

**NATIONAL BOARD OF ACCREDITATION**  
**Data Capturing Points of the Program Applied for NBA Accreditation– Tier I/II UG**  
**(Engineering) Institute Programs**  
**PART A – Profile of the Institute**

Name of the Program applied for: Bachelor of Technology (B Tech) in Mechatronics  
Engineering

A1.	<b>Name of the Institute:</b> Shri Vile Parle Kelavani Mandals Narsee Monjee Institute Of Management Studies Deemed To Be University SVKM's NMIMS V.L.Mehta Road,Vile Parle (W) <b>Year of Establishment:</b> 2003 <b>Location of the College:</b> Vile Parle (W), Mumbai														
A2.	<b>Institute Address:</b> SVKM's NMIMS, Mukesh Patel School of Technology Management & Engineering Behind Homeopathy College, Bhakti Vedant Swami Marg, Near Cooper Hospital, JVPD Scheme, Vile Parle (West)														
	<b>City:</b> Mumbai	<b>State:</b> Maharashtra													
	<b>Website:</b> <a href="https://engineering.nmims.edu">https://engineering.nmims.edu</a>														
	<b>E-mail:</b> Dean.MPSTME@nmims.edu	<b>Phone No (with STD code:</b> +91 22 42334000													
A3.	<b>Name and Address of the Affiliating University (If any): -</b> <b>Name of University:</b> NMIMS University <b>City:</b> Mumbai <b>State:</b> Maharashtra <b>Pin Code:</b> 400056														
A4.	<b>Type of the Institution:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Institute of National Importance</td> <td style="width: 50%;"></td> <td style="width: 50%;">Deemed University</td> <td style="width: 50%; text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td>University</td> <td></td> <td>Autonomous</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Non-Autonomous (Affiliated)</td> <td></td> <td>Any other (Please specify)</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table> <b>Provide Details:</b> Deemed-to-be-University status in 2003 under Section 3 of University Grants Commission (UGC) Act.			Institute of National Importance		Deemed University	<input checked="" type="checkbox"/>	University		Autonomous	<input type="checkbox"/>	Non-Autonomous (Affiliated)		Any other (Please specify)	<input type="checkbox"/>
Institute of National Importance		Deemed University	<input checked="" type="checkbox"/>												
University		Autonomous	<input type="checkbox"/>												
Non-Autonomous (Affiliated)		Any other (Please specify)	<input type="checkbox"/>												
A5.	<b>Ownership Status:</b> -(Tick the applicable choice) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Central Government</td> <td style="width: 50%;"></td> <td style="width: 50%;">State Government</td> <td style="width: 50%;"></td> </tr> <tr> <td>Government Aided</td> <td></td> <td>Self financing</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td>Any Other (Please Specify)</td> <td></td> <td colspan="2" style="text-align: center;"><b>Provide Details:</b> Shri Vile Parle Kelavani Mandal (SVKM) is a Public Charitable Trust established in 1934 and registered under the Society's Registration Act and Bombay Public Trust Act, India.</td> </tr> </table>			Central Government		State Government		Government Aided		Self financing	<input checked="" type="checkbox"/>	Any Other (Please Specify)		<b>Provide Details:</b> Shri Vile Parle Kelavani Mandal (SVKM) is a Public Charitable Trust established in 1934 and registered under the Society's Registration Act and Bombay Public Trust Act, India.	
Central Government		State Government													
Government Aided		Self financing	<input checked="" type="checkbox"/>												
Any Other (Please Specify)		<b>Provide Details:</b> Shri Vile Parle Kelavani Mandal (SVKM) is a Public Charitable Trust established in 1934 and registered under the Society's Registration Act and Bombay Public Trust Act, India.													
A6.	<b>Details of all Programs being Offered by the Institution:</b> - <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">No. of UG programs: 13</td> <td style="width: 50%;"></td> </tr> <tr> <td>No. of PG programs: 03</td> <td></td> </tr> <tr> <td colspan="2" style="height: 40px;"></td> </tr> </table>			No. of UG programs: 13		No. of PG programs: 03									
No. of UG programs: 13															
No. of PG programs: 03															

**Table No. A6.1: List of all programs offered by the Institute**

S.N.	Level of program (UG/PG)	Name of the program	Year of Start	Year of close*	Name of the Department
1.	UG	B Tech in Information Technology	2006-07	NA	Information Technology
2.	UG	B Tech in Computer Engineering	2006-07	NA	Computer Engineering
3.	UG	B Tech in Electronics and Telecommunication Engineering	2006-07	NA	Electronics and Telecommunication Engineering
4.	UG	B Tech in Civil Engineering	2010-11	NA	Civil Engineering
5.	UG	B Tech in Mechanical Engineering	2010-11	NA	Mechanical Engineering
6.	UG	B Tech in Mechatronics Engineering	2014-15	NA	Mechatronics Engineering
7.	UG	B Tech in Data Science	2017-18	NA	Data Science
8.	UG	B Tech Computer Science and Business Systems	2019-20	NA	Computer Engineering
9.	UG	B Tech Computer Science and Engineering (Cyber Security)	2020-21	NA	Computer Engineering
10.	UG	B Tech in Artificial Intelligence	2020-21	NA	Artificial Intelligence
11.	UG	B Tech Computer Science and Engineering (Data Science)	2020-21	NA	Computer Engineering
12.	UG Integrated	MBA Tech	2004-05	NA	Technology Management
13.	PG	M Tech in Data Science	2015-16	NA	Data Science
14.	PG	M Tech in Artificial Intelligence	2018-19	NA	Artificial Intelligence
15.	PG	MCA	2007-08	NA	Computer Engineering

*Note: - Please mention department wise.*

**A7. Programs to be considered for Accreditation vide this application:**

**Table No. A7.1: List of programs to be considered for accreditation**

Cluster ID	Department Name	Program Name
1.	Civil Engineering	B Tech in Civil Engineering
2.	Mechanical Engineering	B Tech in Mechanical Engineering
3.	Mechatronics Engineering	B Tech in Mechatronics Engineering
4.	Electronics and Telecommunication Engineering	B Tech in Electronics and Telecommunication Engineering
5.	Information Technology	B Tech in Information Technology

**Table No. A7.2: Allied Department(s) to the Department of the program considered for accreditation as**

<b>Cluster ID</b>	<b>Name of the Department (in table no. A7.1)</b>	<b>Name of allied Departments/Cluster (for table no. A7.1)</b>
1.	Civil Engineering	NA
2.	Mechanical Engineering	Mechatronics Engineering
3.	Mechatronics Engineering	Mechanical Engineering
4.	Electronics and Telecommunication Engineering	NA
5.	Information Technology	Computer Engineering Data Science Artificial Intelligence

**PART-B: Program information**  
(Data to be filled in for the program applied for Accreditation)

**B1: Provide the Required Information for the Program Applied For: -**

**Table No. B1: Program details.**

S. N.	Program Name	Year of start	Sanctioned Intake	Increase/ decrease	Year increase/ decrease	AICTE Approval Details	Accreditation Status*	No. of times program accredited
1.	B Tech Mechatronics Engineering	2014-15	60	-	-	UGC Approved University (vide letter No. F.9-37/2001-U.3 dated 15th October, 2007) Institute (vide letter No. F. NO. 30-15/2007 (CPP-I) dated 13th August, 2008)	Applying first time	-

\* Write applicable one:

- ❖ Applying first time
- ❖ Granted accreditation for 2/3 years for the period (specify period)
- ❖ Granted accreditation for 5/6 years for the period (specify period)
- ❖ Not accredited (specify visit dates, year).
- ❖ Withdrawn (specify visit dates, year)
- ❖ Not eligible for accreditation.

**B2: Detail of Head of the Department for the program under consideration:**

**A. Name of the HoD : Dr Venkatesh Deshmukh**

**B. Nature of appointment: (Tick the applicable choice)**

- ❖ **Regular**
- ❖ **Contract**
- ❖ **Ad hoc**

**C. Qualification: (Tick the applicable choice)**

- ❖ **Ph.D.**
- ❖ **ME/M.Tech**
- ❖ **Any other\***

**\*Please provide details:** \_\_\_\_\_

### B3: Program Details

Table No.B3.1: Admission details for the program excluding those admitted through multiple entry and exit points.

Item (Information is to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	CAY	CAYm1	CAYm2	CAYm3	CAYm4 (LYG)	CAYm5 (LYGm1)	CAYm6 (LYGm2)
N= Sanctioned intake of the program (as per AICTE/Competent authority)	60	48	60	60	60	60	60
N1= Total no. of students admitted in the 1 <sup>st</sup> year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program	60	35	56	55	56	56	56
N2= Number of students admitted in 2 <sup>nd</sup> year in the same batch via lateral entry including leftover seats	0	9	5	2	10	8	10
N3= Separate division if any	0	0	0	0	0	0	0
N4= Total no. of students admitted in the 1 <sup>st</sup> year via all supernumerary quotas	0	0	0	0	0	0	0
Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.	<b>60</b>	<b>44</b>	<b>61</b>	<b>57</b>	<b>66</b>	<b>64</b>	<b>66</b>

CAY= Current Academic Year.

CAYm1= Current Academic Year Minus 1 CAYm2= Current Academic Year Minus 2. LYG= Last Year Graduate.

LYGm1= Last Year Graduate Minus 1. LYGm2= Last Year Graduate Minus 2.

### B4: Enrolment Ratio in the First Year

Table No. B4.1: Student enrolment ratio in the 1<sup>st</sup> year.

