LOK NAYAK JAI PRAKASH INSTITUTE OF TECHNOLOGY

SELF ASSESSMENT REPORT(TIER - II) FOR Mechanical Engineering

Part A : Institutional Information

1 Name and Address of the Institution

LOK NAYAK JAI PRAKASH INSTITUTE OF TECHNOLOGY,
Near Campus of J.P. University, Chapra

2 Type of the Institution:

○ Institute of National Infortance	○ Autonomous
○ University	○ Any other(please specify)
○ Deemed University	

3 Year of establishment of the Institution:

2012

4 Ownership Status:

○ Central Government	☐ Any Other(Please Specify)
◉ State Government	
○ Government Aided	
○ Self financing	

5 Name and Address of Affiliating University

ARYABHATTA KNOWLEDGE UNIVERSITY

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

Name of Institutions	Year of Establishment	Programs of Study	Location

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

Program Name	Program Applied level	Year of Start	AICTE approval details	Sanctioned Intake	Increase/decrease in intake	Current Intake	Accreditation status	From	To	Progra consid
Mechanical Engineering	UG	2012	2012	60	No	60	Not accredited (specify visit dates, year)	06/09/2019	08/09/2019	
Civil Engineering	UG	2012	2012	60	No	60	Not accredited (specify visit dates, year)	06/09/2019	08/09/2019	No
Computer Science and Engineering	UG	2012	2012	60	Yes	120	Not eligible for accreditation	--	--	No

Sanctioned Intake for Last Five Years for the Computer Science and Engineering

Academic Year	Sanctioned Intake
2025-26	120
2024-25	120
2023-24	120
2022-23	60
2021-22	60
2020-21	60

Electrical & Electronics Engineering	UG	2012	2012	60	No	60	Not eligible for accreditation	--	--	0
Food Processing and Preservation	UG	2012	2012	60	No	60	Not eligible for accreditation	--	--	0

8 Programs to be considered for Accreditation vide this application:

S No	Level	Discipline	Program
1	Under Graduate	Engineering & Technology	Mechanical Engineering

Table No. A8.2

S No	Name of the Department	Name of the Program	Name of Allied Departments/Cluster	Name of Allied Program
No record exist(s)				

9 Total Number of Faculty Members in Various Departments:

ID	Deparment Name	Number of faculty members in the Department (UG and PG)										
		2025-26 (CAY)				2024-25 (CAYm1)				2023-24 (CA		
		No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members	No. of Professors	No. of Associate Professors	No. of Assistant Professors	Total faculty members	No. of Professors	No. of Associate Professors	No Pr
1	Mechanical Engineering	0	1	9	10	1	1	8	10	1	0	
2	Civil Engineering	0	1	7	8	0	0	7	7	0	0	
3	Computer Science & Engineering	0	0	6	6	0	0	7	7	0	0	
4	Electrical & Electronics Engineering	0	0	6	6	0	0	6	6	0	0	
5	Food Processing & Preservation Engineering	0	0	0	0	0	0	0	0	0	0	

10 Total Number of Engineering Students in Various Departments:

ID	Deparment Name	Number of students in the Department (UG and PG)		
		2025-26 (CAY)	2024-25 (CAYm1)	2023-24 (CAYm2)
1	Mechanical Engineering	206	220	221
2	Civil Engineering	269	276	267
3	Computer Science & Engineering	448	398	332
4	Electrical & Electronics Engineering	248	254	257
5	Food Processing and Preservation	81	55	28

11 Vision of the Institution:

To become an eminent leading institution by transforming the students to be technically competent professionals to serve the industry and society as a whole.

12 Mission of the Institution:

- **IM1:** To implement a holistic approach to develop and adopt innovative teaching-learning pedagogy.
- **IM2:** To achieve excellence in technical education by providing a conducive environment for research and innovation.
- **IM3:** To provide an opportunity to students for real-life exposure through the institute, academia, and industry interaction.

IM4: To inculcate a culture of entrepreneurship with human value and professional ethics.

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

Head of the Institution	
Name	Bimal Kumar
Designation	Associate Professor
Mobile No.	9835008842
Email ID	principallnjpitchapra@gmail.co

NBA Coordinator, If Designated

Name	Zafar Ayub Ansari
Designation	Assistant Professor
Mobile No.	8986489766
Email ID	zafar786ayub@gmail.com

PART B: Criteria Summary

Critera No.	Criteria	Total Marks	Institute Marks
1	OUTCOME-BASED CURRICULUM	120	120.00
2	OUTCOME-BASED TEACHING LEARNING	120	120.00
3	OUTCOME-BASED ASSESSMENT	120	120.00
4	STUDENTS' PERFORMANCE	120	60.47
5	FACULTY INFORMATION	100	61.70
6	FACULTY CONTRIBUTIONS	120	63.01
7	FACILITIES AND TECHNICAL SUPPORT	100	100.00
8	CONTINUOUS IMPROVEMENT	80	80.00
9	STUDENT SUPPORT AND GOVERNANCE	120	116.00
	Total	**1000**	**841**

Part B : Criteria Summary

1 OUTCOME-BASED CURRICULUM (120)

1.1 Vision, Mission and Program Educational Objectives (PEOs) (35)

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

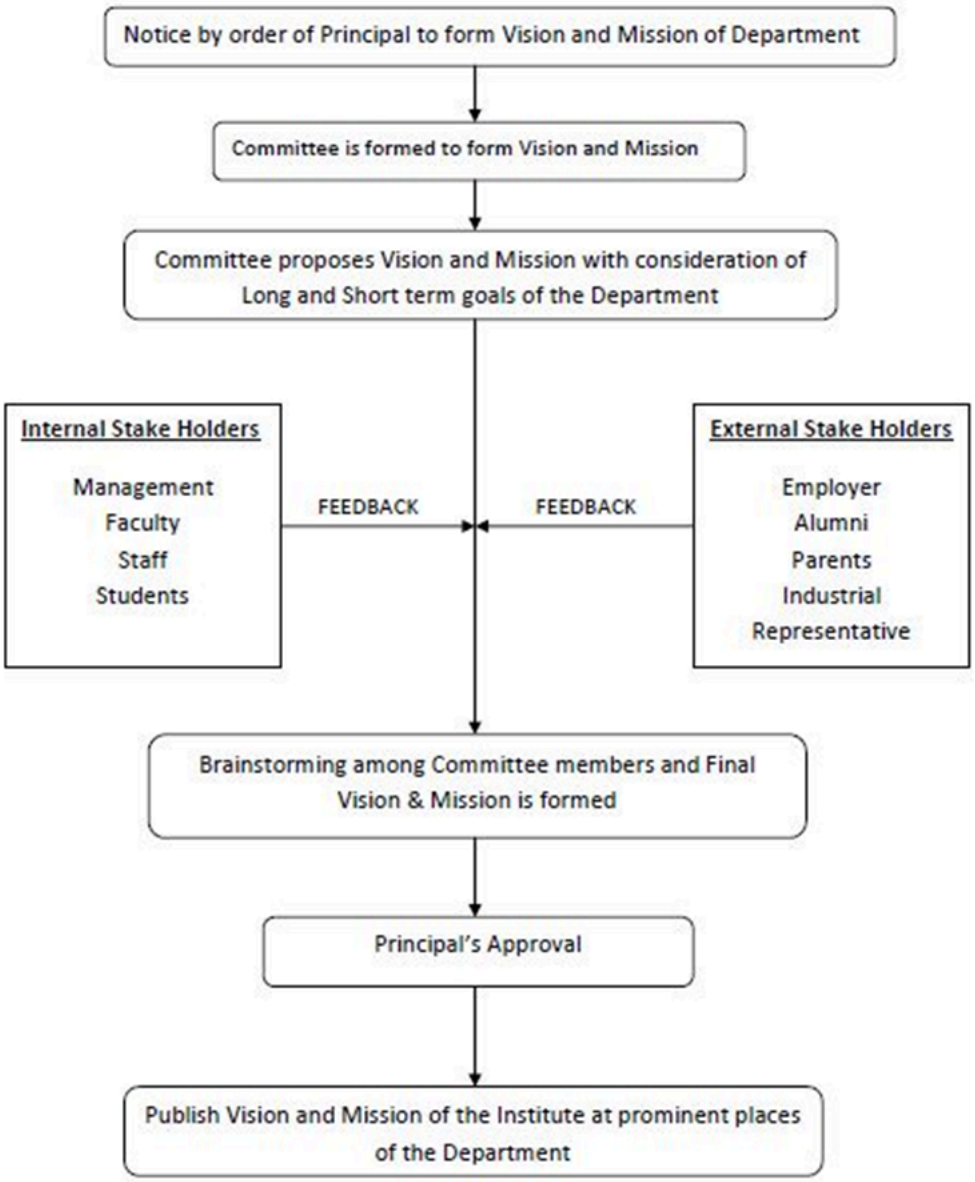
Vision of the institute	To become an eminent leading institution by transforming the students to be technically competent professionals to serve the industry and society as a whole.
Mission of the institute	· **IM1:** To implement a holistic approach to develop and adopt innovative teaching-learning pedagogy. · **IM2:** To achieve excellence in technical education by providing a conducive environment for research and innovation. · **IM3:** To provide an opportunity to students for real-life exposure through the institute, academia, and industry interaction. **IM4:** To inculcate a culture of entrepreneurship with human value and professional ethics.
Vision of the Department	To emerge as a centre of excellence in Mechanical Engineering by empowering students with value-based education and practical skills to serve for industrial growth and societal well-being.
Mission of the Department	

Mission No.	Mission Statements
M1	To provide quality education in Mechanical Engineering through innovative teaching-learning processes.
M2	To inculcate ethical responsibility, teamwork, and entrepreneurial mindsets in students.
M3	To provide outcome-based education supported by well-equipped laboratories and modern teaching methods.
M4	To provide opportunities for skill enhancement through projects, internships, and industry collaboration.

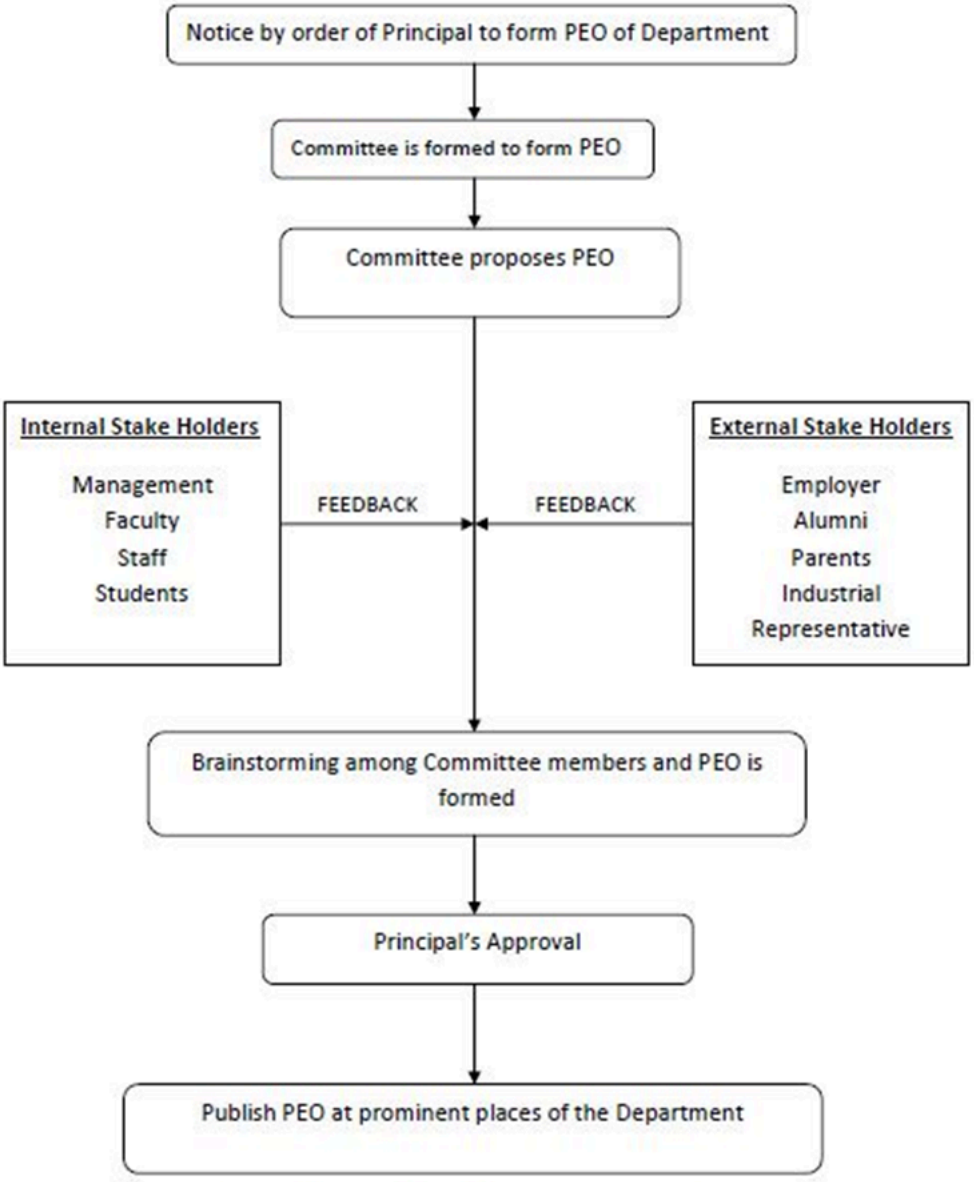
1.1.2 State PEOs of the Program (5)

PEO No.	Program Educational Objectives Statements
PEO1	Graduates will excel in professional careers in Mechanical Engineering and allied fields with strong technical and analytical skills.
PEO2	Graduates will contribute as entrepreneurs, researchers, and professionals to meet industrial and societal needs.
PEO3	Graduates will uphold professional ethics and contribute to sustainable engineering practices.
PEO4	Graduates will pursue lifelong learning, higher studies, and research to stay abreast of technological advancements.

1.1.3 Process of Defining Vision, Mission and PEOs (15)



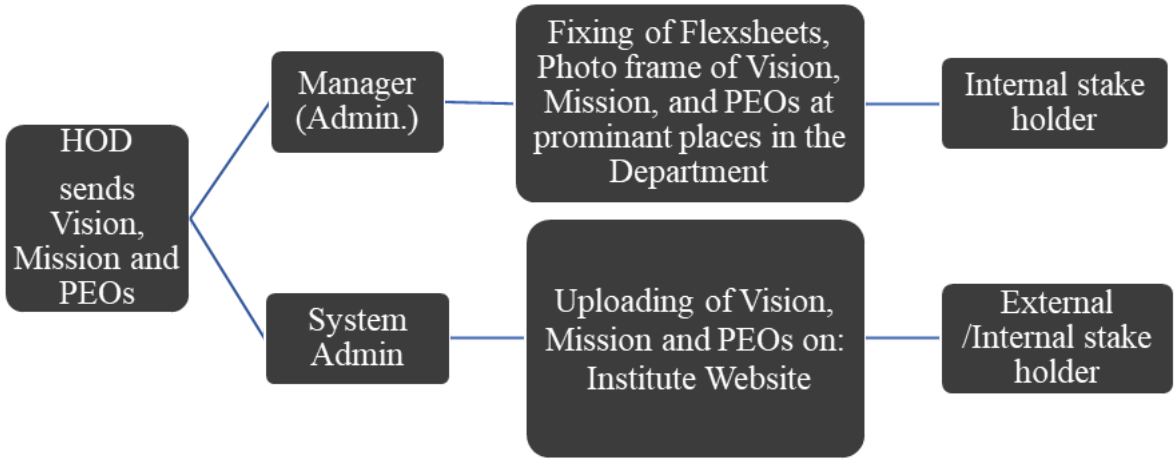
Procedure followed to define Vision & Mission of the Department



Procedure followed to define PEO of the Department

1.1.4 Dissemination of Vision, Mission and PEOs (5)

1. Prominent places in the department
2. Class rooms
3. Laboratories
4. E-newsletter
5. Institute websites



1.1.5 Mapping of PEOs with Mission (10)

PEO Statements	M1	M2	M3	M4
Graduates will excel in professional careers in Mechanical Engineering and allied fields with strong technical and analytical skills.	3	1	3	2
Graduates will contribute as entrepreneurs, researchers, and professionals to meet industrial and societal needs.	2	3	2	3
Graduates will uphold professional ethics and contribute to sustainable engineering practices.	1	3	2	2
Graduates will pursue lifelong learning, higher studies, and research to stay abreast of technological advancements.	2	2	3	3

Justification of Mission–PEO Mapping:

DM1: To provide quality education in Mechanical Engineering through innovative teaching-learning processes

- DM1–PEO1 (3): Strongly aligned as quality education and innovative teaching directly develop strong technical and analytical skills required for professional excellence.
- DM1–PEO2 (2): Innovative learning partially supports entrepreneurship and research orientation.
- DM1–PEO3 (1): Ethical and sustainability aspects are indirectly addressed through curriculum delivery.
- DM1–PEO4 (2): Modern teaching-learning methods encourage continuous learning and adaptability.

DM2: To inculcate ethical responsibility, teamwork, and entrepreneurial mindsets in students

- DM2–PEO1 (1): Ethics and teamwork indirectly enhance professional competence.
- DM2–PEO2 (3): Strong correlation as entrepreneurship and teamwork are essential for industrial and societal contribution.
- DM2–PEO3 (3): Direct alignment with professional ethics and sustainable engineering practices.
- DM2–PEO4 (2): Teamwork and ethical values motivate lifelong learning and professional growth.

DM3: To provide outcome-based education supported by well-equipped laboratories and modern teaching methods

- DM3–PEO1 (3): Outcome-based education and laboratory exposure strongly support technical excellence.
- DM3–PEO2 (2): Practical learning moderately contributes to research and industrial problem-solving.
- DM3–PEO3 (2): OBE includes sustainability and ethical considerations through outcomes.
- DM3–PEO4 (3): Modern methods and hands-on learning strongly promote lifelong learning and higher studies.

DM4: To provide opportunities for skill enhancement through projects, internships, and industry collaboration

- DM4–PEO1 (2): Industry exposure strengthens professional skills.
- DM4–PEO2 (3): Strongly supports entrepreneurship, innovation, and industrial relevance.
- DM4–PEO3 (2): Industry interaction sensitizes students towards ethical and sustainable practices.

DM4–PEO4 (3): Projects and internships strongly encourage continuous learning and research inclination.

1.2 Curriculum Structure and Features (30)

1.2.1 Program Curriculum Structure (5)

Edit

ID	Course Code	Course Title	Classroom Instruction (CI) (in hours per semester)		Lab Instruction (LI) (in hours per semester)	Term Work (TW) and Self Learning (SL) (TW+ SL) (in hours per semester)	Total no. of Hours per semester	Total Cred (C)* (Total Hours/30)
			L	T	P	SL		
1	100101	Basic Electrical Engineering	42	12	36	60	150	5.0
2	100102	Engineering Graphics and Design	12	0	72	6	90	3.0
3	102101	Physics (Electromagnetism)	70	12	54	29	165	5.5
4	102102	Mathematics-I (Calculus and Linear Algebra)	42	12	0	66	120	4.0
5	100203	Chemistry	42	12	54	57	165	5.5
6	100204	Programming for Problem Solving	42	0	72	36	150	5.0
7	100205	Workshop Manufacturing Practices	100	0	60	20	180	6.0
8	100206	English	24	0	36	60	120	4.0
9	100202	Mathematics-II (ODE & Complex Variables)	40	12	0	68	120	4.0
10	100301	Biology For Engineers	39	12	0	39	90	3.0
11	100303	Basic Electronics Engineering	36	12	0	72	120	4.0
12	100309	Engineering Mechanics	36	0	36	48	120	4.0
13	100312	Mathmatics-III (PDE, Probability and Statistics)	36	12	0	72	120	4.0
14	100399P	Internship	0	0	60	0	60	2.0
15	100302P	Machine Drawing	0	0	72	48	120	4.0
16	102304	Thermodynamics	36	12	0	72	120	4.0
17	102403	Fluid Mechanics	42	0	54	39	135	4.5
18	102401	Applied Thermodynamics	42	12	0	66	120	4.0
19	102405	Strength of Materials	40	12	0	83	135	4.5
20	102402	Engineering Materials	42	12	0	66	120	4.0
21	102404	Instrumentation and Control	40	12	0	68	120	4.0
22	100408P	MOOCs/SWAYAM/NPTEL Courses-1	0	0	60	0	60	2.0
23	100510P	Summer Entrepreneurship-II	0	0	180	0	180	6.0
24	100511P	MOOCs/SWAYAM/NPTEL Courses-2	0	0	90	0	90	3.0
25	102501	Fluid Machinery	36	0	54	45	135	4.5
26	102502	Heat Transfer	36	0	54	45	135	4.5
27	102503	Kinematics of Machine	36	12	0	72	120	4.0
28	102504	Manufacturing Process	36	0	54	45	135	4.5
29	102601	Design of Machine Elements	42	0	36	42	120	4.0
30	102602	Dynamics of Machinery	42	0	54	39	135	4.5

31	102603	Manufacturing Technology	42	0	54	39	135	4.5
32	102605	Automation in Manufacturing	42	0	36	42	120	4.0
33	102609	Composite Materials	42	0	0	48	90	3.0
34	102610	Power Plant Engineering	42	0	0	48	90	3.0
35	102611	Renewable Energy Systems	44	0	0	46	90	3.0
36	102701	Internal Combustion Engines	42	0	54	39	135	4.5
37	102702	Refrigeration and Air Conditioning	42	0	54	39	135	4.5
38	102705	Automobile Engineering	42	0	54	39	135	4.5
39	102706	Operation Research	42	0	0	48	90	3.0
40	100709P	Project-I	0	0	144	36	180	6.0
41	100702P	Summer Internship- III	0	0	180	0	180	6.0
42	100808	Total Quality Management	40	0	0	50	90	3.0
43	102804	Energy Conservation and Management	40	0	0	50	90	3.0
44	102807	Safety Management	42	0	0	48	90	3.0
45	102808	Non-Conventional Manufacturing	42	0	0	48	90	3.0
46	100801P	Project-II	0	0	144	36	180	6.0
		Total	**1575**	**168**	**1908**	**2019**	**5670**	**189.00**

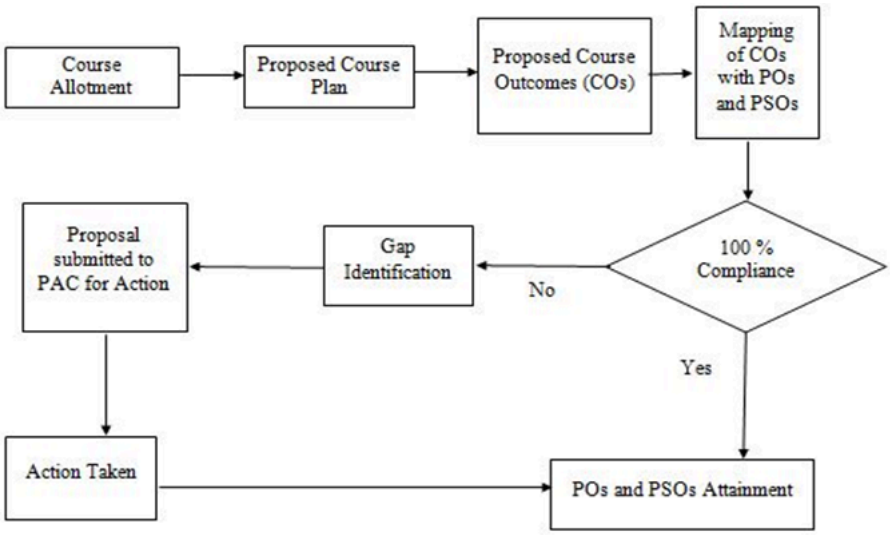
1.2.2 Components of Program Curriculum (5)

Course Components	Curriculum Content (% of total number of credits of the program)	Total number of contact hours	Total number of credit
Basic Sciences	13.76%	449.00	26.00
Basic Engineering	16.40%	620.00	31.00
Humanities and Social Scie	2.12%	60.00	4.00
Program Core	31.75%	1060.00	60.00
Program Electives	13.23%	434.00	25.00
Open Electives	6.35%	170.00	12.00
Project(s)	6.35%	288.00	12.00
Internships/Seminars	7.41%	420.00	14.00
Any other (Please specify)	2.64%	150.00	5.00
Total number of Credits			**189.00**

1.2.3 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 Annexure II. Also Mention the Identified Curricular Gaps, if any (10)

Process used to identify the extent of compliance:

Programme Advisory Committee (PAC) of Mechanical Engineering Department takes regular feedback for curriculum compliance and gaps identification for the attainment of POs and PSOs. The committee follows the process as shown



Process used to measure the attainment of Program Outcomes and Program Specific Outcomes:

There are few committees and coordinator in the department to ensure compliance with the university curriculum for the attainment of the POs and PSOs and to find the curricular gaps.

