ALL INDIA SHRI SHIVAJI MEMORIAL SOCIETY S COLLEGE OF ENGG KENNEDY ROAD NEAR R.T.O.PUNE

Mechanical Engineering (Sandwich)

Part A : Institutional Information

1 Name and Address of the Institution

ALL INDIA SHRI SHIVAJI MEMORIAL SOCIETY S COLLEGE OF ENGG KENNEDY ROAD NEAR R.T.O.PUNE, KENNEDY ROAD, PUNE-411001

2 Name and Address of Affiliating University

UNIVERSITY OF PUNE GANESHKHIND ROAD PUNE-411007

3 Year of establishment of the Institution:

1992

4 Type of the Institution:

University	Autonomous
Deemed University	Affiliated
Government Aided	

5 Ownership Status:

Central Government	Trust
State Government	Society
Government Aided	Section 25 Company
Self financing	Any Other(Please Specify)

6 Other Academic Institutions of the Trust/Society/Company etc., if any:

Name of Institutions	Year of Establishment	Programs of Study	Location
All India Shri Shivaji Memorial Society's Institute of Information Technology, Pune - 1	1999	Engineering and Technology : (Under Graduate Courses) 1) Computer Engineering, 2) Electrical Engineering, 3) Instrumentation Engineering, 4) Electronics and Telecommunication Engineering, 5) Information Technology, 6) Artificial Intelligence and Data Science (Post Graduate Courses) 1) Electronics and Telecommunication Engineering (VLSI & Embedded Systems), 2) Electrical Engineering (Power Electronics and Drives)	Kennedy Road, Pune - 1
All India Shri Shivaji Memorial Society's College of Polytechnic, Pune – 1	1994	Diploma Courses 1) Civil Engineering, 2) Computer Engineering, 3) Electronics and Telecommunication Engineering, 4) Information Technology, 5) Instrumentation Engineering, 6) Mechanical Engineering, 7) Automobile Engineering	Kennedy Road, Pune - 1
All India Shri Shivaji Memorial Society's College of Pharmacy, Pune – 1	1996	B Pharm and M Pharm	Kennedy Road, Pune - 1
All India Shri Shivaji Memorial Society's Institute of Management, Pune – 1	2002	МВА	Kennedy Road, Pune - 1
All India Shri Shivaji Memorial Society's College of Hotel Management & Catering Technology, Pune – 5	1997	CHMCT Course : BHMCT, B Sc HS	55-56, Shivajinagar, Pune – 411 005
All India Shri Shivaji Memorial Society's Private Industrial Training Institute, Pune – 02	1991	ITI Courses : Welder (Gas & Electric), Mechanic Diesel, Fitter, Turner, Machinist, Machinist (Grinder), Mechanic (Refrigeration and Air- Conditioner), Electrician, Mechanic (Motor Vehicle), Electronic Mechanic, Painter (General), Tool and Die Maker (Press, Tool, Jig and Fixture)	At – Daund, Urulikanchan, Dist – Pune – 412 202
All India Shri Shivaji Memorial Society's SSPM Day School & Junior College, Pune – 5	1972	School & Jr College : Std. 5th to 10th (School), Std. 11th to 12th (College – Science & Commerce)	55-56, Shivajinagar, Pune – 411 005
All India Shri Shivaji Memorial Society's Shri Shivaji Preparatory Military School, Pune – 5	1932	School & Jr College : Std. 1st to 10th (School) & 11th to 12th (College – Science & Commerce)	55-56, Shivajinagar, Pune – 411 005

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

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	То	Program for consideration	Program for Duration
Mechanical Automotive Engineering	PG	2009	2009	18	No	18	Eligible but not applied			No	2
Mechanical Engineering(Sandwich)	UG	1994	1994	30	Yes	60	Granted provisional accreditation for two years for the period(specify period)	2013	2015	Yes	4
Mechanical Engineering	UG	1992	1992	60	Yes	120	Granted provisional accreditation for two years for the period(specify period)	2013	2015	No	4
Mechanical Design Engineering	PG	2013	2013	18	No	18	Eligible but not applied			No	2
Chemical Engineering	UG	1996	1996	40	Yes	60	Granted provisional accreditation for two years for the period(specify period)	2013	2015	No	4

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	То	Program for consideration	Program for Duration
Chemical Engineering	PG	2011	2011	18	No	18	Eligible but not applied			0	2
Civil Engineering	UG	2002	2002	60	Yes	120	Not accredited (specify visit dates, year)	18/01/2013	20/01/2013	0	4
ME - Civil Engineering (Structural Engineering)	PG	2010	2010	18	No	18	Eligible but not applied			0	2
Computer Engineering	UG	1998	1998	40	Yes	60	Granted provisional accreditation for two years for the period(specify period)	2013	2015	0	4
ME - Computer Engineering (Artificial Intelligence and Data Science)	PG	2013	2013	18	No	18	Not eligible for accreditation			0	2
Electrical Engineering	UG	1992	1992	60	No	60	Not accredited (specify visit dates, year)	18/01/2013	20/01/2013	No	4
ME - Electrical Engineering (Power Electronics & Drives)	PG	2011	2011	18	No	18	Eligible but not applied			0	2
Electronics and Telecommunication Engineering	UG	1992	1992	60	No	60	Not accredited (specify visit dates, year)	18/01/2013	20/01/2013	0	4
ME - Electronics &Telecommunication Engineering (IOT and Sensor Systems)	PG	2009	2009	18	No	18	Not eligible for accreditation			0	2
Production Engineering (Sandwich)	UG	1994	1994	30	Yes	60	Granted provisional accreditation for two years for the period(specify period)	2013	2015	0	4
Robotics and Automation	UG	2022	2022	30	No	30	Not eligible for accreditation			No	4

8 Programs to be considered for Accreditation vide this application:

S No	Level	Discipline	Program
1	Under Graduate	Engineering & Technology	Electronics And Telecommunication Engineering
2	Under Graduate	Engineering & Technology	Mechanical Engineering (Sandwich)

9 Total number of employees in the institution:

11/15/22, 11:51 AM

A. Regular* Employees (Faculty and Staff):

Itomo		21-22	202	0-21	2019-20	
Items	MIN	MAX	MIN	MAX	MIN	MAX
Faculty in Engineering (Male)	85	86	90	90	89	93
Faculty in Engineering (Female)		64	55	57	60	60
Faculty in Maths, Science & Humanities (Male)	9	10	7	7	8	9
Faculty in Maths, Science & Humanities (FeMale)	4	5	7	7	7	7
Non-teaching staff (Male)		105	105	107	107	109
Non-teaching staff (FeMale)	9	10	9	10	9	9

B. Contractual* Employees (Faculty and Staff):

lánann		21-22	202	0-21	2019-20	
items	MIN	MAX	MIN	MAX	MIN	MAX
Faculty in Engineering (Male)	4	4	0	0	1	1
Faculty in Engineering (Female)	1	1	2	2	3	3
Faculty in Maths, Science & Humanities (Male)	0	0	0	0	0	0
Faculty in Maths, Science & Humanities (FeMale)	0	0	0	0	0	0
Non-teaching staff (Male)	0	0	0	0	0	0
Non-teaching staff (FeMale)	0	0	0	0	0	0

10 Total number of Engineering Students:

Engineering and Technology- UG	Shift1	Shift2
Engineering and Technology- PG	Shift1	Shift2
Engineering and Technology- Polytechnic	Shift1	Shift2
МВА	Shift1	Shift2
MCA	Shift1	Shift2

Engineering and Technology- UG Shift-1

Items	2021-22	2020-21	2019-20
Total no. of Boys	2312	2342	2075
Total no. of Girls	718	770	740
Total	3030	3112	2815

Engineering and Technology- PG Shift-1

Items	2021-22	2020-21	2019-20
Total no. of Boys	45	50	48
Total no. of Girls	28	27	21
Total	73	77	69

11 Vision of the Institution:

Service to Society through quality education

12 Mission of the Institution:

1) Generation of national wealth through education and research.

2) Imparting quality technical education at the cost affordable to all strata of the Society.

3) Enhancing the quality of life through sustainable development.

4) Carrying out high quality intellectual work.

5) Achieving the distinction of highest preferred Engineering College in the eyes of the stake holders.

13 Contact Information of the Head of the Institution and NBA coordinator, if designated:

Head of the Institution				
Name	Dr Dattatraya Shankar Bormane			
Designation	Principal			
Mobile No.	9850282286			
Email ID	principal@aissmscoe.com			

NBA Coordinator, If Designated

Name	Dr Mangesh Ravindra Phate
Designation	Professor in Mechanical Engineering
Mobile No.	7058816968
Email ID	mrphate@aissmscoe.com

PART B: Criteria Summary

Critera No.	Criteria	Total Marks	Institute Marks
1	VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES	60	60.00
2	PROGRAM CURRICULUM AND TEACHING - LEARNING PROCESSES	120	108.00
3	COURSE OUTCOMES AND PROGRAM OUTCOMES	120	110.00
4	STUDENTS' PERFORMANCE	150	99.01
5	FACULTY INFORMATION AND CONTRIBUTIONS	200	161.93
6	FACILITIES AND TECHNICAL SUPPORT	80	66.00
7	CONTINUOUS IMPROVEMENT	50	43.00
8	FIRST YEAR ACADEMICS	50	42.51
9	STUDENT SUPPORT SYSTEMS	50	50.00
10	GOVERNANCE, INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES	120	120.00
	Total	1000	861

Part B

1 VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES (60)

Mission

No.

M1

M2

M3

Mission Statements

learning process.

1.1 State the Vision and Mission of the Department and Institute (5)

Vision of the institute	Service to Society through quality education
Mission of the institute	 Generation of national wealth through education and research. Imparting quality technical education at the cost affordable to all strata of the Society. Enhancing the quality of life through sustainable development. Carrying out high quality intellectual work. Achieving the distinction of highest preferred Engineering College in the eyes of the stake holders.
Vision of the Department	To be recognized as a premier center in the field of Mechanical Engineering Education

To strive continuously for an advancement of academics and lifelong learning through effective teaching

To strengthen industry-institute interface, association with professional Societies to develop leadership, team

To develop skill based mechanical engineering professionals for sustainable development through project

1.2 State the Program Educational Objectives (PEOs) (5)

Mission of the Department

Total Marks 5.00

Institute Marks : 5.00

PEO No.	Program Educational Objectives Statements
PEO1	Engage in designing, planning, manufacturing, testing, and developing products and processes in the field of mechanical and allied engineering industries.
PEO2	Work effectively as an individual and as team member in an organization.
PEO3	Meet global expectations of higher studies, research and changing professional needs
PEO4	Engage in lifelong learning, career enhancement and respond to the demands of industry and society for sustainable development

work and industry-oriented attributes through internship.

based learning and active research

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

Total Marks 10.00

Institute Marks : 10.00

The Vision, mission and PEOs are published and disseminated for internal stake holders (Students, Faculty members, Management and Governing council members) and External stake holders (Parents, Employers, Industry persons, Professional bodies and Alumni) at various locations through various modes and occasions. Modes of publication and dissemination are shown in Tables B 1.3a and B 1.3b.

Publishing mode of Vision Mission and PEOs

Vision	ا مربوا	Sr No	Medium of Publishing	Stake	holders
Mission	20001		inclum of r donoming	Internal	External
PEOs		1	The Institute website www.aissmscoe.com (http://www.aissmscoe.com/)	Y	Y
		2	Admission brochure	Y	Y
		3	Administrative office	Y	Y
	Institute	4	Administrative notice board	Y	Y
		5	Conference room, seminar hall, CITP	Y	Y
		6	Annual Magazine	Y	Y
		7	Library	Y	Y
		8	HOD Office, Seminar Hall	Y	Y

Total Marks 5.00

Institute Marks : 5.00

Total Marks 60.00

	Department	1	Institute website - Departments	Y	Y
		2	Department notice board	Y	Y
Department	3	Laboratory and Lab. manuals	Y	Y	
	2 oparanoni	4	Faulty course file	Y	Y
		5	Department corridors	Y	Y
		6	HOD office, Seminar hall	Y	Y

Table B1.3a Publication Medium

Dissemination of Vision Mission and PEOs

	Level	Sr.	Method of Dissemination	Stake h	nolders
	2010.	N0.		Internal	External
		1	Induction programs	Y	Y
		2	Parent Teacher Meetings	Y	Y
		3	Alumni Meet	Y	Y
Vision		4	IQAC meetings	Y	Y
Mission		5	Industry-Institute Meet	Y	Y
PEOs	Institute and	6	Conferences organized	Y	Y
	Department	7	Student Chapter activities	Y	Y
		8	Professional Body activities	Y	Y
		9	Letters to stakeholders by faculty members	Y	Y
		10	Syllabus implementation workshops	Y	Y
		11	E-mail correspondence	Y	Y

Table B 1.3b Dissemination Method

An example of dissemination of Vision Mission statement is shown in Figure B 1.3a, B 1.3b. Figure B 1.3a depicts the dissemination of vision, mission statement through an online meeting held with Department *Advisory* Board members and faculty members of the department. Department vision mission statements are also disseminated through the flyers circulated of various programs amongst students and faculty community.



Figure B1.3a Dissemination of Department Vision-Mission during DAB meeting held through online mode



Figure B 1.3b Dissemination of Department vision through Flyers

1.4 State the process for defining the Vision and Mission of the Department, and PEOs of the program (25)

Total Marks 25.00 Institute Marks : 25.00

Process for defining the Vision and Mission of the Department

The process of redefining department vision and mission starts from Institute Vision and Mission statement and inputs from previous accreditation visit. The vision and mission statements of the Mechanical Engineering Department were redefined based on the inputs and feedback from internal stakeholders associated with institute / department such as students, faculty, and alumni as well as from external stake holders such as parents, industry, professional bodies etc. Based on suggestion and inputs from stakeholders, a draft is prepared by the department. Brainstorming sessions were conducted to check consistency of department Vision Mission statements with Institute Vision Mission Statement.

In departmental meetings, the department Vision and Mission statements were reviewed considering current industry need and inputs from stakeholders. Guidance was sought from Department Advisory Board (DAB). Finally, the department vision and mission statements are communicated to Internal Quality Assurance Cell (IQAC) and Head of the Institute for review and approval. The vision and Mission of Department are published and disseminated to various stake holders. The figure B1.4a depicts the process of establishing Department vision and mission.



Figure B1.4a Process of establishing Department Vision and Mission

Process for defining PEO's of the program

The figure B1.4b depicts the process of establishing Department PEOs.

· The process of establishing PEO is based on program outcomes stated by NBA in conjunction with Vision and Mission of Institute.

Program Educational Objectives are established keeping the view of satisfaction of stakeholders, through the consultation process with stakeholders.

· The suggestion, feedback from Alumni, parents, employers pertaining to professional, carrier accomplishment, and attainment of program outcomes are obtained in formulating the PEOs.

 \cdot Based on views collected from brainstorming sessions PEOs are reviewed and evaluated by IQAC.

· Consistency of PEOs with the vision and Mission statements of the department is checked and verified.

· Approved PEOs are established and disseminated to various stake holders.



Figure B 1.4b Process of establishing Department PEOs

Figure B1.4c depicts the publication of program education objectives on institute website

← → C 🔒 aissmscoe.com/mechanical-engineering/introduction/	G	Ê	$\dot{\mathbf{x}}$	*		
Our graduate will have incremental skills to specify and select materials, process	es to					
manufacture an industrial product.						
Our graduate will have ability to analyze and evaluate performance of thermal system.	6					
Program Educational Objectives (PEO's)						
Graduates from the mechanical engineering program are expected to attain or achieve						
the following program educational objectives after 3 to 5 Years of graduation.						
 Engage in designing, planning, manufacturing, testing, and developing products and processes in the field of mechanical and allied engineering industries. Work effectively as an individual and as team member in an organization. Meet global expectations of higher studies, research and changing professional needs. Engage in lifelong learning, career enhancement and respond to the demands of industry and society for sustainable development. 						
Mechanical Engineering (Sandwich Pattern):						
 Our graduate will have competencies in design and develop mechanical elements systems. Our graduate will have incremental skills to specify and select materials, process manufacture an industrial product. Our graduate will have industry oriented attributes through industrial in-plant training curricular and extension activities. 	s and les to g, co-				(

Figure B 1.4c Publication of Program Educational Objectives on Institute website

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

Total Marks 15.00

Institute Marks : 15.00

PEO Statements	M1		M2	М3	
Engage in designing, planning, manufacturing, testing, and developing products and processes in the field of mechanical and allied engineering industries.	3 ~	•	2 🗸	3	*
Work effectively as an individual and as team member in an organization.	2 🗸	•	3 🗸	3	~
Meet global expectations of higher studies, research and changing professional needs	2 🗸	•	2 🗸	2	~
Engage in lifelong learning, career enhancement and respond to the demands of industry and society for sustainable development	1 ~	•	3 🗸	3	~

2 PROGRAM CURRICULUM AND TEACHING - LEARNING PROCESSES (120)

2.1 Program Curriculum (20)

2.1.1 State the process used to identify extent of compliance of the University curriculum for attaining the Program Outcomes and Program Specific Outcomes as mentioned in Annexurel. Also mention the identified curricular gaps, if any (10)

A. Process used to identify extent of compliance of university curriculum for attaining POs & PSOs

AISSMS COLLEGE OF ENGINEERING, Pune is affiliated with Savitribai Phule Pune University (SPPU). So, our Program Curriculum is as per pattern and syllabus of affiliated university. The program curriculum is categorized into various streams like Basic sciences, Basic engineering courses, Professional core courses, Management & humanities and Elective courses. Various streams of program curriculum as shown in Table B2.1.1a

Sr. No.	Streams	Contribution of Curriculum content (%)	Total Credits
1	Basic Sciences & Humanities	14	23
2	Basic Engineering Courses	17	29
3	Professional Core Courses	45	75
4	Management Courses	4	6
5	Elective Courses	4	6
6	Industrial Training	16	26

Table B2.1.1a Various streams of program curriculum

Total Marks 108.00



Figure: B2.1.1a University Curriculum

		SI	Savi E-Mee	tribai hanic:	Phule Pu al Engine 2015 Cou TERM	ine Uni ering (irse -I	versity Sandw	vich)					
		Teac	hing Sc	heme		Frank					· · · ·		
Subject	Subject	H	ours/W	eek	1	Examina	tion Sch	eme		Total	Credits		
cour		LE	τυ	PR	In-Sem (online)	End- Sem	TW	PR	OR'	Marks	LE/ TU	PR	
207002	Engineering Mathematics-III*	4	1		50	50	25**			125	5		
202043	Thermodynamics*	4		2	50	50			50	150	4	1	
202051	Strength of Materials*	4		2	50	50			50	150	4	-	
202061	Material Science and Metallurgy	4		2	50	50	25		25	150	4	-	
202062	Fluid Mechanics and Machinery	4		2	50	50	25	50		175	4	1	
202055	Audit Course*	•				- 1		1.				NC	
	Total	20	1	8	250	250	75	50	125	750	21	4	
	Total of Term-I	29 Hrs						750			25		

TERM-II

Subject Code		Teaching Scheme										
	Subject	He	ours/W	rek	1	Examination Scheme						Credits
		LE	TU	PR	In-Scm (online)	End- Sem	TW	PR	OR"	Marks	LE/	PR
202063	Thermal Engineering	4		2	50	50			50	150	4	
202064	Metrology and Quality Control	3		2	50	50			25	125	3	1
202065	Manufacturing Engineering	4		2	50	50	25			125	4	1
202066	Computer Aided Machine Drawing		4	2				50		50		1
202067	Soft Skills		1				25			26		-
202068	Theory of Machines	4	1		50	50	25"		25	150	4	-
203152	Electrical and Electronics Engineering*	3		2	50	50	25			125	3	1
	Total	18	2	10	250	250	100	50	100	750	19	6
	Total of Term-II		30 Hrs					750			2	

* Common with Mechanical Engineering.

Common Your recommendation to a complete during practical and theory syllabus
 ++ Term work marks will be based on term work completed during tutorial sessions.

https://enba.nbaind.org/SARTemplates/eSARUGTierIIPrint.aspx?Appid=7216&Progid=1041

Savitribai Phule Pune University T.E. Mechanical Sandwich Engineering 2015 – Course (w. e. f. 2017-2018)

Code	Subject	Teach	ing Sch s / wee	eme k	Examination Scheme				Examination Scheme Tota			Credits			
		Lecture	Tut	Pract	In-Sem	ESE	TW	PR	OR	Marks	Th	TW/			
302047	Numerical Methods & Optimization	4		2	30	70	-	50'		150	4	- 1			
302042	Heat Transfer*	- 4		2	30	70	-	50*		150	-	1			
302050	Mechatronics*	3	1		30	70	-	-	25	125	,				
302061	Applied Computer Aided Engineering	3	-	2	30	70	50	-	-	150	3	1			
302062	Machine Design	4	-	2	30	70**	50		74	177					
02054	Audit Course*	-	-	-		-					4				
	Total	18	1	08	150	350	100	100	50	750	18	5			
			18		1 00		150	330	100		50	750	23		

Subject common with Mechanical Engineering (refer TE Mechanical Engineering 2015 scores syllabas)
 I civilation should be on performance in practical examination and onal based on Term Work by one Internal Examiner and one Electrarial Examiner
 Total inne allotted for In-Sem Theory examination (Machine Design) will be 1 br 30 mins and end sem exam will be 3 brs.

T. E. (Mechanical Sandwich) (2015 Course) Semester - II

Code	6-11-1	Teaching Scheme Hrs / week				Examin	ation S		Credits			
Cour	Subject	Lecture	Tut	Pract	In- Sem	ESE	TW	PR	OR	Total Marks	Th	TW/ PR/
302064	Industrial In-plant Training- I	One con	tact hos	ar per			100		100*	200	6	OR
302063	Industrial case study assignments	student per G	dent per week by College Guide [®]				100		50*	150	4	
302065	Seminar						-	-			-	
	Materials and		-	E.			· ·	•	50"	50	-	2
302066	Manufacturing Engineering (Self Study-I)	35	·	•	30*	70	-			100	3	0
302067 Industrial Engineering and Technology Management (Self-Study -II)		y			30*	70	-			100	3	
	Total				60	1.40		-	-		16	-
				00	140	200	-	200	600		1	

ision of students under training and for giving guidance regarding the industrial in

in contract hours are provided for supervision of students under training and for giving guidance regarding the industrial in raving, semilar daming the maximum result of the conterned industry. (Industrial in plent training – I and Industrial case study) will be based on Tern Work, so can internal Examiner and one External or from ladarity summary in the conternal case study) will be based on Tern Work, so can internal Examiner and one External summary by internal and external examiners. Some thereof one continuous done by conducting Assignmental Quiz, NO INSEM EXAMINATION

T.E. Mechanical Sandwich Engineering (2015 course) – Sanitribai Phale Owne Univ

Savitribai Phule Pune University Board of Studies - Automobile and Mechanical Engineering Undergraduate Program - Mechanical Engineering (Sandwich) [2019 pattern]

Course	Course Name	Te Sc (H	ach hei lou /ee	ing me rs/ k)	E	cami a	natio nd N	on S Iarl	chei s	me	Credit			e
Code	Course Name	TH	PR	TUT	ISE	ESE	TW	PR	OR	TOTAL	TH	PR	TUT	TOTAL
	İII	_	_				_	-	-	_	_		-	
202041	Solid Mechanics	4	2	-	30	70	-	50		150	4	1	-	5
202042	Solid Modeling and Drafting	3	2	-	30	70	-	50	-	150	3	1	-	4
202042 Solid Modeling and Dratting 202043 Engineering Thermodynamics 202044 Engineering Materials and Metallurgy					30	70	-		25	125	3	1	-	4
202044 Engineering Materials and Metallurgy 202156 Electrical and Flattering Factoria					30	70	25			125	3	1	-	4
203156 Electrical and Electronics Engineering				-	30	70	25			125	3	1		4
202045 Geometric Dimensioning and Tolerancing Lab 202046 Audit Course - III					-	-	25	•	-	25	-	1	-	1
					-	-	-				-		-	
	Total	16	12	-	150	350	75	100	25	700	16	6	•	22
													_	-
	Semester-	IV												
207002	Engineering Mathematics - III	3	-	1	30	70	25	•	-	125	3	•	1	4
202047	Kinematics of Machinery	3	2	-	30	70	-		25	125	3	1	-	4
202061 Thermal Engineering					30	70	-	•	25	125	3	1	-	4
202062	Fluid Mechanics and Machinery	3	2	-	30	70	-	•	25	125	3	1	-	4
202063	3	-	-	30	70	-		•	100	3	-	-	3	
202051	202051 Machine Shop					-	50	-	-	50	-	1	-	1
202052	-	4	•	-	-	50			50	•	2		2	
202053	02053 Audit Course - IV				-	-				-	-	-	-	-
	Total	15	12	1	150	350	125		75	700	15	6	1	22

Abbreviations: TH: Theory, PR: Practical, TUT: Tutorial, ISE: In-Semester Exam, ESE: End-Semester Exam, TW: Term Work, OR: Oral

Note: Interest students of SE (Mechanical Engineering-Sandwich) can opt for any one of the audit course from the list of audit courses prescribed by BOS (Automobile and Mechanical Engineering)

- Instructions

 • Practical/Tutorial must be conducted in three batches per division only.

 • Minimum number of required Experiments/Assignments in PR/ Tutorial shall be carried out as mentioned in the syllabi of respective subjects.

 • Assessment of tutorial work has to be carried out as a term-work examination. Term-work Examination at second year of engineering ourse shall be internal continuous assessment only.

 • Project based learning (PBL) requires continuous mentoring by faculty throughout the semester for successful completion of the tasks selected by the students per batch. While assigning the teaching workload of 2 Hrs/week/batch needs to be divided into sub-groups of 5 to 6 students. Assignments / activities / models/ projects etc. under project based learning is carried throughout semester and Credit for PBL has to be awarded on the basis of internal continuous assessment and evaluation at the end of semester.
 ester.

semester. Audit course is mandatory but non-credit course. Examination has to be conducted at the end of Semesters for award of grade at institute level. Grade awarded for audit course shall not be calculated for grade point & CGPA.

Savitribai Phule Pune University Board of Studies - Mechanicał and Automobile Engineering Undergraduate Program - Mechanical Engineering [Sandwich] (2019 pattern)

Course	Course Name	Te Se (H)	achi chen s/we	ng ie iek)	Ex	ami a	nationd N	on S Iark	chen is	ne	Credit			
Code	Course Name	TH	PR	TUT	ISE	ESE	TW	PR	OR	TOTAL	TH	PR	TUT.	TOTAL
	S	eme	ster-	v										
302041	Numerical & Statistical Methods	3	-	1	30	70	25		-	125	3		1	4
302042	Heat & Mass Transfer	3	2	-	30	70	-	50	-	150	3	1		4
302043	302043 Design of Machine Elements		2	-	30	70	-	-	25	125	3	1	-	4
302044	Mechatronics	3	2		30	70	-	-	25	125	3	1	-	4
302061	Fundamentals of Computer Aided Engineering	3	2		30	70	-	50	-	150	3	1		4
302046	Digital Manufacturing Laboratory		2		-	-	50		-	50	-	1	-	1
<u>302062</u>	Mechanical Measurement Laboratory		2				25		50	75	-	1	-	1
302048	Audit course - V ^{\$}	•	-	•	-			•	-		-	•	•	-
19.48	Total	15	12	1	150	350	100	100	100	800	15	6	1	22
	Se	mes	ter-	VI										
302063	Industrial In-plant Training-I	•	14				100		100	200	•	7	•	7
302064	Industrial Mini-Project	-	12	-	-	•	100	-	50	150	-	6	-	6
302065	Seminar	-	2	-	-	•	-	-	50	50	-	1	-	1
<u>302066</u>	Process Planning & Tool Selection (Self-Study-I)			-	30	70	-		-	100	3			3
302067	Advanced Materials & Manufacturing (Self-Study-II)				30	70				100	3	-		3
302058	02058 Audit course - VIS			•	-	•	-	•	-	-		-	-	
a station	Total	-	28		60	140	200	-	200	600	6	14	-	20
Abbre	Abbreviations: TH: Theory, PR: Practical, TUT: Tutorial, ISE: In-Semester Exam, ESE: End-													

Aboreviations: The interstep and the interstep of the interstep and the interstep an

During Semester VI students will be in industry. Practical load for Industrial In-plant Training-I and Industrial Mini-Project will be considered 7 and 6 hours / week respectively. Seminar head will also be considered 1 hour / week. Seminar will be the extension of curriculum and based on technological developments, patents, product developments, process improvements, etc.

Savitribai Phule Pune University Board of Studies - Mechañical and Automobile Engineering

Undergraduate Program - Final Year Mechanical Engineering [Sandwich] (2019 pattern)

.

Course	Course Name	To S (H)	chen rs./w	ing ne eek)	Ex	amin	ation Ma	Sch	eme	and		Cre	dit	1120
Code	Course Name	TH	PR	TUT	ISE	ESE	TW	PR	OR	TOTAL	TH	PR	TUT	TOTAL
	Semest	er-	VII									_		
402061	Industrial In-plant Training - II	•	14	•	•	•	150	·	100	250	•	7	•	7
402062	Industrial Project#		12		•	•	100		100	200	•	6	•	6
402063	Technical Paper Presentation		2		•				50	50	-	1	-	1
402064	402064 Energy Engineering and Management (Self-Study - III)**				30*	70			•	100	3			3
402065	402065 Industrial Engineering and Organizational Management (Self-Study - IV)**				30*	70			•	100	3			3
402054	402054 Audit Course VII ⁵			•		•	•	•	•	•	•		NC	_
Carla S	Total				60	140	250		250	700	6	14	1	20
	Semest	er-'	VIII	[
402066	Design of Transmission Elements***	4	2	•	30	70	25	•	25	150	4	1	-	5
402067	Machine Dynamics and Vibration	3	2	•	30	70	-	•	25	125	3	1	•	4
402068	Artificial Intelligence in Mechanical Engineering	3	2	•	30	70		•	25	125	3	1	•	4
402069	Elective - I	3	•	•	30	70	-	•	-	100	3	•	-	3
402070	Elective - II	3	•	•	30	70	-	•	-	100	3	•	•	3
402071	Systems Analysis Laboratory	•	2	-	-	-	50	-	50	100	•	1	•	1
402055	Audit Course VIII ⁵	•	•	•	-	•	-	•	-	-		N	С	
Sec. 1		16	8	•	150	350	75		125	700	16	4	1	20
	Elective-I	Γ					Elec	tive	-II					
402069A	Automobile Engineering	40	2045	Δ	Prod	act D	esign	and	Deve	lopme	nt			
4020698	Refrigeration and Air-Conditioning	40	2045	Ð	Oper	ation	s Rese	arch	1					
402069C	Fluid Power Control	40	2051	E	Elect	rical	and H	lybri	d Vel	nicle				
402045C	02045C Additive Manufacturing			402050A Quality and Reliability Engineering										
402051C	02051C Automation and Robotics			E	Inter	net of	Thin	gs						
	Audit	Cou	irse	5									_	
402054	A Yoga Practices	40	0205	54B	Str	css M	Mana	gen	nent					
402055	02055A Managing Innovation			55B	Op	Operations Management								

Abbreviations: TH: Theory, PR: Practical, TUT: Tutorial, ISE: In-Semester Exam, ESE: End-Semester Exam, TW: Term Work, OR: Oral Instructions: • Practical must be conducted in FOUR batches per division only. • Minimum number of Experiments/Assignments in PR/Tutorial shall be carried out as

The Process used to identify the extent of compliance of the University curriculum for attaining the Program Outcomes (POs) and Program Specific Outcomes (PSOs) is explained in Figure B2.1.1a



Figure B2.1.1a Process used to identify the extent of compliance of the University curriculum for attaining the Program Outcomes (POs) and Program Specific Outcomes (PSOs)

Content needed to improve average attainment level of particular Program Outcomes (PO's) and Program Specific Outcomes (PSO's) is identified as Curriculum Gap and this gap is bridge by imparting appropriate additional knowledge by including content beyond syllabus in collaboration Exhibits/Context to be Observed/Assessed:

B. List the curricular gaps for the attainment of defined POs & PSOs

Curriculum Gap identified in the CAYm1(2020-21)

Sr. No.	Curriculum Gap
1	Awareness about time management and financial aspects.
2	Understanding of professional engineering regulations legislations and standards
3	Awareness about professional ethics and norms of the engineering practice
4	Understanding of engineering role in broader context
5	Exposure to various departments in an industry.

Curriculum Gap identified in the CAYm2(2019-20)

Sr. No.	Curriculum Gap
1	Awareness about advances in Robotics & Automation
2	Knowledge of dynamic analysis
3	Awareness about artificial intelligence
4	Knowledge about impact of energy on environment

Curriculum Gap identified in the CAYm3(2018-19)

Sr. No.	Curriculum Gap
1	Awareness about scope of design engineer in industry
2	Knowledge about product design and development
3	Awareness about advances in industry
4	Knowledge about advance computational tools

2.1.2 State the delivery details of the content beyond the syllabus for the attainment of POs and PSOs (10)

Institute Marks : 10.00

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Additional resources to impart content beyond syllabus for attainment of POs and PSOs are as follows:

- Industrial Visits
- Additional laboratory experiments
- Soft skills
- Workshops/Conferences

Communicated to higher authorities of university to include identified curriculum gaps in the following courses for revision in the next curriculum:

- 1. Innovation and IP rights
- 2. Startup & Entrepreneurship
- 3. Industrial Economics
- 4. Communicating with Industries providing In-plant training.

And as per request, self-study subject Energy Engineering and Management is included in the revised curriculum of BE (Mechanical Sandwich).

2020-21

S.No	Gap	Action Taken	Date- Month- Year	Resource Person with Designation	% of students	Relevance to POs, PSOs
1	Awareness about professional ethics and norms of the engineering practice	Webinar on Patent Process Overview	24/05/2021	Mrs. Preethi Narayanan Sr Professional Patent Consultant	85	PO6, PO8, PO12
2	Understanding of engineering role in broader context	Webinar on Career options for Mechanical Engineers	24/05/2021	Mr. Pravin Dholle, Sr. R & D Manager, Knorr Bremse Technological Centre, Hinjewadi, Pune	90	PO1, PO6, PO10
3	Ability to maintain engineering activity within time and budget	Industry Expert Lecture on Production Planning and Control	19/03/2021	Mr. Rohit Kshirsagar, Asst Manager, Kirloskar Brothers Ltd Pune	90	PO8, PO11, PSO2
4	Understanding of professional engineering regulations legislations and standards	Seminar on Industry 4.0	18/03/2021	Mr. Vaibhav Khude, Project Engineer, 3D Guru Innovation Pvt Ltd. Pune	90	PO6, PO8, PSO2

2019-20

S.No	Gap	Action Taken	Date- Month- Year	Resource Person with Designation	% of students	Relevance to POs, PSOs
1	Knowledge of dynamic analysis	Arranged expert lecture on "Fundamentals of Dynamic Analysis"	15/10/2019	Mr. Nitin Badhe, Sr. Technical Specialist- Global NVH, ALTAIR INDIA Pvt Ltd, Pune	86	PO4, PO5, PO12, PSO1
2	Knowledge about impact of energy on environment	Arranged expert lecture on "Energy and Environment"	04/10/2019	Dr Prasad Khandagale, R & D Head, Henkel, Pune	90	PO6, PO7, PSO3
3	Awareness about advances in Robotics & Automation	Arranged expert lecture on "Role and Effect on Industries of Robotics and Automation in coming years"	03/10/2019	Gautam Doshi, Advisor, Indian Machine Tool Manufacturers' Association (IMTMA)	92	PO5, PO6, PSO2
4	Awareness about artificial intelligence	Arranged expert lecture on "How to Enter in Artificial Intelligence"	01/10/2019	Mr. Ajit Deshpande (Advanced Analytics, FinTech)	90	PO4, PO5, PO10

2018-19

S.No	Gap	Action Taken	Date- Month- Year	Resource Person with Designation	% of students	Relevance to POs, PSOs
1	Awareness about scope of design engineer in industry	Industry expert's talk on "Career opportunities in Designing"	27/02/2019	Mr. Sunder, Assistant Manager, DQ Labs	89	PO3, PO6, PO12, PSO3
2	Knowledge about product design and development	Expert lecture on "Product Design and Development : Industry Insides"	4/2/2019	Mr. Sagar Mane, Tata Motors Pune	90	PO5, PO6, PO7, PO12
3	Awareness about advances in industry	Expert lecture on "Industry 4.0 and Design Thinking"	5/10/2018	Dr. Krishnaswami Srihari, Dean of The Thomas J. Watson School of Engineering and Applied Science Binghamton University, New York	86	PO1, PO12, PSO2
4	Knowledge about advance computational tools	Arranged expert lecture on "Applications of CFD in Heat transfer analysis"	25/9/2018	Mr Anil Samale, Technical Leader – Aero-Thermo Group, Dresser Rand	92	PO4,PO5, PSO1

2.2 Teaching - Learning Processes (100)

2.2.1 Describe processes followed to improve quality of Teaching & Learning (25)

Total Marks 88.00

Institute Marks : 25.00

Our institute is affiliated with Savitribai Phule Pune University (SPPU). Institute is following the teaching-learning as per the university guideline. To strengthen teaching-

learning process, institute and department believe that outcome-based education (OBE) is important to identify the strength and weaknesses and to decide the plan for continuous improvement. This process helps us to identify our strengths and weakness and attain proficiency in the teaching-learning process.

For assessment of teaching-learning process, department use direct and indirect tools. The direct assessment of each outcome is through internal and external tools. Some indirect tools are also used for the assessment. The indirect tools provide valuable insights and feedback on students views of what they are learning.

Organization structure of academic monitoring committee is as shown in Figure B2.2.1a



Figure B2.2.1a Organization structure of academic monitoring committee

The Institute Academic Coordinator (IAC) in consultation with Principal and Heads of Department will form an Academic Monitoring Committee comprising of Heads of all departments (HOD) and Department Academic Coordinators (DAC). IQAC provides guidelines to department coordinators and collect information from departmental coordinators and convey it to the Principal for corrective measures, if required. Academic Monitoring Committee prepares Academic Calendar and submit the same to Principal for approval and same is forwarded to all the departments at least 15 days before commencement of semester. In consultation with Principal and the Heads of Departments.

A. Adherence to Academic Calendar

Institutional calendar has been prepared and aligned with university academic calendar. In addition to events proposed by the university in academic calendar, Institute has introduced many other events which are useful in overall development of the students. For example, events like **AISSMS ENGINEERING Today**, **Ashwamedh** and **Shivanjali** are part of our academic calendar. These events are planned to develop co-curricular and extra-curricular skill sets of students, which is necessary for overall development of our students. Department academic calendar is prepared in line with university and Institute academic calendar. Following activities are included in department academic calendar:

- · Time table display
- Elective/Industry choices
- Initiate the Sandwich placement activities
- Commencement of term (Academics & Training)
- Placement of Sandwich Trainees
- · Class tests and Review of Industrial In-plant Training/Industrial Project/Technical Paper Presentation
- · Assignments on regular course, Self-Study and Audit courses
- Students feedback
- Industry Feedback
- Industrial Visits
- Internships
- · Expert lectures
- · Conclusion of Academic term
- · Start of training
- · Completion of In-plant training

University Academic Calendar

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Savitribai Phule Pune University	
(Ecomondo I Iniversity of Done)	

10



Important Notification

Dates of Commencement and Conclusion of 1^{td} & Π^{ad} terms for the Academic Year 2020-2021 For affiliated Colleges/recognised Institutes Only.

It is hereby informed that, the dates of Commencement and conclusion of the Ist and IIst term of for the Academic Year 2020-2021 University Courses, under various faculties shall be as under : Dates of Commencement and conclusion of First Year of academic session 2020-21 will be declared later.

Sr.	Name of the Courses and	2020-2021									
No.	Faculties	First Te	rm .	Second T	erm						
	Colore C. T. J. J.	Commencement	Conclusion	Commencement	Conclusion						
	Science & Technology	1									
	Science	15/06/2020	05/12/2020	01/01/2021	15/05/202						
	Engineering : SE, TE, BE	15/06/2020	05/12/2020	01/01/2021	15/05/202						
1	Engineering :ME - II Year. MCA- II & III Year	01/07/2020	24/12/2020	19/01/2021	31/05/202						
	B.Architecture II, III, IV & V Year.	15/06/2020	05/12/2020	01/01/2021	15/05/202						
	M. Architecture II Year.	01/07/2020	24/12/2020	19/01/2021	31/05/202						
	B. Pharmacy	15/06/2020	05/12/2020	01/01/2021	15/05/202						
	M. Pharmacy	01/07/2020	24/12/2020	19/01/2021	31/05/202						
	Commerce & Management										
2	Commerce	15/06/2020	05/12/2020	01/01/2021	15/05/202						
	Management	01/07/2020	24/12/2020	19/01/2021	31/05/202						
	Humanities										
	Arts & Fine Arts										
3	Mental Moral and Social Sciences	15/06/2020	05/12/2020	01/01/2021	15/05/2021						
	Law : UG & PG (11/111/1V/V Year.)	01/07/2020	24/12/2020	19/01/2021	31/05/202						
	Inter-disciplinary Studies										
4,	Education II Year, (B.Ed., M.Ed.)	01/07/2020	24/12/2020	19/01/2021	31/05/202						
	Physical Education II Year. (B.P.Ed., M.P.Ed.)	01/07/2020	24/12/2020	19/01/2021	31/05/202						

- 2 --NOTE

 In view of prevailing COVID-19 situation in the Country, Colleges / Institutes shall required to follow the guidelines / instructions issued by the Government of Maharashtra time to time.

 In case, the Principal of the affiliated Colleges require to give additional holiday in exceptional circumstances, he may do by the compensating the same by keeping the College working on Sunday.

 The Term & holidays for the Post-Graduate courses coundected in the Colleges/Institutes will be as per the University Department.

(P.G.Admission)
Ganeshkhind, Pune-07
Ref. No. PGS/ 1817
Date: 15/10/2020
Copy to: for Information and necessary action
The Members of the Management Council.
The Deans of Faculties.
The Registrar, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.
The Heads of all University Departments.
The Principals of all Affiliated Colleges.
The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

Institute Academic Calendar

	All India Shri	i Shivaji N	Memorial \$	Society's					
	Colleg	ge of En	aineerin	a Pune-01					
	ACADEMIC C	ALENDA	R 2020-	21 TERM I					
	AC	ADEMIC AC	TIVITIES	21 TERMIT					
SN	Activity	Year	r/Class	Dates					
		Tim	e Table						
		Roll	Call List						
1	Notice	Elective Co	infirmation List	08/06/2020					
		Sem	inar List						
		Proj	ect List						
-	Principal Address to Faculty Members	All Facult	ty Members	15/06/2020					
	Commencement of Teaching	SE,	TE.BE	15/06/2020					
	commencement of reaching	N	NE-II	01/07/2020					
_		-	FE	As per MHT Cell					
4	Weekly Academic Report	FE,SE	E,TE,BE	After every 07 days (starting from commencement of teaching)					
5	Mid term test/In-semester/Online/End term Test	SE TE and	BE Mid Term xam	Each Faculty Member Conduct Class Test after Completion of Unit (Minium 6 Class Test)					
		FE,SE	I,TE,BE	As per the University Schedule					
6	Assignment	FE,SE	I,TE,BE	Each Faculty Member Sholid provide Assignment after Completion of two Units (Minium 3 Assignment)					
7	BE and ME Project Evaluation	BE & ME	Students	Department Should Conduct Minimum 3 Preentation during the term					
8	Students Feedback	FE,SE	E,TE,BE	Department should conduct minimum 2 Feedback during the term					
		SE,TE,BE		23/11/2020 to 27/11/2020					
9	Completion of Term Work	ME II		07/12/2020 to 11/12/2020					
		FE		First Week of April 2021					
10	Conclusion of Term	SE,1	re,ee	05/12/2020					
_		ME-II		24/12/2020					
11	Oral/ Practical examination	SE,1	TE,BE	As per the University Schedule					
		M	EII	As per the University Schedule					
		SE, 1	TE, BE	As per the University Schedule					
12	Theory Exam	M	EII	As per the University Schedule					
_		F	FE	As per the University Schedule					
13	Commencement of Second Term of Academic	SE,T	re,be	01/01/2021					
		FE, N	AE I, II	19/01/2021					
Two	Depertment Meetings with Principal w	vill be cond	ucted in the	month of August and November					
IOD	Meeting with Principal		Every Thursda	ly .					
NAAC	/NBA Meeting		Every Tuesday						
ADC			First and Third	Monday of Every Month					
CDC	and GC		August, Nover	nber, February and April/ May					
Purcl	hase Meeing		Last Week of A	April					
staff	Selection Meeting	1	Last Week of I	lay					
rinc	rincipal meeting with all Non Teaching Staff and Supportio								
rinc	Ipal Meeting with CITP	4	Once in Term						
				PRINCIPAL ANSANCOL PURE					

Department Academic Calendar

	All India Shri Sh College of Engi ACADEMIC CAL	ivaji Mer neering ENDAR	norial Society Pune-01 2020-21 TER	's M I
	Department of Mecha	nical Eng	ineering (Sand	wich)
SN	Activity	Y	ear/Class	Dates
			Time Table	
			toll Call List	1
1	Display of Notices	Elective	Confirmation List	29/06/2020
		1	leminar List]
		Project List	and Guide allocation	
2	Principal Address to Faculty Members	All Faculty N	lembers	03/07/2020
з	Commencement of Teaching		SE,TE,BE	06/07/2020
-			ME-II	20/07/2020
5	Students Feedback	<u> </u>	Fint	07/09/2020 to 11/09/2020
			Second	09/11/2020 to 13/11/2020
		Sta	rt of Training	15/06/2020
6	Students Training	Ma	Term review	First week of oct 2020
		En	d of Training	15/12/2020
		¥		07/09/2020 to 11/09/2020
7	ME Project Evaluation	×	E Students	12/10/2020 to 16/10/2020
				20/11/2020 to 30/10/2020
9	Mid term test/In-semester/Online/End term Test	SE TE and	BE Mid Term exam	10/08/2020 to 14/08/2020 14/09/2020 to 18/09/2020 19/10/2020 to 23/10/2020
		SE,TE,	BE Insem exam	As per the University Schedule
10	Submission of attainment sheets of subjects	AI Fa	culty Members	within week after decleration of university result
11	Course File Checking (Term I Subjects)	Al Fa	culty Members	In the Month of October
12	Completion of Term Work	· · ·	SE,TE,BE	02/11/2020 to 06/11/2020
			MEII	16/11/2020 to 20/11/2020
14	Conclusion of Term	-	SE,TE,BE	13/11/2020
			ME-II	27/11/2020
15	Submission of Faculty Presentation Report in soft copy	Al Fa	culty Members	15/11/2020
16	Oral/ Practical examination	· .	SE,TE,BE	16/11/2020 to 04/12/2020
			MEII	30/11/2020 to 10/12/2020
17	Theory Exam	8	E, TE, BE	14/12/2020 to 08/01/2021
			MEII	28/12/2020 to 15/01/2021
18	Commencement of Second Term of Academic Year 2020- 21		BE,TE,BE	18/1/2021 (Tentative)
			MELI	01/02/2021
TWO De	pertment Meetings with Principal will be conducted in the	e month of A	ugust and Septembe	r
NAAC	IBA Meeting		Every Thursday Every Tuesday	
Mentor	ng		Every Tuesday	
Departs	nent meeting		Every Friday	
Princip	I Meeting with CITP		Once in Term	Head of Department
				Mochanical Engineering Massion COE, PUNE

-	College of Er	ngineering Pune-01			
_	ACADEMIC CALE	NDAR 2020-21 TERM II			
	Department of Mechar	nical Engineering (Sandwich)		
SN	Activity	Year/Class	Dates		
		Time Table			
	Display of Motions	Roll Call List	1		
	Display of Notces	Elective Confirmation List	04/01/21		
		Seminar List	1		
2	PAOC Meeting	Project List and guide allocation	26/02/21		
-			29/12/20		
3	Commencement of Teaching	SE,TE,BE	04/01/21		
		ME-I	15/02/21		
4	unath, fandaria	ME-II	10/05/21		
-	Submission of Weekly report to Principal and Academic	SE,TE,BE	Every Friday		
0	coordinator	SE,TE,BE	Every Friday		
7	Central Academic Monitoring Report	All Faculty members	Weekly google form report		
'	Central Academic Monitoring Meeting by Principal	DAC	Weekly google form report		
8	Students Feedback	First	2nd week of March		
-		Second	1st week of June		
9	Shuteste Training	Start of Training	16/12/20		
	Swoens training	Mid term Review	first week of April		
10	ME Devicest Eventuation	End of Training	15/06/21		
	In complete Evaluation	ME Students	30/07/21		
	m-semester/Online Examination	SE, TE, BE Insem exam	03/06/21 to 08/06/21		
12	Class Test	SE,TE,BE	After completion of each unit		
13	Completion of Term Work	SE,TE,BE	1st week of June		
-		ME II	19/07/21		
		SE,TE,BE	3rd week of June		
14	Conclusion of Term	ME-I	26/07/21		
		ME-II	27/08/21		
15 3	Submission of attainment sheets of subjects	All Faculty Members	31st August 2021		
16	Academic Audit	SE,TE,BE	2nd week of sep2021		
O Me	eting with Principal	Europ Thursday			
ACIN	BA Meeting	coury mursoay			
partm	ent meeting	Second and Fourth Tue	day of Every Month		
ntoria	9	Every Pricey			
ncipa	Meeting with all Non Teaching Staff and Supporting Staff	Once in Term			
ncipa	Meeting with CITP	Once in Term			
	•		P m -		
			Coban Side PUN		

B. Use of Various instructional methods and pedagogical initiatives:

Various instructional methods and pedagogical initiatives are as follows

i. Lecture method and Interactive learning:

The faculty use chalk and board and audio-visual aids in teaching. Students are also encouraged to actually interact during the lecture hour by getting the doubts clarified on the spot. Faculty using models, charts for interactive teaching.



Figure B2.2.1i: Smart Class room

ii. Project/Industry based learning:

Sandwich pattern students undergo two industrial trainings of 6 month each, during their 6th and 7th semester. This total 12 months industrial training in core mechanical industry provides opportunity for project/ industry based learning. Apart from this at 4th semester students are introduced with basic concepts of project related activities through the course 'Project Based Learning'. During industry in- plant training, students work on real world interdisciplinary projects and their learning is observed by both Faculty and Industry Guide.

iii. Computer-assisted learning:

The College has sufficient number of computers, printers, LCD projectors, application software's and system software's. These are effectively used for teaching. The students are also encouraged to use these software for the solution of the assignments and tutorials. Many final year projects are substantiated with the use of software.

iv. SMART class Room

Faculties are using SMART class room to provide interactive sessions. Projector is used for demonstration, video (NPTEL), audio of classes.

Following are some additional pedagogical initiatives taken by the department:

· Development of Working model/Visual charts/Videos

11/15/22, 11:51 AM

- · Group assignments and projects
- · Lab experiments beyond syllabus
- Quizzes (conventional/ Technical)
- Seminars/ presentations
- · Group Discussions
- · Designing and Problem solving through simulation, etc.

C. Methodologies to support academically weak students and encourage bright students

Process to identify academically weak and bright students is as shown in Figure B2.2.1b. Course pre-requisite test is conducted at the beginning of semester. Academically weaker students and bright students are identified on basis of the pre-requisite test results.



Figure B2.2.1b Process to identify academically weak and bright students

Weak student support strategy:

Mentors are appointed to enhance the performance of weak student as follows;

- · Regular counseling and providing moral support to them.
- · Encouraging them towards study through peer tutoring.
- Encouraging them for regular attendance.
- Proper guidance given to weak students through remedial support to clear their backlogs.
- · Constant monitoring their performance in internal tests.
- · Extra classes arranged for backlog subjects if needed.

Bright student support strategy:

- · Bright students are felicitated at department level
- · University rankers are felicitated at Institute level in annual function
- · Encouraging them to score more marks in the final examination
- Encouraging them to participate in different seminars/conferences organized in other institutes
- · Students are encouraged to participate in SUPRA, BAJA, GARUDASHWA and Efficycle team events.

D. Quality of classroom teaching:

Class rooms available in the department are equipped with LCD, Computer with internet connection and conventional black board. Ambience in class rooms is maintained. There is also a dedicated classroom having Smart Board to enhance effective delivery of teaching learning process



Figure D2.2.1: Interactive teaching using smart board

E. Conduct of experiments

Laboratory experiments are conducted as per guidelines in the curriculum of affiliated university. Laboratory manuals are maintained in each laboratory. Virtual Labs/Simulations are used for the courses, wherever possible. Additional experiments are conducted to impart additional knowledge through the concept of Content Beyond Syllabus.