Item (Students enrolled in the First Year on average over 3 academic years (CAY, CAYm1, and CAYm2))	CAY	CAYm1	CAYm2
N= Sanctioned intake of the program in the 1 <sup>st</sup> year (as per AICTE/Competent authority)	60	48	60
N1= Total no. of students admitted in the 1 <sup>st</sup> year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program	60	35	56
N4= Total no. of students admitted in the 1 <sup>st</sup> year via all supernumerary quotas	0	0	0
Enrolment Ratio (ER)= (N1+N4)/N	<b>100%</b>	<b>73%</b>	<b>93%</b>
<b>Average ER= (ER_1+ ER_2+ ER_3)/3</b>	<b>89%</b>		

**B5: Success Rate of the Students in the Stipulated Period of the Program**

**Table No.B5.1:** The success rate in the stipulated period of a program.

Item	LYG	LYGm1	LYGm2
A*=(No. of students admitted in the 1 <sup>st</sup> year of that batch and those actually admitted in the 2 <sup>nd</sup> year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any).	66	64	65
B=No. of students who graduated from the program in the stipulated course duration	57	56	58
Success Rate (SR)=(B/A)*100	<b>86.36</b>	<b>87.50</b>	<b>89.23</b>
Average SR of three batches ((SR_1+SR_2+ SR_3)/3)	<b>87.70</b>		

**Note \*:** If the value of A in Table No. B5.1 is less than the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2), then the value of A in Table No.B5.1 should be the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2) of Table No.B3.1.

**B6: Academic Performance of the First-Year Students of the Program**

**Table No.B6.1:** Academic Performance of the First-Year Students of the Program.

Academic Performance	CAYm1	CAYm2	CAYm3
X= (Mean of 1 <sup>st</sup> year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 1 <sup>st</sup> year/10)	7.13	6.97	7.2
Y= Total no. of successful students	30	47	52
Z = Total no. of students appeared in the examination	36	54	55
API = X* (Y/Z)	5.94	6.07	6.81
Average API = ( API_1 + API_2 + API_3)/3	<b>6.27</b>		

**B7: Academic Performance of the Second Year Students of the Program**

**Table No.B7.1:** Academic Performance of the Second Year Students of the Program.

Academic Performance	CAYm1	CAYm2	CAYm3
X= (Mean of 2 <sup>nd</sup> year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2 <sup>nd</sup> year/10)	6.91	6.79	7.41
Y= Total no. of successful students	42	43	60
Z =Total no. of students appeared in the examination	48	51	64
API = X* (Y/Z)	<b>6.05</b>	<b>5.72</b>	<b>6.95</b>
Average API = ( API_1 + API_2 + API_3)/3	<b>6.24</b>		

**B8: Academic Performance of the Third Year Students of the Program****Table No.B8.1:** Academic Performance of the Third Year Students of the Program

Academic Performance	CAYm1	CAYm2	CAYm3
X= (Mean of 3 <sup>rd</sup> year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3 <sup>rd</sup> year/10)	7.41	7.36	7.89
Y= Total no. of successful students	40	58	60
Z= Total no. of students appeared in the examination	41	60	60
API = X* (Y/Z)	<b>7.23</b>	<b>7.11</b>	<b>7.89</b>
Average API = ( API_1 + API_2 + API_3)/3	<b>7.41</b>		

**B9: Placement, Higher Studies, and Entrepreneurship****Table No.B9.1:** Placement, higher studies, and entrepreneurship details.

Item	LYG	LYGm1	LYGm2
FS*=Total no. of final year students	57	60	64
X= No. of students placed	11	26	19
Y= No. of students admitted to higher studies	20	16	13
Z= No. of students taking up entrepreneurship	8	1	1
X + Y + Z =	39	43	33
Placement Index (P) = (((X + Y + Z)/FS) * 100)	68.42	71.66	51.56
Average placement index = (P_1 + P_2 + P_3)/3	63.88		

**Note \*:** If the value of FS in Table No. B9.1 is less than the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2), then the value of FS in Table No. B9.1 should be the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2) of Table No.B3.1.

**PART C: Faculty Details in Department and Allied Departments**  
 (Data to be filled in for the Department and Allied Departments)

**C1: Faculty details of Department and Allied Departments**

**Table No.C1:** Faculty details in the Department for the past 3 years including CAY

**Information of Faculty (2024-25)**

Sr. No.	Name of the Faculty	Highest Degree	University	Area of	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/Associate Professor if any	Nature of Association	If contractual mention Full time or (Part time or hourly based)	Currently	Date of Leaving if any
				Specialization						(Regular/Contract/Adhoc)		Associated	(in case currently Associated is "No")
1	Dr Venkatesh Deshmukh	Ph. D.	Auburn University (U.S.a)	Dynamics & Control	02-01-2019	6.2	Professor	Professor		Regular		Y	
2	Dr. Chetna Sharma	Ph. D.	SPCE / Jagganath University	Machine Design & Manufacturing System Engineering	10-06-2019	5.9	Assistant Professor	Assistant Professor		Regular		Y	
3	Dr. Sunny Nanade	Ph. D.	Sir Padampat Singhania University, Udaipur / Thapar University	CAD/CAM & Robotics	10-06-2019	5.9	Assistant Professor	Assistant Professor		Regular		Y	
4	Dr. Avinash Tandale	Ph. D.	NMIMS	Biomedical & Electronics	23-06-2008	16.8	Assistant Professor	Assistant Professor		Regular		Y	
5	Dr. Praveen Loharkar	Ph. D.	NMIMS, University	Mechanical Engineering	01-07-2015	8.9	Assistant Professor	Associate Professor	30.06.2022	Regular		Y	
6	Mr. Dattatray Sawant	M. E.	Mumbai, University	Control Systems, Signal Processing	01-12-2014	10.3	Assistant Professor	Assistant Professor		Regular		Y	
7	Mr. Ainal Abdul Azeez	M. Tech	NIT, Nagpur	Power Systems	31-07-2013	11.7	Assistant Professor	Assistant Professor		Regular		Y	
8	Mr. Nirmal Thakur	M. Tech	NMIMS	Biomedical & Electronics	01-09-2012	12.6	Assistant Professor	Assistant Professor		Regular		Y	
9	Mr. Amey Raut	M. Tech	NMIMS	Electronics & telecommunication	06-09-2012	12.6	Assistant Professor	Assistant Professor		Regular		Y	
10	Mr. Mohan Bodkhe	M. Tech	VJTI, Mumbai	CAD/CAM	01-12-2017	7.3	Assistant Professor	Assistant Professor		Regular		Y	
11	Mr. Asif Momin	M. E.	Pune University	Mechanical Design	09-07-2015	9.8	Assistant Professor	Assistant Professor		Regular		Y	
12	Mrs. Ashwini Gade	M. Tech	NMIMS	Electronics & telecommunication	05-08-2011	13.7	Assistant Professor	Assistant Professor		Regular		Y	

## Information of Faculty (2023-24)

Sr. No.	Name of the Faculty	Highest Degree	University	Area of	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/Associate Professor if any	Nature of Association	If contractual mention Full time or (Part time or hourly based)	Currently	Date of Leaving if any
				Specialization						(Regular/Contract/Adhoc)		Associated	(in case currently Associated is "No")
1	Dr Venkatesh Deshmukh	Ph. D.	Auburn University (U.S.a)	Dynamics & Control	02-01-2019	6.2	Professor	Professor		Regular		Y	
2	Dr. Chetna Sharma	Ph. D.	SPCE	Machine Design & Manufacturing System Engineering	10-06-2019	5.9	Assistant Professor	Assistant Professor		Regular		Y	
3	Dr. Sunny Nanade	Ph. D.	Sir Padampat Singhania University, Udaipur / Thapar University	CAD/CAM & Robotics	10-06-2019	5.9	Assistant Professor	Assistant Professor		Regular		Y	
4	Dr. Avinash Tandale	Ph. D.	NMIMS	Biomedical & Electronics	23-06-2008	16.8	Assistant Professor	Assistant Professor		Regular		Y	
5	Dr. Praveen Loharkar	Ph. D.	NMIMS, University	Mechanical Engineering	01-07-2015	8.9	Assistant Professor	Associate Professor	30.06.2022	Regular		Y	
6	Mr. Dattatray Sawant	M. E.	Mumbai, University	Control Systems, Signal Processing	01-12-2014	10.3	Assistant Professor	Assistant Professor		Regular		Y	
7	Mr. Ainal Abdul Azeez	M. Tech	NIT, Nagpur	Power Systems	31-07-2013	11.7	Assistant Professor	Assistant Professor		Regular		Y	
8	Mr. Nirmal Thakur	M. Tech	NMIMS	Biomedical & Electronics	01-09-2012	12.6	Assistant Professor	Assistant Professor		Regular		Y	
9	Mr. Amey Raut	M. Tech	NMIMS	Electronics & telecommunication	06-09-2012	12.6	Assistant Professor	Assistant Professor		Regular		Y	
10	Mr. Mohan Bodkhe	M. Tech	VJTI, Mumbai	CAD/CAM	01-12-2017	7.3	Assistant Professor	Assistant Professor		Regular		Y	
11	Mr. Asif Momin	M. E.	Pune University	Mechanical Design	09-07-2015	9.8	Assistant Professor	Assistant Professor		Regular		Y	
12	Mrs. Ashwini Gade	M. Tech	NMIMS	Electronics & telecommunication	05-08-2011	13.7	Assistant Professor	Assistant Professor		Regular		Y	