- **Programme Advisory Committee (PAC)**: PCC takes care of compliance with the university curriculum and evaluates the gaps to be taken care for proper attainment of POs and PSOs. The committee looks after the allotment of the subjects to the faculty members. The committee also checks the course files of the faculty members, attendance registers, lab manuals etc.
- **Mentor-Mentee Coordination Committee (MMCC)**:

  It comprises of class coordinators and mentors for the first, second, third and final year. The mentors take care of students' academic, professional and ethical grooming. Students are periodically counseled/ motivated by Mentors. Need based career guidance is also provided to the students. The mentors communicate the students' feedback related to academics to class coordinators. The class coordinators plan extra classes for weak students and additional classes for bright students.

Mentoring Process

S.No	Type of Mentoring	Frequency of Meeting	No. of Mentors	No. of Students per Mentor
1.	Professional Guidance	Need Based	All Faculty Members	20-30 Students per Mentor
2.	Career Advancement	Need Based		
3.	Academic Specific	Monthly		
4.	Lab Specific	Monthly		
5.	Career Counselling	Need Based		
6.	Total Development	Semester		

- **Project Coordinator and Evaluation Committee:**

Coordinator takes care of projects allotted to the students. It conducts the continuous evaluation, and monitors the progress of the project through project guide. It helps to bridge the curricular gap for attainment of POs and PSOs.

- **IQAC:** This committee is formed to review the question paper and its relevance with Course Outcome.

In addition to these following are also responsible to fill the gap

1. Laboratories Officer In charges
2. Time Table Coordinator
3. Discipline & Anti-Ragging Committee
4. Training and Placement Coordinator

Effective Process Implementation:

- Extra classes are organized in Mechanical Engineering on regular basis.
- Students are allowed to attend Conferences, seminars and workshops to improve the research environment.

- Industrial Visit is organized.
- Industrial workshop was done.
- Guest Lecture are organized on regular basis (minimum once in year).
- Higher studies guidance is given on need basis by mentor and by experts.
- Entrepreneurship activities are organized on regular basis.

1.2.4 State the Delivery Details of the Content beyond the Syllabus for the Attainment of Program Outcomes and Program Specific Outcomes (10)

1.3 PO, PSO and their Mapping with Courses (20)

1.3.1 POs and PSOs (5)

PSO1	Graduates will build confidence in applying mechanical engineering knowledge to solve real life problems
PSO2	Graduates will be inspired to pursue further education or research at prestigious institutions

1.3.2 Mapping between the Courses and POs/PSOs (10)

PO Number	List of Courses
PO1	Chemistry, Mathematics I, Engineering Graphics and Design, Basic Electrical Engineering, Physics, Biology for Engineers, Mathematics II, Programming for Problem Solving, Workshop Practices, Elements of Mechanical Engineering, Engineering Mechanics, Mathematics III, Machine Drawing, Thermodynamics, Fluid Mechanics, Applied Thermodynamics, Strength of Materials, Engineering Materials, Instrumentation and Control, Heat Transfer, Fluid Machinery, Manufacturing Processes, Kinematics of Machine, Design of Machine Elements, Dynamics of Machinery, Manufacturing Technology, Automation in Manufacturing, Power Plant Engineering, Composite Materials, I. C. Engine, Refrigeration and Air – Conditioning, Automobile Engineering, Operation Research, Total Quality Management, Energy Conservation and Management, Safety Management, Non-Conventional Manufacturing
PO2	Chemistry, Mathematics I, Basic Electrical Engineering, Physics, Engineering Mathematics II, Programming for Problem Solving, Workshop Manufacturing Practices, Engineering Mechanics, Mathematics III, Machine Drawing, Thermodynamics, Basic Electronics Engineering, Fluid Mechanics, Applied Thermodynamics, Strength of Materials, Engineering Materials, Instrumentation and Control, Heat Transfer, Fluid Machinery, Manufacturing Processes, Kinematics of Machine, Design of Machine Elements, Dynamics of Machinery, Manufacturing Technology, Automation in Manufacturing, Power Plant Engineering, Composite Materials, I. C. Engine, Refrigeration and Air – Conditioning, Automobile Engineering, Operation Research, Total Quality Management, Energy Conservation and Management, Safety Management, Non-Conventional Manufacturing
PO3	Mathematics I, Engineering Graphics and Design, Basic Electrical Engineering, Physics, Programming for Problem Solving, Workshop Manufacturing Practices, Thermodynamics, Applied Thermodynamics, Strength of Materials, Engineering Materials, Instrumentation and Control, Heat Transfer, Fluid Machinery, Manufacturing Processes, Kinematics of Machine, Design of Machine Elements, Dynamics of Machinery, Manufacturing Technology, Automation in Manufacturing, Power Plant Engineering, Composite Materials, I. C. Engine, Refrigeration and Air – Conditioning, Automobile Engineering, Operation Research, Total Quality Management, Safety Management, Non-Conventional Manufacturing
PO4	Chemistry, Mathematics III, Thermodynamics, Basic Electronics Engineering, Fluid Mechanics, Applied Thermodynamics, Strength of Materials, Engineering Materials, Instrumentation and Control, Fluid Machinery, Manufacturing Processes, Kinematics of Machine, Design of Machine Elements, Dynamics of Machinery, Manufacturing Technology, Automation in Manufacturing, Power Plant Engineering, Composite Materials, I. C. Engine, Total Quality Management, Safety Management, Non-Conventional Manufacturing
PO5	Mathematics I, Engineering Graphics and Design, Basic Electrical Engineering, Physics, Programming for Problem Solving, Workshop Manufacturing Practices, Mathematics III, Thermodynamics, Basic Electronics Engineering, Fluid Mechanics, Applied Thermodynamics, Engineering Materials, Instrumentation and Control, Heat Transfer, Fluid Machinery, Manufacturing Processes, Kinematics of Machine, Design of Machine Elements, Dynamics of Machinery, Manufacturing Technology, Automation in Manufacturing, Power Plant Engineering, Composite Materials, I. C. Engine, Automobile Engineering, Operation Research, Total Quality Management, Energy Conservation and Management, Safety Management, Non-Conventional Manufacturing
PO6	Basic Electrical Engineering, Workshop Manufacturing Practices, Applied Thermodynamics, Engineering Materials, Environmental Science, Fluid Machinery, Design of Machine Elements, Dynamics of Machinery, Automation in manufacturing, Composite Materials, I. C. Engine, Total Quality Management, Energy Conservation and Management, Safety Management, Non-Conventional Manufacturing
PO7	Workshop Manufacturing Practices, Environmental Science, Design of Machine Elements, Automation in Manufacturing, Power Plant Engineering, Renewable Energy Systems, Safety Management
PO8	Basic Electrical Engineering, Workshop Manufacturing Practices, Environmental Science, Design of Machine Elements, Power Plant Engineering, Safety Management
PO9	Workshop Manufacturing Practices, Engineering Mechanics, Machine Drawing, Design of Machine Elements, Manufacturing Technology, Composite Materials, Safety Management
PO10	English, Engineering Graphics and Design, Machine Drawing, Heat Transfer, Design of Machine Elements, Power Plant Engineering, Automobile Engineering, Safety Management
PO11	Chemistry, Mathematics II, Strength of Materials, Environmental Science, Fluid Machinery, Design of Machine Elements, Dynamics of Machinery, Manufacturing Technology, Energy Conservation and Management, Safety Management, Non-Conventional Manufacturing

1.4 Course Outcomes and Course Articulation Matrix (30)

1.4.1 Course Outcome (Semester Wise) (10)

No. of Core Courses : 6	**C2 :** 2	**C3 :** 2	**C4 :** 2

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

Course Code :	100102	Semester :	1

Course Outcome	Statements
100102.1	Understand and apply the principles of engineering graphics, lettering, scales, and construction of basic curves and conic sections.
100102.2	Draw orthographic projections of points, lines, and planes using standard conventions and auxiliary planes.
100102.3	Construct projections, sections, and development of surfaces of regular solids with proper dimensioning and annotations.
100102.4	Create isometric projections and convert between isometric and orthographic views of simple and compound solids.
100102.5	Demonstrate basic proficiency in computer-aided drafting using CAD software for engineering drawing and visualization.

Course Code :	100205	Semester :	2

Course Outcome	Statements
100205.1	Identify workshop tools, machines, and processes.
100205.2	Perform basic fitting and welding operations.
100205.3	Apply carpentry, foundry, and smithy practices.
100205.4	Demonstrate safety procedures in workshop environments.
100205.5	Develop simple components using workshop skills.

Course Code :	100309	Semester :	3

Course Outcome	Statements
100309.1	Apply the principles of statics to solve equilibrium problems using free-body diagrams, and calculate forces and moment.
100309.2	Analyse trusses, frames, friction and distributed loads for engineering applications.
100309.3	Determine centroids, moment of inertia for simple and complex lamina or solid.
100309.4	Apply kinematics and kinetics to particles and rigid bodies using work-energy and impulse-momentum methods.
100309.5	Ability to apply mechanical engineering principles to analyse different structure like frame, truss, etc. and to find centroid, CG, Velocity, Acceleratio of the rigid body.

Course Code :	102304	Semester :	3

Course Outcome	Statements
102304.1	Explain basic thermodynamic concepts, laws, and systems, and distinguish between different thermodynamic processes.
102304.2	Apply the first law of thermodynamics to analyze energy interactions in closed and open systems, including steady-flow devices.
102304.3	Interpret the second law of thermodynamics, entropy, and exergy concepts to evaluate thermal efficiency and losses in thermodynamic processes.
102304.4	Determine thermodynamic properties of pure substances, ideal and real gases, and evaluate phase-change and gas-vapor processes using prope tables and charts.
102304.5	Analyze and compare various power and refrigeration cycles for their performance using first and second law principles.

Course Code :	102405	Semester :	4

Course Outcome	Statements
102405.1	Explain stress–strain relationships, elastic constants, principal stresses, and theories of failure using Mohr’s circle.
102405.2	Construct shear force and bending moment diagrams for different types of beams under various loading and support conditions.
102405.3	Analyze bending and shear stresses in beams, and evaluate the effect of point and distributed loads.
102405.4	Compute slope and deflection of beams using double integration and Maxwell’s reciprocal theorem, and evaluate moment of inertia for different sections.
102405.5	Analyze torsion in shafts, stresses in helical springs, and stresses/deformations in thin & thick cylinders and spherical shells.

Course Code :	102504	Semester :	5

Course Outcome	Statements
102504.1	Explain the concepts of casting and moulding processes, including solidification, heat transfer, riser design, shrinkage, casting defects, and residu stresses.
102504.2	Apply the principles of bulk and sheet metal forming (forging, rolling, extrusion, drawing, deep drawing, bending) and powder metallurgy to estimat load requirements and product design.
102504.3	Analyze metal cutting operations, chip formation, tool wear, machinability, tool materials, and cutting fluids; and demonstrate applications in turning drilling, milling, finishing, and CNC machining.
102504.4	Evaluate joining processes (welding, brazing, soldering, adhesive bonding) and apply knowledge of additive manufacturing techniques such as ra prototyping and tooling for modern applications.
102504.5	Demonstrate operational knowledge of machine tools (lathe, shaper, planer, milling, drilling, boring, grinding, honing, lapping, etc.) with emphasis tool geometry, performance, accuracy, and surface finish.

1.4.2 Course Articulation Matrix (15)

1 . course name : C2100102

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
100102.1	Understanc	3	2	3	3	-	-	-	-	-	2	-
100102.2	Draw ortho	3	2	3	3	-	-	-	-	-	2	-
100102.3	Construct p	3	2	3	3	-	-	-	-	-	2	-
100102.4	Create ison	2	2	3	3	-	-	-	-	-	2	-
100102.5	Demonstrat	2	2	3	3	3	-	-	-	-	2	-
Average		**2.60**	**2.00**	**3.00**	**3.00**	**3.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.00**	**0.00**

2 . course name : C2100205

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
100205.1	Identify wor	2	-	-	-	3	-	-	-	-	-	-
100205.2	Perform ba:	2	2	2	-	3	-	-	-	-	-	-
100205.3	Apply carpe	2	2	2	-	3	-	-	-	-	-	-
100205.4	Demonstrat	-	-	-	2	2	2	2	3	-	-	-
100205.5	Develop sir	2	2	2	-	3	-	-	-	2	-	-
Average		**2.00**	**2.00**	**2.00**	**2.00**	**2.80**	**2.00**	**2.00**	**3.00**	**2.00**	**0.00**	**0.00**

3 . course name : C3100309

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
100309.1	Apply the p	3	3	3	2	2	-	1	-	2	2	-
100309.2	Analyse tru	2	3	3	2	2	-	1	-	2	1	-
100309.3	Determine	2	2	3	3	2	-	1	-	2	1	-
100309.4	Apply kinen	3	3	3	3	3	-	1	-	2	1	-
100309.5	Ability to ap	3	3	3	3	3	-	-	-	2	3	-
Average		**2.60**	**2.80**	**3.00**	**2.60**	**2.40**	**0.00**	**1.00**	**0.00**	**2.00**	**1.60**	**0.00**

4 . course name : C3102304

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
102304.1	Explain bas	3	3	-	2	3	-	-	-	-	-	-
102304.2	Apply the fi	3	3	2	2	3	-	-	-	-	-	-
102304.3	Interpret the	3	3	2	-	3	-	-	-	-	-	-
102304.4	Determine t	3	3	2	2	3	-	-	-	-	-	-
102304.5	Analyze an	3	3	2	2	2	-	-	-	-	-	-
Average		**3.00**	**3.00**	**2.00**	**2.00**	**2.80**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5 . course name : C4102405

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
102405.1	Explain stre	3	3	-	-	1	-	-	-	-	-	-
102405.2	Construct s	3	3	3	-	1	-	-	-	-	-	-
102405.3	Analyze be	3	3	3	-	1	-	-	-	-	-	-
102405.4	Compute sl	3	3	3	3	1	-	-	-	-	-	-
102405.5	Analyze tor	3	3	3	-	1	-	-	-	-	-	2
Average		**3.00**	**3.00**	**3.00**	**3.00**	**1.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.00**

6 . course name : C4102504

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
102504.1	Explain the	3	3	-	2	2	-	-	-	-	-	-
102504.2	Apply the p	3	3	3	2	2	-	-	-	-	-	-
102504.3	Analyze me	3	3	-	3	2	-	-	-	-	-	-
102504.4	Evaluate jo	3	3	3	2	2	-	1	-	-	-	-
102504.5	Demonstrat	3	3	3	3	2	-	-	-	-	-	-
Average		**3.00**	**3.00**	**3.00**	**2.40**	**2.00**	**0.00**	**1.00**	**0.00**	**0.00**	**0.00**	**0.00**

1 . Course Name : C2100102

Course	PSO1	PSO2
100102.1	2	1
100102.2	3	1
100102.3	3	2
100102.4	3	2
100102.5	2	3
Average	**2.60**	**1.80**

2 . Course Name : C2100205

Course	PSO1	PSO2
100205.1	3	2
100205.2	3	2
100205.3	3	2
100205.4	2	3
100205.5	3	2
Average	**2.80**	**2.20**

3 . Course Name : C3100309

Course	PSO1	PSO2
100309.1	3	1
100309.2	2	1
100309.3	2	1
100309.4	3	2
100309.5	3	3
Average	**2.60**	**1.60**

4 . Course Name : C3102304

Course	PSO1	PSO2
102304.1	3	2
102304.2	3	1
102304.3	3	2
102304.4	3	3
102304.5	3	3
Average	**3.00**	**2.20**

5 . Course Name : C4102405

Course	PSO1	PSO2
102405.1	3	-
102405.2	3	-
102405.3	3	-
102405.4	-	3
102405.5	-	3
Average	**3.00**	**3.00**

6 . Course Name : C4102504

Course	PSO1	PSO2
102504.1	2	-
102504.2	2	2
102504.3	3	2
102504.4	2	2
102504.5	3	-
Average	**2.40**	**2.00**

1.5 Program Articulation Matrix (5)

Program Articulation Matrix

(10)

Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
100101	3	2.5	2.33	2.6	2	2	1	2	0	0	0
100102	2.6	2	3	3	3	0	0	0	0	2	0
102101	3	3	3	3	2.2	0	0	0	0	0	0
102102	3	2.8	3	3	2.2	0	0	0	0	0	0
100203	3	2.2	2	2.8	2	1.66	1	1	1	0	2
100204	3	2.8	2.25	2.5	3	0	0	0	0	0	0
100205	2	2	2	2	2.8	2	2	3	2	0	0
100206	1	1.8	1	0	0	1	0	1	1.5	3	1
100202	3	2.4	2	3	2	1.2	0	0	0	0	2.2
100301	3	2.6	2.6	2.4	2.2	1.75	1.33	0	1	2	2
100303	1.4	2.67	2.75	2	2	0	0	0	0	1	0
100309	2.6	2.8	3	2.6	2.4	0	1	0	2	1.6	0
100312	2.6	2.8	2	3	2	0	0	0	0	0	0
102302P	3	2.8	0	0	0	0	0	0	2.4	2	3
102304	3	3	2	2	2.8	0	0	0	0	0	0
102403	3	3	2.5	2.6	2	1	1	0	0	0	1.2
102401	2.8	3	3	2.6	2.3	2	0	0	0	0	0
102405	3	3	3	3	1	0	0	0	0	0	2
102402	3	3	2.6	2.6	2.5	2.2	0	2	2	3	2.2
102404	2.8	3	2.5	3	2.25	0	0	0	0	0	0
mc11	0	0	2	0	1	2.6	3	2.4	1.33	0	2.4
102501	3	3	3	3	2	2	0	0	0	0	2
102502	2.6	3	3	2.8	2	1	0	0	0	2	1.2
102503	3	3	2.6	2.6	2.5	2.2	0	2	2	2	2.2
102504	3	3	3	2.4	2	0	1	0	0	0	0
mcIII	0	0	01	0	0	1	1	0	0	0	1
102601	3	3	3	2.8	2.6	2.4	3	2.5	2.33	2.5	2.4
102602	3	3	2.6	2.6	2.8	2.25	0	2	0	3	2.2
102605	2.8	3	3	3	3	2	2	1	0	0	0
102609	2.8	2.54	2.5	3	2	2	0	0	2	0	0
102610	3	3	3	3	2	1.5	2	2	1	2	1
102611	1.8	2	3	2.25	1.25	0	3	0	0	0	0
102701	3	3	2.2	2.7	2	2	0	0	0	0	0
102702	3	3	2.6	3	2.2	1.8	2	2	2.25	2	1.8
102705	3	3	2.2	3	2	1	1.4	1.2	1.4	2.2	1
102706	2.8	3	2.67	3	2	0	0	0	0	0	2
100808	3	2.6	2.8	2.6	2.5	2.2	2	2	2	2	2.25
102804	2.6	2.6	1.75	2.75	2.6	3	0	0	0	1.5	3