Figure E2.2.1: Experimentation in laboratory

F. Continuous Assessment in laboratory

Continues assessment of laboratory work is conducted by concerned course teacher on regular basis. At the end of semester, concerned teacher is expected to submit continues assessment of laboratory work of all students. Department Academic Coordinator along with Module Coordinator conducts Academic Audit in each semester. Continues assessment of laboratory work is verified in the academic audit.

			Albert	Department	t of Mechanic	al Engine	ering					NN.GOTK	HINDIKAR
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cht A			Freed No. 3	Sailer	Datel	09.07	7-19	Expt No. 4	-				Total Marks
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Figure F2.2.1: Continuous Assessment Sheet

G. Student feedback of teaching learning process and actions taken:

Student feedback is taken twice during each semester through the institute ERP system. Students fill a feedback-form apprising the faculty using a scale of (Very poor -1 to Excellent -5). These are conducted for Theory & Practical.

Following actions are taken after continuous monitoring of lectures by higher authorities:

- Lecture classes are monitored by Senior Professors and the Head of the Department. They give constructive comments to improve the quality of teaching and the Teaching-Learning Process.
- · Faculty imparting good Teaching-Learning process, to the satisfaction of Students are appreciated by HOD.
- Counseling is provided by the respective HOD for those faculty members who have secured less scores and negative comments, if any, in the feedback. This motivates them to improve their skills and abilities.
- Need based training / orientation programs are conducted by professional experts to master the skills of the faculty members in the nuances of teaching, thus improving the efficiency of teaching-learning process.

AND AND DOD SAD	ASHIV SWAMI	DEPART	MENT -	MECHANICAL ENG	INEERING SAND	лен т	OTAL S	TUDENTS - 38
ACHER - MR. MILLIND SAD		SUBJEC	T-50/1	D MODELING AND	DRAFTING (PRACT	IICAL) S	EMEST	ER 3 (A)
CADEMIC YEAR - 2020-202		SUBJEC	1.000					
OUTESTION	EXCELLENT	VERY	GOOD	SATISFACTORY	NOT	TOTAL	OUT	PERCENTAG
HAS THE TEACHER COVERED ENTIRE SYLLABUS AS	п	10	15	1	0	144	190	76%
UNIVERSITY, COLLEGE, BOARD								
HAS THE TEACHER COVERED RELEVANT TOPICS BEYOND SYLLABUS		14	15	1	0	143	199	75%
EFFECTIVENESS OF TEACHER IN TERMS OF TECHNICAL CONTENT, COURSE CONTENT, COMMUNICATION SKILLS AND TEACHING AIDS	10	15	12	ı		148	190	78%
4 PACE ON WHICH CONTENTS WERE COVERED	10	п	15	1	•	143	190	75%
5 MOTIVATION AND INSPIRATION FOR STUDENTS TO LEARN		12	15	3	•	139	190	73%
SUPPORT FOR THE DEVELOPMENT OF 5 STUDENTS SKILL PRACTICAL DEMONSTRATION	•	14	12	3	•	143	190	75%
SUPPORT FOR THE DEVELOPMENT OF 7 STUDENTS SKILL ILANDS ON TRAINING	п	IJ	IJ	1.	•	148	190	.78%
8 CLARITY OF 8 EXPECTATIONS OF STUDENTS	,	IJ	14	1		140	190	75%
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TOTAL	86	112	128	16	0	1294	1710	76%
TOTAL(%)	25%	33%	37%	5%	0%	PERFO	RMAG	EINDEX - 7
		at the			4looot	P.	12	

Figure G2.2.1: Faculty Feedback report

2.2.2 Quality of internal semester Question papers, Assignments and Evaluation (20)

A. Process for internal semester question paper setting and evaluation and effective process implementation

Process of setting question paper and evaluation is as shown in Figure B2.2.2a



Figure B2.2.2a Process of Setting of question paper, evaluation and effective process implementation by PAQIC

In order to ensure quality of setting internal semester question papers following process is followed:

· Guidelines are set for unit test papers as per instructions from Institute Level Academic Coordinator.

Institute Marks : 15.00

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- Bloom's taxonomy is followed
- Course outcomes are taken into accountDefining scheme of evaluation for guestion paper
- Evaluation of answer sheets based on scheme of evaluation
- After assessment answer sheets are returned to students

B. Process to ensure questions from outcomes/learning level perspectives

Each question is mapped with Course Outcomes. Student who answered to particular question is taken into consideration and average of all students' marks is taken for CO-PO attainment.

C. Evidence of COs coverage in class test / mid-term tests

Process of Setting of question paper, evaluation and effective process implementation by PAQIC is as shown in the figure B2.2.2b. In PAQIC meeting Guidelines are set for unit test papers as per instructions from Institute Level Academic Coordinator. Question paper Format approved by PAQIC is circulated to all course teachers. Question papers for all courses are collected & verified by Module coordinator. In case of some modifications needed, those question papers are reverted back to concerned course teacher for revision.

After approval by Module coordinator question papers are forwarded to HOD for approval. After HOD's Approval Question papers are floated to particular class during examination. Assessment of answer sheets is done by respective Course Teacher. Result of examination is communicated to students. In case of any query, student contact corresponding course teacher to clarify their doubts.

Examination record (Question Paper, Model Answer sheet, Marksheet & Sample sheets) is submitted to Department Examination Coordinator.



Figure: B2.2.2b. Unit Test Paper

D. Quality of Assignment and its relevance to COs

As part of continues improvement in terms of improving teaching performance and better outcome from students Assignment questions will be given to students, and evaluate the same and mapping with CO's.



Figure D2.2.2a: Assignment



Figure D2.2.2b: Assignment Assessment Sheet

2.2.3 Quality of student projects (25)

Institute Marks : 20.00

Process followed in allocation of project to particular group of students as mentioned.

As a part of curriculum, students are in industry for two sets of six months industrial training i.e. during 6th and 7th Semester. In the 7th semester training, student perform the Final Year Industrial Project.

In the last two months of first six months (6th Semester) training, when student is very well acquainted with industry, s/he is expected to identify problem for final year project work. At the start of second six-month (7th Semester) training, student has to start working on project work. Project at individual level with the support of mentor assigned by industry and mentor assigned by college is to be completed. Project title finalization, objectives and methodology is set in consultation with college and industry mentor.

Industrial training registration form is circulated by Project Coordinator at the beginning of 7th semester. Based on that the students are placed as Sandwich Trainees as per interest of students. Once placement is done, an Industrial guide is allotted to them also Department allocates a Faculty guide based on the kind of Industry and research area of Faculty members. The Assignments/Project are finalized with the discussion of Industry and Faculty guides. Students are required to maintain the records of Training in the Logbook. This proposal is presented in a meeting with review panel. Review panel after discussion with project group may give their remarks and suggestions. After acceptance remark by review panel. Progress of In-plant training is monitored by same review panel & guide throughout year till completion of the Training.

A. Identification of projects and allocation methodology to Faculty Members

Following methodology is used for identification and allocation of project:

- At the start of training, guides are assigned to students for industrial training depending on kind of the industry and domain of faculty. An Industrial Guide is allocated by the Industry, as well.
- Sandwich Industrial project is to be executed by the individual Sandwich Trainee.
- · Projects are identified considering the need of industry, scope for improvement in any particular area for improving productivity, etc.
- · Guide assigned by department visit to industry for formulating the project work.
- Sandwich Trainee report to the Department at regular interval for meeting the guide and apprising the progress of the In-plant training activities.

B. Types and relevance of the projects and their contribution towards attainment of POs and PSOs

Summary Report of Best Projects Mapped with POs for the year 2020-21

D N.	PO 1	PO 2	PO 3	PO 4	PO 5		DO 7	PO 8		PO	PO	50.40	
Project No						FUU	PO 7		P0 9	10	11	PO 12	
Value Analysis and Value Engineering (VAVE) activity and sta								analysis c	of tyre inflat	tor valve.			
	3	2	2	1	2	2	1	1	2	2	1	1	
2	Spring loaded positive butting arrangement to the fixture for crankshaft finish grinding.												
	3	2	2	1	2				2	2	1	1	
3	Implemen	Implementation of lean manufacturing technics in manufacturing industry.											
	3	2	2	1		1	1		2	2		1	

4	Case study of a boiler & methods of re-establish and maintenance												
	3	2	2	1		1	1		2	2	1		
5	To study different models for reduce tooling cost and productivity improvement.												
-	3	2	2		1	2	1	1	2	2	1	1	
6	Preventive and breakdown maintenance of critical machines.												
-	3	1	1	1	3				2	2	1	1	

Summary Report of Best Projects Mapped with PSOs for the year 2020-21

Project No.	PSO1	PSO2	PSO3								
1	/alue Analysis and Value Engineering (VAVE) activity and static structural analysis of tyre inflator valve.										
·	3	1									
2	Spring loaded positive butting arrangement to the fixture for crankshaft finish grinding.										
_	3	1	1								
3	implementation of lean manufacturing technics in manufacturing industry.										
	3	2	1								
4	Case study of a boiler & methods of re-establish and maintenance.										
-	3	2	1								
5	To study different models for reduce tooling cost and productivity improvement.										
-	3	3	1								
6	Preventive and breakdown maintenance of critic	cal machines.									
-	1	2	1								

Summary Report of Best Projects Mapped with POs for the year 2019-20

Project No	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO	PO	PO 12		
-										10	11			
1	Modification and Improvements in Manufacturing Processes of Economizer Coil and Productivity management.													
	3	2	2	1		3	3		2		2			
2	Design of Functional Test Rig for Pedal Unit of Foot Brake Module Variants.													
-	3	2	2	1	1				2	2	1	1		
3	Stander operating process at KALAYAN coaters, chakan.													
-	3	2	2		2		1	1	2	2	1	1		
4	Design of customized Kit Trolley.													
	3	3	2	1	2	2	2	1	2	2	1	1		
5	Cost Estimation of Components of MRSAM.													
5	3	2	2		1	1	1		1	1	1	1		
6	Design an	d Fabricati	on of A Fix	ture for Tes	st Plate Se	tup Longitu	idinal Sea	m of Boiler	Drum					
-	3	2	2	1	2		1	1	1	1		1		

Summary Report of Best Projects Mapped with PSOs for the year 2019-20

Project No.	PSO1	PSO2	PSO3							
1	Modification and Improvements in Manufacturing Processes of Economizer Coil and Productivity management.									
			3							
2	Design of Functional Test Rig for Pedal Unit of Foot Brake Module Variants.									
	3	2								
3	Stander operating process at KALAYAN coaters, Chakan.									
C C	3	2	1							
4	Design of customized Kit Trolley.									
	1		3							
5	Cost Estimation of Components of MRSAM.									
C C	1	3	3							

6

1

Design and Fabrication of A Fixture for Test Plate Setup Longitudinal Seam of Boiler Drum	
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3

Project No.	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	РО	PO	BO 12		
FIOJECTNO		FU 2	F0 3	F04	F0 5				F0 9	10	11	FO 12		
1	Design and Development of A Compound Blanking and Piercing Tool													
	3	2	2	1			1		2	2	1	1		
2	Process Establishment and Cost Estimation of Open Impeller Pump													
-	3	2	2	1	1		1		1		1	1		
3	Buckling Analysis and Evaluation of outer Tube and Inner Tube in Elevation Drive Mechanism													
Ŭ	3	2	1	1		1	2	1	1			2		
4	Design and Development of Manifold Assembly Workstation by Aluminum Extrusion													
-	3	2	2	1	2			1	1	1	1	1		
5	Modification of Pneumatic Brake System by Introducing of Automatic Slack Adjuster for increasing the Brake Accuracy an for Adjusting the Break Lining													
	3	2	2		2				2	2	2			
6	Design a	nd Develop	oment of T	est Setup fo	or Measure	ement of H	eat Trans	fer Rate TI	hrough Coo	oling Coil in	n Fuel Cell			
0	3	2	2	1		1			1	1	1	1		

Summary Report of Best Projects Mapped with POs for the year 2018-19

3

Summary Report of Best Projects Mapped with PSOs for the year 2018-19

Project No.	PSO1	PSO2	PSO3						
1	Design and Development of A Compound Bla	nking and Piercing Tool							
	2		3						
2	Process Establishment and Cost Estimation of	f Open Impeller Pump							
	2	2							
3	Suckling Analysis and Evaluation of outer Tube and Inner Tube in Elevation Drive Mechanism								
	2		2						
4	Design and Development of Manifold Assembly Workstation by Aluminum Extrusion								
	3	2	1						
5	Modification of Pneumatic Brake System by Adjusting the Break Lining	ntroducing of Automatic Slack Adjus	ter for increasing the Brake Accuracy and for						
	3	3							
6	Design and Development of Test Setup for M	easurement of Heat Transfer Rate Th	nrough Cooling Coil in Fuel Cell						
-	1	2	3						

C. Process for monitoring and evaluation

Progress of students is monitored by guide throughout the training. Guide visits to industry to monitor progress of students during training and project work. Students also visit to college once in a month and report progress to college guide. Continuous assessment sheet and rubrics for the same is communicated to students at the start of training and project work. Midterm evaluation and presentation for the same is organized in the department assessed by the panel of three faculty members. Review committee suggestions/modifications are communicated to concerned Faculty guide and Sandwich Trainee. Finally, at the end of the 7th semester, external examiner from Industry appointed by SPP University, evaluates rubrics based performance of the Industrial Project.

Mech	5100																	
NAME OF THE STUDENT		Guide visit to Industry		Total Marks	Arg. Marks (30)	Aug. Marks		g of Student to-college guide		Total Marks	Avg. Marks) 201	Avg. Avis: 20 Mid Term Evaluation progress 4	Avg. Marks (30)	TW Assesment progressis - II	Ang Marks (21)	Total marks out of 100	Spre	
		99/30	P8/30	PR/10	_	-	PR/10	28/30	198/30	PR/30	-	_	PR/30	-	P9/20	-		
n Baj	ave	09	48	6 <u>8</u>	25	25	08	09	09	08	34	17	1.5	25	16	16	83	n
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KAU	stubh	09	æ	•8	26	27	09	• 9	09	09	36	18	2.6	26	18	1 8	رة	h
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		-	1	_	-	_	-	-										
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Figure: 2.2.3. Ca: Continuous assessment sheet (CAS)



DEPARTMENT OF MECHANICAL ENGINEERING TE (Mechanical Sandwich)Academic year 2020-21 Term II

Date: 09/03/2021

Mid Term Review

Mid term review of Sandwich Industrial training and Seminar of Third Year sandwich students is scheduled on Friday, 19/03/2021 at 9 am with online mode. MS Team online platform will be 0 used for review. First panel member will be coordinator of the review.

Batches and Schedule:



Figure: 2.2.3. Cb: Panel Members for Evaluation

Rubrics for Quality of Project Report

Evaluation for Marks: 20

Each criterion is for 5 marks

Table: 2.2.3a Evaluation Sheet

S.N.	Criteria for evaluation
1	Project report is according to the specified format, references and citations are appropriate and well mentioned
2	Complete explanation of the key concepts and technical requirements of the project
3	Results are presented in very appropriate manner. Project work is well summarized and concluded.
4	Future extensions in the project are well specified.

Grade	Evaluation
Excellent	5
Very Good	4
Good	3
Satisfactory	2
Need to rework	1

D. Quality of completed projects/working prototypes

All projects are industry sponsored project. Domain areas of project depends on nature of the Industry offering the In-plant training. In general domain areas are as given below:

- Design
- Thermal
- · Manufacturing
- Mechatronics
- Automobile Engineering
- Product Development

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- Process Development
- Cost/Resources reduction
- Energy conservation
- Logistics

Project guide motivate students to participate in different project competitions.

2.2.4 Initiative related to industry interaction (15)

Following initiatives are taken by institute in order to strengthen industry institute interaction

- · Industry trainings and visits
- Industry Expert lectures
- Industry projects
- Signed Memorandum of Understanding (MOU) with various industries
- · Value added programs and seminars organized and participated by students
- Sandwich training for six months

Effectiveness: Feedback from students about industrial visit and training is collected and impact of such interventions is assessed. Based on which corrective actions are taken.

Corrective action points:

- · Training report of the student is collected and analyzed for positive impact.
- · Students are involved in the real working environment of the industry.
- · Students are required to deliver presentation about their industrial visit and training
- · Feedback from industries where the In-plant Training is conducted is also obtained from students as well as from the industry.
- · Based on the measurement and analysis of the above feedback corrective action is taken to streamline the internship and training

Impact analysis of industrial activities is conducted in the department after completion of activities.

Figure B2.2.4a shows impact analysis of industrial activities carried out by department.

	DEFARIMENT OF MECHANICAE ENGLIS	ERING	
	IMPACT ANALYSIS & FEEDBACK ON INDUSTRY INT	ERACTIO	ONS
	(INDUSTRIAL VISIT / IN PLANT PRAINING / INTERNSHIP / INDUST	RY PROJEC	CTS)
Aca	demic Year: 2020 - 2021 Term: 1/M		
Mo	de of Interaction with Industry: <u>Sandwich Industri</u>	a) Ira	ومنما
Nan	ne and Address of Industry: Mettechnik MIDC BI	bosari	Pupe
Dat	e and Duration of Interaction: 15/12/2019to 15/12/2020	(365 a	lays)
			-
	FEEDBACK ON INDUSTRY INTERAC	TION	
	Please rate on the scale of 1 to 5 (5 is at high	er side)	
	(5: Excellent; 4: Very Good; 3: Good; 2: Averag	pe; 1: Poor)
S. N.	Description	Rating	Remar
	Duration of interaction was esticfactory for you to nomina anough		
1	Duration of interaction was satisfactory for you to acquire enough		
	Knowledge.	4	
2	Need and usefulness of the interaction.	4	
2 3 4	Duration of interaction was sanstactory for you to acquire chough Knowledge. Need and usefulness of the interaction. Rate your practical exposure during the interaction / training.	4 5 4	
1 2 3 4	Duration of interaction was satisfactory for you to acquire colorgin Knowledge. Need and usefulness of the interaction. Rate your practical exposure during the interaction / training. Interaction was helpful for you to select your field after education.	4 5 4 4	
1 2 3 4 5	Duration of interaction was satisfactory for you to acquire citologic Knowledge. Need and usefulness of the interaction. Rate your practical exposure during the interaction / training. Interaction was helpful for you to select your field after education. Courses you finished in the college helped you to execute the	4 5 4 4	
1 2 3 4 5	Duration of interaction was satisfactory for you to acquire citologic Knowledge. Need and usefulness of the interaction. Rate your practical exposure during the interaction / training. Interaction was helpful for you to select your field after education. Courses you finished in the college helped you to execute the projects given by the industry.	4 5 4 4 3	
1 2 3 4 5 6	Duration of interaction was satisfactory for you to acquire circlogic Knowledge. Need and usefulness of the interaction. Rate your practical exposure during the interaction / training. Interaction was helpful for you to select your field after education. Courses you finished in the college helped you to execute the projects given by the industry. Additional personality development / training initiatives needed	4 5 4 4 3 5	
1 2 3 4 5 6	Duration of interaction was satisfactory for you to acquire citologic Knowledge. Need and usefulness of the interaction. Rate your practical exposure during the interaction / training. Interaction was helpful for you to select your field after education. Courses you finished in the college helped you to execute the projects given by the industry. Additional personality development / training initiatives needed at the college / department level for industry readiness.	4 5 4 4 3 5	
1 2 3 4 5 6 7	Duration of interaction was satisfactory for you of acquire circlogic Knowledge. Need and usefulness of the interaction. Rate your practical exposure during the interaction / training. Interaction was helpful for you to select your field after education. Courses you finished in the college helped you to execute the projects given by the industry. Additional personality development / training initiatives needed at the college / department level for industry readiness. Enowledge and skills gained after this industrial exposure.	4 5 4 4 3 5 5	
1 2 3 4 5 6 7 8	Duration of interaction was satisfactory for you to acquire citologic Knowledge. Need and usefulness of the interaction. Rate your practical exposure during the interaction / training. Interaction was helpful for you to select your field after education. Courses you finished in the college helped you to execute the projects given by the industry. Additional personality development / training initiatives needed at the college / department level for industry readiness. Knowledge and skills gained after this industrial exposure. Rate your overall interaction with industry.	4 5 4 4 3 5 5 4	
1 2 3 4 5 6 7 8 9	Duration of interaction was satisfactory for you to acquire citologic Knowledge. Need and usefulness of the interaction. Rate your practical exposure during the interaction / training. Interaction was helpful for you to select your field after education. Courses you finished in the college helped you to execute the projects given by the industry. Additional personality development / training initiatives needed at the college / department level for industry readiness. Knowledge and skills gained after this industrial exposure. Rate your overall interaction with industry. Lifelong learning and exposure to social awareness	4 5 4 4 3 5 5 4 3	
1 2 3 4 5 6 7 8 9 10	Duration of interaction was satisfactory for you of acquire citologic Knowledge. Need and usefulness of the interaction. Rate your practical exposure during the interaction / training. Interaction was helpful for you to select your field after education. Courses you finished in the college helped you to execute the projects given by the industry. Additional personality development / training initiatives needed at the college / department level for industry readiness. Rowledge and skills gained after this industrial exposure. Rate your overall interaction with industry. Lifelong learning and exposure to social awareness Acquired ability to solve industrial problems and exposure to	4 5 4 4 3 5 5 4 3 5	
1 2 3 4 5 6 7 8 9 10	Duration of interaction was satisfactory for you of acquire cologie Knowledge. Need and usefulness of the interaction. Rate your practical exposure during the interaction / training. Interaction was helpful for you to select your field after education. Courses you finished in the college helped you to execute the projects given by the industry. Additional personality development / training initiatives needed at the college / department level for industry readiness. Knowledge and skills gained after this industrial exposure. Rate your overall interaction with industry. Lifelong learning and exposure to social awareness Acquired ability to solve industrial problems and exposure to modern technology / tools. Total	4 5 4 4 3 5 5 5 4 3 5 4 2	
1 2 3 4 5 6 7 8 9 10	Duration of interaction was satisfactory for you to acquire citologic Knowledge. Need and usefulness of the interaction. Rate your practical exposure during the interaction / training. Interaction was helpful for you to select your field after education. Courses you finished in the college helped you to execute the projects given by the industry. Additional personality development / training initiatives needed at the college / department level for industry readiness. Knowledge and skills gained after this industrial exposure. Rate your overall interaction with industry. Idefong learning and exposure to social awareness Acquired ability to solve industrial problems and exposure to modern technology / tools. Total	4 5 4 4 3 5 5 5 4 3 5 4 2	
1 2 3 4 5 6 7 7 8 9 9 10	Duration of interaction was satisfactory for you of acquire cologies Knowledge. Need and usefulness of the interaction. Rate your practical exposure during the interaction / training. Interaction was helpful for you to select your field after education. Courses you finished in the college helped you to execute the projects given by the industry. Additional personality development / training initiatives needed at the college / department level for industry readiness. Knowledge and skills gained after this industry. Lifelong learning and exposure to social awareness Acquired ability to solve industrial problems and exposure to modern technology / tools. Total	4 5 4 4 3 5 5 5 4 3 5 4 2	IANALE
1 2 3 4 5 6 7 8 9 10	Duration of interaction was satisfactory for you or acquire citologic Knowledge. Need and usefulness of the interaction. Rate your practical exposure during the interaction / training. Interaction was helpful for you to select your field after education. Courses you finished in the college helped you to execute the projects given by the industry. Additional personality development / training initiatives needed at the college / department level for industry readiness. Knowledge and skills gained after this industrial exposure. Rate your overall interaction with industry. Lifelong learning and exposure to social awareness Acquired ability to solve industrial problems and exposure to modern technology / tools. Total	4 5 4 4 3 5 5 4 3 5 42 42	ubyluc

Figure 2.2.4a Impact analysis of industrial activities.

Industry Supported Laboratories

Sr.No.	Name of Laboratory	Supported by
1	Bio diesel production setup	Napro Scientific Pune
2	Centre of excellence in the field of robotics and automation	Automation Anywhere Pvt. Ltd.

Expert Lectures Delivered by Industry Professionals

CAY(2021-22)

Sr. No.	Faculty Coordinator	Class (Number of students attended)	Name, Industry, designation and contact details of Expert	Торіс	Date
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1	Dr Mrs P S Gajjal	TE, 109	Mr. Shrishant Patil PTC Softcell Pune	Digital solutions for real world mechanical engineering design challenges	25/12/2021
2	Dr S V Chaitanya	BE, 26	Mr Sagar Kenjale Asst Manager, Burckhardt Compression India Ltd. Pune	Excel for freshers	25/10/2021
3	Mrs A A Tonde/ Mrs M P Shah	SE, TE, 145	Mr. Apoorv Bapat CEO, Eleation Pune	Introduction to CREO and ANSYS	07/09/2021
4	Dr D S Malwad	TE, BE 150	Mr. Suraj Ghante technical Lead, TTL Pune	Role of CAD in Design of Automotive Systems	19/11/2021
5	Dr B D Bachchhav	SE, 56	Principal Consultant Institute of Systems Pune	Lean manufacturing and quality systems	04/04/2022
6	Dr Mrs P S Gajjal	BE, 98	Dr Rakesh Himte Motivational Speaker Nagpur	Presentation Skills and Motivational Thoughts	17/3/22

CAYm1(2020-21)

		Class				
Sr. No.	Faculty Coordinator	(Number of students attended)	Name, Industry, designation and contact details of Expert	Торіс	Date	
			Mr. Nitin Badhe			
1	S S Vodgori	BE, 120	Sr. Technical Specialist	Fundamentals of Automotive NVH	06/11/2020	
	3 3 Vaugen		Altair India Pvt Ltd Pune			
			Mr. S. D. Patil			
2	Dr P S Gajjal	SE, 125	Application Engineer	Experience the design the way it should be using CREO	04/12/2020	
			Modelcam Engineering Pvt Ltd. Pune			
3.	Dr D Y Dhande	TE, 45	Mr.Pravin Dholle, Sr. R & D Manager, Knorr Bremse Technological Centre, Hinjewadi, Pune	Carrer options for Mechanical Engineers	24/05/2020	
	Dr D V Dhanda	TE 101	Dr M R Patkar	Stress Management	08/08/2020	
4.	Dr D Y Dhande	TE, 101	Director, Energia-intelekt, Pune	Stress Management	00/00/2020	
5	Dr D V Dhanda	SE,TE, BE, 210	Mrs. Preethi Narayanan	Potont Proposo Overview	24/05/2021	
5	DI DI DI DIlande		Sr Professional Patent Consultant	Faleni Flocess Overview	24/03/2021	
			Dr. Rakesh Himte			
6	Dr P S Gajjal	BE, 120	Motivational Speaker and Counsellor Nagpur	Employability kills for Industry 4.0	31/05/2021	
			Mr S D Patil			
7	Mr S S Vadgiri	BE, 115		Digital Solutions for a real world	15/05/2021	
			Softcell Technologies Global Pvt Ltd Pune	challenges		
	Ms S S Patil		Mr. Vaibhav Khude		18/03/2021	
8		TE, 123	Project Engineer	Industry 4.0	10/00/2021	
			3D Guru Innovation Pvt Ltd. Pune			
			Mr. Rohit Kshirsagar			
9	Mr D S Mane	BE, 110	Asst Manager	Production Planning and Control	19/03/2021	
			Kirloskar Brothers Ltd Pune			

CAYm2(2019-20)

Sr. No	Faculty Coordinator	Class (Number of students attended)	Name, Industry, designation and contact details of Expert	Торіс	Date
1	Dr B D Bachchhav	TE, 61	Mr. Avinash Khare, IMTMA, Chinchwad	Additive Mfg.	8/8/2019

2	P V Deshmukh	BE, 67	Gautam Doshi, Advisor, Indian Machine Tool Manufacturers Association (IMTMA)	Role and Effect on Industries of Robotics and Automation in coming years	3/10/2019
3	D S Mane	SE, 82	Mr. Sagar Naikade, Valmont India, Quality Engineer,	Welding Technology	08/07/2019
4	M P Bauskar	TE, 56	Mr S A Mandhare	MSA system	26/07/2019
5	M R Dahake	TE, 50	Mr S S Tikar	ARAI Pune	05/10/2019
6	Dr. C S Dharankar & S S Vadgeri	BE, 118	Mr. Nitin Badhe, Sr. Technical Specialist- Global NVH, ALTAIR INDIA Pvt Ltd, Pune	Fundamentals of Dynamic Analysis	15/10/2019
7	K. L. Kumbhar	TE, 122	Mr. Ajit Deshpande (Advanced Analytics, FinTech)	How to Enter in Artificial Intelligence	01/10/2019

2.2.5 Initiative related to industry internship/summer training (15)

Institute Marks : 15.00

A. Industrial training/tours for students

These trainings are extensively imparted by the virtue of the sandwich pattern. The students undergo In-plant training for a year i.e. two semesters. This enables the students to have an industrial experience while learning. All the stakeholders, namely: Management, Industry, Employers, Faculty, Students 'and society stand to gain, as it can be a 'win-win' partnership. Here academic-industries are viewed as a system where active participation of all players is important.

Academic Benefits: Students realize the application of the engineering concepts in the actual industrial environment. The said gap between Industry-Academia is bridged to a very large extent. Students execute projects with an advantage to do it with the established industrial policy and in the state-of-the-art

Faculty Benefits lead to improve teaching perspective through knowledge sharing by various industrial training Programmes designed by the Industry, partial delivery of the regular courses and to carry out the research work.

Students

Improving their morale through secure training and final placements for students and relationship established with industry.

Stand to gain by way of hands-on training during visits, reduction of learning curve in industrial practices, employment opportunities, filling the gap between theoretical and practical courses, various Internship trainings and to carry out the project work.

Industry Benefited by updated and upgrading the knowledge base of the industry professionals through management program designed by the academia, expenditure on internal

Research and development and using academia's knowledge base to improve quality and global competitive products. Overall, effective Academia-Industry Interaction leads to strengthen competitiveness, promote innovation and new technology development and ensure quality and quantity of Human Resource base.

Students undergone In-Plant Training and (or) Internship Programme

Sr. No	Name of the Student	Name of Industry	Class	Start date	Last date	Duration (days)
1	Deshpande Ameya Prashant	Fortune Corporation	BE	15/06/20	15/12/20	180
2	Patil Ganesh Kashinath	Shree Satpuda Tapi Parisar	BE	21/07/20	15/12/20	147
3	Sarkar Omkar Vikas	Steeltech Engineering	BE	01/07/20	15/12/20	167
5	Lahole Sameer Vijay	Tata Motors Ltd	BE	16/12/19	15/12/20	365
6	Bhosale Shubham Sunil	Manisha Industries	BE	01/08/20	31/12/20	152
7	Sisodia Chinmesh Girish	Kamal Dies And Engineering Works	BE	15/06/20	15/12/20	180
8	Chhaparwal Geetanjali Anil	Suhas Enterprises	BE	15/06/20	15/12/20	180
9	Navale Sushant Shivaji	Kinetic Engineering Ltd.	BE	19/07/20	15/12/20	147
10	Gandhi Sarthak Shriraj	Knorr-Bremse	BE	12/12/19	31/12/20	365
12	Gawade Vinay Arjun	Bharat Forge LTD	BE	15/12/19	14/12/20	365
13	Khavale Deepesh Chandrakant	Bharat Forge Ltd.	BE	26/06/20	31/12/20	176
14	Jain Chetan Ravindra	Parth Industries	BE	01/07/20	31/12/20	150
15	Chetan Moreshwar Bajare	Fortune Corporation	BE	15/12/19	15/12/20	365
16	Choudhary Prathmesh Satish	Shree Satpuda Tapi Parisar	BE	16/12/19	15/12/20	364
19	Bandpatte Aditya Vitthal	Tata Motors Ltd	BE	15/07/20	15/12/20	150
23	Joshi Atharva Shekhar	Kinetic Engineering Ltd.	BE	12/12/19	31/12/20	384
30	Sushant Dol	Prime Constrochem, HO	BE	15/07/20	15/12/20	150

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32Dipak Chimaji HemadeYash Plastic & Engineering WorksBE07/07/2007/01/2134Wardhamane Arihant PrashantMatoshree EngineersBE15/06/2015/12/2035Pawar Kaustubh SanjayBurckhardt Compression Pvt Ltd.BE16/12/1915/12/2036Pokale Gayatri SuryakantAtlas CopcoBE06/07/2031/12/2040Andure Yashodeep PradeepJadhao Gear PvtBE07/07/2007/01/2142Chaitanya Omkar ShrikantKnorr-BremseBE12/12/1931/12/2043Jadhav Hrishikesh SanjayKnorr BremseBE24/12/1931/12/20	180 180 364 147 180 376 372 372 157
34Wardhamane Arihant PrashantMatoshree EngineersBE15/06/2015/12/2035Pawar Kaustubh SanjayBurckhardt Compression Pvt Ltd.BE16/12/1915/12/2036Pokale Gayatri SuryakantAtlas CopcoBE06/07/2031/12/2040Andure Yashodeep PradeepJadhao Gear PvtBE07/07/2007/01/2142Chaitanya Omkar ShrikantKnorr-BremseBE12/12/1931/12/2043Jadhav Hrishikesh SanjayKnorr BremseBE24/12/1931/12/20	180 364 147 180 376 372 372 157
35Pawar Kaustubh Sanjay Burckhardt Compression Pvt Ltd.BE16/12/1915/12/2036Pokale Gayatri SuryakantAtlas CopcoBE06/07/2031/12/2040Andure Yashodeep PradeepJadhao Gear PvtBE07/07/2007/01/2142Chaitanya Omkar ShrikantKnorr-BremseBE12/12/1931/12/2043Jadhav Hrishikesh SanjayKnorr BremseBE24/12/1931/12/20	364 147 180 376 372 372 157
36Pokale Gayatri SuryakantAtlas CopcoBE06/07/2031/12/2040Andure Yashodeep PradeepJadhao Gear PvtBE07/07/2007/01/2142Chaitanya Omkar ShrikantKnorr-BremseBE12/12/1931/12/2043Jadhav Hrishikesh SanjayKnorr BremseBE24/12/1931/12/20	147 180 376 372 372 157
40Andure Yashodeep PradeepJadhao Gear PvtBE07/07/2007/01/2142Chaitanya Omkar ShrikantKnorr-BremseBE12/12/1931/12/2043Jadhav Hrishikesh SanjayKnorr BremseBE24/12/1931/12/20	180 376 372 372 157
42 Chaitanya Omkar Shrikant Knorr-Bremse BE 12/12/19 31/12/20 43 Jadhav Hrishikesh Sanjay Knorr Bremse BE 24/12/19 31/12/20	376 372 372 157
43 Jadhav Hrishikesh Sanjay Knorr Bremse BE 24/12/19 31/12/20	372 372 157
	372
44 Kaudare Gaurav Bharat Knorr Bremse BE 12/12/19 31/12/20	157
45 Babar Manasi Bhalchandra Khutale Engg Pvt Ltd BE 01/07/20 31/12/20	
46 Tapase Nikhil Yuvraj Shantanu Bottling Machine BE 15/07/20 15/12/20	150
47 Deshmukh Ranjit Sameer Tata Motors Ltd Ltd. BE 16/12/19 15/12/20	364
48 Kulkarni Chaitanya Bhalchandra Knorr Bremse BE 16/12/19 15/12/20	364
49 Patodkar Vedant Vinay Mirhae Engineering BE 23/12/19 23/12/20	365
50 Vaishnavi Prabhu Forbes Marshall BE 19/09/20 31/12/20	100
51 Pandit Pushkar Pravin Brembo Brake India Pvt. Ltd. BE 17/07/20 25/12/20	157
53 Hamza Shetranjiwala Pioneer Enterprises Pvt.Ltd BE 15/09/20 15/12/20	120
54 Patil Shubham Tippanna Fiat Chrsyteller Automobile Pvt.Ltd BE 15/06/20 15/12/20	180
55 Shraddha Dipak MG Industries BE 18/06/20 18/12/20	180
56 Shirsathe Gaurav Rakesh Chasis Brakes BE 15/06/20 15/12/20	180
57 Mohite Disha Suhas Niyo Engineers BE 01/07/20 31/12/20	150
58 Bhagyesh Govind Kulkarni Novateur Elect And DSPL BE 06/01/20 15/06/20	180
59 Ghongade Niteen Datta Volkswagen Auto Midc BE 15/06/20 19/12/20	183
60 Patil Pratik Sambhaji Suncore Engneering Pvt Ltd BE 15/06/20 15/12/20	180
61 Sanas Umesh Dilip Ceat BE 01/07/20 15/12/20	147
62 Talele Varad Rajendra Arai BE 15/12/19 15/12/20	365
63 Kulkarni Shriya Milind PJ Valves Mfg. Pvt. Ltd. BE 16/12/19 15/06/20	180
64 Bhandare Ankur Nitin Atlas Copco Gas And Process BE 15/10/20 31/12/20	60
65 Jadhav Omkar Sunil Atlas Copco BE 06/07/20 31/12/20	150
66 Jadhav Kunal Sanjay Inditech Valve BE 01/07/20 31/12/20	150
67 Shaikh Bilal Ali Mastan Ali Wiespl BE 01/07/20 31/12/20	150

Sr. No.	Name Of The Student	Name Of The Industry	Class	Start Date	Last Date	Duration (days)
2	Alhat Omkar Bhanudas	Sandvik Asia Pvt. Ltd., Pune	TE	04/01/21	04/07/21	181
3	Anmol Kitchloo	Tata Motors Ltd ,Pune	TE	15/12/20	15/12/21	365
5	Barke Akansha Sandip	512 Army Base Workshop, Pune	TE	15/12/20	15/06/21	182
6	Bendale Ragini Kailas	512 Army Base Workshop, Khadki,Pune	TE	08/02/21	30/06/21	120

10	Bhasme Rushikesh Sanjay	Farmking Agro Industry	TE	01/01/21	15/6/21	186
12	Bhosale Mayur Kisan	Burckhardt Compression Pvt.Ltd (Kondhapuri)	TE	07/01/20	06/01/21	365
17	Borse Siddhesh Mahendra	Tata Motors Ltd, Pune	TE	28/12/20	15/12/21	352
20	Chaudhari Yash Dinesh	Tata Motors Ltd, Pune	TE	07/01/21	15/12/21	365
25	Gaikwad Ashutosh Yeshwant	Sandvik Asia Pvt. Ltd.,Pune	TE	04/01/21	04/06/21	180
26	Gaikwad Harshal Arvind	Sandvik Asia Pvt. Ltd., Pune	TE	04/01/21	04/06/21	180
27	Gaikwad Shubham Bharat	Vertual Simutech Pvt. Ltd. Pune	TE	15/12/20	14/12/21	365
28	Gaurav Joshi	Tata Motors Ltd, Pune	TE	15/06/21	15/12/21	180
31	Ghanwat Tejas Balasaheb	Aask Precision Engineers, Kothrud	TE	21/01/21	21/12/21	365
32	Gite Sanjana Sanjay	Skf Indian Limited ,Pune	TE	24/02/21	30/06/21	120
34	Gurram Shubham Shrinivas	Yeshashvi Steels & Alloys Private Limited	TE	20/12/20	13/06/21	181
35	Hawaldar Siddharth Sunil	Hog Engineering Pvt Ltd	TE	20/12/20	21/12/21	365
36	Hiremath Vivek Vijaymahantesh	Tcl, Megasite, Phaltan.	TE	21/12/20	21/12/21	365
38	Jiwade Aniket Chandrakant	Tata Motors Ltd, Pune	TE	15/12/20	15/06/21	180
39	Jutla Ganesh Pundlik	Yeshashvi Steels & Alloys Private Limited	TE	20/12/20	13/06/21	172
42	Kamani Darshak Vinod	Arya Engineering	TE	15/12/20	15/06/21	180
44	Khairnar Harshkumar Ishwar	Sandvik Asia Pvt. Ltd., Pune	TE	04/06/21	04/07/21	31
46	Khot Pranav Sudip (Tfws)	M E Energy Pvt Ltd	TE	15/12/20	15/12/21	365
47	Khan Shahid Nasim	Yantra Harvest Pvt Ltd	TE	15/12/20	15/12/21	365
48	Lavhe Rachna Bapurao	S. S Heavy Equipments Pvt. Ltd Warje	TE	15/12/20	15/06/21	180
51	Moghe Athrva Shashank	Mubea Automotive Components India Pvt. Ltd	TE	15/02/21	30/06/21	120
52	Mohite Vaishnavi Vijay	Alfa Laval Pvt. Ltd, Satara	TE	09/01/21	09/07/21	210
54	More Siddhant Kakasaheb	Suhas Enterprise	TE	15/06/21	15/12/21	180
57	Nagarale Ashutosh Rajendra	Mubea Suspension India Ltd.	TE	15/02/21	15/06/21	120
58	Nanaware Neemesh Mahesh	Tara Tools, Bhosari, Pune	TE	01/01/21	15/06/21	180
60	Niranjan Nitin Polekar	Nikhtish Engineering Pvt. Ltd.	TE	15/02/21	15/06/21	120
61	Pahade Yash Rahul	Kalyani Technofogre, Chakan	TE	15/02/21	15/06/21	120

62	Panchal Preet Sanjay	Ambica Autotech Surat	TE	22/12/20	22/06/21	180
63	Panpatil Sumedh Bapurao	Mubea Suspension India Ltd.	TE	15/02/21	15/06/21	120
67	Rathod Gaurav Prakash	Jhurbi Metrology And Consultant	TE	15/12/20	15/12/21	365
68	Raul Pooshan Vijay	Attaquant Enterprises Pvt Ltd. , Wakad	TE	28/12/20	31/12/21	367
70	Sawant Sairaj Mangesh	Suhas Enterprises	TE	15/12/20	15/06/21	180
72	Shrivas Nayan Uday	Preci Forge And Gears, Chakan	TE	15/12/20	15/06/21	180
75	Taware Prathamesh Mohan	Ankita Polymer India Pvt Ltd	TE	15/12/20	20/12/21	365
77	Vanbhane Tejas Balu	Gloria Engineering Company, Chikhali	TE	15/12/20	15/06/21	180
78	Varun Pramod More	Tata Motors Ltd,Pune	TE	15/12/20	15/12/21	365
79	Waje Soham Mukund	Orion Instruments	TE	09/01/21	09/07/21	180
81	Harshad Shivaji Khandagale	Suhas Enterprises	TE	15/12/20	15/06/21	180

Memorandum of Understanding (MOU's):

Memorandum of Understandings are signed between our Department and various Industry like systems through which Students can gain their knowledge relevant to industries by interacting with industry persons during Guest lectures, Seminars and Workshops.

MOU Signed with Academic and Professional Organizations

On No.	Faculty Oceandination	Name of Industry	Date	Valid upto
Sr. NO	Faculty Coordinator Name of Industry		of MoU Signed	
1	Dr C S Choudhari,	Vimal Nourishment Technologies Pvt. Ltd.	04/08/2024	04/08/2024
1	Dr A V Waghmare	Pune	04/08/2021	04/08/2024
2	Dr D Y Dhande	University of Therengganu, malaysia	01/07/2021	30/06/2023
	Dr. B. D. Bachchhav			
3	Dr. C. S. Chaudhari	Setco Spindles India (Pvt) Ltd Pune 18/02/2022 17/02		17/02/2025
	Dr. P. S. Gajjal			
4	Dr. B. D. Bachchhav	Stead Solve Design and Manufacturing Solutions LLP Pune	23/02/2022	22/02/2025
5	Dr. S H Wankhade	UB Cryogenic Solutions LLP, Pune	04/03/2022	03/03/2025
6	Dr. B. D. Bachchhav	Institute of Systems Pune.	04/04/2022	03/04/2025
7	Dr. B. D Bachchhav	SSIG Manufacturing Advancements Pvt Ltd.	27/04/2022	26/04/2025
1	Dr S V Chaitanya	Pune	21104/2022	20/04/2023
8	Mr M P Bauskar	Mettchnik Pvt Ltd	10/10/2019	10/10/2024
9	Dr S J Navale	Avishkar Engineers Pvt.Ltd	31/12/2019	31/12/2020
10	D S Mane	Suntech Landriani Machine Tools Pvt Ltd	08/08/2018	07/08/2021
11	D S Mane	Nemade Engineers Pvt Ltd	08/08/2018	07/08/2021
12	P.S.Aglawe	eAdicct Mobility Solution Pvt Ltd	21/08/2017	21/08/2022

3 COURSE OUTCOMES AND PROGRAM OUTCOMES (120)

Define the Program specific outcomes

3.1 Establish the correlation between the courses and the Program Outcomes (POs) and Program Specific Outcomes (PSOs) (20)

Total Marks 20.00

Institute Marks : 5.00

Total Marks 110.00

PSO1	Our graduate will have competencies in design and develop mechanical elements and systems.
PSO2	Our graduate will have incremental skills to specify and select materials, processes to manufacture an industrial product.
PSO3	Our graduate will have industry oriented attributes through industrial in-plant training, co-curricular and extension activities.

3.1.1 Course Outcomes(COs)(SAR should include course outcomes of one course from each semester of study, however, should be prepared for all courses and made available as evidence, if asked) (5)

Note : Number of Outcomes for a Course is expected to be around 6.

Course Name :		C2 44	Course Year :	2020-2021				
Course Nan	Course Name Statements							
C2 44.1	COMPARE crystal structures and ASSESS different lattice parameters.							
C2 44.2	DIFFERENTIATE and DETERMINE	mechanical properties usin	ng destructive and non-destructive testing of mater	als.				
C2 44.3	IDENTIFY & ESTIMATE different part	ameters of the system viz	., phases, variables, component, grains, grain bour	idary, and degree of freedom. etc.				
C2 44.4	ANALYSE effect of alloying element	ANALYSE effect of alloying element & heat treatment on properties of ferrous & nonferrous alloy.						
C2 44.5	Discuss various Ferrous metals with its application and Analyze the microstructures of ferrous materials and its effects on mechanical properties.							
C2 44.6	Select proper non-metal, their alloys & additive manufacturing technique for specific requirement.							

	Course Name :	C2 63	Course Year :	2020-2021
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Course Name		Statements
C2	63.1	SELECT appropriate molding, core making and melting practice and ESTIMATE pouring time, and DESIGN riser size and location for sand casting process.
C2	63.2	DEMONSTRATE metal forming operations, CLASSIFY applications and CALCULATE load required for flat rolling.
C2	63.3	CLASSIFY and EXPLAIN different welding processes and EVALUATE welding characteristics.
C2	63.4	IDENTIFY lathe operations, CALCULATE machining time, shear angle, cutting forces in orthogonal cutting and DETERMINE tool life.
C2	63.5	DISTINGUISH drilling and milling operations, CALCULATE machining time, and UNDERSTAND methods of Indexing.
C2	63.6	RECOGNIZE Broaching and Grinding operations, CALCULATE of machining time for cylindrical and surface grinding operations.

Course Name :		C3 61	Course Year :	2020-2021	
Course Name	Statements				
C3 61.1	Use suitable methods of transformation to achieve expected graphics output.				
C3 61.2	Descibe various curve, surface and solid modeling techniques used in CAD industry.				
C3 61.3	Understand various methods of automation and architecture of industrial robots.				
C3 61.4	Develop code for a component for CNC machines.				
C3 61.5	Explain different rapid prototyping methods along with their advantages and limitations.				
C3 61.6	Compute the stresses and deflection for a given problem using finite element method.				

Course Name :		C3 63	Course Year :	2020-2021
Course Name				
C3 63.1	To correlate and implement theor	y knowledge to solve indu	strial problems.	

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C3	63.2	To develop systematic approach to solve specific industrial problem.
C3	63.3	To face industrial problems competently.
C3	63.4	To demonstrate an ability to work in teams and manage the team work in industrial environment with professional ethics
C3	63.5	To understand and effective use of recent technology for providing solutions to industrial problems
C3	63.6	To report and present the findings of the study conducted

Course Name :		C4 61	Course Year :	2020-2021
Course Name	Statements			
C4 61.1	To Work in industrial environme	ent with professional ethics	3.	
C4 61.2	To Understand various industria	al aspects		
C4 61.3	To Analyze and solve engineer	ing problems.		
C4 61.4	To Apply ethical principles and	commit to responsibilities	and norms of engineering practice.	
C4 61.5	To apply the theoretical concep	ts to solve industrial probl	ems with teamwork and multidisciplinary approach	
C4 61.6	To understand the basic conce	ots & broad principles of Ir	ndustrial projects.	

	C4 48	Course Year :	2020-2021
Statements			
Understand and analyze the	e design of multistage gea	ar box.	
Understand and apply the s	tatistical parameters or co	onsideration in design.	
Understand and apply the c	lesign of belt conveyor sy	stem for material handling system.	
Understand and apply the c	vlinders and pressure ves	ssels design.	
Understand and analyze the	e design of I.C. Engine Co	omponents.	
Understand and evaluate th	e optimum design param	eters.	
	Statements Understand and analyze the Understand and apply the s Understand and apply the c Understand and apply the c Understand and analyze the Understand and evaluate th	C4 48 Statements Understand and analyze the design of multistage gea Understand and apply the statistical parameters or col Understand and apply the design of belt conveyor syst Understand and apply the cylinders and pressure ves Understand and analyze the design of I.C. Engine Col Understand and evaluate the optimum design parameters	C4 48 Course Year : Statements Understand and analyze the design of multistage gear box. Understand and apply the design of multistage gear box. Understand and apply the design of belt conveyor system for material handling system. Understand and apply the design of belt conveyor system for material handling system. Understand and apply the design of I.C. Engine Components. Understand and evaluate the optimum design parameters. Understand and evaluate the optimum design parameters.