## Information of Faculty (2022-23)

Sr. No.	Name of the Faculty	Highest Degree	University	Area of Specialization	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/Associate Professor if any	Nature of Association (Regular/Contract/Adhoc)	If contractual mention Full time or (Part time or hourly based)	Currently Associated (Y/N)	Date of Leaving if any (in case currently Associated is "No")
1	Dr Venkatesh Deshmukh	Ph. D.	Auburn University (U.S.a)	Dynamics & Control	02-01-2019	6.2	Professor	Professor		Regular		Y	
2	Dr. Chetna Sharma	M. Tech	Jagannath University	Manufacturing System Engineering	10-06-2019	5.9	Assistant Professor	Assistant Professor		Regular		Y	
3	Dr. Sunny Nanade	Ph. D.	Sir Padampat Singhania University, Udaipur / Thapar University	CAD/CAM & Robotics	10-06-2019	5.9	Assistant Professor	Assistant Professor		Regular		Y	
4	Dr. Avinash Tandale	Ph. D.	NMIMS	Biomedical & Electronics	23-06-2008	16.8	Assistant Professor	Assistant Professor		Regular		Y	
5	Dr. Praveen Loharkar	M. Tech	Maulana Azad National Institute of Technology, Bhopal	Industrial Design	01-07-2015	8.9	Assistant Professor	Associate Professor	30.06.2022	Regular		Y	
6	Mr. Dattatray Sawant	M. E.	Mumbai, University	Control Systems, Signal Processing	01-12-2014	10.3	Assistant Professor	Assistant Professor		Regular		Y	
7	Mr. Ainal Abdul Azeez	M. Tech	NIT, Nagpur	Power Systems	31-07-2013	11.7	Assistant Professor	Assistant Professor		Regular		Y	
8	Mr. Nirmal Thakur	M. Tech	NMIMS	Biomedical & Electronics	01-09-2012	12.6	Assistant Professor	Assistant Professor		Regular		Y	
9	Mr. Amey Raut	M. Tech	NMIMS	Electronics & telecommunication	06-09-2012	12.6	Assistant Professor	Assistant Professor		Regular		Y	
10	Mr. Vinod Jain	M. S.	Oklahoma State University	Computer Architecture and VLSI System Design	02-11-2009	13.75	Associate Professor	Associate Professor		Regular		N	05-08-2023
11	Mr. Mohan Bodkhe	M. Tech	VJTI, Mumbai	CAD/CAM	01-12-2017	7.3	Assistant Professor	Assistant Professor		Regular		Y	
12	Mr. Asif Momin	M. E.	Pune University	Mechanical Design	09-07-2015	9.8	Assistant Professor	Assistant Professor		Regular		Y	
13	Mrs. Ashwini Gade	M. Tech	NMIMS	Electronics & telecommunication	05-08-2011	13.7	Assistant Professor	Assistant Professor		Regular		Y	

**Table No.C2:** Faculty details of Allied Departments for the past 3 years including CAY.

## Information of Faculty (2024-25)

Sr. No.	Name of the Faculty	Highest Degree	University	Area of Specialization	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/Associate Professor if any	Nature of Association (Regular/Contract/Adhoc)	If contractual mention Full time or (Part time or hourly based)	Currently Associated (Y/N)	Date of Leaving if any (in case currently Associated is "No")
1	Dr. Ravi Prakashrao Terkar	Ph. D.	NMIMS University	Production Engineering	15-04-2011	13.11	Associate Professor	Professor	03.11.2018	Regular	-	Yes	
2	Dr. Rajesh Yashvant Patil	Ph. D.	NMIMS University	Thermal Engineering	05-06-2007	17.9	Assistant Professor	Associate Professor	01.07.2010	Regular	-	Yes	
3	Dr. Ashish Jaykumar Deshmukh	Ph. D.	NMIMS University	Logistics and Supply Chain Management	04-07-2007	17.8	Assistant Professor	Professor	02.12.2023	Regular	-	Yes	
4	Dr. Sawankumar Ramdas Naik	Ph. D.	NMIMS University	Production / Operations Management	28-05-2007	17.9	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
5	Dr. Sudipto Sarkar	Ph. D.	IIT, Kanpur	Mechanical / Heat Power Specialization	01-08-2024	0.7	Professor	Professor	-	Contract	Full Time	Yes	
6	Dr. Swati Ranjeet Donde	Ph. D.	Sardar Patel College of Engineering (SPCE), Mumbai	Thermal Engineering	21-02-2013	12	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
7	Mr. Sunil Laxmanrao Bhil	M. E.	Mumbai University	Design & Automobile	24-07-2013	11.7	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
8	Dr. Samadhan Prakash Deshmukh	Ph. D.	NMIMS University	Manufacturing Systems	11-11-2014	10.4	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
9	Ms. Neepa Manharlal Patel	M. Tech	Nirma University	CAD/CAM	06-07-2015	9.8	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
10	Mr. Giridhar Sadanand Chavan	M. E.	Mumbai, University	Manufacturing & Automation	06-07-2015	9.8	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
11	Ms. Zoya Akhtar Rizvi	M. E.	Mumbai, University	CAD/CAM, Robotics	09-11-2015	9.4	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
12	Mr. Nilesh Bhojraj Balki	M. E.	Pune University	Heat Power Engineering	20-01-2017	8.1	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
13	Ms. Abira Mukherjee	M. Tech	West Bengal University of Technology (WBUT)	Production Engineering	15-06-2017	7.9	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
14	Dr. Abhishek Priyam	Ph. D.	National Institute of Technology Jamshedpur (NIT), Jamshedpur	Solar Energy Technology	11-06-2018	6.9	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
15	Mr. Gnanagonda K Marthande	M. Tech	Defence Institute of Advanced Technology (DIAT), Pune	Armament/Combat Vehicles	01-06-2018	6.9	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
16	Mr. Mayur Marathe	M. E.	Mumbai University	CAD/CAM & Robotics	02-07-2018	6.8	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
17	Chandrakant Wani	M. Tech	Rajiv Gandhi Proudyogiki University	Mechanical	15-07-2022	14.5	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
18	Dr. Rakesh Chaudhari	Ph. D.	NMIMS, Mumbai	Mechanical Engineering	11-11-2011	13	Assistant Professor	Associate Professor	11.11.2011	Regular	-	Yes	

19	Rajesh Verma	M. Tech	M Tech DS - NMIMS & M Tech Thermal Rajiv Gandhi Proudyogiki Vishwavidyalaya (R.G.P.V) Bhopal	DS & Thermal Engineering	28-07-2015	9	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
20	Dr. Rajnish Katarne	Ph. D.	Bhagwant University, Ajmer	Engineering Mechanical	10-07-2017	7	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
21	Dr. Vishal Fegade	Ph. D.	Rashtrasant Tukadoji Maharaj Nagpur University (RTMNU)	Engineering Mechanical	01-08-2007	17	Assistant Professor	Associate Professor	15.09.2011	Regular	-	Yes	
22	Aditya Kasar	M. E.	Mumbai University	CAD CAM & Robotics)	01-07-2017	16	Assistant Professor	Assistant Professor	-	Regular	-	Yes	

### Information of Faculty (2023-24)

Sr. No.	Name of the Faculty	Highest Degree	University	Area of Specialization	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/Associate Professor if any	Nature of Association (Regular/Contract/Adhoc)	If contractual mention Full time or (Part time or hourly based)	Currently Associated (Y/N)	Date of Leaving if any (in case currently Associated is "No")
1	Dr Asha Ingle	Ph. D.	IIT, Bombay	Metallurgy & Materials Sci.	02/07/2012	11.6	Professor	Professor	--	Regular		Yes	01.12.2023
2	Dr. Ravi Prakashrao Terkar	Ph. D.	NMIMS University	Production Engineering	15-04-2011	13.11	Associate Professor	Professor	03.11.2018	Regular	-	Yes	
3	Dr. Rajesh Yashvant Patil	Ph. D.	NMIMS University	Thermal Engineering	05-06-2007	17.9	Assistant Professor	Associate Professor	01.07.2010	Regular	-	Yes	
4	Dr. Ashish Jaykumar Deshmukh	Ph. D.	NMIMS University	Logistics and Supply Chain Management	04-07-2007	17.8	Assistant Professor	Professor	02.12.2023	Regular	-	Yes	
5	Dr. Sawankumar Ramdas Naik	Ph. D.	NMIMS University	Production / Operations Management	28-05-2007	17.9	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
6	Ms. Swati Ranjeet Donde	M. E.	Sardar Patel College of Engineering (SPCE), Mumbai	Thermal Engineering	21-02-2013	12	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
7	Dr. Prashob P S	Ph. D.	NIT Calicut	Computer aided Structural Analysis & Design	05-06-2018	5.6	Assistant Professor	Assistant Professor	-	Regular	-	Yes	02.12.2023
8	Mr. Sunil Laxmanrao Bhil	M. E.	Mumbai University	Design & Automobile	24-07-2013	11.7	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
9	Mr. Samadhan Prakash Deshmukh	M. E.	Mumbai University	Manufacturing Systems	11-11-2014	10.4	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
10	Ms. Neepa Manharlal Patel	M. Tech	Nirma University	CAD/CAM	06-07-2015	9.8	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
11	Mr. Giridhar Sadanand Chavan	M. E.	Mumbai, University	Manufacturing & Automation	06-07-2015	9.8	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
12	Ms. Zoya Akhtar Rizvi	M. E.	Mumbai, University	CAD/CAM, Robotics	09-11-2015	9.4	Assistant Professor	Assistant Professor	-	Regular	-	Yes	

13	Mr. Nilesh Bhojraj Balki	M. E.	Pune University	Heat Power Engineering	20-01-2017	8.1	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
14	Ms. Abira Mukherjee	M. Tech	West Bengal University of Technology (WBUT)	Production Engineering	15-06-2017	7.9	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
15	Dr. Abhishek Priyam	Ph. D.	National Institute of Technology Jamshedpur (NIT), Jamshedpur	Solar Energy Technology	11-06-2018	6.9	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
16	Mr. Gnanagonda K Marthande	M. Tech	Defence Institute of Advanced Technology (DIAT), Pune	Armament/Combat Vehicles	01-06-2018	6.9	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
17	Mr. Mayur Marathe	M. E.	Mumbai University	CAD/CAM & Robotics	02-07-2018	6.8	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
18	Chandrakant Wani	M. Tech	Rajiv Gandhi Proudyogiki University	Mechanical	15-07-2022	14.5	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
19	Dr. Rakesh Chaudhari	Ph. D.	NMIMS, Mumbai	Mechanical Engineering	11-11-2011	13	Assistant Professor	Associate Professor	11.11.2011	Regular	-	Yes	
20	Rajesh Verma	M. Tech	M Tech DS - NMIMS & M Tech Thermal Rajiv Gandhi Proudyogiki Vishwavidyalaya (R.G.P.V) Bhopal	DS & Thermal Engineering	28-07-2015	9	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
21	Dr. Rajnish Katarne	Ph. D.	Bhagwant University, Ajmer	Engineering Mechanical	10-07-2017	7	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
22	Dr. Vishal Fegade	Ph. D.	Rashtrasant Tukadoji Maharaj Nagpur University (RTMNU)	Engineering Mechanical	01-08-2007	17	Assistant Professor	Associate Professor	15.09.2011	Regular	-	Yes	
23	Aditya Kasar	M. E.	Mumbai University	CAD CAM & Robotics)	01-07-2017	16	Assistant Professor	Assistant Professor	-	Regular	-	Yes	