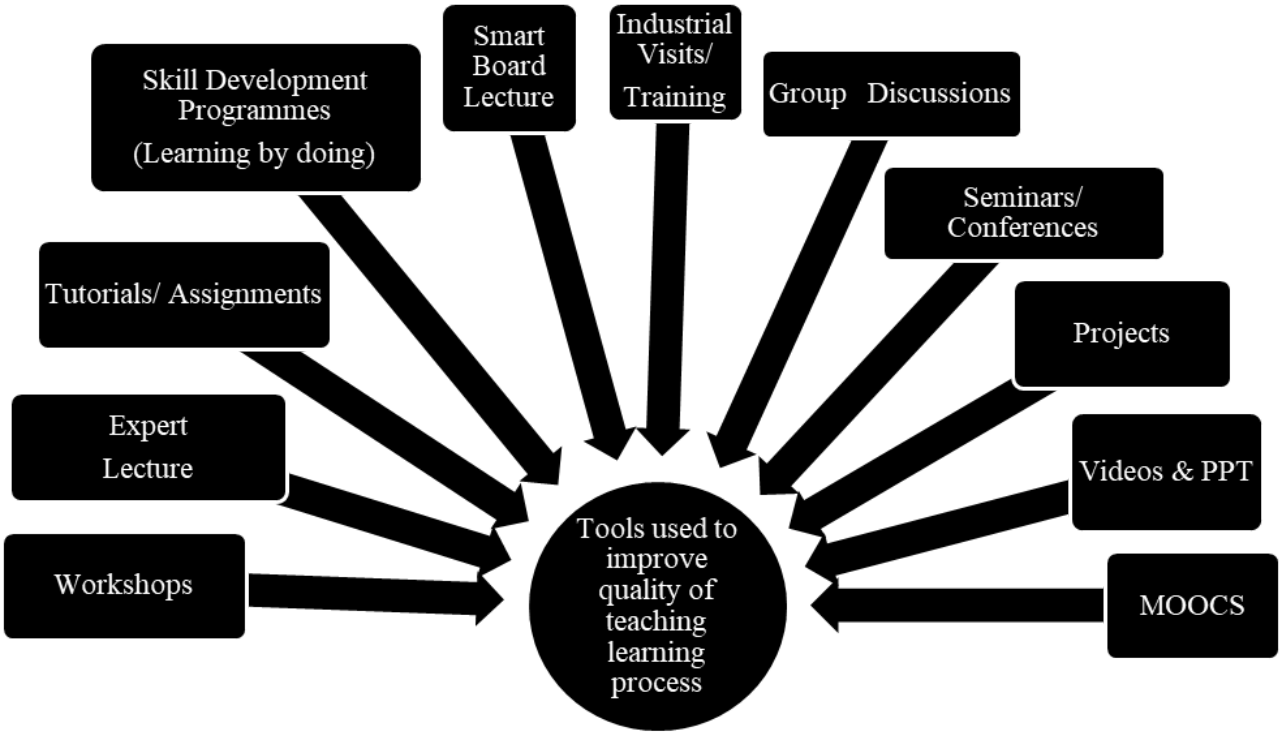
Course Code	PSO1	PSO2
100101	2.4	2.4
100102	2.6	1.8
100202	2.8	2.6
100204	2.8	2.2
100205	2.8	2.2
100206	3	2.4
100301	3	2.6

100303	0	2.2
100309	2.6	1.6
100312	2.4	2.6
100808	2.8	2.4
102101	2.6	2.4
102102	2.8	2.2
102203	3	2.2
102302P	3	2.2
102304	3	2.2
102401	2	2.2
102402	3	2.4
102403	3	1.8
102404	2.4	2.6
102405	3	3
102501	3	2.67
102502	2.8	2
102503	3	2.2
102504	2.4	2
102601	3	2.4
102602	3	2.2
102603	2.8	2.8
102605	2.6	2.4
102609	3	2.67
102610	3	1.5
102611	2	1.67
102701	2.4	2
102702	3	2.2
102705	2	3
102706	3	3
102804	2.4	3
102807	2.4	2.4
102808	2.4	2
MC-II	1.2	1
MC-III	1	1.5

2 OUTCOME-BASED TEACHING LEARNING (120)

2.1 Describe Processes Followed to Ensure Quality of Teaching & Learning (20)

The department of Mechanical Engineering focusing on improving the quality of teaching and learning on regular basis. Following are some tools used to improve the teaching learning process•



Students are taught with different tools

- Class Lecture with white board
- Continuous Assessment in the Laboratory
- Power point Presentations
- Video Lectures
- MOOCs (NPTEL Lectures and SWAYAM Lectures which are available in EDU SAT Lab)
- Peer to Peer learning in which they are allowed for group discussion.
- Advance learners are assigned some small projects which helps them learning by doing.
- Weak students are provided Extra lecture by respective faculties.
- Students are given sufficient platform for Conferences and Seminar.
- Industrial visits are organized time to time.
- Learning through research Papers

Along with these activities we have different monitoring systems

Sl.No.	Type of Mentoring	No. of Mentors	No. of Students per Mentor	Frequency of Meeting
1.	Professional Guidance	All Faculty Members	20-30 Students per Mentor	Need Based
2.	Career Advancement			Need Based
3.	Course Work Specific			Monthly
4.	Lab Specific			Monthly
5.	Total Development			`Semester

- In some cases, we also tell them the success stories of some student which motivate the students.

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Sl. No.	Registration No.	Student Name	Current status
2021-2025			
1	22102117907	Ravi Ranjan	BEML
2	21102117009	Ashok Yadav	BARC
3	21102117008	Alok Raj	IIT Delhi

Sl. No.	Registration No.	Student Name	Current status
2020-2024			
1	20102117026	Mankhush Kumar	IIT Roorkee
2	20102117027	Jitu Kumar	IIT Patna
3	21102117906	Abhinav Kumar	Indian Railway

- Along with these activities HOD and PAC ensures that these activities are regularly happening in the institute.
- At the end of the course student feedback is taken and analysed that where the student is lacking in gaining knowledge and corrective measures are taken.

2.2 Quality of Student Capstone Project (25)

There is a supervisor which supervises the process of students' projects. Allotment of projects is shown in following flow chart

Process of Monitoring and Evaluation:·

The project supervisor monitors the project on regular basis. The minimum frequency told to student to meet the supervisor is once in a week.

The students' group has to perform literature survey, formulate the problem, design and develop the experimental set up, conduct the experiment and report the results/ achievements

Midterm evaluation is done on the basis of the presentation.

At the end of even semester, a project report is submitted by the students. Final evaluation is based on presentation, report submitted, the model/prototype developed, and external viva-voce. This is to assess individual and team performance.

The ethical values are imbibed through proper referencing.

The project work makes a heavy impact in fulfilment of POs of an engineering graduate. The students not only learn through their own project but also from the other students' projects as well

Relevance of the projects and their contribution towards attainment of POs:

Sl.NO.	Quality Assessment Basis	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11
1	Analytical Approach	√	√	√	√	√	×	×	×	×	×	√
2	Experimental and Computational Problem	√	√	√	√	√	×	×	×	×	×	√
3	Organization and Quality of Presentation	×	×	×	×	×	×	√	√	×	√	×
4	Report on the basis of Content, Organization and Aesthetics	×	×	×	×	×	×	√	×	×	√	√
5	Presentation and Viva-Voice	×	×	×	×	×	×	√	√	√	√	√
6	Environmental & Societal Utility	×	×	×	×	×	√	√	×	×	√	√

Rubrics for Assessment of Project

Criteria	Student 1	Student 2	Student 3	Student 4	Student 5
Planning of Project Work					
Demonstration and Presentation					
Team Work					
Project Report					
Description of Concepts and Technical Details					
Conclusion and Discussion					
Technical Knowledge and Awareness related to the Project					
Proper Referencing					

Regularity and Attendance					

Project Course Outcomes:

CO1: Formulate and apply mathematical, science and engineering principles to solve real time engineering problems.

CO2: Test the existing data, communicate and conduct research on complex problems using modern tools.

CO3: Validate the obtained results on contemporary issues related to society and environment**.**

CO4: Demonstrate effectively the engineering principles used in their project individually and as a team as per the norms of engineering practice.

CO5: Structure future work to promote life-long learning in the context of technological adaptation.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3	3	3	2	2	-	-	-	-	-	-
CO2	-	-	3	3	3	2	3	-	3	-	-
CO3	-	-	2	2	2	3	3	-	-	-	-
CO4	-	-	-	-	-	1	3	3	3	3	-
CO5	-	-	-	-	2	2	-	-	-	3	3

The projects implemented by the students are categorized as product based, research based, application based and modern tool usage-based projects. The categorized projects are mappe to the Program Outcomes to verify the relevance in the attainment of POs

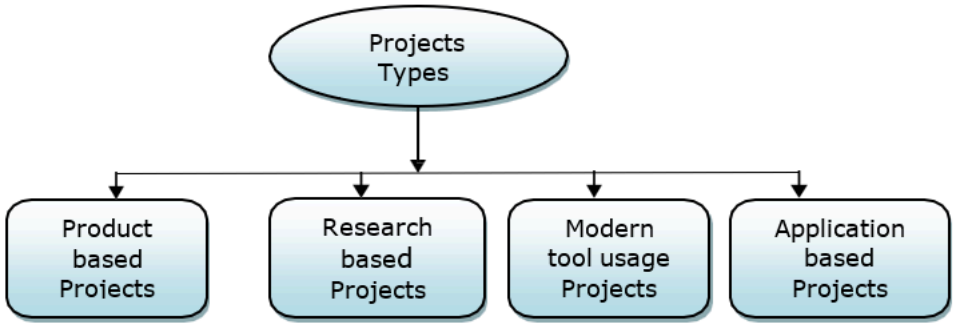

Figure: Project Categories/ Types

2.3 Internship/Industrial Training (10)

The Department of Mechanical Engineering has a structured and well-defined process for providing internship and industrial training opportunities to students. Internships are mandatory as per the curriculum and are normally undertaken during summer and winter vacations or after the sixth semester.

The department identifies reputed industries, PSUs, MSMEs, research organizations, and start-ups relevant to Mechanical Engineering. Internship opportunities are facilitated through MoUs, alumni interaction, Training & Placement Cell, faculty coordinators, and self-initiated student efforts. Prior to commencement, students submit an internship application and training plan approved by the department.

Each student is allotted a faculty mentor for guidance and monitoring. During the internship period, students maintain a daily work diary/logbook and submit weekly progress reports. On completion, students submit a training report, obtain an internship completion certificate, and deliver a presentation/viva-voce evaluated by a departmental committee.

Sl. No.	Course	Course Title	Semester	Hours Per Week	Total
1.	100399P	Internship	III	2 Weeks	2
2.	100510P	Summer Entrepreneurship-II	V	6 Weeks	6
3.	100702P	Summer Internship-III	VII	6 Weeks	6

- **Timing:** Summer / Winter vacation or semester break

Industries / Organizations Involved

Students undergo internships in:

- Manufacturing industries (Automobile, Foundry, CNC, Casting, Welding)
- Power plants and energy sector
- Design and simulation firms (CAD/CAM/CAE)
- MSMEs and local industries
- Research organizations and laboratories
- Government and private sector industries

Program Outcomes (POs) and Program Specific Outcomes (PSOs) Addressed

The internship/industrial training contributes significantly to the attainment of the following POs and PSOs:

PO / PSO	Contribution through Internship
PO1	Application of engineering fundamentals to real industrial problems
PO2	Identification and analysis of practical engineering problems
PO3	Design and development of solutions in industrial environments
PO4	Exposure to industrial investigation, testing, and analysis
PO5	Use of modern engineering tools, machinery, and software
PO6	Understanding of professional and societal responsibilities
PO7	Practice of professional ethics and workplace discipline
PO8	Teamwork and leadership in multidisciplinary industrial teams
PO9	Improvement in communication through reports and presentations
PO10	Exposure to project planning, execution, and industrial management
PO11	Motivation towards life-long learning and skill development
PSO1	Application of Mechanical Engineering knowledge in core industries
PSO2	Development of practical skills relevant to manufacturing and design

Assessment and Continuous Improvement

Internship performance is evaluated based on:

- Training report
- Completion certificate
- Presentation and viva-voce

Feedback from industry supervisors, faculty mentors, and students is analyzed to improve the internship process. Based on feedback, the department strengthens industry interaction, MoUs, and student preparation programs, ensuring continuous improvement in internship quality and outcomes.

2.4 Seminar and Mini/Micro Projects (10)

Process

The Department of Mechanical Engineering implements seminars and mini/micro projects as an integral part of the curriculum to enhance students' analytical, research, and communication skills. Seminars are typically conducted in pre-final and final semesters, where students select contemporary topics related to Mechanical Engineering, emerging technologies, and societal needs. Topics are approved by faculty mentors.

Mini/Micro projects are introduced in 7th and 8th Semesters. Students work in small teams under faculty supervision to identify practical problems, design solutions, and implement them using appropriate tools and techniques. Regular reviews are conducted to monitor progress.

Evaluation is based on problem identification, technical content, innovation, teamwork, documentation, and presentation.

Sl. No.	Course	Course Title	Semester	Hours Per Week			Total Credits
				L	T	P	
1.	100709P	Project- I	VII	0	0	12	6
2.	100801P	Project-II	VIII	0	0	12	6

POs/PSOs Addressed

PO/PSO	Contribution
PO1	Application of engineering fundamentals
PO2	Problem analysis and critical thinking
PO3	Design and development of solutions
PO4	Investigation and interpretation of results
PO5	Use of modern tools and software
PO8	Teamwork and leadership
PO9	Technical presentation and report writing
PO11	Independent learning and research
PSO1	Core mechanical system analysis
PSO2	Practical design and manufacturing skills

2.5 Case Studies and Real-Life Examples (10)

Type and Complexity

Case studies and real-life examples are incorporated into core and elective courses such as Manufacturing Processes, Heat Transfer, Machine Design, IC Engines, and Power Plant Engineering. Faculty members use industry-based case studies, failure analysis reports, energy audits, and sustainability-related examples.

The complexity of case studies ranges from:

- **Moderate**: Conceptual understanding and design evaluation
- **High**: Multi-disciplinary problem-solving involving constraints like cost, safety, sustainability, and ethics

Students analyze real industrial problems, propose feasible solutions, and justify decisions considering technical and societal factors

	PO/PSO	Contribution
	PO2	Engineering problem analysis
	PO3	Design under realistic constraints
	PO4	Investigation and data interpretation
	PO6	Societal and safety considerations and Environmental and sustainability awareness
	PO7	Ethical decision-making
	PSO1	Application of mechanical concepts
	PSO2	Industry-oriented problem-solving

2.6 SWAYAM/NPTEL/MOOC/Self Learning (10)

Participation and Certification

- The department actively promotes online learning through SWAYAM, NPTEL, platforms. Students are encouraged to enroll in courses related to Mechanical Engineering, programming, data analysis, energy systems, and professional skills.
- Credits/recognition are given as per university norms.
- Faculty mentors guide students in course selection and monitor progress.

Sl. No.	Code	Course	Area of Selection	Semester	Duration
1.	100408P	MOOCs/SWAYAM/NPTEL Courses-1	Mechanical Engineering (Certificate Course)	IV	8 Weeks
2.	100511P	MOOCs/SWAYAM/NPTEL Courses-2	Humanities and Social Sciences (Certificate Course)	V	12 Weeks
	Total Credits:				

POs/PSOs Addressed

PO/PSO	Contribution
PO5	Exposure to modern engineering tools
PO6	Sustainability-related courses
PO9	Communication and professional skills
PO10	Project and management-related MOOCs
PO11	Life-long learning and self-learning
PSO1	Advanced mechanical concepts
PSO2	Skill enhancement and employability

2.7 Solving Complex Engineering Problems Incorporating Sustainability Goals (20)

Activities and Courses

The department emphasizes project-based learning (PBL), problem-based learning, and capstone projects to solve complex engineering problems aligned with Sustainable Development Goals (SDGs).

Key initiatives include:

- Mini projects and capstone projects addressing energy efficiency, waste management, renewable energy, sustainable manufacturing, and emission reduction
- Integrated design projects involving CAD/CAE analysis, material selection, cost optimization, and life-cycle assessment
- Participation in hackathons, design challenges, and industry-sponsored problem statements

Targeted SDGs

- SDG 7: Affordable and Clean Energy
- SDG 9: Industry, Innovation, and Infrastructure
- SDG 12: Responsible Consumption and Production
- SDG 13: Climate Action

PO/PSO	Contribution
PO2	Complex problem analysis
PO3	Sustainable solution design
PO4	Research and investigation
PO5	Use of modern tools
PO6	Sustainability and environmental impact
PO10	Project planning and execution
PO11	Continuous learning
PSO1	Mechanical system optimization
PSO2	Sustainable manufacturing practices

2.8 Steps Taken for Enhancing Industry Institute Partnerships (15)

Initiatives Undertaken

The department has taken multiple steps to strengthen industry–institute interaction:

- MoUs with industries for internships, training, and project collaboration
- Industry experts involved in partial delivery of courses through guest lectures and workshops
- Establishment of industry-supported laboratories and equipment donations
- Conduct of short-term training programs, FDPs, and certification courses with industry participation
- Industry-sponsored mini projects and final-year projects
- Regular industry visits and interaction programs

POs/PSOs Addressed

PO/PSO	Contribution
PO5	Exposure to industrial tools and practices
PO6	Understanding professional responsibilities
PO8	Teamwork in industrial environment
PO9	Professional communication
PO10	Industry project management
PSO1	Core mechanical industry exposure
PSO2	Practical and employable skills

3 OUTCOME-BASED ASSESSMENT (120)

3.1 Evaluation of Continuous Assessment: Assignments, Unit Tests, Mid-Term, etc. (10)

The institute follows a well-defined and transparent process for continuous internal evaluation to ensure quality of assessment and constructive alignment with Course Outcomes (COs) and Program Outcomes (POs)/Program Specific Outcomes (PSOs).

For theory courses, Continuous Internal Evaluation (CIE) consists of:

- Internal Theory Examination: **20 marks**
- Class Tests/Quizzes: **5 marks**
- Attendance: **5 marks**

The question papers for internal theory examinations and class tests are prepared by the course faculty with a CO-wise blueprint. Questions are framed to cover various cognitive levels of Bloom's taxonomy (Remember, Understand, Apply, Analyze). Each question is mapped to specific COs, and indirectly to POs/PSOs through the CO–PO–PSO mapping matrix.

Assignments/tutorials are designed to promote analytical thinking, problem-solving, teamwork, and independent learning. Answer scripts are evaluated using predefined marking schemes.

3.2 Evaluation of the Semester End Exam (SEE) Question Paper (10)

The Semester End Examination (SEE) is conducted as per the university/institute examination scheme to evaluate the comprehensive understanding of students.

For theory courses:

- External Theory Examination: **70 marks**

The SEE question paper is set by internal/external examiners following a structured blueprint ensuring:

- Coverage of all COs
- Balanced distribution of marks across units
- Inclusion of questions from different Bloom's levels

3.3 Evaluation of Laboratory Work and Workshop (Continuous and SEE) (10)

Laboratory and workshop courses are evaluated through continuous assessment and semester end practical examination.

Assessment scheme:

- Internal Practical Examination: **10 marks**
- Assignments/Record Work: **5 marks**
- Attendance: **5 marks**
- External Practical Examination (SEE): **30 marks**

Rubrics are developed for each laboratory course to assess:

- Understanding of experimental objectives
- Experimental setup and procedure
- Observation and data collection
- Analysis and interpretation of results
- Viva-voce and report writing

Each component of the rubric is mapped to relevant COs and POs/PSOs such as Engineering Knowledge, Problem Analysis, Modern Tool Usage, and Individual & Team Work. Continuous assessment is carried out during regular lab sessions.

3.4 Evaluation of Industrial Training/ Internship (Continuous and SEE) (10)

Process of Internship / Industrial Training

The Department of Mechanical Engineering has a structured and well-defined internship / industrial training process aligned with the Programme Outcomes (POs) and Programme Specific Outcomes (PSOs) of the programme. Internship / industrial training is made mandatory as per the academic curriculum and university regulations.

Clear guidelines regarding objectives, scope, duration, assessment methodology and expected learning outcomes are communicated to students in advance. Orientation sessions are conducted to make students aware of industrial expectations, safety practices and professional ethics.

Industry Identification and Approval

Students are encouraged to undergo internship / industrial training in reputed mechanical engineering–related industries such as manufacturing units, automobile industries, thermal power plants, design organizations, foundries, HVAC companies, MSMEs, PSUs, R&D organizations and government departments.

Internship proposals are scrutinized and approved by the Department Internship Coordinator in consultation with the Training & Placement Cell to ensure relevance to mechanical engineering domains such as Design, Manufacturing, Thermal, Materials and Industrial Engineering.

Execution and Monitoring

During the internship period, students work under the supervision of an industry mentor and an internal faculty mentor. Regular monitoring is carried out through progress reports, logbooks and periodic interaction with faculty mentors to ensure meaningful learning.

Students gain hands-on exposure to manufacturing processes, CAD/CAM tools, CNC machines, quality control practices, maintenance systems, thermal systems, safety standards and industrial workflows.

Evaluation and Assessment

The internship / industrial training is evaluated based on:

• Internship report

• Industry supervisor feedback

• Presentation and viva-voce

Assessment rubrics are mapped with Course Outcomes (COs), Programme Outcomes (POs), and Programme Specific Outcomes (PSOs).