3.1.2 CO-POmatrices of courses selected in 3.1.1 (Six matrices to be mentioned; one per semester from 3rd to 8th semester) (5)

Institute Marks : 5.00

1 . course name : C244

Course	PO1		PO2		PO3		PO4		PO5		PO6		PO7		PO8		PO9		PO10		P011		PO12	:
C244.1	3	~	-	~	-	~	-	~	-	~	-	~	-	~	-	~	-	~	2	~	-	~	-	~
C244.2	2	~	2	~	1	~	2	~	2	~	-	~	-	~	-	~	-	~	2	~	-	~	1	~
C244.3	2	~	-	~	1	~	-	~	3	~	-	~	-	~	-	~	-	~	2	~	-	~	-	~
C244.4	2	~	1	~	2	~	2	~	-	~	-	~	1	~	-	~	-	~	2	~	-	~	-	~
C244.5	3	~	2	~	1	~	2	~	2	~	-	~	-	~	-	~	-	~	2	~	-	~	-	~
C244.6	2	~	2	~	2	~	-	~	-	~	-	~	1	~	-	~	-	~	2	~	-	~	1	~
Average	2.33		1.75		1.40		2.00		2.33		0.00		1.00		0.00		0.00		2.00		0.00		1.00	

2 . course name : C263

Course	PO1		PO2		PO3		PO4		PO5		PO6		P07		PO8		PO9		PO10		P011		PO12	2
C263.1	3	~	3	~	1	~	-	~	-	~	-	~	-	~	-	~	-	~	1	~	-	~	-	~
C263.2	3	~	3	~	-	~	-	~	-	~	-	~	-	~	-	~	-	~	1	~	-	~	-	~
C263.3	3	~	2	~	-	~	-	~	-	~	-	~	-	~	-	~	-	~	1	~	-	~	-	~
C263.4	3	~	3	~	1	~	-	~	-	~	-	~	-	~	-	~	-	~	1	~	-	~	-	~
C263.5	3	~	3	~	1	~	-	~	-	~	-	~	-	~	-	~	-	~	1	~	-	~	-	~
C263.6	3	~	2	~	-	~	-	~	-	~	-	~	-	~	-	~	-	~	1	~	-	~	-	~
Average	3.00		2.67		1.00		0.00		0.00		0.00		0.00		0.00		0.00		1.00		0.00		0.00	

3 . course name : C361

Course	P01		PO2		PO3		PO4		PO5		PO6		P07		PO8		PO9		PO10		PO11		PO12	:
C361.1	3	~	3	~	3	~	-	~	3	~	-	~	-	~	-	~	3	~	3	~	-	~	2	~
C361.2	3	~	3	~	3	~	-	~	3	~	-	~	-	~	-	~	3	~	3	~	-	~	2	~
C361.3	3	~	3	~	3	~	-	~	3	~	-	~	3	~	-	~	3	~	3	~	-	~	2	~
C361.4	3	~	3	~	3	~	-	~	3	~	-	~	-	~	-	~	3	~	3	~	-	~	2	~
C361.5	3	~	3	~	3	~	-	~	3	~	-	~	-	~	-	~	-	~	3	~	-	~	2	~
C361.6	3	~	3	~	3	~	-	~	3	~	-	~	-	~	-	~	-	~	-	~	-	~	2	~
Average	3.00		3.00		3.00		0.00		3.00		0.00		3.00		0.00		3.00		3.00		0.00		2.00	

4 . course name : C363

Course	PO1		PO2		PO3		PO4		PO5		PO6		PO7		PO8		PO9		PO10		P011		PO12	:
C363.1	2	~	2	~	2	~	1	~	1	~	1	~	-	~	-	~	-	~	-	~	1	~	1	~
C363.2	2	~	2	~	2	~	1	~	1	~	1	~	-	~	-	~	1	~	-	~	2	~	1	~
C363.3	2	~	2	~	2	~	2	~	-	~	2	~	1	~	1	~	1	~	-	~	2	~	1	~
C363.4	-	~	2	~	1	~	-	~	-	~	1	~	1	~	2	~	2	~	2	~	2	~	1	~
C363.5	1	~	2	~	2	~	-	~	2	~	-	~	-	~	-	~	-	~	-	~	2	~	-	~
C363.6	2	~	-	*	1	~	-	~	1	~	-	~	-	~	1	~	-	~	2	*	1	~	1	~
Average	1.80		2.00		1.67		1.33		1.25		1.25		1.00		1.33		1.33		2.00		1.67		1.00	

5 . course name : C461

Course	PO1		PO2		PO3		PO4		PO5		PO6		P07		PO8		PO9		PO10		PO11		PO12	:
C461.1	2	~	2	~	2	~	-	~	-	~	2	~	-	~	2	~	2	~	1	~	1	~	1	~
C461.2	1	~	2	~	2	~	2	~	-	~	1	~	-	~	2	~	-	~	-	~	-	~	1	~
C461.3	2	~	2	~	2	~	-	~	-	~	1	~	-	~	-	~	1	~	-	~	1	~	1	~
C461.4	-	~	-	~	-	~	-	~	-	~	-	~	-	~	2	~	2	~	2	~	1	~	1	~
C461.5	2	~	2	~	1	~	2	~	1	~	-	~	-	~	-	~	2	~	2	~	2	~	1	~
C461.6	-	~	-	~	2	~	2	~	-	~	2	~	-	~	-	~	-	~	-	~	1	~	1	~
Average	1.75		2.00		1.80		2.00		1.00		1.50		0.00		2.00		1.75		1.67		1.20		1.00	

6 . course name : C448

Course	PO1		PO2		PO3		PO4		PO5		PO6		P07		PO8		PO9		PO10		P011		PO12	2
C448.1	3	~	3	~	3	~	2	~	3	~	1	~	-	~	1	~	1	~	1	~	-	~	1	~
C448.2	3	~	3	~	3	~	1	~	-	~	1	~	-	~	-	~	-	~	-	~	-	~	1	~
C448.3	3	~	3	~	3	~	1	~	-	~	1	~	-	~	1	~	-	~	-	~	-	~	1	~
C448.4	3	~	3	~	3	~	1	~	-	~	1	~	-	~	1	~	-	~	-	~	-	~	1	~
C448.5	3	~	3	~	3	~	1	~	-	~	1	~	-	~	-	~	-	~	-	~	-	~	1	~
C448.6	2	~	3	~	3	~	2	~	-	~	1	~	-	~	-	~	-	~	-	~	-	~	1	~
Average	2.83		3.00		3.00		1.33		3.00		1.00		0.00		1.00		1.00		1.00		0.00		1.00	

1 . Course Name : C244

Course	PSO1		PSC)2	PSC	03
C244.1	-	~	-	~	-	~
C244.2	2	~	2	~	2	~
C244.3	-	~	1	~	2	~
C244.4	-	~	1	~	1	~
Average	1.50		1.40		1.50	
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C244.6	1	~	2	~	-	~
C244.5	-	~	1	~	1	~

2 . Course Name : C263

Course	PSO1		PSO2	2	PSO3	
C263.1	1	~	2	~	-	~
C263.2	-	~	2	~	-	~
C263.3	-	~	2	~	-	~
C263.4	-	~	2	~	-	~
C263.5	-	~	2	~	-	~
C263.6	-	~	2	~	-	~
Average	1.00		2.00		0.00	

3 . Course Name : C361

Course	PSO1		PSO2	2	PSO3	;
C361.1	3	~	2	~	-	~
C361.2	3	~	2	~	-	~
C361.3	3	~	2	~	-	~
C361.4	3	~	2	~	-	~
C361.5	3	~	2	~	-	~
C361.6	3	~	2	~	-	~
Average	3.00		2.00		0.00	

4 . Course Name : C363

Course	PSO1		PSO2	2	PSO3	;
C363.1	3	~	2	~	3	~
C363.2	3	~	2	~	3	~
C363.3	3	~	2	~	3	*
C363.4	3	~	2	~	3	~
C363.5	3	~	2	~	3	~
C363.6	3	~	2	~	3	~
Average	3.00		2.00		3.00	

5 . Course Name : C461

Course	PSO1		PSO2	2	PSO3	
C461.1	1	~	2	~	3	~
C461.2	1	~	2	~	3	~
C461.3	1	~	2	~	3	~
C461.4	1	~	2	~	3	~
C461.5	1	~	2	~	3	~
C461.6	1	~	2	~	3	~
Average	1.00		2.00		3.00	

6 . Course Name : C448

Course	PSO1		PSO	2	PSO	3
C448.1	3	~	1	~	-	~

Average	2.50		1.67		0.00	
C448.6	1	~	2	~	-	~
C448.5	3	~	1	~	-	~
C448.4	3	~	2	~	-	~
C448.3	2	~	2	~	-	~
C448.2	3	~	2	~	-	~

3.1.3 - A Program level Course-PO matrix of all courses INCLUDING first year courses (10)

Institute Marks : 10.00

Course	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12
101005	1.0	1.0	1.0	PO4	1.0	PO6	PO7	PO8	PO9	PO10	PO11	PO12
101011	2.0	1.0	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
102006	2.0	2.0	PO3	PO4	PO5	PO6	PO7	PO8	PO9	1.0	PO11	PO12
102013	2.0	2.0	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
102014	1.0	1.0	PO3	PO4	1.0	PO6	PO7	PO8	PO9	PO10	PO11	PO12
103004	1.7	1.0	1.0	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
103012	2.0	1.0	1.0	PO4	1.0	PO6	PO7	PO8	PO9	PO10	PO11	PO12
107001	3.0	2.0	1.0	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
107002	2.0	1.3	1.0	PO4	1.0	PO6	PO7	PO8	PO9	PO10	PO11	PO12
107008	3.0	2.0	1.0	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
107009	2.0	1.0	1.0	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
110010	2.0	1.0	1.0	PO4	1.0	PO6	PO7	PO8	PO9	PO10	PO11	PO12
111003	2.0	1.0	1.0	PO4	1.0	PO6	PO7	PO8	PO9	PO10	PO11	PO12
111007	1.0	1.0	1.0	1.0	PO5	1.0	PO7	PO8	PO9	PO10	PO11	PO12
202043	1.8	2.3	1.3	3.0	1.5	1.2	2.5	PO8	1.0	PO10	PO11	1.0
202050	2.0	1.7	1.0	PO4	1.5	PO6	PO7	PO8	PO9	1.0	PO11	PO12
202061	2.0	2.0	1.0	2.0	PO5	PO6	PO7	PO8	PO9	1.0	PO11	PO12
202062	2.8	2.0	2.0	1.8	PO5	PO6	PO7	PO8	1.0	1.0	PO11	1.0
202063	3.0	2.3	1.7	2.0	1.0	2.0	PO7	PO8	PO9	PO10	PO11	1.0
202064	2.4	1.8	1.7	1.3	1.8	2.8	2.2	2.0	2.5	2.7	1.5	3.0
202065	3.0	2.7	1.0	PO4	1.0	PO6	PO7	PO8	2.0	1.0	PO11	PO12
202066	2.0	1.0	1.5	1.0	2.7	PO6	PO7	PO8	PO9	1.3	PO11	PO12
202067	2.0	PO2	2.0	PO4	PO5	2.0	2.0	1.3	3.0	2.2	PO11	2.0
202068	1.8	1.8	1.2	1.4	1.7	PO6	PO7	1.0	1.0	1.0	PO11	1.6
203152	2.0	1.0	1.3	PO4	2.7	PO6	PO7	PO8	PO9	1.0	PO11	1.0
207002	2.0	1.0	1.0	2.0	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
302042	3.0	3.0	1.8	1.3	PO5	2.0	PO7	PO8	1.0	1.2	2.0	1.0
302047	3.0	3.0	3.0	2.0	3.0	PO6	PO7	PO8	2.0	3.0	PO11	PO12
302050	3.0	2.0	2.0	2.0	2.0	PO6	PO7	PO8	PO9	2.0	PO11	2.0
302061	3.0	3.0	2.3	2.5	3.0	PO6	1.0	PO8	PO9	3.0	PO11	3.0
302062	2.0	2.0	2.0	1.0	2.0	PO6	PO7	PO8	2.0	2.0	2.0	1.0
302063	1.6	1.7	1.8	1.5	1.5	1.5	PO7	1.3	1.3	2.0	1.7	1.0
302064	2.0	1.8	2.0	1.0	1.0	PO6	PO7	1.0	1.3	1.8	1.8	1.0
302065	2.3	2.3	2.2	PO4	2.3	2.8	1.7	1.0	2.0	1.3	1.0	1.8
302066	2.3	2.0	2.0	1.0	PO5	PO6	1.0	PO8	PO9	2.0	PO11	1.0
302067	3.0	1.7	1.0	2.0	1.5	2.0	2.0	1.5	2.0	2.0	1.0	2.0
402047	2.7	2.5	1.7	1.3	1.5	PO6	1.0	PO8	PO9	PO10	PO11	1.0
402048	2.8	3.0	3.0	1.3	3.0	1.0	PO7	1.0	1.0	1.0	PO11	1.0

402061	1.8	2.0	1.8	2.0	1.0	1.5	PO7	2.0	1.8	1.7	1.2	1.0
402062	1.8	2.0	1.7	1.3	1.3	1.3	1.0	1.3	1.3	2.0	1.7	1.0
402063	2.0	2.0	PO3	2.0	1.5	1.5	PO7	1.33	1.0	2.0	1.0	1.0
402064	2.0	2.0	PO3	2.0	1.5	1.0	PO7	1.3	1.0	2.0	1.0	1.0
402065	1.8	2.0	1.7	1.3	1.3	1.3	1.0	1.3	1.3	2.0	1.7	1.0
402066	3.0	2.3	2.0	2.2	3.0	PO6	2.0	PO8	2.0	PO10	PO11	2.0

Print

3.1.3 - B Program level Course-PSO matrix of all courses INCLUDING first year courses

Course	PSO1	PSO2	PSO3
101005	PSO1	PSO2	PSO3
101011	1.0	1.0	PSO3
102006	1.0	PSO2	PSO3
102013	1.5	1.3	PSO3
102014	1.0	PSO2	PSO3
103004	PSO1	PSO2	PSO3
103012	PSO1	PSO2	PSO3
107001	PSO1	PSO2	PSO3
107002	PSO1	PSO2	PSO3
107008	PSO1	PSO2	PSO3
107009	PSO1	PSO2	PSO3
110010	PSO1	PSO2	PSO3
111003	PSO1	PSO2	PSO3
111007	1.0	1.0	PSO3
202043	2.5	2.2	PSO3
202050	1.7	1.0	1.5
202061	2.0	2.0	PSO3
202062	2.2	1.8	PSO3
202063	1.0	1.3	PSO3
202064	2.7	2.5	PSO3
202065	PSO1	PSO2	2.0
202066	1.8	1.5	PSO3
202067	PSO1	PSO2	PSO3
202068	1.8	1.0	PSO3
203152	1.7	1.0	PSO3
207002	1.0	1.0	PSO3
302042	2.0	2.0	2.0
302047	3.0	PSO2	PSO3
302050	1.8	2.0	2.0
302061	3.0	2.5	PSO3
302062	2.0	PSO2	1.0
302063	3.0	2.0	3.0
302064	3.0	2.0	3.0
302065	2.0	1.0	3.0
302066	1.5	1.3	1.5
302067	1.5	1.5	1.0
402047	1.0	1.0	1.5
402048	2.5	1.7	PSO3
402061	1.0	2.0	3.0

Print

402062	3.0	2.0	3.0
402063	1.0	1.83	3.0
402064	1.0	1.8	3.0
402065	3.0	2.0	3.0
402066	1.3	2.0	PSO3

3.2 Attainment of Course Outcomes (50)

Total Marks 45.00

Institute Marks : 10.00

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

Assessment Process Details

Course Outcomes (COs): Statements indicating what a student will be able do after the successful completion of a course. Every Course have some Course Outcomes. The CO statements are defined by considering the course content covered in each unit of a course. For every course there are 6 COs framed/reframed. The keywords used to define COs are based on Bloom's Taxonomy.

The department carried out assessment processes to gather and prepare data to evaluate the attainment of course outcomes and program outcomes. Attainment is the action of attaining a standard result towards achievement of expected goals.

Direct and indirect assessment tools are used to calculate CO attainment of the course. 80% weightage is given to direct assessment tools and 20% weightage is given to indirect assessment tool.



Direct Assessment Tools

Course Outcome is evaluated based on the performance of students in internal assessments and in external assessment (university examination) of a course. Internal assessment contributes 20% and university assessment contributes 80% to the total attainment of a CO using direct assessment tools.

Theory:

Internal Tests and Assignments: Internal tests and assignments serve to encourage students to keep up with course content covered in class. Each course is divided in to six units and one test on each unit is conducted to evaluate students' performance. Three assignments based on 2 units each are designed.

The questions are framed in such a way that it should satisfy Bloom's Taxonomy, wherein each question paper is mapped to the respective course outcome of the course, which is evaluated based on the set attainment levels by the department.

University Examination: These in-semester and end-semester examinations are conducted by university. In semester examination covers 3 units of the course and end-semester examination covers the entire syllabus of the course. In-semester examination satisfy 3 COs and End-semester examination would satisfy all course outcomes for a particular course.

Practical:

Lab courses provide students direct knowledge with course concepts and the opportunity to explore methods used in their discipline. All the students are expected to learn the practical aspects of the course and develop the necessary skills to become professionals. Students' performance is evaluated using Continuous Assessment Sheet (CAS). Parameters used in CAS are Regularity, Experiment write up and his/her Performance during each experiment.

University Examination: The end semester examination in the form of Term Work/Oral/Practical is conducted with an external examiner and the internal examiner.

CO Assessment Tools:

Direct assessment method i.e., using internal and external assessment tools is considered for evaluation of CO.

For the evaluation and assessment of CO's, different tools as defined above are used. Course Outcome is evaluated based on the performance of students with internal assessments and external assessment (university examination) tools for respective course.



The particulars of Assessment tools used for the evaluation of Course Outcomes, Program Outcome and Program Specific Outcome is given in Table – B 3.2.1a. The various assessment tools used to evaluate COs, POs/PSOs and the frequency with which the assessment processes are carried out are listed in table.

Sr. No.	Assessment Tool	Description	Evaluation of Course Outcomes	Related POs/PSOs	Frequency of assessment per term						
Intern	nternal Assessment Tools										

1.	Test	Written examination	Questions in the test are mapped against CO of respective course.	Corresponding mapped POs/PSOs with the CO	Six (One for each CO)
2.	Assignment	Set of question to solve to home. (Open Book)	Questions in the assignment are mapped against two CO of respective course.	Corresponding mapped POs/PSOs with the COs	Three (one for Two COs)
3	Continues Assessment Sheet (CAS)	Assessment of students during practical	Based on the COs mapped with the experiments / assignments	Corresponding mapped POs/PSOs with the COs	For each experiment/ assignment during practical.
Exte	ernal Assessment	Tools			
4	In-Sem Exam	Written examination	Questions in the exam are mapped against COs corresponds to first three units of respective course.	Corresponding mapped POs/PSOs with the COs	One (Mid of the Term)
5	End-Sem Exam	Written examination	Questions in the exam are mapped against COs corresponds to complete syllabus of respective course.	Corresponding mapped POs/PSOs with all COs	One (End of the Term)
6	Term Work	Based on the continues assessment during practical sessions – CAS is used	Based on the COs mapped with the experiments / Assignments	Corresponding mapped POs/PSOs with the COs	One (End of the Term)
7	Oral/Practical	Based on the experiments / assignment performed during practical session	Based on the COs mapped with the experiments / Assignments	Corresponding mapped POs/PSOs with the COs	One (End of the Term)
8	Seminar	Based on the continues assessment during practical sessions – CAS is used	Based on the COs mapped	Corresponding mapped POs/PSOs with the COs	One (End of the Term)
9	Project	Based on the continues assessment during internal review and university exams, CAS and rubrics are used	Based on the COs mapped	Corresponding mapped POs/PSOs with the COs	External – One (End of the Term) and Internal Review – Two in Term

Table B 3.2.1a: Mapping of assessment tools to COs, POs/PSOs with frequency

Indirect CO Assessment Tool: Course End Survey

Course End Surveys are administered at the end of term to get the course to perceptions of students regarding the implementation of academic activity. It also invites the students to further incorporate the feasible suggestions for improvement.

Course End Survey provides valuable feedback to the faculty. This feedback is quite helpful in improving the quality of the teaching learning and closing the quality loop. Based on the feedback, faculty can plan the necessary improvements for next time to enhance the quality.

For each course, a specific course end survey form is designed. The questions related to the course and mapped with the COs. Responses were collected through forms on the scale of 1 - 3 (Low to High). This data is used for computing the indirect CO attainment. Weightage for indirect CO attainment is 20%.

3.2.2 Record the attainment of Course Outcome of all courses with respect to set attainment levels (40)

Attainment Levels

Course outcomes of the courses are assessed with the help of assessment tools and attainment level is evaluated. Target is stated in terms of percentage of students getting more than the set percentage of marks. Attainment is measured in terms of actual percentage of students getting set percentage of marks. Attainment Levels for internal as well as external assessment tools are defined as;

Attainment Level 1: 40% to 60% students scoring more than 60% marks out of the relevant maximum marks.

Attainment Level 2: 60% to 70% students scoring more than 60% marks out of the relevant maximum marks.

Institute Marks : 35.00

Attainment Level 3: More than 70% students scoring more than 60% marks out of the relevant maximum marks.

A. Evaluation of CO Attainment by Internal Assessment Tool

Internal assessment tools such as Test, Assignment and Continues Assessment Sheet are used to evaluate CO attainment level.



i. CO - Assessment Tool Mapping and evaluation

For the evaluation of the student's performance in terms of CO attainment, each internal assessment tool is mapped with COs.

Consider a particular course having Six Course Outcomes (CO.1 to CO.6) and the assessment tools for each CO and maximum marks (MTi and MAi) as in below **Table** – B 3.2.2a. Considering performance of students and target values, ATi and AAi are the CO attainment by each tool.

Assessment Tool ->	Test-1	Test-2	Test-3	Test-4	Test-5	Test-6	Assig1	Assig2	Assig3	CAS
COs Mapped	CO.1	CO.2	CO.3	CO.4	CO.5	CO.6	CO.1, CO.2	CO.3, CO.4	CO.5, CO.6	CO.1 to CO.6
Maximum Marks	MT1	MT2	MT3	MT4	MT5	MT6	MA1	MA2	MA3	MCS
CO Attainment Level	AT1	AT2	AT3	AT4	AT5	AT6	AA1	AA2	AA3	ACS

Table - B 3.2.2a - Mapping of Assessment Tools

As multiple tools are used for assessment of each Course Outcome, Final CO attainment of each CO will depend on CO attainment by each tool. Final CO attainment of CO.1 depends on CO attainment through multiple assessment tools such as Test – 1, Assig. – 1 and CAS.

Final CO attainment of CO.1

ACO.1 = f(AT1, AA1, ACS)

Similarly

ACO.2 = f(AT2, AA1, ACS) and

ACO.6 = f(AT6, AA3, ACS)

i. Weightage and Attainment Levels

Final CO attainment of each CO is calculated by weighted method. Maximum marks allocated for each tool are considered for deciding the weight of corresponding tool. If an assessment tool is used for two or more COs, equal distribution of maximum marks is considered. Assig.-1 is assessment tool for CO.1 and CO.2, maximum mark are distributed equally to each CO i.e. AT1/2 for each CO.

co	Assessment Tool,	Weightage and Attai	htage and Attainment Level				
CO.1	Test-1	Assig1	CAS				
Marks for CO.1 MT1/1		MA1/2	MCS/6	MC01			
Weightage WT1 = MT1 / (1*MCO1)		WA1 = MA1 / WCS = MCS / (2*MCO1) (6*MCO1)		1			
CO Attainment AT1		AA1 ACS					
Final CO Attai	Final CO Attainment =		WT1*AT1 + WA1*AA1 + WCS*ACS				
CO.6	Test-6	Assig3	CAS				
Maximum Marks	MT6/1	MA3/2	MCS/6	MCO6			
Weightage	WT6 = MT6 / (1*MCO6)	WA3 = MA3 / (2*MCO6)	WCS = MCS / (6*MCO6)	1			
CO Attainment AT6		AA3 ACS					
Final CO Attainment =		WT6*AT6 + WA3*AA3 + WCS*ACS					

Table B 3.2.2b Evaluation of CO attainment

Final CO Attainment for particular CO using multiple internal assessment tools is calculated as

A. CO Attainment Levels by External Assessment Tools:

CO attainment by the external assessment tools (defined in the university syllabus structure) is calculated by weighted average method.



i. CO - Assessment Tools Mapping

For the evaluation of the student's performance in terms of CO attainment, each external assessment tool is mapped with COs.

	1	End-Sem with					
		Too	ols		weigh	weightage	
0	In-Sem	TW	OR	PR	End-Sem	Marks	
CO.1	Yes	Yes	Yes		Yes	6	
CO.2	Yes	Yes	Yes	Yes	Yes	6	
CO.3	Yes	Yes	Yes	Yes	Yes	7	
CO.4		Yes	Yes	Yes	Yes	17	
CO.5		Yes	Yes	Yes	Yes	17	
CO.6		Yes	Yes		Yes	17	
				-	Total	70	

Table B 3.2.2c CO – Assessment tool Mapping

End Sem examination is for 70 marks and weightage for each CO is different as marks allocated for each CO are different.

Considering mapping of each external assessment tool and marks allocated weightage is calculated for each assessment tool.

Weighted method is used to calculate final attainment of each CO as defined earlier in case of internal assessment tools.

A. CO Attainment Level by Indirect Assessment Tool

Course end survey is used as Indirect assessment tool for CO attainment. 5 to 6 questions are framed to address all the COs of the course. Responses are collected through forms on the scale of 1 - 3 (Low to High). Average of the responses is considered as CO attainment on the scale of 0 to 3. Weightage for indirect CO attainment is 20%.

B. CO Attainment Level for Course

Multiple tools are used for the evaluation and assessment of COs. Direct assessment tools are Internal assessment tools and external assessment tools are university exams having 80% weightage. While calculating the CO attainment by direct assessment tools for each CO, 20% weightage is given to internal assessment tools and 80% weightage is given to external assessment tools.

Weightage for CO attainment by indirect assessment tool (Course End Survey) is 20 %.

Thus, CO attainment using all the tools is



Course Outcome of all courses are listed in table below:

Course	CODE	CO1 First Ve	CO2	CO3	CO4	CO5	CO6
Enggi. Mathematics - I	107001	1.27	1.27	1.27	1.27	1.27	1.27
Enggi. Physics	107002	1.37	1.35	1.37	1.37	1.52	1.49
Engineering Graphics-I	102006	1.42	1.42	2.29	2.29	1.49	1.49
Basic Electronics Enggi.	103012	1.59	1.56	1.51	1.47	1.43	1.51
Basic Civil and Enviro. Engg	101005	2.20	2.16	2.22	2.18	1.43	1.51
Fund'alsof Progg Language	111003	0.91	0.91	1.55	1.55		
Workshop Practice	111007	2.91	2.91	2.91	2.91	2.91	2.91
Enggi. Mathematics - II	107008	1.24	1.24	1.12	1.12	1.12	1.12
Engg. Chemistry	107009	1.13	1.10	1.13	1.13	0.92	0.89
Basic Mechanical Engg	102013	1.71	1.68	1.81	1.81	1.58	1.56
Engineering Mechanics	101011	1.56	1.55	1.56	1.54	1.66	1.75
Basic Electrical Engg	103004	1.55	1.52	1.55	1.55	1.05	1.02
Fund.tls of Progg Language-II	110010	1.20	1.20	1.20	1.40	1.40	1.40
Enggi. Graphics -II	102014	3.00	3.00	3.00	3.00	3.00	3.00
		Second Y	'ear 2018-1	9			
Engineering Mathematics – III	207002	1.03	1.04	1.02	0.50	0.44	0.51
Thermodynamics*	202043	1.68	1.69	1.75	1.69	1.11	1.15
Strength of Materials*	202050	0.89	0.91	0.93	1.31	1.32	1.35
Material Science and Metalhrgy	202061	1.58	1.58	1.62	1.22	1.22	1.22
Fhid Mechanics and Machinery	202062	0.95	1.04	1.03	1.10	1.34	1.33
Thermal Engineering	202063	1.29	1.29	1.29	1.28	1.29	1.29
Metrology and Quality Control	202064	1.27	1.29	1.43	1.38	1.30	1.30
Manufacturing Engineering	202065	0.69	0.71	0.73	0.91	0.94	0.94
Computer Aided Machine Drawing	202066	2.93	2.93	2.94	2.89	2.92	2.91
Soft Skills	202067	2.93	2.93	2.93	2.88	2.40	2.40
Theory of Machines	202068	0.70	0.97	1.13	0.70	0.96	
Electrical and Electronics Engg*	203152	0.87	1.02	1.23			
		Third Y	ear 2019-20				
Numerical Methods & Optimization	302047	1.29	1.44	1.45	1.45	1.46	1.46
Heat Transfer*	302042	1.51	1.52	1.49	1.80	1.80	1.78
Mechatronics*	302050	1.70	1.69	1.80	2.32	2.41	2.44
Applied Computer Aided Engg	302061	1.30	1.22	1.20	1.41	1.45	1.49
Machine Design	302062	1.03	1.21	1.05	1.26	1.41	1.26
Industrial In-plant Training- I	302064	2.95	2.90	2.95	2.89	2.89	2.88
Industrial case study assignments	302063	2.92	2.92	2.93	2.91	2.89	2.89
Seminar	302065	2.95	2.91	2.95	2.83	2.88	2.91
Materials and Manufg Engg.	302066	2.35	2.34	2.34	2.36	2.33	2.34
Industrial Engg and Tech. Mangmt.	302067	2.34	2.35	2.33	2.33	2.33	2.35
		Fourth Y	'ear 2020-2	1			
Industrial In-plant Training-II	402061	2.96	2.96	2.97	2.89	2.92	2.92
Project	402062	2.88	2.91	2.89	2.91	2.92	2.91
Technical PaperPresentation	402063	2.91	2.90	2.91	2.90	2.89	2.90
Automobile Engineering	402064	2.91	2.94	2.94	2.89	2.92	2.92
Plant Manite. and Engineering	402065	2.89	2.91	2.93	2.89	2.88	2.89
Energy Engineering	402047	2.95	2.95	2.95	2.92	2.91	2.91
Mechanical System Design	402048	2.71	2.85	2.88	2.72	2.83	2.83
Mechanical Vibrations	402066	2.80	2.85	2.86	2.88	2.86	2.83

3.3 Attainment of Program Outcomes and Program Specific Outcomes (50)

3.3.1 Describe the assessment tools and processes used for measuring the attainment of each of the Program Outcomes and Program Specific Outcomes (10)

"In outcome-based education, a "design down" process is employed which moves from POs to Course Outcomes (COs) and outcomes for individual learning experiences. C aligned with, and contribute to, the program outcomes.

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Courses are the building blocks of a program. Teaching strategies, learning activities, assessments and resources should all be designed and organized to help students ac the assessment activities, students demonstrate their level of achievement of the course learning outcomes. In a constructively aligned program, the courses are carefully or scaffolding from the introduction to mastery of the learning outcomes, leading to achievement of the intended POs. For the effectiveness of the program, the achievement of accurate and reliable assessments.

POs give useful guidance at the program level for the curriculum design, delivery and assessment of student learning. However, they represent fairly high-level generic goal observability and measurability of the POs at course level is very difficult. To connect high-level learning outcomes (POs) with course content, course outcomes and assess specificity to the program outcomes. This can be achieved through the following two-step process of identifying Competencies and Performance Indicators (PI).

- 1. Identify Competencies to be attained: For each PO define competencies –different abilities implied by program outcome statement that would generally require differe shared understanding of the competencies we want students to achieve. They serve as an intermediate step to the creation of measurable indicators.
- Define Performance Indicators: For each of the competencies identified, define performance Indicators (PIs) that are explicit statements of expectations of the student assessment to understand the extent of attainment of outcomes. They can also be designed to determine the appropriate achievement level or competency of each ir can achieve the acceptable level of proficiency.

Once the above process is completed for the program, the assessment of COs for all the courses is designed by connecting assessment questions (used in various assess where examination questions map with PIs, we get clarity and better resolution for the assessment of COs and POs."

PO/ PSO Assessment Tools

Direct assessment tools and indirect assessment tools are considered for assessment of POs and PSOs. Direct assessment tool used is through courses. The tools used fo used for assessment of COs. These tools are defined in Table B 3.2.1a. Indirect assessment is done through Graduate exit survey, Employer survey, Parent Survey and AI



PO/PSO assessment is done by giving 80% weightage to direct assessment and 20% weightage to indirect assessment. Direct assessment is based on CO attainment, whe Direct Assessment Tools and 20% weightage is given to attainment through Indirect assessment tool. Indirect assessment of Pos and PSOs is done through Graduate exit s Survey. Weightage for each survey is equal.

Target Levels for PO/PSO

The tools used for evaluation on Pos and PSOs are courses and the survey. Hence to decide the target levels of PO/PSOs, average of CO – PO/PSO mapping of all subjec weightage is for average of CO – POS mapping and 20 % weightage for survey.

Attainment Levels of POs/PSOs through Courses

The various direct assessment tools used to evaluate COs and the frequency with which the assessment processes are carried out are listed in Table - B 3.2.1a.

Tools used to evaluate PO/PSO attainment are same as that of CO attainment. Attainment Levels for internal as well as external assessment tools are also same for PO/PS

Attainment Level 1: 40% to 60 % students scoring more than 60% marks out of the relevant maximum marks.

Attainment Level 2: 60% to 70 % students scoring more than 60% marks out of the relevant maximum marks.

Attainment Level 3: More than 70% students scoring more than 60% marks out of the relevant maximum marks.

As the tools and criteria for defining attainment level are same for CO attainment and PO/PSO attainment levels, values of CO attainment levels are used to calculate PO/PS based on CO attainment and correlation level.

Sample calculation for PO/PSO attainment is described in following three steps:

Step - 1

CO Attainment and CO - PO/PSO mapping is defined for course by correlation level low to high (1 to 3).

Course	CO	Program Outcomes					
Outcomes	Attainment	PO1	PO2	PO3	PSO1		
CO207002.1	2.5	3	1				
CO207002.2	2.8	3	2	1	1		
CO207002.3	2.3	2	2		2		
CO207002.4	1.5	2	1	1	1		
CO207002.5	2.0	1	1				
CO207002.6	3.0	3	3				

Table – B 3.3.1a CO - PO Mapping

Step – 2

Direct PO/PSO attainment is calculated using following formula:

PO/PSO attainment = (Level of Mapping of PO with CO X CO attainment Level) / 3

Course	со	Program Outcomes						
Outcomes	Attainment	PO1	PO2	PO3	PSO1			
CO207002.1	2.5	-2.5x3/3	-2.5x1/3					
CO207002.2	2.8	-2.8x3/3	-2.8x2/3	-2.8x1/3	-2.8x1/3			
CO207002.3	2.3	=2.3x2/3	=2.3x2/3		=2.3x2/3			
CO207002.4	1.5	-1.5x2/3	-1.5x1/3	-1.5x1/3	-1.5x1/3			
CO207002.5	2.0	=2.0x1/3	=2.0x1/3					
00000000	2.0	-20-20	-20-20					

Table – B 3.3.1b PO/PSO Attainment Calculations

Step – 3

Direct PO/PSO attainment is evaluate by taking average of PO/PSO attainment by each CO attainment.

Course	co	Program Outcomes					
Outcomes	Attainment	PO1	PO2	PO3	PSO1		
CO207002.1	2.5	2.50	0.83				
CO207002.2	2.8	2.80	1.87	0.93	0.93		
CO207002.3	2.3	1.53	1.53		1.53		
CO207002.4	1.5	1.00	0.50	0.50	0.50		
CO207002.5	2.0	0.67	0.67				
CO207002.6	3.0	3.00	3.00				
Average PO/P	SO Attainment	1.92	1.40	0.72	0.99		

Table B 3.3.1c Average PO/PSO Attainment by Course

Indirect PO/PSO attainment: Graduate Exit Survey and Alumni Survey are conducted at the end of program and 20% weightage is given to it.

Surveys are conducted for graduating students and alumni who have graduated out of the department. Relevant questionnaire in survey form to evaluate attainment of POs namely Excellent, Very Good, Good, Average and Poor, which is given marks 5, 4, 3, 2, 1 respectively. These survey results are tabulated and the average values correspor attainment for POs/PSOs is calculated by converting average score on the scale of 0 to 3.

Graduate Exit Survey: Relevant questionnaire in graduate Exit survey form to evaluate attainment of POs and PSOs is given in section (i) and relation of POs & PSOs with

i. Questionnaire Format:

Kindly rate the following criteria on a scale of 1-5. Your genuine response will be helpful for the continuous quality improvement of our UG programme.

5. Excellent 4. Very Good 3. Good 2. Average 1. Poor

Q1 /	Ability acquired by you to apply knowledge of Mathematics, Science and Engineering in real time from value added certifications, workshops and training programs co
Q2 /	Ability acquired to apply engineering knowledge to design experiments, analyze and interpret data to obtain valid conclusions.
Q3 /	Ability to identify and design a solution for mechanical engineering problem with an appropriate consideration for the public health and safety and the cultural, societal
Q4 /	Ability acquired to conveniently investigate complex problems using research-oriented knowledge and methods to provide appropriate solution through design-oriente
Q5 A	Ability to use techniques, skills and modern engineering and IT tools necessary for engineering practice through internship, state of art labs.
Q6 A	Ability to grasp the impact of professional engineering solutions in the context of society and environment and apply it for sustainable development.
Q7 /	Ability to understand that you have about the available resources and ensure judicious use of them without affecting the environment for sustainable progress.
Q8 A	Ability to apply ethical principles and commitment to professional ethics and responsibilities acquired through courses, project, seminar and Gymkhana activities.
Q9 A	Ability acquired to lead team / work in team / work as an individual gained from the co-curricular and extracurricular activities.
Q10 A	Ability developed to communicate effectively, write precise reports, design documentation applying the engineering knowledge, speaking in a large group which you his
Q11 A	Ability to do interdisciplinary projects and carry them out in time and utilize fund in a meaningful way with the training provided by the department, through various acti
Q12 /	Ability to work as a successful self-reliant engineer with the training provided by department, entrepreneurship development cell, Innovation cell and Audit courses etc
Q13 (Competencies acquired in design and develop mechanical elements and systems.
Q14 S	Skills developed to specify and select materials, processes to manufacture and inspect quality of industrial product.
Q15 A	Ability developed to acquire industry oriented attributes through industrial in plant training.

ii. Relation of POs and PSOs with questionnaire

Question	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
Question	Q9	Q10	Q11	Q12	Q13	Q14	Q15	
PO/PSO	PO9	PO10	P011	PO12	PSO1	PSO2	PSO	

Alumni Survey: Feedback is taken from alumni. Relevant questionnaire in alumni survey form to evaluate attainment of POs and PSOs is given in section (i) and relation of (ii).

i. Questionnaire Format:

Kindly rate the following criteria on a scale of 1-5. Your genuine response will be helpful for the continuous quality improvement of our UG programme

5. Excellent 4. Very Good 3. Good 2. Average 1. Poor

Q. No.	Question
Q1	Your ability to apply knowledge and design and analyse Mechanical system or process to meet desired specifications and needs.
Q2	Benefit from value added certifications, workshops and training programmes conducted during your course.
Q3	Your ability to use techniques, skills and modern engineering tools necessary for engineering practice.

	Q4	Benefit from communication skills, presentation skills and leadership qualities gained from the co-curricular and extracurricular activities.
	Q5	Your ability to engage in, to resolve contemporary issues and acquire lifelong learning.
	Q6	Skills attained to create, select and apply appropriate techniques, resources and modern engineering and IT tools.
	Q7	Extent of Ethical, social and environmental values inculcated, helping you to relate Mechanical engineering issues with societal needs.
ľ	Q8	Ability acquires to meet the industry needs.
		·

ii. Relation of POs and PSOs with questionnaire

Question	Q1	Q2	Q3	Q4
PO/PSO	PO1, PO3	PO1, PO5	PO5, PO11	PO9, PO10
Question	Q5	Q6	Q7	Q8
PO/PSO	PO12	PO2, PO4	PO6, PO7, PO8	PSO1, PSO2, PSO3

Employer Survey: Feedback is taken from employer. Relevant questionnaire in employer survey form to evaluate attainment of POs and PSOs is given in section (i) and re section (ii).

iii. Questionnaire Format:

Kindly rate the following criteria on a scale of 1-5. Your genuine response will be helpful for the continuous quality improvement of our UG programme

5. Excellent 4. Very Good 3. Good 2. Average 1. Poor

Q. No.	Question
Q1	AISSMS COE Mechanical Engineering graduate exhibits an ability to apply engineering knowledge to design and develop the product.
Q2	AISSMS COE Mechanical Engineering graduate has the ability to communicate effectively both written and verbal communication
Q3	AISSMS COE Mechanical Engineering graduate is well aware of Modern Engineering Tools
Q4	AISSMS COE Mechanical Engineering graduate has an understanding of ethical and social responsibility
Q5	AISSMS COE Mechanical Engineering graduate has desire for learning new areas, engaging in professional development, and adapting to technological changes to solve complex engineering problems
Q6	AISSMS COE Mechanical Engineering graduate has an ability to function as a member or leader in multi-disciplinary teams
Q7	AISSMS COE Mechanical Engineering graduate has an ability to manage multidisciplinary projects.
Q8	AISSMS COE Mechanical Engineering graduate is able to provide solutions to societal problems for sustainable development
Q9	AISSMS COE Mechanical Engineering graduate will have competencies in design and develop mechanical elements and systems.
Q10	AISSMS COE Mechanical Engineering graduate will have incremental skills to specify and select materials, Processes to manufacture an industrial product.
Q11	AISSMS COE Mechanical Engineering graduate will have ability to acquire industry oriented attributes through industrial in plant training.

iv. Relation of POs and PSOs with questionnaire

Question	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
										1 1	1

,											
PO/PSO	PO1, PO2, PO3, PO4	PO10	PO5	PO 8, PO6	PO 12	PO 09	PO 11	PO 07	PSO 01	PSO 02	PSO 03

Parents Feedback: Parent feedback is taken to signify holistic development of their ward through a conducive teaching-learning environment. Relevant questionnaire in par given in section (i) and relation of POs with questionnaire is given in section (ii).

v. Questionnaire Format:

Kindly rate the following criteria on a scale of 1-5. Your genuine response will be helpful for the continuous quality improvement of our UG programme

5. Excellent 4. Very Good 3. Good 2. Average 1. Poor

Q. No.	Question
Q1	My ward has gained Engineering knowledge through teaching learning process at the institute.
Q2	My ward will be able to pursue research and higher studies.
Q3	Co-curricular and Extra-curricular activities conducted in institute helps to develop my wards communication, leadership and team work skills.
Q4	My ward is aware of social, cultural, environmental, global, public health and safety related issues and tries to resolve them.
Q5	My ward has ability to manage activities and financial issues.
Q6	My ward follows professional ethics.
Q7	My ward is able to use modern tools.
Q8	My ward converted into a lifelong learner.
Q9	My ward is capable to serve Mechanical Industry.

vi. Relation of POs and PSOs with questionnaire

Question	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
PO/PSO	PO1,	PO2, PO3, PO4	PO 9, PO10	PO 6, PO7	PO 11	PO 08	PO 05	PO 12	PSO 01, 02, 03

For indirect PO/PSO attainment 20% weightage is given.

Total PO/PSO attainment is calculated as:

Direct Attainment by all courses X 0.8 + Indirect Attainment X 0.2

3.3.2 Provide results of evaluation of PO&PSO (40)

PO Attainment

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
101005	0.65	0.61	0.48	PO4	0.74	PO6	PO7	PO8	PO9	PO10	PO11	PO12
101011	1.07	0.53	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
102006	1.16	1.2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	0.58	PO11	PO12
102013	1.13	1.05	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
102014	1.00	1.00	PO3	PO4	1.00	PO6	PO7	PO8	PO9	PO10	PO11	PO12
103004	0.80	0.45	0.46	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
103012	1.01	0.51	0.49	PO4	0.52	PO6	PO7	PO8	PO9	PO10	PO11	PO12
107001	1.27	0.84	0.42	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
107002	0.94	0.62	0.47	PO4	0.46	PO6	PO7	PO8	PO9	PO10	PO11	PO12
107008	1.16	0.77	0.39	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
107009	0.70	0.38	0.35	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
110010	0.83	0.42	0.42	PO4	0.42	PO6	PO7	PO8	PO9	PO10	PO11	PO12
111003	0.82	0.45	0.45	PO4	0.41	PO6	PO7	PO8	PO9	PO10	PO11	PO12

Institute Marks : 35.00

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111007	0.97	0.97	0.97	0.97	PO5	0.97	PO7	PO8	PO9	PO10	PO11	PO12
202043	0.94	1.18	0.70	1.15	0.85	0.64	1.27	PO8	0.56	PO10	PO11	0.52
202050	0.75	0.62	0.38	PO4	0.52	PO6	PO7	PO8	PO9	0.39	PO11	PO12
202061	0.97	1.05	0.41	1.08	PO5	PO6	PO7	PO8	PO9	0.47	PO11	PO12
202062	1.07	0.75	0.80	0.70	PO5	PO6	PO7	PO8	0.38	0.38	PO11	0.38
202063	1.29	1.00	0.72	0.86	0.43	0.86	PO7	PO8	PO9	PO10	PO11	0.43
202064	1.04	0.81	0.74	0.54	0.80	1.2	0.96	0.88	1.11	1.18	0.66	1.33
202065	0.82	0.73	0.31	PO4	0.31	PO6	PO7	PO8	0.62	0.31	PO11	PO12
202066	1.95	0.97	1.46	0.97	2.6	PO6	PO7	PO8	PO9	1.3	PO11	0.97
202067	1.96	PO2	1.92	PO4	PO5	1.94	1.96	1.29	2.93	1.99	PO11	1.83
202068	0.55	0.57	0.36	0.43	0.57	PO6	PO7	0.34	0.29	0.34	PO11	0.45
203152	0.70	0.35	0.45	PO4	0.93	PO6	PO7	PO8	PO9	0.35	PO11	0.35
207002	0.50	0.25	0.34	0.68	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
302042	1.65	1.65	0.95	0.70	PO5	1.00	PO7	PO8	0.50	0.64	1.20	0.55
302047	1.43	1.43	1.45	0.96	1.43	PO6	PO7	PO8	0.95	1.43	PO11	PO12
302050	2.06	1.37	1.13	1.13	1.59	PO6	PO7	PO8	PO9	1.55	PO11	1.13
302061	1.36	1.32	1.12	1.20	1.37	PO6	0.49	PO8	PO9	1.37	PO11	1.32
302062	0.80	0.80	0.80	0.40	0.80	PO6	PO7	PO8	0.80	0.80	0.80	0.40
302063	1.55	1.62	1.75	1.45	1.46	1.46	PO7	1.29	1.29	1.94	1.62	0.97
302064	1.94	1.71	1.94	0.97	0.98	PO6	PO7	0.96	1.21	1.69	1.74	0.97
302065	2.26	2.17	2.10	PO4	2.28	2.70	1.63	0.98	1.96	1.31	0.96	1.78
302066	1.82	1.56	1.56	0.78	PO5	PO6	0.78	PO8	PO9	1.56	PO11	0.78
302067	2.33	1.30	0.78	1.55	1.17	1.55	1.55	1.17	1.55	1.55	0.78	1.57
402047	2.61	2.45	1.63	1.22	1.47	PO6	0.98	PO8	PO9	PO10	PO11	0.98
402048	2.65	2.8	2.8	1.24	2.71	0.93	PO7	0.92	0.90	0.90	PO11	0.93
402061	1.72	1.97	1.77	1.96	0.97	1.47	PO7	1.96	1.71	1.62	1.17	0.98
402062	1.74	1.93	1.61	1.29	1.21	1.21	0.97	1.29	1.29	1.94	1.61	0.97
402063	1.94	1.94	PO3	1.94	1.45	1.45	PO7	1.29	0.97	1.93	0.97	0.97
402064	1.93	1.94	PO3	1.94	1.46	1.46	PO7	1.30	0.97	1.95	0.98	0.97
402065	1.74	1.93	1.61	1.30	1.20	1.21	0.97	1.29	1.29	1.93	1.61	0.97
402066	2.85	2.21	1.90	2.06	2.85	PO6	1.90	PO8	1.9	PO10	PO11	1.9

PO Attainment Level

Course	P01	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12
CO Attainment	1.60	1.44	1.31	1.41	1.45	1.57	1.49	1.43	1.43	1.47	1.46	1.30
Direct Attainment	1.37	1.17	1.01	1.13	1.17	1.34	1.22	1.15	1.16	1.21	1.18	0.98
InDirect Attainment	2.53	2.54	2.52	2.54	2.58	2.5	2.56	2.55	2.49	2.53	2.58	2.58

PSO Attainment

Course	PSO1	PSO2	PSO3
101005	PSO1	PSO2	PSO3
101011	1.07	0.53	PSO3
102006	0.58	PSO2	PSO3
102013	0.89	0.74	PSO3
102014	1.00	PSO2	PSO3
103004	PSO1	PSO2	PSO3
103012	PSO1	PSO2	PSO3
107001	PSO1	PSO2	PSO3
107002	PSO1	PSO2	PSO3
107008	PSO1	PSO2	PSO3

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107009	PSO1	PSO2	PSO3
110010	PSO1	PSO2	PSO3
111003	PSO1	PSO2	PSO3
111007	0.97	0.97	PSO3
202043	1.30	1.11	PSO3
202050	0.60	0.41	0.45
202061	0.81	1.05	PSO3
202063	0.43	0.57	PSO3
202064	1.17	1.11	PSO3
202065	PSO1	0.55	PSO3
202066	1.78	1.46	PSO3
202067	PSO1	PSO2	PSO3
202068	0.52	0.35	PSO3
203152	0.60	0.35	PSO3
207002	0.25	0.25	PSO3
302042	1.10	1.10	1.19
302047	1.43	PSO2	PSO3
302050	1.27	1.59	1.59
302061	1.36	1.22	PSO3
302062	0.80	PSO2	0.40
302063	2.91	1.94	2.91
302064	2.91	1.94	2.91
302065	1.94	0.97	2.91
302066	1.17	1.04	1.17
302067	1.17	1.17	0.78
402047	0.98	0.98	1.47
402048	2.33	1.56	PSO3
402061	0.98	1.96	2.94
402062	2.9	1.94	2.9
402063	0.97	1.77	2.9
402064	0.97	1.78	2.92
402065	2.9	1.93	2.9
402066	1.26	1.89	PSO3

PSO Attainment Level

Course	PSO1	PSO2	PSO3
CO Attainment	1.56	1.46	2.14
Direct Attainment	1.29	1.18	2.02
InDirect Attainment	2.63	2.6	2.62

4 STUDENTS' PERFORMANCE (150)

Total Marks 99.01

Table 4.1

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Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)		2020-21 (CAYm1)	2019- 20(CAYm2)	2018- 19(CAYm3)	2017- 18(CAYm4)	2016-17 (CAYm5)	2015-16 (CAYm6)
Sanctioned intake of the program(N)	60	60	60	60	60	60	60
Total number of students admitted in first year minus number of students migrated to other programs/ institutions plus No. of students migrated to this program (N1)	13	32	52	65	62	59	67
Number of students admitted in 2nd year in the same batch via lateral entry (N2)	0	45	24	9	13	16	15
Separate division students, If applicable (N3)	0	0	0	0	0	0	0
Total number of students admitted in the programme(N1 + N2 + N3)	13	77	76	74	75	75	82

Table 4.2

Year of entry	Total No of students admitted in the program ($N(4 + N^2 + N^2)$)	I in Number of students who have successfully graduated without backlogs in any semester/ year of students who have successfully graduated without backlogs in any semester/ year of study)					
	the program (N1 + N2 + N3)		ll year	III year	IV year		
2021-22 (CAY)	13	0	0	0	0		
2020-21 (CAYm1)	77	30	0	0	0		
2019-20 (CAYm2)	76	25	49	0	0		
2018-19 (CAYm3)	74	23	20	20	0		
2017-18 (LYG)	75	28	31	29	29		
2016-17 (LYGm1)	75	28	25	23	22		
2015-16 (LYGm2)	82	21	21	21	21		

Table 4.3

Year of entry	Total No of students admitted in the program (N1 + N2 + N3)	Number of studer	nts who have succes stu [Total of with Backlo	sfully graduated in stipulated period of udy) og + without Backlog]			
		l year	ll year	III year	IV year		
2021-22 (CAY)	13	0	0	0	0		
2020-21 (CAYm1)	77	32	0	0	0		
2019-20 (CAYm2)	76	48	72	0	0		
2018-19 (CAYm3)	74	52	61	61	0		
2017-18 (LYG)	75	47	53	53	53		
2016-17 (LYGm1)	75	46	59	53	51		
2015-16 (LYGm2)	82	57	72	63	57		

4.1 Enrolment Ratio (20)

Total Marks 12.00 Institute Marks : 12.00

	N (From Table 4.1)	N1 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2021-22 (CAY)	60	13	21.67
2020-21 (CAYm1)	60	32	53.33
2019-20 (CAYm2)	60	52	86.67

Average [(ER1 + ER2 + ER3) / 3] : 53.89

Assessment: 12.00

4.2 Success Rate in the stipulated period of the program (40)

4.2.1 Success rate without backlogs in any semester / year of study $\left(25\right)$

Total Marks 18.20 Institute Marks : 7.75

Item	Latest Year of Graduation, LYG (2017-18)	Latest Year of Graduation minus 1, LYGm1 (2016-17)	Latest Year of Graduation minus 2 LYGm2 (2015-16)
X Number of students admitted in the corresponding First year + admitted in 2nd year via lateral entry and seperated division, if applicable	75.00	75.00	82.00
Y Number of students who have graduated without backlogs in the stipulated period	29.00	22.00	21.00
Success Index [SI = Y / X]	0.39	0.29	0.26

Average SI [(SI1 + SI2 + SI3) / 3] : 0.31

Assessment [25 * Average SI]: 7.75

4.2.2 Sucess rate in stipulated period (15)

Institute Marks : 10.45

ltem	Latest Year of Graduation, LYG (2017-18)	Latest Year of Graduation minus 1, LYGm1 (2016-17)	Latest Year of Graduation minus 2 LYGm2 (2015-16)
X Number of students admitted in the corresponding First year + admitted in 2nd year via lateral entry and seperated division, if applicable	75.00	75.00	82.00
Y Number of students who have graduated in the stipulated period	53.00	51.00	57.00
Success Index [SI = Y / X]	0.71	0.68	0.70

Average SI[(SI1 + SI2 + SI3) / 3]: 0.70

Assessment [15 * Average SI]: 10.45

Note : If 100% students clear without any backlog then also total marks scored will be 40 as both 4.2.1 & 4.2.2 will be applicable simultaneously.