### Information of Faculty (2022-23)

Sr. No.	Name of the Faculty	Highest Degree	University	Area of Specialization	Date of Joining in this Institution	Experience in years in current institute	Designation at Time Joining in this Institution	Present Designation	The date on which Designated as Professor/Associate Professor if any	Nature of Association (Regular/Contract/Adhoc)	If contractual mention Full time or (Part time or hourly based)	Currently Associated (Y/N)	Date of Leaving if any (in case currently Associated is "No")
1	Dr Asha Ingle	Ph. D.	IIT, Bombay	Metallurgy & Materials Sci.	02/07/2012	11.6	Professor	Professor	--	Regular		Yes	
2	Dr. Ravi Prakashrao Terkar	Ph. D.	NMIMS University	Production Engineering	15-04-2011	13.11	Associate Professor	Professor	03.11.2018	Regular	-	Yes	
3	Dr. Rajesh Yashvant Patil	Ph. D.	NMIMS University	Thermal Engineering	05-06-2007	17.9	Assistant Professor	Associate Professor	01.07.2010	Regular	-	Yes	
4	Dr. Ashish Jaykumar Deshmukh	Ph. D.	NMIMS University	Logistics and Supply Chain Management	04-07-2007	17.8	Assistant Professor	Associate Professor		Regular	-	Yes	
5	Sawankumar Ramdas Naik	M. Tech	VJTI University	Production Engineering	28-05-2007	17.9	Assistant Professor	Assistant Professor	-	Regular	-	Yes	

6	Ms. Swati Ranjeet Donde	M. E.	NMIMS University	Thermal Engineering	21-02-2013	12	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
7	Dr. Prashob P S	Ph. D.	NIT Calicut	Computer aided Structural Analysis & Design	05-06-2018	5.6	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
8	Mr. Mahavir Bhattacharya	M. E.	Mumbai University	Energy Engineering.	15.06.2017	6.6	Assistant Professor	Assistant Professor	-	Regular	-	Yes	13-05-2023
9	Mr. Sunil Laxmanrao Bhil	M. E.	Mumbai University	Design & Automobile	24-07-2013	11.7	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
10	Mr. Samadhan Prakash Deshmukh	M. E.	Mumbai University	Manufacturing Systems	11-11-2014	10.4	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
11	Ms. Neepa Manharlal Patel	M. Tech	Nirma University	CAD/CAM	06-07-2015	9.8	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
12	Mr. Giridhar Sadanand Chavan	M. E.	Mumbai, University	Manufacturing & Automation	06-07-2015	9.8	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
13	Ms. Zoya Akhtar Rizvi	M. E.	Mumbai, University	CAD/CAM, Robotics	09-11-2015	9.4	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
14	Mr. Nilesh Bhojraj Balki	M. E.	Pune University	Heat Power Engineering	20-01-2017	8.1	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
15	Ms. Abira Mukherjee	M. Tech	West Bengal University of Technology (WBUT)	Production Engineering	15-06-2017	7.9	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
16	Dr. Abhishek Priyam	Ph. D.	National Institute of Technology Jamshedpur (NIT), Jamshedpur	Solar Energy Technology	11-06-2018	6.9	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
17	Mr. Gnanagonda K Marthande	M. Tech	Defence Institute of Advanced Technology (DIAT), Pune	Armament/Combat Vehicles	01-06-2018	6.9	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
18	Mr. Mayur Marathe	M. E.	Mumbai University	CAD/CAM & Robotics	02-07-2018	6.8	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
19	Chandrakant Wani	M. Tech	Rajiv Gandhi Proudyogiki University	Mechanical	15-07-2022	14.5	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
20	Dr. Rakesh Chaudhari	Ph. D.	NMIMS, Mumbai	Mechanical Engineering	11-11-2011	13	Assistant Professor	Associate Professor	11.11.2011	Regular	-	Yes	
21	Rajesh Verma	M. Tech	M Tech DS - NMIMS & M Tech Thermal Rajiv Gandhi Proudyogiki Vishwavidyalaya (R.G.P.V) Bhopal	DS & Thermal Engineering	28-07-2015	9	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
22	Dr. Rajnish Katarne	Ph. D.	Bhagwant University, Ajmer	Engineering Mechanical	10-07-2017	7	Assistant Professor	Assistant Professor	-	Regular	-	Yes	
23	Dr. Vishal Fegade	Ph. D.	Rashtrasant Tukadoji Maharaj Nagpur University (RTMNU)	Engineering Mechanical	01-08-2007	17	Assistant Professor	Associate Professor	15.09.2011	Regular	-	Yes	
24	Aditya Kasar	M. E.	Mumbai University	CAD CAM & Robotics	01-07-2017	16	Assistant Professor	Assistant Professor	-	Regular	-	Yes	

## C2: Student-Faculty Ratio (SFR)

- ❖ No. of UG(Engineering) programs in Department including allied departments/ clusters (UG<sub>n</sub>):
  - UG<sub>1</sub>=1<sup>st</sup> UG program
  - UG<sub>n</sub>=n<sup>th</sup> UG program
    - B= No. of Students in UG 2<sup>nd</sup> year (ST)
    - C= No. of Students in UG 3<sup>rd</sup> year (ST)
    - D= No. of Students in UG 4<sup>th</sup> year (ST)
- No. of PG (Engineering) programs in Department including allied departments/ clusters (PG<sub>m</sub>):
  - PG<sub>1</sub>=1<sup>st</sup> PG program.
  - PG<sub>m</sub>=m<sup>th</sup> PG program
    - A= No. of Students in PG 1<sup>st</sup> year
    - B= No. of Students in PG 2<sup>nd</sup> year
- ❖ Student Faculty Ratio (SFR) = S/F
  - S= No. of students of all programs in the Department including all students of allied departments/clusters.
    - **No. of students (ST)**=Sanctioned Intake (SA)+ Actual admitted students via lateral entry including leftover seats (L) if any (limited to 10 % of SA)
    - Students who admitted under supernumerary quotas (SNQ, EWS, etc) will not be considered in calculating SFR value. Those students are **exempted**.
  - F=Total no. of regular or contractual faculty members (Full Time) in the Department, including allied departments/clusters (excluding first year faculty (The faculty members who have a 100% teaching load in the first-year courses)).

Table No.C2.1: Student-faculty ratio.

Year	CAY	CAYm1	CAYm2
UG <sub>1</sub> . B // 2 <sup>nd</sup> year students of UG <sub>1</sub> program			
UG <sub>1</sub> . C // 3 <sup>rd</sup> year students of UG <sub>1</sub> program			
UG <sub>1</sub> . D // 4 <sup>th</sup> year students of UG <sub>1</sub> program			
UG <sub>1</sub> // Total no.of students(2 <sup>nd</sup> , 3 <sup>rd</sup> , 4 <sup>th</sup> ) in UG <sub>1</sub> program	UG <sub>1</sub> .B+ UG <sub>1</sub> .C+ UG <sub>1</sub> .D	UG <sub>1</sub> .B+ UG <sub>1</sub> .C+ UG <sub>1</sub> .D	UG <sub>1</sub> .B+ UG <sub>1</sub> .C+ UG <sub>1</sub> .D
...			
UG <sub>n</sub> . B // 2 <sup>nd</sup> year students of UG <sub>n</sub> program			
UG <sub>n</sub> . C // 3 <sup>rd</sup> year students of UG <sub>n</sub> program			
UG <sub>n</sub> . D // 4 <sup>th</sup> year students of UG <sub>n</sub> program			
UG <sub>n</sub> // Total no.of students(2 <sup>nd</sup> , 3 <sup>rd</sup> , 4 <sup>th</sup> ) in UG <sub>n</sub> program	UG <sub>n</sub> .B+UG <sub>n</sub> .C+UG <sub>n</sub> .D	UG <sub>n</sub> .B+UG <sub>n</sub> .C+UG <sub>n</sub> .D	UG <sub>n</sub> .B+UG <sub>n</sub> .C+UG <sub>n</sub> .D
PG <sub>1</sub> . A // 1 <sup>st</sup> year students of PG <sub>1</sub> program			
PG <sub>1</sub> . B // 2 <sup>nd</sup> year students of PG <sub>1</sub> program			
PG <sub>1</sub> // Total no.of students(1 <sup>st</sup> , 2 <sup>nd</sup> ) in PG <sub>1</sub> program	PG <sub>1</sub> .A+ PG <sub>1</sub> .B	PG <sub>1</sub> .A+ PG <sub>1</sub> .B	PG <sub>1</sub> .A+ PG <sub>1</sub> .B
....			
PG <sub>m</sub> . A // 1 <sup>st</sup> year students of PG <sub>m</sub> program			
PG <sub>m</sub> . B // 2 <sup>nd</sup> year students of PG <sub>m</sub> program			
PG <sub>m</sub> // Total no.of students(1 <sup>st</sup> , 2 <sup>nd</sup> ) in PG <sub>m</sub> program	PG <sub>m</sub> .A+ PG <sub>m</sub> .B	PG <sub>m</sub> .A+ PG <sub>m</sub> .B	PG <sub>m</sub> .A+ PG <sub>m</sub> .B
DS=Total no. of students in all UG and PG programs in the Department	.....	.....	.....
AS=Total no. of students of all UG and PG programs in allied departments	.....	.....	.....
<b>S=Total no. of students in the Department (DS) and allied departments (AS)</b>	S1=UG <sub>1</sub> +UG <sub>2</sub> ...+UG <sub>n</sub> +PG <sub>1</sub> + ...PG <sub>m</sub>	S2=UG <sub>1</sub> +UG <sub>2</sub> ...+UG <sub>n</sub> +PG <sub>1</sub> + ...PG <sub>m</sub>	S3=UG <sub>1</sub> +UG <sub>2</sub> ...+UG <sub>n</sub> +PG <sub>1</sub> + ...PG <sub>m</sub>
DF=Total no. of faculty members in	.....	.....	.....
AF= Total no. of faculty members in the allied Departments	.....	.....	.....
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)	F1	F2	F3
FF=The faculty members in F who have a 100% teaching load in the first-year courses	FF1	FF2	FF3
<b>Student Faculty Ratio (SFR)=S/(F-FF)</b>	SFR1=S1/(F1-FF1)	SFR2=S2/(F2-FF2)	SFR3=S3/(F3-FF3)
Average SFR for 3 years	Average SFR=(SFR1+SFR2+SFR3)/3		

