

Institute Code : D-3257 Vidya Prasarak Mandal's POLYTECHNIC (Accredited by : National Board of Accreditation, New Delhi\*) D. K. NAYAK 'Jnanadweepa', College Campus, Chendani, Bunder Road, Thane (w) 400 601 (M.S.) M E (Comp. Engg.), L M I S T E, M I E Tel. : +91 22 2536 4494, Telefax : +91 22 2533 9872 Principal email : vpmpoly@vpmthane.org URL : www.vpmthane.org email : dknayak@vpmthane.org Date Ref. No. VPM / Poly / 600 /2016-17 1 25.11.2016 Τo, The Member Secretary, National Board of Accreditation, NBCC Place, East Tower, 4th Floor, Bhisham Pitamah Marg, Pragati Vihar, New Delhi – 110 003, India. Sub : Submission of SAR Ref.: Application No. 1691-04/01/2016 Institute : Vidya Prasarak Mandal's Polytechnic Thane (W). 400 601 (MS) Programme : Diploma in Industrial Electronics With reference to the subject cited above, herewith we are submitting the Self Assessment Report (SAR) of Diploma Programme in Industrial Electronics. The said SAR has been uploaded in the NBA website http://www.nbaind.org and in our institute website www.vpmthane.org. The SAR copy is hereby submitted for kind consideration of Programme Assessment and Accreditation by NBA through the Peer team. : - <u>Tentative Suggested dates for Peer team Visit</u> -: Jan 27<sup>th</sup> - 30<sup>th</sup>, 2017 Feb 3<sup>rd</sup> - 5<sup>th</sup>, 2017 Feb 10<sup>th</sup> - 12<sup>th</sup>, 2017 Feb 17<sup>th</sup> - 19<sup>th</sup>, 2017 Feb 24<sup>th</sup> - 26<sup>th</sup>, 2017 Thanking You, Your's Faithfully, etnayale Prof. D. K. Nayak Principal : All India Council for Technical Education, New Delhi Approved by Directorate of Technical Education, Maharashtra State, Mumbai - 400 001. **Recognised** by : Maharashtra State Board of Technical Education, Mumbai - 400 051. Affiliated to • Chemical Engineering • Electrical Power System • Industrial Electronics • Instrumentation Diploma Programmes Offered : Information Technology
 Computer Engineering
 Medical Electronics

#### PROLOGUE About Vidya Prasarak Mandal, Thane

VPM Thane is an Educational Trust established in the year 1935, to encourage and give full scope of education in Thane and surrounding region for which there was limited facility during sixties. The Mandal started its first college in 1968-69 on a 13.5 acres marshy creek land gifted by the Government of Maharashtra for educational purposes. The Institutes of the Campus, enthusiastically and zealously cater annually to the basic needs of education of nearly 16,000 students from K.G to P.G through its Marathi and English Medium Schools, Arts, Commerce, Science, Law, Polytechnic, Management Studies, Information Technology Centre, Advanced Study Centre. The Campus provides State-Of-The-Art facilities to the students with the latest technologies to make them competent for the future career opportunities.

In the year 2012, VPM started an Engineering College at Velneshwar Village in Ratnagiri District for catering to the needs of rural population.

#### About the Polytechnic

Vidya Prasarak Mandal's Polytechnic Thane, the Self-financed Institute, was started by the Management in the year 1983. Polytechnic so far has trained over 9000+ diploma holders, 1000+ Advance Diploma Students, 5000+ Certificate course students. Important features include quality academic activities implementation, extensive co-curricular activities, National Conferences, Industrial visits, In-plant Training and Value Addition Programmes. Polytechnic, its students and staff have won awards at State and National level regularly. Institute is a trust worthy partner of Affiliating body Maharashtra State Board of Technical Education, Mumbai as a Project Institute for Curriculum Revision, Faculty Training lab Manual Development, Conduct of Semester Exams, Academic Monitoring, Career Fair and other activities. Institute has upgraded its Infrastructure, Faculty, Equipment's, and Teaching Learning process from time to time to meet changing technology needs and industry expectations.

# Polytechnic Journey so far.....

: 1983
: 1994
: 2004
: 2009
: 2009, 2015

## Major Achievements

Year	Activity	
1983	Polytechnic started with four Diploma Programmes - Chemical Engineering,	
	Electrical Power Systems, Industrial Electronics and Instrumentation.	
1987	Inauguration of <b>First Computer Centre</b> by Mr. M.G. Nayak, IAS, Deputy	
1097	First Edition Delytechnic Magazine <b>Delyzine</b> Dublished	
1987	First Edition Polytechnic Magazine – Polyzine- Published.	
1987	Foundation Stone laid for Polytechnic Buildings.	
1987	Basic Training Centre for Trade Apprentices from Chemical Industries- NOCIL,	
	BAYER,PIL, Herdillia, Chemicals, NRC, Savita Chemicals, Gharda Chemicals Ltd.	
	(AOCP & MMCP) approved by Board of Vocational Education, Maharashtra.	
1989	Visit of State Government Team for Polytechnic Gradation. Received 'A' Grade.	
1989	Student Chapter of Instrument Society of America with 33 Student Members.	
	First ISA student Chapter in India.	
1990	First Two days Seminar on Process Control Instrumentation	
	Chief guest-Mr. C.S. Joshi (M.D)Ornate Chemicals Ltd.	
1990	Started Advance Diploma in Computer Software System Analysis and	
	Applications Course affiliated to MSBTE and Certificate Course in Computer	
	Operation Affiliated to DVET.	
1991	Felicitation of Mr. P.S. Deodhar- President of APLAB Ltd. for receiving the	
	prestigious US Award Engineering Manager from Management Society of	
	America.	
1992	Inauguration of Indian Society of Technical Education Chapter.	
	Chief guest – Prof. B.B. Chopane – Director, Technical Education, Maharashtra State.	
-	State.	
2000	Millennium Information Technology Exhibition inaugurated by Hon'ble Union	
	Minister Information Technology & Parliamentary affairs Mr. Pramod Mahajan.	
2001	Start of Diploma in <b>Information Technology</b> .	
2002	Start of Diploma in Computer Engineering, Advance Diploma in Industrial	
	Safety	
2003	Polytechnic Principal Prof. S.S. Mujumdar nominated as Member of Board of	
	MSBTE, Mumbai.	
2004	First NBA Accreditation of four Programmes, w.e.f 17/3/2004 for the period of 3	
	years.	
2004	One-day National Seminar on <b>Pollution of Water Bodies in Urban Area</b> on 8 <sup>th</sup>	
	August 2004 supported by AICTE, New Delhi.	
2004	Start of Diploma in Medical Electronics.	
2005	Visit of Infosys founder Mr. N.R. Narayanamurthy as a Key Note Speaker at the	
	Conference Challenges to Indian Multinationals.	

2005	Received AICTE Grant of Rs. 5,00,000/-AICTEMODROBS Grant to Electrical	
	Power System Department	
2006	Prof. D.K. Nayak, Principal nominated as Member of Governing Council,	
	Board of Apprenticeship Training Western Region, Mumbai.	
2006	ISTE Best Project Award to Mr. Ramiz Pojee and team for Project on Biometrix	
	OS Defense Shell guided by Dr. Mrs. Usha Raghavan.	
2006	Installation of Automatic Weather Stations (AWS), developed and maintained by	
	India Meteorological Department (IMD) Government of India.	
2009	ISTE-NarseeMonjee Award for Polytechnics in Maharashtra State for the year	
	2009, for Best overall performance.	
2009	V.P.M.'s Polytechnic, Thane received Best ISTE-Chapter in Maharashtra-Goa	
	for the year 2009.	
2009	District Level Energy Park developed with the partial grant of Rs.4.75 lakhs from	
	Ministry of New and Renewable Energy, New Delhi.	
2009	Prof. D.K. Nayak, Principal received Fulbright-Hays Federal Assistance Award	
	of U.S. Department of State at Salzburg Seminar Session 463 on Greening the	
	Minds: Universities, Climate Leadership, and Sustainable Futures, Salzburg,	
	Austria for the paper title Renewable Energy Efforts - Special Focus on	
	reduction of Global Warming.	
2009	Start of Advance Diploma in Energy Management & Audit	
2009	Indian Nuclear Science National Seminar on "Atomic Energy for the National	
2007	Development"	
2011	Start of Entrepreneurship Development Cell.	
2011		
2012	MSBTE Letter of Appreciation for Excellent Academic Performance in all the	
&	Diploma and Two Advance Diploma Programmes.	
2013		
2013	<b>IOSH, UK Graduate Membership Accreditation</b> for Advance Diploma in	
2014	Prof D K Navak Principal received ISTE Danganathan Engineering College	
2014	<b>FIGURE DATA AND A STREAM AND AND AND AND AND AND AND AND AND AND</b>	
	National Award for Best Polytechnic Principal at the 44 <sup>un</sup> ISTE National Annual convention.	
2015	Annual convention.	
2015	Received ISTE Narsee Monjee Student Project Award by Sharaddha Kamble,	
	Visnal Raut, Monak Bengale, Divyesh Jain students of Inird year	
2015	Instrumentation department for the project Thermostat Life Testing.	
2015	15 1E-Narsee Monjee Award for Polytechnics in Manarashtra State for the year	
2015	2015, for Best overall performance.	
2015	Received MISBIE Best Laboratory Award to Polytechnic Electrical Power	
2015	System department.           MSRTE Lattor of Approxistion for Evaluat Academic Deformance	
2015	MSBIE Letter of Appreciation for Excellent Academic Performance.	
2016	Master. Soham Kulkarni of Final year Industrial Electronics represented	
	Polytechnic for International Competition Mostratec, an International Science	
	and Technology Fair held in Brazil for his project Smart Building Automatic	
	Controller guided by Mrs.K.S.Agashe. He also won the ISTE Narsee Monjee	
	National Award for Best Project done by the Polytechnic students.	
2016	Dr. (Mrs.) G. S. Ingawale, Sr. Lecturer received Indian Patent for her Invention	
	in Measurement of Potential & Chemical Kinetics of Lantadene by using	
	immobilized Enzyme.	

Year	Activity
2006	Mrs. S.S. Kulkarni received ISTE L&T National Award Best M. Tech. Thesis in
	Electrical and Electronics Engineering.
2008	Prof. D.K. Nayak, Principal received Rajarambapu Patil National Award for
	Promising Engineering Teacher (below 50 years of age) for creative work done in
	Technical Education (Polytechnics) from Indian Society for Technical Education
	(ISTE), New Delhi
2013	Dr. Usha Raghavan, Head of Information Technology Department has been conferred
	ISTE U.P. Government National Award for an outstanding work done in specified
	areas of Engineering and Technology for the year 2013 at 43 <sup>rd</sup> ISTE National Annual
	Convention held at T.K.I.E.T. Warananagar, Kolhapur, Dist-Maharashtra.
2014	Dr. Mrs. Geetali S. Ingawale, Sr. Lecturer, honored with ISTE Best Polytechnic
	Teacher Award for the year 2014 for Maharashtra and Goa States in the 44 <sup>th</sup> ISTE
	National Annual convention.
2014	Mrs. Sujata M. Gupte, Controller of Examination placed Second Position in Zonal
	level ISTE Srinivasa Ramanujan Mathematics Competition 2014-2015 and placed
	Third Prize in National level.
	Ms. Amisha Mestry, Lecturer in Industrial Electronics Department placed Second
	Position in Zonal level ISTE Srinivasa Ramanujan Mathematics Competition 2014-
	2015.
	Ms. Rizvi Fatima Ismat, Lecturer in Mathematics placed First Position in Zonal level
	ISTE Srinivasa Ramanujan Mathematics Competition 2014-2015 and placed Fourth
	Prize in National level.
2015	Mrs. Santhi M. Laguduva. Lecturer, Industrial Electronics Department received
	ISTE – L & T National Award for Best M. Tech Thesis in Electrical & Electronics
	Engineering 2015.

## **ISTE Staff Awards**

## **Staff Paper Presentation Awards**

Year	Activity	
2006	Prof. D.K. Nayak, Principal presented paper Socio-economic aspects of Hydrogen	
	Energy-Indian Perspective at the Plenary session of International Forum Hydrogen	
	Technologies for Energy Production at Moscow, Russia Supported by AICTE, New	
	Delhi.	
2011	Prof. D.K. Nayak, Principal received Best Paper Award for the paper title Renewable	
	Hydrogen Fuel for automobiles at National level Conference on Emerging trends in	
	Technology at BVIT-Navi Mumbai.	
2011	Mrs. K.S. Agashe, Head of Industrial Electronics Department received Best Paper	
	Award for the paper title Future Non-volatile Memory option in VLSI: Memristor at	
	Agnel Polytechnic, Vashi.	
2013	Mrs. Radhika Kamath, Lecturer, Information Technology Department received 1st	
	Prize for the paper title Grid & Distributed Networks to handle Mammoth Tasks at	
	National Conference on Emerging Trends in Technology.	
2014	Mrs. K.S. Agashe, Head of Industrial Electronics Department received Second Prize	
	for the paper title Simulated Resistive switching behavior of Memristor at BVIT,	
	Kharghar, Navi Mumbai.	
2015	Ms. Latasha Keshwani, Lecturer, Industrial Electronics Department received Best	
	Paper Award for the paper title Face Recognition using Radial Curves & Back	
	Propagation Neural Network at International Conference on Advances in Science and	
	Technology. (ICAST-2015) organized by Saraswati College of Engineering, Kharghar	
2015	Mrs. S.D. Khandagale, Lecturer in Instrumentation received First Prize for the paper	
	title Intelligent Approach for Motor Control at National Conference-Vision - 2015 at	
	BVIT, Kharghar, Navi Mumbai.	

Year	Name of the Student	Course	Percentage	MSBTE Rank
1996	Ms. Joshi Bhakti B.	Electrical Power System	79.91 %	First
1996	Mr. Oak Parag V.	Electrical Power System	79.45 %	Second
1996	Mr. Deshmane Mahesh J.	Instrumentation	80.27 %	First
1997	Mr. Bafna Milind B.	Chemical Engineering	81.96 %	First
1997	Mr. Narkar Chandan K.	Industrial Electronics	82.77 %	First
1997	Mr. Hande Tushar T.	Electrical Power System	78.82 %	Second
1997	Mr. Buddhikot Mandar D.	Electrical Power System	78.27 %	Third
1998	Mr. Inamdar Mandar S.	Electrical Power System	72.98 %	First
1999	Mr. Lamkhande Dattaram T.	Electrical Power System	77.17 %	First
1999	Mr. Girkar Jayesh H.	<b>Electrical Power System</b>	72.78 %	First
2001	Mr. Narkar Vyankatesh V.	Industrial Electronics	84.29 %	Sixteenth
2002	Ms. Narkar Kirti Kamlakar	Industrial Electronics	85.14	Sixteenth
2004	Mr. Zingre Shreyas R.	<b>Electrical Power System</b>	83.31 %	First
2005	Mr. Kher Vaibhav	<b>Electrical Power System</b>	87.54 %	First
2006	Mr. Gokhale Kedar Dilip	<b>Electrical Power System</b>	87.00 %	First
2006	Mr. Rangari Rameez Anwar	Chemical Engineering	78.96 %	Second
2007	Mr. Mukadam Jasim Wazir	Chemical Engineering	82.00%	Second
2008	Mr. Singh Shashank S.	Information Technology	89.58%	Second
2008	Ms. Sarangdhar Grishma D.	Chemical Engineering	83.04%	Third
2009	Mr. Waghmare Abhijit Arun	Chemical Engineering	89.06 %	Second
2014	Ms. Vaity Priya Jitendra	Information Technology	91.56 %	Third

## **MSBTE State Level Toppers**

List of National Conferences organized since 2004

Date & Year	Name of Conference
8 <sup>th</sup> August 2004	Pollution of Water Bodies in Urban Area
27 <sup>th</sup> & 28 <sup>th</sup> August 2005	Alternative Energy Sources
8 <sup>th</sup> & 9 <sup>th</sup> December 2006	Geo – Informatics
3 <sup>rd</sup> February 2007	Innovations in Safety, Health and Environment
5 <sup>th</sup> January 2008	Latest Trends in Nano Technology
18 <sup>th</sup> October 2008	Corrosion Prevention through advanced technologies
10 <sup>th</sup> January 2009	Biometrics, RFID and Emerging Technologies for Automatic Identification
19 <sup>th</sup> September 2009	Advancements in Medical Instrumentation
10 <sup>th</sup> October 2009	Safety Practices for Peace, Productivity and Profits
3 <sup>rd</sup> July 2010	Broader Perspectives of Language, Thinking and Technology
23 <sup>rd</sup> October, 2010	Technology – a Strategy for Safety in Infrastructure
20 <sup>th</sup> August 2011	Future Power Systems for Green & Clean World
15 <sup>th</sup> October 2011	Progress and Prosper through Entrepreneurs & Intrapreneurs
5 <sup>th</sup> January 2013	Emerging Trends in Solar Technologies
4 <sup>th</sup> January 2014	Process Safety Management
16th & 17th January 2015	Next Generation Electronic
7th February 2015	Industry Expectation from safety Managers
19 <sup>th</sup> December 2015	Life Safety - Today & Tomorrow
17 <sup>th</sup> December 2016	Environment, Health & Safety

## Legend

ACH	Applied Science(Chemistry)
AIE	Advanced Industrial Electronics
AMS	Applied Mathematics
APH	Applied Science(Physics)
BMS	Basic Mathematics
BSC	Behavioral Science
CHN	Computer Hardware and Networking
CMF	Computer Fundamentals
CMS	Communication Skills
CSS	Control Systems
CSY	Control Systems
DCN	Data Communication and Networking
DCS	Distributed Control System
DLS	Development of Life Skills
DTH	Direct to Home
ECH	Basic Science(Chemistry)
EDC	Electronics Devices and Circuits
EDD	Embedded Systems
EDP	EDP & Project
EEN	Electrical Engineering
EEW	Electronic Workshop
EEX	Elements of Electronics
EGG	Engineering Graphics
EIM	Electronic Instruments and Measurements
EMS	Engineering Mathematics
ENG	English
EPH	Basic Science(Physics)
EST	Environmental Studies
ESY	Embedded Systems
IAU	Industrial Automation
IDR	Industrial Drives
IEA	Industrial Electronics and Applications
IME	Industrial Measurements
INA	Industrial Automation
IPD	Industrial Project and Entrepreneurship Development
IPR	Industrial Project
LIC	Linear Integrated Circuits
MAN	Management
MEE	Maintenance of Electronic Equipment
MIC	Microcontroller
MSBTE	Maharashtra State Board of Technical Education

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OR	Oral
PCA	Principles of Computer Architecture and Maintenance
PCS	Principles of Communication Systems
PDT	Principles of Digital Techniques
PEL	Power Electronics
PIC	Programming in C
PLC	Programmable Logic Controller
PPO	Professional Practices-I
PPR	Professional Practices-V
PPS	Professional Practices-VI
PPT	Professional Practices
PR	Practical
SCADA	Supervisory Control And Data Acquisition System
SSO	Simulation Software
TW	Term Work
VBA	Visual Basic
VLS	Very Large Scale Integration
WPX	Basic Workshop Practice

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1. Name and Address of the Institution	: Vidya Prasarak Mandal's Polytechnic
	Building No. 1, 'Jnanadweepa', College
	Campus, Chendani Bunder Road,
	Thane (W) - 400601
	Maharashtra State, India.
2. Name and Address of the	: Directorate of Technical Education,
Directorate of Technical Education	Mumbai, Maharashtra State, 3,
	Mahapalika Marg, Post Box No.1967,
	Mumbai - 400001.
3. Year of Establishment	: 1983
4. Type of the Institution	:
University	
Deemed University	
Autonomous	
Affiliated	Maharashtra State Board of Technical Education, Mumbai
Any Other	
5. Ownership Status	:
Central Government	
State Government	
Government Aided	
Self-Financing	✓ Educational Trust
Trust	
Society	
Section 25 Company	
Any Other (Please Specify)	

## **PART A: Institutional Information**

Name of the Institution	Year of Establishment	Programs of Study	Location
V.P.M's Dr. Bedekar Vidya Mandir Marathi Medium School (Aided)	1957	Junior K.G to SSC	Thane
V.P.M's K.G. Joshi College of Arts and N.G. Bedekar College of Commerce	1969	HSC, B.A, B.Com, BMM, BMS, B.Lib., M.Lib., M.A, M.Com, Ph.D., Community College	Thane
V.P.M's B.N. Bandodkar College of Science	1969	HSC, B.Sc, B.Sc(IT), M.Sc, M.Sc(IT)	Thane
VPM's Thane Municipal Corporation (TMC) Law College	1972	LLB	Thane
V.P.M's Sau. A.K. Joshi English Medium School (Unaided)	1976	Junior K.G to SSC	Thane
V.P.M's Advanced Study Centre	1996	Applied Analytical Chemistry, Regulatory Affairs, Gardening & Landscape Designing, Applications Of Statistics, Hospital administration	Thane
V.P.M's Polytechnic, Information Technology Centre	2000	ADCSSAA, Industrial Safety, Energy Management, Certificate courses - MS-CIT, Tally ERP9, Programming in C	Thane
V.P.M's Dr. V.N. Bedekar Institute of Research & Management Studies	2005	MMS, PGDM	Thane
V.P.M's Centre for Foreign Language Studies	2008	Certificate courses in French, German, Japanese, Chinese (Mandarin)	Thane
V.P.M's Department of Defense and Strategic Studies	2008	Publications on Internationalization of Education	Thane
V.P.M's Academy of International Education and Research	2009	Educational tour to UK, Singapore, Participation in International Competitions	UK, China, Brazil, Sweden
V.P.M's Maharshi Parshuram College of Engineering	2012	Civil Engg, , Electrical Engg, Electronics and Communications, Instrumentation Engg, Mechanical Engg	Velneshwar, Ratngiri

6. Other Academic Institutions	s of the Trust/	Society/etc., if any :
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Sr. No.	Program Name	Year of Commencement	Intake Capacity	Year of Change in Intake	Increase / Decrease	AICTE Approval	Accreditat ion Status*
1	Diploma in Chemical Engineering (CH)	1983	60	2005	30	Yes	Yes*
2	Diploma in Electrical Power Systems (EP)	1983	30	1997	60	Yes	Yes*
3	Diploma in Industrial Electronics (IE)	1983	60			Yes	Yes*
4	Diploma in Instrumenta tion (IS)	1983	30	2011	60	Yes	Yes*
5	Diploma in Information Technology (IF)	2001	30	2002	60	Yes	No
6	Diploma in Computer Engineering (CO)	2002	40	2003	60	Yes	No
7	Diploma in Medical Electronics (MU)	2005	60			Yes	No

## 7. Details of all the programs being offered by the institution under consideration:

## \* First NBA Accreditation for 3 Years Period w.e.f. 19-03-2004

S.	Program Name
No.	
1	Diploma in Computer Engineering
2	Diploma in Information Technology
3	Diploma in Electrical power System
4	Diploma in Industrial Electronics
5	Diploma in Instrumentation

#### 8. Programs to be considered for Accreditation vide this application

## 9. Total number of Employees

#### A. Regular\*faculty and Staff

Items		CAY		CAY	Ym1	CAYm2	
		15-16		14	-15	13-14	
		Min	Min Max		Max	Min	Max
Faculty in	Μ	02	02	02	02	02	02
Engineering &	F	12	12	12	12	12	12
Technology							
Faculty in Sciences	Μ	01	01	01	01	01	01
& Humanities	F	02	02	02	02	02	02
Non-teaching Staff	Μ	19	20	21	20	20	22
	F	10	12	12	13	13	13

#### **B.** Contractual Staff

Items		CAY		CA	Ym1	CAYm2	
		Min	Max	Min	Max	Min	Max
Faculty in Engineering & Technology	Μ	05	05	05	05	09	09
	F	34	36	35	38	33	36
Faculty in Sciences	Μ	0	0	01	01	01	01
& Humanities	F	06	06	05	06	06	06
Non-teaching Staff	Μ	11	11	08	12	07	06
	F	12	14	10	10	09	11

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Items	CAY			CAYm1			CAym2		
	15-16			14-15			13-14		
	R	Т	G	R	Т	G	R	Т	G
Total no.	673	30	703	610	29	639	775	25	800
of boys									
Total no.	370	31	401	397	28	425	397	30	427
of girls									
Total	1043	61	1104	1007	57	1064	1172	55	1227
no. of									
students									

### 10. Total number of Students

#### • R- Regular, T- Tuition Fees Waiver Students, G- Grand Total

#### 11. Contact Information of the Head of the Institution and NBA Coordinator

#### i. Head of the Institution

- Name : Prof. D.K. Nayak
- Mobile No. : 9004690478

Email id : <u>dknayak@vpmthane.org</u>

#### ii. **NBA** coordinator

Name	: Dr. (Mrs.) Usha Raghavan
Designation	: Head Information Technology Department
Mobile No.	: 9920735746
Emailid	

#### Email id : <u>usharagha@gmail.com</u>

## PART B: Criteria Summary

Criterion No.	Criterion	Marks/Weightage					
	Program Level Criteria						
1.	Vision, Mission and Program Educational Objectives	50					
2.	Program Curriculum and Teaching –Learning Processes	200					
3.	Course Outcomes and Program Outcomes	100					
4.	Students' Performance	200					
5.	Faculty Information and Contributions	150					
6.	Facilities and Technical Support	100					
7.	Continuous Improvement	75					
	Institute Level Criteria						
8.	Student Support Systems	50					
9.	Governance, Institutional Support and Financial Resources	75					
	Total 1000						

#### Name of the program: INDUSTRIAL ELECTRONICS

<b>CRITERION 1</b>	Vision, Mission and Program Educational Objectives	50
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#### **1.1. State the Vision and Mission of the Department & Institution (5)**

Institute Vision: Ensuring Skill development through Quality Technical Education.

#### Institute Mission:

- Imparting creative learning by Innovative Methodologies to expose the talents by the way of MSBTE Curriculum
- Develop Technical Skills and Professional Ethics with Entrepreneurial spirit through conducive environment
- Cultivate lifelong learning skills to face challenges with Innovation

**Department Vision:** Ensuring quality electronics engineering education for the benefit of society

#### **Department Mission:**

- To provide the best technical learning environment for the completion of industrial electronics curriculum with strong emphasis on concepts and fundamentals
- To empower students with latest trends in electronics and multidisciplinary engineering with the help of industry and alumni
- To motivate and encourage professional skills of students and faculty
- Undertaking collaborative projects for long-term industry institute interaction and research innovations

#### **1.2. State the Program Educational Objectives (PEOs) (5)**

- Educate and develop human resources with quality technical skills and ethical values required in industry and service sector
- Develop and enhance cognitive skills, hands on skills and logical thinking for implementing fundamental scientific concepts in engineering applications

- Improve the communication skills, presentation skills, learning abilities and managerial skills
- Develop leadership and entrepreneurship skills among students and faculty through collaborative educational and research programs
- Promote innovative ideas and technology up gradation skills essential for multidisciplinary functioning

# **1.3.** Indicate where and how the Vision, Mission, and PEOs are published and disseminated among stakeholders (10)

- Industrial electronics department has framed Vision, Mission and PEO statements for the declaration of department objectives
- The vision, mission, and PEOs are published on Institute website (http://www.vpmthane.org/polywebnew/vissionandmission.html), Department alumni database website (http://vpmsalumni.appeteria.com/) Department notice boards, laboratory notice boards, CIAAN and annual magazine of polytechnic for its effective awareness and dissemination among the internal and external stake holders.
- The vision/mission/PEO statements are also printed on the following documents:
  - 1. Industry- Institute correspondence
  - 2. Guest/ Expert lecture correspondence
  - 3. Final year project completion certificate
  - 4. Certificates issued by department after conduction of continuing education program / revenue generation program
  - 5. Implant training center's correspondence
  - 6. Alumni correspondence
  - 7. All official correspondence

# **1.4.** State the process for defining the Vision and Mission of the Department and PEOs of the Program (15)

The process of defining Vision, Mission and Program Educational Objectives was initiated with the introduction of the terminology to the department staff members including teaching faculty, lab assistant, and non teaching staff.

#### A) Vision and Mission defining

The process of defining Vision and Mission of department comprises of two steps:

- 1. Process formulation
- 2. Notification and Implementation

The process is briefly summarized and graphically represented below:

- 1. Introduction to the terminology Vision and Mission
- Correlating the curriculum and expectation of industry for the definition of Vision and Mission
- 3. Brain storming session and discussion with the stake holders
- 4. Framing the Vision and Mission statement for Industrial Electronics department

### B) Program Educational Objectives (PEOs) defining

The process of defining PEOs of the department is briefly summarized as below:

- 1. Introduction to the terminology of Program Educational Objectives (PEOs)
- 2. Correlating the curriculum and expectation of industry for the definition of PEOs
- 3. Discussion on the rationale, general objectives, learning structure and development skills mentioned in the MSBTE program curriculum
- 4. Brain storming session and discussion with the stake holders for framing of PEOs
- 5. Framing of five PEO statements for Industrial Electronics Department
- 6. Notification of PEOs in CIAAN, Department alumni database website (<u>http://vpmsalumni.appeteria.com/</u>) and notice board and its implementation.