4.3 Academic Performance in Third Year (15)

Total Marks 12.78 Institute Marks : 12.78

Academic Performance	CAYm3 (2018-19)	LYG (2017-18)	LYGm1 (2016-17)
Mean of CGPA or mean percentage of all successful students(X)	9.79	8.72	7.85
Total number of successful students(Y)	61.00	53.00	53.00
Totalnumber of students appeared in the examination(Z)	61.00	53.00	59.00
API [X*(Y/Z)]:	9.79	8.72	7.05

Average API [(AP1 + AP2 + AP3)/3] : 8.52

Assessment [1.5 * AverageAPI]: 12.78

4.4 Academic Performance in Second Year (15)

Total Marks 11.36

Institute Marks : 11.36

Academic Performance	CAYm2 (2019-20)	CAYm3 (2018-19)	LYG (2017-18)
Mean of CGPA or mean percentage of all successful students(X)	8.70	8.34	6.42
Total number of successful students (Y)	72.00	61.00	53.00
Total number of students appeared in the examination (Z)	72.00	61.00	60.00
API [X * (Y/Z)]	8.70	8.34	5.67

Average API [(AP1 + AP2 + AP3)/3] : 7.57

Assessment [1.5 * AverageAPI]: 11.36

4.5 Placement, Higher Studies and Entrepreneurship (40)

Total Marks 24.67 Institute Marks : 24.67

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Item	LYG (2017- 18)	LYGm1 (2016- 17)	LYGm2 (2015- 16)
Total No of Final Year Students(N)	53.00	53.00	63.00
No of students placed in the companies or government sector(X)	31.00	22.00	19.00
No of students admitted to higher studies with valid qualifying scores(GATE or equivalent State or National Level tests, GRE, GMAT etc.) (Y)	8.00	1.00	10.00
No of students turned entrepreneur in engineering/technology (Z)	6.00	4.00	2.00
x + y + z =	45.00	27.00	31.00
Placement Index [(X+Y+Z)/N] :	0.85	0.51	0.49

Average Placement [(P1 + P2 + P3)/3]: 0.62

Assessment [40 * Average Placement] : 24.67

Program Name :

Assessment	Year	Name	:	CAYm1

S.No	Student Name	Enrollment No	Employee Name	Appointment No
1	Adaskar Tanmay Pradip	71811549L	Infosys Limited	HRD/3T/1002474680/21-22 07/11/2021
2	Andure Yashodeep Pradeep	71811569E	Capgemini Technology Services India Limited	Capgemini Technology Services India Limited
3	Bandpatte Aditya Vitthal	71925818K	Pinclick Property Management Pvt Ltd.	15/07/2021
4	Chaudhari Bhumik Manojkumar	71811675F	Amazon Development Centre(India) Private Limited	10/03/2021
5	Chhaparwal Geetanjali Anil	71811688H	Tata Consultancy Services Ltd	Tcsl/Dt20207189861/Pune 10/01/2021
6	Gandhi Sarthak Shriraj	71811782E	Amazon Development Centre(India) Private Limited	10/03/2021
7	Godse Sourabh Anil	71811803M	Siemens Energy India Pvt Ltd	225398/5261201 09/08/2021
8	Jadhav Hrishikesh Sanjay	71811843L	Neilsoft Pvt. Ltd.	Hr/ofl/3/11/2021/14
9	Jadhav Kamlesh Shivajirao	71811844J	Icertis Products Pvt. Ltd.	28/12/2021
10	Jadhav Kunal Sanjay	71925821K	Swift PLM Services Pvt. Ltd.	07/12/2021
11	Jadhav Omkar Sunil	71811848M	Infosys Limited	Hrd/3t/1002100120/21-22
12	Joshi Atharva Shekhar	71811875J	Eaton India Innovation Centre Limited	16/12/2021
13	Kadoo Vedant Prashant	71811889J	Infosys Limited	Hrd/3t/2-22/1002134213
14	Kaudare Gaurav Bharat	71811922D	Swift PLM Services Pvt. Ltd.	26/08/2021
15	Kulkarni Chaitanya Bhalchandra	71925823F	Araymond Fasterers India Pvt.Ltd.	Ar/Hr/2021
16	Kulkarni Shriya Milind	71811963M	Infosys Limited	Hrd/3t/1002474548/21-22
17	Lahole Sameer Vijay	71811977M	Amazon Development Centre(India) Private Limited	15/07/2021
18	Mohite Disha Suhas	71812016H	Tata Consultancy Services Ltd	Tcsl/Ct20203540427/Pune 10/01/2021
19	Navale Sushant Shivaji	71812052D	Infosys Limited	Hrd/3t/1002436966/21-22
20	Pandit Pushkar Pravin	71812082F	Tata Consultancy Services Ltd	Tcsl/dt20207392061/Pune 10/01/2021
21	Pawar Kaustubh Sanjay	71812134B	Burckhardt Compression (India) Pvt. Ltd.	21 /09/2021
22	Pokale Gayatri Suryakant	71812150D	Infosys Limited	Hrd/3t/1002126454/21-22, 09/10/2021
23	Ranjit Sameer Deshmukh	71812173C	Reich India Pvt Ltd	Offer/Jmp/2021/01 18 /08/ 2021
24	Raut Shraddha Dipak	71925825B	Pentagone Space Pvt. Ltd, Bangalore	31/07/2021
25	Sanas Umesh Dilip	71812201B	Tata Consultancy Services Ltd	Tcsl/Ct20203552721/1618569/Chennai 02/09/2021
26	Sarkar Omkar Vikas	71925826L	Swift PLM Services Pvt. Ltd.	30/08/2021
27	Shirsathe Gaurav Rakesh	71925828G	Thermax Limited	11/06/2021
28	Tapase Nikhil Yuvraj	71925829E	Teamlease Services Limited	06/01/2021
29	Vaishnavi Prabhu	71812319M	Thermax Limited	11/06/2021
30	Vedant Vinay Patodkar	71812326D	IDIUM	30/05/2021
31	Babar Manasi	71925817M	Eaton India Innovation Center Limited	27/12/2021

Assessment Year Name : CAYm2

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S.No	Student Name	Enrollment No	Em	ployee Name	Appointment No		
1	Kale Kunal	71705840K	Sais	sanket Industries Pvt Ltd	10/02/2021		
2	Bhoir Kiran Vilas	71811637C	Joh	n Deere India Pvt. Ltd.	JDIPL/IR/TT/2019-20/111761		
3	Gugale Nihal Nitin	71705787K	Tata	a Consultancy Services Ltd	Email		
4	Salunkhe Shruti Sunil	71812199G	Qua	antumlink Communications Pvt. Ltd.	Email		
5	Bhike Pradnesh	71811632B	Sor	ting Hat Technologies Pvt. Ltd.	24/11/2020		
6	Hatote Shweta Mukund	71705794B	Arya	a Engineers & Contractors Pvt Ltd	01/09/2020		
7	Manthan Palande	71705990B	Dev	vshree Industrial Solutions	DIS/CERT/2020/105 05/11/2020		
8	Karan Agarwal	71705626M	Ama	azon Development Centre(India) Private Limited	19/05/2020		
9	Tavhare Amit Narayan	71706189C	Info	osys Limited	HRD/3T/1003843925 / 21-22 23/03/2022		
10	Praful Brahmankar	71705689K	Ama	azon Development Centre(India) Private Limited	19/05/2020		
11	Amrutkar Prathamesh Arun	71811567J	Tecl	h Mahindra Ltd.	Ref:862651/1996525/ELTP 10/12/2021		
12	Ghunghune Nishikant Dilip	71811796E	Alba	aj Engineering Corporation Pvt Ltd	RFE: AECPL/CONT/1120 02/11/2020		
13	Neeraj Mudhale	71812037L	Mas	ster Pressing Works	11/03/2021		
14	Chandane Sandesh Anil	71705693H	Info	osys Limited	HRD/1003531948/22-23 07/06/2022		
15	More Viraj Anil	71812030C	Sulz	zer India Pvt Ltd	Email		
16	Anbhule Shubham Tanaji	71705638E	QH	Talbros Ltd.	22/01/2021		
17	Suraj Sangle	71812203J	Info	osys Limited	HRD/1000967821/20-21 08/01/2021		
18	Tilekar Mansi Chandrasekhar	71706200H	Vict	tory Precisions Pvt Ltd	Appoint/HA/2020/07		
19	Joshi Aditya	71705825F	Spri	inger Nature Technology and Publishing Solutions Pvt Ltd.	29/06/2021		
20	Kamble Abhishek Mahendra	71705845L	Vict	tory Precisions Pvt Ltd.	16/05/2021		
21	Kulkarni Sourabh Milind	71705904K	SKF	F India Limited	28/06/2021		
22	Ramteke Sahil Dilip	71706068D	Sais	sanket Industries Pvt Ltd	Email		
Assess	sment Year Name : CAYm3	·					
S.No	Student Name	Enrollment N	No	Employee Name	Appointment No		
1	Vaishnavi Zawar	71731033H		Jaro Education	15/02/2019		
2	Ganesh Sambhaji Jadhav	71731021D		Tata consultancy Services limited	TCSL/CT20182517368 16/02/2021		
3	Vinayak Suresh Yadav	71606573J		ULTRA ENTERPRISES	ld card		
4	Siddhant Vikram Deshmukh	71606563M		ICICI SECURITIES	ID CARD		
5	Nehal Kadapatti	71607102K		Infosys Limited	HRD/3T/19-20/13155174 05/09/2019		
6	Sanit Dalvi	71606840M		Electromech Material handling system (India) Pvt Itd	05/04/2019		
7	Abhishek Moolya	71731024J		Inditech Valves Pvt.Ltd	HR/2019/8 22/06/2019		
8	Vinod Narute	71731025G		Inditech Valves Pvt.Ltd	HR/2019/7 22/06/2019		
9	Surendra Singh Devda	71607003M		Thermax Ltd	26/07/2019		
10	Joyel Dixon	71606763D		Mikron	Id card		
11	lyer Radhakrishnan	71606741C		Infosys Limited	HRD/3T/21-22/1002872195 25/02/2022		
12	Sutrave Sakshi	71731030C		CADEM	ID CARD		
13	Umesh Bharat Zunjari	71606789H		Infosys Limited	HRD/3T/19-20/13155276 06/09/2019		
14	Rushikesh Sureshrao Jadhav	71731026E		Parason Machinery (INDIA) Pvt Ltd	Email		
15	Mayur Suresh Kripalani	71607097K		Araymond Fasterners India Pvt Itd	AR/HR/2019		
16	Roshan Alexander	71606852E		Infosys Limited	HRD/3T/19-20/12943589 05/09/2019		
17	Sanket Bagade	71606728F		Electromech Material handling system (India) Pvt ltd	05/04/2019		
18	Pratik Mutha	71606931J		Wilo Mather and Platt Pumps Pvt Ltd	SK/CERT/2020/O 1942 31/07/2020		
19	Pranav Hadke	71607065M		Ecomak system Pvt Ltd	ECO/PERS-AL/2019/05 23/07/2019		

4.6 Professional Activities (20)

Total Marks 20.00

The department of mechanical engineering have established various professional societies/ chapters and organizes various events under it as mentioned below.

Name of Professional	Number of	student par	ticipated	Number of activities conducted				
Body/Chapter	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22		
SAE	20	314	353	04	05	07		
ISHRAE	1376	140	175	02	02	03		
FPSI	165	108	248	02	04	04		
IE	372	110	127	02	01	05		
IMechE	80	80	122	05	05	03		

Fig. 4.1.1 Professional Body/Chapter

4.6.2 Publication of technical magazines, newsletters, etc. (5)

4.6.1 Professional socities/ chapters and organizing engineering events (5)

Institute Marks : 5.00

The News Letters are being published twice in the academic year. Mr. N N Gothkhindikar, Mr M S Swami and Mr D S Kulkarni have worked as an editor for this department magazine along with few students' members. The department newsletter consists of achievement, awards, contributions of departmental faculty and students.

Sr No	Academic Year	Title	Editor	Publisher
1	2020-21		Mr N N Gothkhindikar	Department of Mechanical
2	2019-20	Newsletter	Mr M S Swami	Engineering AISSMSCOE
3	2018-19		Mr D S Kulkarni	

Fig 4.6.2.a. Department Magazine Committee





age No :



Fig 4.6.2.b. Magazine Mechpulse

4.6.3 Participationininter-institute events by students of the program of study $\left(10\right)$

Students Participation in Technical Events

Sr. No.	Name of the student	Name of the event	Date	Organised by	Award/Rank if any
		1	AY 2021-2	22	
1	Rohan Mane & Team	SAE SUPRA 2022	August 2022	SAE India	Participation
2	Shubham Landge & Team	SAE REEV 2021- 22	April 2022	SAE India	Overall Rank-AIR 2
3	Arjun Taur &	Resonance	September SAF India		AIR 2-Suspension & Traction
5	Team	Racing e-Baja 2021 AIR 3-AII Tel			
					Technical Design Report Rank 1
4	Ghanshyam Naik & Team	Garudeshwa	March2022	SAE India	Overall Rank 2 (International)
			aja 2021 SAE 2021 SAE 2021 SAE 2021 SAE 2022 SAE 3aja April 2022 SAE		Technical Presentation Rank 4
5	Abhishek Khatavkar & Team	Resonance Racing m-Baja	April 2022	SAE India	AIR 3
		1	AY 2020-2	21	
1	Prathamesh Orpe	Effi-cycle (Virtual event)	Oct 2020	Lovely Professional	Prize: Best project plan
2	Prathmesh Choudhary			University, Jalandhar	Category: Advanced Electric
]			

Institute Marks : 10.00

_							
3	Sameer Lahole						
4	Deshmukh						
_	Team Resonance racing	Endurance		BAJA	All terrain performance award 3rd rank		
5	Team Resonance racing	BAJA SAEINDIA 2021	April 2021	2021	Overall award winner 4th rank		
6	Abhishek Chavan	Smart India Hackathon		Smart India Hackathon	Participation		
			AY 2019-2	20			
1	Ghanshyam Naik				SAE International West (Advance Class):		
2	Vedant Chitte				 Presentation: 10th globally. Overall Result: 9th 		
3	Shivam Tadwalkar	Team	19-21 July,	SRM University	globally. • Design Report: 12th globally.		
4	Vedant Rajhans	Garuuashwa	2019		SAEISS Southern Section (Regular Class):		
5	Saaj Raut				nationally Design Report: 3rd		
6	Rugved Kulkarni				nationally. Presentation: 4th nationally 		
7	Aniket Khese						
8	Jatil Milani				Overall 2nd (kart no		
9	Sreenivasulu Chappidi	Indian Karting Championship-3	Feb-2019		 4) Overall 5th (kart no 5) 		
10	Ashish Thakur				First Runner-up in		
11	Aditya Mudagi				Endurance Race		
12	Siddhesh Borse			Go Cart			
13	Mayur Bhosle						
14	Darshak Kamani	Zeal Drag 3.0	Mar-2019		Best Design Report		
15	Rushikesh Bhasme		War 2010		and Presentation		
16	Pooshan Raul						
17	Prathmesh Choudhary						
18	Tanmay Adaskar (Vice Captain)	Effi-cycle	Oct 2019	Lovely Professional University,	4th Rank among 80+ teams		
19	Sameer Lahole			Jalandhar			
20	Neemesh Nanaware						
21	Preet Panchal	BAJA SAE	May 28-June	BAJA SAE	Design Evaluation		
22	Shubham Dabhade	niternational	02, 2020	niions USA	Cost Evaluation 20th, Business Event 36th.		
23	Gaurav Joshi				Overall 32nd		
24	Vihang Lodh						
25	Anuj Misar						
26	Atharva Bodhe						
27	Vedant Kadoo						
28	Ranjit Deshmukh						
	1						

Students Participation in sports activity

Sr No	Name of Student	Name of Event	Date	Organised by	Award/Rank if any
		A	Y 2019-20		
	Abhinav Menon			State Level Chhatrapati Shahu Football Trophy organized by AISSMS College Of Engineering	Participated
				MIT Summit organized by MIT- WPU	Participated
1		Football		Inter Colligate University organized by SPPU	Participated
	Ashutosh Gaikwad			AVON Vista Champions Cup organized by Avon Vista	Participated
				Srujan cup organized by Srujan Organization	Participated
2	Abhinav Menon	Football		Zeal Football Tournament organized by Zeal College Of Engineering	Participated
2	Ashutosh Gaikwad			Yuvotsav 20 organized by PCCOE	Participated
	Abhinav Menon			Reliance Youth Foundation Tournament organized by Reliance	Participated
				FLAME Kurukshetra organized by Flame University	Participated
3		Football		MIT Vishwanath Sports meet organized by MIT- ADT	Participated
	Ashutosh Gaikwad			ZEST organized by COEP	Participated
				PACE ,organized by Army Institute of Technology	Participated
				Armed Forces Medical college, Football Tournament organized by AFMC	Participated
4	Urooj Momin	Basketball (Boys)		Inter Colligate University organized by SPPU	Participated

				Print	
				MIT Summit organized by MIT- WPU	Participated
				ZEST organized by COEP	Participated
				IMED Basketball Tournament organized by IMED College	Participated
5		Chess		Inter Colligate organized by SPPU	Participated
	Vihang Lodh	ang Lodh		MIT Summit organized by MIT- WPU	Participated
				Zest organized by COEP:	Participated
		A	Y 2018-19		
1	Simona Wagle	Badminton	11-13 Feb, 2019	Inter Department Sports Trophy	winner

Basket Ball (Boys) 11 -13 Feb, Inter Department

2019

Sports Trophy

(Inter- Dept.)

winner

5 FACULTY INFORMATION AND CONTRIBUTIONS (200)

2

Abhishek Limkar

Total Marks 161.93

Name	PAN No.	University Degree	Date of Receiving Degree	Area of Specialization	Research Paper Publications	Ph.D Guidance	Faculty receiving Ph.D during the assessment year	Current Designation	Date (Designated as Prof/Assoc. Prof.).	Initial Date of Joining	Assoc Type
Dr. Shrikant Vasudeo Chaitanya	AAUPC2410N	ME/M. Tech and PhD	11/09/2019	Mechanical Engineering	6	2		Associate Professor	01/01/2022	02/08/1999	Reguli
Dr. Bhanudas Dattatraya Bachchhav	AHIPB2113J	ME/M. Tech and PhD	25/10/2013	Manufacturing Tribology	13	1		Professor	09/06/2016	01/07/2015	Reguli
Dr. Mangesh Ravindra Phate	ATCPP2890E	ME/M. Tech and PhD	07/04/2015	Mechanical Engineering	22			Professor	23/08/2021	10/06/2016	Reguli
Dr. Priya Shekhar Gajjal	AAQPW6227R	ME/M. Tech and PhD	27/06/2016	Design Engineering	12			Associate Professor	19/06/2017	19/06/2017	Reguli
Dr. Manish Sheshrao Deshmukh	AJCPD7434L	ME/M. Tech and PhD	28/09/2012	Thermal Engg.	30	4		Associate Professor	05/12/2017	05/12/2017	Reguli
Dr. Avinash Vishvanath Waghmare	AAKPW9692A	ME/M. Tech and PhD	08/02/2018	Heat power		2		Associate Professor	01/06/2018	10/08/1998	Reguli
Dr. Dinesh Yashwant Dhande	AGLPD0522D	ME/M. Tech and PhD	25/01/2018	Design Engineering	13	3		Professor	18/07/2022	15/09/2004	Reguli
Dr. Sandeep Haribhau Wankhade	AADPW3580A	ME/M. Tech and PhD	24/05/2017	Industrial Engineering	3	2		Associate Professor	01/06/2018	31/08/2005	Reguli
Dr. Sunil Ramsing Patil	ABGPP3914K	ME/M. Tech and PhD	19/04/2022	Design Engineering	2			Assistant Professor		01/08/1994	Reguli
Mr. Prashant Vasantrao Deshmukh	AFHPD3552J	M.E/M.Tech	25/08/1998	Design Engineering				Assistant Professor		10/08/1998	Reguli

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Dr. Chandrakishor Shrirang Choudhari	AAPPC5676F	ME/M. Tech and PhD	11/03/2019	Heat power	6	2	Associate Professor	01/06/2021	29/07/2006	Reguli
Mr. Rahul Ashok Marne	AHHPM7400J	M.E/M.Tech	23/12/1999	Design Engineering			Assistant Professor		02/08/1999	Regula
Dr. Chandrashekhar Suresh Dharankar	AFHPD7272F	ME/M. Tech and PhD	31/10/2017	Design Engineering		1	Assistant Professor		28/07/2005	Reguli
Dr. Shirish Jaysing Navale	ADYPN5057F	ME/M. Tech and PhD	09/10/2018	Thermal Engg.			Assistant Professor		01/08/2005	Reguli
Mr. Mangesh Umakant Gan	AKWPG2976M	M.E/M.Tech	26/05/2006	Heat power			Assistant Professor		12/08/2006	Reguli
Mr. Omprakash Anandrao More	AOZPM2080H	M.E/M.Tech	15/12/2005	Manufacturing			Assistant Professor		26/08/2006	Reguli
Mr. Milind Sadashiv Swami	CFAPS8882R	M.E/M.Tech	13/07/2016	Automotive Engineering			Assistant Professor		02/02/2009	Reguli
Mr. Gopal Pandurang Lohar	ACSPL0013L	M.E/M.Tech	30/09/2014	Heat power			Assistant Professor		15/01/2010	Reguli
Mrs. Margi Pritesh Shah	AGRPC5682R	M.E/M.Tech	08/02/2010	CAD/CAM			Assistant Professor		13/01/2010	Reguli
Dr. Manoj Ramesh Dahake	ARNPD6916E	ME/M. Tech and PhD	13/05/2022	Thermal Engg.	2		Assistant Professor		10/09/2013	Reguli
Mr. Manoj Prakash Bauskar	ANRPB5447J	M.E/M.Tech	03/03/2014	Automotive Engineering	2		Assistant Professor		16/11/2010	Regula
Dr. Mannan Moula Sayyad	BIGPS8170J	ME/M. Tech and PhD	14/05/2018	Design Engineering			Assistant Professor		14/06/2018	Regula
Mr. Vipin Suresh Wagare	ACSPW6299H	M.E/M.Tech	13/08/2015	Design Engineering			Assistant Professor		18/12/2015	Regula
Mr. Shivaraj Sangappa Vadgeri	AOVPV1641M	M.E/M.Tech	26/11/2015	Design Engineering	2		Assistant Professor		16/06/2016	Regula
Mr. Dhananjay Sanjay Mane	AZNPM3642G	M.E/M.Tech	26/11/2015	Production Engineering			Assistant Professor		14/06/2017	Regula
Mrs. Sonali Shrikant Patil	BTPPP6080A	M.E/M.Tech	20/10/2016	Design Engineering			Assistant Professor		09/06/2017	Reguli
Mr. Nitin Narayan Gotkhindikar	BELPG0789L	M.E/M.Tech	12/07/2014	Industrial Metallurgy			Assistant Professor		02/07/2018	Reguli
Mr. Kundan Suresh Kolambe	DPMPK7220A	M.E/M.Tech	20/10/2016	Heat power			Assistant Professor		01/08/2019	Reguli
Mr. Ganesh Bhoju Narkhede	AJTPN1764G	M.E/M.Tech	15/07/2015	Design Engineering			Assistant Professor		17/12/2015	Reguli
Mr. Patunkar Mandar Manohar	BIZPP6047C	M.E/M.Tech	23/07/2014	Design Engineering			Assistant Professor		01/08/2019	Regula
Mr. Aditya Ramakant Takalkar	AJEPT9745Q	M.E/M.Tech	22/07/2015	Heat power			Assistant Professor		19/12/2016	Regula
Mrs. Ashwini Ashok Tonde	AKIPT0163H	M.E/M.Tech	11/03/2015	Automotive Engineering			Assistant Professor		17/12/2009	Reguli
Dr. Dnyaneshwar Shivaji Malwad	CNAPM3521M	ME/M. Tech and PhD	23/07/2021	CAD/CAM			Assistant Professor		31/08/2021	Regula
Mr. Shahid Ali Ishtiyak Ahemed	AYYPA2912P	M.E/M.Tech	08/02/2012	Heat power			Assistant Professor		08/09/2021	Regula
Dr. Ashwini Milind Ramteke	BVXPR7736P	ME/M. Tech and PhD	11/11/2019	CAD/CAM			Assistant Professor		30/08/2021	Reguli
Mr. Sumant Shesherao Patil	ACKPU9292Q	M.E/M.Tech	20/10/2016	Mechanical Design			Assistant Professor		09/06/2017	Regula

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Mr. Surajkumar Sanjayrao Khasbage	CCKPK4415K	M.E/M.Tech	20/10/2016	Automotive		Assistant Professor	16/12/2016	Regula
Ms.Pranjali Ravinandan Tete	ASGPT0601C	M.E/M.Tech	10/08/2016	Heat power		Assistant Professor	27/07/2022	Reguli
Mr. Pankaj Shankarrao Aglawe	AKWPA2771N	M.E/M.Tech	06/05/2013	Design Engineering		Assistant Professor	01/08/2007	Regula
Mr. Kaustubh Laxman Kumbhar	AXZPK8959Q	M.E/M.Tech	15/06/2015	Heat power		Assistant Professor	22/06/2015	Regula
Mr. Prakash Vasudeo Amate	ABFPA1552R	M.E/M.Tech	14/01/1999	Thermal Engg.		Assistant Professor	01/01/2000	Reguli

5.1 Student-Faculty Ratio (20)

Total Marks 14.00

Institute Marks : 14.00

UG

No. of UG Programs in the Department 2

	Mechanical Engineering									
		CAY		CAYm1		CAYm2				
Year of	f (2021-22)		(2020-21)		(2019-20)					
Study	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students				
2nd Year	120	0	120	32	120	41				
3rd Year	120	0	120	0	120	0				
4th Year	120	0	120	0	120	0				
Sub-Total	al 360 0		360	32	360	41				
Total 360		392		401						

Mechanical Engineering(Sandwich)								
	CAY (2021-22)				CAYm1			CAYm2
Year of				(2020-21)		(2019-20)		
Study	SanctionActual admitted through lateralIntakeentry students		Sanction Actual admitted through lateral Intake entry students		Sa Int	Sanction Actual admitted through late		
2nd Year	60	0	60		42	60		18
3rd Year	60	0	60		0	60		0
4th Year	60	0	60		0	60		0
Sub-Total	180	0	180		42	18	0	18
Total 180		222	222		19	198		
Grand Total 540		614			599			

PG

No. of PG Programs in the Department 2

Mechanical Automotive Engineering									
Voor of Study	an af Otrada		CAY(2021-22)		CAYm1(2020-21)		CAYm2 (2019-20)		-20)
real of Study		S	Sanction Intake		Sanction Intake			Sanction Inta	ke
1st Year		18			18		18		
2nd Year		18			18		18		
Total		36			36		36		
			Ме	chanica	al Design Engineering				
Veer of Study			CAY(2021-22)		CAYm1(202	0-21)		CAYm2 (2019-	-20)
Tear of Study		Sanction Intake			Sanction Intake			Sanction Inta	ke
1st Year		18		18		18			
2nd Year		18		18		18			
Total		36		36		36			
Grand Total	72			72		[72		

SFR

No. of UG Programs in the Department 2

No. of PG Programs in the D	Department 2								
Description	CAY(2021-22)		CAYm1 (2020-21)		CAYm2 (2019-20))			
Total No. of Students in the	612	Sum total of	686	Sum total of	671	Sum total of			
Department(S)	all (UG+PG) students		all (UG+PG) students		all (UG+PG) students				
No. of Faculty in the Department(F)	31	F1	32	F2	34	F3			
Student Faculty Ratio(SFR)	19.74	SFR1=S1/F1	21.44	SFR2=S2/F2	19.74	SFR3=S3/F3			
Average SFR 20.31 SFR=(SFR1+SFR2+SFR3)/3									
F=Total Number of Faculty Members in the Department (excluding first year faculty)									

Note: All the faculty whether regular or contractual (except Part-Time), will be considered. The contractual faculty (doing away with the terminology of visiting/adjunct faculty, whatsoever) who have taught for 2 consecutive semesters in the corresponding academic year on full time basis shall be considered for the purpose of calculation in the Faculty Student Ratio. However, following will be ensured in case of contractual faculty:

1. Shall have the AICTE prescribed qualifications and experience.

2. Shall be appointed on full time basis and worked for consecutive two semesters during the particular academic year under consideration.

3. Should have gone through an appropriate process of selection and the records of the same shall be made available to the visiting team during NBA visit

5.1.1. Provide the information about the regular and contractual faculty as per the format mentioned below:

	Total number of regular faculty in the department	Total number of contractual faculty in the department
CAY(2021-22)	31	0
CAYm1(2020-21)	32	0
CAYm2(2019-20)	34	0

Average SFR for three assessment years : 20.31

Assessment SFR: 14

5.2 Faculty Cadre Proportion (25)

Total Marks 17.00 Institute Marks : 17.00

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Voar	Professors		Associate Professors		Assistant Professors	
	Required F1	Available	Required F2	Available	Required F3	Available
CAY(2021-22)	3.00	2.00	6.00	6.00	20.00	23.00
CAYm1(2020-21)	3.00	1.00	7.00	6.00	22.00	25.00
CAYm2(2019-20)	3.00	1.00	7.00	6.00	22.00	27.00
Average Numbers	3.00	1.33	6.67	6.00	21.33	25.00

Cadre Ratio Marks [(AF1 / RF1) + [(AF2 / RF2) * 0.6] + [(AF3 / RF3) * 0.4]] * 12.5 : 17.00

5.3 Faculty Qualification (25)

Total Marks 15.93 Institute Marks : 15.93

	x	Y	F	FQ = 2.5 x [(10X + 4Y) / F)]
2021-22(CAY)	14	17	30.00	17.33
2020-21(CAYm1)	12	20	34.00	14.71
2019-20(CAYm2)	12	22	33.00	15.76

Average Assessment: 15.93

5.4 Faculty Retention (25)

Total Marks 20.00

Institute Marks : 20.00

Description	2020-21	2021-22
No of Faculty Retained	32	28
Total No of Faculty	34	34
% of Faculty Retained	94	82

Average : 88.00

Assessment Marks: 20.00

5.5 Innovations by the Faculty in Teaching and Learning (20)

Total Marks 20.00 Institute Marks : 20.00

GOALS:

In order to improve students teaching experience aside from traditional classroom teaching, the department uses novel concepts and their subsequent execution by means of quantifiable programs with the following goals:

The department will continuously strive to:

- · Enrich student learning by innovative practices.
- Develop students comprehension and expertise of creative methods and strategies.
- · Broaden students perspective of emerging technologies and tools in academics, and contemporary and social issues by innovative strategies.
- Motivate students to innovatively think, formulate and perform through different club activities.

The innovative practices are made available on the department website for reference and review, the link for which is as below:

https://aissmscoe.com/mechanical-engineering/innovative-practices-for-teaching-and-learning/ (https://aissmscoe.com/mechanical-engineering/innovative-practices-for-teaching-and-learning/)



List of initiatives in teaching and learning process followed by the department:

Each and every faculty use innovative practices, knowingly or unknowingly to enhance the teaching learning experience of every student and make understand the concepts throuout the year. Some initiatives may be so small to escape attention, and might be difficult to quantify and record; but may affect the learning of students in a subtle but important way. On the other hand, some initiatives might be so impactful so as to be clearly visible as making huge strides in improving the teaching-learning process.

Given below is a listing of some of the noticeable initiatives taken by the faculty of the department. However, it should not be considered as a conclusive list; but as a part of an open ended process of continuous improvement.

- Student Chapter activities
- Virtual labs
- · Use of Working models/Animations/ Miniprojects/PPTs/Charts/ CASE studies
- · Online teaching and learning resources on Microsoft Teams/ Google Classrooms
- E content on YouTube
- · Classroom quiz sessions
- · Project-Based Learning
- Students Symposium
- · Cutting-edge initiative
- Student Chapter activities: The department has following professional chapters which provides a good platform for the students to take active part in the various competitions, seminars and lectures arranged by the society. The activities help the students to showcase their talents in terms for team building, communications skills, team work, target work and overall development in professional activities. One faculty advisor is associated with each student chapter for mentoring, guidance and overall governance.
 - SAEINDIA collegiate club
 - ISHRAE Club
 - · IMechE Student Chapter
 - · Fluid Power Society of India Club
 - Institution of Engineers Club
 - · TRIZ Chapter



Fig. B 5.5.1 Various Chapter Activities

Outcomes:

- Students get exposure to design and build an off-road vehicle that will survive severe punishment of rough terrain and in some competitions, water, and compete at national/internations level under the guidance of faculty advisor.
- As in real work situations, these future engineers work together as a team to discover and resolve technical challenges in design, test, and manufacturing, as well as business issues.
- · Enhancement of presentation skills and learning by participation in various events organized by student chapeters at various level.

2. Virtual labs: In certain labs like the dynamics of machinery lab, some relevant experiments are conducted online on web browsers with the help of simulators. Such online facilities are called as virtual labs (http://www.vlab.co.in/), and are a part of an excellent innovative taken by the MHRD of India.

Outcome :

- · Remote-access to simulation-based Labs in various disciplines of Science and Engineering.
- Use of virtual labs enthuse students to conduct experiments by arousing their curiosity. This would help them in learning basic and advanced concepts through remote experimentation.
- It provides a complete Learning Management System around the Virtual Labs where the students/ teachers can avail the various tools for learning, including additional web-resources, video-lectures, animated demonstrations and self-evaluation.

3. Use of Working models/Animations/ Miniprojects/PPTs/Charts/3D Model/CASE studies :

In many relevant subjects, faculty encourage the students to make miniature working models of mechanisms and machine components. The faculty members also make use of cut sections as well as working models to enhance interest and level of learning.

• The department also has cut section of the engine parts which helps students to understand the concept in a better way. Some faculty members develop models as well as mini projects with the help of students. All the classrooms are well-equipped with high quality projectors ready for use any time.

initiative

• Each faculty has prepared powerpoint presentations which were extensively used in pandemic period for online teaching and learning. The extensive use of charts, animations and Case studies help the students to understand the concepts in easier way.



Fig B5.5.2 Various working models, Charts and miniprojects used by faculty members

Outcome:

- Working models and mini-projects enhances systems thinking abilities of the students. Models and model development are useful for helping students learn quantitative skills such as working, graphical analysis, visualization; and computational skills.
- · Animations, Charts and Case studies help students to understand and grasp the concept easily.

4. Online teaching and learning resources on Microsoft Teams/ Google Classrooms:

Lockdown due to COVID 19 pandemic did not stop teaching Learning process at AISSMS COE Pune. Systematic efforts were put for initiating and implementation of teaching with online mode. In the initial phase of the lockdown, ZOOM platform were used for conduction of webinars, and different teaching learning activities. Other platforms like Google classroom, whattsapp, telegram were also used.

From academic year 2020-21, institute started using Microsoft Team platform for online teaching. For individual faculty and student, MS team login credentials were generated. Individual faculty created team and channel for their assigned subject (Both theory and practical's) as per the class timetable. Unit wise tests and assignments were also conducted through MS team platform. Assessment of tests and assignments also was carried out through MS teams. Study material like subject notes, PPTs, e books, previous question papers were shared by faculty on MS team. Recorded videos on MS teams are also shared with students to compensate the academic loss of students because of power failure and internet connectivity failure. Overall, every effort was put by institute for smooth conduction of academics during this lockdown period.

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Fig B5.5.3 Resources shared with students on Microsoft Team platform

• Outcome:

- During the pandemic period, this methodology has helped students to interact and learn the subjects effectively.
- The platforms helped the students to get the study material, interact with the faculty, solve and submit assignments and enhance their thinking ability through the tests as well as quiz sessions conducted by almost every faculty member.
- 5. E content on YouTube: Faculty have also created their own YouTube Channels and Google drives wherein they upload study material relevant to their own subjects. The links are shared with the students and the contents are openly accessed by all students.

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Fig B5.5.4 Recorded Video Lectures prepared and shared with students on You-Tube platform

Some sample video lectures can be accessed by using following links:

Links: https://www.youtube.com/channel/UCxeUCDx2FjYWeeekpV6lU4w?app=desktop (https://www.youtube.com/channel/UCxeUCDx2FjYWeeekpV6lU4w? app=desktop)

https://www.youtube.com/channel/UCvtndEl2ng9KVxWbxr2L4Ag?app=desktop (https://www.youtube.com/channel/UCvtndEl2ng9KVxWbxr2L4Ag?app=desktop)

- Outcome :
 - This has helped students to learn and understand the course in a better and effective way.
 - The students can learn at their own pace and at own convenience apart from classroom learning. This provides students, the opportunity for self study.

6. Classroom quiz sessions: These help in creating interest by breaking monotony of regular classes while enhancing the learning experience.



Fig B5.5.5 Quiz on Robotics and Automation by MESA

Outcome: To enhance the skill of quick thinking and understanding the concepts.

7. Project-Based Learning

PBL has been introduced for SE students with the goal of motivating students to learn by working cooperatively in groups to solve a problem. PBL is a studentcentered pedagogy that employs a dynamic classroom approach in which students are believed to gain a deeper understanding through active exploration of real-world challenges and problems. Students gain knowledge about a subject by investigating and responding to a complex question, challenge, or problem over time. It is an inquiry-based and active learning style. Problem-based learning will also alter the role of the teacher as a mentor in the learning process.

Outcome :

• PBL activities develops a balanced, diverse approach to solving real-world problems of students as an individual and team.

8. Students Symposium:

The department conducts **Engineering Today (MECHPULSE)**, an annual national level student symposium, in the month of september every year to encourage the students organizing and participating in various events to enhance their skills. The institute also conducts **science exhibition** where the testing facilities and projects are exhibited to SE and TE students as well as students invited from nearby schools.



Fig B5.5.6 Science Exhibition



FigB5. 5.7 Engineering Today (Mech Pulse)

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Technical events results in enchancing technical, management and presentation skills as well as team spirit.

9. Cutting-edge initiative

Today's education system is rapidly evolving in order to introduce new teaching techniques and strategies that promote a culture of diversity and inclusion. Similarly, each teacher has a distinct teaching style. However, all teachers have the same goal of instilling love of learning in their students. Department have a few Cutting-edge initiatives as given below that use modern technology

- Avishkar
- Hackathon
- Ideathon
- National innovation context
- Startup & Innovation cell

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Mr. Milind Swami Assistant Professor, Faculty Mentor MiC Innovation Ambassador AISSMS COE Pune	• Regards • Dr. B. D. Bachchhav HOD, Mechanical Engineering Department	Dr. D. S. Bormane Principal, AISSMS COE Pune

Fig B5.5.8 Appreciation of Uleash Hackathon 2021 winner



Fig. B5.5.9 Winner of SMART INDIA HACKATHON (SIH) – 2019, Team AAROHAN, AISSMSCOE, Pune



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Outcome : (1) Students discover and develop their entrepreneurial skills, project ideas at national level.

(2) Students develop their skill and ability to present their research projects.

(3) Students get comprehensive learning environment.

5.6 Faculty as participants in Faculty development/training activities/STTPs (15)

Total Marks 15.00 Institute Marks : 15.00

Name of the faculty	Max 5 Per Faculty			
	2020-21 (CAYm1)	2019-20 (CAYm2)	2018-19 (CAYm3)	
Dr S V Chaitanya	5.00	5.00	5.00	

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Dr B D Bachchhav	5.00	5.00	5.00
Dr M R Phate	5.00	5.00	5.00
Dr D Y Dhande	5.00	5.00	5.00
Dr Mrs P S Gajjal	5.00	5.00	5.00
Dr M S Deshmukh	5.00	5.00	5.00
Dr A V Waghmare	5.00	0.00	0.00
Dr S H Wankhade	5.00	5.00	5.00
Dr C S Choudhari	5.00	5.00	5.00
Dr S R Patil	5.00	5.00	5.00
Mr P V Deshmukh	5.00	5.00	5.00
Mr R A Marne	5.00	5.00	5.00
Dr C S Dharankar	5.00	5.00	5.00
Dr S J Navale	5.00	5.00	5.00
Mr M U Gan	5.00	5.00	5.00
Mr P S Aglawe	5.00	5.00	5.00
Mr O A More	5.00	5.00	5.00
Mrs A A Tonde	5.00	5.00	5.00
Mr M S Swami	5.00	5.00	5.00
Mr G P Lohar	5.00	5.00	5.00
Mrs M P Shah	5.00	5.00	5.00
Dr M R Dahake	5.00	5.00	5.00
Mr M P Bauskar	5.00	5.00	5.00
Mr N N Gotkhindikar	5.00	5.00	5.00
Dr M M Sayyad	5.00	5.00	5.00
Mr P V Amte	0.00	5.00	5.00
Mr G B Narkhade	0.00	0.00	5.00
Mr A R Takalkar	0.00	5.00	5.00
Mr V S Wagare	5.00	5.00	5.00
Mr K L Kumbhar	5.00	5.00	5.00
Mr S S Vadgeri	5.00	5.00	5.00
Mr D S Mane	5.00	5.00	5.00
Mrs S S Patil	5.00	5.00	5.00
Mr M M Patunkar	0.00	0.00	5.00
Mr K S Kolmbe	0.00	0.00	5.00
Sum	150.00	155.00	170.00

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RF = Number of Faculty required to comply with 20:1 Student Faculty Ratioas per 5.1	30.60	34.30	33.55
Assessment [3*(Sum / 0.5RF)]	29.41	27.11	30.40

Average assessment over 3 years: 28.97

5.7 Research and Development (30)

5.7.1 Academic Research (10)

(a) Research papers in referred/ SCI indexed journals :

Sr.	Name of the Otoff	CAY	CAYm1	CAY m2
No.	Name of the Staff	(2021-22)	(2020-21)	(2019-20)
1	Dr B D Bachchhav	3	4	6
2	Dr M R Phate	7	9	6
3	Dr P S Gajjal	5	4	3
4	Dr.S.H.Wankhade	2	1	0
5	Dr D Y Dhande	8	3	2
6	Dr M S Deshmukh	7	7	16
7	Dr C S Choudhari	4	1	1
8	Dr. S.V.Chaitanya	2	1	3
9	Dr. S.R.Patil	0	0	2
10	Dr. M R Dahake	1	1	0
11	Prof M P Bauskar	0	1	1
12	Prof S S Vadgeri	0	0	2
	Total	34	32	42

List of Publications :

		CAY 2021-22		
0	SN Title of paper	Author	Name of journal	
	Complex assembly Analysis for Geometric and Dimensional Tolerance to obtain selective assembly from partitioned bins using a multi- objective approach to control clearance variation of IC Engine	Shrikant Chaitanya*, Dinesh Y Dhande, A K Jeevanantham	Journal of The Institution of Engineers (India): Series C (https://link.springer.com/journal/40032)	
	2. Wear behavior of environment friendly trimethylolpropane trifoliate- based lubricant",	Bachchhav, B.D. (https://www.emerald.com/insight/search? q=Bhanudas%20Dattatraya%20Bachchhav) and Kathamore, P.S. (https://www.emerald.com/insight/search? q=Pramod%20Shivaji%20Kathamore)	Industrial Lubrication and Tribology (https://www.emerald.com/insight/publication/issn/0036-8792), Vol. ahead- print No. ahead-of-print. https://doi.org/10.1108/ILT-12-2021-0469 (https://doi.org/10.1108/ILT-12-20 0469)	
	Tribological investigations of 3. trimethylolpropane trioleate bio-based lubricants	Kathamore, P.S. (https://www.emerald.com/insight/search? q=Pramod%20S.%20Kathamore) and Bachchhav, B.D. (https://www.emerald.com/insight/search? q=Bhanudas%20D.%20Bachchhav)	Industrial Lubrication and Tribology (https://www.emerald.com/insight/publication/issn/0036-8792), October 2021:Vol. 73 No. 7, pp. 1074-1083. https://doi.org/10.1108/ILT-05-2021-01 (https://doi.org/10.1108/ILT-05-2021-0157)	

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4.	Tribological Performance of Copper-Titanium Alloy under Dry Sliding Contact	Bachchhav, B.D. (https://www.emerald.com/insight/search? q=Bhanudas%20D.%20Bachchhav) and Bagchi H. (2021)	Materials Performance and Characterization, Vol 10, no. 1 (2021): 739–75(https://doi.org/10.1520/MPC20200177 (https://doi.org/10.1520/MPC202001
5.	Analysis of Seat to Head Transmissibility of the Seated Human Body using Artificial Neural Network	Phate, M.R., Gaikwad, P.P. & Toney, S.B.	J. Inst. Eng. India Ser. C (2022). https://doi.org/10.1007/s40032-022-0081
6.	Multiresponse optimization and analysis of Al/B4Cp EDM using Grey Relational Analysis	Phate, M., Toney, S., Phate, V. et al.	Journal of Mechanical Engineering, Vol 19 (1), 39-55 (2022)
7.	Multi-Response Optimization of Al/GrCp10 MMC Performance in WEDM Using Integrated TOPSIS-ANFIS Approach	Phate, M., Toney, S., Phate, V. et al.	J. Inst. Eng. India Ser. D (2021). https://doi.org/10.1007/s40033-021-00302
8.	Development of Artificial Neural Network to predict performance of Spark Ignition Engine fueled with waste pomegranate ethanol blends	Dhande, D.Y*., Gaikwad D P, Choudhari C S.	Information Processing in Agriculture
9.	Video Summarization Using Deep Learning for Cricket Highlights Generation.	Gaikwad, D*., Sarap, S., & Dhande, D. Y.	Journal of Scientific Research, 14(2), 533–544.
10.	Prediction of spark ignition engine performance with bioethanol- gasoline mixes using a multilayer perception model	Dhande, D.Y*., Gaikwad D P, Choudhari C S, Sinaga, N. & Dahe, K.B.	Petroleum Science and Technology(2022) https://doi.org/10.1080/10916466.2022.2025832 (https://doi.org/10.1080/10916466.2022.2025832) .
11.	Evaluation of Emission Characteristics and Performance of Pomegranate Ethanol Blended S. I. Engine using Artificial Neural Network and Rule Learner Classifier	Dhande, D.Y*., Gaikwad D P, Choudhari C S.	Journal of The Institution of Engineers (India): Series (https://link.springer.com/journal/40032)A (2022)
12.	Experimental Investigation of Spark Ignition Engine Performance Fuelled with various Pomegranate Ethanol-Gasoline Mixtures	Dhande, D.Y., Sinaga, N. & Dahe, K.B.	J. Inst. Eng. India Ser. C (2021). https://doi.org/10.1007/s40032-021-00790
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13	Extraction of bioethanol from waste pomegranate fruits as a potential feedstock and its blending effects on a performance of a single cylinder SI engine	Dhande D.Y., Nighot D.V., Nazaruddin Sinaga, Kiran B. Dahe	Renewable and Sustainable Energy Reviews (https://www.sciencedirect.com/science/journal/13640321), 149 (https://www.sciencedirect.com/science/journal/13640321/149/supp/C), Oc 2021, 111349, https://doi.org/10.1016/j.rser.2021.111349 (https://doi.org/10.1016/j.rser.2021.111349)
14	A novel tuned ant lion-grey relational dry sintered bearing for bore application.	Gajjal, P., Lathkar, G.S.	J Braz. Soc. Mech. Sci. Eng. 44, 238 (2022). https://doi.org/10.1007/s4043 022-03521-y
15	Optimisation using Taguchi of PEEK material in dry sliding,	Priya Gajjal, Shekhar Gajjal,	Materials Today: Proceedings, Volume 55, Part 2, 2022, Pages 419-424, https://doi.org/10.1016/j.matpr.2022.01.358.
16	Fault diagnosis in an optimized rolling bearing using an intelligent approach.	Gajjal, P., Lathkar, G.S.	Arch Appl Mech (2022). https://doi.org/10.1007/s00419-022-02134-0
17	Mathematical Model of Planetary Gear Train for Geared Rotary Actuator	P S Gajjal, Yadnik Kude	International Journal of Mechanical Engineering, Vol. 7 No. 4 April, 2022, P 619 – 624, ISSN: 0974-5823
18	Experimental Investigation on Hip Implant Materials Development through Analytical and Finite Element Analysis: 3D Modelled Computed Tomography	Shailesh Pimpale, Manish Deshmukh ,Rajesh Shelke,Dheeraj Deshmukh	Biointerface Research in Applied Chemistry (https://biointerfaceresearch.com/)Volume 12, Issue 3, 2022, 4103 - 4125 https://doi.org/10.33263/BRIAC123.41034125
19	Biomaterial Properties of Femur Implant on Acetabulum Erosion: A Review	Pimpale, S. S., Deshmukh, M. S., Shelke, R. T., & Deshmukh, D. S. (2021)	Journal of Biomimetics, Biomaterials and Biomedical Engineering, 51, 39–6 https://doi.org/10.4028/www.scientific.net/jbbbe.51.39
20	Experimental investigation of thermoelectric generator system	Solanki, P. M., Deshmukh, D. S., Diware, V. R., & Deshmukh, M. S. (2021)	Materials Today: Proceedings, 47, 3012–3017. https://doi.org/10.1016/j.matpr.2021.05.478
21	Investigation of the Exhaust Discharger System to Reduce Backpressure on the Single Cylinder C. I. Engine	Manish S Deshmukh, Atul Patil, Dheeraj S Deshmukh (2021)	Turkish Online Journal of Qualitative Inquiry (TOJQI)Volume 12, Issue 10, October 2021: 213-227

2	Optimization Technique Focused on Back- Pressure Production Occurrences of Fixed 4-Stroke Diesel Generator using ANN & DA Modeling	Manish S Deshmukh, Dheeraj S Deshmukh (2021)	Turkish Online Journal of Qualitative Inquiry (TOJQI)Volume 12, Issue 10, October2021: 194-212
2	Design and fatigue analysis of welded tee-joint of a thin walled tube using ANSYS workbench	Manish Deshmukh, Ganesh Awchat	International Journal of Mechanical Engineering Vol. 7 No. 1 , 2022
2	Development of an IOT-Based Solar Banana Dryer Monitoring and Control System	Pandit. S. Patil, *, Dilip R. Pangavhane, Sanjay P. Shekhawat, Dr Dheeraj S. Deshmukh and Dr M S Deshmukh	International Journal of Mechanical Engineering Vol. 7 No. 1 , 2022
2	Heat Transfer Through Porous Materials (Aluminum Foam) Empirical Optimization of a Heat Exchanger	Dr. B. S. Bhaskar, Dr. M. S. Deshmukh, Dr. S.K. Choudhary, Dr. D. S. Deshmukh	International Journal of Mechanical Engineering Vol. 7 No. 1 , 2022
2	Experimental Investigation of Modified Solar 6.system with Copper Box Substituting absorber.	Atul A. Patil, M. S. Deshmukh, D. S. Deshmukh	International Journal of Mechanical Engineering Vol. 7 No. 1 , 2022
2	Technology Involving Absorption Refrigeration Run by Solar Energy: A Review	Dr. Manish S. Deshmukh, Sudarshan S. Shinde	Design Engineering Vol 2021: Issue 09, 1970- 1980
2	Evaluation of Success Factors in Professional Business Incubation	Nitin Shekapure Sandeep Wankhade Vipin Gawai Swati Shekapure	Journal of Optoelectronics Laser,volume 41 Issue 8, 2022
2	9. Betecting Chest Diseases	Nitin Shekapure Sandeep Wankhade Vipin Gawai Swati Shekapure Sachin Kallurkar	Journal of Optoelectronics Laser,volume 41 Issue 8, 2022
-	Smart Technologies to Mitigate and Manage The Pandemic: Today and Tomorrow.	Choudhari C S*, Dhande D Y	SAMRIDDHI: A Journal of Physical Sciences, Engineering and Technology 25Dec.2021, 13(02):82-6.
E C	Experimental Study on CNG Engine with ^{1.} Different Ventury Configuration	M.R.Dahake (https://www.sciencedirect.com/science/article/pii/S2214785321066864#!) S.E.Patil (https://www.sciencedirect.com/science/article/pii/S2214785321066864#!)	Materials Today Proceedings, Volume 55, Part 2 (https://www.sciencedirect.com/journal/materials-today- proceedings/vol/55/part/P2), 2022, Pages 388-393
		CAYm	1 2020-21
S	N Title of paper	Author	Name of journal
1	Drilling of High Volume Fraction . Al2O3 Metal Matrix Composites	B. D. Bachchhav, S. Salunkhe, and V. Naranje	Materials Performance and Characterization 10, no. 1 (2021): 317-327.
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2	Grade classification of bio-based lube oil by multi-attribute decision making methods	Pramod S.Kathamore, B.D.Bachchhav	Materials Today: Proceedings,
3.	Effect of surface roughness on friction and lubrication regimes	B.D. Bachchhav, H. Bagchi	Materials Today: Proceedings,
4.	Effect of high volume fraction reinforcement on electro-discharge machining of Al- Al2O3 MMC	B.D. Bachchhav, Vishal Naranje	Materials Today: Proceedings,
5.	Response Surface Modelling and Effective Application of Adaptive Neuro- Fuzzy Inference System to Analyze Surface Roughness of Al/Gr/Cp5 MMC Machined using WEDM	Mangesh Phate, Shraddha Toney & Vikas Phate	Australian Journal of Mechanical Engineering, DOI: 10.1080/14484846.2021.1913852 (https://doi.org/10.1080/14484846.2021.1913852)
6.	Prediction and optimization of tool wear rate during electric discharge machining of AI/Cu/Ni alloy using adaptive neuro-fuzzy inference system,	Mangesh Phate, Aditya Bendale, Shraddha Toney, Vikas Phate	Heliyon, Volume 6, Issue 10,e05308, https://doi.org/10.1016/j.heliyon.2020.e05308.
7.	Multi-parametric Optimization of WEDM Using Artificial Neural Network (ANN)- Based PCA for Al/SiCp MMC.	Phate, M.R., Toney, S.B. & Phate, V.R.	J. Inst. Eng. India Ser. C 102, 169–181 (2021). https://doi.org/10.1007/s40(020-00615-1
8.	Modelling and investigating the impact of EDM parameters on surface roughness in EDM of Al/Cu/Ni Alloy	Mangesh Phate, Shraddha Toney & Vikas Phate	Australian Journal of Mechanical Engineering, DOI: 10.1080/14484846.2020.1790478 (https://doi.org/10.1080/14484846.2020.1790478)
9.	Modelling and critical analysis of material removal rate in WEDM of Oil Hardening Non Shrinking Die Steel (OHNS).	Phate, M., Toney, S., & Phate, V.	Engineering and Applied Science Research, 47(3), 264-274. https://ph01.tc thaijo.org/index.php/easr/article/view/228031
10	Optimistic Implementation of Supply Chain Management in Small & Medium Enterprise: Approach using Grey Relational Analysis (GRA).	Phate M, Toney S, Phate V.	IJIEPR. 2021; 32 (1) :65-77 DOI: 10.22068/ijiepr.32.1.65