Year	CAY (2024-25)	CAY1(2023-24)	CAY2(2022-23)
<b>B Tech Mechanical Engineering</b>			
<b>2<sup>nd</sup></b>	144	180	180
<b>3<sup>rd</sup></b>	180	180	180
<b>4<sup>th</sup></b>	180	180	180
<b>UG1</b>	<b>504</b>	<b>540</b>	<b>540</b>
<b>No. of Faculty in the Department (F)</b>	<b>34</b>	<b>35</b>	<b>37</b>
<b>Student Faculty Ration (SFR)= S / F</b>	14.82	15.42	14.59
<b>Average SFR</b>	14.94		

### C3: Faculty Qualification

- ❖ Faculty qualification index (FQI) =  $2.5 * [(10X +4Y)/RF]$  where
- X=No. of faculty members with Ph.D. degree or equivalent as per AICTE/UGC norms.
- Y=No. of faculty members with M. Tech. or ME degree or equivalent as per AICTE/ UGC norms.RF=No. of required faculty in the Department including allied Departments to adhere to the 20:1 Student-Faculty ratio, with calculations based on both student numbers and faculty requirements as per section C2 of this documents: (RF=S/20).

**Table No.C3.1:** Faculty qualification.

Year	X	Y	RF	FQI= $2.5 * [(10X +4Y)/RF]$
CAY	16	18	34	25.2
CAYm1	15	20	35	27
CAYm2	12	25	37	27

### C4: Faculty Cadre Proportion

- ❖ Faculty Cadre Proportion is 1(RF1): 2(RF2): 6(RF3)
- RF1= No. of Professors required =  $1/9 * \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S)}$  as per C2 of this documents:.
- RF2= No. of Associate Professors required =  $2/9 * \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S)}$  as per section C2 of this documents:.
- RF3= No. of Assistant Professors required =  $6/9 * \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S)}$  as per section C2 of this documents:.
- ❖ Faculty cadre and qualification and experience should be as per AICTE/UGC norms.

**Table No.C4.1:** Faculty cadre proportion details.

Year	Professors		Associate Professors		Assistant Professors	
	Required Faculty(RF1)	Available Faculty(AF1)	Required Faculty(RF2)	Available Faculty(AF2)	Required Faculty(RF3)	Available Faculty(AF3)
CAY	3	4	6	4	17	26
CAYm1	3	4	6	4	18	27
CAYm2	3	3	6	5	18	28
<b>Average Numbers</b>	<b>3</b>	<b>3.66</b>	<b>6</b>	<b>4.66</b>	<b>17.66</b>	<b>27</b>

**C5: Visiting/Adjunct Faculty/Professor of Practice**

**Table No. C5.1:** List of visiting/adjunct faculty/professor of practice and their teaching and practical loads.

<b>S.N.</b>	<b>Name of the Person</b>	<b>Designation &amp; Organization</b>	<b>Name of the Course</b>	<b>No. of hours handled</b>
<b>CAYm1- 2023-24</b>				
<b>1</b>	Navin Rohtogi	Chartered Accountant, Rohatgi & Company	Management for Accountancy for Engineering	30
<b>2</b>	Vivek Ahuja	Working as CEO & Director in Green Enable Technologies Pvt. Ltd., Mumbai from 2022 to till date.	Intro to Virtual Reality & Augmented Reality Supervisory Control and Data Acquisition Simulated Mixed Reality	60
<b>4</b>	Deepak Kumar Sinha	Worked as Senior Product and Training Manager in Jetking Infotrain Limited, Mumbai	Robotic Process Automation	45
<b>Total no. of hours:</b>				135
<b>CAYm2 2022-23</b>				
<b>1</b>	Smitesh Bhosle	Financial Advisor, ONGC	Management for Accountancy for Engineering	30
<b>Total no. of hours:</b>				30
<b>CAYm3 2021-22</b>				
<b>1</b>	Pradeep Yadav	Visiting Faculty at NMIMS University, Mumbai	Classical Physics	60
<b>Total no. of hours:</b>				60

**C6: Academic Research**

**Table No. C6.1:** Faculty publication details.

<b>S.N.</b>	<b>Item</b>	<b>CAYm1</b>	<b>CAYm2</b>	<b>CAYm3</b>
1	No. of peer reviewed journal papers published	4	5	2
2	No. of peer reviewed conference papers published	5	8	11
3	No. of books/book chapters published	-	3	3

## C7: Sponsored Research Project

**Table No. C7.1:** List of sponsored research projects received from external agencies.

## C8: Consultancy Work

**Table No. C8.1:** List of consultancy projects received from external agencies.

**C9: Institution Seed Money or Internal Research Grant to its Faculty for Research Work**

**Table No. C9.1:** List of faculty members received seed money or internal research grant from the Institution.

S.N.	Faculty name	Project title/ Support for Activity	Duration	Amount (Lacs)	Amount Utilized (Lacs)	Outcomes of the project
<b>CAYm1</b>						
1	NIL	NIL	NIL	NIL	NIL	NIL
2	NIL	NIL	NIL	NIL	NIL	NIL
<b>Amount received (Rs.)</b>						
<b>CAYm2</b>						
1	Dr. Venkatesh Deshmukh	Next-Gen Manufacturing: Exploring Shape and Strength Optimization in Machinery	2 years	2,00,000	2,00,000	Project based learning component development
2	Dr. Venkatesh Deshmukh	Immersive Learning Environments: Integrating Virtual Reality and Augmented Reality for Educational Robotics	1 Year	1,00,000	1,00,000	Project based learning component development
<b>Amount received (Rs.)</b>				3,00,000		
<b>CAYm3</b>						
1	Mr. Dattatray Sawant	Omnidirectional Spherical Robot mechanism with actuators for 3 degrees of freedom	3 Years	1,00,000	1,00,000	1 Utility Patent 2 Design Patents
2	Dr. Sunny Nanade	Digital Twins in Robotics	1 Year	1,72,000	1,72,000	doi:10.1142/S2737599424400188
3	Prof Nirmal Thakur	Visual Perception for robots	1 year	1,00,000	1,00,000	Project based learning component development
<b>Amount received (Rs.)</b>				3,72,000		
<b>Total amount (Lacs) received for the past 3 years</b>				6,72,000		

**PART-D: Laboratory Infrastructure in the Department**

(Data to be filled in for the Department).

**D1:Adequate and Well-Equipped Laboratories, and Technical Manpower**

**Table No.D1.1:** List of laboratories and technical manpower.

S. N.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the major equipment	Weekly utilization status (all the courses for which the lab is utilized)	Technical Manpower support		
					Name of the technical staff	Designation	Qualification
1.	Robotics Laboratory	20	1) Yaskawa Motoman Robot - Motoman robot MH-5 with Dx100 robot controller, Programming pendant with 8-meter cable. 2) ROBOT ROSBOT XL (Husarion) - SBC- Nvidia, Jetson Nano, RPLIDAR S1, ZED2 Stereo Camera. 3) KUKA Robots with accessories - KUKA KR 4 R600, Six Axis single arm robot, Pay load 3kg, Electric jaw (16mm stroke per finger). 4) ABB Robot Dual Arm - ABB IRB14000.140000-.5/.5(3HAC050778-001), Device net, single channel PROFINET, inbuild Congex vision system. 5)DELL 5400 AIO, i5, 16 GB SRAM, Desktops (Quanatity-34) with Robot Studio, KUKA SIM, MATLAB R2022b softwares.	Robotic Systems Design, Industrial Robotics and Motion Control, Classical Control Systems, Elements of Automation, Embedded Systems, Project Methodology, Capstone Project, Project.	Mr. Prakash Niranjan Jadhav	Lab Assistant	Diploma in Mechanical Engineering, B. E. (Civil)
2.	IOT & Sensorics Laboratory	20	1) Bosch – Rexroth Indralogic L20 and L25 PLCs with Digital I/P &O/P Module (AC/DC 30V 1.0 amp), Analog I/P & O/P Module (0 to 10 V DC, 4 to 20 mA), Power Supply Module, Compact Flash Card, Ethernet, Profibus, Sercos Connectors, Extension Board for connections, Analog Power source, Indrawoks programming software (Version 12 and 14). 2) IOT Gateway with TP Link Router, Rexroth	PLCs and Instrumentation, Mechatronic Systems Design, Microelectromechanical Systems, Industrial Data Communication, Biomedical Instrumentation Smart System Communication, Modern Control Systems,	Mr. Brahmanand Ravindra Mhatre	Lab Assistant	Diploma in Electronics Engineering, BSC. (IT), Bosch- Rexroth Certified Trainer in Industrial Automation Technologies