#### Flow chart for defining Vision and Mission process:



#### Flow chart for defining Program Educational Objectives:



#### **1.5.** Establish consistency of PEOs with Mission of the Department (15)

Matrix for consistency of PEOs with Mission:

PEO Statements	<b>M1</b>	M2	M3	M4
<b>PEO1:</b> Educate and develop human resources with quality technical skills and ethical values required in industry and service sector	3	3	3	3
<b>PEO2:</b> Develop and enhance cognitive skills, hands on skills and logical thinking for implementing fundamental scientific concepts in engineering applications	3	2	3	3
<b>PEO3:</b> Improve the communication skills, presentation skills, learning abilities and managerial skills	3	3	3	3
<b>PEO4:</b> Develop leadership and entrepreneurship skills among students and faculty through collaborative educational and research programs	3	2	3	2
<b>PEO5:</b> Promote innovative ideas and technology upgradation skills essential for multidisciplinary functioning	3	2	2	3

**M1**-: To provide the best technical learning environment for the completion of industrial electronics curriculum with strong emphasis on concepts and fundamentals

M2-: To empower students with latest trends in electronics and multidisciplinary engineering with the help of industry and alumni

M3-: To motivate and encourage professional skills of students and faculty

M4-: Undertaking collaborative projects for long-term industry institute interaction and research innovations

	M1	M2	M3	M4
Matrix	3	3	3	3
Grade				
PEO1:	Justification:	Justification:	Justification:	Justification:
Educate and	Well-equipped	Conducting	Workshops	Consistent
develop	laboratories and	training	conducted for	Industry-Institute
human	class rooms are	programs and	students (08) in	interaction
resources with	available.	workshops for	last 3 years.	Remarkable
quality	Effective	empowering	Regular training	research initiative
technical	teaching	students with	of faculty :	by faculty and
skills and	learning based	latest trends in	04 (2013-14)	student getting
ethical values	on	electronics	07 (2014-15)	appreciation at
required in	fundamental		08 (2015-16)	national and
industry and	concepts			international level.
service sector				International
				Collaboration for
				research:01
				(2013 till date)
	Scope for	Scope for	Scope for	Scope for
	improvement:	improvement:	improvement:	improvement:
	Maintaining	Consistency	Consistency in	Consistency in
	the best	for upgrading	motivating and	undertaking
	teaching	the students in	encouraging	collaborative
	learning	latest	professional	projects
	environment	technology	skills of students	
		trends	and faculty	

## Consistency matrix for PEO1 and Mission

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	M1	M2	M3	M4
Matrix Grade	3	2	3	3
<b>PEO2:</b> Develop and enhance cognitive skills, hands on skills and logical thinking for implementing fundamental scientific concepts in engineering applications	Justification: Best technical learning facilities provided for enhancing cognitive skill, hands on skills and logical thinking expected in curriculum	Justification:       Justification:       Justification:         Best technical       Planning and       Image: Comparison of the system of the sys		Justification: 1.Consistent development of hands on skill in collaboration with Industry 2.Remarkable achievement in logical thinking exhibited by faculty and student at national level (Two faculties and one student received Srinivasa Ramanujan Mathematics competition award under ISTE chapter)
	Scope for improvement: Consistency in development of cognitive skills, hands on skills and logical thinking	Scope for improvement: Conduction of sessions for improving the logical thinking and its implementation in multidisciplinary engineering	Scope for improvement: Continued motivation to maintain the professional skill development	Scope for improvement: Maintaining the attainment level steady with consistent efforts

## Consistency Matrix for PEO2 and Mission

	M1	M2	M3	M4
Matrix Grade	3	3	3	3
<b>PEO3:</b> Improve the communication skills, presentation skills, learning abilities and managerial skills	Justification: 1. Improvement in communication skills, presentation skills and learning abilities by effective completion of curriculum 2.Development of managerial skills during the organization of Entrepreneur Development cell 3.ISTE student chapter, Annual magazine publication and cultural activities help for the development of managerial skills and presentation skills	Justification: Development of learning abilities with the help of latest electronics technology	Justification: Motivation given by institute for presenting paper in conferences and journals for improving the professional skills of students and faculty (No of papers published by faculty and students is 38 and 10 respectively )	Justification: A good research initiative and efforts by faculty exhibiting good learning abilities and managerial skills Research funding:05 (From IIT Bombay and IUAC New Delhi)
	Scope for improvement: Consistent efforts for development of communication skills with the help of language lab	Scope for improvement: Additional guidance for improving presentation and communication skills	Scope for improvement: Consistent motivation for improving presentation skills	Scope for improvement: Consistent efforts for industry institute interaction and collaborative research

## Consistency matrix for PEO3 and Mission

	M1	M2	M3	M4
Matrix Grade	3	2	3	2
PEO4: Develop	Justification:	Justification:	Justification:	Justification:
leadership and	Participation of	1.Regular	1.Training of	1.Leadership
entrepreneurship	students in	interaction with	faculty for	skills are
skills among	planning and	alumni to update	leadership and	enhanced by
students and	implementation	the students on	personality	undertaking
faculty through	of various	latest trends in	development	international
collaborative	technical	technology	2.Facilities	collaborative
educational and	learning events	2.Industry expert	provided to	research
research	for the	lectures for	faculty for	2.Student
programs	development of	enhancing	education	entrepreneurship
	leadership	multidisciplinary	upgradation	skill developed
	quality	engineering	(7 Faculties in	by undertaking
	(Automatic	knowledge	last 3 years)	industry based
	Weather Station	(Implant training	3.Facilities	projects
	Visit, Funtronics	activity for	provided to	(total number of
	workshop,	second year and	students for	MOUs in last 3
	Circuit making	third year	participation	years: 4)
	competitions)	students)	in paper	
			presentation,	
			project and	
			quiz	
			competitions	
	Scope for	Scope for	Scope for	Scope for
	improvement:	improvement:	improvement:	improvement:
	Planning of	1. Training on	Continued	More
	different	multidisciplinary	motivation for	Collaborative
	activities in	engineering is	upgrading	research and
	future to	needed.	professional	industry based
	develop	2.Continued	skills of	project
	leadership and	association with	students and	development in
	entrepreneurship	alumni and	faculty	future
	skills among	industry is		
	students	needed for		
		availing implant		
		training facility		

## Consistency matrix for PEO4 and Mission

	M1	M2	M3	M4	
Matrix Grade	3	2	2	3	
PEO5: Promote	Justification:	Justification:	Justification:	Justification:	
innovative ideas	Upgraded	Exposure of	More	Faculty and	
and technology	technology	latest	participation	student	
upgradation	tools are used	technology	of faculty and	implementing	
skills essential	and promoted	trends to the	students in	innovative ideas	
for	for effective	students with	professional	for research and	
multidisciplinary	teaching	the help of	skill	industry project	
functioning	learning	industry expert	development	and getting the	
	process	and alumni	workshop	recognition on	
	(Conduction of			international level	
	spoken			(Soham Kulkarni	
	tutorials, On-			third year student	
	line			won	
	tutorials/exams)			1. 3 <sup>rd</sup> Prize at the	
				Mostratech	
				International	
				Science and	
				Technology fair	
				held in Brazil for	
				his Project- Smart	
				Building	
				Automatic	
				controller also	
				won 2.Narsee	
				Monjee Award	
				under ISTE	
				Chapter)for Best	
				Project for	
				Diploma students.	
	Scope for	Scope for	Scope for	Scope for	
	improvement:	improvement:	improvement:	improvement:	
	Consistent use	1.Training on	Use of	Continued efforts	
	of upgraded	multidisciplinary	technology for	for the promotion	
	technology	engineering is	the	of innovative	
	tools	needed	improvement	multidisciplinary	
		2.More	of professional	long term	
		association with	skills of	collaboration with	
		alumni and	student and	industry and	
		industry is neede	faculty	institute	

## Consistency matrix for PEO5 and Mission

<b>CRITERION 2</b>	Program Curriculum and Teaching –Learning Processes	200

#### 2.1. Program Curriculum (50)

2.1.1. State the process used to identify extent of compliance of the Board curriculum for attaining the Program Outcomes (POs) and Program Specific Outcomes (PSOs) as mentioned in Annexure I. Also mention the identified curricula gaps, if any (30)

Diploma program curriculum is revised by MSBTE every 5 years. This revision is based on the feedback taken from all the stakeholders (Industry, Alumni, Institutes, Course experts, etc.) regarding the advancements in technology and the previous curriculum. Accordingly new curriculum is revised so that the gap in technology advancement and curriculum design is minimum. More emphasis is given on the development of hands on skills of the students. However, it is always challenging to keep the pace of growing technology and the available period for training the students. It is observed that the expectations of industry cannot be fully satisfied. Therefore to reduce these gaps following efforts are done as summarized below:

- A thorough study of the curriculum is done by course teachers
- The curricular and knowledge gaps are identified and the strategy to overcome these gaps is decided
- The visiting faculty in the department and alumni has regular interactions with the faculty members and they suggest the recent advances in the industry and solutions to reduce the gaps Accordingly, Conference, Seminars, Workshops, Training programs, Technical Quiz are arranged.

## **2.1.2.** Contents beyond the Syllabus (20)

## CAY (2015-2016)

Sr. No	Gap	Action Taken	Date	Resource person with designation	No. of students	Relevance to POs
1	New technology upgradation for project	Arduino	17/06/15 - 30/07/15	Mr. Shirish Kale, Mr. Manohar Leon (Director, Ecomation systems)	20	PO: 4,10 PSO: 1,2,4
2	Hands on skill development for mini project and final year project	PCB Manufacturing at Copper Track Industries	17/08/15	Copper Track Industries	90	PO:2,8,10 PSO: 1, 4
3	Practical implementation of applications of transistor in projects	Transistor Circuit Designing	07/09/15	Mr. S.Y.Kulkarni (Retd.scientific Officer,SAMEER)	63	PO:1,2,8, 10 PSO:1, 4
4	Understanding the various stages for completion of project	Project Development Skills	31/07/15	Mr. AjitMahadkar (Senior Scientific Officer, TIFR Mumbai) Dr. Mrs. Sangeeta Joshi (Prof. & Technical Advisor at VIT Mumbai)	58	PO: 1, 2, 3, 4, 8, 9, 10 PSO: 1, 2, 3, 4
5	Practical implementation of Microcontroller interfacing	Interfacing Circuits with Microcontroller	09/09/15	Mr. Amol Sakhalkar (Director, Digel Systems)	58	PO: 4, 10 PSO:1, 2,4
6	Hand held new technology to perform various experiments over it	Expeyes	19/09/15	Mr. G.T.Haldankar (Asst.Prof., S.P. COIT, Andheri, Mumbai)	104	PO:3,4,10 PSO:1,2, 4
7	Development of various projects to harness Solar energy	The Ultimate Renewable Resource – Solar Energy	08/01/16	Mr. S.Y.Kulkarni (Retd.scientificOfficer, SAMEER)	121	PO: 1, 2, 4, 5, 6,10 PSO: 1, 4
8	Personality and career development	Reducing gap between Industry and Institute	08/01/16	Mr. OmkarGokhale, Sr. Instrumentation Engineer, JACOBS, Singapore	121	PO: 4,5,6,7 PSO:1,4
9	Personality and career development	Technopersona 2015	17/10/16	Dr. V.H.Patankar, Dr. Mrs. MadhuriPejavar, Prof. N.Barse, Mr. Vishwaprakash Shukla, Mr. Vatsal Sharma	162	PO: 2,3,4, 5,6,7 PSO:1, 4

Sr.	Gap	Action Taken	Date	Resource person with	No. of	Relevance
No.				designation	students	to POs
						and PSOs
1	Practical	Hands on skills	13/09/14	Mr. Amol Sakhalkar		PO: 4,10
	implementation of	on	27/09/14	(Director, Digel	20	PSO:
	Microcontroller	Microcontroller	18/10/14	Systems)		1,2,4
2	Hands on skill	Soldering	24/00/14	Mrs. S.Kulkarni,		PO:
	development for		24/09/14	Ashida Electronics,	52	2,3, 10
	mini project and		$\frac{10}{26/00/14}$	Thane	55	PSO:
	final year project		20/09/14			1,2, 4
3	New technology	Robotics	26/12/14	Mr. Amir Khan		PO:
	upgradation for		and	(M/S RoboSapiens	25	1,2,4,6,10
	project		27/12/14	Technologies Pvt. Ltd.)		PSO:1,2,4
4	Practical	Embedded		Mr. Amol Sakhalkar		PO: 4,10
	implementation of	system circuit	21/01/15	(Director, Digel	20	PSO:
	Embedded system	interfacing	51/01/15	Systems)	20	1,2,4
	circuit interfacing					

## CAYm1 (2014-2015)

## CAYm2 (2013-2014)

Sr. No	Gap	Action Taken	Date	Resource person with designation	No. of students	Relevance
					stuuents	and PSOs
1	Understanding the practical implementation of Automation Systems in industry	Industrial Automation	17/07/13	Mr. Rakesh Gakare, Business Developer at Kaizen Automation Mr. Krishna Phadtare, Operation Manager	62	PO: 1,2,6,10 PSO:1,4
2	Understanding the practical implementation of PLC	Process Automation DCS, Safety PLC	22/07/13	Mr. Yogesh Joshi, Deputy Manager at Yokogava	62	PO: 1,2,6,10 PSO:1,4
3	Understanding the practical implementation of SCADA systems	SCADA Systems	29/07/13	Mr. VivekKoshti, Sr. Engg., Jacob Systems	62	PO: 1,2,6,10 PSO:1,4
4	Understanding the generation and distribution of electrical power	Distribution N/W	02/08/13	Mr. KiranDeshmukh, Director, SPARK Electronics	78	PO: 1,2,5,6,10 PSO:1,4
5	Wireless Communication Applications in day to day life	Wireless Communication	19/08/13	Mr. Rahul Kulkarni, Sr. Manager, Siemens	62	PO: 1,2,6,10 PSO:1,4
6	Understanding the installation of DTH set-top box	DTH set-top box installation	25/01/14	Mr. AmitAhuja	62	PO: 4,10 PSO:1,4

#### 2.2 Teaching Learning Process (150)

2.2.1. Describe Processes followed to ensure/improve quality of Teaching & Learning (25)

#### **Improving Teaching Process**

For improving and ensuring quality teaching process, at the beginning of the semester, introductory sessions are conducted by Principal and Head of the Departments. Following steps are carried out by faculty for effective teaching

- Understanding curriculum design, course objectives
- Knowing the available infrastructure, learning resources and ICT facilities for effective teaching
- Exposure to learning structure inclusive of facts, concepts, procedures and applications
- Planning and implementation of theory and practical sessions with the help of academic calendar
- Deputation of faculty for Curriculum Revision Programs, Teacher's Guide Development, Lab Manual Development and Short Term Training Programs by MSBTE
- Deputation of faculty to Industry Training Program
- Student centric learning for improvement in Departmental Results. Old question papers and Model Answer papers are used to guide the students
- Conduction of problem solving sessions, previous question paper solving sessions, MCQs, and chapter wise assignment writing
- Counseling and mentoring for weak students to improve learning skills and examination results
- Faculty Upgradation
- Motivation to faculty for paper presentation and publication in Journal/ Conference
- Motivation for participation in collaborative programs and ISTE competitions for professional skill development

The following flowchart describes improving teaching process in terms of awareness, skill development, participation in MSBTE activities, Education Upgradation and Collaborative activity participation, and Student interaction.

#### Awareness

- Curriculum and Course Objectives
- Upgradation to technology
- Available resources at Institute

#### Skill Development

- Communication
- Hands on skills
- Professional skills
- Entrepreneurship

#### Participation in MSBTE Activities

- Curiculum Development
- Teachers Guide Development
- Lab Manual Development
- Short Term Training Programs
- Industry Training Programs
- Paer setting and Moderation

## Education Upgradation and Collaborative activity

#### participation

- Higher Education
- Short Term Courses
- MOU

#### Student interaction

- Counseling of weak students
- Student Mentoring
- Feedback and Modification in Teaching methodolgy if required

#### Self Assessment Report

#### Ensuring and improving quality of learning

Systematic approach is followed by Department to improve quality of teaching learning process. As planning is a key to achieve the goals, before every semester a department meeting is organized for the discussion of effective teaching learning process. The process is as summarized as below

#### **Planning and Execution**

- 1. Planning of teaching and laboratory sessions in a semester to complete 100% teaching of course as per MSBTE curriculum.
- 2. Planning of academic calendar and its declaration on notice board and in student's diary
- 3. Preparation of time table and its display on notice board
- 4. Planning of Guest lectures and Industrial Visits

The following chart describes the planning process for theory, practical, project sessions, and

departmental activities

<ul> <li>Theory Session Flanning</li> <li>According to teaching scheme and teacher's guide</li> <li>Planning for teaching aids and ICT facility</li> </ul>	<ul> <li>Practical Session</li> <li>Planning Experimental set up preparation</li> <li>Planning for new purchase for laboratory</li> <li>Planning for ICT facilities and student batch size</li> </ul>
<b>Project Session Planning</b> <ul> <li>Project Idea development, Market Survey</li> <li>Project execution Planning</li> <li>Report writing</li> <li>Planning for Exhibitions, Project Competitions</li> </ul>	Learning Planning) Department Activity • Guest / Expert Lecture Planning • Industry Visit/ Doordarshan Centre/ Research Organization • Workshop/ Training Planning

The following flow chart gives the details about Notification and Implementation of

improving teaching learning process



#### A. Evaluation and feedback

Evaluation and feedback are the essential aspects of effective teaching learning process.

Following steps are followed:

- Evaluation of Term work, assignments, Unit tests, Laboratory experiment, MCQ/Quiz is done.
- 2. Result analysis is carried out.
- 3. Remedial lectures are arranged for weak students.
- 4. Counseling and mentoring of needy students is provided so that the students will be motivated for better learning and improvement in performance.

#### B. Competition, Motivation and facility provision

- Students are encouraged for completion of mini projects assigned for some courses and final year project as per the curriculum.
- Preparation of models, charts, power point presentation, multimedia presentation, flash presentation, and videos to enhance quality of learning is assigned to the students.
- 3. Students are motivated to participate in Techno-Gurupurnima organized by department every year as well as in the inter college paper presentation/quiz competitions.
- 4. Book bank facility is offered for toppers as appreciation of their talent and the same facility is extended to other students with some nominal fees.
- 5. To upgrade the students with latest technology skills, collaborative learning workshops such as Arduino, Solar panel designing, PCB designing and soldering, etc are organized at nominal fees or sometimes free.

#### **2.2.2.** Initiatives to improve the quality of semester tests and assignments (15)

Following initiatives are taken by the program to improve quality of semester tests and assignments and is tabulated below:

- Copies of curriculum, sample paper, MSBTE board examination paper, model answer paper are provided to the students
- 2. Every course teacher, after completion of each chapter discusses questions asked in the previous year's MSBTE board examination and provides solutions to the students
- 3. Five Assignments of twenty marks each are given to the students for all courses
- 4. Schedule of Progressive Test is displayed on notice board
- 5. Additional tutorial/ remedial sessions are arranged for some courses
- 6. Conducting MCQ tests during practical sessions
- 7. Solving MSBTE board examination papers at the end of the semester

Sr. No.	Parameter	Initiative taken	Skills developed
1.	Semester Examination	Previous Question Paper Solving Chapter-wise Question Bank Problem Solving sessions	<ul> <li>Ability to answer repeated questions</li> <li>Facilitates the preparation for examinations</li> <li>Minimize guessing</li> <li>Focuses on ability to apply.</li> </ul>
2.	Progressive Test	Setting structured Questions based on Bloom's Taxonomy	<ul> <li>Ability to understand the facts, concepts, principles and procedures</li> <li>Analyze the problems based on concepts and principles</li> </ul>
3.	Practical Sessions	Use of Laboratory Manual	<ul> <li>Helps in developing hands on skills with the help of various equipments and components</li> <li>Helps to develop troubleshooting skills</li> </ul>
		MCQs for each Course	<ul> <li>Helps in understanding the facts and concepts</li> <li>Improves cognitive ability</li> <li>Provides the students to self evaluation.</li> </ul>
4.	Assignments	Chapter-wise assignments given	<ul> <li>Enhances better understanding of concepts</li> <li>Facilitates preparation for semester examinations</li> </ul>
As mentioned in the above table the Progressive Tests are conducted twice in every

semester, having 25 marks each. The sample profile of question paper is shown below.

Year: Third	Semester: 5th	
Course: C501-	Computer Hardware and Networking (1753	33)
<b>Course Outcon</b>	e	

C501.1 Identify the components of motherboard

C501.2 Identify input, output and storage devices

C501.3 Troubleshoot power related problems

C501.4 Maintain various computer peripherals

C501.5 Test and maintain types of networks

C501.6 Setup and configure network in given environment

Guidelines for Setting Class Test Question Paper: Marks:25 Time: 1 Hr

Question no.1 : Attempt any three out of four (3X3=9 Marks)

Question no.2: Attempt any two out of three (2X4=8 Marks)

Question no.3 : Attempt any two out of three (2X4=8 Marks)

	Class Test - I											
		Questic	Accomplishment of Course Outcome									
Topi c No.	Marks as per Curriculum	Marks *0.75	Q.No. 1	Q.No. 2	Q.No. 3	Total Marks (out of 36)	Course Outcome	Total	Accomplish ment in %			
1	14	10.5	1 x 3	2 x 4	1 x 4	15	C501.1, C501.3	15	41.67			
2	6	4.5	2x 3	1 x 4	1 x 4	14	C501.2	14	38.89			
4	10	7.5	1 x 3	0 x 4	1 x 4	7	C501.2, C501.6	7	19.44			
	30	22.5				36		36	100			

	Class Test - II										
		Questic	Accomplishment of Course Outcome								
Topi c No.	Marks as per Curriculum	Marks *0.75	Q.No. 1	Q.No. 2	Q.No. 3	Total Marks (out of 36)	Course Outcome	Total	Accomplish ment in %		
3	8	6	1 x 3	0 x 4	1 x 4	7	C501.3, C501.4, C501.5	7	19.44		
4	10	7.5	2x 3	1 x 4	0 x 4	10	C501.5, C501.2	10	27.78		
5	12	9	1 x 3	2 x 4	2 x 4	19	C501.2, C501.6	19	52.78		
	30	22.5				36		100			

Course Teacher Name: Ms. Sarika Yadav

For improving learning process five assignments are completed by the students.

A sample of Continuous assessment of assignment - CO mapping is given below

Year: Third Semester: 5th

Course: C503- Control Systems (17538)

<b>Course Outcom</b>	e
C503.1 (CSY)	Use various reduction techniques for solving transfer functions of RC and RLC Circuits
C503.2	Analyze Time response of 1st and 2nd order control system for standard test inputs
C503.3	Apply Routh's criterion for analyzing different types of system stability
C503.4	Analyze the system stability from Bode plot
C503.5	Build a circuit of PI, PD and PID Controllers
C503.6	Select a suitable Servo Component and apply in Process Control System

	CO1	CO2	CO3	CO4	CO5	CO6
Assignment:1	$\checkmark$					
Assignment:2		$\checkmark$				
Assignment:3						
Assignment:4						$\checkmark$
Assignment:5					$\checkmark$	

Course Teacher Name: Mrs. Jothy Saji

## 2.2.3. Quality of Experiments (15)

- 1. Lab manuals designed by MSBTE are provided to the students for practical sessions
- 2. For some of the courses like Advanced Industrial Electronics, Entrepreneurship Development and Project, Professional Practice, Principles of Communication System, Very Large Scale Integration, and Simulation Software, experiment worksheets are prepared by the course teachers and maintained in a file by the students
- It is ensured that the students understand Facts, Concepts, Principles, Procedures and Applications after performing the practicals

The correlation of initiatives taken, skills developed during practical sessions and its relevance to program outcome is tabulated as below:

Sr. No.	Parameter	Initiative taken	Skills developed	Relevance to Programme Outcomes
1.	Practical Session	Use of Laboratory manuals Continuous assessment ICT supported sessions, Demo kits MCQs & Orals	<ul> <li>Correlation between Theory &amp; Practical</li> <li>Intellectual skills and Motor skills</li> <li>Troubleshooting</li> <li>Communication Skills</li> </ul>	All POs and PSOs
2.	Additional Practices beyond curriculum	Experiments /Mini projects	<ul> <li>Ability to construct given circuit diagram</li> <li>Improves hands on skills</li> <li>Troubleshooting</li> </ul>	All POs and PSOs

A sample of experiment list and its mapping with respective Course Outcome statement is shown in the table below:

C404.1 (LIC)	Analyze ideal and practical transfer characteristics and parameters of Operational Amplifier (Op-Amp)
C404.2	Configure Op- Amp in open loop and closed loop
C404.3	Implement Op-Amp for given applications
C404.4	Design Filter for given application
C404.5	Implement timer IC555 and frequency response of PLL
C404.6	Build Oscillator and Multivibrator circuits using Op-Amp

Cou	rse Name:IE4G	urse Coo	le:	LIC	: (17	7445)	)						
SEM	IESTER: FOURTH	TYP	<b>EOF</b> A	ASSESS	ME	NT							
		(TW)	/OR/PF	R): TW/I	PR								
Ex	Title		Туре				C	CO					
р.		Study	Perfor	Mini	1	2	3	4	5	6			
No.		•	mance	Project									
1	Determine the op-amp parameters: •												
	Input Offset Voltage (Vio) · Output												
	Offset Voltage ( $V_{00}$ ) · Common mode												
	rejection ratio (CMRR)												
2	Determine the gain of Inverting and	$\checkmark$											
	Non-inverting amplifier using op-amp												
	and compare it with theoretical gain.												
3	Verify the operation of Adder and												
	Subtractor circuit using op-amp IC 741.												
4	Verify the working of active integrator												
	and differentiator circuits using op-												
	amp IC 741 for following inputs: Sine												
	waveform, Square waveform,												
	Rectangular waveform												
5	Assemble V to I converter and I to V												
	converter using IC 741 and measure												
	the respective output.												
6	Verify the working of following												
	comparator circuits using op-amp IC												
	741 and draw the input-output												
	waveforms: Zero crossing detector												
	Active peak detector		,					,					
7	Assemble first order low pass		N					N					
	Butterworth filter using op-amp and												
	plot the frequency response and												
0	determine its cutoff frequency.												
8	Assemble Astable multivibrator circuit		Ň							N			
	using IC 741. Plot the output												
	of oscillations and duty cycle												
9	Assemble Monostable multivibrator		N										
	circuit using IC 555 Plot the output		v						v	v			
	waveform and determine the on-time												
10	Assemble Schmitt trigger circuit using												
	IC 555. Plot the output waveform and		,										
	determine UTP and LTP												
11	Assemble Instrumentation amplifier												
	circuit using IC 324 and determine the												
	overall gain.									L			
12	Verify the operation of frequency												
	Multiplier using PLL IC 565 and												
	determine the output frequency.												

## 2.2.4. Quality of Students Projects and Report Writing (25)

- 1. Notice- third year Students are instructed to form their project group
- 2. Confirmation of project group by the class teacher
- 3. Selection of project by the students
- 4. Allocation of guide by the Head of Department
- 5. Maintaining project by each student for their project status
- 6. Conduction of mid-term seminar and preparation of working model
- 7. Providing Sample project report writing format

# Implementation details including details of POs & PSOs addressed through the projects with justification

## PO

- While selecting the project, student should apply basic and course specific knowledge of mathematics, science, and engineering.
- 2. Usage of latest technology tools in their project to solve engineering problems and develop self-learning abilities.
- 3. The type of project chosen should cover the areas like social, health, safety, environment, and sustainability.
- 4. Professional ethics should be followed by the students as an individual and support the team for successful completion of project.
- 5. Effective communication ability for demonstration of the project.
- 6. Preparation of organized documentation and report writing.

## PSO

- While doing project students should be able to correlate facts, principles, and hands on skills like handling of various measuring instruments, electronic equipments, and fault finding to solve electronics engineering problems.
- 2. Preparation of organized documentation and report writing.

3. Completion of project is to encourage the students for higher studies, entrepreneurship development, self-learning, and self-reliance which are the foundations of professional career.

The following chart shows year wise list of projects completed by students and its mapping with POs and PSOs.

Sr.	Name of the		G . 64	Name Of	РО									PS	0			
No	Project	Hardware	Software	Guide	1	2	3	4	5	6	7	8	9	10	1	2	3	4
1	Non- contact type hall effect tachometer	$\checkmark$	$\checkmark$	Mrs. Kirti Agashe	3	3	3	2	3	3	3	3	3	2	3	3	3	3
2	Wireless GSM based notice board	$\checkmark$	$\checkmark$	Ms.Mitali Ambekar	3	3	3	2	3	2	3	3	3	2	3	3	3	3
3	Automatic escalator system	$\checkmark$	$\checkmark$	Mrs. Samruddhi Pitkar	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	Servizeo bot	$\checkmark$	$\checkmark$	Mrs. Kirti Agashe	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5	Robotic Arm using RF signal	$\checkmark$	$\checkmark$	Ms. Mitali Ambekar	3	3	3	2	3	2	3	3	3	2	3	3	3	3
6	Automatic room light controller with visitor counter	$\checkmark$	$\checkmark$	Mrs. Jothy Saji	3	3	3	2	3	2	3	3	3	2	3	3	3	3
7	World of 'saur- urja'	$\checkmark$	$\checkmark$	Ms. Sarika Yadav	3	3	3	2	3	3	3	3	3	2	3	3	3	3
8	Office light controller	$\checkmark$	$\checkmark$	Ms. Sarika Yadav	3	3	3	2	3	3	3	3	3	2	3	3	3	3
9	Automatic smart camera	$\checkmark$	$\checkmark$	Mrs. Samruddhi Pitkar	3	3	3	2	3	2	3	3	3	2	3	3	3	3
10	The wireless power train	$\checkmark$	$\checkmark$	Mrs. Jothy Saji	3	3	3	2	3	3	3	3	3	2	3	3	3	3
11	GSM based automatic irrigation system	$\checkmark$	$\checkmark$	Ms. Latasha Keshwani	3	3	3	3	3	3	3	3	3	3	3	3	3	3
12	Step down chopper	$\checkmark$	-	Mrs. Santhi M. L.	3	3	3	2	3	2	3	3	3	2	3	3	3	3
13	3 phase Induction motor protection system	$\checkmark$	$\checkmark$	Mrs. Santhi M. L.	3	3	3	2	3	2	3	3	3	2	3	3	3	3
14	GSM based digital weather station	$\checkmark$	$\checkmark$	Mrs. Samruddhi Pitkar	3	3	3	2	3	2	3	3	3	2	3	3	3	3
15	Cell phone operated land rover	$\checkmark$	$\checkmark$	Ms. Priyanka Gurao	3	3	3	2	3	2	3	3	3	2	3	3	3	3
16	Biometric attendance system	$\checkmark$	$\checkmark$	Ms. Latasha Keshwani	3	3	3	3	3	2	3	3	3	3	3	3	3	3
17	Building Automation			Mrs. Kirti Agashe	3	3	3	3	3	3	3	3	3	3	3	3	3	3

#### Project List: 2015-16

## Project List: 2014-15

G				N Of	РО								PSO					
Sr. No	Name of the Project	Hardware	Software	Guide	1	2	3	4	5	6	7	8	9	1 0	1	2	3	4
1	Train Crowd Management Using Zigbee	$\checkmark$		Ms. Latasha Keshwani	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2	Automatic Water Level Controller	$\checkmark$	$\checkmark$	Mrs. Samruddh i Pitkar	3	3	3	2	3	3	3	3	3	2	3	3	3	3
3	GSM Based Library Management	$\checkmark$	$\checkmark$	Ms. Latasha Keshwani	3	3	3	2	3	3	3	3	3	2	3	3	3	3
4	Inverter & Emergency Light Circuit	V	-	Mrs. Santhi M.L.	3	3	3	2	3	3	3	3	3	2	3	3	3	3
5	Automatic Railway Gate System	$\checkmark$	$\checkmark$	Mrs. Jothy Saji	3	3	3	2	3	3	3	3	3	2	3	3	3	3
6	Finger Print Based Attendance System	$\checkmark$	$\checkmark$	Mrs. Kirti Agashe	3	3	3	2	3	2	3	3	3	2	3	3	3	3
7	Missile Detection & utomatic Destroy System	$\checkmark$	$\checkmark$	Mrs.Kimaya Kolhe	3	3	3	2	3	3	3	3	3	2	3	3	3	3
8	Digi-Ana Master Trainer Kit	$\checkmark$	-	Ms. Amisha Mestry	3	3	3	2	3	2	3	3	3	2	3	3	3	3
9	Fire Fighting Robotic Vehicle	$\checkmark$	$\checkmark$	Ms.Amisha Mestry	3	3	3	2	3	3	3	3	3	2	3	3	3	3
10	RFID Based Secured Access System	$\checkmark$	$\checkmark$	Mrs.Kimaya Kolhe	3	3	3	3	3	3	3	3	3	3	3	3	3	3
11	Function generator	$\checkmark$	-	Ms. Santhi M.L.	3	3	3	2	3	2	3	3	3	2	3	3	3	3
12	Street light that glow on detecting vehicle movement	V	$\checkmark$	Mrs. Jothy Saji	3	3	3	2	3	3	3	3	3	2	3	3	3	3
13	Digital green house monitoring system			Mrs. Samruddh i Pitkar	3	3	3	2	3	3	3	3	3	2	3	3	3	3

## Project List: 2013-14

Sr	Name of			Name Of	РО								PSO					
No	the Project	Hardware	Software	Guide	1	2	3	4	5	6	7	8	9	10	1	2	3	4
1	Android accessed security System		$\checkmark$	Mrs.Kimaya Kolhe	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2	Anti-theft Car Wireless System		$\checkmark$	Ms. Ankita Khanna	3	3	3	2	3	3	3	3	3	2	3	3	3	3
3	GSM based security system	V	$\checkmark$	Ms. Latasha Keshwani	3	3	3	2	3	3	3	3	3	2	3	3	3	3
4	Automatic Attendance System		$\checkmark$	Ms. Ankita Khanna	3	3	3	3	3	2	3	3	3	3	3	3	3	3
5	Uninterrupted Power Supply		-	Mrs. Santhi M.L	3	3	3	2	3	3	3	3	3	2	3	3	3	3
6	Audio Communication using Optical Fiber cable	$\checkmark$	-	Mr. Jitendra Singh	3	3	3	3	3	2	3	3	3	3	3	3	3	3
7	0V DC motor contr using PWM	$\checkmark$	$\checkmark$	Mrs. Kirti Agashe	3	3	3	2	3	2	3	3	3	2	3	3	3	3
8	Smart Home using Zigbee	$\checkmark$	$\checkmark$	Mrs.Kimaya Kolhe	3	3	3	3	3	3	3	3	3	3	3	3	3	3
9	Vireless Omni base robotic arm		$\checkmark$	Mrs. Sarika Korade	3	3	3	3	3	2	3	3	3	3	3	3	3	3
10	Cell phone operated land rover	$\checkmark$	$\checkmark$	Mrs. Jothy Saji	3	3	3	2	3	2	3	3	3	2	3	3	3	3
11	CCTV	$\checkmark$	$\checkmark$	Mr. Omkar Joshi	3	3	3	3	3	3	3	3	3	3	3	3	3	3
12	GSM based wireless e-Notice board	$\checkmark$	$\checkmark$	Ms. Amisha Mestry	3	3	3	2	3	2	3	3	3	2	3	3	3	3
13	Autopan	$\checkmark$	$\checkmark$	Mr. Omkar Joshi	3	3	3	3	3	2	3	3	3	3	3	3	3	3
14	Line follower robot with detection system			Mrs. Jothy Saji	3	3	3	2	3	2	3	3	3	2	3	3	3	3
15	Control of DC and stepper motor		$\checkmark$	Mrs. Kirti Agashe	3	3	3	2	3	2	3	3	3	2	3	3	3	3

### 2.2.5. Industry Interaction and Industry Internship/Training (30)

- 1. Industry experts visit the department to guide final year student project work
- 2. Entrepreneurship development cell organizes interaction of the students with various industry experts to motivate them for becoming an entrepreneur
- 3. Value added courses such as Arduino, Solar panel designing, PCB designing and Soldering are organized in collaboration with the industry
- Industrial Visits are organized to know the manufacturing and functioning of various electronics industry
- 5. Under Implant training program students are sent to various industries to undergo a training of four weeks to understand the practical work in the industries. In order to get industry exposure and understand the gap between curriculum and field applications, MSBTE has suggested implant training for diploma students after 4<sup>th</sup> and 6<sup>th</sup> semester (during vacation) in the academic year 2015-16. Total 77 students have undergone industry internship training

The following table is a summary for Guest Lectures, Entrepreneurship Development Cell, Workshops, Industrial Visits, and Internship details.