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1	Investigation on the Impact of of Silicon Carbide and Process Parameters on Wire Cut-EDM of Al/SiCp MMC	Phate M, Toney S, Phate V.	IJIEPR. 2020; 31 (2) :177-187 DOI: 10.22068/ijiepr.31.2.177
1	Comparative Analysis of Abrasive Wear Using Response Surface Method and Artificial Neural Network. (2021).	Dhande, D.Y., Phate, M.R. & Sinaga, N.	J. Inst. Eng. India Ser. D, https://doi.org/10.1007/s40033-021-00250-9
1	The study of performance and emission characteristics of a 3. spark ignition (SI) engine fuelled with different blends of pomegranate ethanol.	Dhande, D.Y., Sinaga, N. & Dahe, K.B.	Int J Energy Environ Eng. https://doi.org/10.1007/s40095-020-00372-y
1	Study on combustion, performance and exhaust emissions 4. of bioethanol- gasoline blended spark ignition engine,	D.Y. Dhande, Nazaruddin Sinaga, Kiran B. Dahe	Heliyon, Volume 7, Issue 3, 2021,e06380, https://doi.org/10.1016/j.heliyon.2021.e06380.
1	Wear behavior of sintered bearings 5. using additives in dry sliding,	P.S. Gajjal, G.S. Lathkar,	Materials Today: Proceedings, Volume 46, Part 7, 2021, Pages 2483-2488, https://doi.org/10.1016/j.matpr.2021.01.413.
1	Performance evaluation of EN24 for 6. planetary gear transmission of CNC bending machine	Dhanvij, N. H.; Gawande, S. H.; Gajjal, P. S.	Journal of the Brazilian Society of Mechanical Sciences and Engineering, 42(6), 298–. doi:10.1007/s40430-020-02392-5
1	Enhancing User Experience for Computer Aided Design packages through Artificial Intelligence	Sachin S Kallurkar Prasad R Baviskar Sandeep H Wankhade	Design Engineering (Toronto), 2021
1	Experimental investigation of performance and emissions of CRDI diesel engine in dual fuel mode by hydrogen induction and diesel injection coupled with exhaust gas recirculation	M.R.Dahake (https://www.sciencedirect.com/science/article/pii/S221478532101806X#!) Dr.N.Malkhede (https://www.sciencedirect.com/science/article/pii/S221478532101806X#!)	Materials Today Proceedings,Volume 46, Part 7 (https://www.sciencedirect.com/journal/materials-today- proceedings/vol/46/part/P7), 2021, Pages 2814-2819
0	N Title of paper	CAYm2	AT 2019-20 Name of journal
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1.	A new approach to control assembly variation in Selective assembly using Hierarchical Clustering.	Dr S V Chaitanya	System Reliability, Quality Control, Safety, Maintenance and Management. ICRRM 2019. Springer
2.	Performance of Additives Concerning Synergistic Effect in Lube Oil	Pramod S. Kathmore, Bhanudas D. Bachchhav, Harijan H. Bagchi	International Journal of Engineering and Advanced Technology, Vol: 9, Issu pp. 1874-1878. February 2020.
3.	Friction and Wear Characteristics of Rubber Resin- Bonded Metallic Brake Pad Materials, Vol: 8, Issue: 6, (August 2019), pp. 1312- 1316.	Kishor N. Hendre, Bhanudas D. Bachchhav	International Journal of Engineering and Advanced Technology (IJEAT)
4.	"Frictional Characteristics of Brake Pad Materials Alternate to Asbestos", Vol: 9, Issue: 2, (December 2019), pp. 694-698.	K.N. Hendre, B. D. Bachchhav, H. H. Bagchi.	International Journal of Engineering and Advanced Technology (IJEAT),
5.	Bio-based Lubricant Selection for Metal Cutting Operations Using MADM Technique, Vol. 9, Issue 6, Dec 2019, 845–858.	Kathmore P. S; Bachchhav B. D	International Journal of Mechanical and Production Engineering Research Development (IJMPERD)
6.	Experimental Study of Hydrocarbon R290 in Water Cooler refrigeration System	C S Choudhari, S N Sapali	Journal of thermal Engineering, Vol.6, No. 1, pp. 43-49, January, 2020,
7.	Performance evaluation of EN24 for planetary gear transmission of CNC bending machine.	Dhanvij, N.H., Gawande, S.H. & Gajjal, P.S.	J Braz. Soc. Mech. Sci. Eng. 42, 298 https://doi.org/10.1007/s40430-020- 02392-5
8.	Study of aerodynamic drag of sports utility vehicle by experimental and numerical method	Bauskar M .P., Dhande, D.Y., Vadgeri S. S., Patil, S.R.	Materials Today: Proceedings (Elsevier),
9.	Implementation of CFD–FSI Technique Coupled with Response Surface Optimization method for Analysis of Three- Lobe Hydrodynamic Journal Bearing	Dr D Y Dhande, Langewar G H & Pande D W	Journal of The Institution of Engineers (India): Series C

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Tribological Parametric 10.Influence of Dry Sintered Iron Bearings	Dr P S Gajjal	Journal of Emerging Technologies and Innovative Research
Wear Model of Dry Sintered Bearing 11 Material by Dimensional Analysis	Dr P S Gajjal	Journal of Emerging Technologies and Innovative Research
Experimental investigation of forming 12.parameters for square cup deep drawing process	C S Choudhari, S S Khasbage	Materials Today: Proceedings (Elsevier), Volume 44, Part 6 (https://www.sciencedirect.com/journal/materials-today- proceedings/vol/44/part/P6), 2021, Pages 4261-4267
Stress Analysis of Carbon Fiber Reinforced 13. Composite Laminate with Different Centrally Located Cutouts	Vadgeri S. S., Patil S. R.	Materials Today: Proceedings (Elsevier),
Finite element analysis comparison of spur gears 14. between standard tooth profile and modified profile", ,volume 6 ,Issue 9, Sept 2019	Ajinkya Mali, Rahul Marne	International Research Journal of Engineering and Technology,(IRJET)
Comparative evaluation of machining 15. performance of inconel 625 under dry and cryogenic cutting conditions 810	S S Vadgeri	IOP Conference Series: Materials Science and Engineering, (2020) 012036

(b) Number of books/book chapter published:

	CAY 2021-22				
SN	Title of Book	Author	Name of Publisher	ISBN /ISSN	
1.	Experimental Exploration of Effect of Hydrogen Enrichment on the Performance and Emissions of Dual Fuel Diesel Engine Equipped with CRDI by Varying Injection Duration. In: Kumar, R., Pandey, A.K., Sharma, R.K., Norkey, G. (eds) Recent Trends in Thermal Engineering. Lecture Notes in Mechanical Engineering.	Dahake, M.R., Malkhede, D.N. (2022).	Springer, Singapore. https://doi.org/10.1007/978- 981-16-3132-0_2	978-981-16- 3131-3	
2.	Investigations of Wear Behavior of Journal Bearing Materials. In: Dubey, A.K., Sachdeva, A., Mehta, M. (eds) Recent Trends in Industrial and Production Engineering. Lecture Notes in Mechanical Engineering.	Gajjal, P., Gajjal, S. (2022).	Springer, Singapore. https://doi.org/10.1007/978- 981-16-3135-1_15	978-981-16- 3134-4	
CAYm1 2020-21					
SN	Title of Book	Author	Name of Publisher	ISBN /ISSN	

Advances in Manufacturing Processes. Lecture Notes in Mechanical Engineering. Sankar A.R., Salunkhe S., Bachchhav B.D., 2021) Springer. Singapore. Bit 1-5-9117-4_28 Fringer. Singapore. Bit 1-5-9117-4_28 2. Tribological Behaviour of Bronze and Plastic Material Dr. P. S. Gaijal 2020) Lambert Publications. Dept of Higher Education, MRD Springer Nature Singapore. Bit 1-5-9117-4_28 Springer Nature Singapore. Bit 1-5-911 Springer Singapore. Bit 1-5-911					
2. Tribological Behaviour of Bronze and Plastic Material Dr. P. S. Gajjal (2020) Lambert Publications, Derg of Higher Education, MHRD 5. 3. Mechanical Processing and Design: Lecture notes in Behaviour of Tin-Based Dry Bearing Material Dr. P. S. Gajjal (2020) Springer Nature Singapore Pte Ltd. 2021 978 4. Mechanical Engineering : Use of Sustaineering: Lecture notes in Behaviour of Tin-Based Dry Bearing Material Dr. B. D Bachchhav Springer Nature Singapore Pte Ltd. 2021 978 5. FLUID MECHANICS (Second Year (SE) Mechanical Engineering - Semester 2), SPPU Pune Dr. S. V. Chaitanya, Dr. N. Bhoomkar, Semester 2), SPPU Pune Dr. S. V. Chaitanya, Dr. N. Bhoomkar, Springer, Singapore, Patil, S., Makhede, D. 2021). Springer, Singapore, https://doi.org/10.1007/076. 981 Prin Bat-15-77779-6_11 Prin Bat-15-77779-6_11 Waar Behavior of Polyterraing Design, Lecture Notes in Mechanical Engineering. Cajjal, P., Gajjal, S. Y. (2021). Springer, Singapore, https://doi.org/10.1007/076. 981 Prin Bat-33-4684-0_75 CAYm2 2019-20 N Title of Book Author Name of Publisher Springer, Singapore, https://doi.org/10.1007/076. 978 Springer Nature Springer Nature 978 Stride of Book Author Name of Publisher Springer, Singapore, https://doi.org/10.1007/076. 971 Stride of Book Author Name of Publisher Springer, Singapore, https://doi.org/10.1007/076. 978 S	Print: 978-981- 15-9116-7 10.1007/978- 28 981-15-917-4				
Advances in Mechanical Processing and Design: Lecture notes in Mechanical Engineering: Tibo- Behaviour of Tin-Based Dry Bearing Material Dr. P. S Gajjal (2020) Springer Nature Singapore Pte Ltd. 2021 Advances in Manufacturing Systems: Lecture notes in 4. Mechanical Engineering : Use of Sustainable Practices in Cement Production Industry: A Case Study. Dr. B. D Bachchhav Springer Nature Singapore Pte Ltd. 2021 976 FLUID MECHANICS (Second Verr Sustainable Practices in Cement Production Industry: A Case Study. Dr. S. V. M. M. Bhoomkar, Nirail Publications, Pune ISB 976 FLUID MECHANICS (Second Verr Semester 2), SPPU Pune M. S. Kore, G. S. Kondhalkar Springer, Singapore. https://doi.org/10.1007/978- 981 Print 981-15-77779-6_11 Print 981-15-7779-6_11 Various Compression Ratics In: Processing and Design. Lecture Notes in Mechanical Processing and Design. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978- 981 Print 981-15-7779-6_11 Wear Behavior of Polytering Design. Lecture Notes In Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978- 981 Springer, Singapore. https://doi.org/10.1007/978- 981 Syninger Nature Springer Nature Springer Nature Springer Nature Sortening Origanic brake pad materials using MADM Technique Indeligent Lechniques Springer, Singapore. Springer, Singapore. N Title of Book Author Name of Publisher Springer, Singapore. 1 CAVm2 2018-20 Springer,	ations, Dept ation, 9-0				
Advances in Manufacturing Systems: Lecture notes in Mechanical Engineering Use of Sustainable Practices in Cement Production Industry: A Case Study. Dr B D Bachchhav Springer Nature Singapore Pte Ltd. 2021 978 5. FLUID MECHANICS (Second Year Chaitanya, Dr. Semester 2), SPPU Pune Dr, S. V. Chaitanya, Dr. S. Kore, G. S. Kondhalkar N. Bhoomkar, Nirall Publications, Pune ISB 978 6. Springer, Singapore. Semester 2), SPPU Pune M. S. Kore, G. S. Kondhalkar Springer, Singapore. Patil, S., Malkhede, D. 2021). Prin 981-15-7779-6_11 Prin 981-15-7779-6_11 7. Various Compression Ratios. In: Processing and Design. Lecture Notes in Mechanical Engineering. Dahake, M., Patil, S., Malkhede, D. 2021). Springer, Singapore. 1007/976-981 Prin 981-15-7779-6_11 7. Joshi, P., Gupta, S.S., Kots) Advances in Engineering Design. Lecture Notes in Mechanical Engineering. Springer, Singapore. 103-4684-0_75 Prin 981-33-4684-0_75 8N Title of Book Author Name of Publisher ISB 36rcening Of organic brake pad materials using MADM Technique: 1. Computing, Vol. 949, : Advanced Engineering Optimization Through Intelligent Techniques Dr B D 36rdigal Springer Nature 978 378 7. CuRRM 2019 – System Reliability, Quality Control, Safety, Material Chaitanya S.V., Quality Control, Safety, Material Prin CaYma 2018-19 Shekhar Gajjal Shekhar Gajjal LAP Lambert Academic Publi	e Singapore 978-981-15- 7778-9				
FLUID MECHANICS (Second Year Semester 2), SPPU Pune Dr. S. V. Chaitanya , Dr. M. Bhoomkar, Nirall Publications, Pune ISB 5. (SE) Mechanical Engineering - Semester 2), SPPU Pune M. Bhoomkar, Nirall Publications, Pune ISB Functional Experimental Investigation of Performance and Emissions of Single-Cylinder Diesel Engine Part, P., Mistra, S.K., Mishra, P.C. (eds) Advances in Mechanical Processing and Design Lecture Notes in Mechanical Engineering. Dahake, M., Patil, S., Malkhede, D. (2021). Springer, Singapore. Springer, Singapore. Springer, Singapore. Springer, Singapore. Springer, Singapore. Mean S.S. (eds) Advances in Engineering Design. Lecture Notes in Mechanical Engineering. Springer, Singapore. Springer, Singapore. Springer, Singapore. Springer, Singapore. Springer, Singapore. Springer, Singapore. Springer, Singapore. Springer, Singapore. Springer, Singapore. Springer, Singapore. Prin Springer, Singapore. Springer, Singapore. Springer, Singapore. Springer, Singapore. Prin Springer, Singapore. Springer, Singapore. Prin Springer, Singapore. CAVm2 2019-20 SN Title of Book Author Name of Publisher Springer Nature Springer Nature Springer, Singapore. 978 1. Computing, Vol. 949; Advanced Engineering Optimization Through Intelligent Techniques Dr B D Bachchhav Springer, Singapore. 978 2. Carter of Dry Sintered Material Priya Gajjal Shekhar Gajjal Shekhar Gajjal LAP Lambert Academic Publisher 978 3. Title of Book Author Name of Publisher <t< td=""><td>e Singapore 978-981-33- 4465-5</td></t<>	e Singapore 978-981-33- 4465-5				
Experimental Investigation of Performance and Emissions of Single-Cylinder Diesel Engine Enriched by Hydroxy Gas for Dahake, M., Patil, S., Malkhede, D. (2021). Springer, Singapore. https://doi.org/10.1007/978- 981 6. Warious Compression Ratios. In: Pant, P., Mishra, S.K., Mishra, P.C. (eds) Advances in Mechanical Processing and Design. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978- 981-15-7779-6_11 Wear Behavior of Polytetrafluoroethylene and Its Composites in Dry Conditions. In: Dashi, P., Gupta, S.S., Shukla, A.K., Gautam, S.S. (eds) Advances in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978- 981-33-4684-0_75 XAVM2 2019-20 SN Title of Book Author Name of Publisher ISB 978 Screening of organic brake pad materials using MADM Technique: Indeligent Techniques Dr B D Bachchhav Springer Nature 978 819 1. CorRM 2019 – System Reliability, Quality Control, Safety, 2. Chaitanya S.V. Jeevanantham A.K. Springer, Singapore. 11- 941 3. Title of Book Author Name of Publishing 978 941 3. Title of Book Author Springer, Singapore. 978 941 3. Title of Book Author Name of Publishing 978 941 3. Title of Book Author Springer, Singapore. 978 941<	ISBN: ons, Pune 9789354510526				
Wear Behavior of Polytetrafluoroethylene and Its Composites in Dry Conditions. In: Joshi, P., Gupta, S.S., Shukla, A.K., Gautam, S.S. (eds) Advances in Engineering Design. Lecture Notes in Mechanical Engineering. Springer, Singapore. SY. (2021). Prin Struss.//doi.org/10.1007/978- 981-33-4684-0_75 CAYm2 2019-20 SN Title of Book Author Name of Publisher SB Screening of organic brake pad materials using MADM Technique: 1. Advances in Intelligent Syst., Computing, Vol. 949, : Advanced Engineering Optimization Through Intelligent Techniques Dr B D Bachchhav Springer Nature 978 819 IcRRM 2019 – System Reliability, Quality Control, Safety, 8. Chaitanya S.V., Jeevanantham A.K. Springer, Singapore. 978 944 Sn Title of Book Author Name of Publisher 978 941 Springer, Singapore. 978 941 978 941 Carym3 2018-19 Springer, Singapore. 978 949 Sn Title of Book Author Name of Publisher 978 941 Sn Title of Book Author Name of Publisher 978 949 Sn Title of Book Author Name of Publisher 978 949 Sn Title of Book Author Name of Publisher 158N 978-6 Sn Title of Boo	apore. Print ISBN978- 10.1007/978- ⁹⁸¹⁻¹⁵⁻⁷⁷⁷⁸⁻⁹ _11				
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Screening of organic brake pad materials using MADM Technique: Advances in Intelligent Syst., Computing, Vol. 949, : Advanced Engineering Optimization Through Intelligent Techniques Dr B D Bachchhav Springer Nature 978 819 Image: Computing, Vol. 949, : Advanced Engineering Optimization Through Intelligent Techniques Dr B D Bachchhav Springer Nature 978 819 Image: Computing, Vol. 949, : Advanced Engineering Optimization Through Intelligent Techniques Chaitanya S.V., Jeevanantham A.K. Springer, Singapore. Priva 13-4 Image: Computing Control, Safety, Quality Control, Safety, Maintenance and Management. Chaitanya S.V., Jeevanantham A.K. Springer, Singapore. Priva 978 978 Image: Computing Control, Safety, Material Priya Gajjal Shekhar Gajjal LAP Lambert Academic Publishing 978 9449 Image: Computing Control, Safety, Material Priya Gajjal Shekhar Gajjal LAP Lambert Academic Publishing 978 9449 Image: Computing Control, Safety, Material Priya Gajjal Shekhar Gajjal LAP Lambert Academic Publisher 978 9449 Image: Computing Control, Safety, Maximum Cutting Force Condition In Lathe S S Vadgeri & S R Patil LAMBERT Publication, Germany ISBN : 978-6 8196-6 Image: Computing Control, Safety, Safety Dr. M R Phate LAMBERT Publication, S Pringer ISBN : 978- 90	isher ISBN /ISSN				
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SN Title of Book Author Name of Publisher ISBN 1. Experimental Investigation of Maximum Cutting Force Condition in Lathe S S Vadgeri & S R Patil LAMBERT Publication, Germany ISBN: 978-6 45019-0 2. Springer book series - AEOTIT 2018 Dr. B D Bachchhav Springer ISBN - 978- 8196-6 3. Fabrication of temperature control solar dryer Dr. M R Phate LAMBERT Publication, Control ISBN : 978- 0	CAYm3 2018-19				
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1. Experimental investigation of Maximum Cutting Force Condition in Lathe S S Vadgeri & S R Patil LAMBERT Publication, Germany SBN: 978-6 45019-0 2. Springer book series - AEOTIT 2018 Dr. B D Bachchhav Springer ISBN - 978- 8196-6 3. Fabrication of temperature control solar dryer Dr. M R Phate LAMBERT Publication, Bachchhav ISBN : 978- 0					
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3. Fabrication of temperature control Dr. M R Phate Publication, 0	ISBN - 978-9981-13- 8196-6				
Germany	ISBN : 978-613-999230- 0				

4.	WEDm performance analysis of AL/GR mmc using response surface method	Dr. M R Phate	LAMBERT Publication, Germany	ISBN : 978-613-999228- 7
5.	Operation Research	Dr. M R Phate	Sharp / Success	ISBN : 978-93-24457- 08-2

(c) Patents Published :

Sr No	Title of the patent	Indian/ Other	Investigator details	Date of filing of patent	Application No	Pr st
1	Hybrid Powered Mixed Garbage Disposal And Converter Unit	Indian	Dr M R Phate	10/09/2014	2879/MUM/ 2014	E
2	Kitchen Items Cleaning and Disinfecting Device using water and UV light	International Australian Patent	Dr M S Deshmukh	23/08/2020	2020101948	

(d) Copyrights :

S. N	Name of the Faculty	Diary Number	Work Title	Class of Work	Registration Date	Status
1.	Mr P V Deshmukh	L-109790/2021	Weighted Method for Calculation of CO ATTAINMENT	Literary/ Dramatic	28/12/2021	Registered
2.	Mr P V Deshmukh	L-108982/2021	Calculation of course outcome attainment level for student centric methods	Literary/ Dramatic	29/09/2021	Registered
3.	Dr P S Gajjal	L-105542/2021	Directional Approach Method	Literary/ Dramatic	16/07/2021	Registered
4.	Dr M R Phate	L-99333/2021	Easy and efficient CO PO mapping process for university affiliated engineering institutes	Literary/ Dramatic	11/02/2021	Registered
5.	Dr M R Phate	17759/2018-CO/L	Formulation Of Experimental Data Based Model For The Machining Process Using Dimensional Analysis Approach.	Literary/ Dramatic	7/2/2019	Registered
6.	Dr M R Phate	L-17759/2018	Critical Analysis Of Novel Fabricated Al/Sic/B4C Metal Matrix Composites Machining Performance.	Literary/ Dramatic	24/4/2019	Registered
7.	Dr M R Phate	L-2254/2019	Analysis Of 6-DOF Human Biodynamic Model For Seated Human Posture Using Artificial Neural Network.	Literary/ Dramatic	14/5/2019	Registered
8.	Dr M R Phate	L-3963/2019	Formulation Of Experimental Data Based Model For The Machining Process Using Artificial Neural network.	Literary/ Dramatic	10/9/2019	Registered
9.	Dr M S Deshmukh	L-14307/2019	New Mathematical model for the Diesel Exhaust Particulate Filter Efficiency	Literary/ Dramatic	24/12/2018	Registered

(e) (i) Number of PhDs in the department : 16

Sr No	Name of the Faculty	Year in which PhD completed
1	Dr M S Deshmukh	2012
2	Dr B D Bachchhav	2013

3	Dr M R Phate	2015
4	Dr P S Gajjal	2016
5	Dr S H Wankhade	2017
6	Dr C S Dharankar	2017
7	Dr A V Waghmare	2018
8	Dr D Y Dhande	2018
9	Dr S J Navale	2018
10	Dr M M Sayyad	2018
11	Dr C S Choudhari	2019
12	Dr S V Chaitanya	2019
13	Dr A M Ramteke	2021
14	Dr D S Malwad	2021
15	Dr M R Dahake	2022
16	Dr S R Patil	2022

(ii) Number of PhD awarded in assessment years : 03

Sr No	Name of the Faculty	Year in which PhD awarded
1	Dr C S Choudhari	2019
2	Dr S V Chaitanya	2019
3	Dr A M Ramteke	2021
4	Dr D S Malwad	2021
5	Dr. S R Patil	2022
6	Dr.M R Dahake	2022

(ii) Number of PhD pursuing : 03

Sr N	o Name of the Faculty	Name of the institute & University
1	Mr.P S Aglawe	COEP, Pune (SPPU)
2	Mr.M S Swami	AISSMS COE, Pune (SPPU)
3	Mrs. S S Patil	COEP, Pune (SPPU)
4	Mrs M P Shah	Indus University Ahmedabad, Gujarat
5	Mr Shahid Ali Ahemed	ICT Mumbai

(iii) Number of students admitted for PhD program:

Sr No	Academic Year	Number of students admitted
1	2019-20	04
2	2020-21	12
3	2021-22	05

5.7.2 Sponsored Research (5)

Institute Marks : 0.00

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2020-21 (CAYm1)

Project Title	Duration	Funding Agency	Amount
Onion Harvesting Machine under Unnat Bharat Abhiyan Scheme	1 year	MHRD, Unnat Bharat Abhiyan	100000.00
			Total Amount(X): 100000.00

2019-20 (CAYm2)

Project Title	Duration	Funding Agency	Amount
Tribological Performance Evaluation of Non Asbestos organic Brake Pad Materials	1 Year	IE(I) R&D Cell	25000.00
Wind Analysis of Canopy, Pitch-roof and Square Tall Building with Different Shape Using Wind Tunnel and CFD	1 Year	IE(I) R&D Cell	20000.00
Research Activities of SAE	1 Year	Cummins India Ltd	210000.00
			Total Amount(Y): 255000.00

2018-19 (CAYm3)

Project Title	Duration	Funding Agency	Amount

Cumulative Amount(X + Y + Z) = **5.7.3 Development Activities** (10)

Institute Marks : 10.00

• Product Development : A separate project lab displaying/exhibiting projects done by faculty as well as students.

(1) 3 D Printer: This setup is used for demonstration of 3 D printing technology to SE, TE and BE students. The facility is also utilised for manufacturing small parts required to build aeroplane model by SAE Aero design team of the college.



Fig. 5.9 3D Printer Setup

Research laboratories:

(1) PG & Research Computer Laboratory: The department has computer laboratory equppied with high performace computers and high end softwares like ANSYS, Altair Hyperworks, MSc ADAMS that can be utilised for research purpose.

(2)Test rigs developed by faculties can be used for further research by PhD as well as PG students.



Fig.5.10 Journal Bearing Test Rig

Instructional materials:

Faculty members have created Lab Manuals for each subject which help students to perform practicals during Laboratory hours.



Fig.5.11 Sample Lab Manual

· Working models & charts:

(1) The department has working models available for Theory of machine lab. Also relevant projects done by final year students are kept in the respective labs.

- (2) Charts prepared by faculty members are displayed in the respective laboratory.
- (3) Knowledge wall flex boards are displayed outside each laboratory.



Fig. 5.12 Wall Charts in Laboratories



Fig 5.13 Knowledge Wall

5.7.4 Consultancy(from Industry) (5)

Institute Marks :

2020-21 (CAYm1)

Project Title	Duration	Funding Agency	Amount

2019-20 (CAYm2)

Project Title	Duration	Funding Agency	Amount

2018-19 (CAYm3)

Project Title	Duration	Funding Agency	Amount

Cumulative Amount(X + Y + Z) =

5.8 Faculty Performance Appraisal and Development System (FPADS) (30)

Total Marks 30.00

Institute Marks : 30.00

The college has following appraisal and development schemes for faculty:

(1) Performance based appraisal scheme (PBAS): The college has well defined faculty appraisal system. The PBA from is designed and by IQAC of the institute as per the guidelines laid by UGC and AICTE.

The faculty is assessed on the basis of following criteria's:

(1) Teaching, Learning and evaluation activities (125 Marks)

(2) Co-curricular, Extension and Professional development related activities (50 Marks) and

(3) Research and Academic contributions (No limit)

The PBA form consists of various categories like teaching learning process, quality of tests and assignments, student feedback, results of previous three year, participation in professional body activities, staff and student development programs, academic achievements during that year, presentation and publication of papers in the national and international journals, participation of organization in co/extra-curricular activities, help extended to college administration, recognition, rewards received, research and consultation activity, interpersonal skills, mentor activity, loyalty and discipline etc. The category wise distribution of marks is as given in table below:

	MINIMUM APIs required for colleges other than polytechnic					
		Assistant Professor	Assistant Professor	Assistant Professor	Associate Professor	Professor
		AGP 6000	AGP 7000	AGP 8000	AGP 9000	AGP 10,000
I	Teaching- learning Evaluation Relate Activities (Category I)	75/Year	75/Year	75/Year	75/Year	75/Year
II	Co-Curricular Extension and Profession related activities (Category II)	15/Year	15/Year	15/Year	15/Year	15/Year
ш	Minimum total average annual Score under Categories I and II	100/Year	100/Year	100/Year	100/Year	100/Year
IV	Research and Academic Contribution (Category III)	5/Year	10/Year	15/Year	20/Year	25/Year

The faculty feedback is also collected from the students at mid and end of the semester. The feedback is assessed by Head of the department and appropriate feedback/suggestions are given to the faculty for the improvement.

Implementation:

- (1) PBA forms are submitted by each faculty member at the end of each semester.
- (2) The PBA forms are assessed by Head of the department and Principal as per the guidelines given by IQAC.
- (3) The faculty member discusses with head of the department as well as principal in case of any discrepancy before finalisation of PBA score.
- (4) IQAC identifies the faculty member with highest PBA score after verification of all documents and nominates the faculty member for best teacher award at society level.

Effectiveness:

The PBAS as resulted in following outcomes:

- (1) Improved use of ICT and innovative practices in teaching and learning
- (2) Improved research publications/copyrights and patents
- (3) Increased industrial visits as well as expert talks.
- (4) Improved participation in FDP/STTP/ Swayam/MOOC Courses.
- (5) Improved industry institute interactions and MoUs.
- (6) Improved consultancy work.

(2) Best Teacher award: The applications are invited from the faculty members are invited at the institute every year. The applications are scrutinised and assessed by the panel of experts/committee on the basis of academic performance, research activities and contribution at institute level. The top scoring faculty is awarded as best teacher with a Cash prize of Rs.50000/- and certificate.



Fig B5.8.1 Best Teacher (1st Rank) award to Dr M R Phate

(3) Recognition of Excellence award: The faculty members completing PhD and significant contribution in academics are awarded by the AISSMS Society every year conferring Recognition of excellence award with memento and certificate on the day of Shahu Jayanti.



Fig B5.8.2 Certificate of Recognition and Memento

Sr No	Name of the Faculty	Year
1.	Dr A V Waghmare	2018
2.	Dr D Y Dhande	2018
3.	Dr C S Dharankar	2018
4.	Dr S J Navale	2019
5.	Dr C S Choudhari	2019
6.	Dr S V Chaitanya	2019

(4) Module co-ordinators: The department has module coordinator system for improvement in academics. Seniors faculty members are assigned as a module coordinator. The module coordinator assess the course file of every faculty members in the module and give suggestions for the improvement. Following are the modules and module co-ordinators at department level:

Module	Name of the Module coordinator
Manufacturing	Dr B D Bachchhav
Decian Engineering	Brof B \/ Doobmukb
Thermal Engineering	Dr C S Choudhari
Allied	Dr S V Chaitanya
Project	Dr S J Navale

(5) Research Promotion Scheme: The institute has research promotion scheme which encourage the faculty to undertake research projects, consultancy work and training programs. The faculty involved is awarded with appropriate amount as per the policy decided at the institution level.

(6) Support for Higher Studies: The faculty members perusing higher studies are awarded with financial assistance of Rs.1 lakh or One-month study leave as per the choice of the faculty. The faculty member is permitted to carry out research studies by adjusting the teaching load in the morning slot and rest of the time can be utilized for study.

Sr No	Name of the Faculty	Nature of Support
1.	Dr A V Waghmare	Study Leave
2.	Dr D Y Dhande	Study Leave
3.	Dr C S Dharankar	Study Leave
4.	Dr S J Navale	Study Leave
5.	Dr S V Chaitanya	Study Leave
6.	Mr. M S Swami	Financial Support

(7) Financial assistance for attending FDP/QIP/STTP/International Conferences: The faculty member is permitted on duty leave to attend the respective quality improvement program. The financial assistance is provided for payment of registration fees, travel fare and accommodation.

	Sr No	Name of the Faculty	Year	Program	Nature of support	
ſ	1.	Dr D Y Dhande	2019-20	One-week FDP on "Introduction to	Financial support	
	2.	Mr V S Wagare		Tribology" at IISc Bengaluru		

5.9 Visiting/Adjunct/Emeritus Faculty etc. (10)

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The department has provision for visiting faculty. Following are the details of the faculty:

Year	Name of the visiting Faculty	Class and Subject	No of Contact hours
2020-21	Mr. Lokesh Bhansali, G2G innovations	BE (Elective III: FEM)	48
2021-22	(1) Mr. Mohit Mudra (2) Mr.Anwar Rashid	SE, TE, BE, BE (Skill Development)	36
2021-22	Mr D B Raut, Chief (i) Engineer, Devise Electronics Pvt.Ltd. (ii) Mr Manas Vora, Manager Devise Electronics Pvt.Ltd.	TE (e-vehicle System Design)	10

6 FACILITIES AND TECHNICAL SUPPORT (80)

6.1 Adequate and well equipped laboratories, and technical manpower (30)

Total Marks 66.00

Total Marks 25.00 Institute Marks : 25.00

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		Name of	Number of		Weekly utilization status(all	Techni	cal Manpowe	r Support
	Sr. No	No Laboratory Laboratory Size)		Name of the Important Equipment	the courses for which the lab is utilized)	Name of the Technical staff	Designation	Qualification
	1	Heat Engine Lab	20	1)Computerised single cylinder engine test rig, 2)Two stage reciprocating air compressor test rig 3)3Cylinder four stroke petrol engine test rig set up,4)Experimental set up for investigation on performance of S I engine fuel with hydrogen gas as an alternate fuel, 5)Air compressor	87%	Mr A A Jachak	Lab Assistant	DME, B. Tech (Mechanical)
	2	Metallurgy Lab	20	1)Universal testing machine,2)Rockwell cum Brinell hardness test, 3)Impact testing machine, 4)Poldi hardness tester, 5)Vickers hardness tester	70%	Mr S K Jogdand	Lab Assistant	ITI , BA
	3	Heat Transfer Lab	20	1)Critical heat flux apparatus, 2)Experimental set up for investigation on performance of S I engine fuel with hydrogen gas as an alternate fuel, 3)Pin fin apparatus,4)Heat conduction through composite slab,5)Forced convection 6)Vapour compression refrigeration test rig,7)Ice plant test rig,8)Air condition cycle test rig,9)Rotary air compressor (vane type)	80%	Mr S K Jognand	Lab Assistant	ITI , BA
	4	Theory of Machines Lab	20	1)Epicyclic gear train test rig,2)Clutch test rig	70%	Mr J N Khiratkar	Lab Assistant	NCTVT (LACP)
	5	Dynamics of Machinery Lab	20	1)Computerised wheel balancing machine,2)Vibration lab,3)Whirling of shaft apparatus,4)CAM analysis machine,5)Motorised gyroscope	60%	Mr A A Jachak	Lab Assistant	DME, B. Tech (Mechanical)
	6	Fluid Machinery Lab	20	1)Pelton wheel turbine test rig,2) Centrifugal pump of variable speed,3) Francis turbine test rig,4) Impact of jet apparatus	60%	Mr S K Jogdand	Lab Assistant	ITI , BA
	7	Fluid Power Lab	20	1)Hydraulic circuit trainer,2)Pneumatic circuit trainer,3)Gear pump test rig,4)Hydraulic accumulator intensifier and press	75%	Mr J N Khiratkar	Lab Assistant	NCTVT (LACP)
	8	Metrology and Quality Control Lab	20	1)Optical flat monochromatic light unit,2)Auto collimeter and angle decker,3)Tool makers microscope,4)Profile projector,5)Electronic comparator twin channel	70%	Mr S K Jogdand	Lab Assistant	ITI , BA
	9	Computer Aided Design Lab	20	1)Desktop Computers make: Lenovo,2) Printer (hp 1007) (02 Nos.),3)IBM Server (1 Nos.),4)PRO/E WILDFIRE 4.0,5)MATLAB7.0,6)Auto Desk Product AutoCAD 2009,7)Master CAM X 9, 8)ANSYS Software 16.02 9)Desktop,10)Scanner,11)True on line UPS 7.5 KVA(03 No), 12)Auto Desk product AutoCAD 2009, 13)IBM Server,14)Plotter – AO size colour	100%	Mr A A Jachak	Lab Assistant	DME, B. Tech (Mechanical)
	10	Computer Aided Engineering Lab	20	1)Desktop computers, 2)Altair Hyper Works, 3)ANSYS Software 13.0 ,4)MATLAB 10,5)MATLAB 16 B academic version,6)LE Grand numeric UPS 7.5 KVA	100%	Mr A A Jachak	Lab Assistant	DME, B. Tech (Mechanical)
	11	Drawing Hall	20	1)Drawing Board	100%	Mr M K Sanjay	Instructor	ІТІ
	12	Basic Mechanical Engineering Lab	20	1)Model	100%	Mr J N Khiratkar	Lab Assistant	NCTVT (LACP)
	13	Workshop	20	1)Milling Machine, 2)Grinding Machine,3)Lathe Machine	80%	Mr M K Sanjay	Instructor	ІТІ
	14	Project Lab	20	1)FFT Analyser with Triaxial axis Accelerometer and Array Microphone, 2)Desktop Computers make: Lenovo	100%	Mr N V Walke	Instructor	ІТІ

6.2 Additional facilities created for improving the quality of learning experience in laboratories (25)

Total Marks 18.00 Institute Marks : 18.00

Sr. No	Facility Name	Details	Reason(s) for creating facility Utilization		Areas in which students are expected to have enhanced learning	Relevance to POs/PSOs
1	Adams Software	Software	Kinematic analysis of mechanisms	SE students	Kinematics	PO3,PO4,PO5,PSO1
2	Virtual lab	IIT Bombay Virtual labs- Nodal center	For simulation- based experiments	SE,TE and BE students	Design, Kinematics, and Thermal engineering	PO1,PO5
3	Blower test rig	ower test rig testing Test rig for performance Analysis of blower BE students Fluid power, noise and vibration		Fluid power, noise and vibration	PO1	
4	Chassis Dynamometer Four wheeler chassis dynamometer		Four wheeler testing	BE students	Testing of four wheeler	PO1
5	Automobile Gearbox	mobile Gearbox having compound gear train with helical Understanding of gear train SE and TE students Mechanical system		Mechanical system design	PO1	
6	Journal bearing test rig	Hydrodynamic journal bearing test rig	Testing static performance of journal bearing	BE students	Design and Tribology	P01,P07
7	Roundness Testing by Using Mech. Comparator	Roundness Testing	To enhance the knowledge of GD & T	TE students	Geometrical Dimensions	PO1
8	Cut section model of differential	Cut section model of Rear axle with differential Understand the differential for four wheeler of gearbox		SE and TE students	Design and kinematics	PO1
9	3D Printer	3D Printer Low capacity 3D printing machine		BE students	Product development	PO1,PSO2
10	E-Rickshaw Form Paramtech Electric Motors Pvt Ltd		Understanding working principle of electrical vehicle	TE and BE students	Automobile engineering	P07,P01

6.3 Laboratories: Maintenance and overall ambiance (10)

Total Marks 10.00

Institute Marks : 10.00

The department is equipped with excellent laboratories and modern equipment to meet curriculum needs. In a pandemic period, practical sessions were conducted online and videos of practical were shown to the students. Following are some of the silent features of maintenance and overall ambiance of laboratories.

Laboratory Maintenance:

Periodic maintenance is done for the experimental setup and laboratory equipment.

Annual calibration of instruments is done in MQC and Metallurgy laboratories.

A dead stock register is maintained for all the laboratories.

History cards of equipment are maintained and are kept intact.

The old and outdated equipment get write-off by the standard procedure.

The care of the repairs and maintenance of all computers is taken by the system administrator of the institute.

			HISTORY CA	RD			
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Figure B6.3 a: HISTORY CARD - MAINTENANCE

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Figure B6.3b: HISTORY CARD – CALIBRATION

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Figure B6.3c: CALIBRATION REPORT

Overall ambiance:

Every laboratory is properly ventilated.

Windows are provided for excellent air circulation, which is supported by several ceiling fans.

All laboratories offer proper seating arrangements for students.

Ambient lighting assisted by fluorescent tubes is provided. Curtains are provided for windows to ensure good visibility.

The labs are always kept neat and clean.

A housekeeping time table is provided to the attendant and is maintained.



Figure B6.3d: HEAT TRANSFER LABORATORY



Figure B6.3e: THEORY OF MACHINES LABORATORY

6.4 Project laboratories (5)

Total Marks 5.00

Students from Mechanical sandwich department completes their project in the industry, during seventh semester. Students can also make use of different facilities which are available in different laboratories in the department. Some high-end software's like ANSYS, Altair Hyper Works are available for students in the department.

IMG_280_10_22_1665137578647.jpg FWHP+5XH, Shiv Nagar, Santoshi Mata Nagar, Pune, 07/10/2022 3:42 pm Maharashtra 411028, India Satellites Latitude Longitude Weather Altitude Azimuth VA HA Zoo 18.4779 73,9375 517.70 SE 75 13.48 94.5 *F / 0mi / 8r UL SYSTEMS AND CONTROLS INDIA PVT 0 0 Bhoor Ltd (S Google Map (Normal) (Zoom Level 17) Google Map (Normal) (Zoom Level 17) Figure B6.4a: Student working on Industrial project (Ratna Gears)

6.5 Safety measures in laboratories (10)

Total Marks 8.00 Institute Marks : 8.00

Sr. No	Laboratory Name	Safety Measures
1	Heat Engine Lab	All power supply lines are properly insulated and covered. First aid kit is available. Fire extinguisher is available. Lab assistant maintain equipment and keep them in safe operating condition. Equipment are provided with fuses to safeguard the equipment from power fluctuations
2	Metallurgy Lab	All power supply lines are properly insulated and covered. First aid kit is available. Fire extinguisher is available. Lab assistant maintain equipment and keep them in safe operating condition. Equipment are provided with fuses to safeguard the equipment from power fluctuations.
3	Heat Transfer Lab	All power supply lines are properly insulated and covered. First aid kit is available. Fire extinguisher is available. Lab assistant maintain equipment and keep them in safe operating condition. Equipment are provided with fuses to safeguard the equipment from power fluctuations.

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4	Theory of Machines Lab	All power supply lines are properly insulated and covered. First aid kit is available. Fire extinguisher is available. Lab assistant maintain equipment and keep them in safe operating condition. Equipment are provided with fuses to safeguard the equipment from power fluctuations.
5	Dynamics of Machinery Lab	All power supply lines are properly insulated and covered. First aid kit is available. Fire extinguisher is available. Lab assistant maintain equipment and keep them in safe operating condition. Equipment are provided with fuses to safeguard the equipment from power fluctuations.
6	Fluid Machinery Lab	All power supply lines are properly insulated and covered. First aid kit is available. Fire extinguisher is available. Lab assistant maintain equipment and keep them in safe operating condition. Equipment are provided with fuses to safeguard the equipment from power fluctuations.
7	Fluid Power Lab	All power supply lines are properly insulated and covered. First aid kit is available. Fire extinguisher is available. Lab assistant maintain equipment and keep them in safe operating condition. Equipment are provided with fuses to safeguard the equipment from power fluctuations.
8	Metrology and Quality Control Lab	All power supply lines are properly insulated and covered. First aid kit is available. Fire extinguisher is available. Lab assistant maintain equipment and keep them in safe operating condition. Equipment are provided with fuses to safeguard the equipment from power fluctuations.
9	Computer Aided Design Lab	All power supply lines are properly insulated and covered. First aid kit is available. Fire extinguisher is available. Lab assistant maintain equipment and keep them in safe operating condition All computers in the laboratories are protected with latest updated antivirus and firewall.
10	Computer Aided Engineering Lab	All power supply lines are properly insulated and covered. First aid kit is available. Fire extinguisher is available. Lab assistant maintain equipment and keep them in safe operating condition. All computers in the laboratories are protected with latest updated antivirus and firewall.
11	Drawing Hall	All power supply lines are properly insulated and covered. First aid kit is available. Fire extinguisher is available.
12	Basic Mechanical Engineering Lab	All power supply lines are properly insulated and covered. First aid kit is available. Fire extinguisher is available. Lab assistant maintain equipment and keep them in safe operating condition. Equipment are provided with fuses to safeguard the equipment from power fluctuations.
13	Workshop	Students use apron while working on machine. All power supply lines are properly insulated and covered. First aid kit is available. Fire extinguisher is available. Lab assistant maintain all machines and different shops and keep them in safe operating condition. Equipment are provided with fuses to safeguard the equipment/machines from power fluctuations.
14	Project Lab	All power supply lines are properly insulated and covered. First aid kit is available. Fire extinguisher is available. Lab assistant maintain equipment and keep them in safe operating condition. Equipment are provided with fuses to safeguard the equipment from power fluctuations.

7 CONTINUOUS IMPROVEMENT (50)

7.1 Actions taken based on the results of evaluation of each of the POs & PSOs (20)

Total Marks 43.00

Total Marks 18.00 Institute Marks : 18.00

POs Attainment Levels and Actions for Improvement- (2020-21)

POs	Target Level	Attainment Level	Observations
PO 1 : Engineering Kno	owledge		
PO 1	1.7	1.58	Attainment is 93% of target value. The courses which need attention are: Engineering Mathematics-III, Strength of Materials, Fluid Mechanics and Machinery, and Machine Design. The students faced difficulty to understand basic concepts of the courses.

11/15/22, 11:51 AM

Action 1: Extra classes for Lateral entry students conducted. Action 2: Additional practice of unsolved problems from book and university question papers of previous exams. Action 3: Conduction of activities viz. Quiz and use of video lectures like NPTEL, youtube.com, coursera.					
PO 2 : Problem Analysis					
PO 2	1.48	1.42	Attainment is 96% of target value. Some courses have scope of improvement viz. Engineering Mathematics-III, Electrical and Electronics Engineering, Strength of Materials. These courses need better understanding through practical knowledge and sound basics		
Action 1: Faculty to guide Students have less orien increased level of difficul	e students to use identified online s tation in basics of engineering mai ty. Action 3: Providing Video lectur	study material available like MOO(thematics hence numerical/analys es and animations (v-lab) to streng	Cs courses which are self-paced. Action 2: Few regular and lateral entry is based courses to be revised through tutorials on complex problems with gthen the ability to identify and formulate poorly defined Problems.		
PO 3 : Design/developn	nent of Solutions				
PO 3	1.33	1.29	Attainment is 97% of target value. There is room for improvement for some courses. viz. Thermodynamics, Material Science and Metallurgy, Theory of Machines, Heat Transfer. These kinds of courses need more practice and students need more practice on calculations and derivations related questions.		
Action 1: Apprehending t conduction. Action 2: Co unsolved problems from	hat students need to assimilate the nduction of Extra classes for Later books as well.	e concepts; hands-on practice is to al entry and weak students. Actior	b be imparted to upbear the students' understanding through course a 3: Students are to be provided with a question bank and made to practice		
PO 4 : Conduct Investig	gations of Complex Problems				
PO 4	1.43	1.39	Attainment is 97% of target value. There is a need to concentrate on Theory of Machine, Heat Transfer, Machine Design. It is essential to prepare mindset towards investigation if the problems seem difficult for few students		
Action 1: Hands-on learn Action 3: To put emphasi	ing through the Projects and Pract s on simulations through lab/virtua	ticals. Action 2: Insights to be shar Il platforms.	ed during course conduction with students regarding the literature survey.		
PO 5 : Modern Tool Usa	age				
PO 5	1.38	1.4	The target is attainted hence target value can be increased for next cycle.		
As target is achieved we being taught. Various add to be taught/facilitated (th recent tools and technolo etc.	can plan following activities for the vanced practicals/softwares which nrough MOOCs) to understand the ogies, open source softwares for m	e next cycle. Action 1: Encourage are available online are promoted real time tools being used in actu nodeling/analysis and simulation a	students to use modern online software and tools related to the courses to students to make them industry ready. Action 2: Some advanced tools al practice. Action 3: To conduct additional activities like introduction to nd programming languages like Python, Aurdino, R-Programming, Latex		
PO 6 : The Engineer an	d Society				
PO 6	1.65	1.57	The target is attained up to 95%. The courses Thermodynamics, Mechanical System Design and Thermal Engineering have scope where students need to indulge in applying their learned knowledge in practical circumstances; maybe in small groups .		
Action 1: Activities relate Efforts through Student of disposal) as Students ca	d to social awareness and social b hapters and NSS exposing studer n contribute to societal developme	nenefits to be organized and maxim nts to societal problems and needs ant and while preparing for that the	num students to be motivated to do it at formal/informal platforms. Action 2: a. Action 3: Undertaking Techno-social activities (viz. industrial safety, waste y themselves also assimilate the studied concepts.		
PO 7 : Environment and	d Sustainability				
PO 7	1.55	1.44	The attainment of the target is met by 93%, the courses Metrology and Quality Control and Applied Computer Aided Engineering have a compelling need to make students aware about the Sustainable Development Goals (SDG). Capturing the attainment of the same is a challenge as being an affiliated Institute curriculum is not designed accordingly. Reasons for the same are absence of chance to frame questions in University exams and Partial student participation.		
Action 1: Students to be Sustainability to be empt engineering for sustainab	made aware about the need of sus nasized and practiced during NSS pility.	stainable development through em and Student chapters activities thr	bedding these concepts in the course conduction. Action 2: Impact of rough webinars and expert lectures on the topics like innovations in		
PO 8 : Ethics					
PO 8	1.45	1.43	The gap in this PO is less as the target is met by 99%. The ethics have to largely taken care of at all Course delivery particularly in Project and Seminar for report writings.		
Action 1: Dissemination of ethical practices through Seminars, Projects and related courses and awareness about plagiarism. Action 2: Organizing awareness webinars on technical standards, codes of ethics; Quiz, Projects, Mini projects, Seminars, Technical Paper Presentation, Students' symposium, Engineering Today, Guest Lectures, plagiarism tests on Project contents etc.					
PO 9 : Individual and Te	eam Work				
PO 9	1.45	1.39	Target is attained by 96%. Attempts to be made for enhancement of the courses Thermodynamics, Fluid Mechanics and Machines, Theory of Machines and Project.		

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Action 1: Rubrics to be d participate in online activ Projects, Mini-projects, F	esigned to tap the efforts to map p ities at national/international level. Project Based Learnings and Stude	articipation of maximum students Action 2: Organizing Group assig ent Social/Professional Chapters.	in co-curricular and extra-curricular activities. Students to be motivated to nments, mini projects, group discussion through enhanced activities of		
PO 10 : Communication	1				
PO 10	1.45	1.47	The target is attainted hence target value can be increased for next cycle.		
As target is achieved we Soft skill training meticule and delivery through the Shivanjali, Ashwamedh,	As target is achieved we can plan following activities for the next cycle. Action 1: Written and Spoken Communication to be attempted to improve through conduction of Soft skill training meticulously designed and delivered by external experts. Action 2: Courses in the curriculum to be utilized to enhance the Presentations preparation and delivery through the report writing in Projects and Journals. Action 3: Encouraging students for conduction and participation of activities viz. Engineering Today, Shivanjali, Ashwamedh, Sports, Hackathon etc.				
PO 11 : Project Manage	ment and Finance				
PO 11	1.45	1.46	The target is attainted hence target value can be increased for next cycle.		
As target is achieved we to be guided accordingly get involved for conducti Production Planning and	can plan following activities for the Same to get practiced through Pr on and participation in the activitie Control.	e next cycle. Action 1: Concepts of ojects, Mini-projects, Internship. A s viz. National level quiz, webinar	managing Project and finances to be imbibed in the courses and students ction 2: Conduction of co-curricular activities and encouraging students to on Industrial Engineering and Management, Supply Chain Management,		
PO 12 : Life-long Learn	ing				
PO 12	1.30	1.27	Target achieved by 98%. Students need to realize that learning is a never ending process, hence need to concentrate on the courses Electrical and Electronics Engineering, Machine Design and Heat Transfer; through the following actions.		
Action 1: Importance of s Coursera, Udemy, Linked	self-learning and finding resources din, EDx portals, Honour courses,	to be explained during courses. A Audit courses etc. Some course F	ction 2: Motivating students to learn through MOOCs viz. Swayam, aculty to facilitate self-learning through becoming Mentors on the same		

courses which students undergo on MOOCs

PSOs Attainment Levels and Actions for Improvement- (2020-21)

PSOs	Target Level	Attainment Level	Observations			
PSO 1 : Our graduate will have competencies in design and develop mechanical elements and systems.						
PSO 1	1.70	1.54	Attainment is 91% of target value. Efforts needed to develop the ability to analyze and evaluate performance of thermal and automotive system through the courses Energy Engineering and Heat Transfer, Manufacturing Engineering and Thermodynamics.			
Action 1: Facilitating, pro Industrial professionals, develop the ability to an	omoting and motivating students to Entrepreneurs to make students a alyze and evaluate performance o	o undergo Internship Action 2: Org aware about the actual industrial p f thermal and automotive systems	anizing Industrial visits and conduction of Expert lectures by inviting Alumni, ractices. Action 3: Conduction of Expert lectures for making students .			
PSO 2 : Our graduate v	vill have incremental skills to sp	ecify and select materials, proc	esses to manufacture an industrial product.			
PSO 2	1.55	1.43	Attainment is 92% of target value. Courses which need to be pondered are Thermal Engineering, Electrical and Electronics Engineering and Machine Design. As the Institute is affiliated to University, there are limitations on framing questions in university papers. Students do not get much opportunity to practically design for actual/ industrial project(s).			