			<p>Field Bus Module (S-20-ETH-BK), S20-D1-16/1 &amp; S20-A1-4-1, I/P &amp; O/P Modules Modules),SSL41047RCMCB(Siemens), Windows based IOT Gateway App.</p> <p>3) Bosch – Rexroth, CISS Smart Sensor with multiple parameter measurement (Temperature, Humidity, Luminous Intensity, Accelerometer, Magnetometer etc.), USB &amp; Bluetooth connectivity, Visualization Software (Windows &amp; Android).</p> <p>4) Bosch – Rexroth MLC Trainer- 2 AXIS 3 Phase PM Synchronous Motors and MLC controllers in Master- Slave configuration, I/P and O/P modules.</p> <p>5) Bosch – Rexroth MTX 4 Axis CNC Simulator- Teach pendant, Control Display Unit, Input and Output cards, Four Axis 3 Phase PM Synchronous Motors, MLC controllers.</p> <p>6) Bosch – Rexroth Sensorics Trainers- Inductive, Capacitive, Magnetic, Ultrasonic and Optical Proximity Sensors, Test Sample Materials, 24 Volts DC Motors, Counter, 0-30 Volts Power Supply.</p> <p>7) HP AIO ProOne 600 GB Desktop (Quantity-27) with Inrdaworks Engineering (Version 14), MATLAB R2022b, SolidWorks Version 24 Softwares.</p>	Project Methodology, Capstone Project, Project.			
3.	Hydraulics Laboratory	20	<p>1) Bosch – Rexroth Hydraulics Trainer Kit with accessories (4 Workstations) - Hydraulic Power pack (50 Bar), Onboard Relay modules, Amplifier Cards, Timer Cards, Control Cards, 24 Volts power supply module, Level measurement, Load Simulator.</p> <p>2) Bosch – Rexroth Mobile Hydraulic Training System- Load sensing control, Mobile Hydraulics Throttle control, Mobile hydraulics LUDU control, Hydrostatic steering system (Ackerman &amp; Articulated),</p>	Fluid Power Automation, Analysis of Fluid Machines, Fluid Mechanics, Dynamic Systems Modeling, Dynamic Systems Analysis Electric and Hybrid Automotive Technology, Project Methodology, Capstone Project, Project.	Mr. Prakash Niranjan Jadhav	Lab Assistant	Diploma in Mechanical Engineering, B. E. (Civil)

			<p>Programmable Joystick, Priority Valve.</p> <p>3) Bosch- Rexroth Proportional Hydraulic Trainer System- 4WRAE Proportional Directional control valve (0- 10 Volts, 4 to 20 mA), Proportional Flow control valve, VT-HMC controller, PI Control module, Mating connector for the Proportional Valve, Pilot control valves, Pressure gauge, Adjustable load unit with feedback.</p> <p>4) Pressure Relief Valves, Directional Controlled Valves (Manually operated &amp; Solenoid actuated), Throttle valves, Non- return valves, Electrical Pressure switch, Hydraulic Accumulator, Hydraulic Geared Motors, Double acting hydraulic cylinders, Pressure Reducing valve, Shut off valves, Inductive Proximity Sensors, Solenoid Connectors, Throttle valves with check valves, Hydraulic Hoses.</p> <p>5) HP AIO ProOne 600 GB Desktops (Quantity-03) with Inrdaworks Engineering (Version 14), Automation Studio 7.0 Educational Version and MATLAB R2022b, Softwares.</p>			
4.	Automation Laboratory	20	<p>1) Bosch- Rexroth Modular Mechatronics Assembly System (MMS) - 3 Separate Section for Testing / Inspection, Assembly and Storage, Horner PLCs with HMI and I/O cards, Pneumatic Press, Proximity Sensors. DC Servo motors, Double acting pneumatic cylinders, ASRS system.</p> <p>2) SCARA Robot – 4 Axis, Teach Pedant, 3 phase PM Synchronous motors with MLC drives, Safety Doors with magnetic sensors, Rechargeable batteries.</p> <p>3) Pneumatic Air compressors, B0514123 (Quantity 2)- 230 Volts/50HZ, 15 Liters Capacity, Volume flow control.</p> <p>4) HP AIO ProOne 600 GB Desktops (Quantity-18) with Inrdaworks Engineering</p>	<p>Industrial Drives, Mechatronic Systems Design, Modern Control Systems. Industrial Robotics and Motion Control, Industrial Data Communication, Smart System Communication, Project Methodology, Capstone Project, Project.</p>	<p>Mr. Brahmanand Ravindra Mhatre</p>	<p>Lab Assistant</p> <p>Diploma in Electronics Engineering, BSC. (IT), Bosch- Rexroth Certified Trainer in Industrial Automation Technologies</p>

			(Version 14), CScape PLC programmer, MATLAB R2022b Softwares.				
5.	Pneumatics Laboratory	20	1) Bosch- Rexroth Pneumatics Trainer Kit with Accessories (4 Workstations)- Onboard Relay modules, Switch Cards, Amplifier cards, Timer Relays, Variable DC Power Supply (0 to 10 Volts), Control Cards, 24 Volts power supply.  2) Pneumatic Air compressors, B0514123 (Quantity 3)- 230 Volts/50HZ, 15 Liters Capacity, Volume flow control.  3) Bosch- Rexroth L20 PLC with Power supply module, Digital I /O modules, Analog I/O modules, Compact Flash Card, Ethernet and Profibus Connections.  4) Bosch – Rexroth Ultrasonic Range Sensor with analog output (4 to 20 mA, 0 to 10 Volts), Stepper Motor driven timing belt, Driver card, RS 232 connector. 5) Pneumatic FRL Units, Directional Control Valves (Manual, Pilot & Solenoid actuated), Non return valves, Flow control valve, Pressure Switch (Analog & Digital), Shut off valves, Check valves, Pneumatic Roller Switches, Electrical Limit Switches, Single acting cylinders, Double acting cylinders.  6) HP AIO ProOne 600 GB Desktops (Quantity-02) with Inrdaworks Engineering (Version 14), Ultra 3000 Visualization Softwares.	Fluid Power Automation, Analysis of Fluid Machines, Fluid Mechanics, Industrial Engineering, Industrial Robotics and Motion Control, Project Methodology, Capstone Project, Project.	Mr. Prakash Niranjan Jadhav	Lab Assistant	Diploma in Mechanical Engineering, B. E. (Civil)
6.	Signal Processing Laboratory	20	1) HP AIO ProOne 600 GB Desktops (Quantity-32) with NI LabView Version 24, MATLAB R 2022b, Python, Tableau, AutoCAD 2023 softwares.  2) NI Elvis + Board  3) Analog Discovery 3 Pro Bundle.  4) Quanser Mechatronics sensor board	Signals and Systems, Supervisory Control and Data Acquisition, Human Machine Interface, Digital Signal and Image Processing, Artificial Intelligence and Machine Learning, Operations Research, Data Analysis and Mining, Supervisory Control and	Mr. Yashraj Gorakh Ghalame	Lab Assistant	Diploma in Mechanical Engineering

			5) DAQ cards (Quantity-07)  6) HMI screens. (Quantity- 06)	Data Acquisition (Open Elective)			
7.	AR –VR Laboratory	30	1) Oculus Quest 2 Headsets (Quantity- 06)  2) Unity Professional License – 100 Nos  3) DELL High-end workstations – i9 Processor, 32 GB RAM, 512 SSD, RTX 3090 24 GB Graphics card (Quantity- 06)  4) DELL Desktops with i7 Processor, 16 GB RAM, 256 GB HDD (Quantity- 26)	Simulated Mixed Reality, Introduction to Virtual Reality and Augmented Reality (Open Elective), Robotic Process Automation, Computational Methods in Engineering, Robotic Process Automation (Open Elective)	Mr. Amarnath Dhurai Yadav	Lab Assistant	Diploma in Electronics & Telecommunications Engineering.
8.	Additive Manufacturing Laboratory	30	1) FDM 3D Printers  2) SLS 3D printer  3) SLA 3D printer  4) Laser Cutting Machine  5) 3D Scanner.	Digital Manufacturing Laboratory, Additive Manufacturing, Virtual Design and Manufacturing, Design of Machine Components, Project Methodology, Capstone Project, Project	Mr. Prachin Patil	Lab Assistant	B.E. (Electronics)
9.	Digital Electronics Lab Laboratory	30	1) VoIP set up on Lucas kits  2) CROs, DSOs  3) DC Power Supply Modules  4) Function Generators  5) DSP kits  6) Control system kits	Digital Logic Design, Electronic Systems, Microprocessor Systems and Interfacing, Digital Signal and Image Processing, Embedded Systems	Mrs. Neeta Patil	Lab Assistant	Diploma in Industrial Electronics
10.	Advanced Communication Lab Laboratory	30	1) CROs, DSOs  2) DC Power Supply Modules  3) Function Generators  4) Antenna - Radar kits	Signals and Systems, Classical Control Systems, Industrial Data Communication, Smart System Communication	Mrs. Geeta Chaudhari	Lab Assistant	Diploma in Electronics and Communication Engineering

			5) Lucas-Nulle Microwave kits				
			6) Laser OFC kits				

## D2: Safety Measures in Laboratories

**Table No. D2.1:** List of various safety measures in laboratories.

S.N.	Name of the Laboratory	Safety measures
1.	Robotics Laboratory	<ul style="list-style-type: none"> <li>Follow all instructor guidelines and laboratory protocols before operating robots.</li> <li>Maintain a safe distance from robotic arms during operation.</li> <li>Use emergency stop buttons in case of malfunction.</li> <li>Avoid entering robot work zones without disabling power.</li> <li>Wear protective gloves while handling sharp-edged robot components.</li> <li>Always simulate and verify programs before executing them on physical robots.</li> <li>Adjust seating and monitor height to maintain proper posture.</li> <li>Never override safety features, such as emergency stops and safety interlocks.</li> <li>Familiarize yourself with the location of emergency exits, fire extinguishers, and first aid kits.</li> </ul>
2.	IoT & Sensorics Laboratory	<ul style="list-style-type: none"> <li>Follow manufacturer guidelines and lab protocols when operating PLCs.</li> <li>Ensure proper insulation of sensor wiring to prevent electrical hazards.</li> <li>Keep PLCs in well-ventilated areas to prevent overheating.</li> <li>Avoid direct exposure to high-frequency signals from IoT devices.</li> <li>Use surge protectors for sensitive electronic components.</li> <li>Handle small embedded system boards with anti-static precautions.</li> <li>Regularly inspect PLCs for loose connections, overheating, or abnormal behavior.</li> <li>Familiarize yourself with the location of emergency exits, fire extinguishers, and first aid kits.</li> </ul>
3.	Hydraulics Laboratory	<ul style="list-style-type: none"> <li>Follow all instructor guidelines and laboratory protocols before operating hydraulic components.</li> <li>Never exceed the recommended pressure limits for hydraulic systems.</li> <li>Release stored pressure from hydraulic systems before maintenance.</li> <li>Wear apron and safety equipment when working with hydraulic fluids to prevent</li> </ul>