Activity	2015-16	2014-15	2013-14
Guest Lecturers	18	9	10
Entrepreneurship Development Cell	4	8	8
Workshops	4	4	1
Industrial Visits	8	7	7
Internship Details	77*	**	**

\* Number of students

**\*\*** Internship is made compulsory for the students in the curriculum from the academic year 2015-16

## Guest Lectures: 2015-16

Sr. No	Date	Name of Expert	Торіс	Subject	Beneficiary
1	16.07.15	Mr.Aditya Raool	Pranik Healing	Professional Practices	IIIrd Sem students
2	23.07.15	/Ir.Omkar Joshi	Introduction to "C" language	Programming in C	IIIrd Sem students
3	23.07.15	Ar.Omkar Joshi	Computer Hardware	Computer Hardware and Networking	Vth Sem students
4	27.07.15	Mrs. Sheetal Pachpande	Waste Management	Professional Practices	IIIrd and Vth Sem students
5	31.07.15	Mr.Ajit Mahadkar	Project Development skills	Project	Vth Sem students
6	31.07.15	Dr. (Mrs.) Sangeeta Joshi	Project Development skills	Project	Vth Sem students
7	07.09.15	Mr. S.Y. Kulkarni	Transistor circuit designing	Electronic Devices and Circuits	IIIrd Sem students
8	09.09.15	Mr. Amol Sakhalkar	Interfacing with Microcontroller circuits	EDP & Project	Vth Sem students
9	10.09.15	Mrs. Radhika Kamath	Troubleshooting and Maintenance of computer peripherals	Computer Hardware and Networking	Vth Sem students
10	19.09.15	Mr. G T. Haldankar	Expeyes	LBC	Ist Sem and IIIrd Sem students
11	23.12.15	Mr. Ashok Kumar	Right to Information act	Professional Practices	IVth Sem students
12	08.01.16	Prof. S.S. Mujumdar	Flow Measurement	Industrial Measurement	IVth Sem students
13	22.01.16	Prof. S.S. Mujumdar	Flow Measurement	Industrial Measurement	IVth Sem and VIth Sem students
14	08.01.16	Mr. S. Y. Kulkarni	The ultimate Renewable Resource- solar Energy	Professional Practices	IVth Sem and VIth Sem students
15	08.01.16	Mr. Omkar Gokhale	Reducing the gap between Industry and Institute	Professional Practices	VIth Sem students
16	31.01.16	Ms. Amisha Mestry	Industrial Automation	Industrial Automation	VIth Sem students
17	30.01.16	Mrs. Smita Khandagale	Industrial Automation	Industrial Automation	VIth Sem students
18	05.02.16	Mrs. S.S. Kulkarni	Basics of solar Energy and selection of solar PV	LBC	IVth and VIth Sem students

Sr. No	Date	Name of Expert	Торіс	Subject	Beneficiary
1	04.07.14	Teknocrat's	Automation	Professional Practices	Vth Sem students
2	23.08.14	Mr.Vivek Koshti	Presentation Skills	Professional Practices	Vth and IIIrd Sem students
3	16.12.14	Mr. Omkar Joshi	Computer Hardware	Development of Life Skills	IInd Sem students
4	16.12.14 27.12.14	Mrs. Seema Nitsure	How to be successful in life	Professional Practices	IVth Sem students
5	08.01.15	Mrs. Radhika Kamath	Video Compression	Professional Practices	IVth Sem students
6	31.01.15	Mr. Amol Sakhalkar	Embedded System Circuit Interfacing	Embedded System	VIth Sem students
7	31.01.15	Prof. V. N. Bhakre	Motivation	Management	VIth Sem students
8	11.02.15	Prof. V. N. Bhakre	Project Management	Management	VIth Sem students
9	06.02.15	Mr. S. Y. Kulkarni	Cables, Resistors and Diodes	Elements of Electronics	IVth and IInd Sem students

## Guest Lectures: 2014-15

## Guest Lectures: 2013-14

Sr. No.	Date	Name of Expert	Торіс	Subject	Beneficiary
1	29.06.13	Mr. Omkar Joshi	Computer Assembly	Professional Practice	IIIrd Sem students
2	06.07.13	Mr. Omkar Joshi	Computer Hardware	Principles of Computer Architecture & Maintenance	Vth Sem students
3	17.07.13	Mr. Rakesh Gakare	Industrial Automation	Industrial Automation	Vth Sem students
4	15.07.13	Mr. Krishna Phadtare	Industrial Automation	Industrial Automation	Vth Sem students
5	22.07.13	Mr. Yogesh Joshi	Process Automation DCS, Safety PLC	Industrial Automation	Vth Sem students
6	23.08.13	Mr. Amit Ahuja	DTH set-top box (installation)	Principles of Communication	IVth and Vth Sem students
7	12.01.14	Prof. V. Bhakre	Motivation	Professional Practice	IVth and Vth Sem students
8	22.01.14	Mr.Vivek Koshti	SCADA System	Industrial Automation	VIth Sem students
9	28.02.14	Mr. Kiran Deshmukh	Distribution Networks	Electrical Engineering	IVth Sem students
10	29.02.14	Mr. Rahul Kulkarni	Wireless Communication	Data Communication and Networking	VIth Sem students

Sr. No.	Date	Name of speaker	Program Details	Beneficiary
1	10.09.15	Pratapsingh K. Desai President, ISTE, New Delhi	Entrepreneurship Opportunity for Engineers	Vth Sem:10 students IIIrd Sem:8 students
2	2601.16	Mr. Ram Bhogale, Director, Nirlep Group of Companies Mr. Deepak Ghaisas, Chairman, Gencoval strategic services Pvt. Ltd	"Startup Entrepreneurship"- The journey begins!!	VIth Sem:10 students IVth Sem:8 students
3	Dec15- Apr 16	Dr Usha Raghavan	Incubation Idea- Project	VIth Sem:10 students IVth Sem:8 students
4	March onwards	Industry/ Academic Professionals	Start Up Programme- On Campus training	VIth Sem:10 students IVth Sem:8 students

## **Entrepreneurship Development cell: 2015-16**

## **Entrepreneurship Development cell: 2014-15**

Sr. No.	Date	Name of speaker	Program Details	Beneficiary
1	15.09.14	Dr Ajay Tamhane	Entrepreneurial	Vth Sem:3 students
1		Consultant	Motivation	IIIrd Sem:10 students
2	03 03 15	Mr Kamal Kapoor	Communication Skills	VIth Sem:03 students
2	05.05.15	Vice President, Zuventus	Communication Skins	IVth Sem:10 students
3	03.03.15	Dr. Roopali Deshpande Director of Forever Young-The Anandee Movement	Motivational Leadership	VIth Sem:03 students IVth Sem:10 students
4	03.03.15	Dr. Lata Shetty Management Consultant	Time management	VIth Sem:03 students IVth Sem:10 students
5	03.03.15	Mr. Vijayakumar Menda Manager, Disha Services	Team Building	VIth Sem:03 students IVth Sem:10 students
6	03.03.15	Mr Vipul Kukreja, Corporate Trainer	Creativity	VIth Sem:03 students IVth Sem:10 students
7	03.03.15	Dr. Ulhas Kolhatkar,MD, D.Ch	Leadership Qualities	VIth Sem:03 students IVth Sem:10 students
8	Dec14- Apr 15	Dr Usha Raghavan	Incubation Idea- Project	VIth Sem:03 students IVth Sem:10 students

Sr. No.	Date	Name of speaker	Program Details	Beneficiary
1	23.08.13	Dr Ajay Tamhane	Entrepreneurial Motivation	Vth Sem:08 students IIIrd Sem:03 students
2	31.08.13	Mr Kamal Kapoor Vice President , Zuventus	Curiosity, self analysis and proactive approach in a day to day life	Vth Sem:08 students IIIrd Sem:03 students
3	31.08.13	Mr. Sudhir Warde HR Head L & T	How to be successful in Corporate world	Vth Sem:08 students IIIrd Sem:03 students
4	31.08.13	Prashant Likhite	Art of Presentation	Vth Sem:08 students IIIrd Sem:03 students
5	31.08.13	Mr.Vipul Kukreja, Corporate Trainer Ms.Sonal Athvankar HR, L&T Infotech	Team Building Games and Six thinking Hat Activity	Vth Sem:08 students IIIrd Sem:03 students
6	31.08.13	Mr. Vijay Dodeja Partner of Western India Pvt. Ltd.	Need for innovation	Vth Sem:08 students IIIrd Sem:03 students
7	31.08.13	Dr. Arun Pande	Innovation and Entrepreneurship	Vth Sem:08 students IIIrd Sem:03 students
8	07.09.13	Juhi Sinha Mr Prasad Kulkarni Mr Pushkar Kumar Faculties from MSME, Mumbai	Entrepreneurship Camp Awareness of MSME Entrepreneurship in Computer, IT & Electronics Financial Planning	Vth Sem:08 students IIIrd Sem:03 students

## Entrepreneurship Development cell: 2013-14

## Workshops: 2015-16

Sr. No.	Date	Name of Industry	Торіс	Subject	Beneficiary
1	17.06.15 to 30.07.15	Ecomation Systems	Arduino	Project	Vth Sem students
2	17.08.15	Copper Track Industries	PCB Manufacturing	Electronic Devices and circuits	IIIrd Sem students
3	17.08.15	Copper Track Industries	PCB Manufacturing	Project	Vth Sem students
4	06.02.16	Vasundhara Pratishtan Thane	Brahmvidya	Professional Practices	IVth Sem students

## Workshops: 2014-15

Sr. No.	Date	Name of Industry	Торіс	Subject	Beneficiary
1	13.09.14, 27.09.14, 18.10.14	Mr. Amol Sakhalkar	Workshop on "Hands on skills in Microcontroller"	Microcontroller	Vth Sem students
2	22.09.14 to 25.09.14	Vasundhara Pratishtan Thane	Brahmvidya	Professional Practices	IIIrd and Vth Sem Students
3	24.09.14 to 26.09.14	Mrs. S. Kulkarni	Workshop on "Soldering"	Electronic Devices and circuits	IIIrd Sem students
4	26.12.14 27.12.14	Robotryst	Robotics	Professional Practices, Development of Life Skills	IInd, IVth and VIth Sem students

### Workshops: 2013-14

Sr. No.	Date	Name of Industry	Topic	Subject	Beneficiary
1	17.07.13 to 19.07.13	Vasundhara Pratishtan Thane	Brahmvidya	Professional Practices	IIIrd and Vth Sem Students

## Industrial Visits: 2015-16

Sr. No.	Date	Name of Industry	Subject	Beneficiary
1	03.08.15	Telawne Power Equipments Pvt. Ltd	Electrical	IIIrd Sem
		1 1	Engineering	students
2	12 08 15	Copper Track Industries	Project	IIIrd and Vth
2	12.06.15	Jo.15 Copper Track Industries	_	Sem students
3	12 08 15	Sula Vinovarda	Electrical	IIIrd and Vth
3	12.08.15	Sula villeyalus	Engineering	Sem students
			Advanced	Vth Sem
4	14.08.15	Well Known Industry	Industrial	students
			Electronics	
5	05 01 16	Derwayaran Dakahata Manah	Development of	IInd Sem
5	05.01.10	5.01.10 Paryavaran Daksnata Manch	Life Skills	students
6	14.01.16	Mahanashtna Natura Dark	Environmental	IVth Sem
0	14.01.10	1.10 Ivianarashtra Nature Park	Studies	students
			Principles of	With and With
7	04.02.16	GMRT,Pune	Communication	
			Systems	Sem students

## Industrial Visits: 2014-15

Sr. No.	Date	Name of Industry	Subject	Beneficiary
1	07.08.14	M/s L & T Pvt. Ltd	Advance Industrial Electronics	Vth Sem students
2	19.09.14	Well Known Industry	Industrial Automation	Vth Sem students
3	20.09.14	Telawne Power Equipments Pvt. Ltd.	Electrical Engineering	IVth Sem students
4	27.11.14	Electronics For You Expo	Industrial Project	Vth Sem students
5	02.12.14	ITI Mulund	Professional Practices	IVth Sem students
6	02.12.14	ITI Mulund	Industrial Project	VIth Sem students
7	05.02.15	Maharashtra Nature Park Society	Environmental Studies	IVth Sem students
8	21.02.15	Envirovigal	Development of Life Skills	IInd Sem students

## Industrial Visits: 2013-14

Sr. No.	Date	Name of Industry	Subject	Beneficiary
1	10.07.13 11.07.13	M/s Meco Instrument Pvt. Ltd., MIDC-Mahape	Electronic Instrument & Measurements	IIIrd sem Students
2	22.07.13	M/s L & T Pvt. Ltd	Advance Industrial Electronics	Vth Sem students
3	25.07.13	Doordarshan Kendra -Worli	Principles of Communication System	Vth Sem students
4	27.11.14	Electronics For You Expo	Industrial Project	Vth Sem students
5	20.09.13	Telawne Power Equipments Pvt. Ltd.	Electrical Engineering	IIIrd sem students
6	25.02.14	Prolific Training Institute	Automation	Vth Sem students
7	05.02.15	Maharashtra Nature Park Society	Professional Practices	IInd Sem students

## Internship details: 2015-16

Sr. No.	Name Of the Company	No. of Interns
1	Accord Electro-Technics Pvt. ltd.	2
2	Innovation Catalyst	3
3	Powertron Instruments	2
4	Medirays Corporation	2
5	Hathway cable and datacom limited	2
6	Eclipse Instrumentation Pvt. Ltd.	4
7	Controls and systems	12
8	S.K. Instrument cabinet	1
9	Swastik power electronics India Pvt. ltd.	1
10	Powerex Engineering	2
11	Buntsons Engineering and Rubber Pvt. ltd.	2
12	Konark Infrastructure Ltd.	1
13	Calculus Tele Solution	1
14	Max Cool Air Condition And Fabrication	2
15	Aplab ltd.	2
16	Meridian Infotables Pvt.ltd.	1
17	Elite Technologies	1
18	Ashida Electronics Pvt. ltd.	1
19	Bhalchandra electricals	4
20	Spark electro systems	3
21	Omkar enterprises	7
22	Supreme industries	1
23	Central Railway	3
24	Dalvi engineering works	2
25	Technova engineering services	2
26	Powai Labs Technology Pvt.ltd.	4
27	J. K. Shah & associates	1
28	Delta Electro trade control	4
29	Hindustan coca-cola Beverages Pvt.ltd.	1
30	Eclipse Instrumentation Pvt.ltd.	2
31	Reliance corporate park(RCP)	1
	Total	77

#### 2.2.6. Information Access Facilities and Student Centric Learning Initiatives (15)

Following facilities are provided and initiative is taken for student centric learning

- 1. Spoken tutorial sessions are conducted
- 2. Learning material is circulated among all the students via email and wordpress
- 3. Multimedia and flash presentations are shown during the lectures for better learning ability
- 4. Utility of CDs and DVDs for student centric learning
- 5. Book bank facility is provided to all the students
- 6. All the reference books, journals, technology magazines and datasheets are available in the Library and Open access facility is provided

#### 2.2.7. New Initiatives for embedding Professional Skills (15)

The following departmental activities are conducted for the development of managerial skills, time management, hands on skill, communication, latest technology awareness, presentation skill and self learning.

Sr. No.	Activity	Skill developed
1	National Level Conferences	Team work, Event management, Time Management
2	Paper presentation	Information Search, Structured writing, Communication, Latest Technology Awareness, Team work
3	Quiz	Alertness, Assertive skill, Building confidence, Ethics
4	Project Exhibition	Working in Team, Task Management, presentation skills, Time management, Leadership Quality
5	Seminar	Listening, Interaction
6	Workshop	Psychomotor skills, Troubleshoot, Hands on skills
7	Value Added Programme	Psychomotor skills, Teamwork, Hands on skills and debugging
8	Power Point Presentation Competition	Presentation skill, Information search, Time management, Creativity
9	Certification Programmes	Self learning
10	Poster presentation	Creativity, Information Search
11	Essay Competition	Structured writing, widespread knowledge, Thinking
12	Debate competition	Oratory skills, listening, Overall Personality development
13	Entrepreneurship Development	Risk taking ability, Thinking , Employability skills

## 2.2.8. Co-curricular & Extra Curricular Activities (10)

For the overall personality development of students, Cultural Activities, Sports Activities Quiz Competition, Poster Competition, Paper Presentation Competition, and Project Competitions are organized. The details of Co-curricular and Extra curricular activities are provided below:

#### **Co-curricular Activities: 2015-16**

Sr. No.	Date	Name of student	Торіс	Level	Remark
1	01.08.15	Gaurav V Kadam (Third Year)	Energy Sources and Future Fuel Resources	State	Participation
2	01.08.15	Pitam R. Mali (Third Year)	Energy Sources and Future Fuel Resources	State	Participation
3	21.08.15	Pitam R. Mali (Third Year)	Energy Sources and Future Fuel Resources	State	Participation
4	21.08.15	Soham Kulkarni (Third Year)	Waste Management and Environment	State	Participation
5	30.10.15	Soham Kulkarni (Third Year)	Project competition	International	Third Prize
6	04.02.16	Soham Kulkarni (Third Year)	Technical Quiz Competition	State	Participation
7	05.02.16 06.02.16	Soham Kulkarni (Third Year)	Industrial Automation and SCADA Based system	State	Participation
8	05.02.16 06.02.16	Rahul Fatnani (Third Year)	Real time operating system	State	Participation
9	09.02.16	Pitam R. Mali (Third Year)	Energy Sources and Future Fuel Resources	State	Participation
10	27.02.16	Gaurav Kadam (Third Year)	Energy Sources and Future Fuel Resources	State	Participation
11	27.02.16	Pitam R. Mali (Third Year)	Energy Sources and Future Fuel Resources	State	Participation
12	15.10.16 16.10.16	Soham Kulkarni (Third Year)	Project competition, ISTE Narsee Monjee Award 2016	National	First Prize

Sr. No.	Date	Name of student	Торіс	Level	Remark
1	05 07 14	Pitam Mali and Group	Model	Inter-Department	2nd Prize
1	05.07.14	(Second year)	Competition	Inter-Department	2110 1 1120
		Soham Kulkarni and	Model		
2	12.07.14	Group	Competition	Inter-Department	2nd Prize
		(Second year)	Competition		
3	12 07 14	Pratik Bhagade and	Poster	Inter-Department	1st Prize
5	12.07.14	Group (Third Year)	Competition	Inter-Department	150 1 1120
1	12 07 14	Rohit Waghmare	Poster	Inter Department	1st Drize
4	12.07.14	(Third Year)	Competition	Inter-Department	150 1 1120
5	20.08.14	Pratik K. Wagh	Paper	State	Participation
5	20.00.14	(Third Year)	Presentation	State	
6	20.08.14	Soham Kulkarni	Paper	State	Participation
0	20.00.14	(Second year)	Presentation	State	
7	26.09.14	Soham Kulkarni	Paper	Stata	Dorticipation
/	27.09.14	(Second year)	Presentation	State	r ai ticipation
0	03.02.15	Drotil Wach (Third Voor)	Paper	Stata	Dorticipation
0	04.02.15	riauk wagii(iiiiu iear)	Presentation	State	r articipation

## **Co-curricular Activities: 2014-15**

## **Co-curricular Activities: 2013-14**

Sr. No.	Date	Name of student	Торіс	Level	Remark
1	19.08.13	Mugdha Sawant(Second year)	Paper Presentation	State level	1st Prize
2	19.08.13	Pratik Wagh(Second year)	Paper Presentation	State level	1st Prize
3	06.09.13	Sagar Agarwal(Third Year)	Quiz competition	Inter college	3rd Prize
4	06.09.13	Ashutosh Choudhari (Second year)	Quiz competition	Inter college	3rd Prize
5	06.09.13	Shivam Chaube (Third Year)	Quiz competition	Inter college	3rd Prize
6	05.10.13	Mugdha Sawant (Second year)	Paper Presentation	State level	1st Prize
7	05.10.13	Pratik Wagh(Second year)	Paper Presentation	State level	1st Prize

## Extra Curricular Activities: 2015-16

Sr. No.	Name of student	Activity	Position	Conducted by
1	Third year team	Cricket	Runner up	
2	Rahul Birodkar (Third year)	Carom (Doubles)	Second	
3	Srushti Bopte (Third year)	Rangoli Competition	Third	
4	Srushti Bopte (Third year)	Hair Style Competition	Second	
5	Srushti Bopte (Third year)	Nail Art Competition	Second	Cultural and
6	Ankit Waradkar(Third year)	T-shirt Painting Competition	First	Sports Commutee
7	Srushti Bopte (Third year)	Pot Painting Competition	First	
8	Srushti Bopte (Third year)	Overall Best Performance	First	
9	Jagruti Dhamapurkar (Third year)	Sari Queen	First	
10	Mrunal Matkar (Third year)	Marathi Language Essay Competition	Second	
11	Gaurav Kadam and Omkar Pawar (Third year)	Poster Competition	Second	
12	Gaurav Kadam (Third year)	Paper Presentation Competition	First	ISTE
13	Ankit Waradkar and Sumukh Sule (Third year)	Paper Presentation Competition	Consolation	
14	Chinmay Mungi (Second year)	Quiz Competition	Third	
15	Adit Chaudhari ,Saurabh Kadam and Singh Ajaydeep (First year)	Types of Communication	First	
16	Shelar Tanvi, Ambelkar Priyanka and Kalamkar Kalpana (First year)	Importance of Communication Skills	First	
17	Aditya Mhatre( First year)	Extempore Speech	First	
18	Mihir Koli (First year)	Extempore Speech	Second	English Language
19	Sayali Jadhav, Pratiksha Iodshil and Manali Tari (First vear)	Role Play	First	Activities
20	Harshali Koli ,Simram Chauhan ( First year)	Role Play	Second	
21	Makrand Parab( First year)	Presentation	First	
22	Shelar Tanvi, Ambelkar Priyanka and Kalamkar Kalpana (First year)	Presentation	First	

Sr. No.	Name of student	Activity	Position	Conducted by
1	Pratik Bagade, Rakesh Kakade (Third year)	Best out of waste	First	
2	Srajan Naik (Third year)	Extempore Speech	First	
3	Ankit Waradkar(Second year)	T-shirt Painting Competition	Consolation	
4	Gayatri Devadiga(Third year)	Debate	First	
5	Srajan Naik (Third year)	Debate	Consolation	Cultural and
6	Rakesh Kakade(Third year)	Hair Style Competition	Consolation	Sports Committee
7	Soham Kulkarni (Second year)	Tie King	First	
8	Pratik Wagh and group (Third year)	Dance Competition	First	
9	Soham Deshpande (Second year)	Boys Chess	First	
10	Jogi Singh Munde(Second year)	Table Tennis	First	
11	Gaurav Kadam (Second year)	Srinivasa Ramanujan Zonal Level Maths Competition	First	ISTE

## Extra Curricular Activities: 2014-15

## Extra Curricular Activities: 2013-14

Sr. No.	Name of student	Activity	Position	Conducted by
1	Sandeep Bhosale (Third year)	Dance Competition(Solo)	Second	
2	Pranav Jondhale(First year)	Talent Hunt	First	
3	Srajan Naik (Third year)	Group Discussion	Second	
4	Sayali Palkar, Komal Desale and Rohit Waghmare (Second year)	Fun Fair (Food)	First	Cultural and
5	Swapnil Bhaye, Nikhil Chavan (Third year )	Fun Fair (Games)	Second	Sports Committee
6	Aishwarya Dhuri (Third year)	Chess	First	
7	Omkar Chavan(Second year)	Chess	Second	
8	Aishwarya Dhuri (Third year)	Carom	Second	
9	Yash Vadkar (Third Year)	100m Running	Second	
10	Shivam Chaube (Third Year)	Quiz competition	First	
11	Omkar Chavan(Second year)	Quiz competition	Second	ISTE
12	Sandeep Bhosale (Third year)	Poster Making	First	

<b>CRITERION 3</b>	<b>Course Outcome and Program Outcomes</b>	100
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#### 3.1. Establish the correlation between the courses and the POs & PSOs (20)

#### 3.1.1. Course Outcomes (05)

Following table provides the course outcome statements for one course from each semester of

#### **G-Scheme:**

C102.1(EPH)	Identify the Young's modulus of material of wire
C102.2	Analyze the properties of given Liquid
C102.3	Utilize the thermal properties of matter in study of relevant core
C102.5	technology
C102.4	Analyze the effect of Interference between light waves
C102.5	Utilize the characteristics of wave motion and resonance in specific
C102.5	engineering application
C102.6	Use the concept of photoelectric effect for application of given cell
C207.1(EEW)	Make use of Electronic instruments for testing a given circuit
C207.2	Design the circuit diagram of regulated power supply
C207.3	Mount Regulated Power Supply on breadboard
C207.4	Simulate the circuit using open source software
C207.5	Design the PCB layout for a given circuit
C207.6	Build the skills to develop and troubleshoot electronic circuit
C304.1 (EDC)	Select appropriate configuration of transistor for a typical use
C304.1 (EDC) C304.2	Select appropriate configuration of transistor for a typical useUse the relevant biasing circuit in the given transistor amplifier circuit
C304.1 (EDC) C304.2 C304.3	Select appropriate configuration of transistor for a typical useUse the relevant biasing circuit in the given transistor amplifier circuitMake use of transistors for amplification of signals
C304.1 (EDC) C304.2 C304.3	Select appropriate configuration of transistor for a typical useUse the relevant biasing circuit in the given transistor amplifier circuitMake use of transistors for amplification of signalsUse the concept of feedback for selecting oscillator/ amplifier for given
C304.1 (EDC) C304.2 C304.3 C304.4	Select appropriate configuration of transistor for a typical use Use the relevant biasing circuit in the given transistor amplifier circuit Make use of transistors for amplification of signals Use the concept of feedback for selecting oscillator/ amplifier for given application
C304.1 (EDC) C304.2 C304.3 C304.4	Select appropriate configuration of transistor for a typical useUse the relevant biasing circuit in the given transistor amplifier circuitMake use of transistors for amplification of signalsUse the concept of feedback for selecting oscillator/ amplifier for given applicationIdentify appropriate type of time base generator for a particular
C304.1 (EDC) C304.2 C304.3 C304.4 C304.5	Select appropriate configuration of transistor for a typical useUse the relevant biasing circuit in the given transistor amplifier circuitMake use of transistors for amplification of signalsUse the concept of feedback for selecting oscillator/ amplifier for given applicationIdentify appropriate type of time base generator for a particular application
C304.1 (EDC) C304.2 C304.3 C304.4 C304.5 C304.6	Select appropriate configuration of transistor for a typical useUse the relevant biasing circuit in the given transistor amplifier circuitMake use of transistors for amplification of signalsUse the concept of feedback for selecting oscillator/ amplifier for given applicationIdentify appropriate type of time base generator for a particular applicationDesign voltage regulator for a given specification
C304.1 (EDC) C304.2 C304.3 C304.4 C304.5 C304.6 C402.1 (IME)	Select appropriate configuration of transistor for a typical useUse the relevant biasing circuit in the given transistor amplifier circuitMake use of transistors for amplification of signalsUse the concept of feedback for selecting oscillator/ amplifier for given applicationIdentify appropriate type of time base generator for a particular applicationDesign voltage regulator for a given specificationSelect a particular transducer for specific application
C304.1 (EDC) C304.2 C304.3 C304.4 C304.5 C304.6 C402.1 (IME) C402.2	Select appropriate configuration of transistor for a typical useUse the relevant biasing circuit in the given transistor amplifier circuitMake use of transistors for amplification of signalsUse the concept of feedback for selecting oscillator/ amplifier for given applicationIdentify appropriate type of time base generator for a particular applicationDesign voltage regulator for a given specificationSelect a particular transducer for specific applicationIdentify the type of Pressure transducers for a given application
C304.1 (EDC) C304.2 C304.3 C304.4 C304.5 C304.6 C402.1 (IME) C402.2 C402.3	Select appropriate configuration of transistor for a typical useUse the relevant biasing circuit in the given transistor amplifier circuitMake use of transistors for amplification of signalsUse the concept of feedback for selecting oscillator/ amplifier for given applicationIdentify appropriate type of time base generator for a particular applicationDesign voltage regulator for a given specificationSelect a particular transducer for specific applicationIdentify the type of Pressure transducers for a given applicationSelect a particular transducer for flow measurement
C304.1 (EDC) C304.2 C304.3 C304.4 C304.5 C304.6 C402.1 (IME) C402.2 C402.3 C402.4	Select appropriate configuration of transistor for a typical useUse the relevant biasing circuit in the given transistor amplifier circuitMake use of transistors for amplification of signalsUse the concept of feedback for selecting oscillator/ amplifier for given applicationIdentify appropriate type of time base generator for a particular applicationDesign voltage regulator for a given specificationSelect a particular transducer for specific applicationIdentify the type of Pressure transducers for a given applicationSelect a particular transducer for flow measurementSelect a particular transducer for level measurement
C304.1 (EDC) C304.2 C304.3 C304.4 C304.5 C304.5 C304.6 C402.1 (IME) C402.2 C402.3 C402.4 C402.5	Select appropriate configuration of transistor for a typical useUse the relevant biasing circuit in the given transistor amplifier circuitMake use of transistors for amplification of signalsUse the concept of feedback for selecting oscillator/ amplifier for given applicationIdentify appropriate type of time base generator for a particular applicationDesign voltage regulator for a given specificationSelect a particular transducer for specific applicationIdentify the type of Pressure transducers for a given applicationSelect a particular transducer for flow measurementSelect a particular transducer for level measurementSelect a particular transducer for level measurement