Course Outcomes (COs)

CO Code	Course Outcome
CO1	Apply mechanical engineering knowledge to real industrial problems
CO2	Analyze industrial processes and mechanical systems
CO3	Use modern mechanical engineering tools and technologies
CO4	Demonstrate professional ethics, safety and teamwork
CO5	Communicate technical work effectively

Internship Assessment Rubrics (100 Marks)

Assessment Component	Excellent (4)	Good (3)	Average (2)	Poor (1)	Marks	COs	POs	PSOs
Industry Exposure & Work Involvement	Excellent understanding & involvement	Good understanding	Basic understanding	Poor exposure	15	CO1	PO1, PO6	PSO1
Problem Identification & Analysis	Clearly identifies & analyzes problems	Identifies with good analysis	Limited analysis	Unable to analyze	20	CO2	PO2, PO4	PSO1

Application of Engineering Knowledge	Excellent application of theory	Good application	Limited application	No application	20	CO1	PO1, PO3	PSO1
Use of Modern Tools	Independent and effective usage	Proper usage with guidance	Limited exposure	No exposure	15	CO3	PO5	PSO2
Professional Ethics & Teamwork	Exemplary conduct & safety awareness	Good professional conduct	Average conduct	Poor conduct	10	CO4	PO6, PO7, PO9	PSO3
Internship Report Quality	Excellent technical depth	Good quality report	Average report	Poor report	10	CO5	PO10	PSO3
Presentation & Viva-Voce	Very clear & confident	Clear communication	Average clarity	Poor communication	10	CO5	PO10, PO11	PSO3

CO–PO Mapping

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	✓		✓									✓	
CO2		✓		✓								✓	
CO3					✓								✓
CO4						✓	✓		✓				
CO5										✓			

Programme Outcomes (POs) Addressed

PO1: Application of mechanical engineering knowledge to solve real-life industrial problems.

PO2: Design and development of mechanical components and systems considering safety and manufacturability.
PO3: Investigation, data collection and performance analysis of mechanical systems.

PO4: Analysis of complex mechanical systems and processes.
PO5: Usage of modern mechanical engineering tools such as CAD, CAM, CNC, and simulation software.
PO6: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability
PO7: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion.

PO8: Effective individual and team work in multidisciplinary industrial environments.
PO09: Preparation of technical reports and effective oral presentations.
PO10: Exposure to project planning, execution, and cost considerations in industry.
PO11: Recognition of the need for lifelong learning in emerging mechanical technologies.

Programme Specific Outcomes (PSOs) Addressed

PSO 1: Application of Mechanical Engineering knowledge in core industries.

PSO 2: Development of practical skills relevant to manufacturing and design.

Duration of Internship / Industrial Training

The minimum duration of internship / industrial training for Mechanical Engineering students is 4 to 8 weeks, generally carried out during summer vacation or semester breaks as per university and NBA norms.

Sl.No.	Course Title	Code	Duration	Semester	Credits	Internal Marks	External Marks
1.	Internship	100399P	2 Weeks	III	2	20	30
2.	Summer Entrepreneurship-II	100510P	6 Weeks	V	6	20	30

3.	Summer Internship-III	100702P	6 Weeks	VII	6	20	30

Impact of Internship / Industrial Training:

Internship / industrial training enhances practical skills, industry readiness, and employability of Mechanical Engineering students. It bridges the gap between theory and practice, improves problem-solving ability, professional ethics, teamwork, and communication skills, and contributes significantly to the attainment of COs, POs, and PSOs.

3.5 Evaluation of Projects (20)

Ruberics for project assessment					
Criteria	**Student 1**	**Student 2**	**Student 3**	**Student 4**	**Student 5**
Problem Identification & Objectives					
Literature Review					
Methodology / Design					
Implementation / Experimentation					
Results & Analysis					
Report Quality					
Presentation & Viva-Voce					
Teamwork & Individual Contribution					

- The project supervisor monitors the project on regular basis. The minimum frequency told to student to meet the supervisor is once in a week.
- The students' group has to perform literature survey, formulate the problem, design and develop the experimental set up, conduct the experiment and report the results/ achievements.
- Midterm evaluation is done on the basis of the presentation.
- At the end of even semester, a project report is submitted by the students. Final evaluation is based on presentation, report submitted, the model/prototype developed, and external viva-voce. This is to assess individual and team performance.
- The ethical values are imbibed through proper referencing.

3.6 Evidence of Addressing Sustainable Development Goals (SDG) (10)

The institute actively integrates Sustainable Development Goals (SDGs) into teaching–learning and student activities. Students address SDGs through:

- Mini and major projects focusing on renewable energy, waste management, sustainable materials, energy efficiency, etc.
- Industrial training and internships in relevant sectors

Student activities such as technical seminars, workshops, and awareness programs

3.7 Attainment of Course Outcomes (25)

3.7.1. Describe the Assessment Tools and Processes Used to Gather the Data for the Evaluation of Course Outcome (5)

The following assessment tools are used to measure student learning and CO attainment:

- Continuous Internal Examinations (Internal theory exams, class tests, attendance)
- Semester End Examinations (Theory and Practical)
- Laboratory examinations
- Project evaluations
- Internship evaluations

Marks obtained from these tools are mapped CO-wise based on predefined question-to-CO mapping. Both CIE and SEE components are considered for overall CO attainment.

3.7.2 Record the Attainment of Course Outcomes of all Courses with Respect to Set Attainment Levels (20)

Target marks for courses is taken as 50% of total marks.

Sl. No.	Course Code	Course Name	CIE Attainment%	SEE Attainment%	CO Attainment % = 0.3× CIE Attainment% + 0.7× SEE Attainment%	Level
1	100101	Basic Electrical Engineering	98.86	67.04	76.586	2
2	100102	Engineering Graphics & Design	93.18	54.54	66.132	1
3	102101	Physics (Electromagnetism)	95.45	68.18	76.361	2
4	102102	Mathmatics-I (Calculus and Linear Algebra)	90.91	36.36	52.725	Not Attained
5	100203	Chemistry	100	79.35	85.545	3
6	100204	Programming for Problem Solving	96.74	60.87	71.631	2
7	100205	Workshop Manufacturing Practices	84.78	82.61	83.261	3
8	100206	English	98.91	78.26	84.455	3
9	100202	Mathematics-II	100	33.33	53.331	Not Attained
10	100301	Biology For Engineers	98.41	79.36	85.075	3
11	100303	Basic Electronics Engineering	100	31.75	52.225	Not Attained
12	100309	Engineering Mechanics	96.82	79.36	84.598	3
13	100309P	Mathmatics-III (PDE, Probability and Statistics)	100	71	79.7	2
14	100312	Internship	100	100	100	3
15	100399P	Machine Drawing	100	100	100	3
16	102302P	Thermodynamics	77.78	93.65	88.889	3
17	100408P	MOOCs/SWAYAM/NPTEL Courses-1	21.55	64.65	51.72	Not Attained
18	102401	Applied Thermodynamics	25.86	60.34	49.996	Not Attained
19	102402	Engineering Materials	25.86	60.34	49.996	Not Attained
20	102403	Fluid Mechanics	21.55	43.1	36.635	Not Attained
21	102404	Instrumentation & Control	25.86	60.34	49.996	Not Attained
22	102405	Strength Of Materials	21.55	43.1	36.635	Not Attained
23	100510P	Summer Entrepreneurship-II	100	98.55	98.985	3
24	100511P	MOOCs/SWAYAM/NPTEL Courses-2	94.2	69.56	76.952	2
25	102501	Fluid Machinery	95.65	82.61	86.522	3

26	102502	Heat Transfer	97.1	75.36	81.882	3
27	102503	Kinematics of Machine	92.75	14.49	37.968	Not Attained
28	102504	Manufacturing Process	76.81	75.36	75.795	2
29	102601	Design of Machine Elements	100	94.23	95.961	3
30	102602	Dynamics of Machinery	100	84.61	89.227	3
31	102603	Manufacturing Technology	99.04	94.23	95.673	3
32	102605	Automation In Manufacturing	100	100	100	3
33	102609	Composite Materials	100	98.08	98.656	3
34	102610	Power Plant Engineering	100	98.08	98.656	3
35	102611	Renewable Energy System	100	96.15	97.305	3
36	100702P	Summer Entrepreneurship-III	100	100	100	3
37	100709P	Project-I	100	100	100	3
38	102701	Internal Combustion Engine	89.62	89.62	89.62	3
39	102702	Refrigeration and Air Conditioning	81.13	79.24	79.807	2
40	102705	Automobile Engineering	83.02	71.7	75.096	2
41	102706	Operation Research	58.49	58.49	58.49	Not Attained
42	100808	Total Quality Management	88.68	98.11	95.281	3
43	102804	Energy Conservation and Management	94.34	100	98.302	3
44	102807	Safety Management	98.11	100	99.433	3
45	102808	Non-Conventional Manufacturing	94.34	79.24	83.77	3
46	100801	Project - II	100	100	100	3

3.8 Attainment of Program Outcomes and Program Specific Outcomes (25)

PO Attainment

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
100101	3	2.5	2.33	0	2	2	1	2	0	0	0	PO12
100102	2.6	1.6	2	0	3	0	0	0	0	2	0	PO12
102101	3	2.4	2	0	2.2	0	0	0	0	0	0	PO12
102102	3	2.8	2.2	0	2.2	0	0	0	0	0	0	PO12
100203	3	2.2	1.75	2.25	1.8	1.67	1	1	1	0	2	PO12
100204	3	2.8	2.25	0	3	0	0	0	0	0	0	PO12
100205	2	2	2	0	2	2	2	3	2	0	0	PO12
100206	1	1.8	1	0	0	1	0	1	1.5	3	1	PO12
100301	3	2.6	2.6	2.4	2.2	1.8	1.3	0	1	2	2	PO12
100303	1.4	2	1.75	2	2	0	0	0	0	1	0	PO12
100309	2.6	2.8	2	1.4	1.4	0	1	0	2	1.6	0	PO12
100312	2.6	2.8	0	2	2	0	0	0	0	0	0	PO12
102302P	3	2.8	0	0	0	0	0	0	2.4	2	3	PO12
102304	3	2.8	2	2	2.2	0	0	0	0	0	0	PO12
102403	3	2.8	1.5	2.33	2	1	1	0	0	0	1.2	PO12
102401	2.8	2.4	2	2.33	2.25	2	0	0	0	0	0	PO12
102405	3	2.8	2.5	2	0	0	0	0	0	0	2	PO12
102402	3	2.6	2	2	2	2	0	0	0	0	1.4	PO12
102404	2.8	2.8	2.5	2	2.25	0	0	0	0	0	0	PO12
MC-II	0	0	0	0	0	2.6	3	2.4	1.33	0	2.4	PO12
10501	3	2.25	2	2	2	2	0	0	0	0	2	PO12
10502	2.6	2.6	3	1.5	2	1	0	0	0	2	1.2	PO12
102503	2.8	2.6	2	2	2.6	1	0	0	0	0	1.5	PO12
102504	3	2.2	2	2	2	0	1	0	0	0	0	PO12
MEIII	0	0	0	0	0	1	1	0	0	0	1	PO12
102601	3	2.8	2.8	2.6	2.6	2.4	3	2.5	2.33	2.5	2.4	PO12
102602	2.8	2.6	2.4	1.5	1.4	2	0	0	0	0	2.2	PO12
102603	2.6	2.4	2.4	2	2	1	1	0	2	1.5	2	PO12
102605	2.8	2.4	2.5	2	2.6	2	2	1	0	0	0	PO12
102609	2.8	2.5	2.5	2	2	2	0	0	2	0	0	PO12
102610	3	3	3	2	2	1.5	2	2	1	2	1	PO12
10611	1.8	2	3	0	0	0	3	0	0	0	0	PO12
102701	3	2.4	2.2	2.67	2	2	0	0	0	0	0	PO12
102702	3	2.6	2	2	1.8	1	0	0	0	0	1.25	PO12
102705	3	2.4	2.2	1.8	2	1	1.4	1.2	1.4	2.2	1	PO12
102706	2.8	2.8	2.67	0	2	0	0	0	0	0	2	PO12
102706	2.8	2.8	2.67	0	2	0	0	0	0	0	2	PO12
100808	3	2.6	2	2	2	2	0	0	0	0	1.4	PO12
102804	2.6	2.6	1.75	1.75	2.6	3	0	0	0	1.5	3	PO12
102807	2.8	2.6	2.25	2	1.5	2.8	2.3	2.4	2	1	3	PO12
102808	3	2.4	2.2	2	2.33	2	0	0	0	0	2	PO12

PO Attainment Indirect

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Graduate exi	2.8	2.7	2.6	2.6	2.5	2.4	2.5	2.8	2.7	2.8	2.6	PO12
Alumni Surve	2.7	2.6	2.6	2.5	2.4	2.5	2.6	2.7	2.8	2.7	2.6	PO12

Employer sur	2.9	2.8	2.7	2.7	2.6	2.6	2.7	2.9	2.8	2.9	2.7	PO12

PO Attainment Level

Note: The Institution can fix the weightage of the indirect attainment maximum up to 20%.

Define the Weightage for Indirect Attainment:

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Direct Attainment	2.74	2.51	2.21	2.02	2.11	1.76	1.69	1.85	1.69	1.87	1.83	0
InDirect Attainment	2.8	2.7	2.63	2.6	2.5	2.5	2.6	2.8	2.77	2.8	2.63	0
Overall Attainment	2.75	2.55	2.29	2.14	2.19	1.91	1.87	2.04	1.91	2.06	1.99	0

PSO Attainment

Course	PSO1	PSO2
100101	2.4	2.4
100102	2.6	1.8
100202	2.8	2.6
100204	2.8	2.2
100205	2.8	2.2
100206	3	2.4
100301	3	2.6
100303	0	2.2
100309	2.6	1.6
100312	2.4	2.6
100808	2.8	2.4
102101	2.6	2.4
102102	2.8	2.2
102203	3	2.2
102302P	3	2.2
102304	3	2.2
102401	2	2.2
102402	3	2.4
102403	3	1.8
102404	2.4	2.6
102405	3	3
102501	3	2.67
102502	2.8	2
102503	3	2.2
102504	2.4	2
102601	3	2.4
102602	3	2.2
102603	2.8	2.8
102605	2.6	2.4
102609	3	2.67
102610	3	1.5
102611	2	1.67
107701	2.4	2
102702	3	2.2
102705	2	3
102706	3	3

102804	2.4	3
102807	2.4	2.4
102808	2.4	2
MCII	1.2	1
MCIII	1	1.5

PSO Attainment Indirect

Survey	PSO1	PSO2
Graduate Exit survey	2.2	2.8
Alumni Survey	2.5	2.1
Employer survey	2	2.4

PSO Attainment Level

Course	PSO1	PSO2
Direct Attainment	2.64	2.26
InDirect Attainment	2.23	2.43
Overall Attainment	2.56	2.29

4 STUDENTS' PERFORMANCE (120)

Table No. 4A: Admission details for the program excluding those admitted through multiple entry and exit points.

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2025-26 (CAY)	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)	2021-22 (CAYm4)	2020-21 (CAYm5)	2019-20 (CAYm6)
N=Sanctioned intake of the program (as per AICTE /Competent authority)	60	60	60	60	60	60	60
N1=Total no. of students admitted in the 1st year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program	46	54	43	54	54	55	60
N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats	0	6	6	6	6	6	6
N3=Separate division if any	0	0	0	0	0	0	0
N4=Total no. of students admitted in the 1st 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.	46	60	49	60	60	61	66

Table No. 4B: Admission details for the program through multiple entry and exit points.

	Item (No. of students admitted/exited through multiple entry and exit points) in the respective batch	2025-26 (CAY)	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)	2021-22 (LYG)	2020-21 (LYGm1)	2019-20 (LYGm2
N52=No. of students admitted in 2nd year via multiple entry and exit points in same batch	N52=No. of students admitted in 2nd year via multiple entry and exit points in same batch	0	0	0	0	0	0	0
N53=No. of students admitted in 3rd year via multiple entry and exit points in same batch	N53=No. of students admitted in 3rd year via multiple entry and exit points in same batch	0	0	0	0	0	0	0
N54=No. of students admitted in 4th year via multiple entry and exit points in same batch	N54=No. of students admitted in 4th year via multiple entry and exit points in same batch	0	0	0	0	0	0	0
N5=N52+N53+N54	N5=N52+N53+N54	0	0	0	0	0	0	0
N61=No. of students exits after 1st year via multiple entry and exit points in same batch	N61=No. of students exits after 1st year via multiple entry and exit points in same batch	0	0	0	0	0	0	0
N62=No. of students exit after 2nd year via multiple entry and exit points	N62=No. of students exit after 2nd year via multiple entry and exit points	0	0	0	0	0	0	0
N63=No. of students exit after 3rd year via multiple entry and exit points in same batch	N63=No. of students exit after 3rd year via multiple entry and exit points in same batch	0	0	0	0	0	0	0
N6=N61+N62+N63	N6=N61+N62+N63	0	0	0	0	0	0	0

Table No. 4C: No. of students graduated within the stipulated period of the program.

Year of entry	Total no. of students (N1 + N2 + N3+ N4 + N5 - N6 as defined above)	Number of students who have successfully graduated in stipulated period of study) [Total of with Backl + without Backlog]			
		I year	II year	III year	IV year
2025-26 (CAY)	64				
2024-25 (CAYm1)	71	36			
2023-24 (CAYm2)	65	28	44		
2022-23 (CAYm3)	68	40	56	50	
2021-22 (LYG)	67	51	53	50	46
2020-21 (LYGm1)	68	54	61	61	61
2019-20 (LYGm2)	73	62	69	69	69

4.1 Enrolment Ratio (20)

Get Details from Table 4.1

Table No.4.1.1: Student enrolment ratio in the 1st year.

Year of entry	N (From Table 4.1)	N1 (From Table 4.1)	N4 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2025-26 (CAY)	60	45	1	76.67
2024-25 (CAYm1)	60	39	0	65.00
2023-24 (CAYm2)	60	29	0	48.33

Average [(ER1 + ER2 + ER3) / 3] = 63.33 ≡ 11.00

Assessment : 11.00

4.2 Success Rate of the Students in the Stipulated Period of the Program (15)

Table No.4.2.1: The success rate in the stipulated period of a program.

Item	(2021-22) LYG	(2020-21) LYGm1	(2019-20 LYGm2
A*= (No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd 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).	66.00	66.00	66.00
B=No. of students who graduated from the program in the stipulated course duration	46.00	61.00	69.00
Success Rate (SR)= (B/A) * 100	69.70	92.42	104.55

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 88.89

SR Points : 13.33

Note *: If the value of A in Table No. 4.2.1 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 4.2.1 should be the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2).

4.3 Academic Performance of the First-Year Students of the Program (10)

Table No.4.3.1: Academic Performance of the First-Year Students of the Program.

Academic Performance	CAYm1(2024-25)	CAYm2(2023-24)	CAYm3 (2022)
X=(Mean of 1st 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 1st year/10)	7.68	6.53	7.24
Y=Total no. of successful students	10.00	21.00	16.00
Z=Total no. of students appeared in the examination	38.00	23.00	34.00
API [X*(Y/Z)]	2.02	5.96	3.41

Average API[(AP1+AP2+AP3)/3] : 3.80

Assessment = Average API : 3.80

4.4 Academic Performance of the Second Year Students of the Program (10)

Table No.4.4.1: Academic Performance of the Second Year Students of the Program.

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
X=(Mean of 2nd 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 2rd year/10)	7.16	7.19	7.30
Y=Total no. of successful students	44.00	56.00	53.00
Z=Total no. of students appeared in the examination	34.00	46.00	57.00
API [X * (Y/Z)]	9.27	8.75	6.79

Average API [(AP1 + AP2 + AP3)/3] : 8.27

Assessment [AverageAPI] : 8.27

4.5 Academic Performance of the Third Year Students of the Program (10)

Table No.4.5.1: Academic Performance of the Third Year Students of the Program

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
X=(Mean of 3rd 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 3rd year/10)	7.30	7.91	7.58
Y=Total no. of successful students	50.00	50.00	61.00
Z=Total no. of students appeared in the examination	56.00	53.00	61.00
API [X*(Y/Z)]:	6.52	7.46	7.58

Average API [(AP1 + AP2 + AP3)/3] : 7.19

Assessment [1.5 * AverageAPI] : 7.19

4.6 Placement, Higher Studies and Entrepreneurship (30)

Table No. 4.6.1: Placement, higher studies, and entrepreneurship details.

Item	LYG (2021-22)	LYGm1(2020-21)	LYGm2(2019-20)
FS*=Total no. of final year students	66.00	66.00	69.00
X=No. of students placed	19.00	41.00	8.00
Y=No. of students admitted to higher studies	3.00	3.00	5.00
Z= No. of students taking up entrepreneurship	0.00	0.00	0.00
Placement Index(P) = (((X + Y + Z)/FS) * 100):	33.33	66.67	18.84

Average Placement Index = (P_1 + P_2 + P_3)/3: 39.61

Placement Index Points: 11.88

4.7 Professional Activities (25)

4.7.1 Professional Societies/ Bodies, Chapters, Clubs, and Professional Engineering Events Organized (5)

Table No. 4.7.1.1: List of active professional societies/bodies/chapters/clubs.

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs
1	NPTEL/SWAYAM
2	Indian Society for Technical Education
3	E- Granthalaya
4	Spoken Tutorial (IIT Mumbai)
5	Foreign Language Lab
6	Sports Club
7	Cultural Club
8	Daksha Club
9	Literary Club
10	E-Yantra

Table No. 4.7.1.2: List of events/programs organized.