Action 1: Expert lectures to overcome the lacunae of students' awareness about mechanical elements and systems ,utilization of modern tools for design and optimization. Action 2: Facilitating the knowledge gain through mini-projects, projects, Project based learning, internship, industrial visits.

PSO 3 : Our graduate will have industry oriented attributes through industrial in-plant training, co-curricular and extension activities.

PSO 3	1.85	2.14	The target is attainted hence target value can be increased for next cycle.

As target is achieved we can plan following activities for the next cycle. Action 1:Facilitating, promoting and motivating students to undergo Internship. Action 2: Organization of Industrial visits

7.2 Academic Audit and actions taken thereof during the period of Assessment (10)

Total Marks 10.00

Institute Marks : 10.00

AISSMS COE has established a well defined Internal Quality Assurance System and every effort has been taken to address all the quality attributes of technical education for the overall professional and holistic development of students. Variety of academic, administrative, co-curricular and extracurricular activities are carried out at Institute and department level which helps in improving the quality of education imparted.

For the sustenance and continuous improvement in quality for achieving academic excellence, the Institute has adopted certain quality management strategies and has developed methodology for auditing different academic and administrative quality aspects.

Academic and Administrative Audit (AAA) is one of the major quality aspects of the institutes internal quality assurance system. Academic auditing is done to keep track and improve of the teaching and learning process.

A committee for program evaluation and quality improvement exists within the Department - Program Assessment and Quality Improvement committee (PAQIC). PAQIC committee consist of Head of Department <u>as Chairman</u>, Module Coordinators, Industry Institute Coordinator and Exam Coordinator.

PAQIC oversees academic audits at the department level on syllabus coverage, laboratory work completed, students performance in internal and external exams, and activity planning based on feedback, such as course end surveys and exit surveys.

PAQIC verifies course coordinators course files as well as other outcome-oriented documents for each course, such as test papers and assignments to ensure that questions satisfy the desired learning level as per Blooms taxonomy.

PAQIC committee also monitors conduction of supporting activities like Industrial Visits, Expert Lectures, Workshops, Projects, Internships etc.

PAQIC meeting is conducted twice in semester, one at the beginning and the other in the mid semester, in which the requisite suggestions may be given. The compliance required is brought to the notice of the concerned person or team and corrective action is suggested and monitored again at a predetermined interval.

Term	Meeting 1	Meeting 2
Term I	At the start of semester	In the mid of Term I (Current Year)
(2021-	- Action taken for Term I	 Monitoring of action suggested
2022)	(2020-2021) analysis	and effective implementation at
	 Decide action plan for the 	course level.
	Term I (2021-2022)	Term I (2021-2022)
Term II	At the start of semester	In the mid of Term II (Current Year)
(2021-	 Action taken for Term II 	 Monitoring of action suggested
2022)	(2020-2021) analysis	and effective implementation at
	- Decide action plan for the	course level.
	Term II (2021-2022)	Term II (2021-2022)

Table B7.2a: Meeting schedule

			Dut- 02/08/2021
Ref.	No: MED/5926E	\$ /02.08.2021	Date: 02/08/2021
		OFFI	CE ORDER
Cub	iest: Constitution of F	rogram Assess	nent and Quality Improvement Committee
Sub	jeen constitution of r	. ogi min (taataan	
Den	artment of Mechanics	I Engineering	has revised aProgram Assessment and Quality
Dep	artificiate of Weenanice	AOC) and follo	wing faculty members will act as members of this
Imp	rovementCommittee (F	mittee will stor	t functioning from 02/08/2021 till further order.
com	mittee. The revised con	minitee win star	Turcitoring from on our point on the other.
CN	Name	Designation	Portfolio
SIX	Da D. D. Dashahhay	Chairman	Head of Department, Module Co-coordinator: M
2	Dr B D Bachedhav	Conordinator	DepartmentAcademic Coordinator (DAC)
2	Dr D V Dhande	Member	Department ExamCoordinator
4	Mr M R Dahake	Member	Department Industry instituteCoordinator (13)
5	Dr C S Choudhari	Member	Module Co-coordinator. Thermal Engineering
6	Dr S V Chaitanya	Member	Module Co-coordinator: Allied Subjects
7	Mr P V Deshmukh	Member	Module Co-coordinator: Design Engineering
8	Dr S J Navale	Member	Module Co-coordinator: Project
Ľ	Diotinature		
1	1.0		
24	P. D. Pashahhay		
N	D D Dachennav		
Dr	A Mentheinel Engine		
Dr	nd, Mechanical Enginee	EGEOF	
Dr	nd, Mechanical Engined	LEGE OF FILE	
Dr Hea Dr	nd, Mechanical Engines	LEGE OF CALOURE	
Dr Hea Dr Prin	nd, Mechanical Enginee D S Bormane ncipal	LEGE OF ERON	

Figure B7.2a Constitution of PAQIC



DEPARTMENT OF MECHANICAL ENGINEERING

Internal Academic and Administrative Audit (AAA) A.Y. 2020 - 2021 COMPLIANCE REPORT FROM DEPARTMENT

		-	 -	_	
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	1000		 UT 20	12	

Sr. No.	Observations/discrepancies /scope for improvement identified by committeemembers	Compliance
1	Student chapters files need to be well documentad. Number of student members in each chapter needs to beincreased.Student professional chapters should be made more active.	Informed to concern faculty Coordinator.
2	All faculty members should upload all documents in Google drive.	Informed to all faculty members
3	Course files of all faculty members were not available for verification.	Only sample files were shown. However, it was
4	Research centre data to be updated on website	informed through departmental meetings
5	Vision /Mission of the department should be displayed in all laboratories.	Presently Vision Mission printouts are displayed
6	Alumni meetings should be planned every year.	Alumni interactions were held. Alumni meeting:
8	eContent developed by faculty members are less.	Faculty members are informed to update eContent data
9	Number of funded research projects needs to be enhanced.	One RPS and One Modrob proposal is under scrutiny. However faculty members were appealed to annly for research projects
10	Consultancy work should be undertaken.	It is being initiated by some family
11	More number of Lab Asst. and technical Assistant should be appointed. (Only three for 180 intake).	Requirement of Lab Asst. / Technical Assistant is

Head of Department Head of Department Mechanical Eng owning AISSMS, + OE, + CNE,

Report of Academic and Administrative Audit of the department
 Action taken report for initiatives taken by IQAC
 Report for status of Course file (Part A and Part B) and Personal file
 Observation sheets of panel members

Encl:

Figure B7.2b Compliance report



DEPARTMENT OF MECHANICAL ENGINEERING

Academic and Administrative Audit for A.Y. 2020 - 2021

Sr No.	Initiatives taken by IQAC	Action taken by department	Remark
01	Conduction of academic audit for A.Y. 2019-20	Academic audit AY 2019-20 conducted on 07/01/ 2021	S-4-6-1
02	Submission of AAA compliance report for A. Y. 2019-20	AAA Compliance report AY 2019-20 submitted on 16/01/2021	Satisfactory
03	Uploading of annual report 2019 -20 on website	AY 2019-20 uploaded on website	
04	Google link for data collection related to students' achievements for A.Y.2020-21	Google link shared	1
05	Sharing of folders on google drive for the collection of supporting documents for 2020-21	folders shared on google drive	
06	Sharing of Annual Report Format for academic year 2020 - 21	Annual report AY 2020-21 shared	
07	Conduction of activities with reference to celebration of "StartUp Innovation week - 2020-21	Activities with reference to celebration of "StartUp Innovation week - 2020-21" were conducted	
08	Planning and preparation/conduction of Induction Lecture series at the start of academic year for SE/TE/BE classes	Induction lecture for TE BE was conducted.	

Head

Department of Mechanical Engineering Mechanical Eng nooring AISSMS, (OE, FUNE,

Figure B7.2c Action taken report

A sample of the Minutes of Meeting is:



Figure B7.2d Minutes of Meeting

The flowchart shows the Process of Setting of question paper, evaluation and effective process implementation by PAQIC:



Figure B7.2e Process of Setting of question paper, evaluation and effective process implementation by PAQIC

Print

7.3 Improvement in Placement, Higher Studies and Entrepreneurship (10)

Total Marks 8.00 Institute Marks : 8.00

Item	2018-19	2019-20	2020-21
Total No. of Final Year Students (N)	63	53	53
No. of students placed in companies or Government Sector (x)	19	22	31
No. of students admitted to higher studies with valid qualifying sCores (GATE or equivalent State or National Level Tests, GRE, GMAT etc.) (y)	10	1	8
No. of students turned entrepreneur in engineering/technology (z)	02	4	6
x + y + z =	31	27	45
Placement Index : $(x + y + z)/N$	0.492	0.509	0.849
Average placement= (P1 + P2 + P3)/3		0.62	





Placement: number, quality placement, core industry, pay packages etc.

1.

Number

The Placement number is increasing year on year. The pandemic has taken a toll and the situation is becoming very turbulent day by day and students are in a state of turmoil. Still a decent number of students are guided and facilitated to achieve their chosen path of career viz. Placements in Government & Corporate sectors, Higher education and Entrepreneurship. The placement in the AY 2019-20 decreased by 0.2% as compared to 2018-19, but it went up in the year 2020-21 by 49.9%.

2.

Quality placement

The Placements are improving year on year as the Maximum salary offered are increasing in core as well as software industries. The type of industries based on the brand name are also increasing. The Industries from all strata are recruiting the students and students have a variety of choices from Core, Software, Service segments. Many students are getting opportunities to join startups in order to have a feel and experience in order to use the gained knowledge to begin with their own startups.

з.

Core industry

The Placements in the core company is becoming better and core Industries of high reputation in the society are recruiting students. This gives students an experience to work with renowned MNCs, at the same time good SMEs are also recruiting students on a regular basis. This develops trust between the Industry as well as Students. There are some industries which offer Sandwich Trainings as well as Internships to students. This is creating a strong bond and mutual benefits are being reaped. Students can plan their career path in a structured manner and can select the relevant electives offered by the University. Their choices are now more informed, guided and experienced.

4.

Pay packages

The Pay packages are one of the important parameters of selecting the companies, but the students are also looking for challenging roles and reputation in the society. Hence many good students take higher studies or entrepreneurship as the career option. The packages and perks are on a higher side day by day and as the pandemic situation is opening up more interest is being seen from recruiters with high pay packages.

Partial List of recruiters:

Sr No.	Recruiter name	Type of recruiter
1.	A Raymond Fasteners	Core
2.	Albaj Engineering C Pvt Ltd	Core
3.	Applus IDIADA	Core
4.	Araymond Fasteners India Pvt.Ltd.	Core
5.	ARYA ENGG & CONTRACTORS PVT LTD	Core
6.	Burckhardt Compression	Core
7.	Devshri Industrial Solutions	Core
8.	Ecomek	Core

	I	1
9.	Electromech	Core
10.	Ford Motors Pvt Ltd	Core
11.	IndiTech Valves Pvt. Ltd.	Core
12.	John Deere	Core
13.	Master Pressing Works	Core
14.	Mather Plant	Core
15.	Parason Machinery Pvt Ltd	Core
16.	QH TALBROS LTS	Core
17.	Reich India Pvt Ltd	Core
18.	Saisanket industries Pvt Ltd	Core
19.	Siemens Energy	Core
20.	SKF	Core
21.	Sorting Hat Technologies Pvt Ltd.	Core
22.	Sulzer India Pvt Ltd	Core
23.	SwiftPLM	Core
24.	Thermax Ltd	Core
25.	Ultra Enterprises	Core
26.	Valeo India Pvt Ltd	Core
27.	Victory Precision Pvt Ltd	Core
28.	Winone Product Technologies Pvt Ltd	Core
29.	CCTech	Software
30.	ICERTIS	Software
31.	Infosys Ltd.	Software
32.	QLC	Software
33.	Tata Consultancy Services Ltd	Software
34.	TECH MAHINDRA	Software

7.4 Improvement in the quality of students admitted to the program (10)

Total Marks 7.00 Institute Marks : 7.00

Item		2021-22	2020-21	2019-20
National Level Entrance Examination	No of students admitted	0	3	9
	Opening Score/Rank	0	65	82
JEE	Closing Score/Rank	0	41	67
State/ University/ Level Entrance Examination/ Others	No of students admitted	13	29	43
	Opening Score/Rank	89	93	94
	Closing Score/Rank	2	0	2
Name of the Entrance Examination for Lateral Entry or lateral entry	No of students admitted	45	24	9
details	Opening Score/Rank	93	93	88
DTE(Direct Second Year Ad	Closing Score/Rank	66	72	62
Average CBSE/Any other board result of admitted		80	65	64
students(Physics, Chemistry&Maths)		<u></u>		P

8 FIRST YEAR ACADEMICS (50)

8.1 First Year Student-Faculty Ratio (FYSFR) (5)

Total Marks 42.51

Please provide First year faculty information considering load for the particular program

Total Institute I

Name of the faculty member	PAN No.	Qualification	Date of Receiving Highest Degree	Area of Specialization	Designation	ignation Date of joining CAY CAYm1 CAYm2 (Currently Associated (Yes / No)	Nature Of Association (Regular / Contract)			
Dr. Deepak Vitl	AALPN3241K	M.Sc. and PhD	27/07/2011	Chemistry	Associate Professor	02/08/1999	100	100	100	Yes	Regular	
Dr. Mahadeo K	ADFPN4603G	M.Sc. and PhD	27/01/2009	Integral Transform And Hyperfunction	Associate Professor	11/09/2001	100	100	0	Yes	Regular	
Dr. Nana Namo	ADFPS7941A	M.Sc. and PhD	18/02/2017	Material Science And Electronics	Associate Professor	01/08/1997	100	100	100	Yes	Regular	
Dr. Supriya Kis	AAWPU7621F	M.Sc. and PhD	27/04/2002	Physics Solar Energy	Associate Professor	27/07/2007	100	100	100	Yes	Regular	
Dr. Shalaka Ab	AGJMV6542M	M.Sc. and PhD	15/12/2008	Physics	Assistant Professor	12/04/2012	100	100	100	Yes	Regular	
Dr. Amol Bhau:	APGPP5534B	M.Sc. and PhD	16/03/2019	Complex Analysis	Assistant Professor	11/09/2003	100	100	100	Yes	Regular	
Dr. Vrashali Sh	BWRPK4787Q	M.Sc. and PhD	30/06/2017	Chemistry	Assistant Professor	11/01/2011	100	100	100	Yes	Regular	
Dr. Pankaj Dine	CBDPB8339M	M.Sc. and PhD	26/07/2021	Chemistry	Assistant Professor	22/03/2021	100	100	0	Yes	Regular	
Dr. Nitin Gajan	BGQPS5598L	ME/M. Tech and PhD	30/09/2021	Industrial Engineering	Assistant Professor	16/01/2003	50	100	100	Yes	Regular	
Dr. Manjusha S	AAXPJ2874Q	M.Sc. and PhD	30/03/1988	Chemistry	Professor	17/03/1993	33	33	0	No	Regular	3
Dr. Ashish Visł	BIDPM0763J	ME/M. Tech and PhD	07/02/2018	Chemical Engineering	Assistant Professor	16/11/2010	0	0	38	Yes	Regular	
Mr. Pravin Sud	ALSPT3276C	M.E/M.Tech	10/04/2010	Chemical Engineering	Assistant Professor	04/10/2010	0	0	25	Yes	Regular	
Mr. Avinash Ba	ADKPT2264N	M.Sc	31/05/2002	Mathematics	Assistant Professor	02/11/2010	100	100	100	Yes	Regular	
Mrs. Amruta M	BPQPK4039H	M.E/M.Tech	02/02/2015	Hydraulics	Assistant Professor	03/08/2017	100	100	100	Yes	Regular	
Mrs. Merilyn Al	BLOPD2938J	M.E/M.Tech	22/06/2012	Structural Engineering	Assistant Professor	01/08/2012	100	100	100	Yes	Regular	
Ms. Suvidha Ba	AYKPP8835Q	M.E/M.Tech	05/08/2013	Construction Management	Assistant Professor	09/06/2017	100	100	100	Yes	Regular	
Mrs. Bhakti Arr	AIFPC8828D	M.E/M.Tech	28/11/2014	Computer Engineering	Assistant Professor	15/06/2015	100	0	0	Yes	Regular	
Ms. Sonal Sanj	BPEPA1114B	M.E/M.Tech	24/11/2016	Information Technology	Assistant Professor	09/06/2017	0	100	100	Yes	Regular	
Ms. Supriya Mo	BFVPB1547Q	M.E/M.Tech	13/10/2016	Cyber Security	Assistant Professor	09/06/2017	0	0	100	No	Regular	c
Ms Bhushra Ra	AAEPQ9304R	B.E/B.Tech	01/06/2003	Computer Engineering	Assistant Professor	21/08/2006	0	50	50	No	Regular	З
Mr. Aslam Yusı	ABJPK3426E	M.E/M.Tech	06/07/2006	Electronics	Assistant Professor	01/08/1997	100	0	0	Yes	Regular	
Mr. Sudhir Purı	ADOPB4881H	M.E/M.Tech	16/08/2006	Electronics	Assistant Professor	10/08/1998	100	100	100	Yes	Regular	
Ms. Smita Anil	AKCPT4060F	M.E/M.Tech	13/08/2016	Data Science	Assistant Professor	09/06/2017	100	0	100	Yes	Regular	
Mr. Prafulla Ra	AELPA0656D	B.E/B.Tech	11/11/1993	Electronics	Assistant Professor	26/12/1997	0	100	100	No	Regular	З
Mr. Ravi Vilas (BRKPG6999J	M.E/M.Tech	01/07/2014	Electronics and Telecommunication	Assistant Professor	18/03/2021	0	100	0	No	Regular	З
Ms. Bhagyashr	DDHPP5351Q	M.E/M.Tech	30/05/2015	Electronics and telecommunication	Assistant Professor	10/06/2019	0	100	100	No	Regular	1
Mr. Vikas Vittha	APCPK6533K	M.E/M.Tech	28/12/2006	Power Systems	Assistant Professor	01/01/2001	100	100	100	Yes	Regular	L
Ms. Almas Aml	BAZPA5708B	M.E/M.Tech	20/10/2016	Power Electronics And Drives	Assistant Professor	01/08/2016	100	100	100	Yes	Regular	

Ľ	/15/22, 11:51 Al	VI					Pr	int						
	Ms. Bhagyashr	APPBH81	183H	M.E/M.Tech	14/05/2014	Electrical Power System	Assistant Professor	09/06/2014	100	100	100	Yes	Regular	
	Ms. Mamta Sui	ASMPN7	252R	M.Sc	14/06/2016	Mathematical	Assistant Professor	22/08/2016	100	100	100	Yes	Regular	
	Mr. Prashant G	BCRPM3	156P	M.Sc	28/07/2011	Organic Chemistry	Assistant Professor	01/01/2020	0	0	25	No	Contractual	3
	Mr. Sudhir Tuk	DPRPS03	355M	M.Sc	04/07/2017	Mathematics	Assistant Professor	14/09/2020	0	0	15	Yes	Regular	
	Mrs. Shital Gar	ACEPW6	853B	M.Sc	09/07/2016	Organic Chemistry	Assistant Professor	24/09/2020	0	0	100	No	Regular	2
	Ms. Smita Pop	EKMPK1	545L	M.Sc	10/06/2016	Mathematics	Assistant Professor	11/06/2018	0	0	100	No	Regular	3
	Ms. Sonali Arju	BKAPJ57	66P	M.Sc	30/04/2016	Mathematics	Assistant Professor	25/06/2018	0	0	44	No	Regular	1
	Ms. Neha Raju	AQPPJ17	'31L	M.Sc	12/05/2020	Mathematics	Assistant Professor	18/03/2021	0	44	0	No	Regular	3
	Mr. Vijay Rajar	ABGPP4	008E	M.E/M.Tech	05/07/2000	Power Engineering	Assistant Professor	01/08/1997	100	100	100	Yes	Regular	
	Mr. Prashant G	BABPK64	156Q	M.E/M.Tech	09/10/2007	Mechanical Design Engineering	Assistant Professor	28/08/2013	100	100	100	Yes	Regular	
	Mr. Yogesh Bal	AJCPK95	511H	M.E/M.Tech	08/03/1999	Design Engineering	Assistant Professor	02/07/2013	100	100	100	Yes	Regular	
	Mr. Sagar Tuka	BNOPG3	636C	M.E/M.Tech	20/10/2016	Design Engineering	Assistant Professor	09/06/2017	100	100	100	Yes	Regular	
	Mr. Anil Pundlil	AAWPD2	135P	B.E/B.Tech	08/07/1991	Mechanical Engineering	Assistant Professor	01/08/1995	0	50	50	No	Regular	3
	Mr. Gopal Pan	ACSPLOC)13E	M.E/M.Tech	23/09/2014	Heat Power	Assistant Professor	15/01/2010	0	0	25	Yes	Regular	
	Mr. Yogesh Ra	APOPC0	505P	M.E/M.Tech	05/02/2011	Production Engineering	Assistant Professor	29/11/2010	100	100	100	Yes	Regular	
	Mr. Mohan Lali	AISPC68	63B	M.E/M.Tech	05/07/2012	Production Engineering	Assistant Professor	13/11/2008	100	0	0	Yes	Regular	
	Mr. Sachin Shr	ARVPK97	757E	M.E/M.Tech	01/05/2010	Industrial Engineering	Assistant Professor	05/07/2005	100	0	0	Yes	Regular	
	Mr. Sumedh Ne	AGYPC6	572F	M.E/M.Tech	18/12/2002	Production Engineering	Assistant Professor	28/07/2005	38	0	0	Yes	Regular	
	Mr. Veejhay Dii	AEXPD79	961G	M.E/M.Tech	10/05/2000	Industrial Engineering	Assistant Professor	05/08/2005	25	100	100	Yes	Regular	
	Ms. Yogita Kas	AATPF23	23G	M.E/M.Tech	26/09/2011	Mechanical Engineering	Assistant Professor	21/10/2008	25	0	0	Yes	Regular	
	Mr. Mandar Arv	ABPPK98	819F	M.E/M.Tech	10/05/2010	Industrial Engineering	Assistant Professor	16/04/2016	0	100	100	Yes	Regular	
	Mr. Prashant V	AFHPD35	552J	M.E/M.Tech	25/08/1998	Design Engineering	Assistant Professor	08/10/1998	0	0	38	Yes	Regular	
Y	′ear		Numt intake	per Of Students e strength) N	approved	Number of Faculty members(consider load) F	ing fractional	FYSFR (N	l/F)		*Asse (5*20)	ssment= /FYSFR(Limit	ed to Max.5)	
2	019-20(CAYm2)		660			28		24			4.00			
2	2020-21(CAYm1)		660			26		25			4.00			
2	2021-22(CAY)		660			24		28			4.00			
A	verage		0)		0		0			0			

8.2 Qualification of Faculty Teaching First Year Common Courses (5)

Total Marks 2.00

Institute Marks : 2.00

Year	x (Number Of Regular Faculty with Ph.D)	y (Number Of Regular Faculty with Post graduate Qualification)	RF (Number Of Faculty Members required as per SFR of 20:1	Assessment Of Faculty Qualification [(5x + 3y) / RF]
2019- 20	6	22	33	2.00
2020- 21	7	17	33	2.00
2021- 22	8	19	33	2.00

Average Assessment: 2.00

8.3 First Year Academic Performance (10)

Total Marks 6.51

Institute Marks : 6.51

Academic Performance	2021-22	2020-21	2019-20
Mean of CGPA or mean percentage of all successful students(X)	8.64	6.07	6.62
Total Number of successful students(Y)	32.00	48.00	52.00
Total Number of students appeared in the examination(Z)	32.00	52.00	65.00

Average API[(AP1+AP2+AP3)/3]: 6.51

Assessment [1.5 * Average API] : 6.51

8.4 Attainment of Course Outcomes of first year courses (10)

8.4.2 Record the attainment of Course Outcomes of all first year courses (5)

Course Code	Subjects	CO 1	CO 2	CO 3	CO 4	CO 5	CO 6
107001	Engineering Mathematics I	2.37	2.37	1.92	1.78	2.97	2.80
107002	Engineering Physics	2.24	2.36	1.84	1.84	1.72	1.75
102003	Systems in Mechanical Engineering	2.89	2.88	2.86	2.88	2.86	2.88
103004	Basic Electrical Engineering	2.64	2.66	2.43	2.46	2.94	2.93
110005	Programming and Problem Solving	2.98	2.96	2.96	2.93	2.96	3.00
111006	Workshop	3.00	3.00	3.00	3.00		
107008	Engineering Mathematics II	2.80	2.90	3.00	2.70	3.00	2.70
107009	Engineering Chemistry	2.76	2.76	3.00	3.00	2.80	3.00
104010	Basic Electronics Engineering	2.94	2.94	2.94	2.94	2.94	2.94
101011	Engineering Mechanics	2.94	2.97	2.96	2.96	2.96	2.94
102012	Engineering Graphics	2.97	2.97	2.97	2.98	2.86	2.95
110013	Project Based Learning	2.97	2.96	2.98	2.97	2.98	2.97

8.4.1 Describe the assessment processes used to gather the data upon which the evaluation of Course Outcomes of first year is done (5) Institute Marks : 5.00

Assessment Process Details

Our institute is affiliated with Savitribai Phule Pune University (SPPU). We are following the teaching-learning as per the university guideline. To strengthen our teaching-learning (TL) process, we believe that outcome-based education (OBE) is important to identify the strength and weaknesses and to decide the plan for continuous improvement. This process helps us to identify our strengths and weakness and attain proficiency in the teaching-learning process.

For assessment of our teaching-learning process, we use direct and indirect tools. The direct assessment of each outcome is through internal and external tools. Some indirect tools are also used for the assessment. The indirect tools provide valuable insights and feedback on students views of what they are learning.

Course Outcomes (COs) Statements are indicating what a student will be able to do after the successful completion of a course. Every course has defined Course Outcomes. The CO statements are defined by considering the course content covered in each unit of a course. For every course there are 6 COs framed. The keywords used to define COs are based on Bloom's Taxonomy.

Total Marks 10.00

Institute Marks : 5.00

The department carried out an assessment process to gather and prepare data to evaluate the attainment of course outcomes and program

outcomes. Attainment is the action of attaining a standard result towards the achievement of expected goals.



Fig: 8.4.1 (a)

Course Outcome is evaluated based on the performance of students in internal assessments and in external assessment (university examination) of a course. Internal assessment contributes 20% and university assessment contributes 80% to the total attainment of a CO.

Theory:

Internal Tests and Assignments: Internal tests and assignments serve to encourage students to keep up with course content covered in class. Each course is divided into six units and one test on each unit is conducted to evaluate students' performance. Three assignments are given (based on two units each).

The questions are framed in such a way that it should satisfy Bloom's Taxonomy, wherein each question paper is mapped to the respective course outcome of the course, which is evaluated based on the set attainment levels by the department.

University Examination: In-semester and End-semester examinations are conducted by the university. In-semester examination covers two units of the course and end-semester examination covers the remaining four units of the course. In-semester examination satisfies two COs and End-semester examination satisfies four course outcomes for a particular course.

Practical:

Lab courses provide students direct knowledge with course concepts and the opportunity to explore methods used in their discipline. All the students are expected to learn the practical aspects of the course and develop the necessary skills to become professionals. Students' performance is evaluated using Continuous Assessment Sheet (CAS). Parameters used in CAS are Regularity, Experiment write up and his/her Performance during conduction of each experiment.

University Examination: Term work marks are assigned to the students based on their overall performance (CAS) and marks are uploaded on university portal for final result.

CO Assessment Tools:

Direct assessment method, i.e., using internal and external assessment tools are considered for evaluation of CO. For the evaluation and assessment of CO's, different tools as defined above are used. Course Outcome is evaluated based on the performance of students with internal assessments and external assessment (university examination) tools for respective courses.





The particulars of Assessment tools used and its frequency for the evaluation of Course Outcomes, Program Outcomes and Program Specific Outcomes are given in the Table: 8.4.1 (a)

Sr. No.	Assessment Tool	Description	Evaluation of Course Outcomes	Related POs/PSOs	Frequency of assessment per term						
Interi	Internal Assessment Tools										
1.	Test	Written examination	Questions in the test are mapped with CO of respective course.	Mapped POs/PSOs with the CO	Six (One for each CO)						
2.	Assignment	Set of questions are given to solve.	Questions in the assignment are mapped with two CO of respective course.	Mapped POs/PSOs with the COs	Three (one for Two COs)						
3	Continues Assessment Sheet (CAS)	Assessment of students during practical	Based on the COs mapped with the experiments / assignments	Mapped POs/PSOs with the COs	For each experiment/ assignment during practical.						
Exter	rnal Assessmen	t Tools		L							
4	In-Sem Exam	Written examination	Questions in the exam are mapped with COs which corresponds to first two units of the respective course.	Mapped POs /PSOs with first two COs	Once (Mid of the Term)						
5	End-Sem Exam	Written examination	Questions in the exam are mapped with COs which corresponds to remaining four units of the respective course.	Mapped POs/PSOs with remaining four Cos	Once (End of the Term)						

6	Term Work	Based on the continuous assessment during practical sessions (through CAS)	Based on the COs mapped with the experiments / Assignments	Mapped POs/PSOs with the COs	Once (End of the Term)
		(through CAS)			
		-			

Table: 8.4.1 (a)

Attainment Levels

Course outcomes of all courses are assessed with the help of assessment tools and attainment level is calculated. Targets are set in terms of percentage of students getting more than the defined percentage of marks. Attainment is measured in terms of actual percentage of students getting defined percentage of marks. Attainment Levels for internal as well as external assessment tools are defined as:

Attainment Level 1: 40% to 60 % students scoring more than 60% marks out of the relevant maximum marks. Attainment Level 2: 60% to 70 % students scoring more than 60% marks out of the relevant maximum marks. Attainment Level 3: More than 70% students scoring more than 60% marks out of the relevant maximum marks.

A. Evaluation of CO Attainment by Internal Assessment Tool

Internal assessment tools such as Test, Assignment and Continuous Assessment Sheet are used to calculate CO attainment level.





i. CO – Assessment Tool Mapping and evaluation

For the evaluation of the student's performance in terms of CO attainment, each internal assessment tool is mapped with COs.

Consider a particular course having Six Course Outcomes (CO.1 to CO.6) and the assessment tools for each CO and maximum marks (MTi and MAi) as in below table. Considering performance of students and target values, ATi and AAi are the CO attainment by each tool.

Assessment Tool>	Test- 1	Test- 2	Test- 3	Test- 4	Test- 5	Test- 6	Assig1	Assig2	Assig3	CAS
COs Mapped	CO.1	CO.2	CO.3	CO.4	CO.5	CO.6	CO.1, CO.2	CO.3, CO.4	CO.5, CO.6	CO.1 to CO.6
Maximum Marks	MT1	MT2	MT3	MT4	MT5	MT6	MA1	MA2	MA3	MCS
CO Attainment Level	AT1	AT2	AT3	AT4	AT5	AT6	AA1	AA2	AA3	ACS

Table 8.4.1 (b) - Mapping of Assessment Tools

As multiple tools are used for assessment of each Course Outcome, Final CO attainment of each CO will depend on CO attainment by each tool. Final

CO attainment of CO.1 depends on CO attainment through multiple assessment tools such as Test - 1, Assig. - 1 and CAS.

Final CO attainment of CO.1

ACO.1 = f(AT1, AA1, ACS)

Similarly

ACO.2 = f(AT2, AA1, ACS) and

ACO.6 = f(AT6, AA3, ACS)

ii. Weightage and Attainment Levels

Final CO attainment of each CO is calculated by weighted average method. Maximum marks allocated for each tool are considered for deciding the weight of corresponding tool. If an assessment tool is used for two or more COs, equal distribution of maximum marks is considered. Assig.-1 is assessment tool for CO.1 and CO.2, maximum marks are distributed equally to each CO i.e. AT1/2 for each CO.

со	Assessment	Assessment Tool, Weightage and Attainment Level								
CO.1	Test-1	Test-1 Assig1 C								
Marks for CO.1	MT1/1	MT1/1 MA1/2		MCO1						
Weightage	WT1 = MT1 / (1*MCO1)	WA1 = MA1 / (2*MCO1)	WCS = MCS / (6*MCO1)	1						
CO Attainment	AT1	AA1	ACS							
Final C	O Attainment =	WT1*AT1 + WA1*AA1 + WCS*ACS								
CO.6	Test-6	Assig3	CAS							
Maximum Marks	MT6/1	MA3/2	MCS/6	мсо6						
Weightage	WT6 = MT6 / (1*MCO6)	WA3 = MA3 / (2*MCO6)	WCS = MCS / (6*MCO6)	1						
CO Attainment	AT6	AA3	ACS							
Final C	O Attainment =	WT6*AT6 + V	WA3*AA3 + WCS*ACS	•						

Table 8.4.1 (c) Evaluation of CO attainment

Final CO Attainment for particular CO using multiple internal assessment tools is calculated as

Final CO Attainment = Σ weightage* CO attainment

B. CO Attainment Levels by External Assessment Tools:

CO attainment by the external assessment tools (defined in the university syllabus structure) is calculated by weighted average method.





i. CO – Assessment Tools Mapping

For the evaluation of the student's performance in terms of CO attainment, each external assessment tool is mapped with COs.
		End-Se	m with						
		weig	weightage						
					End-				
со	In-Sem	Marks	тw	Marks	Sem	Marks			
CO.1	Yes	15	Yes						
CO.2	Yes	15	Yes						
CO.3			Yes	25	Yes	18			
CO.4			Yes	23	Yes	17			
CO.5			Yes		Yes	18			
CO.6			Yes		Yes	17			
		Total	70						
	Grand Total= 30+25+70=125 marks								

Table 8.4.1 (d) – Assessment tool Mapping

Weightage for each CO is different as marks allocated for each CO are different in End Sem examination.

Considering mapping of each external assessment tool and marks allocated, weightage is calculated for each assessment tool. Weighted average method is used to calculate final attainment of each CO as defined earlier in case of internal assessment tools.

C. CO Attainment Level for Course

Multiple tools are used for the evaluation and assessment of COs. Internal assessment tools used are Tests, Assignments and CAS. External assessment tools are university exams.

While calculating the CO attainment for each CO, 20% weightage is given to internal assessment tools and 80% weightage is given to external assessment tools.

D. CO Attainment Level for Course

Multiple tools are used for the evaluation and assessment of COs. Direct assessment tools are Internal assessment tools and external assessment tools are university exams having 80% weightage. While calculating the CO attainment by direct assessment tools for each CO, 20% weightage is given to internal assessment tools and 80% weightage is given to external assessment tools.

Weightage for CO attainment by indirect assessment tool (Course End Survey) is 20 %.

Thus, CO attainment using all the tools is



Fig:8.4.1 (e)

Course Outcome (CO) Statements					
107001: Engineering Mathematics – I					
CO1: Ability to understand Mean value theorems and its generalizations leading to Taylors and					
Maclaurin's series useful in the analysis of engineering problems					
CO2: Ability to undersand the Fourier series representation and harmonic analysis for design and					
analysis of periodic continuous and discrete systems					
CO3: Ability to deal with derivative of functions of several variables that are essential in various					
branches of Engineering.					
CO4: Ability to apply the concept of Jacobian to find partial derivative of implicit function and functional					
dependence. Use of partial derivatives in estimating error and approximation and finding extreme values					
of the function.					
CO5: Ability to know the essential tool of matrices and linear algebra in a comprehensive manner for					
analysis of system of linear equations, finding linear and orthogonal transformations					
CO6: Ability to know the essential tool of matrices and linear algebra in a comprehensive manner for					
analysis of system of linear equations, finding linear and orthogonal transformations					

107002: Engineering Physics	
201: Develop understanding of interference, diffraction & polarization; connect it to few e applications	engineering
CO2: Learn basics of Lasers & optical fibers & their use in some industrial applications	
CO3: Understand concepts & principles in quantum mechanincs .Relate them to some ap	oplications of
CO4: Understand theory of semiconductros & their applications in some semiconductor of	levices.
CO5: Summmarize fundamentals of magnetism & supercondcutivity to explore the technapplications	ological
CO6: Comprehend use of concepts of physics for non-destructive testing. Learn some pre- nanomaterials & their application	operties of
107009: Engineering Chemistry	
201: On Completion of course , learner will able to apply the different methodologies for water and techniques involved in softning of water as commodity.	analysis of
CO2: On completion of course, learner will be able to select appropriate electro-techniqu of material analysis.	e and method
CO3:Demonstrate the knoweldge of advanced engineering materials for various enginee applications.	ring
CO4:On completion of course learner will be able to, Analyse fuel and suggest use of alter	ernative fuels.
CO5: On completion of course, learner will be able to identify chemical compound based structure.	on their
CO6:On completion of course , learner will be able to, explain causes of corrosion and m ninimizing corrosion.	ethods of
02003: Systems in Mechanical Engineering	
CO1 : Describe and compare the conversion of energy from renewable and non renewab sources	ble energy
CO2 : Explain basic laws of thermodynamics, heat transfer and their applications	
CO3 : List down the types of road vehicles and their specifications	
CO4 : Illustrate various basic parts and transmission system of a road vehicle	
CO5 : Discuss several manufacturing processes and identify the suitable process	
CO6 : Explain various types of mechanism and its application	
103004: Basic Electrical Engineering	
CO1: Differentiate between electrical and magnetic circuits and derive mathematical relation nutual inductance along with coupling effect.	tion for self and
CO2: Calculate series, parallel and composite capacitor as well as characteristics paramalternating quantity and phasor arithmetic	eters of
Co3: Derive expression for impedance, current, power in series and parallel RLC circuit v along with phasor diagram.	with AC supply
204: Relate phase and line electrical quantities in polyphase networks, demonstrate the single phase transformer and calculate efficiency and regulation at different loading cond	operation of itions
Loo: Apply and analyze the resistive circuits using star-delta conversion KVL, KCL and d heorems under DC supply	unerent networ
concept of charging and discharging and depth of charge.	ipplications,

CO2: Identify types of diodes and plot their characteristics and also can compare BJT with MOSFET
CO3: Build and test analog circuits using OPAMP and digital circuits using universal/basic gates and flip flops
CO4: Use different electronics measuring instruments to measure various electrical parameters.
CO5: Select sensors for specific applications.
CO6: Describe basic principles of communication systems.
110005: Programming and Problem Solving
CO1: Identify and define problem solving aspect and various data types and its operations (Knowledge)
CO2 [·] Describe and Implement various logical constructs of Python Language (Understand Apply)
CO3: Inculcate & Apply built-in functions to optimize the code. (Apply)
CO4: Analyse and improve reusability of code for real time problems using Python concepts.(Analyse)
CO5: Understand & Compare object oriented concepts with other programming paradigms.(Evaluate)
CO6: Design and Develop efficient model using Python.(Create)
101011: Engineering Mechanics
CO1: Determine resultant of various force systems.
CO2: Determine centroid, moment of inertia and solve problems related to friction.
CO3: Determine reactions of beams, calculate forces in cables using principles of equilibrium
CO4: Solve trusses, frames for finding member forces and apply principles of equilibrium to forces in space
CO5: Calculate position, velocity and acceleration of particle using principles of kinematics
CO6: Calculate position, velocity and acceleration of particle using principles of kinetics and Work, Power, Energy
107008: Engineering Mathematics – II
CO1: Ability to learn the effective mathematical tools for solutions of first order differential equations
CO2: Ability to apply mathematical tools to model physical processes such as Newton's law of cooling,
electrical circuit, rectilinear motion, mass spring systems, heat transfer etc. CO3: Ability to understand advanced integration techniques such as Reduction formulae, Beta functions, Gamma functions, Differentiation under integral sign and Error functions needed in evaluating multiple integrals and their applications
CO4: Ability to trace the curve for a given equation and measure arc length of various curves.
CO5: Ability to learn the concepts of solid geometry using equations of sphere, cone and cylinder in a comprehensive manner.
CO6: Ability to learn the evaluation of multiple integrals and its application to find area bounded by curves, volume bounded by surfaces. Centre of gravity and Moment of inertia.
102012: Engineering Graphics
CO1 : Draw the fundamental engineering objects using basic rules and able to construct the simple geometries.
CO2 : Construct the various engineering curves using the drawing instruments.
CO3 : Apply the concept of orthographic projection of an object to draw several 2D views and its sectional views for visualizing the physical state of the object.

CO4 : Apply the visualization skill to draw a simple isometric projection from given orthographic views precisely using drawing equipment.
CO5 : Draw the development of lateral surfaces for cut section of geometrical solids.
CO6 : Draw fully-dimensioned 2D, 3D drawings using computer aided drafting tools.
110013: Project Based Learning
CO1: Identify real life problems through rigorous literature survey from socital need point of view
CO2:Analyze the indentified problem through technological perspective
CO3:Proposed suitable solution to contribute society using fundamental knowledge of engineering through modern tools
CO4:Use of technology to demostrate proposed work in oral & written form
CO5:Develop ability to work as an individual and as a team member
CO6:Inculcate attitude of individul and team work for life long learning
111006: Workshop Practice
CO1:Familiar with safety norms to prevent any mishap in workshop.
CO2:Handle appropriate hand tool, cutting tool and machine tools to manufacture a job.
CO3:Understand the construction, working and functions of machine tools and their parts.
CO4:Know simple operations (Turning and Facing) on a centre lathe.

Table 8.4.1 (e) - CO Statements

Assessment tools and processes used for measuring the attainment of each of the Program Outcomes

"In outcome-based education, a "design down" process is employed which moves from POs to Course Outcomes (COs) and outcomes for individual learning experiences. Outcomes at each successive level need to be aligned with, and contribute to, the program outcomes.

Courses are the building blocks of a program. Teaching strategies, learning activities, assessments and resources should all be designed and organized to help students achieve the learning outcomes at the course level. In the assessment activities, students demonstrate their level of achievement of the course learning outcomes. In a constructively aligned program, the courses are carefully coordinated to ensure steady development or scaffolding from the introduction to mastery of the learning outcomes, leading to achievement of the intended POs. For the effectiveness of the program, the achievement of POs is crucial which needs to be proven through accurate and reliable assessments.

POs give useful guidance at the program level for the curriculum design, delivery and assessment of student learning. However, they represent fairly high-level generic goals that are not directly measurable. Real observability and measurability of the POs at course level is very difficult. To connect high-level learning outcomes (POs) with course content, course outcomes and assessment, there is a necessity to bring further clarity and specificity to the program outcomes. This can be achieved through the following two-step process of identifying Competencies and Performance Indicators (PI).

- 1. Identify Competencies to be attained: For each PO define competencies –different abilities implied by program outcome statement that would generally require different assessment measures. This helps us to create a shared understanding of the competencies we want students to achieve. They serve as an intermediate step to the creation of measurable indicators.
- 2. Define Performance Indicators: For each of the competencies identified, define performance Indicators (PIs) that are explicit statements of expectations of the student learning. They can act as measuring tools in assessment to understand the extent of attainment of outcomes. They can also be designed to determine the appropriate achievement level or competency of each indicator so that instructors can target and students can achieve the acceptable level of proficiency.

Once the above process is completed for the program, the assessment of COs for all the courses is designed by connecting assessment questions (used in various assessment tools) to the PIs. By following this process, where examination questions map with PIs, we get clarity and better resolution for the assessment of COs and POs."

PO/PSOs Assessment Tools

Direct assessment tools and indirect assessment tools are considered for assessment of POs and PSOs. Direct assessment tool used is through courses. The tools used for assessment of POs/PSOs are the same which are used for assessment of COs. These tools are defined in Table B 8.4.1(a).



Fig:8.4.1 (f)

PO/PSO assessment is done by giving 80% weightage to direct assessment and 20% weightage to indirect assessment. Direct assessment is based on CO attainment, where 80% weightage is given to attainment through Direct Assessment Tools and 20% weightage is given to attainment through Indirect assessment tool. Indirect assessment of Pos/PSOs is done through Graduate exit survey, Employer Survey, Parent Survey and Alumni Survey. Weightage for each survey is equal.

Target Levels for PO/PSOs

The tool used for evaluation on POs and PSOs is courses and the survey. Hence to decide the target levels of PO/PSOs, average of CO – PO/PSO mapping of all subjects and target level of survey are consider. 80 % weightage is for average of CO – POs mapping and 20 % weightage for survey.

Attainment Levels of POs/PSOs through Courses

The various direct assessment tools used to evaluate COs and the frequency with which the assessment processes are carried out are listed in Table – B 8.4.1 (a).

Tools used to evaluate PO/PSO attainment are the same as that for CO attainment. Attainment Levels for internal as well as external assessment tools are also the same for PO/PSO attainment and are defined as;

Attainment Level 1: 40% to 60 % students scoring more than 60% marks out of the relevant maximum marks.

Attainment Level 2: 60% to 70 % students scoring more than 60% marks out of the relevant maximum marks.

Attainment Level 3: More than 70% students scoring more than 60% marks out of the relevant maximum marks.

As the tools and criteria for defining attainment level are the same for CO attainment and PO/PSO attainment levels, values of CO attainment levels are used to calculate PO/PSO attainment. Direct assessment of PO/PSO is based on CO attainment and correlation level.

Sample calculation for PO//PSO attainment is described in the following three steps:

Step - 1

CO Attainment and CO – PO/PSO mapping is defined for the course by correlation level low to high (1 to 3).

Course	со	Program Outcomes						
Outcomes	Attainment	PO1	PO2	PO3	PSO1			
CO207002.1	2.5	3	1					
CO207002.2	2.8	3	2	1	1			
CO207002.3	2.3	2	2		2			
CO207002.4	1.5	2	1	1	1			
CO207002.5	2.0	1	1					
CO207002.6	3.0	3	3					

Table - 8.4.1 (f) CO - PO/PSO Mapping

Step-2

Direct PO/PSO attainment is calculated using the following formula:

PO/PSO attainment = (Level of Mapping of PO with CO X CO attainment Level) / 3

Course	со	Program Outcomes						
Outcomes	Attainment	PO1	PO2	PO3	PSO1			
CO207002.1	2.5	=2.5x3/3	=2.5x1/3					
CO207002.2	2.8	=2.8x3/3	=2.8x2/3	=2.8x1/3	=2.8x1/3			
CO207002.3	2.3	-2.3x2/3	-2.3x2/3		-2.3x2/3			
CO207002.4	1.5	=1.5x2/3	=1.5x1/3	=1.5x1/3	=1.5x1/3			
CO207002.5	2.0	=2.0x1/3	=2.0x1/3					
CO207002.6	3.0	=3.0x3/3	-3.0x3/3					

Table - 8.4.1 (g) PO/PSO Attainment Calculations

Step - 3

Direct PO/PSO attainment is evaluated by taking an average of PO/PSO attainment by each CO attainment.

Course	со	Program Outcomes						
Outcomes	Attainment	PO1	PO2	PO3	PSO1			
CO207002.1	2.5	2.50	0.83					
CO207002.2	2.8	2.80	1.87	0.93	0.93			
CO207002.3	2.3	1.53	1.53		1.53			
CO207002.4	1.5	1.00	0.50	0.50	0.50			
CO207002.5	2.0	0.67	0.67					
CO207002.6	3.0	3.00	3.00					
Average PO/P	SO Attainment	1.92	1.40	0.72	0.99			

Table 8.4.1 (h) Average PO/PSO Attainment by Course

8.5 Attainment of Program Outcomes from first year courses (20)

8.5.1 Indicate results of evaluation of ezch relevant PO and/ or PSO, if applicable (15)

Total Marks 20.00 Institute Marks : 15.00

POs Attainment:

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
107001	2.37	1.58	0.79	PO4	0.79	PO6	PO7	PO8	PO9	PO10	PO11	PO12
107002	1.30	0.77	PO3	PO4	0.77	PO6	0.60	PO8	PO9	0.65	PO11	PO12
102003	1.92	0.96	PO3	PO4	PO5	PO6	0.96	PO8	PO9	0.96	PO11	PO12
103004	1.78	0.89	0.89	PO4	0.89	PO6	P07	PO8	PO9	PO10	PO11	PO12
110005	1.23	1.99	1.58	PO4	0.98	PO6	PO7	0.98	0.99	0.98	PO11	0.99
111006	1.00	1.00	1.00	1.00	PO5	1.00	PO7	PO8	PO9	PO10	PO11	PO12
107008	2.85	1.90	0.95	PO4	0.95	PO6	PO7	PO8	PO9	PO10	PO11	PO12
107009	2.26	1.96	0.98	PO4	PO5	PO6	0.97	PO8	0.96	0.96	PO11	PO12
104010	1.96	0.98	0.98	PO4	0.98	PO6	PO7	PO8	PO9	PO10	PO11	PO12
101011	2.96	1.97	PO3	PO4	0.98	PO6	PO7	PO8	PO9	0.98	PO11	0.99
102012	1.97	0.98	0.97	PO4	0.98	PO6	PO7	PO8	PO9	0.98	PO11	0.99
110013	2.31	1.32	0.99	PO4	2.48	0.99	0.99	PO8	1.98	0.99	0.99	0.99

PO Attainment Level

Course	PO1	PO2	PO3	PO4	PO5	PO6	P07	PO8	PO9	PO10	PO11	PO12
Direct Attainment	1.99	1.36	1.01	1.00	1.09	1.00	0.88	0.98	1.31	0.93	0.99	0.99
CO Attainment	1.99	1.36	1.01	1.00	1.09	1.00	0.88	0.98	1.31	0.93	0.99	0.99

PSOs Attainment:

Course	PSO1	PSO2	PSO3
107001	1.06	0.89	0.96
107002	0.71	0.98	0.82
102003	0.96	1.28	0.96
103004	0.88	0.88	0.89
110005	PSO1	PSO2	PSO3
111006	1.00	1.00	1.00
107008	0.96	0.95	0.95
107009	PSO1	0.97	0.98
104010	PSO1	PSO2	0.98
101011	1.64	0.98	0.99
102012	0.98	0.98	0.98
110013	0.99	0.99	0.99

PSO Attainment Level

Course	PSO1	PSO2	PSO3
Direct Attainment	1.02	0.99	0.95
CO Attainment	1.02	0.99	0.95

8.5.2 Actions taken based on the results of evaluation of relevant POs (5)

Institute Marks : 5.00

POs Attainment Levels and Actions for Improvement- (2020-21)

POs Target Level Attainment Level Observations	POs
--	-----

PO 1 : Engineering Knowledge

,			
PO 1	2.03	1.99	Attainment is 98.03% of the target value. Courses showing the lower attainment values are: Engineering Mathematics I, Engineering Physics, Systems in Mechanical Engineering, Engineering Mathematics II, Engineering Chemistry. The students faced difficulty to understand basic concepts of these courses.
Action 1 To conduct Expe Action 3 To guide studen	ert Lecture & Extra Test/Quiz to ent ts to choose interdisciplinary proble	nance basic engineering knowledge ems in Project Based Learning.	e. Action 2 To provide a question bank to improve engineering knowledge.
PO 2 : Problem Analysis	S		
PO 2	1.49	1.36	Attainment is 91.27% of the target value. Courses showing the lower attainment values are: Engineering Mathematics I, Engineering Physics, Basic Electrical Engineering, Engineering Mathematics II. These courses need better understanding through practical knowledge and sound basics.
Action 1 To give more pro	oblems to improve understanding o	f the subject.	
PO 3 : Design/developm	nent of Solutions		
PO 3	1.07	1.01	Attainment is 94.39% of the target value. Subjects showing the lower attainment values are: Engineering Mathematics I, Basic Electrical Engineering. These kinds of courses need more practice. Students need to practice on calculations and derivations-related questions.
Action 1 To organize an i considerations.	ndustrial visit to get familiar with en	gineering problems. Action 2 To gu	ide students to take on projects related to societal and environmental
PO 4 : Conduct Investig	ations of Complex Problems		
PO 4	1.00	1.00	Attainment is 100% of the target value.
Action 1 To set a higher t	arget value.		
PO 5 : Modern Tool Usa	ge		
PO 5	1.17	1.09	Attainment is 93.16% of the target value. Courses showing the lower attainment values are: Engineering Mathematics I, Engineering Physics, Basic Electrical Engineering, Engineering Mathematics II.
Action 1 Effective utilizati facilitate students for usir	ion of modern tools like Vlab, Agile ng modern online software and Sim	Basics, Google Quiz, PPT, YouTub ulation software.	be Videos, google website, NPTEL video lectures, MS Teams. Action 2 To
PO 6 : The Engineer and	d Society		
PO 6	1.00	1.00	Attainment is 100% of the target value.
Action 1 To set a higher t	arget value.		
PO 7 : Environment and	I Sustainability		
PO 7	1.00	0.88	Attainment is 88% of the target value. Engineering Physics is showing a lower attainment value.
Action 1 To create aware	ness through Lab Activity and Field	Visit to explore the knowledge of	Environment & Sustainability.
PO 8 : Ethics			
PO 8	1.00	0.98	Attainment is 98% of the target value. Programming and Problem Solving is showing a lower attainment value.
Action 1 Organize expert	lectures/ motivational talk to overc	ome the above observation.	
PO 9 : Individual and Te	am Work	1	
PO 9	1.33	1.31	Attainment is 98.50% of the target value. Engineering Chemistry is showing a slightly lower attainment value. Attempts to be made for further enhancement in individual and team work.
Action 1 To conduct more	e Group activities/presentations to e	enhance the ability of performing in	dividually and in a team.
PO 10 : Communication	 		
PO 10	1.00	0.93	Attainment is 93% of the target value. Engineering Physics is showing a lower attainment value. Increasing the participation of students in team work activities to boost effective communication.
Action 1 To provide profe	ssional training to improve verbal &	k written communication through pr	actical activities/Group Discussion/Presentations/Reports.
PO 11 : Project Manage	ment and Finance		
PO 11	1.00	0.99	Attainment is 99% of the target value. Project Based Learning is showing a slightly lower attainment value.
Action 1 To create aware	ness among the students about pro	pject management principles while	writing project reports.