C501.1 (CHN)	Identify the components of motherboard
C501.2	Identify input, output and storage devices
C501.3	Troubleshoot power related problems
C501.4	Maintain various computer peripherals
C501.5	Test and maintain types of networks
C501.6	Setup and configure network in given environment
C604.1 (ESY)	Differentiate the architectures of processor for different application
C604.1 (ESY) C604.2	Differentiate the architectures of processor for different application Develop programming in Microcontroller with 'C'
C604.1 (ESY) C604.2 C604.3	Differentiate the architectures of processor for different applicationDevelop programming in Microcontroller with 'C'Use of communication interfaces and protocols
C604.1 (ESY) C604.2 C604.3 C604.4	Differentiate the architectures of processor for different applicationDevelop programming in Microcontroller with 'C'Use of communication interfaces and protocolsDevelop I/O device interfacing
C604.1 (ESY) C604.2 C604.3 C604.4 C604.5	Differentiate the architectures of processor for different applicationDevelop programming in Microcontroller with 'C'Use of communication interfaces and protocolsDevelop I/O device interfacingDesign small Embedded systems

Following table provides the course outcome statements for one course in fifth and sixth

#### semesters of **E-Scheme**:

C504.1 (IEA)	Select suitable power device for specific application
C504.2	Use a type of chopper based on given application
C504.3	Use a type of inverter based on given application
C504.4	Build voltage stabilizer and SMPS
C504.5	Build UPS and various industrial control circuits
C504.6	Identify the protection circuits for given power electronic device
C603.1 (INA)	Identify different automation tools
C603.1 (INA) C603.2	Identify different automation toolsIdentify and understand different PLC parts and language used in PLC
C603.1 (INA) C603.2 C603.3	Identify different automation toolsIdentify and understand different PLC parts and language used in PLCImplement PLC hardware configuration for given application
C603.1 (INA) C603.2 C603.3 C603.4	Identify different automation toolsIdentify and understand different PLC parts and language used in PLCImplement PLC hardware configuration for given applicationBuild a ladder logic program for given application
C603.1 (INA) C603.2 C603.3 C603.4 C603.5	Identify different automation toolsIdentify and understand different PLC parts and language used in PLCImplement PLC hardware configuration for given applicationBuild a ladder logic program for given applicationAnalyze the concept of HMI

## **3.1.2.** CO-PO matrices of courses selected in **3.1.1** (5)

Following table indicates the CO-PO matrices for one course from each semester of G-

#### Scheme:

Course-					PO	Os						Course-					PC	)s				
Outcome	1	2	3	4	5	6	7	8	9	10		Outcome	1	2	3	4	5	6	7	8	9	10
C102.1	3	3	3	2	2	1	2	3	2	3		C207.1	3	3	3	3	2	3	2	3	1	3
C102.2	3	3	3	2	2	1	2	3	2	3		C207.2	3	3	3	3	2	2	2	3	1	3
C102.3	3	3	3	2	2	1	2	3	2	3		C207.3	3	3	3	2	2	-	2	3	1	3
C102.4	3	3	3	3	2	1	2	3	2	3		C207.4	3	3	3	3	2	3	2	3	1	3
C102.5	3	3	3	2	2	1	2	3	2	3		C207.5	3	3	3	3	2	3	2	3	1	3
C102.6	3	3	3	3	2	1	2	2	2	3		C207.6	3	3	3	3	2	2	2	3	1	3
C102(EPH)	3	3	3	3	2	1	2	3	2	3		C207(EEW)	3	3	3	3	2	3	2	3	1	3
Course					PO	Os	0		0			Course					PO	Os				
Outcome	1	2	3	4	5	6	7	8	9	10		Outcome	1	2	3	4	5	6	7	8	9	10
C304.1	3	3	3	3	3	2	2	3	2	3		C402.1	3	3	3	3	2	3	2	3	2	3
C304.2	3	3	3	3	3	2	2	3	2	3		C402.2	3	3	3	3	2	3	2	3	2	3
C304.3	3	3	3	3	3	2	2	3	2	3		C402.3	3	3	3	3	2	3	2	3	2	3
C304.4	3	3	3	3	3	2	2	3	2	3		C402.4	3	3	3	3	2	3	2	3	2	3
C304.5	3	3	3	3	3	2	2	3	2	3		C402.5	3	3	3	3	2	3	2	3	2	3
C304.6	3	3	3	3	3	2	2	3	2	3		C402.6	3	3	3	3	2	3	2	3	2	3
C304(EDC)	3	3	3	3	3	2	2	3	2	3		C402(IME)	3	3	3	3	2	3	2	3	2	3
Course-					P	Os					1	Course-					PO	Ds				
Outcome	1	2	3	4	5	6	7	8	9	10		Outcome	1	2	3	4	5	6	7	8	9	10
C501.1	3	3	3	3	2	2	2	3	-	3		C604.1	3	3	3	3	2	2	2	3	1	3
C501.2	3	3	3	3	2	2	2	3	-	3		C604.2	3	3	3	3	2	2	2	3	2	3
C501.3	3	3	3	3	3	3	2	3	-	3		C604.3	3	3	3	3	2	2	2	3	1	3
C501.4	3	3	3	3	3	3	2	3	2	3		C604.4	3	3	3	3	2	2	2	3	2	3
C501.5	3	3	3	3	3	3	3	3	2	3		C604.5	3	3	3	3	2	2	2	3	3	3
C501.6	3	3	3	3	3	3	3	3	3	3		C604.6	3	3	3	3	2	2	2	3	3	3
C501(CHN)	3	3	3	3	3	3	3	3	2	3		C604(ESY)	3	3	3	3	2	2	2	3	2	3

Following table indicates CO-PO matrices for one course in fifth and sixth semesters of

## **E-scheme:**

Course-	POs									
Outcome	1	2	3	4	5	6	7	8	9	10
C504.1	3	3	3	3	3	3	2	3	1	3
C504.2	3	3	3	3	3	3	2	3	1	3
C504.3	3	3	3	3	3	3	2	3	1	3
C504.4	3	3	3	2	3	3	2	3	1	3
C504.5	3	3	3	3	3	3	2	3	2	3
C504.6	3	3	3	2	1	1	2	3	1	3
C504(IEA)	3	3	3	3	3	3	2	3	2	3

Course-	POs									
Outcome	1	2	3	4	5	6	7	8	9	10
C603.1	3	3	3	3	3	2	2	3	1	3
C603.2	3	3	3	3	3	2	2	3	2	3
C603.3	3	3	3	3	3	2	2	3	1	3
C603.4	3	3	3	3	3	2	2	3	1	3
C603.5	3	3	3	3	3	2	2	3	2	3
C603.6	3	3	3	3	3	2	2	3	2	3
C603(INA)	3	3	3	3	3	2	2	3	2	3

**PSOs** 

2 3 4 3 3

3 3 3

3 3

3 3

3

3 3

3

1

3

3

3 3 3 3

3 3 3 3

3 3

3 3

3

PSOs							
1	2	3	4				
3	3	2	2				
3	2	2	2				
3	2	2	2				
3	2	2	2				
3	2	2	2				
3	2	2	2				
3	3	2	2				
	<b>1</b> 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	PS           1         2           3         3           3         2           3         2           3         2           3         2           3         2           3         2           3         2           3         2           3         2           3         2           3         2           3         3	PSOs         1       2       3         3       3       2         3       2       2         3       2       2         3       2       2         3       2       2         3       2       2         3       2       2         3       2       2         3       2       2         3       2       2         3       2       2         3       3       2				

Course-

Outcome

C304.1 C304.2

C304.3

C304.4

C304.5

C304.6

C304(EDC)

**PSOs** 

3 2

3 2

3 2

3 2

1 3

3

3

3

3 3 2 3

3

3 3 2 3

**2 3 4** 3 2 3

3

3

3

3

Following table indicates CO-PSO matrices for one course in all semesters of G-Scheme:

Course-

Outcome

C207.1

C207.2

C207.3

C207.4

C207.5

C207.6

C207(EEW)

Course-	PSOs							
Outcome	1	2	3	4				
C402.1	3	3	2	3				
C402.2	3	3	2	3				
C402.3	3	3	2	3				
C402.4	3	3	2	3				
C402.5	3	3	2	3				
C402.6	3	3	2	3				
C402(IME)	3	3	2	3				

Course-	PSOs					
Outcome	1	2	3	4		
C501.1	3	2	I	2		
C501.2	3	2	-	3		
C501.3	3	3	1	3		
C501.4	3	3	2	3		
C501.5	3	3	2	2		
C501.6	3	3	3	2		
C501(CHN)	3	3	2	3		

Course-	PSOs					
Outcome	1	2	3	4		
C604.1	3	2	1	2		
C604.2	3	3	2	2		
C604.3	3	2	1	3		
C604.4	3	3	2	3		
C604.5	3	3	3	3		
C604.6	3	2	3	2		
C604(ESY)	3	3	2	3		

Following table indicates CO-PSO matrices for one course of fifth and sixth semester of

#### **E-scheme:**

Course-	PSOs							
Outcome	1	2	3	4				
C504.1	3	3	1	3				
C504.2	3	3	1	3				
C504.3	3	3	1	3				
C504.4	3	3	1	3				
C504.5	3	3	2	3				
C504.6	3	3	1	3				
C504(IEA)	3	3	2	3				

Course-	PSOs						
Outcome	1	2	3	4			
C603.1	3	3	1	3			
C603.2	3	3	2	3			
C603.3	3	3	1	3			
C603.4	3	3	1	3			
C603.5	3	3	2	3			
C603.6	3	3	2	3			
C603(INA)	3	3	2	3			

Course	Course-		-	-		P0	Os			-	1.0
Course	Code	1	2	3	4	5	6	7	8	9	10
C101	ENG	3	3	3	1	2	1	2	3	3	3
C102	EPH	3	3	3	3	2	1	2	3	2	3
C103	ECH	3	3	3	3	2	1	2	3	2	3
C104	BMS	3	3	3	-	-	1	2	3	1	3
C105	EGG	3	3	2	3	2	2	2	2	1	3
C106	CMF	3	3	3	3	3	3	2	3	2	3
C107	WPX	3	3	3	2	2	2	2	3	1	3
C201	CMS	3	3	3	1	3	3	3	3	3	3
C202	APH	3	3	3	3	3	3	2	3	2	3
C203	ACH	3	3	3	3	3	3	2	3	2	3
C204	EEX	3	3	3	3	3	2	3	3	2	3
C205	EMS	3	3	3	-	2	1	2	3	1	3
C206	DLS	3	3	3	2	3	1	2	3	3	3
C207	EEW	3	3	3	3	2	3	2	3	1	3
C301	AMS	3	3	3	-	2	3	2	3	1	3
C302	EIM	3	3	3	3	2	2	2	3	2	3
C303	EEN	3	3	3	3	3	3	2	3	2	3
C304	EDC	3	3	3	3	3	2	2	3	2	3
C305	PDT	3	3	3	3	3	2	2	3	2	3
C306	PIC	3	3	3	3	3	2	2	3	1	3
C307	PPO	3	3	3	3	3	2	2	3	3	3
C401	EST	3	3	2	-	3	3	2	3	1	3
C402	IME	3	3	3	3	2	3	2	3	2	3
C403	PEL	3	3	3	3	3	2	2	3	2	3
C404	LIC	3	3	3	3	2	1	2	3	2	3
C405	PCS	3	3	3	3	2	2	2	3	3	3
C406	VBA	3	3	3	3	3	2	2	3	2	3
C407	PPT	3	3	3	3	3	2	2	3	3	3
C501	CHN	3	3	3	3	3	3	3	3	2	3
C502	MIC	3	3	3	3	1	3	2	3	2	3
C503	CSY	3	3	3	3	2	2	2	3	2	3
C504	IEA	3	3	3	3	3	3	2	3	2	3
C505	AIE	3	3	3	3	3	3	2	3	2	3
C506	BSC	2	2	3	1	2	2	3	3	3	3
C507	EDP	2	2	3	1	3	3	3	3	3	3
C508	PPT	3	3	3	3	3	2	2	3	3	3
C601	MAN	1	2	3	3	3	3	3	3	3	3
C602	IDR	3	3	3	3	3	2	2	3	2	3
C603	IAU	3	3	3	3	3	2	2	3	2	3
C604	ESY	3	3	3	3	2	2	2	3	2	3
C605	VLS	3	3	3	3	2	2	2	3	3	3
C606	SSO	3	3	3	3	2	3	3	3	1	3
C607	IPR	3	3	3	3	3	2	3	3	3	3
To	otal	125	126	127	107	107	95	94	128	89	129
Ave	rage	2.91	2.93	2.95	2.74	2.55	2.21	2.19	2.98	2.07	3.00
Ta	rget	5	5	5	5	5	4	4	5	4	5

## 3.1.3. Program level Course-PO and PSO matrix of all courses (10)

C	Course-	PSOs						
Course	Code	1	2	3	4			
C101	ENG	2	-	3	3			
C102	EPH	3	3	2	2			
C103	ECH	3	3	2	2			
C104	BMS	3	1	1	2			
C105	EGG	3	-	2	2			
C106	CMF	3	3	3	3			
C107	WPX	3	2	3	3			
C201	CMS	1	-	3	3			
C202	APH	3	3	3	2			
C203	ACH	3	2	3	3			
C204	EEX	3	3	3	3			
C205	EMS	3	1	1	3			
C206	DLS	2	2	3	3			
C207	EEW	3	3	3	3			
C301	AMS	3	-	2	2			
C302	EIM	3	3	2	3			
C303	EEN	3	3	2	3			
C304	EDC	3	3	2	3			
C305	PDT	3	3	2	3			
C306	PIC	3	3	2	3			
C307	PPO	3	-	3	3			
C401	EST	3	-	3	3			
C402	IME	3	3	2	3			
C403	PEL	3	3	2	3			
C404	LIC	3	3	2	3			
C405	PCS	3	3	3	3			
C406	VBA	2	1	2	3			
C407	PPT	3	-	3	3			
C501	CHN	3	3	2	3			
C502	MIC	3	2	2	3			
C503	CSY	3	3	2	3			
C504	IEA	3	3	2	3			
C505	AIE	3	3	2	3			
C506	BSC	2	-	3	3			
C507	EDP	3	-	3	3			
C508	PPT	3	-	3	3			
C601	MAN	3	-	3	3			
C602	IDR	3	3	2	3			
C603	IAU	3	3	2	3			
C604	ESY	3	3	2	3			
C605	VLS	3	3	3	3			
C606	SSO	3	1	3	3			
C607	IPR	3	1	3	3			
-		160		101	100			
r	Fotal	123	82	104	123			
A	verage	2.86	2.56	2.42	2.86			
Τ	arget	5	5	4	5			

#### 3.2. Attainment of Course Outcomes (40)

**3.2.1.** Describe the assessment processes used to gather the data upon which the evaluation of Course Outcome is based (10)

The flowchart describes the assessment process



#### 1. Theory

• Progressive Test (PT):

For theory subjects, Progressive test is conducted twice in every semester. The average of two Progressive test is considered to calculate the sessional marks which reflect in MSBTE results.

• Assignment/ Tutorial:

After completion of every chapter, tutorial questions from previous years board examination paper, problems and questions from standard reference books are given to the student to analyze and improve their writing skill. The assessment chart is as shown below and is maintained on the assignment notebook of all the students.

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## 2. Practical and Term Work:

The manual evaluation for laboratory experiments is based on the practical performance, laboratory manual questions, and oral. This evaluation is carried out for the all subjects with practical. These marks are considered for assessment of term work which reflects in MSBTE results.

• Progressive Skill Test (PST):

For laboratory experiments, PST is conducted after completion of 80% of the experiments. The PST marks are considered for calculation of final practical examination marks which reflect in MSBTE results.



• Multiple Choice Question (MCQ):

MCQs are prepared for every chapter. Test is taken based on the MCQs to improve their basic knowledge about the concept. This additional evaluation tool is used to observe the understanding level of students.



## 3. Project Evaluation:

The final year projects are evaluated on the basis of the weekly progress report of group of four students. A student diary/ activity report is maintained in laboratory and it is supervised by the respective faculty and Head of Department. The assessment of project work is based on the continuous progress, consistency in work, presentation, and demonstration of the project. These marks are considered for project term work which reflects in MSBTE results.



## **3.2.2.** Record the attainment of Course Outcomes of all courses with respect to set attainment levels (30)



Course	Course-	No. of	80% of Board Exam	20% of Class Test	100% Attainment
C101	Code	Students	Attainment Level	Attainment Level	Level
C101	ENU	41	2.4	0.8	3
C102	EPH	41	1.0	0	1.6
C103	ECH	41	1.6	0	1.6
C104	BMS	41	0.8	0	0.8
C105	EGG	41	2.4	-	2.4
C106	CMF	41	2.4	-	2.4
C107	WPX	41	2.4	-	2.4
C201	CMS	41	2.4	0.6	3
C202	APH	41	2.4	0.4	2.8
C203	ACH	41	2.4	0.2	2.6
C204	EEX	41	1.6	0.6	2.2
C205	EMS	41	0	0.6	0.6
C206	DLS	41	2.4	-	2.4
C207	EEW	41	2.4	-	2.4
C301	AMS	63	0.8	0.2	1
C302	EIM	63	1.6	0.4	2
C303	EEN	63	2.4	0.6	3
C304	EDC	63	2.4	0.6	3
C305	PDT	63	2.4	0.6	3
C306	PIC	63	2.4	-	2.4
C307	PPO	63	2.4	-	2.4
C401	EST	63	2.4	0.6	3
C402	IME	63	2.4	0.6	3
C403	PEL	63	2.4	0.6	3
C404	LIC	63	2.4	0.6	3
C405	PCS	63	2.4	0.6	3
C406	VBA	63	2.4	-	2.4
C407	PPT	63	2.4	-	2.4
C501	CHN	58	2.4	0.6	3
C502	MIC	58	2.4	0.6	3
C503	CSY	58	2.4	0.6	3
C504	IEA	58	2.4	0.6	3
C505	AIE	58	2.4	0.6	3
C506	BSC	58	2.4	-	2.4
C507	EDP	58	2.4	-	2.4
C508	PPT	58	2.4	-	2.4
C601	MAN	58	1.6	0.6	2.2
C602	IDR	58	2.4	0.6	3
C603	IAU	58	2.4	0.6	3
C604	ESY	58	2.4	0.6	3
C605	VLS	58	2.4	0.6	3
C606	SSO	58	2.4	-	2.4
C607	IPR	58	2.4	-	2.4

## Attainment of course outcomes of all courses with respect to set attainment levels - 2015-16

Course	Course-	No. of Students	80% of Board Exam	20% of Class Test	100% Attainment
C101	ENC		Attainment Level	Attainment Level	Level
C101	ENU	40	2.4	0.0	3
C102	ЕГП	40	2.4	0.2	2.0
C103	ECH	48	2.4	0.2	2.6
C104	BMS	48	1.6	0.4	2
C105	EGG	48	2.4	-	2.4
C106	CMF	48	2.4	-	2.4
C107	WPX	48	2.4	-	2.4
C201	CMS	45	2.4	0.6	3
C202	APH	45	2.4	0.4	2.8
C203	ACH	45	2.4	0.4	2.8
C204	EEX	45	1.6	0.2	1.8
C205	EMS	45	2.4	0.6	3
C206	DLS	45	2.4	-	2.4
C207	EEW	45	2.4	-	2.4
C301	AMS	71	0.8	0.4	1.2
C302	EIM	71	2.4	0.6	3
C303	EEN	71	2.4	0.4	2.8
C304	EDC	71	2.4	0.6	3
C305	PDT	71	1.6	0.6	2.2
C306	PIC	71	2.4	-	2.4
C307	PPO	71	2.4	-	2.4
C401	EST	68	2.4	0.6	3
C402	IME	68	2.4	0.6	3
C403	PEL	68	2.4	0.6	3
C404	LIC	68	2.4	0.4	2.8
C405	PCS	68	2.4	0.6	3
C406	VBA	68	2.4	-	2.4
C407	PPT	68	2.4	-	2.4
C501	CHN	54	2.4	0.6	3
C502	MIC	54	2.4	0.6	3
C503	CSY	54	2.4	0.6	3
C504	IEA	54	2.4	0.6	3
C505	AIE	54	2.4	0.6	3
C506	BSC	54	2.4	-	2.4
C507	EDP	54	2.4	-	2.4
C508	PPT	54	2.4	-	2.4
C601	MAN	54	2.4	0.6	3
C602	IDR	54	2.4	0.6	3
C603	IAU	54	2.4	0.6	3
C604	ESY	54	2.4	0.6	3
C605	VLS	54	2.4	0.6	3
C606	SSO	54	2.4	-	2.4
C607	IPR	54	2.4	-	2.4

## Attainment of course outcomes of all courses with respect to set attainment levels - 2014-15

Course	Course-	No. of Students	80% of Board Exam	20% of Class Test	100% Attainment
C101	ENC	Students	Attainment Level	Attainment Level	Level
C101	ENU	62	2.4	0.6	3
C102	ЕГП	62	2.4	0.6	3
C103	ECH	62	2.4	0.6	3
C104	BMS	62	1.6	0.6	2.2
C105	EGG	62	2.4	-	2.4
C106	CMF	62	2.4	-	2.4
C107	WPX	62	2.4	-	2.4
C201	CMS	62	2.4	0.4	2.8
C202	APH	62	2.4	0.6	3
C203	ACH	62	2.4	0	2.4
C204	EEX	62	2.4	0.6	3
C205	EMS	62	2.4	0.6	3
C206	DLS	62	2.4	-	2.4
C207	EEW	62	2.4	-	2.4
C301	AMS	77	0	0.6	0.6
C302	EIM	77	2.4	0.6	3
C303	EEN	77	2.4	0.6	3
C304	EDC	77	2.4	0.6	3
C305	PDT	77	2.4	0.6	3
C306	PIC	77	2.4	-	2.4
C307	PPO	77	2.4	-	2.4
C401	EST	75	2.4	0.6	3
C402	IME	75	2.4	0.6	3
C403	PEL	75	2.4	0.6	3
C404	LIC	75	2.4	0.6	3
C405	PCS	75	2.4	0.6	3
C406	VBA	75	2.4	-	2.4
C407	PPT	75	2.4	-	2.4
C501	PCA	54	2.4	0.6	3
C502	MIC	54	2.4	0.6	3
C503	PCS	54	2.4	0.6	3
C504	IEA	54	2.4	0.6	3
C505	AIE	54	2.4	0.6	3
C506	MEE	54	2.4	-	2.4
C507	PPR	54	2.4	-	2.4
C508	IPD	54	2.4	-	2.4
C601	MAN	54	2.4	0.6	3
C602	CSS	54	2.4	0.6	3
C603	INA	54	2.4	0.6	3
C604	IPR	54	2.4	-	2.4
C605	PPS	54	2.4	-	2.4
C606	DCN	54	2.4	0.6	3
C607	EDD	54	2.4	0.6	3

## Attainment of course outcomes of all courses with respect to set attainment levels - 2013-14


#### Semester wise Course attainment levels for last three years are indicated below:

Course	Course	2015	2014	201.	4
	Code	-16	-15	-14	3
C501	CHN /PCA	3	3	3	<sup>3</sup> 2 2015-16
C502	MIC	3	3	3	
C502	CSY	3	3	-	
(G)		5	5		8° C A B B B C B B B = 2013-14
C503	PCS	-	-	3	AT ALCS PC THE AT BS ME HE PP
(E)				-	Cr (D'RT)
C504	IEA	3	3	3	· •
C505	AIE	3	3	3	
C506	BSC	2.4	2.4	-	
(G)					
C506	MEE	-	-	2.4	
(E)					
C507	EDP	2.4	2.4	2.4	
/508	/IPD				
C508	PPT	2.4	2.4	2.4	
/507	/PPR				
~	1				
Course	Course	2015	2014	2013	
Course	Course Code	2015 -16	2014 -15	2013 -14	
Course C601	Course Code MAN	<b>2015</b> -16 2.2	<b>2014</b> -15 3	<b>2013</b> -14 3	4
Course C601 C602	Course Code MAN IDR	<b>2015</b> -16 2.2 3	<b>2014</b> -15 3 3	<b>2013</b> -14 3 -	4
Course C601 C602 (G)	Course Code MAN IDR	<b>2015</b> -16 2.2 3	<b>2014</b> -15 3 3	<b>2013</b> -14 3 -	
Course C601 C602 (G) C602 (E)	Course Code MAN IDR CSS	<b>2015</b> -16 2.2 3	<b>2014</b> -15 3 3 -	<b>2013</b> -14 3 - 3	4 3 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Course C601 C602 (G) C602 (E) C602	Course Code MAN IDR CSS	<b>2015</b> -16 2.2 3 -	<b>2014</b> -15 3 3 -	<b>2013</b> -14 3 - 3	4 3 2 1 1 2 1 2 2 1 2 2 2 2 2 2 2 2 2 2 2
Course C601 C602 (G) C602 (E) C603 C604	Course Code MAN IDR CSS IAU	<b>2015</b> -16 2.2 3 - 3 3	<b>2014</b> -15 3 3 - - 3 2	<b>2013</b> -14 3 - 3 3 3 2	4 3 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Course C601 C602 (G) C602 (E) C603 C604 /607	Course Code MAN IDR CSS IAU ESY	<b>2015</b> -16 2.2 3 - 3 3 3	<b>2014</b> -15 3 3 - - 3 3 3	<b>2013</b> -14 3 - 3 3 3 3	$\begin{array}{c} 4 \\ 3 \\ 2 \\ 1 \\ 0 \\ - 2015-16 \\ - 2015-16 \\ - 2014-15 \\ - 2013-14 \\ - 2$
Course C601 C602 (G) C602 (E) C603 C604 /607 C605	Course Code MAN IDR CSS IAU ESY /EDD VI S	<b>2015</b> -16 2.2 3 - 3 3 3 3	<b>2014</b> -15 3 3 - 3 3 3 3 3 3	<b>2013</b> -14 3 - 3 3 3 3	$ \begin{array}{c} 4 \\ 3 \\ 2 \\ 1 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$
Course C601 C602 (G) C602 (E) C603 C604 /607 C605 (G)	Course Code MAN IDR CSS IAU ESY /EDD VLS	<b>2015</b> -16 2.2 3 - 3 3 3 3	<b>2014</b> -15 3 3 - 3 3 3 3	<b>2013</b> -14 3 - 3 3	4 3 2 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
Course C601 C602 (G) C602 (E) C603 C604 /607 C605 (G) C605	Course Code MAN IDR CSS IAU ESY /EDD VLS PPS	<b>2015</b> -16 2.2 3 - 3 3 3	<b>2014</b> -15 3 3 - 3 3 3	<b>2013</b> -14 3 - 3 - 3	$ \begin{array}{c} 4 \\ 3 \\ 2 \\ 1 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$
Course C601 C602 (G) C602 (E) C603 C604 /607 C605 (G) C605 (E)	Course Code MAN IDR CSS IAU ESY /EDD VLS PPS	<b>2015</b> -16 2.2 3 - 3 3	<b>2014</b> -15 3 3 3 3 3	<b>2013</b> -14 3 - 3 - 3 - 2.4	4 3 2 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
Course C601 C602 (G) C602 (E) C603 C604 /607 C605 (G) C605 (E) C606	Course Code MAN IDR CSS IAU ESY /EDD VLS PPS SSO	<b>2015</b> -16 2.2 3 - 3 3 - - 2.4	<b>2014</b> -15 3 3 3 - 3 3 - 2.4	<b>2013</b> -14 3 - 3 3 - 2.4	4 3 2 1 0 4 3 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0
Course C601 C602 (G) C602 (E) C603 C604 /607 C605 (G) C605 (E) C606 (G) C606 (G)	Course Code MAN IDR CSS IAU ESY /EDD VLS PPS SSO	<b>2015</b> -16 2.2 3 - 3 3 3 - 2.4	<b>2014</b> -15 3 3 3 3 3 2.4	<b>2013</b> -14 3 - 3 - 3 2.4	4 3 2 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
Course C601 C602 (G) C602 (E) C603 C604 /607 C605 (G) C605 (E) C606 (G) C606 (G) C606	Course Code MAN IDR CSS IAU ESY /EDD VLS PPS SSO SSO	<b>2015</b> -16 2.2 3 - 3 3 - 2.4 -	<b>2014</b> -15 3 3 - - 3 3 - - 2.4	<b>2013</b> -14 3 - 3 - 2.4 - 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	4 3 2 1 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
Course C601 C602 (G) C602 (E) C603 C604 /607 C605 (G) C605 (E) C606 (G) C606 (G) C606 (E)	Course Code MAN IDR CSS IAU ESY /EDD VLS PPS SSO DCN	<b>2015</b> -16 2.2 3 - 3 3 - 2.4	<b>2014</b> -15 3 3 - 3 3 3 - 2.4	<b>2013</b> -14 3 - 3 - 2.4 - 3 3	4 3 2 1 0 
Course C601 C602 (G) C602 (E) C603 C604 /607 C605 (G) C605 (E) C606 (G) C606 (E) C607 C607 C605 (C) C606 (C) C606 (C) C607 C6	Course Code MAN IDR CSS IAU ESY /EDD VLS PPS SSO DCN IPR	<b>2015</b> -16 2.2 3 - 3 3 - 2.4 - 2.4	<b>2014</b> -15 3 3 - 3 3 - 2.4 - 2.4	<b>2013</b> -14 3 - 3 - 2.4 - 3 2.4 - 3 2.4	4 2 2 2 2 2 2 2 2 2 2 2 2 2

#### **3.3.** Attainment of Program Outcomes & Program Specific Outcomes (40)

#### 3.3.1. Describe assessment tools and processes used for assessing the attainment of

#### each POs and PSOs as mentioned in Annexure 1 (10)

The table given below describes the assessment tools and processes used for assessing the attainment of each POs and PSOs.