(CAYm1) 2024-25

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs	Name of the Event	National/International level	Date of Event (DD/MM/YYY
1	Dev Kumar	Smart India Hackathon 2024	State	09/09/2024
2	Trisha Raj	Smart India Hackathon 2024	State	09/09/2024

(CAYm2) 2023-24

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs	Name of the Event	National/International level	Date of Event (DD/MM/YYY
1	Ravish Kumar	Smart India Hackathon 2023	State	23/09/2023
2	Vidhyanjalee Kumari	Smart India Hackathon 2023	State	23/09/2023

(CAYm3) 2022-23

S.No	Name of the Professional Societies/Bodies, Chapters, Clubs	Name of the Event	National/International level	Date of Event (DD/MM/YYYY)
1				

4.7.2 Student's Participations in Professional Events (10)

Table No. 4.7.2.1: List of students participated in professional events.

(CAYm1) 2024-25

S.No	Name of the Student	Name of the Event	State /State /National/International level	Date of Event (DD/MM/YYYY)	Name of Awa
1	Soni Kumari	Verb	Institute	29/11/2024	2nd
2	Soni Kumari	Umang	Institute	11/01/2025	2nd
3	Ravish Kumar	Bihar Debate League Competition	Institute	11/01/2025	1st

(CAYm2) 2023-24

S.No	Name of the Student	Name of the Event	State /National/International level	Date of Event (DD/MM/YYYY)	Name of Award
1	Md. Nishant Karim	Umang	State	19/02/2024	Ist
2	Trisha Raj	National Youth Festival	National	10/04/2024	3rd
3	Arnav Kumar	Umang	State	19/02/2024	1st

(CAYm3) 2022-23

S.No	Name of the Student	Name of the Event	State /National/International level	Date of Event (DD/MM/YYYY)	Name of Award
1					

4.7.3 Publication of Journals, Magazines, Newsletters, etc. in the Department (5)

Table No. 4.7.3.1: List of students involved in publication of journals, magazines, and newsletters, etc. in the Department.
(CAYm1) 2024-25

S.No	Name of the Journal, Magazine, Newsletter	Name of the Editor	Name of the Student	Semester	No. of Issues	Hard copy/Soft copy
1						

(CAYm2) 2023-24

S.No	Name of the Journal, Magazine, Newsletter	Name of the Editor	Name of the Student	Semester	No. of Issues	Hard copy/Soft copy
1						

(CAYm3) 2022-23

S.No	Name of the Journal, Magazine, Newsletter	Name of the Editor	Name of the Student	Semester	No. of Issues	Hard copy/Soft copy
1						

4.7.4 Student Publications (5)

Table No. 4.7.4.1: List of student publications.
(CAYm1) 2024-25

S.No	Name of the Student	Semester	Name of the Publisher	Name of the Journal/ Conference, etc.	Volume No.	Issue No.	Name of the Award if ar
1							

(CAYm2) 2023-24

S.No	Name of the Student	Semester	Name of the Publisher	Name of the Journal/ Conference, etc.	Volume No.	Issue No.	Name of the Award if any
1							

(CAYm3) 2022-23

S.No	Name of the Student	Semester	Name of the Publisher	Name of the Journal/ Conference, etc.	Volume No.	Issue No.	Name of the Award if ar
1							

5 FACULTY INFORMATION (100)

Sr.No	Name of the Faculty	PAN No.	APAAR faculty ID*(if any)	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	Nat Ass (Re Co Ad
1	BHARTI KUMARI	CRUPK9389P	NA	M.Tech	NIT PATNA	REFRIGERATION, AIR-CONDITIONING AND HEAT TRANSFER	18/01/2018	7.10	Assistant Professor	Assistant Professor		Reg
2	AJIT KUMAR CHAUHAN	AXVPC1086C	NA	M.Tech	DR. B.R AMBEDKAR NIT JALANDAR	MECHANICAL ENGINEERING	05/02/2018	7.9	Assistant Professor	Assistant Professor		Reg
3	SACHINDRA KUMAR	BRWPK2704H	NA	M.Tech	BIT MESRA, RANCHI	DESIGN OF MECHANICAL EQUIPMENT	18/01/2018	7.10	Assistant Professor	Assistant Professor		Reg
4	NAVNEET KUMAR SINGH	CWOPS7262J	NA	M.Tech	ISM (IIT) DHANBAD	MAINTENANCE ENGINEERING AND TRIBOLOGY	18/04/2023	2.7	Assistant Professor	Assistant Professor		Reg
5	ABHISHEK KUMAR PASWAN	BVEPP5713M	NA	M.Tech	ISM (IIT) DHANBAD	MAINTENANCE ENGINEERING AND TRIBOLOGY	19/04/2023	2.7	Assistant Professor	Assistant Professor		Reg
6	JITENDRA KUMAR	ATNPK6644E	NA	M.Tech	NIT PATNA	REFRIGERATION, AIR-CONDITIONING AND HEAT TRANSFER	20/04/2023	2.7	Assistant Professor	Assistant Professor		Reg
7	SARIKA KUMARI	IWZPK0681J	NA	M.Tech	DR. B.R AMBEDKAR NIT JALANDAR	MANUFACTURING TECHNOLOGY	21/04/2023	2.7	Assistant Professor	Assistant Professor		Reg
8	GUDDI KUMARI	CALPK9406P	NA	M.Tech	IIT PATNA	MECHATRONICS	24/04/2023	2.7	Assistant Professor	Assistant Professor		Reg
9	PANKAJ KUMAR	FJTPK7642R	NA	M.Tech	BIT SINDRI, DHANBAD	PRODUCTION AND MANAGEMENT	12/05/2023	2.6	Assistant Professor	Assistant Professor		Reg
10	DR. ABHISHEK SHARMA	BAMPS5005C	NA	Ph.D	UPES, DEHRADUN	THERMAL	22/09/2023	2.2	Associate Professor	Associate Professor		Reg
11	DR. MITHILESH KUMAR SINGH	AQFPS2068D	NA	Ph.D	VINOBA BHAVE UNIVERSITY, HAZARIBAG	PRODUCTION	20/01/2023	2.6	Professor	Professor		Reg

5.1 Student-Faculty Ratio (SFR) (30)

No. of UG(Engineering) programs in Department including allied departments/ clusters (UGn):
UG1=1st UG program
UGn=nth UG program
B= No. of Students in UG 2nd year (ST)
C= No. of Students in UG 3rd year (ST)
D= No. of Students in UG 4th year (ST)
No. of PG (Engineering) programs in Department including allied departments/ clusters (PGm):
PG1=1st PG program.
PGm=mth PG program
A= No. of Students in PG 1st year
B= No. of Students in PG 2nd 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 have a 100% teaching load in the first-year courses)).

UG

No. of UG(Engineering) programs in Department including allied departments/clusters(UGn): 1

Mechanical Engineering						
Year of Study	**CAY**		**CAYm1**		**CAYm2**	
	(2025-26)		**(2024-25)**		**(2023-24)**	
	Sanction Intake	**Actual admitted through lateral entry students**	**Sanction Intake**	**Actual admitted through lateral entry students**	**Sanction Intake**	**Actual admitted through latera entry students**
2nd Year	60	6	60	6	60	6
3rd Year	60	6	60	6	60	6
4th Year	60	6	60	6	60	6
Sub-Total	**180**	**18**	**180**	**18**	**180**	**18**
Total	**198**		**198**		**198**	

Grand Total	198	198	198

PG

No. of PG Programs in the Department 0

Grand Total			

SFR

No. of UG Programs in the Department 1
No. of PG Programs in the Department 0

Mechanical Engineering

Description	**CAY(2025-26)**	**CAYm1 (2024-25)**	**CAYm2 (2023-24)**
UG1.B	66	66	66
UG1.C	66	66	66
UG1.D	66	66	66
UG1: Mechanical Engineering	**198**	**198**	**198**
DS=Total no. of students in all UG and PG programs in the Department	198	198	198
AS=Total no. of students of all UG and PG programs in allied departments	0	0	0
S=Total no. of students in the Department (DS) and allied departments (AS)	**S1=** 198	**S2=** 198	**S3=** 198
DF=Total no. of faculty members in the Department	10	11	10
AF= Total no. of faculty members in the allied Departments	0	0	0
F=Total no. of faculty members in the Department (DF) and allied Departments (AF)	**F1=** 10	**F2=** 11	**F3=** 10
FF=The faculty members in F who have a 100% teaching load in the first-year courses	0	0	0
Student Faculty Ratio (SFR)=S/(F-FF)	**SFR1= 19.80**	**SFR2= 18.00**	**SFR3= 19.80**
Average SFR for 3 years	**SFR= 19.20**		

Average SFR for three assessment years : 19.20

Assessment SFR : 18

5.2 Faculty Qualification (25)

Year	X	Y	RF	FQ = 2.5 x [(10X + 4Y) / RF)]
2025-26(CAY)	1	9	9.00	12.78
2024-25(CAYm1)	2	9	9.00	15.56
2023-24(CAYm2)	1	9	9.00	12.78

Average Assessment : 13.70

5.3 Faculty Cadre Proportion (25)

Year	Professors		Associate Professors		Assistant Professors	
	Required F1	Available	Required F2	Available	Required F3	Available
CAY(2025-26)	1.00	0.00	2.00	1.00	6.00	9.00
CAYm1(2024-25)	1.00	1.00	2.00	1.00	6.00	9.00
CAYm2(2023-24)	1.00	1.00	2.00	0.00	6.00	9.00
Average Numbers	1.00	0.67	2.00	0.67	6.00	9.00

Cadre Ratio Marks [(AF1 / RF1) + [(AF2 / RF2) * 0.6] + [(AF3 / RF3) * 0.4]] * 12.5 : 24.00

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

Table No. 5.4.1: List of visiting/adjunct faculty/professor of practice and their teaching and practical loads.
(CAYm1) 2024-25

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1					

(CAYm2) 2023-24

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1					

(CAYm3) 2022-23

S.No	Name of the Person	Designation	Organization	Name of the Course	No. of hours handled
1					

5.5 Faculty Retention (10)

Description	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)
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 5.1 of SAR; (RF=S/20).	9	9	9
AF=The no. of available faculty members in the Department including allied Departments	11	10	9
A= The no. of faculty members at the current institute with less than 1 year of experience (A in AF)	0	0	7
B= The no. of faculty members at the current institute with more than 1 year and less than 2 years of experience (B in AF)	0	0	0
C= The no. of faculty members at the current institute with more than 2 years and less than 3 years of experience (C in AF)	8	7	0
D= The no. of faculty members at the current institute with more than 3 years and less than 4 years of experience (D in AF)	0	0	0
E= The no. of faculty members at the current institute with more than 4 years of experience (E in AF)	3	3	3
FR=(((A*0) +(B*1)+(C*2)+(D*3)+(E*4))/RF) *2.50 (points limited to 10)	8	7	3

Average : 6.00

Assessment Marks : 6.00

6 FACULTY CONTRIBUTIONS (120)

6.1 Professional Development Activities (60)

6.1.1 Memberships in Profession Societies at National/International Levels (5)

Table No. 6.1.1.1: List of faculty members and their memberships.

S.No	Name of the Faculty	Name of the Professional Society /Body at National and International Level	Name of the Grade/ Level/Positio
1	DR. ABHISHEK SHARMA	Institute of Research Engineers and Doctors (from 20th August 2019 to 20th August 2022.)	Membership No. AM101000584380
2	DR. ABHISHEK SHARMA	ISTE by MIT Muzaffarpur & DSTTE Bihar, INDIA. (11 September 2024)	Membership No. AM101000584380

6.1.2 Faculty as Resource Persons or Participants in STTPs/FDPs (15)

6.1.2.1 Faculty as Resource Persons in STTPs/FDPs (5)

Table No. 6.1.2.1: List of faculty members as resource person in STTP/FDP events.
(CAYm1) 2024-25

S.No	Name of the Faculty as Resource Person	Name of the STTP/FDP	Date (DD/MM/YYYY)	Location	Organized by
1	Dr. Abhishek Sharma	Expert talk on “Nanotechnology for Sustainability Fuels: The Case of Nano-Blended Biodiesel” in	30/12/24	Harcourt Butler Technical University, Kanpur (HBTUK).	Human Resource Development Cell (HRDC
2	Dr. Abhishek Sharma	Expert session on the topic “Basics of Intellectual Property Rights a n d its Importance for Innova	7/11/2024	Greater Noida	Lloyd Institute of Engineering & Technolog

(CAYm2) 2023-24

S.No	Name of the Faculty as Resource Person	Name of the STTP/FDP	Date (DD/MM/YYYY)	Location	Organized by
1					

(CAYm3) 2022-23

S.No	Name of the Faculty as Resource Person	Name of the STTP/FDP	Date (DD/MM/YYYY)	Location	Organized by
1					

6.1.2.2 Faculty Members’ Participation in STTPs/FDPs (10)

Name of the faculty	Max 5 Per Faculty		
	2024-25(CAYm1)	2023-24(CAYm2)	2022-23(CAYm3)
Bharti Kumari	5.00	5.00	5.00
Pankaj Kumar	5.00	5.00	0.00
Abhishek Kumar Paswan	5.00	5.00	0.00
Jitendra Kumar	5.00	5.00	0.00
Guddi Kumari	5.00	5.00	0.00
Navneet Kumar Singh	5.00	5.00	0.00
Ajit Kumar Chauhan	0.00	5.00	5.00
Sachindra Kumar	0.00	5.00	0.00
Sarika Kumari	0.00	5.00	0.00
Sum	30.00	45.00	10.00
RDF = Number of faculty required to comply with the 20:1 student - faculty ratio in the Department alone, as per section 5.1 of SAR(RDF= DS / 20).	9.90	9.90	9.90
Assessment Points (AP)= 2 * (Sum/(0.5* RDF)) (Points limited to 5 for each assessment year)	10.00	10.00	4.04

Average assessment over 3 years: 8.01

6.1.3 Faculty Certification of MOOCs through SWAYAM, etc. (10)

Table No. 6.1.4.1: List of faculty members obtained certification of MOOCs for the past 3 years.

S.No	Name of the Faculty	Name of Course Passed	Course Offered by (agency)	Grade obtained if any
1	Jitendra kumar	NITTTR-8 Module	NITTTR	Pass
2	Jitendra kumar	RAC	NPTEL	78%
3	Pankaj kumar	NITTTR-8 Module	NITTTR	Pass
4	Navneet Kumar Singh	NITTTR-8 Module	NITTTR	Pass
5	Navneet Kumar Singh	RAC	NPTEL	79%
6	Ajit Kumar Chauhan	Fundamental Of Welding Science & Technology	NPTEL	88%
7	Ajit Kumar Chauhan	Advanced Machining Process	NPTEL	76%
8	Ajit Kumar Chauhan	Advanced Thermodynamics & Combustion	NPTEL	72%
9	Ajit Kumar Chauhan	Research Methodology	NPTEL	87%
10	Abhishek Kumar Paswan	NITTTR-8 Module	NITTTR	Pass
11	Abhishek Kumar Paswan	RAC	NPTEL	69%

6.1.4 FDP/STTP Organized by the Department (10)

Table No. 6.1.5.1: List of FDPs/STPs organized by Department for the past 3 years.
(CAYm1) 2024-25

S.No	Name of the Program	Date of the Program(DD/MM/YYYY)	Duration	Name of the Speaker & Designation and Organization	No. of People Attend
1					

(CAYm2) 2023-24

S.No	Name of the Program	Date of the Program(DD/MM/YYYY)	Duration	Name of the Speaker & Designation and Organization	No. of People Attend
1					

(CAYm3) 2022-23

S.No	Name of the Program	Date of the Program(DD/MM/YYYY)	Duration	Name of the Speaker & Designation and Organization	No. of People Attend
1					

6.1.5 Faculty Support in Student Innovative Projects (10)

Table No. 6.1.6.1: List of faculty members involved in student innovative projects.
(CAYm1) 2024-25

S.No	Name of the Faculty	Name of the Event	Date of the Event(DD/MM/YYYY)	Place of Event	Website Link if any
1					

(CAYm2) 2023-24

S.No	Name of the Faculty	Name of the Event	Date of the Event(DD/MM/YYYY)	Place of Event	Website Link if any
1					

(CAYm3) 2022-23

S.No	Name of the Faculty	Name of the Event	Date of the Event(DD/MM/YYYY)	Place of Event	Website Link if any
1					

6.1.6 Faculty Internship/Training/Collaboration with Industry (10)

Table No. 6.1.7.1: Faculty internship/training/collaboration details.

S.No	Name of the Faculty	Name of the Internship/ Training/ Collaboration	Name of the Company & Place	Duration	Outcomes of Internship/ Training/ Collaboration
1	Bharti Kumari	Industrial Training	Rail Wheel Plant, Bela	02 Week	know about the advance cnc and wheel casti
2	Jitendra Kumar	Industrial Training	Rail Wheel Plant, Bela	02 Week	know about the advance cnc and wheel casti
3	Navneet Kumar Singh	Industrial Training	Rail Wheel Plant, Bela	02 Week	know about the advance cnc and wheel casti
4	Abhishek Kumar Pawan	Industrial Training	Rail Wheel Plant, Bela	02 Week	know about the advance cnc and wheel casti
5	Guddi Kumari	Industrial Training	Rail Wheel Plant, Bela	02 Week	know about the advance cnc and wheel casti
6	Sarika Kumari	Industrial Training	Rail Wheel Plant, Bela	02 Week	know about the advance cnc and wheel casti
7	Pankaj Kumar	Industrial Training	Rail Wheel Plant, Bela	02 Week	know about the advance cnc and wheel casti

6.2 Research and Development Activities (60)

6.2.1 Academic Research (15)

Table No. 6.2.1.1: Faculty publication details.

S.No.	Item	2024-25 (CAYm1)	2023-24 (CAYm2)	2022-23 (CAYm3)
1	No. of peer reviewed journal papers published	4	4	9
2	No. of peer reviewed conference papers published	0	0	0
3	No. of books/book chapters published	0	0	1

6.2.2 Development Activities (10)

1. Patent Design No.437070-001 CBR No.220742 date 12/11/2024 Application Title “Indication Integrated Brake lever Assembly” Inventors Applicant: Dr. Abhishek Sha
2. Patent Design No. 381036-001 CBR No.202954 date 07/03/2023 Application Title “Anti Topple Fiber Reinforced Road Barriers” Inventors Applicant: Dr. Abhishek Sh Published
3. Patent App No.201811037573 CBR No.29913 Application Type: E-102/1890/2018- DEL Title “ITSC-System Intelligent Tire Air Indication, Speed Control System” Inv Abhishek Sharma and Others
4. Patent App No.201811045483, File date December 02, 2018 Title “Sugarcane Harvesting Machine” Publication date (U/S 11A) December 28, 2018.Inventors Applica Sharma and Others

Publications through Conferences

1. Yashvir Singh, Nishant Singh, Abhishek Sharma, Effect of blend and MgO nanoparticle additive on the tribological performance of linseed-based biodiesel, AIP Conf 2521, 020001 (2023), ISSN 1551-7616 “AIP Publisher” “Scopus Indexed” https://doi.org/10.1063/5.0113818. (Online 8 May, 2023)
2. Yashvir Singh, Nishant Singh, Abhishek Sharma, Biodiesel as an alternative fuel employed in CI engine to meet the sustainability criteria: A review, AIP Conference P 020001 (2023), ISSN 1551-7616 “AIP Publisher” “Scopus Indexed” https://doi.org/10.1063/5.0113825. (Online 8 May, 2023)

6.2.3 Sponsored Research Project (15)

2024-25 (CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25

2023-24 (CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25

2022-23 (CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25

Total Amount (Lacs) Received for the Past 3 Years:

Note*:

- Only sponsored research projects will be considered. Infrastructure-based projects will not be considered here.

6.2.4 Consultancy Work (15)

2024-25 (CAYm1)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25

2023-24 (CAYm2)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25

2022-23 (CAYm3)

PI Name	Co-PI names if any	Name of the Dept., where project is sanctioned	Project Title*	Name of the Funding agency	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25

Total amount (Lacs) received for the past 3 years:

Note*:

- Only consultancy projects will be considered. Infrastructure-based projects will not be considered here.