PO 12 : Life-long Learning

PO 12	1.00	0.99	Attainment is 99% of the target value. Courses showing the slightly lower attainment values are: Programming and Problem Solving, Engineering Mechanics, Engineering Graphics, Project Based Learning. Students need to encourage to participate in professional chapters for overall development
Action 1 More number of	f self learning assignments to be give	ven. Action 2 To conduct relevant a	ctivities under various student professional chapters and NSS.

PSOs Attainment Levels and Actions for Improvement- (2020-21)

PSOs	Target Level	Attainment Level	Observations			
PSO 1 : Our graduate will have competencies in design and develop mechanical elements and systems.						
PSO 1	1.11	1.02	Attainment is 91.89% of the target value. Courses showing the lower attainment values are: Engineering Mathematics I, Engineering Physics, and Basic Electrical Engineering courses need to be pondered.			
Action 1 Facilitating the	knowledge gain through mini-projec	ts, projects, Project based learning	, internship, industrial visits.			
PSO 2 : Our graduate w	PSO 2 : Our graduate will have incremental skills to specify and select materials, processes to manufacture an industrial product.					
PSO 2	1.03	0.99	Attainment is 96.12% of the target value. Engineering Mathematics I and Basic Electrical Engineering are showing a lower attainment value. Efforts needed to develop the ability to understand the performance of design and its process.			
Action 1 Case study base	ed assignments to be given					
PSO 3 : Our graduate w	ill have industry oriented attribu	tes through industrial in-plant tra	aining, co-curricular and extension activities.			
PSO 3	1.04	0.95	Attainment is 91.35% of the target value. Courses showing the lower attainment values are: Engineering Mathematics I, Engineering Physics, Basic Electrical Engineering courses need to be pondered.			
Action 1 To conduct Case	e study based assignment and virtu	ual industrial visits.				

9 STUDENT SUPPORT SYSTEMS (50)

9.1 Mentoring system to help at individual level (5)

Total Marks 50.00

Total Marks 5.00

Institute Marks : 5.00

Counselling and Mentoring encompasses a broad set of skills, approaches and techniques that are essentially aimed at helping students with problem solving, problem management, resolving past issues, working towards developmental aims and goals for the future, which include improving performance and meeting career and personal aspirations.



Figure B9.1.1: Mentoring Process

The counselling and mentoring process is developed 1. To help students to overcome emotional challenges, 2. To assist a student to know him/herself better his/her interest, abilities, attitudes and opportunities, 3. To work out a plan (behavioural therapy) for solving his difficulties, 4. To assist students in planning for career choices.

Functioning:

- · Each faculty acts as a mentor in the counselling & mentoring process.
- · A mentor is responsible for guiding about 20 students of a class
- The mentor listens to the problems of the mentee, both academic and personal, which hinder their learning abilities.
- · In the mentoring sessions, students raise their difficulties/problems regarding academics/general facilities/hostel facilities with their respective mentors.
- If the mentor/course coordinator/GFM/HOD observes or finds a student who needs professional counselling, his case is forwarded to the Professional Counselling agency through the Counselling & Mentoring Coordinator.

Post Counselling:

- · Feedback and Behavioural improvements are observed from the student seeking professional counselling.
- Record of a case study report is asked from the mentor mentioning the positive changes and improvement observed for the student.

Role of Department Mentor Coordinator:

- · To distribute required formats to the department mentors.
- To maintain the list of the students and respective mentors.
- To monitor the records of mentors on a regular basis and report to the HOD.
- To collect the records from all the mentors at the end of every semester & retain them in the department.
- To handover the mentor records of earlier semester to next mentors at the beginning of semester through HOD
- · To conduct the meeting once in the month within the department and maintain the minutes.

Roles and Responsibilities of Mentors:

- · To collect the list of allotted students and formats for updating the students' record.
- · To collect the "Student Information" from the respective GFM.
- · To establish the contact with the parents through telephonic discussion, appraise them about the development of their ward.
- · To conduct meetings with students fortnightly.
- To act as a Counsellor, Guide and Philosopher of the student.
- · To encourage the student to have open dialogue.
- · To record the observations about student viz. achievements, doubts, fears, grievances, etc.
- · To evaluate the student's ability, strengths and weaknesses
- To help the student to overcome their weaknesses and strengthen the abilities to excel in his/her defined objectives.
- To submit the files complete in all respect to HOD at the end of term.
- · To report the weak cases to the Students Counselling Cell, as well as those cases wherever special assistance is required, through HOD.

The counselling and mentoring process is developed

- · To help students to overcome emotional challenges.
- · To assist a student to know him/herself better his/her interest, abilities, attitudes and opportunities.
- To work out a plan (behavioural therapy) for solving his difficulties.
- To assist students in planning for career choices.

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Functioning

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- To report the weak cases to the Students Counselling Cell, as well as those cases wherever special assistance is required, through HOD.

Table B9.1.1: Mentor-Mentee Allotment for Academic Year 2021-22

Sr. No.	Class/Division/Batch	No. of Mentee	Name of Mentor (Term I)	Name of Mentor (Term II)
1	SE Mech/SW/A	26	Mr N N Gotkhindikar	Dr S R Patil
2	SE Mech/SW /B	26	Dr P S Gajjal	Dr B D Bachchhav
3	SE Mech/SW /C	26	Mr M S Swami	Mr M S Swami
4	TE Mech/SW/A		Mrs A T Thombare	
5	TE Mech/SW /B	80	Dr D Y Dhande	Individual internship guide
6	TE Mech/SW /C		Dr A M Ramteke	
7	TE Mech/SW/D		Mr M P Bauskar	
8	BE Mech/SW/A	30		Dr C S Dharankar
9	BE Mech/SW /B	29	Individual internship guide	Dr A V Waghmare
10	BE Mech/SW /C	13		Mrs M P Shah
11	BE Mech/SW/D	07		Mrs M P Shah

Following is a sample of attendance sheet of counselling session:

Date	Time	Name of Student	Branch	Roll Number	Student	Mobile Number	Signature of
19/10/1	1:00.	Anna Kome C.I	mile	Burgeret	Signature	0 = 6 = 0 = 7 = 10	Counselor
19/1089	L'ur.	When Aurily Comp	Como.	area h	aw	8370209217	two
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15/10/10	0:45	Puter Kattake	Macha	12 555 64 1	ostattaK	74075000	per
10000	2.45	Pange Panan	Piecon	101-10-02	111	150150000	100-
18/20/14	1.00.	Prophile On Wildle	Electrical	15451 010	healik	8031114000	Acres
Islio Ia	12.45	Pradaus AMaria	Electrical	1661028	De	OPACADO 22	Ten
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Figure B9.1.2. Attendance sheet of Counselling sessions

Following is a sample of counselling session report:



AISSMS COE

Counseling Session report of Student.

Client name: Aman Chopde

(Growth counseling)

Student from civil department visited for counselling session. Client is an extrovert personality. Client is comfortable talking with others. During session we discussed about different career options. This session was about prowth counselling. While talking counselor found he is very much focused on his career. Client had already decided what he wanted to achieve. Therefore further discussions were done about the efforts and path to reach the goal which he has decided for himself. Client had few doubts but they were resolved during the session. At the end of the session client was happy, comfortable and more confident about his carrier choice.

Dr Makarand Thombare	
1 or in	REIVATE
ance fr	HH PUNE
Founder, Director	+ 00
IHHI Pvt Ltd, Pune	

102, Mayur Apartments, 77, MayurColony,Kothrud, Pune, Maharashtra 411029. Contact: 9623069665, 5405565996 www.holstichealingindia.org. hithisume@zmail.com

Figure B9.1.3: Counsellor report of counselling

All Indu Shri Shriyi Memorial Society's College of Engineering, Pane-11891 Approved by ARCTL: New Debth Affiliated to Soviethia Phule Pane University, Pane								
	Mentoring Rec	ord						
Name of Department								
Name of Studeot.								
YearClass								
Division								
Name of Montor								
Academic Mentoring (Mala	Academic Mentoring (Maintain record for every fortnight)							
Academic besoft less Atendance	Action Taken	Remark	Sign student					

Psychologics Description of	il Issue / Montoring	Action Taken	Romark	Sign Studen	
Financial Mente	ring (As per n	(hor			
Financial Issue / of Mente	Description ring	Action Taken	Ronark	Sign Studer	
Overall Issue / De Mentor	escription of ing	Action Taken	Ronark	Sign Studer	
Communication	with Parents (Minimum once in a me	with)		
SL. Mother/Fathe		Date	Inne Discussed		
		_			
		_			
		_	-		

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> All India Shri Shivaji Memorial Society's College of Engineering, Pane – 411 001





Figure B9.1.4: Counselling session report and Various Mentoring forms

Mentoring system supports to get a feedback of students regarding facilities such as internet, classroom/lab cleanliness, drinking water, canteen etc. through mentor-mentee interactions. Mentor monitors students (mentees) regularity in the classes.

This monitoring supports to teaching learning system. Monitoring is done through SMS, calling to parents and by the way of ERP.

In a nutshell, mentoring helps to student to get professional guidance, to choose a right career and performing well in the academics.

9.2 Feedback analysis and reward /corrective measures taken, if any (10)

Total Marks 10.00 Institute Marks : 10.00

Student's feedback about teaching a course is collected for all courses twice in a semester through the ERP system

Frequency of Feedback: Twice in a Semester (Mid Term and End Term).



Mid Term feedback is taken after the first 30 to 40 days of teaching. Corrective actions are taken after this feedback. End Term feedback is taken at the end of the semester.

Following questionnaire is set for feedback

- 1. Has the teacher covered the entire syllabus as prescribed by university, college, board?
- 2. Has the teacher covered relevant topics beyond syllabus?
- 3. Pace on which contents were covered.
- 4. Motivation and inspiration for students to learn.
- 5. Clarity of expectations of students.
- 6. Feedback provided on students progress.
- 7. Effectiveness of teacher in terms of technical e-course content, communucation skills and teaching aids.
- 8. Support for the development of students skill practical demonstration through V-Lab, video demonstration, YouTube video.
- 9. Support from teacher during pandemic for addressing students issue.

A rubric is followed to access the syllabus covered by the faculty, pace of teaching, topic covered etc. is shared with students through ERP for evaluation of the faculty. Each question is assessed on a 5 to 1 scale. (5-Excellent, 4- Very Good, 3- Good, 2- Satisfactory and 1- Non-satisfactory). At the end of the feedback collection process, reports are generated in ERP showing a performance index. The method of obtaining feedback performance index is as follows.

Let total N students in a class participate in the feedback process and n_1 , n_2 , n_3 , n_4 and n_5 be the number of students giving feedback as Excellent, Very Good, Good, Satisfactory and Non-satisfactory, respectively. Each question in the questionnaire is assessed on a 5 to 1 scale (5- Excellent, 4- Very Good, 3- Good, 2- Satisfactory and 1- Non-satisfactory). The method of obtaining feedback performance index is as follows.

 $N = n_1 + n_2 + n_3 + n_4 + n_5$

Total marks obtained for a question = $5 \times n_1 + 4 \times n_2 + 3 \times n_3 + 2 \times n_4 + 1 \times n_5$

Maximum marks = $5 \times N$

Feedback obtained = (Total marks obtained for a question/ Maximum marks)*100%

The procedure is repeated to get feedback obtained for all questions in the questionnaire. The performance index is simply an average of the percentage feedbacks thus obtained. This index is mentioned in the feedback report.

	TOTAL	103	64	40	17	1	926	1125	82%
SI T P A S	UPPORT FROM EACHER DURING ANDEMIC FOR DDRESSING TUDENTS ISSUE	12	5	5	3	0	101	125	81%
S D S P D T V D Y	UPPORT FOR THE EVELOPMENT OF TUDENTS SKILL RACTICAL DEMONSTRATION HROUGH V-LAB, TDEO DEMONSTRATION, OU TUBE VIDEO	, II	7	5	-	•	105	125	84%
T C C S T	EFFECTIVENESS OF TEACHER IN TERMS OF TECHNICAL E- OULRSE CONTENT, COMMUNICATION KILLS AND TEACHING AIDS	ана (1) 	8	5	1	0	164	125	83%
6 P P	FEDBACK PROVIDED ON STUDENTS PROGRESS	10	7		and a second	1	99	125	79%
5 8	CLARITY OF EXPECTATIONS OF STUDENTS	,	10	3	3		100	125	80%
4 I 1 1	MOTIVATION AND INSPIRATION FOR STUDENTS TO LEARN	12	6	4	3	0	102	125	82%
3 0	PACE ON WHICH CONTENTS WERE COVERED	н	8	4	2	0	103	125	82%
2 5	HAS THE TEACHER COVERED RELEVANT TOPICS BEYOND SYLLABUS	13	7	4	1		107	125	86%
1 1 1 1 0	HAS THE TEACHER COVERED ENTIRE SYLLABUS AS PRESCRIBED BY UNIVERSITY, COLLEGE, BOARD	13	6	4	2	0	105	125	84%
DATE SR NO	- 19/03/2021 QUESTION	EXCELLENT	VERY GOOD	GOOD	SATISFACTORY	NOT SATISFACTORY	TOTAL MARKS	OUT OF	PERCENTAG
ACAD	DEMIC YEAR - 2020-202	21	SUBJE	CT - MAN	UFACTURING ENG	INEERING (THEOR	ETICAL)	SEMES	TER 4 (A)
TEAC	HER -		DEPAR	TMENT -	MECHANICAL EN	GINEERING SANDA	VICH	TOTAL	STUDENTS - 2

Figure B9.2.2 Feedback report

Faculty are provided with letters of appreciation or improvement based on performance index. This index is used for measuring quality of teaching & learning. For the performance index of 75 and more, appreciation letters are issued by the Head of the Department. For a lower index, the Head of the Department issues improvement.

Sr		Class	Feedback	Feedback	Average
No.	Name of faculty	and	(I)	(II)	Feedback
NO.		Subject taught	(%)	(%)	(%)
1	Dr P S Gajjal	SE MS SM	90	89	89.5
2	Dr D Y Dhande	TE MS ACAE	81	82	81.5
3	Dr S H Wankhade	TE MS MTX	86	85	85.5
4	Dr S J Navale	TE MS HMT	79	82	80.5
5	Prof P S Aglawe	TE MS NSM	74	81	77.5
6	Prof A T Thombare	TE MS DME	77	83	80
7	Prof M S Swami	SE MS_SMD	89	92	90.5
8	Prof G P Lohar	SE MS ET	84	88	86
9	N N Gotkhindikar	SE MS EMM	86	89	87.5

Table B9.2.1: Faculty feedback AY 2021-22 Term I

Reward / Corrective measures:

1. Faculty members with more than 75% feedback were appreciated and motivated to continue their hard work and explore the scope of further improvement.

2. Faculty members with less than 75% feedback were asked to discuss any kind of problem or issue being faced by them in subject content, preparation and delivery of lecture. They were motivated to attend faculty development programs in order to improve modes of teaching. They were also advised to go through video lectures available online onplatforms like NPTEL.

	AISSMS COLLEGE OF ENGINE	
Affiliated to Sav	Approved by AICTE New Delhi, Recognized by Govt. Itribal Phule Pune University and recognized 2(f) and 12(8) Accredited by NAAK with 'A+' Grad	of Maharashtra, by UGC(id. No. PU/PN/Engg/093(1992)
Kennedy Road, Pune 411001, Maha	rashtra, India. Tel: +91 - 20 - 26058587, 26057560, 2605834. www.aissmscoe.com	2 Email: contact@aissmscoe.com, principal@aissmscoe.com
Dep	partment of Mechanical Engine	Date 19/03/04
To,		
PROFESSOR		
Subject - Letter of Ap	opreciation	
Dear Sir,		
It ş	gives me immense pleasure to congra	atulate you on the behalf of Mechanical
Engineering Sandwic	h department based upon the analys	sis of feedback forms submitted by the
students of for the subj	ect Manufacturing Engineering . It	t has been assumed that you are carrying
out a commendable iol	of teaching. The department highl	v appresiates your efforts and with a t
our a commentatore jor	or reaching . The department night	y appreciates your enorts and wisnes to
see the same kind of e	nthusiasm from you, towards your	work for as long as associated with us.
Wishing you all the bes	t !!!	
		A REAL PARTY AND A REAL PARTY.
	di-	stu
CLASS TEACHER	FEEDBACK COORDINATOR	HEAD OF DEPARTMENT
		Head of Department
10 A.		Mechanical Engineering

Figure B9.2.3 Reward measure- appreciation letter

9.3 Feedback on facilities (5)

Total Marks 5.00

Institute Marks : 5.00

Different facilities are provided to the students to enhance their overall development. A few of them are cultural, sports, and technical events consisting of workshops, seminars, etc. Very good infrastructure facilities are also provided to the students. Every year at the end of the second semester, i.e. in the months of March and April, one feedback form is delivered to the students by ERP, and the students fill it out. The feedback form questions are structured in such a way that the institute can receive clear feedback on how to enhance the facilities. Corrective actions are being made to ensure that students have adequate facilities for the coming academic year.

Questionnaire of the feedback is based on the following components:

- 1. Class room infrastructure (boards, internet, LCD projector, etc.) and overall ambience
- 2. Laboratory facilities (boards, internet, computer, equipment, etc.)
- 3. Cleanliness and ambience of campus
- 4. Library, reading room and other library facilities
- 5. Sports, Cultural and Extra-curricular activities facilities (NSS, Annual functions, etc.)
- 6. Parking, security and proctorial services in the campus
- 7. Mentoring, Counselling, Redressal of grievances and support to students for admissions, examinations, etc.).
- 8. Support to training, placements and internships.
- 9. Overall impression about infrastructure and facilities provided in the institute.
- 10. Canteen facility and availability of drinking water.

Following is a sample of Infrastructure and Facility feedback taken through ERP:

	COURSE : MECHANICAL ENGINEERING YEAR : SE										
	ONLINE STUDENTS FEEDBACK ON INFRASTRUCTU	RE AND FAC	ILITIES	FORAJ	2021-2022						
SR NO	INFRASTRUCTURE AND FACILITIES	# (EXCELLENT)	4 (VERY GOOD)	3 (GOOD)	(WERAGE)	1 (7008)	TOTAL				
1	CLASS ROOM INTRASTRUCTURE (BOARDS, INTERNET, LCD PROJECTOR, ETC.) AND OVERALL AMBIENCE	28	20	17		•	70				
2	LABORATORY FACILITIES (BOARDS, INTERNET, COMPUTER, EQUIPMENT, ETC.)	26	27	14	4		70				
3	CLEANLINESS AND AMBIENCE OF CAMPUS	э	23	16	4	٠	70				
4	LIBRARY, READING ROOM AND OTHER LIBRARY FACILITIES	м	22	n	1	٠	70				
8	SPORTS, CULTURAL AND EXTRA-CURRICULAR ACTIVITIES FACILITIES (NSS, ANNUAL FUNCTIONS, ETc.)	ж	24		- 1	1	70				
6	PARKING, SECURITY AND PROCTORIAL SERVICES IN THE CAMPUS	30	27	,	•	2	70				
,	MENTORING, COUNSELING, REDRESSAL OF GRIEVANCES AND SUPPORT TO STUDENTS FOR ADMISSIONS, EXAMINATIONS, ETC.)	ы	28	16	3	1	70				
8	SUPPORT TO TRAINING, PLACEMENTS AND INTERNSHIPS	25	28	16	2	1	79				
,	OVERALL DIFFESSION ABOUT INFRASTRUCTURE AND FACILITIES PROVIDED IN THE INSTITUTE	28	в	18	1	•	70				
10	CANTEEN FACILITY AND AVAILABILITY OF DRINKING WATER	2J	17	16	п	3	70				
TOTA	NL.	279	20	140	л	8	790				

Figure B9.3.1 Infrastructure and Facility feedback on ERP

Based on the feedback, various corrective actions have been taken such as improvement in canteen facility, purified water supply, internet bandwidth, cleanliness, stationary availability, facility for co-curricular and extracurricular facilities.

9.4 Self-Learning (5)

Total Marks 5.00

Institute Marks : 5.00

Institute has provided a large scope to students to learn on their own as per their interest. This is in the form of online and offline, on campus and off campus. AICTE's NPTEL platform has attracted students a lot at par

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with regular courses. Students can register online and learn at their pace. Online platforms such as Coursera, edX, IIRS are made available to students. Subscribed E-resources are IEEE, ASCE, ASME, J-GATE, McGraw Hill and Science Direct.

Table B9.4.1: Self-Learning facilities: Details of Digital Library/Remote Access

	Knimbus Digital Library and Remote Access - https://aissms.new.knimbus.com/user#/home (https://aissms.new.knimbus.com/user#/home) The AISSMS COE Library has subscribed to Digital Library. Remote Access to E resources facility is available under the platform.							
Faculty Publications Repository http://172.16.0.71:8080/jspui/ (http://172.16.0.71:8080/jspui/) Faculty Publications are archived under Dspace Repository. Department wise faculty publications can accessed through this link in College LAN								
Calibre Digital Library - http://172.16.2.101:8080/ (http://172.16.2.101:8080/) The Calibre Digital Library has been set up for E books and previous year question papers students.								

 $Link \ for \ DELNET \ Service \ - \ http://www.delnet.in/\# \ (http://www.delnet.in/) \ http://164.100.247.26/ \ (http://164.100.247.30/) \ http://164.100.247.30/)$

Facilities available:

- 1. Interlibrary Loan Required books /Articles can be borrowed from member Library
- 2. Free access to digital resources eBooks
- 3. Remote access is available



Figure B9.4.1: Full-text digital library resources

	1		
Sr. No	Торіс	Resource person	Date
1	Supply Chain Management	Mr. Vinayak Kasabekar, DY Manager, Shafeller India	10 April 2020
2	Production Planning And Control	Mr. Rohit Kshirsagar, Assistant Manager, Kirlosker Pumps	1 May2020
3	Additive Mfg.	Mr. Avinash Khare, IMTMA, Chinchwad	8/8/2019
4	Role and Effect on Industries of Robotics and Automation in coming years	Gautam Doshi, Advisor, Indian Machine Tool Manufacturers Association (IMTMA)	3/10/2019
5	Welding Technology	Mr. Sagar Naikade, Valmont India, Quality Engineer,	08/07/2019
6	MSA system	Mr S A Mandhare	26/07/2019
7	ARAI Pune	Mr S S Tikar	05/10/2019
8	Fundamentals of Dynamic Analysis	Mr. Nitin Badhe, Sr. Technical Specialist- Global NVH, ALTAIR INDIA Pvt Ltd, Pune	15/10/2019

Table B9.4.2: Seminar/Webinar and invites lectures

9	How to Enter in Artificial Intelligence	Mr. Ajit Deshpande (Advanced Analytics, FinTech)	01/10/2019
10	Applications of CFD in Heat transfer Analysis	Dr Vivek Vitankar	24/09/2019
11	Robotics Process Automation	Mr Quayam Akhatar	25/09/2019
12	Energy and Environment	Dr Prasad Khandagale, R & D Head, Henkel, Pune 9822683341	04/10/2019

Table B9.4.3: NPTEL RESULTS

Course Run	Present	Gold	Elite	Silver	Successful	Participation	Topper
Jan-Apr 2022	137	02	13	03	17	35	9

Table B9.4.4: edX Courses, Jan 2021

Invitations sent Learners joined		Enrolled learners (at least one course)	Active learners	Course completion	
930	535	210	80	22	

Table B9.4.5: Coursera E learning Platform- Usage and enrolment record

Invitations sent	Learners joined	Enrolled learners	Total learning hours	Lesson taken	Course rating
2924	2019	1870	40126	71410	4.7

Table B9.4.6: IIRS Training Program

Number of courses	Total enrolment
15 (Courses in Space application, Geo informatics, Ecology, Geo processing, Remote sensing)	101

Table B9.4.7: Details of students completed the courses

		No. of Students	6	No of students			
		registered		successfully completed			
	2019-20	2019-20 2020-21 2021-22			2020-21	2021-22	
Swayam/NPTEL Courses	2195	3178	2554	161	107	169	



Figure B9.4.2: NPTEL Certificate

9.5 Career Guidance, Training, Placement (10)

Total Marks 10.00

Institute Marks : 10.00

Centre for Information Training and Placement (CITP), a common section has been formed to cater Trainings, Placements and for Career guidance to students by taking help of Alumni strength and interaction with industry. The CITP has a well-established infrastructure to cater the said services. The career guidance to students is done at well-structured one to one mentoring and through professional counselling. Pre-placement and industry specific trainings are carried out at every stage of their undergraduate studies. Student's inclination towards a career is identified at first year level. In their second year studies, communication and soft skills are honed. Aptitude required for employment in general is prepared at third year level. Company specific training with contemporary knowledge is enhanced in the final year of their study. The CITP respects "One student one job policy".

Innovative TRIZ-based training enables students to improve their performance in terms of understanding the technical concepts (basic as well as advanced) in a deeper and appropriate way. at a higher cognitive level. This prepares them to perform more effectively in interviews (HR and Technical rounds).

Placement policy:

- 1. The companies visiting the campus are divided into IT/Software companies (product, service based) and Core Companies (Non IT/Software) (Manufacturing, service providers).
- 2. Companies are invited and scheduled on the basis of following parameters:

11/15/22, 11:51 AM

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- a. Eligibility criteria, opportunities for all
- b. Job profile and growth prospects.
- **C.** The package being offered by the company.
- d. Past record of recruitment at AISSMS COE.
- e. Feedback from the students regarding the company.
- 3. If a company prefers to have a common selection process for our institute students along with nearby Engineering institutes, the selection drive is conducted either by our institute or by the other institute after discussion with participating institutes.

4. If the market situation and job scenario necessitate a revision in the Placement Policy, it will be done in a manner so as to maximize the benefit to the student community as a whole.

Pre-Placement Talks (PPT):

- 1. Notices of the PPT will be published in the placement website well in advance. Students should be available 15 minutes before the scheduled start of the PPT.
- 2. Students interested in a particular company, can attend its PPT.
- 3. Students must go through the complete selection process of a particular company.
- 4. Any clarification regarding salary break-up, job profile, place of work, bond details, etc. must be sought from the companies during PPT or interview.
- Students must be formally dressed whenever they participate in any interaction with a company. CITP reserves the right to refuse permission to a student to attend the selection process/PPT, if they do not dress up formally.

Placement Procedure:



Figure B9.5.1 Placement Procedure

Job Offers:

- a. Pre-Placement Offers: The following rules are applicable to companies that make PPO through the CITP Office.
 - a. The offer of PPO (by the company) and its acceptance (by the student) shall be through CITP office only.
 - b. Once a student accepts a PPO, he / she shall be de-registered from placement process.
- b. Multiple Offers: Each student is eligible for one CORE and one NON-CORE job offer only.
- a. If a student receives more than one offer in a session/day and if there is a delay in the announcement of results by some companies, the student is bound to accept/reject the job offers of the company whose results are declared in time.
- b. If the results are declared on the same session / day, the student may choose from the offers in hand and inform the CITP office of his/her choice, within 24 hrs of announcement of results
- C. Every student who is selected by a company is out of placement thereafter i.e. deregistered from the placement website.
- d. All companies are requested to release the Offer and hand over to CITP office after the completion of the recruitment session.
- e. Offer Acceptance: The students should inform the acceptance/rejection of offer within 24 hours (on the day following the release of offer letter/mail). The company shall be intimated of the offer acceptance/rejection within three days of release of offer.
- f. In case of those students who are placed and waitlisted by other companies, they will be given 2 days to accept the offer on hand.

The Placement Office in the meantime will inform the company where he/she is waitlisted about his present offer.

The company that has waitlisted the students is required to release the offer within 24 hours, failing which the name of the student will be removed from the waitlist.

- 7. Announcement on the website will be considered as firm offer. Offers received from companies must be collected as per timings in circular / notice. The responsibility of going through the offer letter and taking actions therein such as submission of documents lies entirely with the student. All offers (made by the companies) shall be through this office only. This office will not be in a position to resolve problems, if any, that may arise with respect to offers made directly to the student by the company.
- 8. Second option is given to selected student if forthcoming offer is doubled the existing package or more than 8 LPA.

Table B9.5.1 Summary of Placements

Program	Intake	2019-	2019-20		2020-21		2021-22	
. rogram	Intakt	Students	Placed	Students	Placed	Students	Placed	
Chemical Engineering	60	75	23	75	30	67	32	
Civil Engineering	120	130	36	140	23	153	30	
Computer Engineering	120	133	75	150	117	141	103	
Electrical Engineering	60	66	19	78	30	77	40	
Electronics and Telecommunication Engineering	60	51	9	64	52	62	52	
Mechanical Engineering	120	149	45	139	55	151	85	

Mechanical Engineering [Sandwich]	60	58	22	71	31	78	14
Production Engineering Sandwich]	60	65	19	71	30	73	8

Soft Skill and Aptitude Training: Soft skill and Aptitude trainings are conducted on regular basis. Pre-placement and industry specific trainings are carried out at every stage of their undergraduate studies. Student's inclination towards a career is identified at first year level. In their second year studies, communication and soft skills are honed. Aptitude required for employment in general is prepared at third year level. Company specific training with contemporary knowledge is enhanced in the final year of their study.

	APTITUDE	TRAINING FOR TE CL	ASSES
o,	rtment.		07/04/22
AISSMS COE Pune			
Aptitude training online mode.	session for T.E. (All	branches) is organized from	11 th to 16 th April 2022 through
The training inclusive in the second	udes logical reason etc. It is designed c guidelines are sh r perusal.	ing, mathematical quantitat for 36 hours (6 hrs/day). The ared with respective departm	ive aptitude, personal interview e detail schedule including list of nent co-ordinators and attached
For students, att of the training p placement proce	endance is comput program, students ess.	sory and it will bemonitored will get a certificate. This cert	strictly. On successful completion ificate will be a pre-requisite for
1		A	D
Jour		DrAV Waghmare	Dr D S Bormane
V.S. Ponkshe Coordinator, Tra	ining	Head, CITP	Principal
		S, HOD - E	& TC Engineering
1. HOD - Chemic	cal Engineering	c 400 - N	techanicalEngineering
2. HOD - Civil E	ngineering	6. NOD - N	tutionEngineering
3. HOD - Compu	uterEngineering	7. HOD - P	roductionens
4. HOD – Electri	calEngineering		

AISSANS COLLEGE OF ENGINEERING UNITY TO AND A SALES AN								
	Class: T.E. From - 11/04/22 to 16/04/22							
	Department	Division	Faculty Co-ordinator (with mobile no)	Name of GFM (with mobile no)	Name of Trainer	Contact No	Email	
1	Chemical		Prof P.M. Warke (9823103089)		Pranav Thorat	7977889404	pr.thorat91@gmail.com	
2	~	A	Prof V.S. Chavan	5 A Chavhan (9960430643)	Pratiksha Tilekar	9604433127	pratikshatilekar85@gmail.com	
3	0.000	8	(9767193755)	Dr D V Wadkar(9730020695)	Chetan Manurkar	7773984154	chetanmanurkar92@gmail.com	
4		A	Prof Monali Deshmukh	Mr. A. P. Kadam (94210 89450)	Shruti Purandare	9422616758	shrutip41@gmail.com	
5	Compose		(7030990816)	Mrs. Shikha Phachouly (77688 64108)	Jay Prakash	9542956419	yakatijayaprakash@gmail.com	
6	Electrical		Prof V.S. Ponkshe (9284519408)	Prof V.S. Ponkshe (9284519408)	Musharraf	8793327574	mushimh@gmail.com	
7	E&TC		Prof S. B. Dhekle (9049996452)		Mangesh Rethrekar	9112880561	mangeshretharekar@gmail.com	
8	Mechanical	A 8	Prof Ansari (8983153332)	05M (9921618501) RAM (9822190513)	Mohit Mundra Anwar Rashid	9571091011 7385180479	mail4mohitmundra@gmail.com anwar.rashid0102@gmail.com	
10	Mech S/W		Prof M.P. Bauskar (9730923304)			completed		
11	Production		Prof S.S. Kallurkar (8007959797)	Prof 5.5. Kallurkar (8007959797)	Sandip Bhoyar	9923106220	sandip_bhoyar@yahoo.co.in	

Figure B9.5.3 Soft skills training schedule

Apart from this, various initiatives have been taken to upskill students. NASSCOM, EDUSKILL, SPRINGBOARD training programs are accessible to students.



Figure B9.5.4 Skill Academys Bootcamp Registration

Aptitude Test Wise Attempt S	ummary							
enter Test								
Skill Campus Program: Live Aptili	ude Text V							
Itudent Name	Department	Admission Year	Marks	College Kank	Global Rank	Attempt %	Accuracy %	Time Taken's
hitesh Kawade	Mechanical Enggs	2019	51.0/90.0	1/12	173 / 2965	100.00	36.47	141
lajput Rupesh Bhupendrasing	Computer Science & Engg.	2019	42.5/90.0	2/12	592/2965	64.44	77.59	1.61
hree Rajaram Khopade	Mechanical Engs.	2020	41.0/90.0	3712	629/2965	70.00	65.08	1.06
fshvajest Week Chatage	Mechanical Enggs	2019	37.75/90.0	4/12	722/2965	100.00	53.30	0.82
ishwarya Patil	Computer Science & Engg.	2019	163/900	5/32	1630/2965	34.44	61.29	0.15
litex (Computer Science & Engg.	2019	145/90.0	6712	1010/2965	45.56	39.02	0.91
hanali sunesh tarange	Computer Science & Engg.	2021	14.0/60.0	7/12	1709/2965	66.67	23.33	0.72
luhija Kark	Mechanical Enggs	2018	13.75/90.0	8/12	1726/2945	100.00	32.22	0.09
lakshi sanjay Alhimoo	Chemical Engg.	2020	7.5/90.0	9/12	1972/2965	100.00	26.67	0.13
Ashina Chauhan	Computer Science & Engg	2020	1.0/90.0	10/12	2341/2965	1.11	100.00	0.01
0 16 hours app								

Figure B9.5.5 Skill Academys Aptitude Test Summary



Figure B9.5.6 DTE Maharashtras Springboard Digital Platform

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Bebound Job Fosts	Cognizant	Monocept
Placements	Phase 2- GenC Pro., Phase 2 - Campus	Trainee Software
Notices	Cantina University of Haussaira Tachonia	Category
Reports	1. Software Devet. Graduate Engineer.	Software Engineer
Companies		
Students	- Consister Pitersements	
Documents	 Orgong Pacemens 	
Excel Templates	Campus Placements for 2022-2023	
Sunnys	Jun 2022 - Jun 2023	100% 000
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Figure B9.5.7 SUPERSET, Placement Platform



Figure B9.5.8 CALYXPOD, Placement Platform



Figure B9.5.9 EduSkills, Training platform



Figure B9.5.10 EduSkills, Certificate of Membership

ACADEMIC PARTNER CERTIFICATE

Awarded to

AISSMS College of Engineering

as a highly valued partner for

Celonis Academic Alliance

Together we striveto educate the Process Miners of tomorrow and accelerate innovation through strong collaboratio

> Munich, 15th January 2022 Valid until 16th January 2023



🚯 EduSkill

) Gever-Amgeberg Income certer filmageberg



Figure B 9.5.11 Celonis Academic Alliance



Figure B9.5.12 Blue Prism Academia Program in collaboration with EduSkills

Role of Department in Career Guidance to Students

Apart from the efforts taken by CITP, the department also works on its level to provide career guidance to students. Classesfor GATE are organized by the department from mid-December to January. This is a sample of time table of GATE classesconducted during the academic year 2021-22 for TE and BE students. Revision of important concepts had been carried outsubject-wise. Problems that appeared in previous years' question papers were also discussed and solved.





DATE: 8*Nov 2020

[DEPARTMENT OF MECHANICAL ENGINEERING]

NOTICE: FOR GATE 2021 ASPIRANTS

T.E & B.E (MECHANICAL) & (MECHANICAL SANDWICH) STUDENTS FOR ACADEMIC YEAR 2020-21

Qualifying in GATE is a mandatory requirement for seeking admission and financial assistance to Postgraduate Programs (Master's and Doctoral) with the Ministry of Education (MoE) and other Government Scholarships Assistantships, subjected to the admission criteria of the admisting institute. The valid GATE score is also used by Public Sector Undertakings (PSUs) for their recruitment and by several other universities in India and abroad for the admissions.

In view of above subject Department of Mechanical engineering is organizing GATE 2021 exam preparation course. Interested Third year & Final year (Mechanical) & (Mechanical Sandwich) students are hereby informed to participate in GATE 2021 sessions which will be held from month of December-January by the subject expertise. Each session will be of minimum 2 hours in the concerned domain. The course will have pure emphasis on success enrichment in GATE 2021 exam over the said period.¹

Kindly furnish your information with the following G-form attached.

Link for enrollment: (Paste the link in browser)

https://forms.gle/yGVGzvHrBaLRVjJp6

Best of luck!

GATE 2021 Coordin

N. N. Gotkhindikar

Dr. B.D.Bachch

Figure B9.5.13 Notice for GATE aspirants' classes

Sr. No	Subject	Faculty Name	Date	Remark
1	General Aptitude(Numerical Ability)			Self-study
2	Manufacturing engineering			
	I] Engineering Materials	NNG & MSS	21.12.2020 &	
			22.12.2020	
	II] Casting, Forming & joining processes	BDB	23.12.2020	
	III] M/C ing & M/C tool operations	SSP & DSM	24.12.2020 &	
			26.12.2020	
	IV]Metrology & Inspection	MPB	27.12.2020	
	V] CIM	MPS	28.12.2020	
3	Applied Mechanics & Design			
	I] Mechanics of materials (SOM)	PSG	29.12.2020	
	II] Theory of machines	ATT & SRP	30.12.2020 &	
			02.01.2021	
	III] Engineering Mechanics	MMS	03.01.2021	
	IV] Machine Design	RAM & DYD	04.01.2021 &	
			05.01.2021	
	V] Vibration	CSD	06.01.2021	
4	Engineering Mathematics	MKN	07.01.2021 &	
			16.01.2021,	
			17.01.2021	
5	Fluid Mechanics & Thermal Sciences			
	I] Fluid Mechanics	MUG	08.01.2021	
	II] Heat Transfer	MRD & SJN	09.01.2021 &	
			10.01.2020	
	III] Thermodynamics	GPL	11.01.2021	
	IV] RAC	CSC & MSD	12.01.2021 &	
			13.01.2021	
6	Industrial Engineering			
_	 Production Planning & control 	SVC	14.01.2021	
	II] Operational Research	MRP	15.01.2021	

Figure B9.5.14 GATE aspirants' teaching plan

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	- Company and the	100 - 100		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2
		2.4			
				Outcome-Based Ex	fucution (OBE)
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Figure B9.5.15 Glimpses of GATE awareness sessions

9.6 Entrepreneurship Cell (5)

Total Marks 5.00

Institute Marks : 5.00

The Entrepreneurship & Skill Development Cell at AISSMS College of Engineering has been formed to focus on preparing successful entrepreneurs especially techno-preneurs for the society. The objective is to inculcate Indian cultural values amongst prospective entrepreneurs. The activities are carried out to enhance the eternal spirit of entrepreneurship amongst the students in addition to the basic necessity of academics. The entrepreneurial activities aren't new for the Institute. Many Alumni have established their enterprises and have shown sustainability in business and entrepreneurship. The academic departments have carried out entrepreneurial activities for educating and motivating students in respective areas in techno-entrepreneurship. A dedicated cell was formed as a requirement to inculcate current trends in Entrepreneurship Development in the prospective techno-preneurs. The E&SD Cell has been continually taking efforts to motivate the students to start with entrepreneural thinking.

11/15/22, 11:51 AM

Cell has conducted Entrepreneurship Awareness Camp sponsored by DST and is having following MOUs:

- Bharatiya Yuva Shakti Trust
- Pune Management Association



Department of Science and Technology, New Delhi & & Entrepresentation of the Science and Technology, New Delhi Entrepreseurship Development Institute of India, Ahmedabad

Figure B9.6.1 Entrepreneurship Awareness Camp sponsored by DST

/		
-		
	Letter of Co-	operation (LoC)
	Bharatiya Yuwa Shakthi Trust (BYST), I	Pune, and All India Shri Shivaji Memorial
	Society's (AISSMS) College of Engineeri	ng, Pune
	Date: 4ª December 2020	the nation halonny
	All India Shri Shivaji Memorial Society's	(AUSSMS) College of Engineering, Pune
	AND	
	Bharatiya Yuva Shakti Trust (3YST), C/o Floor, B-Wing, Goderej Eternia -C, 3, Sravajinagar Pune.	Confederation of Indian Industries (CII), 50h off Mumbai – Pune Road, Wakadovedt
	At present, BYST is on an expansion path through business volunteering, specifically to become a role model for "Youth Entrop both is India and developing countries.	to foster a nation-wide mentoring movement to "turning job seasons into job creations" and rendurship Development through Mentoring"
	As All India Shri Shivaji Memerial Soci- Institute to cater the needs of the Industry qualitative approach in blending a polar empower studends and training to existing 5	ty's (AISSMS) Cubege Of Engineering is all growth and prosperity, emphasized on a g about of creativity and technology to see of representations following ability at
	We request your co-operation to each topol	we wen you as per the hiroward colors are
	 To coordinate and ovuported in entry guidance. Nominate trainer, professor and exter 	outive officer for Mentor Development
	 Program of BYST. Some of the management people on 	e volunieers to become moreor courselor for
	 To jointly organize awareness govern Development 	ation events on "Entreprenourship
	 Holding select Mentors chapter more orting seasions for Mentors in Addition 	inge, training program for entrepreseurs and 25°s College Of Engineering. Devicesties as souther organization in our
	 Recognizing Assists's College of write ups and as LOC partners. Invition Assista's College Of English 	weeking for major and relovant programs
	erganized by WYST and CE (Corried Exposure to students in various sub-	eator of Index Industry) billous, conferences, mestings.
	 Networking with BYST mentors. Interlection with Aluman – AISSMS's 1 	College Of Engineering: Moliveting the surphip as carrier option.
	 To regularly source reanters and only To regularly source reanters and only 	epreneurs for GYST.
	We can sign a Letter of Cooperation (LoC) n	rectoring all the points.
	In this regard we are pleased to sign the Lefe Stell Shivaji Memorial Society's (AdSMS) O Pure. For the period of Dec 2023 - Nov 2221 will process the Entreprensumble Develorm	r of Co-operation (LoC) between All India oblege Of Engineering, Pune and BYST (1 year). The outcome of this ecoperation in other the locality. The outcome of this
	ccoperation will promote the Entropreneurship	Development within the locality.
	For AISSMS's College Of Engineering	For Bharatiya Yava Shakti Trust
	AL STAR	Garani i antoni
	F. 8 80%	
	Principal	Chairman BG Committee
	Datz: 4 th December 2020	Dutc: 4ª December 2029

Figure B9.6.2 MoU with Bharatiya Yuva Shakti Trust

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	MEMORANDUM OF UNDERSTANDING
	(MoU)
	BETWEEN
	SUME AND STREET ACCOCINTION
1.0	PUNE MANAGEMENT ASSOCIATION
	(PMA)
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	&
	Contraction During
8	AISSMS College of Engineering, Pune
	This Memorandum of Understanding (MoU) is drawn on the 20 th day of September2021, between
	Pune Management Association, 1332 Shivajinagar, 1st Roor, IM Road, Institution of Engineers
	Building, Adjacent to COEP Ground, PURE – 412009 And
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IN V	ITNESS OF the parties intensing this note to be executed by mentatives as on the date first hereinabove mentioned.
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Figure B9.6.3 MoU with Pune Management Association



Entrep reneurship and Skill Development Cell

		Activities Carr	ied Out With T	he Cell
		First Half (01 July 202	0 to 31 Decemb	er 2020)
Sr. No.	Details of Activity conducted	Name of Chief guest/ Coord inator	Date and duration	Total Number of Students participated
1	Mystery behind successful entrepreneur	Mr Sachin Patil	24/10/2020	65
2	Webinar on Design Thinking for Entrepreneurs	MsGarima Gurjar	26/10/2020	90
3	Webinar on "Presentation Skills"	Dr. Pragya Bajpai	03/11/2020	100
4	Interaction with Entrepreneur	Mr. Sharad Tandle	4/11/2020	0 20 (Faculty)
5	MoU with BYST	Mr Biman Gandhi	5/12/2020	0 OS (Faculty)
6	Webinar on "Communication Skills	Dr. Pragya Bajpai	05/11/2020	100
7	Webinar on "E- tendering"	Mr. Kiran Ghorpade	06/11/2020	1.50
8	Idea Generation and Evaluation	Mr. Biman Gandhi	31/12/2021	56

	Second Half (01 January 2021 to 30 June 2021)							
		Activities (Carried Out With T	he Cell				
S	Details of Activity conducted	Name of Chief guest/ Coordinator	Date and duration	Total Number of Students participated				
1	Entrepreneur Online Learning (EOL) Program - BYST	BYST Mentors	27/01/2021 to 28/01/2021 Two Days	14				
2	FE Induction – Introduction to Entrepreneur	Mr S N Chiwande & Mr M S Swami	04/02/2021 to 05/02/2021 Two Hours each	556				
3	Awareness Generation Program BYST	Mrs Ujwala Gosavi	24/2/2021 2 Hour	50				
4	Interaction with our own young startup Entrepreneurs	Mr. O Dahiwal Mr S Mangrulkar , Mr. Sumit Ghodke	25/02/2021 Half Day	83 and 07(Faculty)				
5	Expert Talk	Mrs. Sujata Chandra	04/03/2021 Half Day	70 and 10 (Faculty)				
6	Webinar on "Preparation for being industry ready"	Mr G Zadge & Mr C Bhutada	20/03/2021	80				
7	Webinar on "Soft Skill: A must have asset for Engineers"	Dr. Utpal Ganatra	20/03/2021	120				
8	Awareness Generation Programmes (AGP) and Counselling Session	BYST, Pune Mentors	26/03/2021& 27/03/2021 Two days	05				
9	Webinar on Career Success Mantra	Mr Rajesh D Kamath	01/05/2021	100				
10	One week STTP on "2D & 3D Modelling in STAAD Pro"	Mr R. Udhyasankar	10/05/2021 to 14/05/2021 05 days	300				

S N Chiwande ESD-Cell

Figure B9.6.4 Activities organized by Entrepreneurship Cell



Figure B9.6.5 Glimpses of events by Enrepreneurship cell

ing Mail - BA-BYST, Pune : About Av



Dear Sir,

5/7/22, 12:55 PM

As per our discussion in the meeting on 2nd May 2022, Bharatiya Yuva Shakti Trust, is willing to conduct Awareness Generation Program with AISSMS College of Engineering, Pune on 6th May 2022 along with enlightening sessions from our expert mentors Mr Virendra Ingle (Founder, Velocity Xcelerator Pvt. Ltd.) and Mrs. Ujvala Gosavi (EGO, Climber Systems).

We request you to kindly ensure students' time and venue availability.

Please find attached profiles of both the mentors for your reference.

Thanks & Regards, Soham Dhapte

Figure B9.6.6 Notice of BYST awareness generation program



Figure B9.6.7 Glimpses of BYST awareness generation program

Success story

Name of Company: Quadflex

Founder / Founders Name: Mr. Arjun Firke

Sector - Service / Product: Industrial Machinery Manufacturing

Brief about company:

Quadflex specializes in providing cutting edge tools and technology to create 3-Dimensional Models and Renders for various e- commerce products We work together to Design, Create and Produce work that we are proud of for client who believe in us . Quadflex was started in June,2021, by four Engineers Arjun, Aditya, Kunal and Sourabh, with a vision of creating a revolution in e- Commerce industry by helping people sell their products in 360 degree view on the online platforms.

Quadflex offer services to Product Engineering and Development (CAD, CAE), Modelling and Data Migration, Research and invention of products, 360 Degree Modelling for Ecommerce Websites, Process animation Videos and PDF's. We offers specialized services particularity in 3 Dimensional Rending for E- Commerce Website, and Product animation. We provides services in the following category-

- E-commerce
 - 3 Dimensional Rendering
 - Product Manual and Product Animation
 - Product Design

11/15/22, 11:51 AM

- Engineering
- 3 Dimensional Product Design
- · Reverse engineering and Data Migration (2D to 3D, Drawings to Cad, etc)

How AISSMS Helped him/her while academics:

Regular Teaching, Guardian Faculty Member, Batch Mentoring are pillars of students skills development. This gives students an opportunity to develop interest and build career orientation with regular learning. Our college decided to increase the number of Entrepreneurs from college days itself. So Students have the courage to take part in various activities like Engineering Today (Technical Events) Shivanjali (Social Gathering) Ashwamegh (Sports Competition). These events increase students communication and team building skills. Also AICTE events help students to showcase their talent at State and national events. Interaction with alumni, experts and entrepreneurs allows students to explore ideas with support.

Print



9.7 Co-curricular and Extra-curricular Activities (10)

Total Marks 10.00

Institute Marks : 10.00

Institute supports students in co-curricular and extra-curricular activities. Institute runs various clubs such as drone club, robotics club, motorsports club, coding club, aero design club and so on. These students are supported financially and non-financially by the institute. Peer to peer learning, learning from alumni, result oriented activities, modern tool and software usages are the outcomes of these activities.

Students Symposium 'AISSMS Engineering Today': Every Year, the institute organizes technical competitions and symposia. These events provide students an opportunity to prepare technical papers, Quiz, Model Making, Robo-race, Science exhibition. Students also participate as volunteers in the organization of such events.

Cultural Activities: AISSMS COE conducts a state-level cultural and sports event "Ashwamedh", "Shahu Trophy" every year. The Students of various colleges throughout the state participate in the event. Annual social gathering "Shivanjali" is the most awaited event for students.

AISSMS COE students actively participate at various levels and win prizes continuously in cultural and literary events organized by other organisations. Events are Firodiya Karandak, Purushottam Karandak, Dnyanottam Karandak, Kaware Trophy etc.

A strong unit of NSS (National Service Scheme) organises various activities leading toward energy saving, environmental protection, rural development, sanitation, flood relief, conservation of natural resources, womens health, rural irrigation, youth development etc. The NSS team also works on state/central government schemes. Institution has also adopted a few villages where the NSS team is instrumental.