Activity/ Assessment Tool	Assessment Process
Direct attainment	
• MSBTE Board	Theory and Practical examinations are conducted
Examination	and assessed as per the MSBTE norms
	Two progressive tests are conducted and assessed
Progressive Test	by the subject teacher for every semester
Indirect attainment	
• Parents	Feedback from Parents, Alumni, Recently Passed
• Alumni	Students, Current Students and Industry Experts
• Recently Passed Students	are taken.
• Current Students	
• Industry Experts	



# **3.3.2.** Provide results of evaluation of each PO & PSO (30)

COURSE	COURSE-CODE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	<b>PO8</b>	PO9	PO10
C101	ENG	3.00	3.00	3.00	1.00	2.00	1.00	2.00	3.00	3.00	3.00
C102	EPH	1.60	1.60	1.60	1.60	1.07	0.53	1.07	1.60	1.07	1.60
C103	ECH	1.60	1.60	1.60	1.60	1.07	0.53	1.07	1.60	1.07	1.60
C104	BMS	0.80	0.80	0.80	0.00	0.00	0.27	0.53	0.80	0.27	0.80
C105	EGG	2.40	2.40	1.60	2.40	1.60	1.60	1.60	1.60	0.80	2.40
C106	CMF	2.40	2.40	2.40	2.40	2.40	2.40	1.60	2.40	1.60	2.40
C107	WPX	2.40	2.40	2.40	1.60	1.60	1.60	1.60	2.40	0.80	2.40
C201	CMS	3.00	3.00	3.00	1.00	3.00	3.00	3.00	3.00	3.00	3.00
C202	APH	2.80	2.80	2.80	2.80	2.80	2.80	1.87	2.80	1.87	2.80
C203	ACH	2.60	2.60	2.60	2.60	2.60	2.60	1.73	2.60	1.73	2.60
C204	EEX	2.20	2.20	2.20	2.20	2.20	1.47	2.20	2.20	1.47	2.20
C205	EMS	0.60	0.60	0.60	0.00	0.40	0.20	0.40	0.60	0.20	0.60
C206	DLS	2.40	2.40	2.40	1.60	2.40	0.80	1.60	2.40	2.40	2.40
C207	EEW	2.40	2.40	2.40	2.40	1.60	2.40	1.60	2.40	0.80	2.40
C301	AMS	1.00	1.00	1.00	0.00	0.67	1.00	0.67	1.00	0.33	1.00
C302	EIM	2.00	2.00	2.00	2.00	1.33	1.33	1.33	2.00	1.33	2.00
C303	EEN	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	2.00	3.00
C304	EDC	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.00	3.00
C305	PDT	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.00	3.00
C306	PIC	2.40	2.40	2.40	2.40	2.40	1.60	1.60	2.40	0.80	2.40
C307	PPO	2.40	2.40	2.40	2.40	2.40	1.60	1.60	2.40	2.40	2.40
C401	EST	3.00	3.00	2.00	0.00	3.00	3.00	2.00	3.00	1.00	3.00
C402	IME	3.00	3.00	3.00	3.00	2.00	3.00	2.00	3.00	2.00	3.00
C403	PEL	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.00	3.00
C404	LIC	3.00	3.00	3.00	3.00	2.00	1.00	2.00	3.00	2.00	3.00
C405	PCS	3.00	3.00	3.00	3.00	2.00	2.00	2.00	3.00	3.00	3.00
C406	VBA	2.40	2.40	2.40	2.40	2.40	1.60	1.60	2.40	1.60	2.40
C407	PPT	2.40	2.40	2.40	2.40	2.40	1.60	1.60	2.40	2.40	2.40
C501	CHN	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00
C502	MIC	3.00	3.00	3.00	3.00	1.00	3.00	2.00	3.00	2.00	3.00
C503	CSY	3.00	3.00	3.00	3.00	2.00	2.00	2.00	3.00	2.00	3.00
C504	IEA	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	2.00	3.00
C505	AIE	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	2.00	3.00
C506	BSC	1.60	1.60	2.40	0.80	1.60	1.60	2.40	2.40	2.40	2.40
C507	EDP	1.60	1.60	2.40	0.80	2.40	2.40	2.40	2.40	2.40	2.40
C508	PPT	2.40	2.40	2.40	2.40	2.40	1.60	1.60	2.40	2.40	2.40
C601	MAN	0.73	1.47	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
C602	IDR	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.00	3.00
C603	IAU	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.00	3.00
C604	ESY	3.00	3.00	3.00	3.00	2.00	2.00	2.00	3.00	2.00	3.00
C605	VLS	3.00	3.00	3.00	3.00	2.00	2.00	2.00	3.00	3.00	3.00
C606	SSO	2.40	2.40	2.40	2.40	1.60	2.40	2.40	2.40	0.80	2.40
C607	IPR	2.40	2.40	2.40	2.40	2.40	1.60	2.40	2.40	2.40	2.40
	TOTAL	104.93	105.67	106.20	93.80	91.93	81.73	78.67	107.20	/6.53	108.00
Direc	t Attainment	2.44	2.46	2.47	2.41	2.19	1.90	1.83	2.49	1.78	2.51
80% of D	birect Attainment	1.95	1.97	1.98	1.92	1.75	1.52	1.46	1.99	1.42	2.01
20% of in	direct attainment	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Attainme	ent Level out of 3	2.55	2.57	2.58	2.52	2.35	2.12	2.06	2.59	2.02	2.61
Attainme	ent Level out of 5	5	5	5	5	4	4	4	5	4	5

#### **Evaluation of POs in the academic year 2015-16:**

Self Assessment Report

COURSE	COURSE-CODE	PSO1	PSO2	PSO3	PSO4	
C101	ENG	2.00	0.00	3.00	3.00	
C102	EPH	1.60	1.60	1.07	1.07	
C103	ECH	1.60	1.60	1.07	1.07	
C104	BMS	0.80	0.27	0.27	0.53	
C105	EGG	2.40	0.00	1.60	1.60	
C106	CMF	2.40	2.40	2.40	2.40	
C107	WPX	2.40	1.60	2.40	2.40	
C201	CMS	1.00	0.00	3.00	3.00	
C202	APH	2.80	2.80	2.80	1.87	
C203	ACH	2.60	1.73	2.60	2.60	
C204	EEX	2.20	2.20	2.20	2.20	
C205	EMS	0.60	0.20	0.20	0.60	
C206	DLS	1.60	1.60	2.40	2.40	
C207	EEW	2.40	2.40	2.40	2.40	
C301	AMS	1.00	0.00	0.67	0.67	
C302	EIM	2.00	2.00	1.33	2.00	
C303	EEN	3.00	3.00	2.00	3.00	
C304	EDC	3.00	3.00	2.00	3.00	
C305	PDT	3.00	3.00	2.00	3.00	
C306	PIC	2.40	2.40	1.60	2.40	
C307	РРО	2.40	0.00	2.40	2.40	
C401	EST	3.00	0.00	3.00	3.00	
C402	IME	3.00	3.00	2.00	3.00	
C403	PEL	3.00	3.00	2.00	3.00	
C404	LIC	3.00	3.00	2.00	3.00	
C405	PCS	3.00	3.00	3.00	3.00	
C406	VBA	1.60	0.80	1.60	2.40	
C407	РРТ	2.40	0.00	2.40	2.40	
C501	CHN	3.00	3.00	2.00	3.00	
C502	MIC	3.00	2.00	2.00	3.00	
C503	CSY	3.00	3.00	2.00	3.00	
C504	IEA	3.00	3.00	2.00	3.00	
C505	AIE	3.00	3.00	2.00	3.00	
C506	BSC	1.60	0.00	2.40	2.40	
C507	EDP	2.40	0.00	2.40	2.40	
C508	PPT	2.40	0.00	2.40	2.40	
C601	MAN	2.20	0.00	2.20	2.20	
C602	IDR	3.00	3.00	2.00	3.00	
C603	IAU	3.00	3.00	2.00	3.00	
C604	ESY	3.00	3.00	2.00	3.00	
C605	VLS	3.00	3.00	3.00	3.00	
C606	SSO	2.40	0.80	2.40	2.40	
C607	IPR	2.40	0.80	2.40	2.40	
	TOTAL	102.60	72.20	88.60	104.60	
Dire	ct Attainment	2.39	2.26	2.06	2.43	
80% of 1	Direct Attainment	1.91	1.81	1.65	1.95	
20% of i	ndirect attainment	0.6	0.6	0.6	0.6	
Attainm	ent Level out of 3	2.51	2.41	2.25	2.55	
Attainm	ent Level out of 5	5	4	4	5	

# Evaluation of PSOs in the academic year 2015-16

Evaluation	of POs in	the academic	year 2014-15 :
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COURSE	COURSE-CODE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C101	ENG	3.00	3.00	3.00	1.00	2.00	1.00	2.00	3.00	3.00	3.00
C102	EPH	2.60	2.60	2.60	2.60	1.73	0.87	1.73	2.60	1.73	2.60
C103	ECH	2.60	2.60	2.60	2.60	1.73	0.87	1.73	2.60	1.73	2.60
C104	BMS	2.00	2.00	2.00	0.00	0.00	0.67	1.33	2.00	0.67	2.00
C105	EGG	2.40	2.40	1.60	2.40	1.60	1.60	1.60	1.60	0.80	2.40
C106	CMF	2.40	2.40	2.40	2.40	2.40	2.40	1.60	2.40	1.60	2.40
C107	WPX	2.40	2.40	2.40	1.60	1.60	1.60	1.60	2.40	0.80	2.40
C201	CMS	3.00	3.00	3.00	1.00	3.00	3.00	3.00	3.00	3.00	3.00
C202	APH	2.80	2.80	2.80	2.80	2.80	2.80	1.87	2.80	1.87	2.80
C203	ACH	2.80	2.80	2.80	2.80	2.80	2.80	1.87	2.80	1.87	2.80
C204	EEX	1.80	1.80	1.80	1.80	1.80	1.20	1.80	1.80	1.20	1.80
C205	EMS	3.00	3.00	3.00	0.00	2.00	1.00	2.00	3.00	1.00	3.00
C206	DLS	2.40	2.40	2.40	1.60	2.40	0.80	1.60	2.40	2.40	2.40
C207	EEW	2.40	2.40	2.40	2.40	1.60	2.40	1.60	2.40	0.80	2.40
C301	AMS	1.20	1.20	1.20	0.00	0.80	1.20	0.80	1.20	0.40	1.20
C302	EIM	3.00	3.00	3.00	3.00	2.00	2.00	2.00	3.00	2.00	3.00
C303	EEN	2.80	2.80	2.80	2.80	2.80	2.80	1.87	2.80	1.87	2.80
C304	EDC	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.00	3.00
C305	PDT	2.20	2.20	2.20	2.20	2.20	1.47	1.47	2.20	1.47	2.20
C306	PIC	2.40	2.40	2.40	2.40	2.40	1.60	1.60	2.40	0.80	2.40
C307	PPO	2.40	2.40	2.40	2.40	2.40	1.60	1.60	2.40	2.40	2.40
C401	EST	3.00	3.00	2.00	0.00	3.00	3.00	2.00	3.00	1.00	3.00
C402	IME	3.00	3.00	3.00	3.00	2.00	3.00	2.00	3.00	2.00	3.00
C403	PEL	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.00	3.00
C404	LIC	2.80	2.80	2.80	2.80	1.87	0.93	1.87	2.80	1.87	2.80
C405	PCS	3.00	3.00	3.00	3.00	2.00	2.00	2.00	3.00	3.00	3.00
C406	VBA	2.40	2.40	2.40	2.40	2.40	1.60	1.60	2.40	1.60	2.40
C407	PPT	2.40	2.40	2.40	2.40	2.40	1.60	1.60	2.40	2.40	2.40
C501	CHN	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00
C502	MIC	3.00	3.00	3.00	3.00	1.00	3.00	2.00	3.00	2.00	3.00
C503	CSY	3.00	3.00	3.00	3.00	2.00	2.00	2.00	3.00	2.00	3.00
C504	IEA	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	2.00	3.00
C505	AIE	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	2.00	3.00
C506	BSC	1.60	1.60	2.40	0.80	1.60	1.60	2.40	2.40	2.40	2.40
C507	EDP	1.60	1.60	2.40	0.80	2.40	2.40	2.40	2.40	2.40	2.40
C508	PPT	2.40	2.40	2.40	2.40	2.40	1.60	1.60	2.40	2.40	2.40
C601	MAN	1.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
C602	IDR	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.00	3.00
C603	IAU	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.00	3.00
C604	ESY	3.00	3.00	3.00	3.00	2.00	2.00	2.00	3.00	2.00	3.00
C605	VLS	3.00	3.00	3.00	3.00	2.00	2.00	2.00	3.00	3.00	3.00
C606	820	2.40	2.40	2.40	2.40	1.60	2.40	2.40	2.40	0.80	2.40
C607	IPK	2.40	2.40	2.40	2.40	2.40	1.60	2.40	2.40	2.40	2.40
Dince	IUIAL	110.60	111.60	112.40	96.20	95.13	84.40	82.93	113.40	79.67	114.20
		2.57	2.60	2.61	2.47	2.27	1.96	1.93	2.64	1.85	2.66
00% 01 D	direct Attainment	2.06	2.08	2.09	1.97	1.81	1.57	1.54	2.11	1.48	2.12
20% OI IN	urrect attainment	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Attainme	nt Level out of 3	2.66	2.68	2.69	2.57	2.41	2.17	2.14	2.71	2.08	2.72
Attainme	nt Level out of 5	5	5	5	5	4	4	4	5	4	5

COURSE	COURSE-CODE	PSO1	PSO2	PSO3	PSO4
C101	ENG	2.00	0.00	3.00	3.00
C102	EPH	2.60	2.60	1.73	1.73
C103	ECH	2.60	2.60	1.73	1.73
C104	BMS	2.00	0.67	0.67	1.33
C105	EGG	2.40	0.00	1.60	1.60
C106	CMF	2.40	2.40	2.40	2.40
C107	WPX	2.40	1.60	2.40	2.40
C201	CMS	1.00	0.00	3.00	3.00
C202	APH	2.80	2.80	2.80	1.87
C203	ACH	2.80	1.87	2.80	2.80
C204	EEX	1.80	1.80	1.80	1.80
C205	EMS	3.00	1.00	1.00	3.00
C206	DLS	1.60	1.60	2.40	2.40
C207	EEW	2.40	2.40	2.40	2.40
C301	AMS	1.20	0.00	0.80	0.80
C302	EIM	3.00	3.00	2.00	3.00
C303	EEN	2.80	2.80	1.87	2.80
C304	EDC	3.00	3.00	2.00	3.00
C305	PDT	2.20	2.20	1.47	2.20
C306	PIC	2.40	2.40	1.60	2.40
C307	PPO	2.40	0.00	2.40	2.40
C401	EST	3.00	0.00	3.00	3.00
C402	IME	3.00	3.00	2.00	3.00
C403	PEL	3.00	3.00	2.00	3.00
C404	LIC	2.80	2.80	1.87	2.80
C405	PCS	3.00	3.00	3.00	3.00
C406	VBA	1.60	0.80	1.60	2.40
C407	PPT	2.40	0.00	2.40	2.40
C501	CHN	3.00	3.00	2.00	3.00
C502	MIC	3.00	2.00	2.00	3.00
C503	CSY	3.00	3.00	2.00	3.00
C504	IEA	3.00	3.00	2.00	3.00
C505	AIE	3.00	3.00	2.00	3.00
C506	BSC	1.60	0.00	2.40	2.40
C507	EDP	2.40	0.00	2.40	2.40
C508	PPT	2.40	0.00	2.40	2.40
C601	MAN	3.00	0.00	3.00	3.00
C602	IDR	3.00	3.00	2.00	3.00
C603	IAU	3.00	3.00	2.00	3.00
C604	ESY	3.00	3.00	2.00	3.00
C605	VLS	3.00	3.00	3.00	3.00
C606	SSO	2.40	0.80	2.40	2.40
C607	IPR	2.40	0.80	2.40	2.40
	TOTAL	108.80	74.93	91.73	109.67
Dire	ct Attainment	2.53	2.34	2.13	2.55
80% of 1	Direct Attainment	2.02	1.87	1.71	2.04
20% of i	ndirect attainment	0.60	0.60	0.60	0.60
Attainm	ent Level out of 3	2.62	2.47	2.31	2.64
Attainm	ent Level out of 5	5	4	4	5

# **Evaluation of PSOs in the academic year 2014-15:**

Evaluation	of POs in	the academic y	ear 2013-14:
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COURSE	COURSE-CODE	PO1	PO2	PO3	PO4	PO5	PO6	<b>PO7</b>	PO8	PO9	PO10
C101	ENG	3.00	3.00	3.00	1.00	2.00	1.00	2.00	3.00	3.00	3.00
C102	EPH	3.00	3.00	3.00	3.00	2.00	1.00	2.00	3.00	2.00	3.00
C103	ECH	3.00	3.00	3.00	3.00	2.00	1.00	2.00	3.00	2.00	3.00
C104	BMS	2.20	2.20	2.20	0.00	0.00	0.73	1.47	2.20	0.73	2.20
C105	EGG	2.40	2.40	1.60	2.40	1.60	1.60	1.60	1.60	0.80	2.40
C106	CMF	2.40	2.40	2.40	2.40	2.40	2.40	1.60	2.40	1.60	2.40
C107	WPX	2.40	2.40	2.40	1.60	1.60	1.60	1.60	2.40	0.80	2.40
C201	CMS	2.80	2.80	2.80	0.93	2.80	2.80	2.80	2.80	2.80	2.80
C202	APH	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	2.00	3.00
C203	ACH	2.40	2.40	2.40	2.40	2.40	2.40	1.60	2.40	1.60	2.40
C204	EEX	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00	2.00	3.00
C205	EMS	3.00	3.00	3.00	0.00	2.00	1.00	2.00	3.00	1.00	3.00
C206	DLS	2.40	2.40	2.40	1.60	2.40	0.80	1.60	2.40	2.40	2.40
C207	EEW	2.40	2.40	2.40	2.40	1.60	2.40	1.60	2.40	0.80	2.40
C301	AMS	0.60	0.60	0.60	0.00	0.40	0.60	0.40	0.60	0.20	0.60
C302	EIM	3.00	3.00	3.00	3.00	2.00	2.00	2.00	3.00	2.00	3.00
C303	EEN	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	2.00	3.00
C304	EDC	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.00	3.00
C305	PDT	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.00	3.00
C306	PIC	2.40	2.40	2.40	2.40	2.40	1.60	1.60	2.40	0.80	2.40
C307	PPO	2.40	2.40	2.40	2.40	2.40	1.60	1.60	2.40	2.40	2.40
C401	EST	3.00	3.00	2.00	0.00	3.00	3.00	2.00	3.00	1.00	3.00
C402	IME	3.00	3.00	3.00	3.00	2.00	3.00	2.00	3.00	2.00	3.00
C403	PEL	3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.00	3.00
C404	LIC	3.00	3.00	3.00	3.00	2.00	1.00	2.00	3.00	2.00	3.00
C405	PCS	3.00	3.00	3.00	3.00	2.00	2.00	2.00	3.00	3.00	3.00
C406	VBA	2.40	2.40	2.40	2.40	2.40	1.60	1.60	2.40	1.60	2.40
C407	PPT	2.40	2.40	2.40	2.40	2.40	1.60	1.60	2.40	2.40	2.40
C501	PCA	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00
C502	MIC	3.00	3.00	3.00	3.00	1.00	3.00	2.00	3.00	2.00	3.00
C505	PCS	3.00	3.00	3.00	3.00	2.00	2.00	2.00	3.00	3.00	3.00
C504	IEA	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	2.00	3.00
C505	AIE	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	2.00	3.00
C500	MEE	2.40	2.40	2.40	1.00	1.00	1.60	1.60	2.40	1.00	2.40
C508	PPR IDD	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
C601	IPD MAN	1.00	2.00	2.40	3.00	2.40	2.40	2.40	2.40	2.40	2.40
C602		3.00	3.00	3.00	3.00	2.00	2.00	2.00	3.00	2.00	3.00
C603		3.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	2.00	3.00
C604	INA	2 40	2 40	2 40	2 40	2 40	1.60	2.00	2 40	2.00	2 40
C605	II K PPS	2.40	2.40	2.40	2.40	2.40	1.60	1.60	2.40	2.40	2.40
C606	DCN	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00
C607	FDD	3.00	3.00	3.00	3.00	2.00	2.00	2.00	3.00	2.00	3.00
	TOTAL	113.80	114.80	114.80	99.93	98.00	85.53	84.27	115.80	82.13	116.
Diroc	t Attainmont	2.65	2.67	2.67	2 22	2.28	1.00	1.06	2.60	1 01	00 2 71
80% of D	irect Attainment	2.05	2.07	2.07	1.32	1.20	1.99	1.90	2.09	1.91	2.71
20% of in	direct attainment	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Attainme	ent Level out of 3	2.72	2.74	2.74	2.46	2.42	2.19	2.17	2.75	2.13	2.77
Attainme	ent Level out of 5	5	5	5	4	4	4	4	5	4	5

# Evaluation of PSOs in the academic year 2013-14:

COURSE	COURSE-CODE	PSO1	PSO2	PSO3	PSO4
C101	ENG	2.00	0.00	3.00	3.00
C102	EPH	3.00	3.00	2.00	2.00
C103	ECH	3.00	3.00	2.00	2.00
C104	BMS	2.20	0.73	0.73	1.47
C105	EGG	2.40	0.00	1.60	1.60
C106	CMF	2.40	2.40	2.40	2.40
C107	WPX	2.40	1.60	2.40	2.40
C201	CMS	0.93	0.00	2.80	2.80
C202	APH	3.00	3.00	3.00	2.00
C203	ACH	2.40	1.60	2.40	2.40
C204	EEX	3.00	3.00	3.00	3.00
C205	EMS	3.00	1.00	1.00	3.00
C206	DLS	1.60	1.60	2.40	2.40
C207	EEW	2.40	2.40	2.40	2.40
C301	AMT	0.60	0.00	0.40	0.40
C302	EIM	3.00	3.00	2.00	3.00
C303	EEN	3.00	3.00	2.00	3.00
C304	EDC	3.00	3.00	2.00	3.00
C305	PDT	3.00	3.00	2.00	3.00
C306	PIC	2.40	2.40	1.60	2.40
C307	PP1	2.40	0.00	2.40	2.40
C401	EST	3.00	0.00	3.00	3.00
C402	IME	3.00	3.00	2.00	3.00
C403	PEL	3.00	3.00	2.00	3.00
C404	LIC	3.00	3.00	2.00	3.00
C405	PCS	3.00	3.00	3.00	3.00
C406	VBA DD H	1.60	0.80	1.60	2.40
C407	PP-II DCA	2.40	0.00	2.40	2.40
C501	PCA MIC	3.00	3.00	2.00	3.00
C502	DCS	3.00	2.00	2.00	3.00
C503	PCS	3.00	3.00	3.00	3.00
C504	IEA	3.00	3.00	2.00	3.00
C505	AIE	3.00	3.00	2.00	3.00
C506	MEE	2.40	2.40	1.60	2.40
C507		2.40	0.00	2.40	2.40
C508	IPD	2.40	0.00	2.40	2.40
C601	MAN	3.00	0.00	3.00	3.00
C602		3.00	3.00	2.00	3.00
C603	INA	3.00	3.00	2.00	3.00
C604		2.40	0.80	2.40	2.40
C605	rr3 DCN	2.40	0.00	2.40	2.40
C607	DUN	3.00	3.00	2.00	3.00
00/		3.00	3.00	2.00	3.00
D!.	IUIAL	112.13	19.15	92.15	2 40
	ci Allamment	2.01	1.65	2.10	2.00
00% 01 200/ af:-	neci Auannent	2.09	1.48	1.73	2.08
20% 01 11	ont Lovel out of 2	2.60	2.00	0.00	2.60
Attainm	ont Lovel out of 5	2.09	2.08	2.33 A	2.08
Attainm	ent Level out 01 5	3	4	4	5



Following table indicates the target and achieved attainment levels of each PO and PSO



CRITERION 4	Students' Performance	200
CRITERION 4	Students' Performance	200

#### **Intake Information:**

Item	CAY 2015-16	CAY m1 2014-15	CAY m2 2013-14
Sanctioned intake strength of the program (N)	60+3*	60+3*	60+3*
Total number of students, admitted through state level counseling (N1)	31	41	51
Number of students admitted through Institute level quota (N2)	11	07	11
Number of students admitted through lateral entry (N3)	09	27	18
Total number of students admitted in the program (N1+N2+N3)	51	75	80

\*TFWS – (Tution Fees Waiver Scheme)

Year of Entry	N1+N2+N3 (As defined above)	Number of students who have successfully passed without backlogs in any year of study		
		I Year	II Year	III Year
CAY (2015-16)	31+11+09 (51)	11	-	-
CAY m1 (2014-15)	41+07+27 (75)	23	30	-
CAY m2 (2013-14)	51+11+18 (80)	19	35	45
CAY m3 (2012-13)	51+09+12 (72)	35	40	54
CAY m4 (2011-12)	50+12+08 (70)	24	37	45

Voor of ontry	N1 + N2 + N3	Number of students who have successfully passed			
i ear of entry	(As defined above) I Y		II Year	III Year	
CAY (2015-16)	31+11+9 (51)	34			
CAYm1 (2014-15)	41+7+27 (75)	36	42		
CAYm2 (2013-14)	51+11+18 (80)	50	52	58	
CAYm3 (2012-13)	51+9+12 (72)	52	56	54	
CAYm4 (2011-12)	50+12+8 (70)	45	49	46	

# 4.1. Enrollment Ratio (20)

Enrolment Ratio= (N1+N2)/N

Year of Entry	N1	N2	Ν	Enrollment Ratio
CAY (2015-16)	31	11	63	0.66
CAY m1 (2014-15)	41	07	63	0.76
CAY m2 (2013-14)	51	11	63	0.98

Average Enrollment Ratio = 0.80

Percentage Average = 80%

#### Enrollment ratio = 18

#### 4.2. Success Rate in the stipulated period of the program (60)

#### 4.2.1. Success rate without backlogs in any year of study (40)

Suggeorg noto without	hooklogg in ony	waan of study -	AD V A NOROGO	ST_40 v 0 526_ 21 06
Success rate without		vear or study =	40 X Average	31=40 X V.320= 21.00

Item	Latest Passed Batch 2015-16	Latest Passed Batch Minus 1 Batch 2014-15	Latest Passed Batch Minus 2 Batch 2013-14
Total number of students (admitted through state level counseling + admitted through Institute on level quota+ admitted through lateral entry) $(N1 + N2 + N3)$	80	72	70
Number of students who have passed without backlogs in the stipulated period	40	32	45
Success index (SI)	0.5	0.44	0.64
Average SI		1.58/3= 0.526	

# 4.2.2. Success rate in stipulated period (20)

Item	Latest Passed Batch 2015-16	Latest Passed Batch Minus 1 Batch 2014-15	Latest Passed Batch Minus 2 Batch 2013-14
Number of students admitted on merit + admitted on management quota/ otherwise + admitted through lateral entry) $(N1 + N2 + N3)$	80	72	70
Number of students who have passed in the stipulated period	50	49	46
Success index (SI)	0.625	0.68	0.65
Average SI		1.955/3= 0.6516	

#### Success rate = 20 × Average SI= 20 x 0.6516 = 13.03

# 4.3. Academic Performance in Final Year (15)

#### Academic Performance Level =1.5 \* Average API (Academic Performance Index) = 1.5\* 6.69= 10.04

Academic Performance	CAY 2015-16	CAYm1 2014-15	CAYm2 2013-14
Mean of CGPA or Mean Percentage of all successful students (X)	7.40	7.67	7.49
Total no. of successful students (Y)	45	54	48
Total no. of students appeared in the examination (Z)	58	54	54
$API = x^* (Y/Z)$	AP1 =5.74	AP2 = 7.69	AP3 = 6.66
Average API = (AP1 + AP2 + AP3)/3		6.69	

# 4.4. Academic Performance in Second Year (20)

#### Academic Performance Level = 2.0 \* 4.62=9.24

Academic Performance	CAY 2015-16	CAYm1 2014-15	CAY <i>m</i> 2 2013-14
Mean of CGPA or Mean Percentage of all successful students (X)	6.80	6.45	6.49
Total no. of successful students (Y)	42	50	54
Total no. of students appeared in the examination (Z)	63	68	76
API = X * (Y/Z)	4.53	4.74	4.61
Average $API = (AP1 + AP2 + AP3)/3$		4.62	

# 4.5. Academic Performance in First Year (25)

#### Academic Performance Level = 2.5 \* 4.8=12

Academic Performance	CAY 2015-16	CAYm1 2014-15	CAYm2 2013-14
Mean of CGPA or Mean Percentage of all successful students (X)	5.55	6.34	6.17
Total no. of successful students (Y)	34	35	50
Total no. of students appeared in the examination (Z)	42	45	62
API = X * (Y/Z)	4.49	4.93	4.98
Average $API = (AP1 + AP2 + AP3)/3$		4.8	

# 4.6. Placement and Higher Studies (40)

#### Assessment point =40

Item	Latest Passed Batch 2015-16	Latest Passed Batch Minus 1 2014-15	Latest Passed Batch Minus 2 2013-14
Total No. of Final Year Students (N)	58	54	62
No. of students placed in companies or Government Sector (X)	14	1	-
No. of students admitted to higher studies (Y)	44	53	62
1.25X + Y	61.5	54.25	62
Placement Index : (1.25X + Y)/N	1.06	1.005	1
T = Average of (1.25X + Y)/N		1.021	
Assessment = $40 \text{ X T}$ (To be limited to $40$ )		40	

#### 4.7. Professional Activities (20)

#### 4.7.1. Professional societies / student chapters and organizing technical events (15)

#### **Technical Events**

Year	Name of the Technical Event	Subject	Date	Beneficiary
2015-16	Arduino, Mr. Shirish Kale & Mr. Manohar Leon	Project	17.06.15 to 30.07.15	Vth Sem students
	PCB Manufaturing, Copper Track Industries	Electronic Devices and Circuits	17.08.15	IIIrd Sem Students
	PCB Manufaturing, Copper Track Industries	Project	17.08.15	Vth Sem students
2014-15	Soldering, Mrs. S. Kulkarni	Electronic Devices and Circuits	24.09.14 to 26.09.14	IIIrd Sem Students
	Hands on skills in Microcontroller, Mr. Amol Sakhalkar	Microcontroller	13.09.14, 27.09.14, 18.10.14	Vth Sem students
	Robotics, Mr. Amir Khan	Professional Practices, Development of Life Skills	26.12.14, 27.12.14	IInd, IVth and VIth Sem Students