6.2.5 Institution Seed Money or Internal Research Grant to its Faculty for Research Work(5)

6.2.5 A Amount received (3)

2024-25 (CAYm1)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project

2023-24 (CAYm2)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project

2022-23 (CAYm3)

Faculty name	Project title/ Support for Activity	Duration of the project	Amount(Lacs) i.e. 15,25,000=15.25	Amount Utilized(Lacs) i.e. 15,25,000=15.25	Outcomes of the project

Total amount (Lacs) received for the past 3 years :

6.2.5 B Amount utilized (2)

7 FACILITIES AND TECHNICAL SUPPORT (100)

7.1 Adequate and well equipped laboratories, and technical manpower (40)

Sr. No	Name of the Laboratory	Number of students per set up(Batch Size)	Name of the Important Equipment	Weekly utilization status(all the courses for which the lab is utilized)	Technical Manpower Support		
					Name of the Technical staff	Designation	Qualification
1	IC ENGINE LA	33	Computerized	6	Sri Murlidhar Ti	Instructor	ITI
2	Engineering M	33	1.Screw Jack A	6	Mr. Rohit	Lab Technician	B.Tech.
3	FLUID MECHA	33	1.VENTURIME	6	Sri Murlidhar Ti	Instructor	ITI
4	FLUID MACHI	33	1.PELTON TUI	6	Sri Murlidhar Ti	Instructor	ITI
5	DOM	33	1.Whirling of sl	6	Mr. Harishanka	Instructor	ITI
6	MT Lab	33	1.Measuremen	6	Mr. Harishanka	Instructor	ITI
7	Fitting Shop	33	1.Bench Vice 2	4	Mr. Arvind Ran	Instructor	ITI
8	Machine Shop	33	1.Lathe Machir	4	Mr. Murlidhar T	Instructor	ITI
9	Welding and Sl	33	1.Arc Welding	4	Mr. Murlidhar T	Instructor	ITI
10	Black Smityhy	33	Open hearth F	4	Mr. Harishanka	Mr. Arvind Ran	ITI
11	HMT Lab	33	1.Thermal con	6	Mr. Arvind Ran	Mr. Arvind Ran	ITI
12	CAD & CNC L/	33	Thirty Compute	6	Mr. Sachindra I	Assistant Profe	M.Tech
13	SOM Lab	33	1.Universal Tes	6	Mr. Deepak Ku	Instructor	ITI
14	Engineering Gr	30	Mini drafter, sc	8hr	Sachindra Kun	Assistant Profe	M.Tech
15	Machine Drawi	30	Drafter	8hr	Sachindra Kun	Assistant Profe	M.Tech

7.2 Additional Facilities Created for Improving the Quality of Learning Experience in Laboratories (20)

Sr. No	Name of the Facility	Details	Purpose for creating facility	Utilization	Relevance to POs/PSOs
1	Safety and Ergonomic Enhancements	Provision of PPE (safety goggles, gloves, helmets), emergency stop switches, safety signage, first-aid kits, proper illumination, noise reduction measures, and ergonomically designed workstations in laboratories and workshops.	To ensure a safe, comfortable, and learner-friendly laboratory environment and reduce risk during experiments	Used by students and faculty during all laboratory sessions, workshops, and project activities	PO1, PO6, PO7; PSO1
2	Assessment & OBE Support Facilities	CO-mapped experiments, performance rubrics, viva-voce support tools, and demonstration-based assessment facilities.	To strengthen outcome-based assessment of practical skills and competencies	Used for continuous internal assessment, practical exams, and feedback analysis	PO1, PO4, PO10; PSO1
3	Project & Innovation Facility	Dedicated space with tools, basic fabrication equipment, testing instruments, and flexible access for student projects and innovation activities	To promote hands-on learning, creativity, and problem-solving beyond syllabus experiments	Used for mini-projects, major projects, prototypes, and competition preparation	PO3, PO4, PO9, PO11; PSO2
4	AUTO CAD Software	AUTO CAD is software facility to enhance 2-D and 3-D drawing and analysis of engineering design.	To facilitate advance learning and research work.	UG project, research, design, analysis, simulation	Engineering graphics, design.
5	MATLAB	Software	Practicing of mechanical operations	UG project, research	Programming

7.3 Maintenance of laboratories and overall ambiance (10)

The department of Mechanical engineering has established a systematic mechanism for the maintenance of all laboratories to ensure smooth conduct of experiments and effective teaching–learning processes. The department takes care of its tools and equipment through preventive and break down maintenance. The preventive maintenance is carried out on monthly basis for workshop machines and on semester basis for other tools and equipment. The break down maintenance is done through the suppliers as and when required. In general,

- Preventive and corrective maintenance schedules are followed for all laboratory equipment and facilities. Laboratory technical staff are responsible for routine inspection, cleaning, and upkeep of equipment and experimental setups.
- Calibration and servicing of major equipment are carried out periodically, either in-house or through authorized service agencies.
- Maintenance registers and log books are maintained for recording equipment usage, faults, repairs, and corrective actions.
- Electrical safety is ensured through regular inspection of wiring, earthing, switches, and safety interlocks.
- Safety provisions such as fire extinguishers, first-aid kits, safety instructions, and personal protective equipment are made available in all laboratories.
- Obsolete or non-functional equipment is identified and replaced as per institutional norms.

7.4 Safety measures in laboratories (10)

Sr. No	Laboratory Name	Safety Measures
1	IC ENGINE LAB	• Proper ventilation and exhaust system • Use of safety goggles and gloves • Fuel handling with c • Fire extinguisher available • Emergency shutdown provision • No loose clothing near rotating pa
2	Engineering Mechanics Lab	• Proper arrangement of weights and apparatus • Avoidance of overloading • Use of safety shoes Secure mounting of experimental setups • Clear instructions displayed
3	FLUID MECHANICS LAB	• Dry and non-slippery floor • Proper earthing of electrical equipment • Controlled water pressure Safe handling of pipes and valves • Emergency power cut-off
4	FLUID MACHINARY LAB	• Guards on rotating machinery • Proper alignment of pumps and turbines • Safety shoes and goggles; noise control • Emergency stop switches provided
5	DOM LAB	• Safe handling of pressure vessels; • Calibration of gauges • Pressure relief valves • Protective gloves • Regular inspection of equipment
6	MT Lab	• Use of protective goggles and gloves • Proper gripping of specimens • Restricted access during testing • Machine load limits followed • emergency stop mechanism.
7	Fitting Shop	• Use of hand gloves and safety goggles • Proper storage of tools • Safe handling of sharp tools • Clean and dry floor • First-aid kit available
8	Machine Shop	• Machine guards provided • Use of safety shoes and goggles • No loose clothing • Proper training before operation • Emergency stop buttons functional
9	Welding and Sheet Metal shop	• Welding helmets and gloves mandatory • Proper ventilation • Fire extinguishers available • Insulated electrical connections • Safe storage of gas cylinders
10	Black Smithy & Foundry	• Heat-resistant gloves and aprons • Face shields • Proper ventilation • Safe handling of molten metal • Sand buckets and fire extinguishers provided
11	HMT Lab	• Safety goggles during machining • Proper handling of tools and materials • Clear operating instructions • Electrical safety ensured • Restricted access during experiments
12	CAD & CNC LAB	• Electrical safety and proper earthing • Dust-free environment • Safe CNC enclosure • Emergenc stop switches • Ergonomic seating arrangements
13	SOM Lab	• Proper mounting of experimental setups • Safe handling of loads • Use of safety shoes • Clear marking of test zones • Supervision during experiments
14	RAC LAB	• Proper handling of refrigerants • Leak detection system • Use of gloves and goggles • Ventilatior system • Fire safety measures implemented

7.5 Project laboratory/research laboratory /centre of excellence (20)

The department of Mechanical Engineering maintains a separate Projects Lab to provide a platform for students to work in their research and innovation projects. This lab is adjacent to central workshop so that students can conveniently use the facilities of the machine shop. Students can put their projects in progress here and can work late hours after the classes. The laboratories have shelves for storage and workbenches. The lab also has tables for group discussion on project work.

8 CONTINUOUS IMPROVEMENT (80)

8.1 Actions taken based on the results of evaluation of each of the COs, POs & PSOs (40)

8.1.1 Actions Taken Based on the Results of Evaluation of the COs Attainment (20)

Sl. No.	Course Code	Course Name	CIE Attainment %	SEE Attainment %	CO Attainment % = 0.3× CIE Attainment % + 0.7× SEE Attainment %	Level
1	100101	Basic Electrical Engineering	98.86	67.04	76.586	2
2	100102	Engineering Graphics & Design	93.18	54.54	66.132	1
3	102101	Physics (Electromagnetism)	95.45	68.18	76.361	2
4	102102	Mathmatics-I (Calculus and Linear Algebra)	90.91	36.36	52.725	Not Attained
5	100203	Chemistry	100	79.35	85.545	3
6	100204	Programming for Problem Solving	96.74	60.87	71.631	2
7	100205	Workshop Manufacturing Practices	84.78	82.61	83.261	3
8	100206	English	98.91	78.26	84.455	3
9	100202	Mathematics-II	100	33.33	53.331	Not Attained
10	100301	Biology For Engineers	98.41	79.36	85.075	3
11	100303	Basic Electronics Engineering	100	31.75	52.225	Not Attained
12	100309	Engineering Mechanics	96.82	79.36	84.598	3
13	100309P	Mathmatics-III (PDE, Probability and Statistics)	100	71	79.7	2
14	100312	Internship	100	100	100	3
15	100399P	Machine Drawing	100	100	100	3
16	102302P	Thermodynamics	77.78	93.65	88.889	3
17	100408P	MOOCs/SWAYAM/NPTEL Courses-1	21.55	64.65	51.72	Not Attained
18	102401	Applied Thermodynamics	25.86	60.34	49.996	Not Attained
19	102402	Engineering Materials	25.86	60.34	49.996	Not Attained
20	102403	Fluid Mechanics	21.55	43.1	36.635	Not Attained
21	102404	Instrumentation & Control	25.86	60.34	49.996	Not Attained
22	102405	Strength Of Materials	21.55	43.1	36.635	Not Attained
23	100510P	Summer Entrepreneurship-II	100	98.55	98.985	3
24	100511P	MOOCs/SWAYAM/NPTEL Courses-2	94.2	69.56	76.952	2
25	102501	Fluid Machinery	95.65	82.61	86.522	3
26	102502	Heat Transfer	97.1	75.36	81.882	3
27	102503	Kinematics of Machine	92.75	14.49	37.968	Not Attained

28	102504	Manufacturing Process	76.81	75.36	75.795	2
29	102601	Design of Machine Elements	100	94.23	95.961	3
30	102602	Dynamics of Machinery	100	84.61	89.227	3
31	102603	Manufacturing Technology	99.04	94.23	95.673	3
32	102605	Automation In Manufacturing	100	100	100	3
33	102609	Composite Materials	100	98.08	98.656	3
34	102610	Power Plant Engineering	100	98.08	98.656	3
35	102611	Renewable Energy System	100	96.15	97.305	3
36	100702P	Summer Entrepreneurship-III	100	100	100	3
37	100709P	Project-I	100	100	100	3
38	102701	Internal Combustion Engine	89.62	89.62	89.62	3
39	102702	Refrigeration and Air Conditioning	81.13	79.24	79.807	2
40	102705	Automobile Engineering	83.02	71.7	75.096	2
41	102706	Operation Research	58.49	58.49	58.49	Not Attained
42	100808	Total Quality Management	88.68	98.11	95.281	3
43	102804	Energy Conservation and Management	94.34	100	98.302	3
44	102807	Safety Management	98.11	100	99.433	3
45	102808	Non-Conventional Manufacturing	94.34	79.24	83.77	3
46	100801	Project - II	100	100	100	3

Target for CO Attainment: 50% of total marks

Based on the detailed analysis of Course Outcome (CO) attainment for all 46 courses of the B.Tech. Mechanical Engineering program, it is observed that while a majority of courses have achieved the desired attainment levels, a few courses have not attained the target CO attainment of 50%. These courses have been identified as areas of weakness and appropriate corrective and preventive actions have been planned and implemented.

A. Identification of Weaknesses (Non-Attained Courses)

The following courses recorded CO attainment below the target level and were categorized as *Not Attained*:

- Mathematics-I (Calculus and Linear Algebra)
- Mathematics-II
- Basic Electronics Engineering
- MOOCs / SWAYAM / NPTEL Courses-1
- Applied Thermodynamics
- Engineering Materials
- Fluid Mechanics
- Instrumentation & Control
- Strength of Materials
- Kinematics of Machines
- Operation Research

Major reasons identified:

- Low Semester End Examination (SEE) performance
- Conceptual difficulty in mathematically intensive and core mechanical subjects

- Inadequate student engagement in online / MOOCs courses
- Insufficient problem-solving practice
- Gap between prerequisite knowledge and course complexity

B. Measures Identified and Implemented for Improvement

1. Curriculum and Content Interventions

- Course contents were reviewed in the Department Academic Committee (DAC) meeting.
- Redistribution of syllabus units to ensure balanced coverage before SEE.
- Inclusion of additional numerical problems and real-life engineering examples in difficult units.
- Prerequisite concepts were revised at the beginning of the semester for Mathematics and core mechanical courses.

2. Pedagogical Initiatives

- Remedial classes were conducted for slow learners.
- Problem-based learning (PBL) and tutorial-oriented teaching adopted for Mathematics, SOM, Fluid Mechanics, and Kinematics of Machines.
- Use of ICT tools, simulation videos, and NPTEL resources to improve conceptual clarity.
- Regular doubt-clearing sessions before SEE examinations.

3. Assessment and Evaluation Improvements

- Question papers were reviewed to ensure better alignment of questions with COs.
- Increased weightage given to application-oriented questions in CIE.
- Continuous assessments redesigned to include more numerical and analytical problems.
- Timely feedback provided to students after each CIE component.

4. Support System Enhancements

- Mentoring and counseling of academically weak students through the faculty advisor system.
- Peer-learning groups formed to encourage collaborative learning.
- Monitoring of MOOCs course progress and periodic internal reviews.
- Motivation sessions conducted to improve student participation and seriousness towards online certification courses.

C. Impact of Corrective Actions

Corrective actions are expected to significantly improve CO attainment levels in the next assessment cycle

8.1.2 Actions Taken Based on the Results of Evaluation of the POs/PSOs Attainment (20)

Course Code	Course Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PSO	
													PSO- 1	PSO- 2
100101	Engineering Chemistry	3	2.2	1.75	2.25	1.8	1.67	1	1	1	0	2	3	2.2
100102	Engineering Mathematics I	3	2.8	2.2	0	2.2	0	0	0	0	0	0	2.8	2.2
100103	Communicative English	1	1.8	1	0	0	1	0	1	1.5	3	1	3	2.4
100104	Engineering Graphics and Design	2.6	1.6	2	0	3	0	0	0	0	2	0	2.6	1.8
100106	Basic Electrical Engineering	3	2.5	2.33	0	2	2	1	2	0	0	0	2.4	2.4
100201	Engineering Physics	3	2.4	2	0	2.2	0	0	0	0	0	0	2.6	2.4
100202	Engineering Mathematics II	3	2.4	1.6	1.8	1.8	1.2	0	0	0	0	2.2	2.8	2.6
100203	Programming for Problem Solving	3	2.8	2.25	0	3	0	0	0	0	0	0	2.8	2.2
100206	Workshop Practices	2	2	2	0	2	2	2	3	2	0	0	2.8	2.2
100204	Elements of Mechanical Engineering	2.8	2	0	2	0	3	0	0	0	0	0	2.6	2
102301	Engineering Mechanics	2.6	2.8	2	1.4	1.4	0	1	0	2	1.6	0	2.6	1.6
102302	Material Science and Engineering	2.6	2.6	2.5	2.5	2	0	2	1	0	0	0	2.8	2.2
102303	Mathematics III	2.6	2.8	0	2	2	0	0	0	0	0	0	2.4	2.6
102304	Thermodynamics	3	2.8	2	2	2.2	0	0	0	0	0	0	3	2.2
102305	Basic Electronics Engineering	1.4	2	1.75	2	2	0	0	0	0	1	0	0	2.2
102306	Universal Human Values	0	0	0	0	0	3	3	3	0	0	0	3	0
102307	Indian Knowledge System	0	0	0	0	0	1	1	0	0	0	1	1	1.5
PCC-ME 203	Fluid Mechanics	3	2.8	1.5	2.33	2	1	1	0	0	0	1.2	3	2.25
PCC-ME 204	Applied Thermodynamics	2.8	2.4	2	2.33	2.25	2	0	0	0	0	0	2	2.2
PCC-ME 205	Strength of Materials	3	2.8	2.5	2	0	0	0	0	0	0	2	3	3
PCC-ME 206	Engineering Materials	3	2.6	2	2	2	2	0	0	0	0	1.4	3	2.4
PCC-ME 207	Instrumentation and Control	2.8	2.8	2.5	2	2.25	0	0	0	0	0	0	2.4	2.6
MC-II	Environmental Science	0	0	0	0	0	2.6	3	2.4	1.33	0	2.4	1.2	1

PCC-ME 301	Heat Transfer	2.6	2.6	3	1.5	2	1	0	0	0	2	1.2	2.8	2
PCC-ME 302	Fluid Machinery	3	2.25	2	2	2	2	0	0	0	0	2	3	2.67
PCC-ME 303	Manufacturing Processes	3	2.2	2	2	2	0	1	0	0	0	0	2.4	2
PCC-ME 304	Kinematics of Machine	2.8	2.6	2	2	2.6	1	0	0	0	0	1.5	3	2.2
MC-III	Essence of Indian Knowledge Tradition	0	0	0	0	0	1	1	0	0	0	1	1	1.5
102601	Design of Machine Elements	3	2.8	2.8	2.6	2.6	2.4	3	2.5	2.33	2.5	2.4	3	2.4
102602	Dynamics of Machinery	2.8	2.6	2.4	1.5	1.4	2	0	0	0	0	2.2	3	2.2
102603	Manufacturing Technology	2.6	2.4	2.4	2	2	1	1	0	2	1.5	2	2.8	2.8
102605	Automation in Manufacturing	2.8	2.4	2.5	2	2.6	2	2	1	0	0	0	2.6	2.4
102609	Composite Materials	2.8	2.5	2.5	2	2	2	0	0	2	0	0	3	2.67
102610	Power Plant Engineering	3	3	3	2	2	1.5	2	2	1	2	1	3	1.5
102611	Renewable Energy Systems	1.8	2	3	0	0	0	3	0	0	0	0	2	1.67
102701	I. C. Engine	3	2.4	2.2	2.67	2	2	0	0	0	0	0	2.4	2
102702	Refrigeration and Air - Conditioning	3	2.6	2	2	1.8	1	0	0	0	0	1.25	3	2.2
102705	Automobile Engineering	3	2.4	2.2	1.8	2	1	1.4	1.2	1.4	2.2	1	2	3
102706	Operation Research	2.8	2.8	2.67	0	2	0	0	0	0	0	2	3	3
PEC-MEL 433	Total Quality Management	3	2.6	2	2	2	2	0	0	0	0	1.4	3	2.4
PEC-MEL 434	Energy Conservation and Management	2.6	2.6	1.75	1.75	2.6	3	0	0	0	1.5	3	2.4	3
OEC-ME 205	Non-Conventional Manufacturing	3	2.4	2.2	2	2.33	2	0	0	0	0	2	2.4	2
	Direct Attainment	2.74	2.72	2.42	2.73	2.18	1.84	1.76	1.87	1.77	2.02	1.78	2.59	2.24

The Program Outcome (PO) and Program Specific Outcome (PSO) attainment levels were analyzed based on course-wise CO attainment aggregated at the program level. The analysis helped in identifying areas of strength and areas requiring improvement, and suitable corrective and preventive actions were implemented over the last two years.

A. Identification of Areas of Weakness

Based on the direct attainment values, the following POs and PSOs were identified as comparatively low-attained and required improvement:

- **PO6 (The Engineer and the World)** – 1.84
- **PO7 (Ethics Environment and Sustainability)** – 1.76
- **PO8 (Individual and Collaborative Team Work)** – 1.87
- **PO9 (Communication)** – 1.77

- **PO11 (Life Long Learning)** – 1.78

Key reasons identified:

- Limited integration of societal, environmental, ethical, teamwork, and communication aspects in early semesters
- Fewer assessment components explicitly mapped to PO6–PO9 and PO11
- Inadequate exposure to multidisciplinary teamwork and professional communication practices
- Limited emphasis on self-directed learning and continuous professional development

B. Measures Identified and Implemented (During Last Two Years)

1. Curriculum-Level Interventions.

- Strengthening of project-based learning and interdisciplinary course components to address PO6, PO7, and PO8.
- Revision of course plans to explicitly map learning activities and assessments with PO6–PO11.
- Introduction of open electives, MOOCs, and value-added courses to promote lifelong learning (PO11).

2. Pedagogical Initiatives

- Adoption of team-based learning, group assignments, and collaborative mini-projects to enhance PO8.
- Discussions on ethical issues, sustainability, and societal challenges in engineering practice.
- Student seminars, technical presentations, and report writing activities to strengthen PO9 (Communication).
- Encouragement of self-learning through NPTEL, SWAYAM, certifications, and workshops to support PO11.

3. Assessment and Evaluation Improvements

- Inclusion of open-ended, application-oriented, and reflective questions in CIE and SEE.
- Periodic review of PO attainment in Department Academic Committee (DAC) meetings.

4. Support System Enhancements

- Mentoring and monitoring of student teams through faculty advisors.
- Facilitation of access to online learning platforms and professional society activities to promote lifelong learning.

C. Impact of the Actions Taken

- Improved student awareness of ethical, environmental, and societal responsibilities.
- Enhanced teamwork and collaborative learning abilities.
- Better communication and presentation skills among students.
- Increased participation in self-learning and professional development activities.

The implemented actions are expected to improve attainment of PO6, PO7, PO8, PO9, and PO11 in subsequent assessment cycles.

8.2 Academic Audit and actions taken thereof during the period of Assessment (15)

The department has a well-defined academic audit system to ensure continuous monitoring, evaluation, and improvement of the teaching–learning process in line with Outcome-Based Education (OBE) practices. Academic audits are conducted periodically at the departmental and institutional levels.

Academic Audit Process

- Preparation of course files by faculty members including COs, CO–PO mapping, lesson plans, assessment tools, and sample evaluated scripts.
- Review of course delivery, assessment methods, and attainment levels by the Department Academic Committee (DAC).
- Monitoring of syllabus coverage, use of innovative teaching methods, and adherence to academic calendar.
- Review of feedback from students, alumni, and employers.

Actions Taken Based on Academic Audit

- Identification of gaps in CO and PO attainment and formulation of corrective actions.
- Revision of teaching plans and inclusion of additional tutorials and remedial classes for weak areas.
- Improvement in question paper setting to ensure better alignment with COs and POs.
- Adoption of online learning resources.
- Periodic follow-up on implementation of suggested actions in subsequent semesters.

The academic audit mechanism has contributed significantly to strengthening academic quality and fostering a culture of continuous improvement within the department.

