction with the people so that the societal issues can be addressed.

The quest for excellence is imbibed in our management and is reflected in various forms. The results speak well of our institution and the students are attracted because of the quality initiatives taken by the institution. We have a well maintained Guardian Faculty Member System and this system has a very good connect between faculty and students. This has given a major advantage from the alumni point of view. The alumni are now well placed in the various parts of the world and supporting the initiatives of the institution.