# **Other Activities**

Year	Name of the Event/ Program	Details	Beneficiary
	One Day Seminar - Technopersona 2015	Guest lectures on "Branding Yourself", "Ultrasonic Techniques and Instrumentation", "Using Library Resource in Study and Research", "Hybrid Vehicles", "Emotional Transformation"	Ist Sem, IIIrd Sem and Vth Sem Students
2015- 16	Polytronics 2016 (Paper Presentation Competition)	This conference provided a platform for students to acquire knowledge in virtual instrumentation, development in VLSI and Embedded system, biometrics/digital system, Advancement in power electronics and drives, Artificial intelligence, Industrial automation and latest trends in Communication	75 (Faculty and Students)
2014- 15	Two days National Conference - Next Generation Electronics 2015	This conference provided a platform for students to acquire knowledge in Solid State Technologies and Devices, Communication Networking and Signal Processing, Green Electronics, Bio-Electronics, Smart Electronics, Sensors and Applications, Electronics for Strategic Areas	200 (Faculty and Students)
	Funtronics	This workshop is conducted by the department faculty and students on "Relay based Electronic Circuits" for school students	33 Students
2013- 14	Polytronics 2014 (Quiz Competition)	This competition is based on basic and advanced electronic concepts	120 students

# **ISTE Activities**

Year	Activity								
2013-14	Inauguration of ISTE Chapter activities. Teachers Day Celebration on 5 <sup>th</sup>								
	September 2013.								
	Engineer's Day Celebration and Quiz competition on 15 <sup>th</sup> September 2013.								
	<b>Poster Competition</b> on the theme <b>Industrial Safety</b> . Safety at Work Place.								
	<b>Computer Security</b> on 10 <sup>th</sup> October 2013.								
	The Blood Donation camp was conducted in association with Samarpan Blood								
	Bank on 1 <sup>st</sup> March 2014								
2014-15	Inauguration of ISTE Chapter activities <b>Teachers Day Celebration</b> on								
	5 <sup>th</sup> Sentember 2014								
	Engineer's Day Celebration and Ouiz competition on 15 <sup>th</sup> September 2014								
	The Blood Donation camp was conducted in association with HDEC Bank and								
	Plasma Diagnostic on 5 <sup>th</sup> December 2014								
	Istre Srinivasa Damanujan Mathematics 2014 2015 (SPMC 14.15) Zonal								
	lavel Competition was held at V P M's Polytochnic on 12 <sup>th</sup> December 2014								
	Sweetthe Abbiver on 20 <sup>th</sup> December 2014. Students and steff participated in a								
	Swaching Abniyan on 20 December 2014. Students and stall participated in a cleanliness drive around Thane railway station								
	Women's Day Celebration on 7 <sup>th</sup> March 2015 Guest Mrs. Sujata Sonarkar MD								
	Integrated Thane. Dr. Rashmi Karandikar. DCP. Thane.								
2015-16	EPS Department celebrated <b>Renewable Energy Day</b> by conducting State Level								
	Technical Paper Presentation Competitions on <b>21st August 2015.</b>								
	A programme on <b>Startup Entrepreneurship</b> - The journey begins!! was conducted by								
	ED Cell on 26 <sup>th</sup> January 2016.Dr. V.V. Bedekar, Chairman, V.P.M., Mr. Ram								
	Bhogale, Director, Nirlep Group of Companies and Mr. Deepak Ghaisas, currently								
	Chairman of Gencoval Strategic services Pvt. Ltd., along with other guests inaugurated								
	the programme.								
	Received ISTE Narsee Monjee Student Project Award by Sharaddha Kamble,								
	Vishal Raut, Mohak Bengale, Divyesh Jain students of Third year								
	Instrumentation department for the project Thermostat Life Testing.								
	VPM's Polytechnic along with HDFC bank and Plasma Blood Bank conducted								
	Blood Donation camp on 11th December 2015. Third year engineering students								
	and staff members of V.P.M's contributed for this noble cause.								
	ISTE Chapter V. P. M's Polytechnic, Thane, cordially invited Dr. Rajendra								
	Agarkar (Honorary Physician Tata Institute of Fundamental Research.								
	Colaba, Mumbai) Who is founder President Society for the prevention of								
	Hypertension and Diabetics Medical Adviser addressed awareness lecture								
	cum presentation on 6th March 2016.								
	Two programmes for Women's Day celebration on 8th March 2016 were								
	conducted on Life Risk Management and Rajyoga Meditation, Maintaining								
	Stability in Turbulant Times, Women's empowerment.								

Year	Name of the	Name of the Student	Details
	Program		
	Marathi	Mrunal Matkar (Third Year)	Second Prize
	Language Essay		
	Competition		
	Poster	Gaurav Kadam and Omkar Pawar	Second Prize
	Competition	(Third Year)	
2015-	Paper	Gaurav Kadam (Third Year)	First Prize
16	Presentation		
	Competition		
	Paper	Ankit Waradkar and Sumukh	Consolation Prize
	Presentation	Sule (Third Year)	
	Competition		
	Quiz Competition	Chinmay Mungi (Second Year)	Third Prize
	Srinivasa	Gaurav Kadam (Second Year)	First Prize
2014	Ramanujan Zonal		
15	Level		
15	Mathematics		
	Competition		
	Quiz competition	Shivam Chaube(Third Year)	First Prize
2013-	Quiz competition	Omkar Chavan (Second Year)	Second Prize
14	Poster Making	Sandeep Bhosale (Third Year)	First Prize
	competition		

# Student achievements in ISTE Student Chapter

# 4.7.2. Publication of technical magazines, newsletters, etc. (05)

Name of the Publication	Name of the Publisher	Details
Innovision	V.P.M's Polytechnic,	Departmental Activities,
	Thane	Student and Staff
		Achievements, Alumni
		Database and Articles
Student Handbook	V.P.M's Polytechnic,	Aims, Objectives, Activities
	Thane	and Academic Calendar of the
		Institute
Conference Proceedings	V.P.M's Polytechnic,	Papers and Proceedings by
	Thane	Industry and Academic Experts
Seminar Proceedings	V.P.M's Polytechnic,	Papers by Industry and
	Thane	Academic Experts

#### Faculty Information and Contributions

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	Faculty Contributions(2016-17)								
Sr. No.	Name of the faculty	Qualification, University and Year of Graduation	Designation and Date of joining the		tribut Teachi Load %-age	ion ing e)	No of Research publication in journals and conference	Total Experience Teaching	
			monution	1st	2nd	3rd	since Joining		
1	Mrs. K. S. Agashe	M.E.(Electronics), Mumbai University, 2003 (pursuing Ph.D) M.E.(Electronics), Mumbai University, 2003 (pursuing Ph.D)	HOD 2/7/1990		3.84	96.15	22	26	
2	Mrs. S.M. Gupte	MSc. (Mathematics). Mumbai University, 1987	Selection Grade Lecturer, 4/8/1987		33.33			29	
3	Mr.V. A. Walavalkar	MSc. (Chemistry), Mumbai University, 1990	Selection Grade Lecturer, 16/07/1990	50				26	
4	Mrs. Deepika Kolambe	MA (English), Mumbai University, 2004 (Pursuing Ph.D)	Lecturer, 1/8/2008	50					
5	Mrs. Raji Nair	MSc. (Physics), Mumbai University, 2005	Lecturer, 1/7/2007	50			2	10	
6	Mrs. Santhi M. Laguduva	M.E.(Electronics), Mumbai University, 2014	Lecturer 1/7/2009		46.15	53.84	5	17	
7	Mrs. Jothy Mary Saji	B.E(EXTC)University of Kerala,1995 BSc. (Mathematics) Mahatma Gandhi University, 1991	Lecturer 1/07/2010	40	32.5	27.5	5	13	
8	Mrs.Samrudhi Pitkar	B.E. (EXTC), Mumbai University, 2006	Lecturer 1/07/2014	30	17.5	52.5		7	
9	Ms. Latasha Keshwani	M.E.(EXTC) Mumbai University, 2016	Lecturer, 1/12/2012	17.5	55	27.5	4	4	
10	Mrs. Komal Gogad	M.E.(VLSI &Embedded Systems),Pune University,2015	Lecturer, 1/12/2014		54.76	45.23	2	7	
11	Mrs. Sarika Yadav	M.E.(Electronics) Mumbai University, 2016	Lecturer 1/07/2015	29.26	46.34	24.39	3	1	
12	Ms. Seema Kale	B.E(Mechanical) Shivaji University, 2013 (pursuing M.E)	Lecturer 8/08/2016	33					

	Faculty Contributions(2015-16)								
Sr.	Name of the faculty	Qualification, University and Year of Graduation	DistributionNo ofDesignationof TeachingResearchand Date ofLoadpublication injoining the(%-age)journals and		Distribution of Teaching Load (%-age)		DesignationDistributionNo ofDesignationof TeachingReseardand Date ofLoadpublicationjoining the(%-age)journals	No of Research publication in journals and	Total Experience Teaching
		Grududon	institution	1st	2nd	3rd	conference since Joining	Teaching	
1	Mrs. K. S. Agashe	M.E.(Electronics), Mumbai University, 2003 (pursuing Ph.D) M.E.(Electronics), Mumbai University, 2003 (pursuing Ph.D)	HOD 2/7/1990		18.5	81.5	22	25	
2	Mrs. S.M. Gupte	MSc. (Mathematics). Mumbai University, 1987	Selection Grade Lecturer, 4/8/1987	33.33				28	
3	Mr.V. A. Walavalkar	MSc. (Chemistry), Mumbai University, 1990	Selection Grade Lecturer, 16/07/1990	33.33				25	
4	Mrs. V. Y Sonawane	MA. (English), Pune University, 2004	Lecturer, 1/08/2008	33.33			2	6	
5	Mrs. Raji Nair	MSc. (Physics), Mumbai University, 2005	Lecturer, 1/7/2007	33.33			2	9	
6	Mrs.Santhi M. Laguduva	M.E.(Electronics), Mumbai University, 2014	Lecturer 1/7/2009		50	50	5	16	
7	Mrs. Jothy Mary Saji	B.E(EXTC)University of Kerala,1995 BSc. (Mathematics) Mahatma Gandhi University, 1991	Lecturer 1/07/2010	40.54	29.72	29.72	5	12	
8	Ms. Amisha Mestry	M.E.(EXTC), Mumbai University, 2014	Lecturer 1/07/2010	26.66	13.33	60	2	5	
9	Mrs.Samrudhi Pitkar	B.E. (EXTC), Mumbai University, 2006	Lecturer 1/07/2014	23.07	53.84	23.07		6	
10	Ms. Latasha Keshwani	B.E.(EXTC) Pune University(Pursuing M.E)	Lecturer, 1/12/2012	2.63	39.47	57.89	4	3	
11	Mrs. Komal Gogad	M.E.(VLSI &Embedded Systems),Pune University,2015	Lecturer, 1/12/2014		94.12	5.88	2	6	
12	Ms. Mitali Ambekar	M.E (Electronics), Mumbai University, 2015	Lecturer July 2015		52.63	47.36	2	1	
13	Ms. Sarika Yadav	B.E.(EXTC) Mumbai University(Pursuing M.E)	Lecturer 1/07/2015		88.89	11.11	3		
14	Mrs.Priyanka Gurav	B.E.(Electronics)Mumbai University(Pursuing M.E)	Lecturer 1/12/2016		35	65	1		

	Faculty Contributions(2014-15)								
Sr. Name of the faculty		Qualification, University and Year of Graduation	Designation and Date of joining the	Distribution of Teaching Load (%-age)			No of Research publication in journals and	Total Experience	
		Grududon	institution	1st	2nd	3rd	conference since Joining	reaching	
1	Mrs. K. S. Agashe	M.E.(Electronics), Mumbai University, 2003 (pursuing Ph.D) M.E.(Electronics), Mumbai University, 2003 (pursuing Ph.D)	HOD 2/7/1990		3.7	96.3	15	24	
2	Mrs. S.M. Gupte	MSc. (Mathematics). Mumbai University, 1987	Selection Grade Lecturer, 4/8/1987	33.33				27	
3	Mr.V. A. Walavalkar	MSc. (Chemistry), Mumbai University, 1990	Selection Grade Lecturer, 16/07/1990	33.33				24	
4	Mrs. V. Y Sonawane	MA. (English), Pune University, 2004	Lecturer, 1/08/2008	33.33			1	5	
5	Mrs. Raji Nair	MSc. (Physics), Mumbai University, 2005	Lecturer, 1/7/2007	33.33				8	
6	Mrs.Santhi M. Laguduva	M.E.(Electronics), Mumbai University, 2014	Lecturer 1/7/2009		43.24	56.75	5	15	
7	Mrs. Jothy Mary Saji	B.E(EXTC)University of Kerala,1995 BSc. (Mathematics) Mahatma Gandhi University, 1991	Lecturer 1/07/2010		77.78	22.22	4	11	
8	Ms. Amisha Mestry	M.E.(EXTC),Mumbai University, 2014	Lecturer 1/07/2010	24.32	5.4	70.27	2	4	
9	Mrs.Samrudhi Pitkar	B.E. (EXTC), Mumbai University, 2006	Lecturer 1/07/2014	5.4	67.56	27.02		5	
10	Ms. Latasha Keshwani	B.E.(EXTC) Pune University(Pursuing M.E)	Lecturer, 1/12/2012	10.52	36.84	52.63		2	
11	Mrs. Komal Gogad	B.E.(EXTC), Pune University, 2008, Pursuing M.E.(VLSI &Embedded Systems,Pune University)	Lecturer, 1/12/2014	55.56		44.44		5	
12	Ms. Vishakha Kolhe	B.E.(EXTC), Mumbai University,2012	Lecturer 1/12/2014	33.33	66.67				
13	Mrs. Sarika Korade	B.E.(Electronics),Pune University,2008	Lecturer 1/07/2011		88.89	11.11		5	
14	Mrs. Kimaya Kolhe	B.E. (EXTC), Pune University, 2004	Lecturer 1/12/2012	30.76	19.23	50		1	

	Faculty Contributions(2013-14)								
Sr. No.	Name of the faculty	Qualification, University and Year of Graduation	Designation and Date of joining the	Distribution of Teaching Load (%-age)			No of Research publication in journals and	Total Experience	
		Grudunion	institution	1st	2nd	3rd	conference since Joining	Touching	
1	Mrs. K. S. Agashe	M.E.(Electronics), Mumbai University, 2003 (pursuing Ph.D) M.E.(Electronics), Mumbai University, 2003 (pursuing Ph.D)	HOD 2/7/1990		8.3	91.7	9	23	
2	Mrs. S.M. Gupte	MSc. (Mathematics). Mumbai University, 1987	Selection Grade Lecturer, 4/8/1987	33.33				26	
3	Mr.V. A. Walavalkar	MSc. (Chemistry), Mumbai University, 1990	Selection Grade Lecturer, 16/07/1990	33.33				23	
4	Mrs. V. Y Sonawane	MA. (English), Pune University, 2004	Lecturer, 1/08/2008	33.33			1	4	
5	Mrs.Santhi M. Laguduva	B.E.( Electronics & Communication), Madurai Kamaraj University ,1990 pursuing M.E.Electronics	Lecturer 1/7/2009		57.89	42.1	4	14	
6	Mrs. Jothy Mary Saji	B.E(EXTC)University of Kerala,1995 BSc. (Mathematics) Mahatma Gandhi University, 1991	Lecturer 1/07/2010		28.2	71.79	3	10	
7	Ms. Amisha Mestry	B.E.(Electronics) Mumbai University,2009 (Pursuing M.E EXTC)	Lecturer 1/07/2010	16.21	48.64	35.13		3	
8	Mrs. Kimaya Kolhe	B.E. (EXTC), Pune University, 2004	Lecturer 1/12/2012	24.32	32.43	43.24		1	
9	Ms. Latasha Keshwani	B.E.(EXTC) Pune University, 2012 (Pursuing M.E)	Lecturer, 1/12/2012		80	20		1	
10	Ms. Ankita Khanna	B.E.(EXTC) Mumbai University(Pursuing M.E)	Lecturer, 1/12/2012	8	64	28		1	
11	Mrs. Sarika Korade	B.E.(Electronics),Pune University,2008	Lecturer 1/07/2011	15.38	76.9	7.69		4	

# 5.1. Student-Faculty Ratio (SFR) (15) + Availability of HOD (5); (20)

Year	Ν	F	SFR=N/F
2015-16	204	8.82	23.12
2014-15	204	8.57	23.80
2013-14	204	8.82	23.12
	23.34		

#### **SFR** = 12

# Availability of HOD = 5

Year	X	Y	F	FQ = 2* (10X+7Y)/F
2015-16	5	3.32	8.82	16.6
2014-15	2	6.57	8.57	15.4
2013-14	-	8.82	8.82	14
	Tota	46		
	AVG	15.33		

# **5.2. Faculty Qualification (20)**

#### **Average Faculty Qualification = 15.33**

#### 5.3. Faculty Retention (20)

#### 7.32/8.74 = 0.84 (KSA,SML,JS,AM,LK, SAP,SMG,VAW,RN,VYS:KG,MA,SY)

Sr. No	Name of the Faculty	2015-16	2014-15	2013-14
1	Mrs. K. S. Agashe	Y	Y	Y
2	Mrs. S. M. Gupte	Y	Y	Y
3	Mr. V. A. Walavalkar	Y	Y	Y
4	Mrs. Raji Nair	Y	Y	Y
5	Mrs. V. Y. Sonawane	Y	Y	Y
6	Mrs. Santhi M.L.	Y	Y	Y
7	Mrs. Jothy Saji	Y	Y	Y
8	Ms. Amisha Mestry	Y	Y	Y
9	Ms. Latasha Keshwani	Y	Y	Y
10	Mrs. S. A. Pitkar	Y	Y	Y
11	Ms. Mitali Ambekar	Y	Ν	Ν
12	Ms. Sarika Yadav	Y	Ν	Ν
13	Mrs. Komal Gogad	Y	Y	N

#### **Faculty Retention = 15**

#### **5.4.** Faculty as participants in Faculty development/training activities (30)

Name of faculty	CAYm2 (2013-14)	CAYm1 (2014-15)	CAY (2015-16)
Mrs. K. S. Agashe	3	3	3
Mrs. Santhi M.L.	3	3	5
Mrs. Jothy Saji	5	3	3
Ms. Amisha Mestry		3	
Ms. Latasha Keshwani		3	3
Mrs. S. A. Pitkar		3	3
Mrs. Sarika Korade	3		

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Name of faculty	CAYm2 (2013-14)	CAYm1 (2014-15)	CAY (2015-16)		
Mrs. Kimaya Kolhe	3	3			
Ms. Mitali Ambekar			3		
Ms. Sarika Yadav			3		
SUM	17	21	23		
RF= Number of Faculty required to comply with 20:1 Student- Faculty ratio as per 5.1	8.82	8.57	8.82		
Assessment = $6 \times \text{Sum}/0.5\text{RF}$	6 X 17 / (0.5 X	6 X 21 / (0.5 X	6 X 23 / (0.5 X		
(Marks limited to 30)	8.82) = 23.12	8.57) = 29.40	8.82) = 31.29		
Average assessment over three years (Marks limited to $30$ ) = 27.93					

#### Average assessment over three years = 27.93

# 5.5. Product development, Consultancy, Manufacturing contracts, Testing contracts (20)

#### **Product:**

Sr.	Product Details	Collaborator	Collaboration
No			Period
1	Solar Lamp	Shri Sai Works Power Division	2015-2020
		Matruchaya bldg, Mhatre	
		compound, Kalyan shill road, near	
		Lalit kala Dombivali (E)	

#### **Consultant:**

Sr.	<b>Consultant Details</b>	Name	Year
No			
1	Lab Manual	Mrs. Santhi. M. Laguduva	2013-2014
	(V <sup>th</sup> sem G scheme)	(Industrial Electronics and	
		Application)	
2	Curriculum	Mrs. Jothy Saji	2014-2015
	Development Teachers	(Communication Techniques)	
	Guide		
	(V <sup>th</sup> sem G scheme)		

# Manufacturing and Testing contracts:

Sr. No	Name of the company	Name	Year
1	Spark Electro systems (Electrical switchgear)	Mrs. Kirti S. Agashe	2012-2014

5.6. Faculty Performance Appraisal and Development System (FPADS) (30)

## 5.6.1 A well-defined system implemented for all the assessment years

# Polytechnic is following Performance Appraisal Development System with the following objectives

- 1. Effective Teaching Learning mechanism for course theory and practical
- 2. Ensure regular teaching, Co-curricular and Extra-curricular activities
- 3. Faculty involvement for Guest lectures, Quiz, Technical Paper presentation, Project competitions and other Co-Curricular activities
- 4. Induction Training
- 5. Content Updating Workshops
- 6. Industrial Trainings
- 7. Presenting Technical/Research papers in National and International Conferences
- 8. Publication of Journal Papers
- 9. Guidance for Innovative, Application based projects
- 10. Patents / Collaborative research and MoU with industry
- 11. Specific Individual achievements

#### 5.6.2 FPADS Implementation and Effectiveness

#### 5.6.2.1 The Activity Flow Chart



#### 5.6.2.1Key Performance Indicators in the Self-Appraisal

- 1. Teaching and practical load details of Curricular, Co-curricular responsibilities
- 2. Course Result Analysis
- 3. Trainings/Workshops Organized/attended
- 4. Conferences/Guest lectures Organized/ attended
- 5. Conference Papers presented, Journal Papers/ Books published
- 6. Membership of Professional bodies
- 7. Awards, Innovative Projects
- 8. Skill Upgrades
- 9. Student feedback
- 10. Collaborative research and MoU with industry

The Appraisals are evaluated on 100 point scale and observations are conveyed to the

#### respective staff members.

#### 5.6.2.2 FPADS implementation and its Effectiveness:

The Self-Appraisal forms submitted by Individual staff members includes Academic and Personal contributions of the academic year. The system helps in faculty accountability and the effect is visible in the below listed aspects.

#### **Faculty:**

- 1. Staffs are aware of Role and Responsibilities.
- 2. Teaching Plan with learning resources ready with every Teacher at the start of term.
- 3. Inculcates Outcome Based Teaching Learning process culture.
- 4. Motivation to participate in Content Updating as well as Industrial Training Activities.
- 5. Facilitates participation of Teachers in Peer Reviewed Conferences.
- 6. Encourages publication of Journal Papers.
- 7. Participation of staff in MSBTE Curriculum Revision, Career Fair and other initiatives.
- 8. Innovative practices in Teaching/learning, Use of ICT tools
- 9. Motivating students for Co-curricular activities.

#### Institution:

- 1. Better equipped and motivated human resource.
- 2. Competent and Peer recognized faculty.
- 3. Establishing credibility within the Student community and Society.
- 4. Helps in achieving goals of the Organization.
- 5. Establish State-Of-The-Art facilities.
- 6. Ability to deal with the futuristic needs.

#### 5.6.3 Qualification up-gradation of faculty:

For enriching academic performance and effectiveness Teaching and Support staff are regularly deputed to attend Certificate courses, Workshops, Content Updating Training Programme(CUTP), Industrial Trainings, Industrial Visits, Industry Sponsored Exhibitions and Conferences. Such events help the staff to remain updated for Curriculum Implementation.

Sr.	Activity	Total No. of beneficiary			
No.		2013-2014	2014-2015	2015-2016	
1	No. of Staff deputed for training organized by MSBTE/Industries	4	3	8	
2	No. of Staff training programmes conducted	-	3 Programmes (8 Faculty)	3 Programmes (7 Faculty)	
3	No. of Staff deputed for ISTE Summer / Winter STTP Schools or QIP centers	1	4	1	
4	No. of Staff deputed for long / short course organized by NITTTR	3	1	-	
5	No. of Staff deputed for other programmes (Conferences, Exhibitions, and Career Fair etc.)	10	11	6	
	Total	18	27	22	

#### **Staff Development Activities**

- The Institute ISTE Chapter is very active and organizes many programmes for staff and students. Every year one faculty of department is given the responsibility for coordinating ISTE chapter activities. V.P.M's Polytechnic ISTE Chapter has received Best Chapter Award among Maharashtra and Goa Section during the Year 2009.
- National Conferences organized by V.P.M's Polytechnic, Thane

In view of inviting Industrial experts and give opportunity for publication of Conference papers, the institute organizes National Conferences every year. The event is announced a year in advance and Proceedings of the same are published during the Conference. The event receives adequate sponsorship and participation support from external delegates and students.

Sr. No.	Name of Conference	Date & Year	Supported By
1	14 <sup>th</sup> One Day National Conference on Emerging Trends in Solar Technologies	5-1-2013	• Ministry of New and Renewable Energy, New Delhi
2	15 <sup>th</sup> One Day National Conference on <b>Process Safety Management</b>	4-1-2014	Cinque Solution Pvt. Ltd,     Andheri, Mumbai
3	<b>16<sup>th</sup></b> Two Days National Conference on <b>Next Generation Electronics</b>	16-1-2015	<ul> <li>BRNS Grant from BARC, Mumbai</li> <li>MSRTE Mumbai</li> </ul>
		17-1-2015	<ul> <li>MSBTE, Multioar</li> <li>Technova Engineering Solutions, Thane</li> </ul>
4	17 <sup>th</sup> One Day Conference on Industry Expectation from Safety Managers	7-2-2015	<ul> <li>ACC Ltd., Thane</li> <li>Safety Messenger, Mumbai</li> <li>Canara Bank</li> <li>TJSB Bank,</li> <li>NKGSB Bank,</li> <li>Netel Chromotographs, Thane</li> </ul>
5	<ul> <li><b>18<sup>th</sup>One Day National Conference on Life</b></li> <li><b>Safety - Today &amp; Tomorrow</b></li> <li><b>19<sup>th</sup> One Day National Conference on</b></li> </ul>	19-12-2015	<ul> <li>MSBTE, Mumbai</li> <li>GP Parsik Bank</li> <li>State Bank of India</li> <li>Canara Bank</li> <li>Eduforce, Mumbai</li> <li>MSBTE, Mumbai</li> </ul>
	Environment, Health & Safety	17-12-2016	• GP Parsik Bank

# The list of Conferences conducted in the last 3 years is as under:

#### 5.7 Implementation of Career Advancement Scheme(10)

# The Career Advancement Scheme is implemented by following AICTE guidelines and individual performance, academic results, Publications and other KPI.

The Polytechnic encourages all the staff members to take part in Career Advancement to upgrade qualifications. This will enable them to improve the Classroom / Laboratory performance as well as competency levels. The staff members including support staff approach the HOD/Principal at the start of academic year with their interest for enrolment to the PG/Advance Diploma programmes. The Academic load of such staff is adjusted to suit to their commitments.