		<p>exposure to hydraulic fluid.</p> <ul style="list-style-type: none"> <li>• Avoid direct skin contact with hydraulic fluids, as some may cause irritation or allergic reactions.</li> <li>• Inspect hoses and fittings regularly for leaks.</li> <li>• Clean up spills immediately to prevent slipping hazards and environmental contamination.</li> <li>• Use mechanical supports to avoid sudden hydraulic movement.</li> <li>• Ensure all electrical components of the hydraulic system are properly grounded.</li> <li>• Familiarize yourself with the location of emergency exits, fire extinguishers, and first aid kits.</li> </ul>
4.	Automation Laboratory	<ul style="list-style-type: none"> <li>• Follow all instructor guidelines and laboratory protocols before operating automation equipment.</li> <li>• Ensure all interlocks and safety circuits are functional before using industrial automation equipment.</li> <li>• Ensure all electrical panels, PLCs, and control circuits are properly grounded.</li> <li>• Simulate automation sequences before executing them on physical systems.</li> <li>• Follow lockout procedures for maintenance.</li> <li>• Avoid wearing loose clothing near moving mechanical systems.</li> <li>• Keep workstation clean and clear of obstructions.</li> <li>• Familiarize yourself with the location of emergency exits, fire extinguishers, and first aid kits.</li> </ul>
5.	Pneumatics Laboratory	<ul style="list-style-type: none"> <li>• Follow all laboratory guidelines and instructor instructions before handling pneumatic equipment.</li> <li>• Never direct compressed air toward yourself or others.</li> <li>• Use air pressure regulators to maintain safe operating levels and prevent over-pressurization.</li> <li>• Use safety guards and proper mounting techniques to prevent accidental movement.</li> <li>• Secure all air hoses properly to avoid sudden disconnection.</li> <li>• Always release stored pressure before performing maintenance or modifications.</li> <li>• Ensure electrical connections to solenoid valves and control panels are properly insulated and grounded.</li> <li>• Report equipment malfunctions or safety concerns to the instructor or lab assistant immediately.</li> <li>• Keep the workspace free from loose objects and obstructions.</li> <li>• Familiarize yourself with the location of emergency exits, fire extinguishers, and first aid kits.</li> </ul>

		aid kits.
6.	Signal Processing Laboratory	<ul style="list-style-type: none"> <li>Follow all instructor and lab assistant guidelines before using equipment.</li> <li>Avoid food, drinks, and clutter near workstations to prevent damage to sensitive electronic components.</li> <li>Use anti-static wristbands when handling data acquisition (DAQ) devices and sensor boards.</li> <li>Store delicate electronic components in ESD-safe containers.</li> <li>Follow proper grounding techniques for circuit boards.</li> <li>Use HMI screens carefully to avoid damage.</li> <li>Familiarize yourself with the location of fire extinguishers, first aid kits, and emergency exits.</li> <li>Adjust seating and monitor height to maintain proper posture.</li> <li>Report any malfunctioning equipment to the instructor or lab assistant immediately.</li> </ul>
7.	AR-VR Laboratory	<ul style="list-style-type: none"> <li>Follow all instructor and lab assistant guidelines before using equipment.</li> <li>Keep the lab space organized and free from obstacles to prevent accidents.</li> <li>Ensure the Oculus Quest 2 headsets are adjusted properly to fit securely.</li> <li>Take breaks to avoid dizziness, nausea, or eye strain.</li> <li>Avoid prolonged use to prevent motion sickness.</li> <li>Clean headsets and controllers after each use to maintain hygiene.</li> <li>Be mindful of physical surroundings when using VR to prevent collisions.</li> <li>Handle high-performance workstations and desktops carefully.</li> <li>Adjust seating and monitor height to maintain proper posture.</li> <li>Familiarize yourself with the location of emergency exits, fire extinguishers, and first aid kits.</li> </ul>
8.	Additive Manufacturing Laboratory	<ul style="list-style-type: none"> <li>Follow all instructor and lab assistant guidelines before using equipment.</li> <li>Keep the workspace clean and free of unnecessary materials.</li> <li>Familiarize yourself with the location of emergency exits, fire extinguishers, and first aid kits.</li> <li>Wear safety goggles, heat-resistant gloves, and lab coats while operating 3D printers and laser cutters.</li> <li>Ensure proper ventilation when using printers to avoid inhaling fumes.</li> <li>Do not touch heated print beds or nozzles immediately after use.</li> <li>Use laser cutters only under supervision. Never leave the machine unattended while</li> </ul>

		<p>operating.</p> <ul style="list-style-type: none"> <li>• Avoid direct skin contact with uncured SLA resin, and wash hands immediately if exposed.</li> <li>• Ensure all equipment is properly grounded before use.</li> <li>• Report any malfunctioning equipment to the lab assistant immediately.</li> <li>• Familiarize yourself with the location of emergency exits, fire extinguishers, and first aid kits.</li> </ul>
9.	Digital Electronics Laboratory	<ul style="list-style-type: none"> <li>• Follow all instructor and lab assistant guidelines before handling any equipment.</li> <li>• Keep the workspace organized and free of clutter.</li> <li>• Ensure all power supplies and equipment are properly grounded.</li> <li>• Do not touch live circuits or exposed wires while the equipment is powered on.</li> <li>• Wear anti-static wristbands while working with sensitive electronic components.</li> <li>• Handle CROs, DSOs, and function generators with care.</li> <li>• Verify voltage and current settings before connecting power supplies to circuits.</li> <li>• Store delicate components such as ICs, transistors, and microcontrollers in anti-static containers to prevent electrostatic discharge (ESD) damage.</li> <li>• Keep liquids away from electronic equipment to avoid accidental spills and short circuits.</li> <li>• Familiarize yourself with the location of emergency exits, fire extinguishers, and first aid kits.</li> </ul>
10.	Advanced Communication Laboratory	<ul style="list-style-type: none"> <li>• Follow all instructor and lab assistant guidelines before handling any equipment.</li> <li>• Keep the workspace organized and free of clutter.</li> <li>• Avoid wearing metallic accessories or loose clothing that may interfere with equipment.</li> <li>• Use anti-static wristbands when handling sensitive electronic components.</li> <li>• Ensure all power connections are correctly made before switching on the equipment.</li> <li>• Handle CROs, DSOs, and function generators with care.</li> <li>• Verify voltage and current settings before connecting power supplies to circuits.</li> <li>• Maintain a safe distance from high-frequency antennas and radar kits to avoid exposure to electromagnetic radiation.</li> <li>• Avoid direct eye contact with laser beams from OFC kits.</li> <li>• Keep liquids away from electronic equipment to avoid accidental spills and short circuits.</li> <li>• Familiarize yourself with the location of emergency exits, fire extinguishers, and first aid kits.</li> </ul>

11.	Research Laboratory	<ul style="list-style-type: none"> <li>Follow all instructor and lab assistant guidelines before handling any equipment.</li> <li>Keep the workspace organized and free of clutter.</li> <li>Consumption of food and beverages is strictly prohibited.</li> <li>Entry is restricted to authorized students, faculty, and researchers.</li> <li>Always log out and shut down computers properly.</li> <li>Always back up research data and follow cybersecurity protocols</li> <li>Unauthorized termination of running simulations or computations can lead to data loss.</li> <li>Any malfunctioning equipment, exposed wires, or overheating systems should be reported to the lab supervisor immediately.</li> <li>Familiarize yourself with the location of emergency exits, fire extinguishers, and first aid kits.</li> </ul>
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**D3: Project Laboratory/Research Laboratory**

**Table No. D3.1:** List of project laboratory/research laboratory /Centre of Excellence.

S.N.	Name of the Laboratory
1.	<p><b>Research Laboratory (AI Laboratory):</b>  The Research Laboratory in the Mechatronics Engineering Department serves as a hub for cutting-edge research in automation, robotics, and intelligent systems. Equipped with high-performance computing (HPC) clusters and advanced AI workstations, the lab enables students and researchers to develop machine learning models, optimize control systems, and enhance autonomous robotics.</p> <p>This facility supports data-driven decision-making, predictive maintenance, and smart manufacturing, driving innovation in next-generation mechatronic systems.</p> <p><b>1) Desktop Computers</b>  Additional Description: 5400 AIO  Material Specification: DELL OPTIPLEX 5400 AIO 12th Gen Intel(R) Core (TM) i5-12500T 2.00 GHz 16.0 GB (15.7 GB usable) 64-bit operating system, x64-based processor.  No pen or touch input is available for this display.  C Drive - 500GB + D-Drive 500GB WINDOWS 11 PRO LICENSE Version 22H2</p> <p><b>2)GPU</b>  Hardware Specifications: - X Nvidia Hopper H100 (80GB)  Total number of nodes: 2  Master nodes: 1  Compute nodes: 1.  The HPC Cluster Setup is constructed in One Rack.</p>