Sr. No.	Name of the student	Name of the event	Date	Organised by	Award/Rank if any			
	AY 2021-22							
1	Rohan Mane & Team	SAE SUPRA 2022	August 2022	SAE India	Participation			

Table B9.7.1: Student participation in Co-curricular activities

2	Shubham Landge & Team	SAE REEV 2021- 22	April 2022	SAE India	Overall Rank-AIR 2
3	Arjun Taur & Team	Resonance Racing e-Baja	September 2021	SAE India	AIR 2-Suspension & Traction AIR 3-All Terrain
4	Ghanshyam Naik & Team	Garudeshwa	March2022	SAE India	Performance Technical Design Report Rank 1 Overall Rank 2 (International) Technical Presentation Rank 4
5	Abhishek Khatavkar & Team	Resonance Racing m-Baja	April 2022	SAE India	AIR 3
	1		AY 2020-2	21	<u> </u>
1	Prathamesh Orpe				
2	Prathmesh Choudhary	Effi-cycle . (Virtual event)	Oct 2020	Lovely Professional University,	Prize: Best project plan Category: Advanced Electric
3	Sameer Lahole			Jalandhar	
4	Ranjit Deshmukh				
5	Team Resonance racing	Endurance	_ April 2021	BAJA SAEINDIA 2021	All terrain performance award 3rd rank
Ū	Team Resonance racing	BAJA SAEINDIA 2021			Overall award winner 4th rank
6	Abhishek Chavan	Smart India Hackathon		Smart India Hackathon	Participation
	1	1	AY 2019-2	20	
1	Ghanshyam Naik		19-21 July, 2019	SRM University	 SAE International West (Advance Class): Presentation: 10th globally. Overall Result: 9th globally. Design Report: 12th globally. SAEISS Southern Section (Regular Class): Overall Result: 2nd nationally Design Report: 3rd nationally. Presentation: 4th nationally
2	Vedant Chitte				
3	Shivam Tadwalkar	Team			
4	Vedant Rajhans	Garudashwa			
5	Saaj Raut				
6	Rugved Kulkarni				
7	Aniket Khese				
8	Jatil Milani	1			Overall 2nd (kart no
9	Sreenivasulu Chappidi	Indian Karting Championship-3	Feb-2019		4) • Overall 5th (kart no 5)
10	Ashish Thakur	, . .			First Runner-up in
11	Aditya Mudagi			Go Cart	Endurance Race
12	Siddhesh Borse				
13	Mayur Bhosle		 Mar-2019		
14	Darshak Kamani	Zeal Drag 3.0			Best Design Report
15	Rushikesh				and Presentation
16	Pooshan Paul				
10					

17	Prathmesh Choudhary	Effi-cycle	Oct 2019	Lovely Professional University, Jalandhar	4th Rank among 80+ teams
18	Tanmay Adaskar (Vice Captain)				
19	Sameer Lahole				
20	Neemesh Nanaware				
21	Preet Panchal	BAJA SAE International	May 28-June 02, 2020	BAJA SAE Illions USA	Design Evaluation 38th, Cost Evaluation 20th, Business Event 36th, Overall 32nd
22	Shubham Dabhade				
23	Gaurav Joshi				
24	Vihang Lodh				
25	Anuj Misar				
26	Atharva Bodhe				

Table B9.7.2: Activities conducted under NSS AY 2020-21

Sr. No.	Activity	Chief Guest
01	Global Level Poster Making Competition	Dr. Savita Kulkarni
02	World Environment Day(Webinar)	Dr. Shivaji Pancharne
03	Tree Plantation	Hon.Chandrakant Jiwade
04	QUIZ- Ek Bharat Shreshta Bharat	Dr. Arun Bhamre
05	Spitting Kills Campaign	Hon. Shivaji Pacharne
06	Kargil Vijay Divas (Webinar)	Maj.Gen. Shashikant Pitre
07	Raksha Bandhan	Hon. Bhaskar Kumbharde
08	Swayamsiddha Hackathon 2020	Dr. Virendra Kumar Vijay
09	Independence Day	Hon. Gopal Malvi
10	National Education Policy 2020 (Webinar)	Hon. Prabhakar Desai
11	Mahatma Gandhi Jayanti	Dr. Kumar Saptarshi
12	World Food Day(Webinar)	Hon. Vineet Jadhav
13	QUIZ- World Food Day	Hon. Santosh Chavan
14	Food Distribution Drive	Hon. Sheshraj Patil
15	Be Your Own Lakshmi (Webinar)	Hon. Shikha Mittal.
16	Be Vocal Buy Local	Hon. Jayashri Kumbharde
17	QUIZ -Constitution Day	Hon. Sujata Bhamre
18	World AIDS Day (Awareness Drive)	Hon. Vrushali Gadhave
19	We the Change- Aamhi Bharatache Lok (Webinar)	Dr. Sunjay Awte
20	QUIZ- Armed Force Flag Day	Hon. Uma Patil
21	Human Rights Day	Hon. Dilip Ghorpade
22	Tree Plantation (Kalyan)	Sarpanch- Shri Rajesh Dimble
23	Cleanliness Drive (Kalyan)	Sarpanch- Shri Rajesh Dimble
24	Survey regarding Science and Technology Lab (Kalyan)	Sarpanch- Shri Rajesh Dimble
25	Site Visit for Water Reservoir (Kalyan)	Sarpanch- Shri Rajesh Dimble
26	Awareness- Tobbaco Deaddiction	Sarpanch- Shri Rajesh Dimble
27	Pledge- Majhi Vasundhara	Sarpanch- Shri Rajesh Dimble
28	Health Check-up Camp- Kalyan	Sarpanch- Shri Rajesh Dimble
29	Women Literacy- Kalyan	Sarpanch- Shri Rajesh Dimble
30	Mask Distribution- Kalyan	Sarpanch- Shri Rajesh Dimble
31	Resperiometer Distribution- Kalyan	Sarpanch- Shri Rajesh Dimble
32	Tree Plantation- Kalyan	Sarpanch- Shri Rajesh Dimble
33	Cleanliness Drive- Kalyan	Sarpanch- Shri Rajesh Dimble
34	Corona Awareness- Kalyan	Sarpanch- Shri Rajesh Dimble
35	Survey of Water Reservoir- Kalyan	Sarpanch- Shri Rajesh Dimble
36	Survey for Town planning- Kalyan	Sarpanch- Shri Rajesh Dimble
37	Best out of Waste Competition- Paste reduction.	Hon. Manisha Patil

38	Debate - The changing mind-set if youth.	Hon. Mangala Malvi
39	Webinar- Role of youth in Adult Education.	Hon. Sunita Katam
40	Student Literacy- Kalyan	Sarpanch- Shri Rajesh Dimble
41	Tobacco Deaddiction Awareness- Kalyan	Sarpanch- Shri Rajesh Dimble
42	Road Safety Program	Hon. Dr. D. S. Bormane
43	Polio Vaccination Drive	Hon.Usha (Mai) Dhore, Mayor (PCMC)
45	SPPU Foundation Day	Hon.Padmasghri Ravindra Kolhe
46	Student Activity	Hon. Sunil Dimble
47	Explanation of Science Experiments	Hon. Sunil Dimble
48	Health Check up Camp	Principal, Dr.D.S. Bormane
49	Aazadi ka amrut mahotsav	Hon. Chandrakant Patil, Hon. Mdan Mohan Goyal.
50	SPPU Blood Donation Camp	Hon. Nana Patekar
51	Symbol of Knowledge	Padmashree Dr. Milind Kamble
52	Tree Plantaion Drive	Hon. Swati Jiwade
53	Natural wellness & freedom from poison	Hon. Siddharth Apte
54	Tobbaco: A threat to progress	Hon. Sanjay Seth
55	Tobbaco Addiction: Poetry Compitition	Dr.D. S. Bormane
56	Shivswarajya Din	Hon. Dr. Ganesh Raut
57	Symbol of Knowledge - 02	Hon. Dr. Rajendra Singh

Table B9.7.3: No. of Students participated in cultural activities

	No. of Students participated		
	2019-20	2020-21	2021-22
NSS-National Service Scheme	12		
Engineering Today	47		
(Annual Technical Symposium)	47	-	
Shivanjali			
(Annual Cultural Event)	-	-	







Figure B9.7.1 Glimpses of various activities conducted by NSS

10 GOVERNANCE, INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES (120)

10.1 Organization, Governance and Transparency (40)

10.1.1 State the Vision and Mission of the Institute (5)

Vision :		
Service to Society through quality education		
Mission :		
1) Generation of national wealth through education and research.		
2) Imparting quality technical education at the cost affordable to all strata of the Society.		
3) Enhancing the quality of life through sustainable development.		
4) Carrying out high quality intellectual work.		
5) Achieving the distinction of highest preferred Engineering College in the eyes of the stake holders.		

10.1.2 Governing body, administrative setup, functions of various bodies, service rules, procedures, recruitment and promotional policies (10) Institute Marks : 10.00

10.1.2 Governing Body, Administrative Setup, Functions of Various Bodies, Service Rules, Procedures, Recruitment and Promotional Policies

AlSSMS College of Engineering has well established organizational structure to execute out smooth functioning of administrative and academic processes. Various bodies are formulated which constitutes the organization chart. The governing body is the highest decision making body constituting members of the management, Principal and nominated faculty members. College Development Committee (formerly Local Management committee) includes representatives of members of society, Principal, three members elected from teaching faculty and one member of non-teaching staff. The constituents of the organization structure are as follows: Every department has Department Advisory Board (formerly Department Advisory Committee) to direct policies to excel students in academics and in work environments. It comprises one member each from industry, research establishment, and academic institute of repute, alumni, student, and parents and from management. Principal, Heads of the Departments, sectional heads and co-coordinators of various committees have adequate participation in making decisions in academic and administrative processes under their preview.

Members of Governing body, College development committee, Internal quality assurance cell and institute level committees are shown in the tables below:

Governing Body

Table No. 10.1.1	Constitution	of Governing Body
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Governing Body of Institute		
Chairman	To be nominated by the society	
Member	Two to five members (Industrialist / Technologist /	
	Educationalist) to be nominated by the society	
Member	Nominee of the affiliating university	
Member	Nominee of AICTE (Ex – Officio)	
Member	Nominee of State Government	
Member	Industrialist / Technologist / Educationalist from the	
	region to be nominated by State Government.	
Member Secretary	Principal of the college.	

Total Marks 120.00

Total Marks 40.00 Institute Marks : 5.00 Member

Print

Two faculty members to be nominated from the regular staff,
one at the level of professor and one at the level of
Assistant Professor.

SI. No.	Name	Designation
1	Shri Suresh Pratap Shinde	Chairman (Society)
2	Shri Malojiraje Chhatrapati	Honorary Secretary (Society)
3	Shri Sunil Hambirrao Mohite	Member (Society)
4	Shri Rushiraj Balasaheb Tekawade	Member (Society)
5	Shri Rahul Nanasaheb Yadav	Member (Society)
6	Dr AmitDutta	Member (AICTE, Regional Officer) Ex- Officio
7	Dr (Smt) Sharmila Chaudhari	Member (Savitribai Phule Pune University Nominee)
8	Dr D R Nandanwar	Member (Govt. of Maharashtra) Industrialist/Technologist/ Educationalist
9	Shri P N Jumle	Member (Ex-Officio)
10	Dr (Mrs) Ashwini Avinash Godbole	Member (Teaching)
11	Shri Ganesh Chandrakant Chikute	Member (Teaching)
12	Dr Dattatraya Shankar Bormane	Member Secretary (Principal)

Table No. 10.1.2 List of Governing Body Members for the year 2020-21

Table No. 10.1.3 Number of meetings of Governing Body

S.N.	Academic Year	Number of Meetings
01	2021-22	01
02	2020-21	01
03	2019-20	02

COLLEGE DEVELOPMENT COMMITTEE

Table No. 10.1.4 Constitution of College Development Committee

	College Development Committee of Institute
Chairmen	Chairperson of the management or his nominee ex- officio chairperson
Member	Secretary of the management or his nominee
Member	One head of department to be nominated by the principal
	Three teachers in the college elected by full time
Member	amongst themselves out of whom one shall be women
Member	One nonteaching employee, elected by regular nonteaching staff
	Four local members nominated by management in consultation with principal from the field of
Member	education industry, research and social service of whom at least one shall be alumnus

Member	Coordinator, IQAC of the college
Member	President and secretary of college student council
Member Secretary	Principal of the college

Table No. 10.1.5 List of College Development Committee members (2020-21)

Sr No.	Name	Designation		
1	Shri Suresh Pratap Shinde	Chairman (Society)		
2	Shri Malojiraje Chhatrapati	Honorary Secretary (Society)		
3	Dr (Mrs) Ashwini Avinash Godbole	Member (Head of Department- Teaching)		
4	Shri Diwakar Haribhau Joshi	Member (Teaching)		
5	Shri Laxman Shivaji Godse	Member (Teaching)		
6	Ms Vismita Devidas Nagrale	Member (Woman - Teaching)		
7	Shri Santosh Prabhakar Pimpale	Member (Non Teaching)		
8	Shri Rahul Nanasaheb Yadav	Member (Society)		
9	Shri Nikhil Ashok Khanse	Member (Society)		
10	Shri Rishiraj Balasaheb Tekawade	Member (Society)		
11	Shri Sunil Hambirrao Mohite	Member (Society)		
12	Dr Chandrakishor Shrirang Choudhari	Member (Co-ordinator IQAC : Teaching)		
13	Ms Anjali Chaudhari	Member (General Secretary of the College Students Council)		
14	Dr Dattatraya Shankar Bormane	Member Secretary (Principal)		

Table No. 10.1.6 Number of meetings of Governing Body

S.N.	Academic Year	Number of Meetings		
01	2019-20	02		
02	2020-21	01		
03 2021-22		01		

Sr No	Category	Post	Name & Designation of Committee members Dr Dattatraya Shankar Bormane, Principal		
1	Chairperson	Head of the Institution			
2 Coordinator Assistant Professor in Mechanical Engineering Associate Professor in Mechanical		Dr Chandrakishor Shrirang Choudhari, Associate Professor in Mechanical Engineering			
3	Administrative officers	Head of Department	Dr Sandeep Haribhau Wankhade, Associate Professor in Production Engineering		
		Head of Department	Dr (Mrs) Ashwini Avinash Godbole, Professor in Electrical Engineering		
		Co ordinator, NAAC Steering Committee	Dr Daulappa Guranna Bhalke, Professor in E&TC Engineering		
		Administrative Officer	Mr Abhijit Bhawanrao Bhonsle, Administrative Officer		
		Registrar	Mr Santosh Prabhakar Pimpale Registrar		

Table No. 10.1.7 Members of Internal Quality Assurance Cell (2020-21)

4	Faculty	Civil Engineering	Dr (Mrs) Vidya Nitin Patil, Associate Professor in Civil Engineering		
		Computer Engineering	Dr (Mrs) Shabnam Farook Sayyad, Assistant Professor in Computer Engineering		
		Mechanical Engineering	Dr Avinash Vishvanath Waghmare, Associate Professor in Mechanical Engineering		
		Chemistry	Dr Deepak Vitthal Nighot, Associate Professor in Chemistry		
5	Management member	Joint Secretary, AISSMS	Mr Suresh Pratap Shinde Honorary Joint Secretary, AISSM Society, Pune - 5		
6	Industry	Ex. MD, Kirloskar Oil Engines Limited, Pune	Mr R R Deshpande		
7	Employer	HR Regional Head, TCS, Pune	Mr Shekhar Kamble		
8	Parent	Manager, Quality Assurance, ITW (I), Pvt, Ltd, Pune	y (I), Pvt, Mr Hemant Jadhav		
9	Student	General Secretary, General Students Association			

Table No. 10.1.8 Number of meetings of IQAC

S.N.	Academic Year	Number of Meetings		
01	2021-22	02		
02	2020-21	02		
03	2019-20	02		

Service rules, Policies and procedures

Institute follows all the defined service rules and policies and code of conduct laid down by AICTE, UGC, Government of Maharashtra and SPPU, for recruitment and promotion of staff. Pay scale, annual increments and other benefits to staff are being given as per the AICTE and Government of Maharashtra norms.

- A. For recruitment of faculty, Institute seeks permission from Savitribai Phule Pune University, Pune and reservation cell of Maharashtra State for the advertisement for recruitment of faculty. Interviews are conducted through staff selection committee appointed by University.
- B. For the ad-hoc recruitment, Institute advertises the posts through newspapers and website. Local staff selection committee as per SPPU norms is appointed for selection of faculty through interview procedure.
- C. Every employee of the institute is aware of the service, recruitment and promotion rules and code of conduct. These rules are available with registrar of the institute and also communicated to staff through HODs and published on staff notice boards.

Recruitment norms link: https://aissmscoe.com/wpcontent/uploads/2022/05/Faculty-Recruitment-Norms-2022-23.pdf (https://aissmscoe.com/wpcontent/uploads/2022/05/Faculty-Recruitment-Norms-2022-23.pdf)

10.1.3 Decentralization in working and grievanceredressal mechanism (10)

Institute Marks : 10.00

10.1.3 Decentralisation in Working And Grievance Redressal Mechanism

We at AISSMS COE believe in decentralization of activities and delegation of authorities is the key concept in the success achieved by the institute on different platforms. Basically, overall working methodology at institute level is student centric and involvement of each and everyone in the decision-making at their respective levels is ensured through decentralization and delegation of powers. There are various bodies, committees and key administrative positions at institute and department level. In order to ensure transparency in the working of all these committees, code of conduct and process manual is available with all key administrative officers and central library of the institute.

Various portfolio in charges have been delegated powers for taking administrative decisions.

S.N.	Name of Faculty member	Decision Authority		
01	Dr D S Bormane	Principal		
02	Dr C S Choudhari	Coordinator, IQAC		
03	Dr M Y Naniwadekar	H.O.D. (Chemical Engineering)		
04	Dr P B Nangare	H.O.D. (Civil Engineering)		
05	Dr S V Athawale	H.O.D. (Computer Engineering)		

Table B10.1.9 Faculties delegated with administrative powers

-				
06	Dr (Mrs) A A Godbole	H.O.D. (Electrical Engineering)		
07 Dr S B Dhonde H.O.D. (Electronics and		H.O.D. (Electronics and Telecommunications)		
08	Dr S V Chaitanya	H.O.D. (Mechanical Engineering)		
09	Dr D V Nighot	H.O.D. (First year Engineering)		
10	Dr N G Shekhapure	H.O.D. (Production Engineering)		
11	Mr A B Bhonsale	Administrative officer		

In addition to this, various Institute Level administrative committees have been formed for effective administration.

Details of coordinator and committee members are published on institute website. (https://aissmscoe.com/wp-content/uploads/2021/01/ILC-for-website-update.pdflink (https://aissmscoe.com/wp-content/uploads/2021/01/ILC-for-website-update.pdflink)). Also, functions and responsibilities of the committees are also available on the institute website. (https://aissmscoe.com/wp-content/uploads/2022/09/Objectives-and-functions-of-ILCs.pdf (https://aissmscoe.com/wp-content/uploads/2022/09/Objectives-and-functions-of-ILCs.pdf (https://aissmscoe.com/wp-content/uploads/2022/09/Objectives-and-functions-of-ILCs.pdf))

Coordinators of all the institute level committees are delegated with administrative powers for effective functioning of respective committee.

Table B10.1.10 Various Institute level administrative committees and coordinators

Academic Development Cell						
1	Academic Monitoring Coordina		ator Dr. S. R. P.		. Parekar	
2	Faculty Development and Academic Collaborations	tor Dr. S. V. Chaita		Chaitanya		
3	Management Information System	Coordina	ator	or Mr. V. B. Gawai		
4	Library Development	Coordina	ator Dr Mrs. V. E		V. B Dandawate	
5	NBA/NAAC Preparations	Coordina	itor Dr. M. R. Phate		. Phate	
6	Students Association	Coordina	tor Dr S. J .Navale		Navale	
7	Students Chapters(Professional Bodies)	Coordina	ator	Mr. N. P	Mawale	
	Centre for Information, T	Fraining and Placemer	nts Head: Dr A V	Waghm	are	
8	Placements		Coordinat	or	Placement Officer	
9	Training		Coordinat	or	Mr. V. S. Phonkshe	
10	Counselling and mentoring		Coordinator		Mrs. S. R. Lengade	
11	Industry Institute Interaction (III)		Coordinator		Dr. P. B. Nangare	
12	Entrepreneurship and Skill Development		Coordinator		Mr. S. N. Chiwande	
13	Alumni Engagement		Coordinator		Dr. D. V. Wadkar	
14	Competitive Examinations	Coordinator		Mr. A. Y. Kazi		
	I	nfrastructure and Fac	ility			
15	Infrastructure and Facility		Coordinator Dr. S.		Dr. S. R. Patil	
		Gymkhana				
16	Cultural In charge		Coordinator		Mrs. K. N. Kulkarni	
17	Magazine In charge, Media		Coordinator		Mrs. S. J. Pachouly	
18	Physical Director, Sports In charge, Media	Coordinator		Dr. M. M. Kondhare		
19	National Service Scheme	Coordinator		Dr. N. N. Shejwal		
20	Students Welfare and Development	Coordinator		Dr. A. B. Patil		
Administration Cell						
21	Budget Preparations (Purchase and maintena	nce)	Coordinat	or	Principal	
22	Admissions	Coordinat	or	Mr. V R Patil		
23	23 Examinations			or	Dr. D. V. Nighot	
	Media Interface and Outreach Cell					
24	Website	Coordinator	Mr. N. R. Talhar			
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	Research, Innovation and Development Cell					
25	Research, Innovation and Development Cell	Coordinator	Dr. D G Bhalke			
	Grievance and Redressal Cell					
26	Internal Grievance Redressal	Coordinator	Dr. M. S. Deshpande			
27	Women Grievance, Vishakha (Internal Complaint Committee)	Coordinator	Dr. P. S. Gajjal			
28	Anti-Ragging	Coordinator	Mr. V R Patil			

Other than the above mentioned committees, at department level, committees are formed for the smooth and efficient management of activities at department level. The committees are constituted by the HOD in consultation with faculty.

For effective implementation of various initiatives and for effective decentralisation, committees such as department advisory board and program assessment and quality improvement committees are formed at department level.

S.N.	Name of member	Representation	Designation and organisation
1	Dr. B D Bachchhav	Chairman Academics	HOD, AISSMS COE
2	Dr. Sujit Pardeshi	Member Academics	BOS SPPU Pune, COEP
3	Dr. Dineshsingh Thakur	Member Academics	Professor DIAT,PUNE
4	Mr. Chndrakant Jiwade	Member Parent	Industry Person, Toshiwa Pvt. Ltd.,Aurangabad
5	Dr. C S Choudhari	Member Academics	Mechanical Sandwich Coordinator, AISSMS COE
6	Dr. S V Chaitanya	Member	Module Co-ordinator
7	Mr. P V Deshmukh	Member	Module Co-ordinator
8	Dr. S J Navale	Member	Module Co-ordinator
9	Mr. Shubham Bandekar	Member	Student, AISSMS COE
10	Dr. P S Gajjal	Member	Departmental academic Co- ordinator, AISSMS COE
11	Dr A V Waghmare	Member	Placement Co-ordinator, AISSMS COE

Table B10.1.11 Department advisory board members
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Table B10.1.12 PAQIC members

S.N.	Name of Member	Representation	Designation
1	Dr. B D Bachchhav	HOD, Module Co-ordinator I	Chairman
2	Dr. P S Gajjal	Departmental academic Co-ordinator	Coordinator
3	Dr. D Y Dhande	Departmental exam Co-ordinator	Member
4	Dr. M R Dahake	Departmental Industry Institute Co- ordinator	Member
5	Dr. C S Choudhari	Module Co-ordinator II	Member
6	Dr. S V Chaitanya	Module Co-ordinator III	Member
7	Mr. P V Deshmukh	Module Co-ordinator IV	Member
8	Dr. S J Navale	Module Co-ordinator V	Member

Grievance redressal is systematically carried out by various team of faculty members acting as committees under the guidance of Principal of the institution. List of faculty members who are administrators'/ decision makers/committee members for various responsibilities are shown in the tables given below.

A Grievance Redressal Committee (GRC) at the College level is constituted for providing guidance and counselling on the problems related to faculty, staff and students.

The Committee redresses all kinds of grievances, academic or non - academic.

Table B10.1.13 Members of Grievance Redressal Committee (GRC)

S. N.	Faculty Name and Designation	Post
01	Dr (Mrs) M S Deshpande, Professor in Chemistry	Coordinator
02	Mr P B Nangare, Assistant Professor in Civil Engineering	Member
03	Ms M V Waghmare, Assistant Professor in Civil Engineering	Member
04	Mr S V Chaitanya, Assistant Professor in Mechanical Engineering	Member
05	Ms S S Chauhan, Finance Officer	Member
06	General Secretary (Student Member)	Member

Grievance Redressal committee shall meet within a week from the date of receipt of any petition/complaint from anybody and take necessary action as deem fit and initiate necessary action for solving problem.

Mechanism of Grievance Redressal committee

- a. An aggrieved stakeholder who has the grievance or grievances shall make a written complaint first to the Head of the Department (HOD). The HOD after verifying the facts, will try to redress the grievance within a reasonable time. If the stakeholder is not satisfied with the solution of the HOD, then the written complaint should be forwarded to the Principal through HOD. The Principal then refers the complaint to the Internal Grievance Redressal Committee.
- b. On receiving the complaint from the Principal, Internal Grievance Committee meeting is called by the Chairman. The complaint is studied by the Committee. The Committee at all levels observes the law of natural justice.
- c. The Committee arranges meeting with the aggrieved party first, he/she expresses their views. Similarly meeting with all aggrieved members is scheduled. Thus all the concerned, are given opportunity, one by one to express their viewpoint. Each one is requested to give their say in writing. The committee gives a patient hearing to both sides and counselsthem. The committee also enlightens them based on their SWOC.
- d. After verifying the facts based on factual data and after deliberations, the report of the committee's findings and remedial measures is prepared and submitted to Principal Sir.
- e. Final decision is communicated to the both parties through the Principal.
- f. The Committee, if needed, may recommend to the Principal, necessary corrective action as it may deem fit, to ensure avoidance of recurrence of similar grievance.

Note: The staff / student can lodge their grievance through online link available on Institute's website too (<u>http://aissmscoe.com/academics/online-grievance-redressal/</u>(<u>http://aissmscoe.com/academics/online-grievance-redressal/</u>))

Anti-Ragging Committees:

With reference to AICTE (Prevention and Prohibition of ragging in Technical Education, Universities including Deemed to be Universities imparting technical education) Regulations 2009 and as per as per the clause No.6(a) of this AICTE Regulations - 2009, Anti-Ragging Committee is formed comprising of experts, faculty members, parents, students, etc to look into any kind of ragging matter reported to them from time to time. The Committee takes immediate action in the matter reported to them, following all the guidelines given in the referred AICTE Regulation - 2009. The Committee also take review of the activities of Anti-Ragging Squad and suggest measures to effectively monitor the anti-ragging activities.

Anti Ragging Committee for The academic year 2019-20

Sr NO	Name	Designation	Post
1	Dr D S Bormane	Principal	Chairman
2	Shri Suresh P Shinde	Businessman	Civil administration
3	Shri M M Mujawar	Police Inspector	Ex Officer Member
4	Shri Harsh Dudhe	Reporter, Maharashtra Times News Papers Ltd,Pune	Media Member
5	Shri V R Patil	Assistant Professor in Mechanical Department	Member
6	Mrs S J Pachouly	Assistant Professor in Computer Engineering Department	Member
7	Mrs Seema Chaudhari	Parent Representative	Member
8	Anjali Chaudhari	Student : GS	Member
9	Shri A B Bhonsle	Administrative Officer	Member

Table B10.1.12 Members of anti ragging committee

ANTI RAGGING COMMITTEE (SQUAD)

With reference to AICTE (Prevention and Prohibition of ragging in Technical Education, Universities including Deemed to be Universities imparting technical education) Regulations 2009 and as per as per the clause No.6(a) of this AICTE Regulations - 2009, Anti-ragging Squad is formed to look in to the matters of ragging.

The squad will continuously maintain vigil in the College campus and monitor the activities of the students. If any activity of students is found suspicious then immediate action is to be taken. The squad will conduct patrolling of canteen area, parking area, the College building and Ladies hostel. The patrolling of outside area near to College will also be done.

The students can contact Committee members at any time regarding any kind of problem faced by them from any students in the Campus or outside the campus. Also, students can personally meet any of the above members in the College during working hours.

Table B10.1.14 Members of anti ragging squad

Sr. No.	Faculty Name and Designation	Post
01	Mr V R Patil, Assistant Professor & Head, First Year Engineering	Coordinator
02	Dr M K Nikam, Associate Professor in Engineering Mathematics	Member
03	Dr S K Upasani, Associate Professor in Chemistry	Member
04	Mr A J Kadam, Assistant Professor in Computer Engineering	Member
05	Mr A B Bhonsle, Administrative Officer	Member
06	Dr M M Kondhare, Physical Director	Member

Vishakha (Sexual Harassment Committee)

Table B10.1.15 Members of Vishakha

Sr. No.	Faculty Name and Designation	Post
01	Dr (Mrs) P S Gajjal, Associate Professor in Mechanical Engineering	Coordinator
02	Ms S J Pachouly, Assistant Professor in Computer Engineering	Member
03	Ms V S Dandawate, Librarian	Member
04	Mr S S Pimpale, Registrar	Member
05	Mr M D Bhalerao, Senior Clerk	Member
06	Mr D S Kulkarni, Technical Assistant	Member

The complaint received by Principal office from any ladies' staff members or student will be forwarded to the above committee. The said committee will look into the complaint and call the concerned complainant personally for hearing the grievance. The Chairman of the committee will forward their report in the sealed envelope to the Principal within one week from the date of receipt of complaint.

10.1.4 Delegation of financial powers (10)

Institute Marks : 10.00

10.1.4 Delegation of financial powers

Financial powers are delegated to the Principal of the institute and principal is the one of the signing authorities for financial transactions. Provision of petty cash of Rs. 20,000 is also made with the Principal and head of departments also can make expenses using petty cash with the approval of the principal.

Table No. 10.1.16 Utilisation of petty cash in Rs.

		Petty cas	sh utilisation			
2019-2	2020	2020	-2021	2021-2022		
Sanctioned amount	Utilised amount	Sanctioned amount	Utilised amount	Sanctioned amount	Utilised amount	
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nice gran	T ALL DESCRIPTION OF A	10000 No 9316		20	कॉलेज ऑफ फार्मसी, केलेडी रोड, चुने-१ (धीखा, थी. दिसर्च)	-\000,07
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Fig. 10.1.1 Petty cash facility allotted to institutes

10.1.5 Transparency and availability of correct/unambiguous information in public domain (5)

Institute Marks : 5.00

10.1.5 Transparency and availability of correct /unambiguous information in public domain

1. Unambiguous information is displayed on all general notice boards including department notice boards, Center for information, training and placement cell (CITP), student section, library, and other important areas.

2. Copies of official notices are circulated to the entire faculty, technical and non-technical staff and students.

3. The institute website is continuously updated for disseminating all the information about policies, students, faculty and relevant information. Institute website is www.aissmscoe.com (http://www.aissmscoe.com/).

Table B10.1.17 URLs for information available on institute website

		1
S.N.	Name of document	URL of document on website
1	Vision, mission, goals and core values of the institute	https://aissmscoe.com/about-us/college-profile/ (https://aissmscoe.com/about-us/college- profile/)
2	Admissions	https://aissmscoe.com/admission/admission- enquiry/ (https://aissmscoe.com/admission/admission- enquiry/)
3	AICTE Approval Letters	https://aissmscoe.com/aicte-approvals/ (https://aissmscoe.com/aicte-approvals/)
4	Mandatory disclosure	https://aissmscoe.com/mandatory-disclosure/ (https://aissmscoe.com/mandatory-disclosure/)
5	Stakeholders feedback	https://aissmscoe.com/stakeholders/ (https://aissmscoe.com/stakeholders/)
6	AICTE essentials	https://aissmscoe.com/aicte-essentials/ (https://aissmscoe.com/aicte-essentials/)
	Facult	y Profile
7	Department of Chemical Engineering	https://aissmscoe.com/chemical- engineering/faculty/ (https://aissmscoe.com/chemical- engineering/faculty/)

	1	
8	Department of Civil Engineering	nttps://aissmscoe.com/civil-engineering/faculty/ (https://aissmscoe.com/civil- engineering/faculty/)
9	Department of Electrical Engineering	https://aissmscoe.com/electrical- engineering/faculty/ (https://aissmscoe.com/electrical- engineering/faculty/)
10	Department of Electronics and Telecommunication	https://aissmscoe.com/electronics- engineering/faculty/ (https://aissmscoe.com/electronics- engineering/faculty/)
11	Department of First Year Engineering	https://aissmscoe.com/first-year- engineering/faculty/ (https://aissmscoe.com/first-year- engineering/faculty/)
12	Department of Mechanical Engineering	https://aissmscoe.com/mechanical - engineering/faculty/ (https://aissmscoe.com/mechanical%20- engineering/faculty/)
13	Department of Production Engineering	https://aissmscoe.com/production- engineering/faculty/ (https://aissmscoe.com/production- engineering/faculty/)
	Annual	Reports
14	Department of Chemical Engineering	https://aissmscoe.com/chemical- engineering/annual-reports/ (https://aissmscoe.com/chemical- engineering/annual-reports/)
15	Department of Civil Engineering	https://aissmscoe.com/civil-engineering/annual- reports/ (https://aissmscoe.com/civil- engineering/annual-reports/)
16	Department of Electrical Engineering	https://aissmscoe.com/electrical- engineering/annual-reports/ (https://aissmscoe.com/electrical- engineering/annual-reports/)
17	Department of Electronics and Telecommunication	https://aissmscoe.com/electronics- engineering/annual-reports/ (https://aissmscoe.com/electronics- engineering/annual-reports/)
18	Department of First Year Engineering	https://aissmscoe.com/first-year- engineering/annual-reports/ (https://aissmscoe.com/first-year- engineering/annual-reports/)
19	Department of Mechanical Engineering	https://aissmscoe.com/mechanical - engineering/annual-reports/ (https://aissmscoe.com/mechanical%20- engineering/annual-reports/)
20	Department of Production Engineering	https://aissmscoe.com/production- engineering/annual-reports/ (https://aissmscoe.com/production- engineering/annual-reports/)



Figure B10.1.2 Best Professional College of SPPU

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BY Dr. N. Hormen Dr. Dr. N. Hormen Dr. Dr. N. Hormen Dr. Dr. M. Hormen Dr. Dr. N. Hormen Dr. Dr. Hormen Dr. Hormen
Figure B10.1.3 Best Principal Award by ISTE
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Figure B10.1.4 Best Principal Award by SPPU
на ниящи основности на пробазование на пробазование

Figure B10.1.5 Winner of prestigious "Firodiya Trophy" for drama

10.2 Budget Allocation, Utilization, and Public Accounting at Institute level (30)

10.2.2 Utilization of allocated funds (15)

10.2.2 Utilisation of allocated funds

Each department HoD after receiving the approved budget convene a meeting and discuss the step by step procedure for procuring the equipment and consumables required for the department Faculty who are in charge of the laboratories and course coordinators are nominated to involve in the purchase of equipment. The nominated faculty members identify the companies/ agencies to receive the quotations and then prepare a comparative statement. The comparative statement will be submitted to the purchase Committee to get approval from the management and then place orders to procure the items. The HoD periodically monitor the faculty members involved in the purchase and take necessary efforts to see that the purchase of items is complete in all respects and the allocated funds are fully.

Summary of currentfinancial year's budget and actual expenditure incurred(for the institution exclusively)in the three previous financial years

Total Income at Institute level: For CFY,CFYm1,CFYm2 & CFYm3 CFY : (Current Financial Year), CFYm1 : (Current Financial Year minus 1), CFYm2 : (Current Financial Year minus 2) and CFYm3 : (Current Financial Year minus 3) Total Marks 30.00 Institute Marks : 15.00

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Table 1 - CFY 2021-22

Total Income 384514955.00			Actual expenditure(till): 337150209.65			Total No. Of Students 3030	
Fee	Govt.	Grants	Other sources(specify)	Recurring including Non Special Projects/Anyother, salaries Recurring specify		Special Projects/Anyother, specify	Expenditure per student
383581137.00	0	0	933818.00	329543094.65	7607115.00	0	111270.70

Table 2 - CFYm1 2020-21

Total Income 374544068.00			Actual expenditure(till): 300948858.43			Total No. Of Students 3112	
Fee	Govt.	Grants	Other sources(specify)	Recurring including Non Special Projects/Anyother, salaries Recurring specify		Expenditure per student	
373411482.00	0	0	1132586.00	291096339.43	9852519.00	0	96705.93

Table 3 - CFYm2 2019-20

Total Income 319073736.52			Actual expenditure(till): 356936441.63			Total No. Of Students 2815	
Fee	Govt.	Grants	Other sources(specify)	Recurring including salaries	Expenditure per student		
317338255.00	0	0	1735481.52	330815515.52	26120926.11	0	126798.03

Table 4 - CFYm3 2018-19

Total Income 311756516.00			Actual expenditure(till): 359356147.59			Total No. Of Students 2916	
Fee	Govt.	Grants	Other sources(specify)	Recurring including salaries	Non Recurring	Special Projects/Anyother, specify	Expenditure per student
310308435.00	0	0	1448081.00	317150317.48	42205830.11	0	123235.99

Items	Budgeted in 2021-22	Actual Expenses in 2021-22 till	Budgeted in 2020-21	Actual Expenses in 2020-21 till	Budgeted in 2019-20	Actual Expenses in 2019-20 till	Budgeted in 2018-19	Actual Expenses in 2018-19 till
Infrastructure Built-Up	31635208.00	30456879.00	28812734.00	28157219.00	43205208.00	48273914.11	45865208.00	59360387.11
Library	4325000.00	4099379.00	5510000.00	5500268.00	3925000.00	3112995.00	4125000.00	4078270.00
Laboratory equipment	7850000.00	6414501.00	11000000.00	7864601.00	7900000.00	7082570.00	16500000.00	16146416.00
Laboratory consumables	700000.00	231398.00	1200000.00	542036.00	100000.00	935167.00	1400000.00	1325679.00
Teaching and non-teaching staff salary	227150000.00	226611240.00	208550000.00	207828775.00	20500000.00	204913144.00	203438000.00	203408950.00
Maintenance and spares	4200000.00	3419956.60	2750000.00	2591638.00	5450000.00	5312396.00	4900000.00	4878388.00
R&D	4200000.00	1723831.00	1400000.00	392884.00	3700000.00	1136690.00	4600000.00	1496623.42
Training and Travel	2850000.00	2750408.62	6020000.00	5330814.00	8300000.00	8328591.00	8065202.00	7763844.00
	580000.00	184210.00	280000.00	58504.00	5430000.00	5331466.00	3580000.00	3724572.00
Others, specify	46577240.88	46296208.49	33143792.00	25400338.23	51789792.00	51947991.84	44526590.00	41578972.36
Total	330067448.88	322188011.71	298666526.00	283667077.23	335700000.00	336374924.95	337000000.00	343762101.89

10.2.3 Availability of the audited statements on the institute's website (5)

10.2.3 Availability of the audited statements on the institute website

Audited statements are uploaded on institute website and are available for public. (https://aissmscoe.com/mandatory-disclosure/ (https://aissmscoe.com/mandatory-disclosure/))

Institute Marks : 5.00

10.2.1 Adequacy of budget allocation

The college has a well formulated financial policy which ensures effective and optimal utilization of finances for academic, administrative and development purpose which help ultimately in realizing the institute's vision and mission.

Institute has made the necessary provision in the books of account towards efficient use of available fund for each academic year. As per the guidelines of the management and Principal, Variance report of sanctioned budget and actual expenditure are regularly maintained.

The Institute has a well-defined procedure to monitor effective and efficient utilization of available financial resources for infrastructure development and academic processes. Every year, the budget is prepared well in advance after taking into consideration the requirement of every Department. Each Department prepares the budget based on the requirement such as equipment, computer as well as consumable required for next academic session. Principal puts up the budget in Governing Body meeting and after discussion and necessary corrections/modifications; Governing Body recommends the budget for approval. The budget is reviewed by the management and approved after necessary changes. As and when required, the institute makes a provision for advance additional fund. The Principal and the Head of Departments discuss the requirement and decide the priorities while allotting financial resources for various purposes; and also ensure optimum use of available financial resources. The Governing body studies the annual expenditure, scrutinizes the budget and provides feedback for efficient use of financial resources. The Institute has standardized procedure for sanctioning of funds for various activities and also for settlement of advance and passing of bills for payment.

The Management has given complete support to Principal for organization of various co-curricular & extracurricular activities like technical events, sponsoring of faculty & staff for various skill development programs, providing financial support for attending conferences, workshops, pursuance of higher education etc. Financial support is also provided for participation of students at various national and international level events like Baja, Supra, Effi-cycle, Go-Kart, Aero-design and different clubs like Robotics and Drone.

The Society has constituted a separate purchase Committee comprising of Management representative, Principal & college concerned staff. The purchase procedure such as calling quotation, technical bid, preparing comparative statement, negotiation meetings are followed for effective and efficient use of available financial resources. The committee ensures that suitable equipment with right specification is procured at competitive and optimal prices.

Financial audits are conducted by a chartered accountant every financial year to verify the compliance with established processes.

Apart from this the college also provides financial assistance to student for participation at various national & state level cultural & Sports competition. We are very proud to say that due to the financial freedom given by the management in organization of various sports & Cultural events at institute level and participation of our student in various national & State level culture & Sports competition our students have shown excellent performance in these events.

10.3 Program Specific Budget Allocation, Utilization (30)

10.3.1 Adequacy of budget allocation (10)

10.3.1 Adequacy of budget allocation

- · As per the regular purchase process of the financial year, requirement of the department is considered for the preparation of the annual budget.
- Before the commencement of the financial year details of the purchase requirement (recurring and non-recurring details) are collected from the laboratory in-charge of the department.
- Budget proposal is finalized by the Head of the Department by considering annual intake of the students, university curriculum, industry requirement, laboratory & infrastructure development. The requirement Budget of the equipment, computers, software, consumables, maintenance & furniture etc. is finalized. Apart from this, budget proposals are prepared for co-curricular, extra-curricular and extension activities for the overall development of students.
- Head of the Department submits the proposal of the budget to the Principal and the same is put up in the College Development Committee (CDC) and Governing Body (GB) meeting and after discussion and necessary corrections/modifications, College Development Committee and Governing Body recommends the budget for approval.
- The budget is reviewed by the management and approved after necessary changes.
- The budget allocated by the institute to the department is adequate to cater the need of the department to upgrade the laboratory in terms of equipment, consumables, software, computers, maintenance-spare and furniture etc. and for conducting curricular and extra-curricular activities.

10.3.2 Utilization of allocated funds (20)

10.3.2 Utilization of allocated funds

The Funds allocated to the department are effectively utilized and are adequate as per the departmental academic requirement. As per the requirement of the University curriculum and industry needs, all the laboratories of the department are being upgraded regularly by purchasing new equipment and accessories and upgrading existing equipment.

Allocated budget for the department is properly utilized in the financial year as per requirement.

Institute Marks :

Total Income at Institute level: For CFY,CFYm1,CFYm2 & CFYm3 CFY: (Current Financial Year), CFYm1 : (Current Financial Year minus 1), CFYm2 : (Current Financial Year minus 2) and CFYm3 : (Current Financial Year minus 3)

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Total Marks 30.00

Institute Marks : 10.00

Institute Marks : 20.00

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Table 1 :: CFY 2021-22

6589000.00		Actual expenditure (till): 6278099	Total No. Of Students 832	
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student
600,000.00	5,989,000.00	588,525.00	5,689,574.00	7545.79

Table 2 :: CFYm1 2020-21

4919000.00		Actual expenditure (till): 3302072	Total No. Of Students 842		
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student	
1,700,000.00	3,219,000.00	1153052	2149020	3921.70	

Table 3 :: CFYm2 2019-20

10273000.00		Actual expenditure (till): 9675718	Total No. Of Students 759	
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student
3,500,000.00	6,773,000.00	3459347	6216371	12747.98

Table 4 :: CFYm3 2018-19

6586000.00		Actual expenditure (till): 6091968	Total No. Of Students 821		
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student	
1,200,000.00	5,386,000.00	1444753	4647215	7420.18	

Items	Budgeted in 2021-22	Actual Expenses in 2021-22 till	Budgeted in 2020-21	Actual Expenses in 2020-21 till	Budgeted in 2019-20	Actual Expenses in 2019-20 till	Budgeted in 2018-19	Actual Expenses in 2018-19 till
Laboratory equipment	600000.00	588525.00	1700000.00	1153052.00	350000.00	3459347.00	1200000.00	1166568.00
Software	300000.00	3047997.00	100000.00	128724.00	1650000.00	1633674.00	300000.00	252846.00
Laboratory consumable	25000.00	460.00	50000.00	53588.00	100000.00	4350.00	100000.00	62746.00
Maintenance and spares	300000.00	286295.00	300000.00	201024.00	300000.00	168657.00	600000.00	690355.00
R&D	1800000.00	1675112.00	300000.00	298384.00	1300000.00	1136690.00	1500000.00	806268.00
Training and Travel	720000.00	634710.00	1500000.00	1453800.00	2073000.00	2073000.00	2016000.00	1935000.00
	144000.00	45000.00	69000.00	13500.00	1350000.00	1200000.00	870000.00	900000.00
Total	6589000.00	6278099.00	4919000.00	3302072.00	10273000.00	9675718.00	6586000.00	5813783.00

10.4 Library and Internet (20)

10.4.1 Quality of learning resources (hard/soft) (10)

10.4.1 Quality of learning resources

The Learning Resource Center, the Central Library of AISSMS College of Engineering with its state-of-the-art facilities and excellent resources plays proactive role in providing excellent user services, optimal use of resources supporting quality enhancement in teaching-learning, research and extension. keeping pace with the developments in the ICTs, Institute library works as a digitized knowledge Center for accessibility with print and e-resources and provides focused services to the students and faculty. The Library has significant collection of books, journals, e-books, e-journals, secondary sources, databases, digital primary sources.

Integrated Library Management System (SLIM21) is used to manage different functions of library for improving accessibility to students. Institute Central Library is using commercial software as well as Open Source software for Automation of Library Services. With SLIM21 retrieval of information becomes easy and even a catchy phrase in the description of the catalogued item can be used for searching. SLIM21 supports flexible workflow to cover activities related to acquisition of books, serials control, and funds monitoring.

Total Marks 20.00

Institute Marks : 10.00

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Figure B10.4.1: SLIM Software Screenshots

With the growing popularity of e-resources, library is gradually migrating from print documents to e-resources. Qualified and experienced staff plays important role in providing easily accessible and cost-effective information services. Institute library has subscribed / implemented learning and e-learning resources as shown in below tables.

Learning Resources	Number of resources
Books	36942
E Journals	1014
e-Journals/e-Books	15000
List of print journals/Magazine	91
List of Newspapers	12
CD/DVD	867

Table	B10.4.2	: Ex	penditure	in I	ast	three	vears	on	learning	resource	s
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Year	No of New Titles added	No of new Editions added	No of new volumes added	Expenditure	
CFY -2019-20	17	9	99	96197.00	
CFY-2020-21	428	314	1324	650064.00	
CFY- 2021-22	87	36	277	199492	

Table B10.4.3 : Expenditure in last three years on E-Journals Subscription

Year	Number of E Journals	Expenditure
CFY 2019-20	612	2624635
CFY 2020 -21	1016	2493007
CFY 2021-22	1016	2810777

Institute Library has made following online resources available to the staff and students.

Table B10.4.4: Various online resources available in AISSMS COE Library

AISSMS E Resource	Contents	Link
Science Direct	275 E Journals Access	https://www.sciencedirect.com/
IEEE	169 eJournal Backfile Access- Since 2000)	https://ieeexplore.ieee.org/Xplore/home.jsp
ASME Digital Library	27 E Journals	https://www.asme.org/
ASCE Digital Library	35 E journals	https://www.asce.org/

Access Engineering	365 E journals/ E Books Access	https://www.accessengineeringlibrary.com/user/login
SPRINGER	149 E Journals	https://link.springer.com/
DELNET	Access Millions of Networked Library Resources through DELNET, 2,20,00,000+ Books available for Ioan, 5,000+ Full-text E- journals, 1,00,000+ Thesis/Dissertations	http://164.100.247.26/
Knimbus	25000+ ebooks	https://aissms.knimbus.com/user#/home
NDL	Includes all disciplines	https://ndl.iitkgp.ac.in/
List of Open Access Resources	Access to all open access resources	https://aissmscoelibrary.weebly.com/open-access- resources.html
S Chand Ebooks	Access to 112 E-Text Books	https://ebooks.schandgroup.com
New Age Ebooks	Access to 50 E Books	https://digital.elib4u.com/
Person E books	Access to 104 E - Text Books	https://elibrary.in.pearson.com/
Calibre Digital Library	Access to 1012 Free Ebooks	Available in LAN

For the easy access, all the online resources are subscribed as IP Based access subscription. This helps users to access any resource from any computer connected in the AISSMSCOE Campus LAN and also through WiFi enabled devices. This helps users for searching multiple database at a stretch. Remote off campus access facility is created and this can be used by students from home.

Library user tracking students and faculty

Library user tracking for students and faculty is done through ERP system. daily visit to library reports can be download through ERP system

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Figure B10.4.2: Screenshot of Library user tracking system

Book Purchase System Process

Library books requirement is collected through a book requisition form which is made available to all faculty through the google drive link. List of books requested by faculty are send for quotation to the supplier, after that purchase order is placed to the supplier with Head of Department and Principal approval.

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Figure B10.4.3: Screenshot of Library book requisition form

Support to students for self-learning

Institute Library supports students for self-learning activities by creating and making available various platforms for learning. Following resources are accessible to the students:

- 9000 + NPTEL Videos
- 100+ Subjects NPTEL Text Content
- 1500+ E-Books
- · Access to previous year question papers
- · Access to Ekeeda Learning platform
- · Access to IIRS training programs
- · Access to Coursera (During Covid pandemic period)
- Access to Edx platform (During Covid pandemic period)
- · Organization of book exhibitions, Author meets, E resources training program for students
- · Use of SLIM webopac for book search and reissue and reservation process

Digital library has been established by library for the effective use of these self-learning resources. Question point service, "Ask a Librarian" is a unique online service available where queries and reference questions from students are responded within 24 hours. Additional facilities created in the library for improving accessibility and support to students for self-learning.

- · Ask-A-Librarian Question Point Online Reference Service.
- · Wi-Fi accessible across the Library.
- · Library e-resources Remote Access (off-campus access) through Knimbus remote access platform.
- User Training, Sensitization and Information Literacy programs.
- Research Data Management, Publishing support, Style Manuals.
- Workshops/Programs on research methods Tools.
- Plagiarism Check tools (Turnitin) and services.
- Institutional Repository Dspace for faculty publication
- Faculty publication platform Vidwan
- Print, Scan Services.
- · Access to previous year question papers and syllabus
- Mobile App facility available



Figure B10.4.4: Plagiarism Software Screenshots

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Figure B10.4.5: Library WebOPAC Screenshots

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Figure B10.4.6: Ask A Librarian service



Figure B10.4.7: Reprography Machine and I card printing facility Information Kiosk

10.4.2 Internet (10)

Institute Marks : 10.00

Name of the Internet provider	Tata Tele Services Ltd
Available band width	500 Mbps
WiFi availability	Yes
Internet access in labs, classrooms, library and offices of all Departments	Internet access in available in all the labs, classrooms, library and offices of all departments and administrative office.
Security arrangements	Hardware Firewall CR-500 iNG is installed. Each user is assigned with user id and password. Antivirus software is installed on all computers Annexure I and laptops of the institute (A) FROGRAM OUTCOME (POs)

Engineering Graduates will be able to:

1. Engineering Knowledge : Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2. Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to

comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

(B) PROGRAM SPECIFIC OUTCOME (PSOs)

PSO1	Our graduate will have competencies in design and develop mechanical elements and systems.
PSO2	Our graduate will have incremental skills to specify and select materials, processes to manufacture an industrial product.
PSO3	Our graduate will have industry oriented attributes through industrial in-plant training, co-curricular and extension activities.

Declaration

The head of the institution needs to make a declaration as per the format given -

- I 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 inforce as on date and the institutes hall 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 willbe initiated by the NBA. In case, any false statement/information is observed during pre-visit, visit, postvisit and subsequent to grant of accreditation.

Head of the Institute Name : Dr D S Bormane Designation : Principal Signature :

Seal of The Institution :



Place : Pune Date : 10-11-2022 22:59:33