The total number of faculty upgrading the qualification in the last 3 years and their names are as given in the tables below:

Qualification	2015-2016		2014-2015		2013-2014	
Quanneation	In Process Completed In Process		Completed	In Process	Completed	
Ph.D.	1	-	1	-	1	-
M.E./M.Tech		3	4	2	6	-
Part time	1	-	1		1	
Diploma			1	-		-
CP/ IT	1	-	-	-	-	-
MS-CIT	-	-	-	-	-	2
Total	8	3	19	08	18	03

#### Staff Members Pursuing/Completed M.E/Ph.D

Sr. No.	Name of Staff	Year of Admission	Qualification	Status/Completed Year
1	Mrs. K.S. Agashe	2011-2012	Ph.D.	Pre-Synopsis 2016 - 2017
2	Mrs. Santhi M. Laguduva	2012-2013	M.E	2014 - 2015
3	Ms. Amisha Mestry	2012-2013	M.E	2014 – 2015 Left institute
4	Ms. Latasha Keshwani	2013-2014	M.E	2015-2016
5	Mrs.Komal .P.Gogad	2013-2014	M.E	2015-2016
6	Ms.Sarika Yadav	2013-2014	M.E	2015-2016
7	Ms. Ankita Khanna	2013-14	M.E	2016 – 2017 Left institute
8	Mrs.Kimaya Kolhe	2014-15	M.E	Left institute

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<b>CRITERION 6</b>	Facilities And Technical	100
	Support	

6.1. Availability of adequate, well-equipped classrooms to meet the curriculum requirements (10)

Room Description	Legend Name	Shared/Exclusive	Area (sq.m)	Available facilities
	SCIC11	Exclusive	80	Black Board Benches, Fans, Lights, Staff table, OHP Projector
Class Room	SCIC12	Exclusive	80	Black Board Benches, Fans, Lights, Staff table, OHP Projector
	SCIC13	Exclusive	80	Black Board Benches, Fans, Lights, Staff table, OHP Projector
Tutorial Room	SCIT06	Exclusive	40	White Board Benches, Fans, Lights, Staff table, OHP Projector
Seminar Hall	FCIS01	Shared	340	Audio-Video facility with AC

# 6.2. Availability of adequate, well-equipped workshops to meet the curriculum

#### requirements (10)

Name of the laboratory	Semester	Number of students per batch	Name of the important equipments	Area (sq.m)	Name of the staff
Basic Workshop	Odd Semester	30	Welding Machine, Drilling Machine, Wood turning Machine, Sharing Machine, Bench Grinder, Fly Press, Vernier Height Gauge, Flat File	200	Mr. Kuvar
Basic Electronics Workshop	Odd Semester and Even Semester	30	Analog Multimeter, Digital Multimeter, CRO, Function generator, Drilling Machine, Power supply	80	Ms. Karuna Raghuvanshi

Sr. No	Name of the Laboratory		No. of studen ts per setup (Batch size)	Name of the important equipment	Weekly utilization status (all the courses for which the lab utilized)	Name of the courses for which lab is utilized	Technical man power		
		Semester					Name of the technic al staff	Designa tion	Quali ficati on
1	Lab-1 Power Electronics & Industrial Electronics	Odd Semester	20 per batch	CRO, DSO Signal Generator Power supply	22	IEA, EIM, AIE, BSC, PP	Mrs. Vidya Hebli	Project Assistant	ITI (Radi o & TV) NCV T
		Even Semester		Analog and Digital Meters	24	IDR, PEL			
				CRO					
	Lab-2	Odd Semester		Function Generator	17	EDC, BSC, PP, BMS	Ms.		Diplo ma in
2	Applied Electronics and		20 per	Power supply		DND	Karuna	Lab Assistant	Indust
	Communication	F	batch	DMM	18	PCS, EEX, IPR, BMS-TU	anshi	Assistant	Electr onics
		Even Semester		Wattmeter					
				LCR Q meter					
3	Lab-3 Electronic Workshop and Microprocessor	Odd Semester	20 per batch	CRO Function Generator	20	CHN, PDT, WPX, BSC, PP	Ms. Karuna Raghuv anshi	Lab Assistant	Diplo ma in Indust rial Electr onics
		Б			14	LIC.			
		Even Semester		Computers		EEW, BMS TU			
		Odd Semester		Microcontroll er interfacing boards Computers	22	MIC, PIC, EDP, CMF	Mrs. Medha Patki		Diplo ma in Indust rial
	Lab-4	Lab-4 Microcontroller and Embedded System Even Semester	20	Power supply					Electr
4	Microcontroller and Embedded System		per batch	VLSI Kits	18	ESY, VBA, VLS, IPR		Instructor	& Adva nce Diplo ma in Comp uter
				Oscilloscope			Ms. Pooja		ITI, Radio & TV
5	Measurements	IS Departm ent (Even Semester )	20 per batch	Signal Generator		IME		Lab Assistant	
5	Laboratory (Shared)			Power supply	0				
				Meters					
				Computer					
6	Machines	EPS Departm ent (Odd Semester )	20 per batch	AC and DC Machines	6	EEN	Mrs. U. Shelar	Instructor	Diplo ma in Electr ical
	Laboratory (shared)			AC and DC Meters					
				Transformers					

<b>C</b>	Nome of the		No. of studen	Name of the	Weekly utilization status (all	Name of the	Technical man power		
No	Laboratory	Semester	setup (Batch size)	important equipment	the courses for which the lab utilized)	for which lab is utilized	Name of the technic al staff	Designa tion	Quali ficati on
7	Control System (shared)	IS Departm ent (Odd Semester )	20 per batch	Oscilloscope Signal Generator Power supply Meters Computer	24	CSY	Mr. Sanjay Bhore	Instructor	B.E. Electr ical
		IS Departm ent (Odd and Even Semester )	20 per batch	Computers	4	CMF			
8	IT6 (shared)				6	SSO			
9	Physics Lab (shared)	Even Semester		Barometer, Multimeter, Power Supply, Physical	4	BPH			
		Odd Semester	30 per batch	Balance, Thermocoupl e, Spectrometer, Tuning fork set, Rheostat, Ammeter, Galvanometer, Voltmeter, Micrometer, Potentiometer , Steam generator, Bunsen Photometer	4	АРН	Ms. M. M. Tatke	Instructor	B.Sc
		Even Semester		Magnetic stirrer, pH	4	BCH			
10	Chemistry Lab (shared)	istry Lab iared) Odd Semester Odd Semester Furnace oven Apparatus, 4 ACH N	Mrs. V.D. Naik	Instructor	B.Sc				
11	Drawing Hall (shared)	Odd Semester	All students	Drawing table, Drawing instruments	8	EGG			

#### 6.4. Additional facilities created for improving the quality of learning experience in

Sr. No	Facility Name	Details	Reasons for creating facility	Utilization	Areas in which students are expected to have enhanced learning	Relevance to POs/PSOs
1	Pictorial/ graphical charts	Diagrammati c representatio n of different technical topics	Better retention due to visual display	Illustrate through concept structure	All Courses	PO:1,2,3 ,6,10 PSO: 1,2,4
2	Demo-kits	Demo-kits are used for performing experiments	Comprehend the theory while doing practical work	Performing experiments and interpret the result	EEX, PDT, EDC, EIM, PEL, LIC, PCS, IEA, AIE, CHN, MIC, IDR, ESY, VLS	PO:1,2,3 ,6,10 PSO: 1,2,4
3	Internet facility	Leased line of InTech with the speed of 32 Mbps connect all devices to internet in the campus	Information search, self learning, keep up-to- date with latest technology	Information search for all courses	All Courses	PO:1,2,3 ,4,8,9,10 PSO: 1,2,3,4
4	Department Library	1015 Technical and non- technical books	Self learning	Subject Preparation, detail study about the topic	All Courses	PO:1,2,3 ,4,5,6,7,8 ,9,10 PSO: 1,2,3,4

#### 6.5. Laboratories Maintenance and overall ambiance (10)

#### **General Rules of Conduct in Laboratories**

- You are expected to arrive on time and not depart before the end of your laboratory •
- You must not enter a lab unless you have permission from a technician or lecturer •
- You must not remove test equipment, test leads or power cables from any lab without ٠ permission

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- Always use an appropriate stand for holding your soldering iron •
- Playing computer games in laboratories is forbidden •

#### **Maintenance of Laboratory Equipments**

- One teaching faculty and Lab assistant are in charge of the overall functioning/maintenance of each lab
- A dead stock register is maintained with all equipment details recorded timely
- Student register is maintained to record student entry and usage in the Laboratory
- Issue register is maintained to record the issue details of equipments/facilities in and out of the laboratories
- Regular servicing of computer/equipment is carried out as and when required and also at the end of every semester.
- As per requirement minor repairs are carried out by the lab assistants and faculty members
- Maintenance register is maintained in all the laboratories
- PCs related repairs are done by the campus server room technicians by following the procedure of the institute
- Installation of the licensed software, open source and proper anti-virus software are updated regularly

#### **Overall Ambience**

- All laboratories are equipped with state of art equipments to meet the requirements of curriculum
- Laboratory manuals provided by MSBTE is followed strictly for achieving course outcomes
- All Laboratories are well furnished and have sufficient light, fan arrangement and good ventilation

No. of	Students Computer Ratio	Detai So	ls of Legal ftware	Details of	Details of Printers,
terminals		System Software	Application Software	Networking	Scanners etc.
21	2:1	Windows 7 Professional, Windows XP Professional Ubuntu	Office Professional plus 2007 Adobe Phtoshop Adobe CS 4 VB 6 Quick Heal End Point Security 15	32 Mbps InTech internet Leased line connection, All PCs connected in LAN Ethernet with 100Mbps, Wi-Fi access points availability with limited access	<ol> <li>Scanner HP Scanjet 2400</li> <li>Printer Canon LBP 2900</li> <li>Printer HP 1020</li> </ol>

# 6.6. Availability of computing facility in the department (10)

### 6.7. Language lab (10)

(Availability and Utilization)

No. of Computer Terminals	Student Computer Ratio	No. of hours per week	Beneficiaries	
10	2:1	02	All Students	

# **Details of Learning Resources**

Sr. No	Skill	<b>Resources Available</b>	Number of CD
1	Vocabulary	Mega English Course Effective Word power and Right Expression Franklin International www.mindpowerindia.com	CD 1 to 4
2	Expressions	Mega English Course Effective Word power and Right Expression Franklin International www.mindpowerindia.com	CD 1 to 4
3	Spoken English	Mind Power Spoken English Institute Spoken English and Effective Communication (with Spoken English and Effective Communication Book)	CD 1 to 2
		Mega English Course Spoken English (with Spoken English Practice Book)	CD 1 to 2
4	Presentation Skills Video of Presentations		Oxford University Press - CD
5	Body Language	CDs on Personality Development and Soft Skills	Oxford University Press - CD
6	Listening Skills	CDs on Enhancing Listening & Conversational Skills.	Oxford University Press - CD

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#### **Activities Conducted**

- Make posters depicting different aspects of body language & write an assignment on the same
- Role play or Skit presentation (4to 5 students)
- Diagrammatical representation of communication cycle using 8 to 10 different communication situations and stating the different elements involved in it.
- Graphical communication using pie chart and bar graph.
- Describing 2 technical objects.
- Group Discussion, Job Interviews, Body Language & Presentations.

<b>CRITERION 7</b>	<b>Continuous Improvement</b>	75
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#### 7.1. Actions taken based on the results of evaluation of each of the POs & PSOs (25)

POs & PSOs	Attainment	Levels and	Actions fo	or improvement –	- CAY
------------	------------	------------	------------	------------------	-------

POs	Statement	Target Level	Attainment Level for CAY
PO1	To develop an ability to apply knowledge of basic mathematics, science and engineering to solve the engineering problems.	5	5
PO2	To develop an ability to apply discipline specific knowledge to solve core and / or applied engineering problems.	5	5
PO3	To plan and perform experiments and use the results to solve engineering problems. To implement an ability to practice, keep organized documents and preparation of reports.	5	5
PO4	To keep upgrading on the latest technology tools with an understanding of the limitations.	5	5
PO5	<ul> <li>To demonstrate knowledge to assess societal, health, safety, legal and cultural issues and to shoulder the responsibilities relevant to engineering practice.</li> <li><b>Observations:</b> <ul> <li>Students are found to face many health issues because of lack of awareness and negligence towards practicing exercise and Yoga</li> <li>Students are found reluctant to participate in social activities</li> </ul> </li> <li>Actions: <ul> <li>Yoga workshop conducted in academic year 2016-17</li> <li>Planning for expert lecture on laws related to women grievances</li> </ul> </li> </ul>	5	4
PO6	To understand the impact of engineering solutions in social and environmental contexts, and demonstrate the knowledge for sustainable development.	4	4
PO7	To inculcate an ability to apply ethical principles and commit to professional ethics and responsibilities.	4	4
PO8	To function effectively as an individual, and as a member or leader in diverse/multidisciplinary teams.	5	5
PO9	To implement effective communication ability.	4	4
PO10	To recognize the need for life-long self learning abilities in the context of technological changes.	5	5

PSOs	Statement	Target Level	Attainment Level
PSO1	Ability to correlate facts, principles, and hands on skills to solve Electronics Engineering problems.	5	5
PSO2	<ul> <li>Handling of various measuring instruments, electronic equipments, and fault finding.</li> <li>Observations: <ul> <li>Some students face difficulty while handling the instruments and electronic equipments</li> <li>Some students do not pay enough attention for the practice sessions</li> </ul> </li> <li>Actions: <ul> <li>Planning for various competitions for handling instruments and equipments</li> <li>Mentoring weak students for improving their hands on skills and parents meeting for its effective implementation will be conducted</li> </ul> </li> </ul>	5	4
PSO3	Ability for preparation of organized documentation and reports.	4	4
PSO4	Encouragement for higher studies, entrepreneurship development, self learning and self reliance which are the foundations of professional career.	5	5

### 7.2. Improvement in Success Index of Students without the backlog (10)

Items	LPB	LPBm1	LPBm2
Success Index (from 4.2.1)	0.5	0.44	0.64

#### 7.3. Improvement in Placement and Higher Studies (10)

Items	LPB	LPBm1	LPBm2
Placement Index (from criteria 4.6)	1.06	1.005	1

Items	LPB	LPBm1	LPBm2
Academic Performance Index (from criteria 4.3)	5.74	7.69	6.66

#### 7.4. Improvement in Academic Performance in Final Year (10)

#### 7.5. Internal Academic Audits to Review Complete Academics & to Implement

#### **Corrective Actions on Continuous Basis (10)**

Items	CAY	CAYm1	CAYm2
	2015-16	2014-15	2013-14
Internal Academic Audits	89%	81%	75.5%

#### 7.6. New Facility created in the program (10)

Items	CAY	CAYm1	CAYm2	
	2015-16	2014-15	2013-14	
New Facility Created	Arduino	Robotics	Brahmavidya	
	Workshop	Workshop	Workshop	

<b>CRITERION 8</b>	Program Curriculum and Teaching –Learning Processes	200

#### 8.1 Mentoring System to help at individual level (10)

Polytechnic has an established mentoring system to take care of the students for their academic progress, personality development and to make them suitable for the professional career. The admitted students are from different strata of the society and at times need support and counseling to face personal and financial problems. Class teachers keep a close watch on individual student's behavior along with other staff members of the department working as mentors to check the need for assistance. Counselor is appointed by the Institute to help the students to overcome their personal problems. Motivational lectures are regularly held to maintain learning enthusiasm amongst the students. Students' groups are formed for studies to improve confidence and performance levels.

#### **Type of Mentoring:**

Professional guidance/career advancement/course work specific/Laboratory specific/Allround personality development/ Financial support for education

Number of Faculty Mentors (2016-17): 7 (HOD + Department staff) +1 Institute Counselor

Number of students per Mentor: 19 per mentor

#### **Frequency of Meeting: Monthly**

- 1. Each student division has two class teachers to plan and monitor Curricular,Co-curricular and Extra-curricular activities.
- Student attendance and Progressive test records are presented during the Parents meeting (twice in the term).
- 3. Remedial/Paper solving sessions are conducted towards the end of term for improving academic performance.
- 4. In case of students facing concentration or personality related problems they are guided to the student-counselor appointed by the polytechnic.

#### **Professional Guidance:**

Every effort is made for all-round personality development of students enrolled for the program. The subjects such as Communication skills, Development of Life Skills, Professional practices are given equal importance by the department staff as such subjects help the students to participate in curricular and co-curricular activities and bring awareness about society and environment. The department offers professional guidance by inviting experts for the overall personality development of the students in addition to the classroom teaching.

#### 8.2 Feedback Analysis and Reward/ Corrective measures taken(10)

#### Feedback collected for all the Courses: YES

A standard feedback questionnaire is collected from the students.

#### Specify the feedback collection process:

- Feedback is collected within few weeks in the Semester to permit adequate time to ensure improvement (if necessary) in performance of teachers.
- Feedback of all subject teachers is taken to monitor students' acceptance.
- Feedback questionnaire is given and explained to the participating students.
- Collected feedback questionnaire is scrutinized by the Head of Department.
- All the parameters mentioned in the feedback form are analyzed.
- Teaching abilities with respect to each criteria and comprehensive ability of the teachers is analyzed. All the comments of the students in the feedback form are communicated to the respective faculty members along with their feedback score to know strengths / weaknesses and to improve teaching skills.
- The indices obtained and areas for improvement are informed to subject teachers by HOD

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• Feedback mechanism is focused to ensure best teaching learning practices.

Academic	C	H	E	Р	I	E	Ι	S	Ι	F	C	0	Μ	U	Tot	al
Year	Т	C	Т	С	Т	С	Т	С	Т	C	Т	С	Т	С	Т	С
2012-13	11	2	16	0	14	1	10	2	12	0	16	0	12	0	95	5
2013-14	11	2	15	0	14	0	16	1	12	1	16	0	12	0	100	4
2014-15	11	1	16	0	13	0	15	1	12	0	16	0	11	0	98	2
2015-16	11	2	15	0	13	0	15	1	12	1	16	0	10	0	96	4

Teachers Feedback Analysis - Average percentage of students who participate: 50%

• T - Total Staff including Humanities

• C - Corrective Action Taken

#### **Basis of Reward / Corrective measures**

Departments ensure availability of teachers for every course at the start of academic year. Complete course plan and notes of the respective subjects are kept ready by the teachers. The freshly introduced teachers attend Two day workshop (Induction Training) by the Principal and HOD's to understand the basics of effective teaching. Monthly meeting of staff members is held on first Saturday of every month to provide important inputs and improve interaction among the staff members. The staff members with 100% result in Winter & Summer MSBTE Theory subjects are felicitated for their achievement on 5<sup>th</sup> September of subsequent year.

**Reward for Better Performance- Certificate of Appreciation (100% Result)** 

C.,		Prog	No. of Staff Members					
Sr. No.	Program Name	ram Code	2012- 2013	2013- 2014	2014- 2015	2015- 2016		
1	Chemical Engineering	CH	1	0	1	3		
2	Computer Engineering	CO	3	0	6	3		
3	Electrical Power System	EP	2	3	0	1		
4	Industrial Electronics	IE	3	1	6	0		
5	Information Technology	IF	3	1	5	3		
6	Instrumentation	IS	5	0	6	3		
7	Medical Electronics	MU	4	4	8	6		
	Total		21	9	32	19		



**Reward for Better Performance- Certificate of Appreciation (100% Result)** 

The staff members with special contributions are being appreciated during Faculty meetings, Training programmes and Conferences.

The staff members with exceptional contribution in organizing various activities, Journal publications and other achievements are recommended for Best Teachers Awards of State Government, ISTE and other authorities/organizations.

# **Corrective Measures**

• The teachers whose performance needs improvement are counseled by the respective HOD's about their expected areas of enhancement.

#### **8.3 Feedback on facilities (5)**

#### **Students Feedback collection**

Institute has adequate Infrastructure for Lectures, Practical, Tutorials, Library, Wash Rooms, Canteen Etc. Feedback Form is prepared to understand Stake holder's Views to find out scope for further improvement. Feedback from 82 students is taken for 15 parameters which are quantified as under:

Facilities	Score (%)
College Campus, Security	93.09
Class Rooms	85.77
Laboratory Equipment's, Conduct of Practical, Project etc.	89.02
Library, Reading Rooms, Home Issue, Book Bank, Periodicals, Journals	95.12
Teaching Faculty, Mentoring	96.34
Opportunity for Co-curricular activities	81.30
Computing Facilities, Internet	80.89
Seminar, Conference Halls	92.28
Training and Placement Assistance	77.64
Industrial Visits & Guest Lectures	89.02
Scope for Value Addition Programmes	81.30
Office; Administrative Staff Support for Admission, Fees payment,	86.99
Wash rooms, Drinking Water facility	76.82
Campus Stores, Duplicating facility	78.86
First Aid Facility	85.02

#### • Corrective action taken based on the Feedback and Comments:

The feedback indicated that the students are by and large satisfied with the currently available facilities. The maintenance of the existing infrastructure is done on regular basis. Sports and Cultural competitions are held during the Semester Break. Institute is planning to provide more recreational area and facilities to students without compromising on academic activities.

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Based on the feedback analysis and suggestions for improvement following measures are taken.

Suggestions for improvement	Measures Undertaken		
Washroom improvement	Work is in progress		
Improvement in Canteen services	Instructions are given to Canteen		
E-Classroom	Seminar room with Audio-Visual facilities provided		
Playground	Made available to the students in the mornings and evenings.		

#### 8.4 Career Guidance, Training and Placement (20)

#### **Organizational Chart**



#### **Objectives and Features**

- Strong liaison with industry.
- Each department has a Placement Coordinator who reports to TPO in organizing Training & Placement activities.
- Approach industries for internship training and placement needs.
- Training activities for soft skills and interview techniques.
- Create awareness among students regarding available career options and help them in identifying their career objectives.

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• Take feedback from industry and provide inputs for curriculum.

#### 1. FACILITY

- Guest lectures from Industry and academics for career guidance
- Hub & Spoke model of MSBTE
- Industrial visits to give exposure to faculty and students
- Industry related projects

#### **Facilities of last 3 years**

Activity	2015-16	2014-15	2013-14
Career Guidance Lectures	12 16		12
Hub & Spoke Lectures	02 Seminar +	01 Seminar +	*
(MSBTE)	1 Ind. Visits	2 Ind. Visits	
Industry Visits	48	37	27
Industry related projects	11	04	02

\* Hub & Spoke activity was initiated by MSBTE during the year 2014-15.

#### 2. MANAGEMENT

#### • Placements

Companies/Recruiters criteria for placement conduct Aptitude Test, Group Discussion, Interview and Medical Test. This criteria vary depending upon the Company and no. of vacancies.

#### • Internships

Internship is a period of work experience offered by an employer to give students exposure to the Industrial environment, often within a specific Organization related to the field of study and interest. This experience gives opportunity to apply theoretical knowledge to practical applications. From academic year 2015-16, MSBTE has made it mandatory for Fourth and Sixth Semester students to undergo internship of 4 weeks in the Summer vacation.

#### **Benefits of Internship**

- Transition from classroom learning to work experience.
- Explore career options based on interests and abilities.
- Develop leadership abilities and acquire new skills.
- Improve self confidence and communication skills to work in team.
- Help to develop sense of responsibility and trust.

#### Placement and Internship details for last 3 years

Activity	20	)15-16	20	)14-15	2013-14
No. of campus Placements	13		13 9		8
Industries Interacted for Placement	14			10	8
No. of Industries for Internships	IE	31	IE		*
	IS	13	IS	01	
	EP	15	EP	10	
	IF	20	IF		
	СН	15	СН		
	MU	19	MU	02	
	СО	24	CO		

#### \* Internship activities started from the year 2014-15.

#### No. of Interns in Summer 2016

Branch	Second Year	Third Year	Total
Chemical Engineering	14	19	33
Electrical Power Systems	20	31	51
Instrumentation	40	55	95
Industrial Electronics	39	38	77
Medical Electronics	13	33	46
Computer Engineering	64	66	130
Information Technology	21	31	52
	•	Total	484

#### 3. EFFECTIVENESS

#### MoUs with Institutes and Industries

#### • UKIERI Project

VPMs Polytechnic, Thane signed the MoU for a collaborative research on Artificial Heart with the Aston University U.K. in October 2012. Mrs. Kirti Agashe, HOD Industrial Electronics, VPM's Polytechnic, Thane is Indian Principal Investigator and Mr. Omkar Joshi, Researcher/Lecturer, Industrial Electronics Department is conducting the research. Dr. Mark Prince, Lecturer, ME+D, Aston University is working as U.K. principal Investigator. As a part of the MOU, Mrs. Kirti Agashe and Mr. Omkar Joshi visited Aston University U.K. to discuss the project progress and to conduct experiments at Aston University during January – February 2013.

This research program has received the UKIERI (UK India Education & Research Initiative) collaborative research funding.

 MoU with Northern College – Ontario, Canada was signed on 15<sup>th</sup> June 2009. The purpose is to facilitate students for higher studies and employment opportunities in Canada.

In addition to the above International MoU, individual departments have signed MoU with the local industries and organizations for mutual exchange and sharing of knowledge, man power, training etc.

These MoUs have aided to enhance the Industry interaction of the Institute for Placement and Internship. The faculty is benefitted through industrial exposure for hands-on training as well as latest updates in technology.

Sr.	Department	Name of Company for MOU
No.		
1	Electrical Power Systems	Shrihans Electricals Pvt. Ltd, Taloja
		Aditya Vidyut Pvt. Ltd., Bhiwandi
2	Industrial Electronics	Digele Systems, Mahim, Mumbai
		Shri Sai Works Power Division, Dombivali
		Ecomation Systems, Thane
3	Information Technology	Appeteria.com, Dombivli
		QUICKTECH, Thane
4	Computer Engineering	Techknow Pvt. Ltd, Thane
		Learning Pixels, Thane
5	Instrumentation	Supertech, Thane
		Suchi Engineers, Thane
6	Medical Electronics	Vighnaharta Sales & services, Bhiwandi
7	Chemical Engineering	Suchi Engineers, Thane
		Thakkar Dyechem Industries, Badlapur, Thane
		Process Units Engineers and Manufacturers, Dombivli,
		Thane

#### **MOUs of various Departments**

The Industry Interaction has helped to place desirous Diploma students as well as Internship of the students during the Second and Third year vacations.

#### 8.5 Entrepreneurship Cell/Technology Business Incubator(5)

Polytechnic started Entrepreneurship Development Cell in the academic year 2011-12, to encourage, motivate and provide training for students to become Entrepreneurs.

Entrepreneurship Development Cell strives to inspire and generate a culture of Innovation

to help budding entrepreneurs to realize their potential. The objectives of the Cell are:

#### Short Term:

- 1. To train and equip the students with the knowledge and resource that are needed to build startups.
- 2. To conduct:
  - a. Entrepreneurship Awareness Camp (EAC)
  - b. Entrepreneurship Development Programs (EDP)
  - c. Faculty Development Programs (FDP)
  - d. Skill Development Programs (SDP)

- 3. Conduct a variety of competitions round the year for incubating nascent ideas and providing mentorship to budding entrepreneurs.
- Building Entrepreneurs Orient students towards entrepreneurship since this is the phase of life where dreaming about their goals in life begins.
- 5. Every year Technology Day is organized to bring synergy between Industry and Institute. Two original projects from each department will present their ideas. The Cell tries to build relationship with few industries to take these ideas forward.

#### Long Term:

- 1. To assist students in starting industries of their own for:
  - a. Product identification.
  - b. Market survey, tools for market research.
  - c. Preparation of project reports.
  - d. Preparing technical feasibility reports.
- 2. Consultancy and Research.
- 3. Training programs for industrial professionals.





CDITEDION 0	Governance, Institutional Support and Financial	75
CRITERION 3	Resources	15

#### 9.1. Organization, Governance and transparency(25)

#### 9.1.1. Vision and Mission of the Institute (5)

Vision: Ensuring Skill development through Quality Technical Education.

#### Mission:

- Imparting creative learning by Innovative Methodologies to expose the talents by the way of MSBTE Curriculum
- Develop Technical Skills and Professional Ethics with Entrepreneurial spirit through conducive environment
- Cultivate lifelong learning skills to face challenges with Innovation

# 9.1.2. Governing body, administrative setup, functions of various bodies, define rules procedures, recruitment and promotional policies.(5)



#### **Organizational Structure**

#### A. Governing Body and Functions of various Bodies

#### **Present Governing Body Members**

1.	Dr. V.V. Bedekar	Chairman
2.	Sri. M.Y. Gokhale	Member - Chairman TBSB Bank, Thane
3.	Sri. U.B. Joshi	Member – Vice Chairman TBSB Bank, Thane
4.	Sri. J.N. Kayal	Member – Former Scientist BARC, Mumbai
5.	Sri. A.C. Joshi	Member – MD Ornate Chemicals Ltd. Thane
6.	Dr. Ramesh U.	AICTE Nominee – Regional Officer, RO, Mumbai
7.	Dr. D.D. Kale	Member Academician, Former HOD, ICT, Mumbai
8.	Prof. P.A. Naik	Jt. Director- DTE, RO, Bandra, Mumbai
9.	Prof. V.D. Vaidya	Dy. Secretary, MSBTE, R.O., Mumbai
10.	Sri. C.S. Limaye	Member-Industrialist-MD, Supertech Instruments, Thane
11.	Dr. Siddhan S.	Member-Industrialist-MD, Laxmi Chemicals Ltd., Chennai
12.	Prof. D.K. Nayak	Principal & Secretary
13.	Mr. V.A. Walavalkar	Member - Teaching Staff
14.	Mrs. S.S. Kulkarni	Member - Teaching Staff

The Governing Body is constituted as per the guidelines of AICTE, New Delhi. The first meeting of the Governing Body was held on 8<sup>th</sup> August 1995.

#### **Functions of Governing Body**

- The Governing Body is the Supreme body responsible for the management of the Institution
- To consider the recommendation of sub-committee in respect of Infrastructure, Equipment's, Library resources, Staff and Finance for the Academic year. The subcommittee includes Heads and In-charges of Departments, Office and Library on a continuous basis

- To approve the proposed Recurring and Nonrecurring Budget estimates of various departments and other sections
- To scrutinize and accept Audited statement of account of each year
- To approve the Teaching and Non-teaching staff posts as per the Institution load requirements
- To consider and make provisions for meeting the General and Specific conditions laid down by AICTE, State Government, DTE, MSBTE, NBA and monitor the progress in fulfilling the conditions
- To consider the report of the Principal on the status of Admissions
- To consider the report and the proposals of the Principal on Academic performance of the staff and students. Recommend necessary remedial measures if needed
- To approve proposals of the Principal to enhance academic atmosphere in the Institution
- To consider proposals for expansion of educational activities to be made to AICTE, DTE, MSBTE such as change of Course, increase/decrease in intake capacity
- Any other important policies and decisions in the future interest of the Institution

Sr.	Date of Main Points discussed to place before GB/PC		Members
No.	Meeting	_	Present
1	10.08.16	Recurring, Non-Recurring and Maintenance Budgets.	7
2	21.01.16	W-2015 Result Analysis, NBA Proposal submission,	9
		AICTE-EOA, Academic Monitoring, Budget 2016-17	
3	21.10.15	Finalizing Disallowed candidates W-15 Exam, Various	7
		Proposals, Scholarship	
4	08.09.15	MSBTE Enrollment, Exam Form filling, Teaching Staff	6
		Load review, Journal/Conference publications	
5	10.07.15	First & Second year Admission Status, Delegation of	10
		Responsibilities to staff in the Department, National	
		Conference, Remedial Session data and progress,	
		Alumni Meet	
6	06.09.14	Admission Statistics 2014-2015, Status of Academic	3
		progress of all the departments, Conference preparations	
7	07.08.14	FY Schedule, Plan for Unit test-I, Lectures and	7
		Practical's planning, Preparation for NBA	
8	14.02.14	Library Automation using Open source KOHA	7
		software, Value Addition Programmes	
9	14.12.13	AICTE mandatory disclosures, International	7
		Conference 'Bhaskara-900'	
10	14.08.13	MSBTE Hub-Spoke Model, SSS final Fees approval	6
11	11.03.13	MSBTE Practical/Theory Exam, Stock taking, Pending	10
		fees payment by SY/TY Students, Staff Recruitment	
12	16.02.13	Academic Monitoring, Winter 2012 Results, Unit test	10
		II/PST, Disha Magazine, Polytechnic Magazine	
13	23.01.13	Formation of various committees. Anti-Ragging Squad,	10
		Anti-Ragging Committee, Women Grievance Redressal	
		Committee, Grievance Redressal Cell	

#### Schedule of Sub-committee meeting held in the last 3 years

The Meetings of Governing Body are held twice in a year (March and September)

#### Schedule of Governing Body Meetings held during last 3 Years

Sr. No.	Year	Particulars	Date	Venue	Total Members Present
1	2016-17	33 <sup>rd</sup> Meeting	8 <sup>th</sup> September 2016	Board Room	11
2	2015-16	32 <sup>nd</sup> Meeting	4 <sup>th</sup> March 2016	K.V. Vaze Hall	13
		31 <sup>st</sup> Meeting	10 <sup>th</sup> September 2015	Board Room	10
3	2014-15	30 <sup>th</sup> Meeting	13 <sup>th</sup> March 2015	K.V. Vaze Hall	06
		29 <sup>th</sup> Meeting	23 <sup>rd</sup> September 2014	Board Room	11
4	2013-14	28 <sup>th</sup> Meeting	15 <sup>th</sup> March 2014	K.V. Vaze Hall	12
		27 <sup>th</sup> Meeting	14 <sup>th</sup> September 2013	Board Room	11

#### **B.** Polytechnic Committee

The Polytechnic committee is the local committee formed for implementation of the policies of the Management and Governing Body. This committee was formed in the year 1987 to monitor the day-to-day activities as well as for the staff participation in managing the academic and administrative functions.