8.3 Improvement in Faculty Qualification/Contribution (15)

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23)
No. of faculty members with Ph.D. degree	2.00	2.00	1.00
No. of publications in peer reviewed journals	4.00	4.00	9.00
No. of publications in conferences	0.00	0.00	0.00

8.4 Improvement in Academic Performance (10)

Academic Performance	CAYm1 (2024-25)	CAYm2 (2023-24)	CAYm3 (2022-23
Academic Performance Index (API) of the First-Year Students in the Program (Refer to section 4.3)	2.02	5.96	3.40
Academic Performance Index of the Second-Year Students in the Program (Refer to section 4.4)	4.64	5.22	4.64
Academic Performance Index of the Third Year Students in the Program (Refer to section 4.5)	4.28	5.97	5.20

9 STUDENT SUPPORT AND GOVERNANCE (120)

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

Please provide First year faculty information considering load

Name of the faculty member	PAN No.	Qualification	From Engineering Courses	Date of Receiving Highest Degree	Area of Specialization	Designation	Date of joining	Currently Associated (Yes / No)	Nature Of Association (Regular / Contract)	Date Of leaving(In case Currently Associate is 'No')
Ajit Kumar Cha	AXVPC1086C	M.Tech	Yes	17/04/2012	Mechanical Engineering	Assistant Professor	05/02/2018	Yes	Regular	
Pankaj Kumar	FJTPK7642R	M.Tech	Yes	29/03/2019	Production Technology	Assistant Professor	12/05/2023	Yes	Regular	
Guddi Kumari	CALPK9406P	M.Tech	Yes	16/12/2015	Mechatronics Engineering	Assistant Professor	24/04/2023	Yes	Regular	
Navneet Kuma	CWOPS7262J	M.Tech	Yes	22/06/2020	Maintenance Engineering and Tribology	Assistant Professor	18/04/2023	Yes	Regular	
Avinash Kumar	DIRPK3886C	M.Tech	Yes	11/08/2020	POWER SYSTEM	Assistant Professor	07/06/2023	Yes	Regular	
Jitendra Kumar	DNUPK1907G	M.Tech	Yes	17/06/2021	Computer Network	Assistant Professor	08/04/2024	Yes	Regular	
Shakti Deo	DNVPK8220F	M.Tech	Yes	18/08/2016	Information Technology	Assistant Professor	23/03/2024	Yes	Regular	
Sachindra Kum	BRWPK2704H	M.Tech	Yes	15/06/2011	Design of Mechanical Equipment	Assistant Professor	18/01/2018	Yes	Regular	
Dr Abhishek Sh	BAMPS5005C	M.Tech and Ph.D.	Yes	18/06/2016	Thermal	Associate Professor	22/09/2023	Yes	Regular	
Aneesh Kumar	ERKPP3952F	MA	No	07/05/2005	English Language and Literature	Assistant Professor	06/10/2023	Yes	Regular	
Bharti Kumari	CRUPK9389P	M.Tech	Yes	01/10/2013	Refrigeration and Air Conditioning And Heat Transfer	Assistant Professor	18/01/2018	Yes	Regular	
Sarika Kumari	IWZPK0681J	M.Tech	Yes	09/10/2020	Manufacturing Technology	Assistant Professor	21/04/2023	Yes	Regular	
Dr. Mithilesh Ku	AQFPS2068D	M.Tech and Ph.D.	Yes	30/04/2002	Production	Professor	20/01/2023	No	Regular	31/07/202
Vicky Kumar	DMWPK6308A	M.Tech	Yes	11/08/2020	Power System	Assistant Professor	07/06/2023	Yes	Regular	
Dr. Rupam Yad	BCQPY7003Q	M.Sc. and Ph.D. (Chemistry)	No	08/08/2018	Chemistry	Assistant Professor	06/11/2023	Yes	Regular	
Aditya Raj	BFRPR7784F	M.Tech	Yes	31/07/2016	Water Resources Engineering	Assistant Professor	01/11/2022	Yes	Regular	
Dr. Umesh Cha	AKTPC9963F	M.Tech and Ph.D.	Yes	30/10/2023	POWER ENGINEERING	Assistant Professor	07/06/2023	Yes	Regular	
Aditya Ranjan	BEGPR3298C	M.Tech	Yes	15/07/2019	VLSI Design Automation and Technique	Assistant Professor	12/01/2023	Yes	Regular	
Dr. Shambhu S	BPWPB4515F	M.Tech and Ph.D.	Yes	14/06/2019	Software Engineering	Assistant Professor	25/06/2018	Yes	Regular	
Dr. Ghanshyan	CTOPP9937N	M.SC. (Mathematics) and PhD	No	27/08/2017	Finsler Geometry	Assistant Professor	03/11/2023	Yes	Regular	
Dr. Anurag Tiw	AOMPT8855Q	M.Tech and Ph.D.	Yes	31/08/2024	Multilevel invertor Based Renewable Energy	Assistant Professor	26/06/2023	Yes	Regular	
Dr. Atul Kumar	AVEPT6148F	Ph.D	No	02/11/2019	Non linear Partial Differential Equation	Assistant Professor	03/11/2023	Yes	Regular	

Rakesh Kumar	CRHPK0897F	M.Tech	Yes	22/06/2020	Engineering Geology	Assistant Professor	18/03/2023	Yes	Regular	
Dharmendra Si	ICJPS8396L	M.Tech	Yes	27/07/2017	Transportation Engineering	Assistant Professor	04/11/2022	Yes	Regular	
Dr. Sudhir Kum	CRATP5348D	Ph.D	Yes	24/09/2025	IDS With Machine Learning	Assistant Professor	25/06/2018	Yes	Regular	
Abhishek Chou	BCGPC9671J	M.Tech	Yes	18/06/2020	Structural Engineering	Assistant Professor	26/10/2022	Yes	Regular	
Dr. Kumari Priti	BWEPP7632N	Ph.D	No	07/12/2018	Organic Chemistry	Assistant Professor	28/08/2019	Yes	Regular	
Soniya Rohhila	BQTPR5610R	M.Tech	Yes	07/06/2016	Computer Science And Engineering	Assistant Professor	10/05/2024	Yes	Regular	
Vaibhav Mishra	BVNPM4462M	M.Tech	Yes	15/09/2019	Construction Technology and Management	Assistant Professor	01/11/2022	Yes	Regular	
Dr. Zafar Ayub	AQLPA7260K	Ph.D	Yes	20/01/2025	Control System	Assistant Professor	18/07/2017	Yes	Regular	
Raushan Raj	BYIPR1807D	M.Tech	Yes	15/06/2022	Computer Network	Assistant Professor	05/08/2024	Yes	Regular	
Dr. Ghanshyan	CTOPP9937N	M.SC. (Mathematics) and PhD	No	27/08/2017	Finsler Geometry	Assistant Professor	16/01/2018	No	Contractual	30/09/202
Aneesh Kumar	ERKPP3952F	MA	No	07/05/2005	English Language and Literature	Assistant Professor	15/10/2018	No	Contractual	30/09/202
Chanchal Sum	JUPPS4916B	Ph.D	Yes	12/09/2022	Natural Language Processing And Deep Learning	Assistant Professor	14/09/2022	No	Regular	05/08/202
Amar Kumar	GOKPK0187N	M.Tech	Yes	01/06/2020	Water Resources	Assistant Professor	12/11/2022	No	Regular	19/08/202
Jitendra Kumai	ATNPK6644E	M.Tech	Yes	19/06/2012	Refrigeration and Air Conditioning And Heat Transfer	Assistant Professor	20/04/2023	Yes	Regular	

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)	Pe fac ((N (NS rec Pe +(N
2023-24(CAYm2)	300	15	1	24	37
2024-25(CAYm1)	360	18	5	29	54
2025-26(CAY)	360	18	5	26	51
				Average Percentage	47.63

9.2 Mentoring system (5)

Institute Marks : 5.00

The institution has a well-structured and effectively implemented mentoring system aimed at the academic, professional, and personal development of students.

Type of Mentoring

The mentoring system supports:

- Academic mentoring (course work and performance improvement)
- Professional guidance and career advancement
- Laboratory and project-specific mentoring
- All-round development (ethical values, communication skills, emotional support)

Mentor–Mentee Structure

- Number of students per mentor: 20 students
- Duration of mentoring: From admission till graduation
- Mentor allotment: Done at the beginning of the academic year

Additionally, final-year students act as peer mentors to first-year students for academic and social adaptation.

Frequency of Mentoring Meetings

- Minimum 2–3 meetings per semester
- Additional meetings conducted before examinations, during internship/project phases, and on-demand for students requiring special attention.

Mode of Mentoring

- Offline (Physical): One-to-one and group mentoring sessions
- Online: WhatsApp communication for continuous support

Mentoring Activities

- Monitoring of:
  - Attendance and academic performance
  - Laboratory work and project progress
  - Participation in internships, workshops, and competitions
- Guidance for:
  - Career paths (GATE, higher studies, placements, entrepreneurship)
  - Internship and project selection
  - Soft skills and professional ethics
- Counselling support for:
  - Slow learners and advanced learners
  - Personal, emotional, or stress-related issues (with referral when needed)

Documentation and Implementation

- Mentoring registers maintained by faculty mentors
- Action taken reports for identified academic or personal issues
- Records of student progress, remedial actions, and outcomes are maintained in course files / department records

Effectiveness and Impact

The effectiveness of the mentoring system is assessed through:

- Improved academic performance and retention rates
- Reduction in backlogs and absenteeism
- Increased student participation in:
  - Internships and industry projects
  - Competitive exams (GATE, higher studies)
  - Co-curricular and extracurricular activities
- Student feedback surveys indicating improved confidence and clarity in career planning

  Support for Senior–Junior Mentoring
- Final-year students mentor juniors regarding:
  - Subject preparation strategies
  - Laboratory practices
  - Project selection and execution
  - Campus culture and professional conduct

Outcome of Mentoring System

The mentoring system has contributed to:

- Holistic development of students
- Enhanced academic outcomes

- Better career readiness and professional behavior
- Strong faculty–student relationship

9.3 Feedback Analysis (10)

9.3.1 Feedback on Teaching and Learning Process and Corrective Measures Taken, if any (10) Institute Marks : 10.00

The institution has a structured, transparent, and continuous feedback mechanism to evaluate and improve the teaching–learning process and academic facilities, ensuring continuous quality enhancement.

Feedback Collection Process

- Feedback is collected every semester from students of the Mechanical Engineering program.
- Feedback is taken using:
  - Forms
  - Structured questionnaires
- Feedback parameters include:
  - Clarity of teaching
  - Subject knowledge
  - Teaching methodology
  - Use of ICT tools
  - Interaction and doubt-clearing
  - Evaluation transparency

Student Participation

- Average student participation: 85–95% per semester
- Feedback collection is anonymous to ensure honest responses.

Feedback Analysis Process

- Feedback data is:
  - Compiled by the IQAC / Academic Cell
  - Analyzed statistically to identify:
    - § Strengths
    - § Areas needing improvement
- Faculty-wise and course-wise analysis reports are generated.

Corrective Measures and Rewards

Based on analysis:

- Corrective Measures
  - Counseling and mentoring of concerned faculty
  - Pedagogical training / FDP participation
  - Use of alternative teaching methods (videos, simulations, case studies)
  - Assignment redesign and additional tutorials
- Rewards
  - Appreciation letters
  - Recognition during faculty meetings
  - Consideration in performance appraisal

Number of Corrective Measures

- Faculty counselled
- Additional tutorial classes introduced
- FDPs attended after feedback
- Teaching methodology modified

Evidence of Analysis

- Feedback summary reports
- Action taken reports

Impact

- Improved student satisfaction
- Enhanced classroom engagement
- Improvement in course attainment levels

9.3.2 Feedback on Academic Facilities (10) Institute Marks : 10.00

Feedback Collection Process

- Feedback on facilities is collected annually from students covering:
  - Laboratories
  - Classrooms
  - Library
  - Computing facilities
  - Internet and software access
- Suggestion boxes are used

Feedback Analysis

- Feedback is reviewed by:
  - Department Advisory Committee
  - IQAC
- Issues are categorized as:
  - Immediate
  - Short-term
  - Long-term

Corrective Actions Taken

- Upgradation of laboratory equipment
- Purchase of additional textbooks and e-resources
- Improvement in Wi-Fi connectivity
- Installation of licensed software (AutoCAD, SolidWorks, ANSYS)

Impact

- Improved lab utilization
- Better access to learning resources
- Enhanced student satisfaction

9.4 Training and Placement Support (10)

Institute Marks : 10.00

The institute provides structured training and placement support to prepare Mechanical Engineering students for employment, internships, and higher studies.

Training and Placement Cell (TPC)

- Dedicated Training and Placement Cell
- Works in coordination with the Mechanical Engineering Department

Calendar of Training Programs

- Aptitude and reasoning training
- Technical training (Core Mechanical subjects)
- Soft skills and communication training
- Resume writing and interview skills
- Mock tests and mock interviews

Career Guidance Activities

- Career counselling sessions
- Guidance for:
  - Higher studies (GATE, M.Tech, MS)
  - Competitive exams
  - Entrepreneurship

Industry Interaction

- Industrial visits
- Guest lectures by industry experts
- Industry-sponsored projects
- Internship facilitation

Support for Higher Studies

- GATE orientation programs
- Alumni interaction sessions
- Recommendation and mentoring support

Effectiveness

- Increase in internship participation
- Improved placement percentage
- Students admitted to higher studies

9.5 Start-up and Entrepreneurship Activities (5)

Institute Marks : 5.00

The institute encourages innovation and entrepreneurship among Mechanical Engineering students through structured initiatives.

Initiatives and Facilities

- Innovation and Entrepreneurship Cell (IIC)
- Incubation support (in-house)
- Workshops on:
  - Design thinking
  - Start-up ecosystem
  - Intellectual Property Rights (IPR)

Student Activities

- Mini projects with innovative focus
- Participation in hackathons and competitions

Start-up / Innovation Programs

S. N.	PO/PSO as gap Identified	Name of the event	Date of event	Resource person, organization	Relevance to POs, PSOs
CAYm1(2024-25)					
1		Smart India Hackathon	3/09/2024	PRINCIPAL, LNJPIT CHAPRA	PO6, PO8, PO9
2		National Youth Festival	04/10/2024	Art,Culture,and Youth Department (District Nodal Officer) And Nehru Yuva Kendra Sangathan (District Youth Officer), Organization-LNJPIT CHAPRA	PO8, PO9
3		Startup Vyapar	31/05/2025	Startup Cell, LNJPIT Chapra	PO6, PO7, PO8, PO9, PO10, PO11
4		World creativity & innovation day	21/04/2025	Startup Cell, LNJPIT Chapra	PO6,PO7,PO8,PO9, PO11
5		Webinar on Startup Membership & Entrepreneurship	10/03/2025	Startup Cell, LNJPIT Chapra	PO6, PO7, PO8, PO9, PO10, PO11
6		National Science Day	28/02/2025	Startup Cell, LNJPIT Chapra	PO6
7		National Startup Day	16/01/2025	Startup Cell, LNJPIT Chapra	PO6, PO7, PO8, PO9, PO11
8		Planning and organizing a National Science Day	27/02/2025	Startup cell, LNJPIT Chapra	PO6

9		Planning and organizing a webinar on mushroom Cultivation	21/02/2025	Startup Cell, LNJPIT Chapra	PO6, PO7, PO10, PO11
10.		Planning and organizing a outreach Program	07/02/2025	Startup Cell, LNJPIT Chapra	PO6, PO10, PO11
11		Planning and organizing a virtual event designed to empower guide India based startups on their entrepreneurial Journey	24/01/2025	Startup cell, LNJPIT Chapra	PO6, PO7, PO10, PO11
12		Planning and organizing a National Youth Day	12/01/2025	Startup cell, LNJPIT chapra	PO3, PO10, PO11
CAYm2(2023-2024)					
1		SIH	23/09/2023	PRINCIPAL, LNJPIT CHAPRA	
2		Planning and organizing logo Design Competition	18/11/2024	Startup Cell, LNJPIT Chapra	PO6, PO8, PO10, PO11
3		Startup cell Lnjpit Chapra organised BT alks on topic-The role of communicati on for startup with collaboration of CIMP BIIF INNOVATION	26/12/2024	Startup cell, LNJPIT Chapra	PO6, PO10, PO11
4		Startup cell Lnjpit Chapra organized 3 days coding camp Program on with collaboration of skill Darpan	20 to 22/12/2024	Startup Cell, LNJPIT Chapra	PO1, PO2, PO3, PO5, PO10

Beneficiaries

- Innovative projects developed: 3
    1. Multi-grain millet cookies
        - Ø Shreekant Prasad (Branch: FPP)
    2. Rented Home
        - Ø Rishu Ranjan (Branch: EEE)
    3. Makhana Oats
        - Ø Aniket Kumar ((Branch: FPP)
- Student start-ups initiated: 4
- Patents filed: 1

Effectiveness

- Increased student interest in innovation
- Practical exposure to entrepreneurship
- Development of problem-solving and leadership skills

9.6 Governance and Transparency (25)

9.6.1 Governing Body, Administrative Setup, Functions of Various Bodies, Service Rules, Recruitment procedures and Promotion Policies (10)

Institute Marks : 10.00

Grievance Redressal Committee

Responsibility	Means of verification
Dr. Mithilesh Singh	Letter no: 1005 Dated 10/01/2024
Dr. Anant Kuma	
Dr. Abhishek Sharma	
Mr. Sachindra Kumar	
Dr. S.S. Bharti	
Mr. Aditya Raj	
Mr. Sahil Kumar	

Anti- Ragging Committee

Responsibility	Means of verification
Dr. Abhishek Sharma	Letter no: 1004 Dated 10/01/2024
Mr. Z.A. Ansari	
Mr. Sachindra Kumar	
Mr. Ajit Kr. Chauhan	
Dr. Rupam Yadav	
Dr. S.S. Bharti	
Mr. Aditya Raj	

Internal Complaint Committee

Responsibility	Means of verification
Dr. Chanchal Suman	Letter no: 1008 Dated 10/01/2024
Dr. Rupam Yadav	
Dr. Kumari Preeti	
Miss. Sarika Kumari	
Miss. Anjali Tiwari	
Miss. Anisha Praveen	
Miss. Amisha Singh	

Sexual Harassment Committee

Responsibility	Means of verification
Dr. Chanchal Suman	etter no: 1007 Dated 10/01/2024
Dr. Kumari Preeti	
Dr. Rupam Yadav	
Miss. Sarika Kumari	
Miss. Alka Kumari	
Dr. Chanchal Suman	
Dr. Kumari Preeti	

Social Media Cell

Responsibility	Means of verification
Mr. Vaibhav Mishra	Letter no: 380 Dated 19/10/2023
Mr. Amar Kumar	
Dr. Ghanshyam Prajapati	
Dr. Umesh Choudhary	
Mr. Sudhir Kr. Pandey	
Miss Surbhi	
Mr. Aryan Chouhan	
Ms. Nudrat Mallika	

SC-ST Committee

Responsibility	Means of verification
Mr. Sachindra Kumar	Letter no: 337 Dated 20/05/2023
Mr. Rakesh Kumar	
Mr. Amar Kumar	
Mr. Bharti Kumari	
Mr. Aditya Ranjan	

Equal Opportunity Facilitation Cell (EOFC)

Responsibility	Means of verification
Mr. Z.A. Ansari	Letter no: 410 Dated 03/05/2024

9.6.2 Transparency (5) Institute Marks : 5.00

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A	**B**	**C**	**D**	**E**	**F**	**G**	**H**
I	Institute Development Society	Registration of the Institute Development Society	Onetime	Dr. Abhishek Sharma & Mr. Aditya Raj	20/06/2024	Registration certificate of the society	
		Meeting of the General Body	Yearly		Yearly	Minutes of the meeting	
		Meeting of the Executive committee	Quarterly		Quarterly	Minutes of the meeting	
II	Consultancy Policy	Disclosure the details of Research Projects/Consultancy works undertaken	Yearly	Dr. Abhishek Sharma & Mr. Aditya Raj	Letter No-128 Dated 28/02/2024	Copy of the document and online verification	
		Submission of requirement and procurement of equipment's Category ii: Testing Consultancy	Onetime/As per requirement	Dr. Abhishek Sharma &Mr. Aditya Raj, Mr. Dharmendra Singh	Letter No-382 Dated 30/04/2024	Proposal by the institutes to the department and procurement of goods based on agreed specifications	
		Civil	As per requirement		Letter No-382 Dated 30/04/2024		
III	Additional Infrastructure (Hostel/Auditorium/etc), Suitability certificate, satellite map, etc.	Identification of additional land (if required)	Onetime	Mr. Z.A Ansari & Dr. S.S Bharti	No additional land needed Infrastructure such as Auditorium, Faculties and Staff residential, Library, Administrative block, Class room, computer centre Letter No-408 Dated 03/05/2024	Paper of the land with authorization	
		Submission of proposal to the Department	Onetime	Mr. Z.A Ansari & Dr. S.S Bharti	15/06/2024	NA	
		In case the building is more than 30 years from issue of completion, then structural suitability certificate	Yearly		N.A	Copy of suitability certificate and proof of uploaded document on AICTE portal	
		Satellite map, showing geographical location of the land with latitude and longitude at the entrance of the main building mentioned on it.	Onetime	Mr. Z.A Ansari & Dr. S.S Bharti	NA	https://earth.google.com/web/search/Loknayak+Jai+Prakash+Institute+of+Technology,+Jai+Prakash+University,+Chapra,+Bihar/@25.78194273,84.78996973,74.22860422a,840.62825847d,35y,11.4098245h,0t,0r/data=CigiJgokCTuGJ2N6Iy1AETGGJ2N6Iy3AGdKe 1z2wxzIAIQZ1DX7-VFDA	
IV	Bio-matric Attendance	Equipment required for face recognition (if any)	Onetime	Dr. Chanchal Suman	NA	Already Done	

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A	**B**	**C**	**D**	**E**	**F**	**G**	**H**