	<p>Master Node:- 2* Intel Xeon Gold 5420+ Cores=28 ,2.00 GHz Memory= 256 GB SSD = 480GB x 2 SSD = 7.68TB x 5</p> <p>Compute Node: - 2 * Intel Xeon Gold 6438Y+ Core = 32, 2.00 GHz Memory = 512GB, DDR5 4800MT/s SSD = 1.92TB x 2 X Nvidia Hopper H100 (80GB)</p> <p><b>Technical Manpower in the Laboratory:</b> Name: Mr. Mithilesh Thakur Designation: Technical Support Engineer Qualification: BSC. (IT), Diploma in Digital Electronics, Diploma in Hardware &amp; Networking,CCNA</p>
2.	<p><b>The e Yantra Laboratory:</b></p> <p>The e-Yantra Lab in the Mechatronics Engineering department, serves as a dynamic hub for students fostering innovation and research in robotics and automation. Established under the e-Yantra Lab Setup Initiative (eLSI) by IIT Bombay and sponsored by the Ministry of Human Resource Development (MHRD) under the National Mission on Education through ICT (NMEICT). This lab provides a project-based learning environment that encourages students to apply theoretical knowledge to practical challenges.</p> <p>This lab is equipped with a wide array of resources, including electronic components, autonomous robots, sensor modules, microcontroller boards, and actuators, providing students with the tools necessary to design and implement innovative projects.</p> <p>1) <b>Firebird V Robot Platform:</b> A versatile robotic platform used for teaching embedded systems and robotics concepts.</p> <p>2) <b>AVR Development Boards:</b> Microcontroller boards based on the AVR architecture, essential for programming and interfacing with various sensors and actuators.</p> <p>3) <b>Sensor Modules:</b> Including IR sensors, ultrasonic sensors, and accelerometers, these modules enable robots to perceive and interact with their environment.</p> <p>4) <b>Actuators:</b> Such as DC motors and servo motors, which facilitate movement and control in robotic systems.</p> <p>Wireless Communication Modules: Devices like Zigbee modules that allow for wireless data transmission between robots or between a robot and a computer.</p> <p>5) <b>Programming Tools and Software:</b> Integrated Development Environments (IDEs) and compilers necessary for coding and debugging embedded systems applications.</p> <p>These tools collectively provide students with a robust platform to design, implement, and test robotic systems, thereby enhancing their practical skills in mechatronics engineering.</p>
3.	<p><b>The VIP and EPICS Consortium:</b></p> <p>The Vertically Integrated Projects (VIP) and Engineering Projects in Community Service (EPICS) initiatives at Mukesh</p>

Patel School of Technology Management & Engineering (MPSTME) have significantly enhanced the research ecosystem by fostering interdisciplinary collaboration, real-world problem-solving, and industry-academia partnerships. These initiatives provide students with hands-on experience in research-driven projects, preparing them for careers in technology, innovation, and societal impact.

The faculties and students from Mechatronics engineering department are actively involved in these initiatives.

**Vertically Integrated Projects (VIP) Program:** In December 2024, NMIMS became the first university in India to integrate the globally recognized VIP program into its curriculum. This initiative connects students from various academic levels with faculty-led research teams, promoting interdisciplinary education and preparing students for complex, cross-functional roles in the workforce. The program was inaugurated by Dr. Edward J. Coyle, Director of the VIP Consortium at Georgia Tech, USA.

**EPICS (Engineering Projects in Community Service) program:** EPICS is a transformative initiative that empowers students to apply their technical skills to real-world societal challenges. By combining research, innovation, and social impact, it fosters a strong problem-solving mindset and interdisciplinary collaboration. Students engage in cutting-edge projects in areas such as sustainability, healthcare, assistive technology, and smart infrastructure, working closely with faculty mentors, industry experts, and global university partners. The program was inaugurated by Dr. William C. Oakes, a renowned Professor of Engineering Education and Director of the EPICS Program at Purdue University, USA, further strengthening its vision of engineering for social good.

#### **The VIP and EPICS Beehive:**

Through these collaborations, MPSTME provides students and faculty with access to diverse perspectives, advanced research methodologies, and global best practices. **The institution emphasizes the importance of dedicated spaces for collaboration between students, faculty, industry professionals, and community partners.** These spaces are designed to facilitate discussions, project meetings, and workshops, thereby enhancing the research culture within the institution. The infrastructure supports an environment conducive to innovation, teamwork, and the practical application of engineering solutions to real-world problems.

4.

#### **Research Discussion Rooms and Facilities available in MPSTME Library:**

The MPSTME Library serves as a vital resource hub for Mechatronics Engineering students and faculty, **offering specialized spaces and advanced research tools.** It features **dedicated discussion rooms named after renowned Indian scientists—C.V. Raman, Kalpana Chawla, Vikram Sarabhai, and Aryabhata (reserved for faculty)**—providing an ideal environment for collaborative research, brainstorming, and project discussions. These rooms can be booked in advance ensuring structured and focused meetings for research-oriented activities. **Additionally, essential academic tools like Grammarly for grammar checks and Turnitin for plagiarism detection help maintain the integrity and quality of technical research papers and reports.**

**For Mechatronics research, access to cutting-edge electronic journal databases such as IEEE, IET, JSTOR, and EPW is crucial, enabling students to explore the latest advancements in robotics, automation, embedded systems, and AI-driven mechatronics.** The availability of technical databases like CMIE: Prowess IQ and ISI Emerging Markets allows researchers to analyze real-world industrial trends and market applications. Additionally, resources like Capitaline

	<p>(for company insights), EPWRF India Time Series (for statistical data), and Harvard Business School Publishing (for case studies) provide valuable interdisciplinary knowledge, bridging the gap between technology and business applications. Students can further enhance their expertise through e-learning platforms like NPTEL, SWAYAM, and the National Digital Library (NDL), gaining access to specialized courses in robotics, automation, AI, and mechatronics innovation. These facilities collectively foster a strong research ecosystem, empowering students and faculty to develop groundbreaking solutions for industry and society.</p>
5.	<p><b>Atal Incubation Centre – NMIMS (AIC-NMIMS): Fostering Research &amp; Startups:</b></p> <p>The Atal Incubation Centre at NMIMS (AIC-NMIMS) is a premier startup incubator established under the Atal Innovation Mission (AIM) by NITI Aayog to promote entrepreneurship and innovation. Located at SVKM's NMIMS, Mumbai, it provides a thriving ecosystem for research-driven startups, offering cutting-edge infrastructure, mentorship, and funding opportunities.</p> <p><b>For Mechatronics engineering students, AIC-NMIMS serves as an ideal platform to bring their ideas to life, offering access to advanced labs, prototyping tools, and industry collaborations.</b> Whether working on robotics, automation, or AI-driven solutions, students can refine their innovations, secure funding, and connect with startups and industry leaders, transforming their research into real-world tech ventures.</p>

**PART E: First Year faculty and financial Resources.**

(Data to be filled in for the first year course faculty and budget allocation and utilization)

**E1: First Year Student-Faculty Ratio (FYSFR)**

**Table No. E1.1: FYSFR details.**

Year	Sanctioned intake of all UG programs (S4)	No. of required faculty (RF4= S4/20)	No. of faculty members in Basic Science Courses & Humanities and Social Sciences including Management courses (NS1)	No. of faculty members in Engineering Science Courses (NS2)	Percentage= No. of faculty members ((NS1*0.8) +(NS2*0.2))/(No. of required faculty (RF4)); Percentage=((NS1*0.8)+(NS2*0.2))/RF4
2024-25	1080	54	52	25	0.86
2023-24	1080	54	52	25	0.86
2022-23	1080	54	49	25	0.82

**E2: Budget Allocation, Utilization, and Public Accounting at Institute Level**

**Table No. E2.1: Budget and actual expenditure incurred at Institute level.**

Items	Budget in CFY 24-25	Actual expenses in CFY - 24-25	Budget in CFYm1 23-24	Actual Expenses in CFYm1 23-24	Budget in CFYm2 22-23	Actual Expenses in CFYm2 22-23	Budget in CFYm3 21-22	Actual Expenses in CFYm3 21-22
Infrastructure Built-Up	13,770	0	14,075	0	10,651.44	13,583.53	6,900	13,505.59
Library	80	60.02	75	83.86	70	71.98	65	44.19
Laboratory equipment	65	22.82	600	123.43	280	15.01	380	90.79
Teaching and non-teaching staff salary	5,909.55	4,546.21	5,824.88	4,799.17	5,371.52	4,705.70	4,519.73	4,233.24
Outreach Programs	140	66.89	135	115.98	110	102.48	100	34.76
R&D	30	14.58	50	7.17	30	9.05	20	7.75
Training, Placement and Industry linkage	65	19.36	60	32.15	48	67.96	29	37.3
SDGs	140	66.89	135	115.98	110	102.48	100	34.76
Entrepreneurship								
Others*, pl. specify (DEP ON ASSET, RES & MAINT, ADM EXPNS, MUNICIPAL TAXES, OTHER INCIDETAL EXP)								
<b>Total amount</b>		22,742.72		31,443.65		23,516.95		21,456.55

**E3: Budget Allocation, Utilization, and Public Accounting at Program Specific Level**

**Table No. E3.1:** Budget and actual expenditure incurred at program level.

Items	Budget in CFY 24-25	Actual expenses in CFY - 24-25	Budget in CFYm1 23-24	Actual Expenses in CFYm1 23-24	Budget in CFYm2 22-23	Actual Expenses in CFYm2 22-23	Budget in CFYm3 21-22	Actual Expenses in CFYm3 21-22
Laboratory	9.75	3.42	90.00	18.51	42.00	2.25	57.00	13.50
Software	1.50	0.10	2.50	0.72	2.50	0.04	2.00	0.12
SDG	21.00	10.03	20.25	17.40	16.50	15.37	15.00	5.21
Support for faculty Development	6.00	2.36	6.00	0.72	6.00	0.24	5.00	0.75
R&D	5.25	2.55	8.75	1.25	5.25	1.58	3.50	13.56
Industrial Training, industry expert, Internship	6.50	1.94	6.00	3.22	4.80	6.80	2.90	3.73
Mis Expenses								
<b>Total</b>	<b>50.00</b>	<b>20.40</b>	<b>133.50</b>	<b>41.82</b>	<b>77.05</b>	<b>26.27</b>	<b>85.40</b>	<b>36.88</b>