#### **Present Polytechnic Committee Members**

1.	Dr. V.V. Bedekar	Chairman
2.	Sri. M.Y. Gokhale	Member - Chairman TBSB Bank, Thane
3.	Sri. U.B. Joshi	Member – Vice Chairman TBSB Bank, Thane
4.	Sri. J.N. Kayal	Member – Former Scientist BARC, Mumbai
5.	Prof. D.K. Nayak	Principal V.P.M's Polytechnic
6.	Mrs. S.S. Kulkarni	Teaching Staff representative
7.	Mr. C.S. Shingade	Support staff representative

#### List of Polytechnic Committee Meetings held during last 3 Years

Sr. No.	Year	Particulars	Date	Venue	Total Members Present
1	2016-17	74 <sup>th</sup> Meeting	8 <sup>th</sup> September 2016	Board Room	08
2	2015-16	73 <sup>rd</sup> Meeting	14 <sup>th</sup> December 2015	Board Room	06
		72 <sup>nd</sup> Meeting	17 <sup>th</sup> July 2015	Board Room	06
3	2014-15	71 <sup>st</sup> Meeting	20 <sup>th</sup> December 2014	Board Room	06
		70 <sup>th</sup> Meeting	30 <sup>th</sup> July 2014	Board Room	06
4	2013-14	69 <sup>th</sup> Meeting	14 <sup>th</sup> December 2013	Board Room	05
		68 <sup>th</sup> Meeting	20 <sup>th</sup> July 2013	Board Room	04

#### **Functions of Polytechnic Committee**

- To maintain transparency for implementation of management policies and the decisions taken in the Governing Body
- Various proposals as well as developmental activities are discussed before placing for approval in the Governing Body
- The views of staff members to be considered for implementation
- Suggestions of the staff members are considered for healthy working atmosphere

#### C. Administrative Setup

#### **General Administration and Accounts**

- Maintaining the details of staff members and Service Records
- Attendance management
- Students Data Management and related services
- Students Fees collection and other receipts
- Accounts management, Payroll, Statutory deductions and compliance

#### Admission Cell: First Year and Direct Second Year

#### Stage 1

- Cancelling at various Schools for SSC appearing students
- Arranging School students visit to Polytechnic facilities
- Guidance about the Centralized Admission Process of State Government
- List of Essential documents to be kept ready for Admission Application registration

#### Stage 2

- Facilitation Centre for Issue of Login kits with Admission Brochure
- Assistance for submitting Online Admission forms to candidates
- Assistance to update details during Grievance Redressal period

- Assist Candidates to upload Institute and Course Options during CAP Rounds
- Guidance to Students/Parents about Course details and Future prospects
- Counseling the admission allotted students for document submission and payment of fees
- Orient the students for Academic and Co-curricular activities

#### Stage 3

- Upload admitted student's data on DTE/ MSBTE/Pravesh Niyantran Samiti/ AICTE Portals
- Keep Documentation ready for Merit List verification
- Complete the Document Verification and Merit List Approval as per DTE RO notified Schedule

#### **Examination Cell**

- MSBTE Enrolment of newly admitted students. Smooth conduct of all Internal and External Exams
- Certificate Of Backlog (COB) of Direct Second Year (DSY) / Transfer Candidates
- Examination related guidelines are forwarded to concerned staff and students from time to time
- Maintain details of Learning Disability (LD) students for awarding applicable concessions as per MSBTE norms
- Record Keeping and Safety of Exam stationary and other related Inventory
- Exam form filling of Regular and Ex-students
- MSBTE Exam Result Analysis. Result Records
- List of Staff with 100% results in Summer and Winter Theory Examinations
- Intimation to staff about Result Statistics and conduct of remedial sessions in case of Poor results

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#### Academic Cell

- Preparation of Prospectus, Student Hand Book
- Preparation of Annual Academic Time table
- Schedule co-curricular activities, Guest lectures, Industrial visits, Seminars
- Internal Academic Monitoring, Unit Test, preparation for External Academic Monitoring, Students counseling, Industrial projects etc.

#### **Extra-Curricular Committee**

- This cell organizes cultural and sports events during the semester break
- The activities include Singing, Dancing, Mehendi competition, Fun fair, Elocution, Rangoli, T-shirt painting, Saree Queen, Tie King, Traditional dress etc.
- The sports event include Cricket, Volley ball, Kabaddi, Chess, Carrom, Table-tennis etc.

#### D. Defined rules, procedures, recruitment and promotional policies:

#### **Rules, Procedures:**

Vidya Prasarak Mandal, Thane had implemented service rules since the establishment of the Polytechnic in the year 1983. The rules of conduct, discipline and service conditions for the employees of Vidya Prasarak Mandal's Polytechnic, Thane have been reaffirmed by the management vide its resolution dated 4th June 2006. The copy of the rules document is made available in the office as well as with the heads of various departments. The staff members are permitted to refer to the service conditions.

#### **Recruitment and Promotional policies:**

The staff is recruited by following appropriate procedure. Annually in the month of March advertisement for the various vacancies is published in local newspaper and institute website.



The Shortlisted candidates are invited for written test and interview. The successful candidates are informed to join by completing the official formalities. The adhoc staff members are continued in service based on their satisfactory performance in the preceding year.

SI.Grade/HOD Within the framework of working of the Polytechnic and Staff promotion scheme, the regular faculty members with adequate qualification, experience, publications, Good Performance Appraisals are promoted to the next higher levels. This is done by following AICTE and the State Government norms applicable to the regular staff members from time to time.

For Administrative/Library/Support staff members the promotion is given as per the State Government policies. In addition, the staff who have upgraded their skills through Certificate or Advance Diploma programmes are given appreciation in the form of Incentive / Additional increment.

#### 9.1.3. Decentralization in Working and Grievance Redressal Mechanism (5)

#### A. Decentralization in Working (Administration & Decision making)

The Institute has a decentralized method of working with each staff member being held accountable for the assigned responsibilities.

#### Principal: Academic and Administration of the Institution.

- Provide effective leadership to the Polytechnic
- Liaison with Management, AICTE, NBA, DTE, MSBTE, Industries, Parents, Students, Alumni and other stakeholders
- Implement and monitor policies of management, decisions taken in Governing Body and Polytechnic Committee. Guide various committees and cells for effective functioning

- Approve Academic calendar, hold faculty meetings, monitor admission, academic and exam related activities. Monitor faculty performance, resolve issues (if any) to create conducive atmosphere
- Ensure safety and security measures of Institutional infrastructure and the resources
- Evolve future plan and prepare for progress, development and sustainability

#### Head of the Departments/In-charge: Academic and Administration of the department

- The Head of the Department is responsible for the smooth functioning of the department as per the academic calendar
- Conduct academic co-curricular, extracurricular activities of the students of the departments
- Monitoring the Industry Interaction for Guest faculty, Internship and Projects
- Assign various responsibilities such as Class Teachers, Mentors, Co-curricular coordinatros, Academic co-ordinators, Lab In-charges etc. to Faculties and Laboratory Staffs
- The staff of the department report to the Head from time to time with the results of assignments

#### **B.** Grievance Redressal Mechanism

#### Following four committees are formed for the Redressal of Grievances

#### 1. Anti-Ragging Committee:

According to the provision of All India Council Technical Education (AICTE) norms, the Principal framed the Anti-Ragging Squad during academic year 2015-2016.

Sr. No.	Name of Faculty	Designation			
1	Prof. D.K. Nayak	Chairman			
2	Mrs. K.S. Agashe	Dy. Chairperson			
3	Mr. S.S. Mujumdar	Member			
4	Mrs. V.A. Joshi	Member			
5	Dr. (Mrs.) Usha Raghavan	Member			
6	Mr. T.V. Mohite Patil	Member			
7	Mrs. S.K. Shukla	Member			
8	Mrs. Anice Alias	Member			

#### List of Members of Anti-Ragging Committee

#### Activities undertaken (Every year)

- Formation of committee by the Principal
- Planning of meetings at the beginning of the Semester
- Preparation of Action plan for regular vigilance
- Display of Ragging prohibition notices on all department notice boards
- Selection of the Staff representatives from each department to take rounds for prohibition of ragging
- Regular meetings to resolve the problems, if any
- Guiding to Institute Counselor for handling psychological issues related with ragging

# 2. Internal Compliant Committee (ICC) Vishakha – Women Grievance Redressal Committee

A new section known as the 'Women Grievance Redressal Committee' (WGRC) has started functioning in the college from the academic session 2011. WGRC is formed in order to keep the healthy working atmosphere among the faculty of Polytechnic. This Cell helps women faculty and students to record their complaints and solve their problems related to resources and personal grievances. Woman Harassment complaints will be handled as per government guidelines.

#### Functional view of WGRC:

Women's Grievance Redressal committee functions with a view to look after the general well-being of the women folk in the campus. It organizes different women empowerment programmes. All women staff and students are members of the cell. Any type of sexual harassment physical, verbal or mental shall come under the purview of the cell, and it is empowered to initiate proactive actions against such offences.

Sr. No.	Name of Faculty	Designation		
1	Mrs. N.V. Vader	Chairperson		
2	Mrs. Alpana A. Bapat	Member (NGO)		
3	Mrs. K.S. Agashe	Member		
4	Dr. (Mrs.) Usha Raghavan	Member		
5	Mrs. S.K. Shukla	Member		
6	Mrs. G.A. Pujare	Member		
7	Mrs. S.D. Khandagale	Member		
8	Mr. T.V. Mohite Patil	Male Member		

List of Members of Women Grievance Redressal Committee

#### Major Activities:

- Awareness of WGRC among the women students and staff in the polytechnic
- Program on "Self Defense".
- Program on Health and Hygiene
- Observe the International women's Day on 8th March

#### 3. Student Grievance Redressal Cell

#### The Student Grievance Redressal Cell functions are:

- Invite student's suggestions for improving theory and practical teaching performances
- Take cognizance of the request made by students about the various facilities and implement solutions

- To resolve any conflicts among the students and to maintain a conducive environment
- Coordinates Counseling sessions to newly admitted students to deal with Stress and other problems faced
- Monitor Student activities to prevent untoward incidents
- Disobedient students are being identified and are counseled to be punctual
- To deal with any incidences involving students from time to time and report to the Principal for further action

Sr. No.	Name of Faculty	Designation
1	Prof. D.K. Nayak	Chairman
2	Mr. V.A. Walavalkar	Dy. Chairperson
3	Mrs. S.S. Kulkarni	Member
4	Mrs. Santhi M.L.	Member
5	Mrs. R.G. Tendulkar	Member

#### List of Members of Student Grievance Redressal Cell

#### 4. SC/ST (Prevention of Atrocities) Committee

The cell is formed to ensure fair treatment to Reserve Category staff and students. Institute's overall ambience is extremely fair for all stakeholders including students from economically weaker sections. Administration helps the students to fill scholarship forms and complete other documentation to entitle their learning at concessional fees. Students are properly informed about different scholarship schemes, deadlines etc. to avail the benefit.

- The Cell basically aims to uplift the morale of deprived section of students and staff
- Ensure equal opportunities to all the students and staff irrespective of their background
- Encourage and motivate through counseling and personality development programmes

• The Cell is formed to deal with incidences (if any) and to report about individuals responsible for atrocities and suppression

Sr. No.	Name of Faculty	Designation		
1	Prof. D.K. Nayak	Chairman		
2	Dr. (Mrs.) G.S. Ingawale	Member		
3	Mrs. R.U. Patil	Member		
4	Mrs. S.D. Khandagale	Member		
5	Mrs. G.A. Pujare	Member		

List of Members of SC/ST (Prevention of Atrocities) Committee

#### 9.1.4. Delegation of Financial Powers (5)

The Institute prepares and approves Budget of the next financial year during Governing Body meeting. Head of the Institute implements the decisions taken in the Governing Body with approval from Management

The department budgets for Recurring/Non-Recurring/Maintenance activities are sanctioned by the Governing Body. Each department recommends the laboratory equipment and accessories for the year with justification. The department plans the budget as per curriculum and laboratory demands. The list of equipment's to be procured/experiments set up as per curriculum are finalized by the departments with tentative cost within the allocated budget. The purchasing is done through the co-operative society to ensure proper price, quality, after sales service.

# 9.1.5. Transparency and availability of correct/ unambiguous information in public domain (5)

#### Academic and Administrative Transparency:

The institute website www.vpmthane.org includes exhaustive information about Polytechnic as well as other sister institutions managed by the Trust. Various notices are regularly posted including the Annual Academic Calendar.

The Academic plan is prepared by all the departments before proceeding on Summer and Winter vacations for Odd and Even Semesters. Administrative procedures are explained to new recruits in the Induction training programme at the time of joining. Every staff member as well as student is informed about academic activities and their responsibilities on regular basis through meetings.

#### 9,2. Budget Allocation, Utilization and Public Accounting at Institute Level (10)

Institute level	l Income for	last three	years and	current	financial	year
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]	Fotal Inc CF	ome (Rs. Y 2016-1	in Lacs) 7*	)	Actual Expenses (Rs. in Lacs) CFY 2016-17*			Total No. of Students CFY 2016-17		
Fee	Govt	Grants	Other	Total	Recurring	Non Recurring	Any Other	Total	Exps Per Student (in Lacs)	No Of Student
394.76	137.20	0.00	27.85	559.81	281.94	1.62	37.38	320.94	0.33	974
J	fotal Inc Cl	ome (Rs. FY 2015-	in Lacs) 16	)	Actual Expenses (Rs. in Lacs) CFY 2015-16			Total No. of Students CFY 2015-16		
448.01	172.68	1.00	62.41	684.10	630.91	14.41	100.26	745.58	0.68	1104
]	Total Income (Rs. in Lacs) Actual CFY 2014-15			Actual Expenses (Rs. in Lacs) CFY 2014-15			Total No. of Students CFY 2014-15			
401.73	210.38	1.30	65.11	678.52	639.53	14.98	78.11	732.61	0.69	1067
]	Total Income (Rs. in Lacs) Actual CFY 2013-14			Actual Expenses (Rs. in Lacs) CFY 2013-14			Total No. of Students CFY 2013-14			
471.60	187.00	0.00	45.86	704.46	572.57	20.75	71.38	664.71	0.52	1286

\*As on 30<sup>th</sup> September 2016

Self Assessment Report

# Table of Recurring and Non-Recurring expenses

	CFY 2016-2017		CFYm1		CFYm2		CFYm3	
	(30-09	-2016)	2015	-2016	2014-2015		2013-	2014
ITEMS	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Infrastructure Built-up	g		201.5	2 (incurre	ed before	2013)		
Library	1.00	0.15	3.00	1.66	8.00	3.26	8.00	6.04
Laboratory Equipment	12.75	1.56	13.00	12.86	24.50	11.90	24.50	14.87
Laboratory Consumables	4.05	1.28	4.90	2.52	5.25	3.83	5.25	3.78
Teaching & Non-Teaching Salary	588.50	210.48	568.20	558.34	544.00	507.34	440.00	482.79
Maintenance & Spares	61.90	46.98	127.44	81.46	67.30	116.53	117.30	77.25
R&D	3.00	-	2.00	0.72	1.00	0.85	1.00	1.33
Training & Travel	2.00	0.32	2.00	3.27	3.00	1.48	3.00	1.41
Miscellaneous Exps	-	0.08	2.00	0.11	2.00	0.15	2.00	0.22
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Tax	1.50	1.64	1.50	1.57	2.50	1.35	2.50	1.35
Newspaper & Magazines	0.70	0.12	1.00	0.40	2.00	0.38	2.00	0.83
Affiliation Fee	1.05	1.05	1.00	1.05	1.00	1.05	1.00	0.70
BTE Exam Stationery	0.50	0.56	0.25	0.20	1.00	0.32	0.50	0.26
Printing Stationery	15.00	6.24	12.50	9.12	9.50	8.70	8.00	7.77
Seminar Student Registration	0.30	0.25	1.00	0.36	0.35	0.29	0.25	0.22
Staff CUTP/STTP	0.50	0.22	1.00	0.50	0.50	0.49	1.00	0.67
Uniforms	0.20	0.00	0.10	0.14	0.25	0.09	0.50	0.11
Audit Fees	0.50	0.60	0.50	0.51	0.50	0.43	0.50	0.39
Student Insurance	0.50	0.55	0.50	0.55	0.00	0.48	-	0.53
Postage	0.10	0.01	0.10	0.00	0.10	0.00	0.25	-
Advertisement	2.00	1.14	1.50	1.69	0.70	1.41	1.00	2.21
Bank Charges	0.15	0.07	0.15	0.00	0.15	0.00	0.15	0.00
Repair & Maintenance	1.00	0.01	1.00	0.15	2.00	0.27	2.00	0.11
ASG Gym Mag	2.50	0.03	2.00	1.51	2.00	2.59	2.00	2.73
I Lib Card	0.50	0.04	0.50	0.63	1.00	0.36	1.00	0.56
Water Charges	4.00	0.90	4.00	2.00	5.00	2.99	2.00	3.29
Telephone Charges	0.50	0.18	0.50	0.48	0.75	0.50	0.75	0.60
Electricity Charges	20.00	8.65	20.00	16.87	20.00	17.67	18.00	15.60
Contingencies	3.00	1.40	1.00	3.34	2.00	3.14	-	3.21
Leased Line	2.55	3.30	2.55	5.81	-	-	-	-
Professional Charges	0.40	0.00	0.40	0.40	-	0.88	-	0.35
AICTE Fee	1.00	0.00	1.00	1.00	-	1.00	-	1.00
Lab Manual	4.50	2.47	4.50	2.67	-	4.22	-	3.41
MSBTE Enrolment	0.90	0.82	0.90	1.08	-	1.09	0.50	0.90
MSBTE Exam Fee	4.03	23.60	8.00	30.41	-	32.50	-	26.72
NBA Processing Fee	10.00	5.75	20.00	-	-	-	-	0.00
ISTE Membership	0.25	0.01	0.00	0.00	-	-	-	0.00
Alumni Association	0.20	0.00	0.00	0.00	-	-	-	0.00
Repayment to IT Centre	67.50	10.00	0.00	0.00	-	-	-	0.00
Receivable for SWD	100.00	0.00	0.00	0.00	-	-	-	0.00
Seminar Exps.	-	-	-	2.78	2.50	5.10	2.50	3.50
TOTAL	919.03	330.45	809.99	746.18	708.85	732.61	647.45	664.71

#### **9.2.1.** Adequacy of budget allocation (4)

Financial	Budget San	ctioned In Lacs	Ex	Remarks		
Year	Non	Recurring &	Non	Recurring	Maintenance	
	Recurring	Maintenance	Recurring			
2015-16	2.00	0.70	0.52	0.10	0.07	Sufficient
2014-15	2.00	0.75	0.89	0.31	0.14	Sufficient
2013-14	2.00	0.75	1.98	0.46	0.22	Adequate

#### Details of budget allocated for last three years is shown in following table.

- Above said expenditure is done to full fill the requirements of implementation of G-scheme curriculum and also to undertake modernization and removal of obsolesces
- For certain experiments required apparatus was shared from other department
- Few costly apparatus were fabricated under student's project as per requirement of practical setups

#### 9.2.2. Utilization of allocated funds (4)

The Tentative Annual Budget is prepared by the Office in the month of February for the forthcoming Financial and Academic year. The Subcommittee inputs are considered for the expenses to be included under various heads. Non-recurring Budgets are allotted to purchase equipment's for new experiments or to phase out old instruments which are beyond repair. The Department Heads submit the list of equipment's and services to the Principal. The tentative budget is placed before the Governing Body Meeting held in the month of March every year for approval.

#### 9.2.3. Availability of the audited statements on the Institute's website (2)

The Annual Balance Sheet is prepared every year audited by the Chartered Accountant. The Balance Sheet is placed in the Institute website. The hard copy of the Balance Sheets of last 3 years will be presented to the Peer Committee at the time of visit.

#### 9.3. Program Specific Budget Allocation, Utilization (15)

Department	Total Budget (Rs. in Lacs)		Actual H (Rs. Ir		
	Non Recurring	Recurring	Non Recurring	Recurring	
Chemical Engineering	1.00	0.75	-	0.68	
Electrical Power System	2.00	0.75	0.19	0.13	Total No. of
Industrial Electronics	2.00	0.75	0.84	0.09	Students
Instrumentation	2.00	0.75	-	0.17	= 974
Information Technology	2.00	0.75	0.32	0.07	
Computer Engineering	2.00	0.75	0.20	0.002	
Medical Electronics	1.00	0.50	-	0.03	Fynenses
Physics	0.25	0.10	-	0.002	Per Student
Chemistry	0.25	0.30	-	0.05	
Workshop & APM	0.25	0.55	-	0.05	Rs. 0.003
Total	12.75	5.95	1.56	1.28	]

#### Total Budget at Institute Level: For Financial Year 2016-17 (30-9-2016)

#### **Total Budget at Institute Level: For Financial Year 2015-16**

Department	Total Budget (Rs. in Lacs)		Actual I (Rs. Ir		
	Non Recurring	Recurring	Non Recurring	Recurring	
Chemical Engineering	1.00	0.70	0.31	0.29	
Electrical Power System	2.00	0.70	0.60	0.43	Total No. of
Industrial Electronics	2.00	0.75	2.05	0.24	Students
Instrumentation	2.00	0.75	0.91	0.44	= 1104
Information Technology	2.00	0.70	2.15	0.28	
Computer Engineering	2.00	0.75	3.12	0.19	
Medical Electronics	2.00	0.75	0.96	0.23	
Physics		0.15	0.20	0.005	Expenses
Chemistry		0.25		0.02	Per Student
Workshop & APM		0.50	0.14	0.40	<b>Rs. 0.01</b>
Furniture office equipment			2.42		]
Total	13.00	6.00	12.86	2.53	

Department	Total Budget (Rs. in Lacs)		Actual I		
	Non	Recurring	Non	Recurring	-
	Recurring		Recurring		
Chemical Engineering	1.00	0.75	1.86	0.45	
Electrical Power System	2.00	0.75	0.89	0.62	Total No. of
Industrial Electronics	2.00	0.75	0.74	0.45	Students
Instrumentation	2.00	0.75	3.35	0.81	= 1067
Information Technology	2.00	0.75	3.58	0.12	
Computer Engineering	2.00	0.75	0.25	0.14	
Medical Electronics	2.00	0.75	1.02	0.64	
Physics	0.50	0.35		0.008	Expenses
Chemistry	0.50	0.35		0.16	Per Student
Workshop & APM	0.50	0.35		0.42	Rs. 0.015
Furniture office equipment	10.00		0.19		]
Total	24.50	6.30	11.90	3.83	

# **Total Budget at Institute Level: For Financial Year 2014-15**

#### **Total Budget at Institute Level: For Financial Year 2013-14**

Department	Total Budget		l Budget Actual Expenses		
	Non Recurring	Recurring	Non Recurring	Recurring	
Chemical Engineering	1.00	0.75	0.59	0.73	
Electrical Power System	2.00	0.75	1.97	0.68	Total No. of
Industrial Electronics	2.00	0.75	3.49	0.41	Students
Instrumentation	2.00	0.75	0.75	0.37	= 1286
Information Technology	2.00	0.75	1.85	0.13	
Computer Engineering	2.00	0.75	3.50	0.37	
Medical Electronics	2.00	0.75	1.70	0.46	
Physics	0.50	0.35		0.04	Expenses
Chemistry	0.50	0.35	0.08	0.16	Per Student
Workshop & APM	0.50	0.35		0.43	Rs. 0.015
Furniture office equipment	10.00		0.94		
Total	24.50	6.30	14.87	3.78	

Items	Budgeted	Actual	Budgeted	Actual	Budgeted	Actual	Budgeted	Actual
	30-9-16	30-9-16	2015-16	2015-16	2014-15	2014-15	2013-14	2013-14
Laboratory Equipment	12.75	1.56	13.00	12.86	24.50	11.89	24.50	14.87
Software	6.00	1.60	6.00	5.58	7.30	6.84	7.30	7.98
Laboratory Consumable	4.75	1.28	4.90	2.52	5.25	3.83	5.25	3.78
Maintenance & Spares	55.90	45.38	121.44	81.10	60.00	109.69	110.00	69.28
R & D	3.00	0.50	2.00	0.72	1.00	0.85	1.00	1.33
Training & Travel	2.00	0.31	2.00	3.27	3.00	1.48	3.00	1.41
Miscellaneous Expenses		0.08	2.00	0.11	2.00	0.15	2.00	0.22
Total	84.40	50.72	151.34	106.16	103.05	134.73	153.05	98.87

Total Budget at the Institute Level for the below listed Items.

#### **9.3.1.** Adequacy of Budget allocation (7)

The expenses under various heads are allotted in the budget by referring to the earlier year Balance Sheet and proposed activity expenses. The procurement is done by considering specific requirement and its justified use as approved by the Governing Body. The budget is finally implemented by considering the actual fees income of the admitted students and the reimbursement of fees of Reserve and Economically Backward students from the concerned Authorities. The fees collected is progressively invested in the Bank as per expected monthly expenses such as Salaries, Operational Overheads, Recurring and Non-recurring and maintenance expenses as well as miscellaneous expenses. Certain expenses are rescheduled if the finds are delayed from the Authorities.

#### 9.3.2. Utilization of allocated funds (8)

Every department utilizes their allocated budget as per the plan and need. All the essential requirements of the department are fulfilled for proper Academic activities
#### 9.4. Library and Internet (20)

Apart from Central Library each department is having internal departmental library which is exclusively used by the faculty members. All computer systems are connected through LAN with the Internet facility.

#### 9.4.1. Quality of learning resources (hard/soft) (10)

Library and Information Centre has a collection of over 24000 books. The library is fully computerized with **Open Access KOHA software**.

The Library facilities include

- Reading room with issue of text/reference books
- Home issue of 1 book per students of First & Second year and 2 Books for Third year students
- Book Bank facility to 400 + students every Semester. Free Book Bank sets are issued to all SC/ST and three top students of each division
- The Library has subscription of National as well as International magazines in the relevant technological and general science areas
- Membership for external readers including candidates appearing for competitive exams. Over 100 members register annually for this facility
- Multimedia PCs are maintained for database and other resources access
- The database repository DSpace is hosting the majority of research publications of the VPM Campus staff
- Conference proceedings in the Hard and Digital copy form are available for download through our website
- The centrally air-conditioned Reading room can accommodate over 128 students and separate area for staff research references

Selected students are felicitated with Best Reader Award for their effective use of library resources throughout the year.

## Total number of Books:

Year	Total No. of Books	Titles	Book Bank Sets Issued during the year
2013-14	23238	5594	428
2014-15	24266	7029	636
2015-16	26477	8247	799

#### **Total number of Journals and Magazines:**

Year	Education	Educational Journals		
	National	International		
2013-14	21	3	13	
2014-15	20	3	13	
2015-16	20	0	12	

## **9.4.2.** Internet (10)

#### **Key Features**

- Fiber optic network backbone connecting all buildings in campus
- Free, unlimited access to internet for all stakeholders from inside the campus •
- Multiple redundant leased lines for internet ٠
- Campus Website

#### **Details**

- Name of the Internet Provider : Intech Online, VSNL, HomeNet
- Available bandwidth : 38 Mbps
- Wi Fi Availability : Yes - Reliance JioNet •
- Internet access in labs, classrooms, : Yes ٠
  - library and offices of all Departments
- Security Arrangements : Fortigate Fire Wall 300 C

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## 9.5. Institutional Contribution to the Community Development (5)

## 1. MKCL - VPM's Polytechnic Partnership

Computer training programmes conducted for more than 3000 candidates with computer literacy through MS-CIT programme and our institute has **received Award of Appreciation for Sustained Partnership from 2004 to 2012 as an MS-CIT Authorized Learning Centre** of Maharashtra Knowledge Corporation Limited (MKCL), Maharashtra State from Local Lead Centre, Thane.

#### 2. Continuing Education Programmes

The Advance Diploma Programmes which are offered as a part of Continuing Education Programmes is helping many working professionals to acquire and upgrade their professional qualifications for career enhancement. Our alumni are working at senior positions at BPCL, ITD Cementation, L&T, Ambuja Cement, Gammon India, Blue Star etc. The Advance Diploma in Industrial Safety programme received IOSH, UK Accreditation for Graduate Membership for the period August 2013 to August 2016.

- Advance Diploma in Computer Software, System Analysis and Applications
- Advance Diploma in Energy Management and Audit
- Advance Diploma in Industrial Safety

#### 3. Energy Conservation Skill Development

Polytechnic has established Energy Management Cell with following objectives

- Adoption of Energy Conservation techniques by young generation
- Planning and implementation for Renewable Energy techniques
- Innovative projects with reference Energy Conservation and Environmental issues.
- CEP for Working Professionals through Advance Diploma in Energy Management and Audit

# 4. External Membership for Library

Polytechnic has extended Library facility for engineering students and professionals with external membership.

# 5. Career Fair – Technical Education

- Career Fairs provides an opportunity to the students to know various career options available after Diploma courses.
- Stalls of MSBTE, Polytechnics, Engineering Colleges, and Financial Institutions providing Educational loans.
- Expert lectures to motivate the students for future Career.
- Arranging visit of School students to Polytechnic facilities
- Visiting schools to make presentation about technology courses/careers and admission process

## MSBTE Career Fair Organized/Participated

Sr. No.	Day, Month & Year	Organizer
1	4 <sup>th</sup> January2014	V.P.M's Polytechnic, Thane
2	9 <sup>th</sup> January 2014	S.S. Jondhale Polytechnic, Asangaon, Dist.
		Thane
		G.P. Vikramgad, Thane
3	15 <sup>th</sup> January to 17 <sup>th</sup> January	Manoj Shete College of Engg. &
	2014	Technology,Kasara, Dist. Thane
4	28 <sup>th</sup> December 2014	Yadavrao Tasgaonkar Institute of Technology,
		Karjat
		Pravin Patil Polytechnic, Bhayandar
5	5 <sup>th</sup> June2015	V.P.M's Polytechnic, Thane
		Sardar Vallabhai Patel Polytechnic, Borivali

# 6. Institutional Social Responsibilities - Activities

Faculty and students are encouraged to participate in collaboration with other organizations in carrying out social outreach programmes such as

- Vigilance Awareness Programmes under the aegis of "Central Vigilance Commission" for Eradication of Corruption in Public Life.
- Blood Donation Camp (Twice in a year)
- Tree Plantation
- Swachha Bharat Abhiyaan
- Waste Management
- Automatic Weather Station India Meteorological Department (IMD) Government of India.

## Declaration

I, Dileep Kumar Krishna Nayak, Principal V.P.M's Polytechnic, Thane (West), Maharashtra State, undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines in force as on date and the institute shall fully abide by them.

It is submitted that information provided in this Self-Assessment Report is factually correct. I understand and agree that an appropriate disciplinary action against the Institute will be initiated by the NBA in case any false statement/information is observed during pre-visit, visit, post visit and subsequent to grant of accreditation.

Date: 19<sup>th</sup> November 2016 Place: Thane



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Prof. D.K. Nayak Principal

#### Annexure-I

#### **Program Outcomes (POs)**

- 1. To develop an ability to apply knowledge of basic mathematics, science and engineering to solve the engineering problems.
- To develop an ability to apply discipline specific knowledge to solve core and / or applied engineering problems.
- To plan and perform experiments and use the results to solve engineering problems.
  To implement an ability to practice, keep organized documents and preparation of reports.
- 4. To keep upgrading on the latest technology tools with an understanding of the limitations.
- 5. To demonstrate knowledge to assess societal, health, safety, legal and cultural issues and to shoulder the responsibilities relevant to engineering practice.
- 6. To understand the impact of engineering solutions in social and environmental contexts, and demonstrate the knowledge for sustainable development.
- To inculcate an ability to apply ethical principles and commit to professional ethics and responsibilities.
- 8. To function effectively as an individual, and as a member or leader in diverse/multidisciplinary teams.
- 9. To implement effective communication ability.
- 10. To recognize the need for life-long self learning abilities in the context of technological changes.

# Program Specific Outcomes (PSOs)

- Ability to correlate facts, principles, and hands on skills to solve Electronics Engineering problems.
- 2. Handling of various measuring instruments, electronic equipments and fault finding.
- 3. Ability for preparation of organized documentation and reports.
- 4. Encouragement for higher studies, entrepreneurship development, self learning and self reliance which are the foundations of professional career.