V	Internet & Wi-Fi	Establishment of Networking Facilities	Onetime	Dr. S.S. Bharti & Dr. Abhishek Sharma Mr. Anurag Tiwari	Floating the tender, (07/06/2024) Awarding Contract 10/07/2024 Functional Networking Facilities in the institute 30/08/2024	Installation Certificate and physical verification	
		Establishment of Wi-fi set up	Onetime	Dr. S.S. Bharti & Dr. Abhishek Sharma Mr. Anurag Tiwari	Floating the tender, (07/06/2024) Awarding Contract 10/07/2024 Functional Wi- Fi Set-up in the institute 30/08/2024	Installation Certificate (Proof of Provision of internet bandwidth in Mbps) and physical Verification	
VI	Skill Development	Setting a dedicated language lab	Onetime	Mr. Aneesh Kumar MP	Sanako & Spears language lab software has been installed in 42 Systems Remaining 8 systems, software and headsets are in the process of procurement	Installation certificate and physical verification	
		Mechanism for earning credits through 'skilling ' based courses	Regular	All HODs	Skill India, Ministry of skill development and Entrepreneurship	A copy of the list of students and courses and online verification	
		List down the programs implemented in the institutes for the skills upgradation of the student	Regular	All HODs	SOLAR PANEL INSTALLATION (Online mode) Deadline 20/06/2024	A copy of the list of students and courses and online verification	
		List down the programs implemented in the institutes for skills upgradation of the faculty	Regular	All HODs	Deadline 20/06/2024	A copy of the list of students and courses and online verification	
VII	Procurement of goods/ equipment (with details requirement to be procured)	Computer	One time /As per requiremen t	All HODs	Oct, Nov 2024	Purchase order, installation certificate and physical verification	
		Furniture	One time /As per requiremen t	All HODs	Oct 2024	Do	
		Lab Equipments	One time /As per requiremen t	All HODs	Dec 2024	Do	

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A	B	C	D	E	F	G	H
VIII	Constitution of cell/committee and organizing meeting	Industry Institute cell	Onetime	Dr. Mithilesh Kumar Singh Mr. Amar Kumar Miss. Guddi Kumari	Yes	Letter no: 330 Dated 20/05/2023	
		Meeting of industry institute cell	As Planned	TPO & Department Co-ordinator	Monthly	Minutes of the meeting	
		MoU with the industry	Onetime/ As per requirement	TPO & Department Co-ordinator	03 (three) Letter no: 425 Dated 07/05/2024	Available	
		Innovation cell	Onetime	Start-up cell	Yes	Letter no: 958 Dated 26/12/2023	
		Meeting of Innovation cell	As Planned	Start-up Cell	15 days	Available	
		Placement cell	Onetime	TPO & Department Co-ordinator	Yes	Letter no: 524 Dated 14/07/2023	
		Meeting of placement cell	As Planned	TPO & Department Co-ordinator	Monthly/ As per need	Available	
		Start-up cell	Onetime	Start-up Cell	Yes	Letter no: 958 Dated 26/12/2023	
		Meeting of the start-up cell	As planned	Start-up Cell	15 days	Available	
		Establishment of Anti Ragging Committee	Onetime	Dr. Abhishek Sharma Mr. Z.A. Ansari Mr. Sachindra Kumar Mr. Ajit Kr. Chauhan Dr. Rupam Yadav Dr. S.S. Bharti Mr. Aditya Raj	Yes	Letter no: 1004 Dated 10/01/2024	
		Meeting of Anti Ragging Committee	As Planned	do	Monthly/ As per need	Available	
		Online Grievance Redressal Mechanism	Onetime	Mr. Jitendra Kumar (CSE) IT Cell	Yes	https://www.lnjpitchapra.in (http://www.lnjpitchapra.in/)	

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A	B	C	D	E	F	G	H

IX	Faculty /Staff/Students	Grievance Redressal Committee	Onetime	Dr. Mithilesh Singh Dr. Anant Kumar Dr. Abhishek Sharma	Yes	Letter no: 1005 Dated 10/01/2024	
				Mr. Sachindra Kumar			
				Dr. S.S. Bharti			
				Mr. Aditya Raj			
				Mr. Sahil Kumar			
		Meeting of Grievance Redressal Committee	As planned	Dr. Abhishek Sharma	Quarterly/ As per need	Available	
		Social Media Cell	Onetime	Mr. Vaibhav Mishra Mr. Amar Kumar	Yes	Letter no: 380 Dated 19/10/2023	
				Dr. Ghanshyam Prajapati			
				Dr. Umesh Choudhary			
				Mr. Sudhir Kr. Pandey			
				Miss Surbhi			
				Mr. Aryan Chouhan			
				Mr.Nudrat Mallika			
		Meeting Social media cell	As planned	Mr. Vaibhav Mishra	Monthly/ As per need	Available	
		Internal Committee(IC)	Onetime	Dr. Chanchal Suman Dr. Rupam Yadav Dr. Kumari Preeti	Yes	Letter no: 1008 Dated 10/01/2024	
				Miss. Sarika Kumari			
				Miss. Anjali Tiwari			
				Miss. Anisha Praveen			
				Miss. Amisha Singh			
				Miss. Ruchika Raj			
				Mr. Sahil Kumar			
		Meeting of Internal Committee(IC)	As planned	Dr. Kumari Preeti	Monthly/ As per need	Available	
		Establishment of Committee for SC/ST	Onetime	Mr. Sachinder Kumar Mr. Rakesh Kumar Mr. Amar Kumar	Yes	Letter no: 337 Dated 20/05/2023	
				Mr. Amar Kumar			
				Mr. Bharti Kumari			
				Mr. Aditya Ranjan			
		Meeting of Committee for SC/ST	As planned	Mr. Sachinder Kumar	Monthly/ As per need	Available	

		Internal Quality Assurance Cell	Onetime	Dr. Abhishek Sharma Mr. Z. A.Ansari Dr. S.S. Bharti	Yes	Letter no: 1006 Dated 10/01/2024	
				Mr. Ajit Kumar Chauhan			
				Mr. Aditya Raj			
				Mr. Sachindra Kumar			
		Meeting of Internal Quality Assurance cell	As planned	Dean (A) & All HODs	Monthly/ As per need	Available	
		Sexual harassment committee	Onetime	Dr. Chanchal Suman Dr. Kumari Preeti Dr. Rupam Yadav	Yes	Letter no: 1007 Dated 10/01/2024	
				Miss. Sarika Kumari			
				Miss. Alka Kumari			
		Meeting of Sexual harassment committee	As planned	Dr. Kumari Preeti	Monthly/ As per need	Available	
		Equal Opportunity Facilitation Cell(EOFC)	Onetime	Mr. Z.A. Ansari	Yes	Letter no: 410	
						Dated 03/05/2024	
		Meeting of Equal Opportunity Facilitation Cell	As planned	Mr. Z.A. Ansari	Monthly	NA	

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A	**B**	**C**	**D**	**E**	**F**	**G**	**H**

X	Student /Faculty development al activities	Research Park	One time	Mr. Sudhir Pandey Dr. Umesh Choudhary Dr. Ghanshyam Prajapati Mr. Vaibhav Mishra Mr. Anurag Tiwari Mr.Ajit kr. Chouhan	Yes	Letter no: 394 Dated 30/04/2024	
		Student Clubs	One time	All HODs	Yes 6 Student Clubs functioning	Available	
		Student Incubator/Accelera tor Centre	One time	Start-up Cell	Deadline 15/07/2024	NA	
		Counsellor for psychological counselling related to Mental Health for Students, faculty and non-teaching faculty	One time/as per need	Mr. Sachindra Kumar & Mr. Sudhir Kr. Pandey Miss. Bharti Kumari Dr. Kumari Priti Mr. Aditya Ranjan Mr. Amar Kumar Dr. Chanchal Suman	Letter no: 338 Dated 20/05/2023	Available	

XI	Security and other amenities	Barrier Free Built Environment for disabled and elderly persons	One time/as per need	Dr. Rupam Yadav Dr. Kumari Priti Dr. Chanchal Suman Miss Sarika Kumari	Yes Letter no: 374 Dated27/04/2024	NA	
		Establishment of 24X7 women helpline number and a security system	One time	Dr. Rupam Yadav Dr. Kumari Priti Dr. Chanchal Suman Miss Sarika Kumari	Letter no: 374 Dated27/04/2024	-	
		First Aid, Medical and counselling facilities	One time/as per need	DSW	Yes		
		Dedicated Feeder for the Institute (if not installed)	One time	Mr. Z.A. Ansari & Dr. Umesh Chaudhary	Amount transfer Rs 12538306 to NBEDCL on date 20/03/2024	NA	
		Potable water supply and outlets for drinking water at strategic locations.	One time	Mr.Dharmendra Singh Mr. Abhishek Chaubey Mr. Harishanker	Yes Letter no: 656 A Dated 08/09/2023	Available	
		Sewage Disposal System -Waste Management	One time	Mr. Abhishek Chaubey Mr. Pankaj Kumar	Yes Letter no: 377 Dated29/04/2024	In process	
		Installing of CCTV Cameras at Vital Points	One time	Dr. S.S. Bharti & Dr. Abhishek Sharma Mr. Sachindra Kumar Dr. Kumari Priti Mr. Jitendra Kumar	In process Letter no: 33 Dated 02/02/2024 30/09/2024	NA	
		Hiring Services of a Security agency for the Institute	One time	Mr. Avinash Kumar & Mr. Jitendra Kumar	Yes Letter no: 387 Dated 30/04/2024	Available	
		Availability of Sanitary napkins through vending machines and ensure safe disposal	Always/Regular	Dr. Kumari Preeti	Deadline 10/06/2024	NA	

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A	**B**	**C**	**D**	**E**	**F**	**G**	**H**
XII	Admission	Effort for ensuring admission against the approved intake capacity	Yearly	Mr. Jitendra Kumar & Mr. Pankaj Kumar	In Process	NA	

XIII	Facilities as per norms	Books	Yearly /As per requirement	Mr. Anurag Tiwari Mr. Abhishek Kr. Paswan Mr. Shakti Deo Kumar Mr. Amar Kumar Mr. Anish Kumar MP Dr. Atul Kr. Tiwari Mr. Avinash Kumar	Number of Books :13700 Letter no: 393 Dated 30/04/2024	Invoice Available And physical verification done	
		Library (Including scanning facilities)	Yearly /As per requirement	Mr. Anurag Tiwari	deadline 15/07/2024	Done	
		Computer	Yearly /As per requirement	Dr. S.S Bharti	Available 270 70 To be procured	Done	
		Software (with a focus on Utilizing open source software)	Yearly /As per requirement	All HODs	10	Done	
		Laboratory/workshop	Yearly /As per requirement	All HODs	50/ 1	Done	
		Subscription of Journals	Yearly /As per requirement	Mr. Anurag Tiwari	Not available	NA	
		Availability of at least one smart class room per department	One time	All HODs	Yes	Done	
XIV	Account for operation	Opening & GPA account and operationalised	One time	Mr. Dharmendra Singh	Yes	Mapping still pending with Bank	
XV	Mandatory Certifications	Certificates pertaining to the Land/Building including occupancy Certificate	One time	Mr. Abhishek Chaubey Mr. Dharmendra Singh Mr. Harishankar	Yes	Available	
		Fire Safety Certificate	Yearly	Mr. Harishanker	in process 30/06/2024	NA	
XVI	Insurance and other	General Insurance (assets against fire, burglary and other calamities)	Yearly	Mr. Jitendra Kumar & Mr. Navneet Kumar	No Deadline 15/07/2024	NA	
		Students safety insurance and Group Accident Policy for the Employee	Yearly	Mr. Jitendra Kumar & Mr. Navneet Kumar	Deadline 15/07/2024 Letter no: Dated 16/03/2024	NA	
		Implementation of food safety and standards act, 2006	Yearly	Dr. S.S. Bharti	Regular visit by Wardens and hostel committee members	FSSAI Licence submitted by all mess and canteen vendors	

Department of Science, Technology & Technical Education, Bihar
Loknayak Jai Prakash Institute of Technology, Chapra, Bihar -841302
Annual Action Plan- 2024-25

Section	Component	Activities	Type of activity	Responsibility	Status/Plan/Time-line	Means of verification	Remarks(If any)
A	B	C	D	E	F	G	H
XVI I	Internship	Internship for all final year student	Yearly	All HODs	As per BEU, Patna	Done	
XVI II	Preparation related to NBA	Compliance on NBA team past visit	As per applicability	Dr. Abhishek Sharma & Mr. Aditya Raj	Under process Dec 2024	Available	
		Dedicated functional website	One time	Dr. Abhishek Sharma & Mr. Aditya Raj	Yes Letter no: 418-A Dated 04/05/2024	Available	
		Preparation of files (approx.43)	Regular	Dr. Abhishek Sharma & Mr. Aditya Raj	In process	In process	
XIX	Disclosure/Initiatives/Documentation/etc	Display of information submitted to AICTE	Yearly/As per requirement	Mr. Jitendra Kumar CSE	Yes Letter no: 418 Dated 04/05/2024	Done	
		Publication of magazine/newsletters/journal	Quarterly/yearly/ as planned	Mr. Aneesh Kumar MP & Mr. Anurag Tiwari	Quarterly	Done	
		Brochure	Yearly	Mr. Sudhir Kr. Pandey Dr.Kumari Preeti Dr. Ghanshyam Prajapati Mr. Vaibhav Mishra Mr. Anurag Tiwari Mr. Ajit kr. Chouhan	Letter no: 393 Dated 30/04/2024 Deadline: 15/06/2024	In process	
		Announce all Fees such as Tution free, Examination fee, etc	Yearly	Mr. Jitendra Kumar & Mr. Navneet Kumar	yes Letter no: Ex-54 Dated 29/04/2024	Done	
XX	Centre of Excellence (COE)Only for selected Govt. Polytechnic Institutes	Provide space for establishment of second phase	Immediate		Co-ordinate with IIT,Patna and mention the deadline	Copy of letter issued in this regard and physical Verification	
		Class in COEs first phase	Ongoing		Mention number of classes Planned	Copy of order issued for the planned classes	
		Organising hackathon at institute level	Yearly		Mention the timeline for organising hackathon at institute level	Photo/video of the hackathon	

XXI	Capacity Building and Extra Curricular Activities	Training to students (including Mandatory induction training)	Ongoing	Dr. Ghanashyam Prajapati	04 Deadline 15/09/2024	Copy of the Training report/s	
		Training for faculty	Ongoing	Dr. Abhishek Sharma	04 (Four) 1 week FDP program from each deptt.	NA	
		Workshop	Ongoing	Dr. Abhishek Sharma	03 (THREE) 1 week Workshop program from each deptt	NA	
		Seminar/Conference	Ongoing	Dr. Abhishek Sharma	(04) Seminar from each deptt. / one Conference by CSE during March 2025	Copy of the seminar report/s	

Department of Science, Technology & Technical Education, Bihar							
Loknayak Jai Prakash Institute of Technology, Chapra, Bihar -841302							
Annual Action Plan- 2024-25							
Section	**Component**	**Activities**	**Type of activity**	**Responsibility**	**Status/Plan/Time-line**	**Means of verification**	**Remarks (If any)**
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**

		Anti -Ragging Workshops	As planned	Dr. Abhishek Sharma & Mr. Z.A. Ansari	August 2024 September 2024 October 2024	NA	
		Fest/Events/Umang/etc.in the institute	As planned	Mr. Vaibhav Mishra Dr. Abhishek Sharma Mr. Aditya Raj Mr. Dharmendra Sinngh Mr. Avinash Kumar Dr. Roopam Yadav Dr. S.S. Bharti	Letter no: 774 Dated 19/10/2023 College level fest: 15-20/10/2024 Divisional Level: 12-15/12/2024 State Level: 10-15/02/2025	Available	
		Student Feedback system	Yearly	Dean & All HODs	YES	Available	
XXII	Pahal	Pahal Classes started by the institute	As per roaster	Dr. S.S. Bharti & Dr. Ghanashyam Prajapati	YES	Available	
		Number of Classes proposed (each standard)	As planned	Dr. S.S. Bharti & Dr. Ghanashyam Prajapati	240 hrs per standard (9,10,11 & 12)		
		IEC activities proposed	As planned	Dr. S.S. Bharti & Dr. Ghanashyam Prajapati	Visit nearby school, official notice regarding Pahal classes send to DEO	Copy of the report for the IEC activities submitted to college office	
XXIII	Submission of reports	Performance on Objective Parameters(POP)	Monthly	Dr. Chanchal Suman	Monthly	Available	
XXIV	Cases and charges against institute	Pending Court cases(if any)	Immediate	Mr. Jitendra Kumar & Mr. Sachindra Kumar	Number of cases 03 March 2025	In College Office	
		Pending Serious Charges and violation of norms	Immediate	Mr. Jitendra Kumar & Mr. Sachindra Kumar	Nil	NA	
		Pending Ragging cases	Immediate	Mr. Jitendra Kumar & Mr. Sachindra Kumar	Nil	NA	
XXV	Financial Reporting	Submission of Utilization against Expenditure	Quarterly	Mr. Jitendra Kumar & Mr. Dharmendra Singh	Quarterly	Available	
		Audited statement of accounts of the society of the previous year.	Yearly		Yearly	Available	

9.7 Budget Allocation, Utilization, and Public Accounting at Institute Level (12)

:

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)

Table 1 - CFY 2024-2025

Total Income 132985931				Actual expenditure(till…):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
16073181	116912750	0	0	78291577	396	197706.00

Table 2 - CFYm1 2023-2024

Total Income 121234221				Actual expenditure(till…):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
13105064	108129157	0	0	104702549	396	264400.38

Table 3 - CFYm2 2022-2023

Total Income 144834909				Actual expenditure(till…):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
20147461	124687448	0	0	116612978	330	353372.66

Table 4 - CFYm3 2021-2022

Total Income 93844187				Actual expenditure(till…):	Total No. Of Students	Expenditure per student
Fee	Govt.	Grants	Other sources(specify)			
9577631	84266556	0	0	74404068	264	281833.59

Items	**Budgeted in 2024-2025**	**Actual Expenses in 2024-2025 till**	**Budgeted in 2023-2024**	**Actual Expenses in 2023-2024 till**	**Budgeted in 2022-2023**	**Actual Expenses in 2022-2023 till**	**Budgeted in 2021-2022**	**Actual Expenses in 2021-2022 till**
Infrastructure Built-Up	205200(	697358	145000(	1437082	975000	971288	1198000	1173233
Library	120000(	0	120000(	120000	100000(	998394	100000(	197153
Laboratory equipment	222000(	884682(	2459281	2326547	325000(	3231983	130000(	1108341
Teaching and non-teaching stal	778057!	6085744	6790063	6768557	6017414	5365611	5509193	4984324
Outreach Programs	0	0	0	0	0	0	0	0
R&D	0	0	0	0	0	0	0	0
Training, Placement and Indust	0	0	0	0	0	0	0	0
SDGs	0	0	0	0	0	0	0	0
Entrepreneurship	0	0	273364(	522684	200000	129282	0	0
Others, specify	0	0	0	0	0	0	0	0
Total	**103257750**	**70401619**	**97877093**	**93030821**	**94849142**	**88074915**	**70289936**	**62297044**

9.8 Program Specific Budget Allocation, Utilization (8)

:

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)

Table 1 :: CFY 2024-2025

Total Budget 3981000		Actual expenditure (till…): 3981000		Total No. Of Students 189
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
3981000	3981000	3981000	100	21063.49

Table 2 :: CFYm1 2023-2024

Total Budget 1623241		Actual expenditure (till…): 1623241		Total No. Of Students 177
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
1623241	1623241	1623241	100	9170.85

Table 3 :: CFYm2 2022-2023

Total Budget 3225208		Actual expenditure (till…): 3225208		Total No. Of Students 195
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
3225208	3225208	3225208	100	16539.53

Table 4 :: CFYm3 2021-2022

Total Budget 893989		Actual expenditure (till…): 893989		Total No. Of Students 214
Demanded	Actual Allocated	Actual Expenditure	% Spent	Expenditure per student
893989	893989	893989	100	4177.52

Items	Budgeted in 2024-2025	Actual Expenses in 2024-2025 till	Budgeted in 2023-2024	Actual Expenses in 2023-2024 till	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till
Laboratory equipment	398100(	398100(	925000	925000	2998294	2998294	729208	729208
Software	0	0	474247	474247	0	0	0	0
SDGs	0	0	0	0	0	0	0	0
Support for faculty developmen	0	0	0	0	0	0	0	0
R & D	0	0	0	0	0	0	0	0
Industrial Training, Industry exp	0	0	0	0	0	0	0	0
Miscellaneous Expenses*	0	0	223994	223994	226914	226914	164781	164781
Total	**3981000**	**3981000**	**1623241**	**1623241**	**3225208**	**3225208**	**893989**	**893989**

9.9 Quality of Learning Resources (Hard/Soft) (5)

Institute Marks : 5.00

The Mechanical Engineering Department provides adequate, updated, and accessible learning resources to support curriculum delivery, self-learning, and research activities.

Hard Resources

Well-equipped departmental laboratories aligned with curriculum requirements.

1. Engineering Graphics
2. Workshop Practices

- Sheet Metal
- Fitting
- Carpentry
- Machine
- Welding
- Foundry

3. IC Engine LAB
4. Engineering Mechanics
5. Element of Mechanical Engineering
6. Fluid Mechanics
7. Strength of Material
8. Manufacturing by Shaping and Joining
9. Machine Drawing
10. Fluid Machinery
11. System Power System
12. Dynamics of Machinery
13. Heat and Mass Transfer
14. Design of Machine Element
15. Refrigeration and Air Conditioning
16. Internal Combustion Engine and Gas Turbine
17. Computer Aided Design and Manufacturing
18. Mechanical System Design

- Department library section with textbooks, reference books, handbooks.
- Access to central library with sufficient copies of core and elective textbooks

Soft / E-Learning Resources

Books	Volumes
Engineering+ Applied Science	16653

- Subscriptions to e-resources and digital libraries such as:
  - NPTEL, SWAYAM
  - DELNET
  - E – Granthalaya
  - One Nation One Subscription
- Access to e-books, e-journals, video lectures, MOOCs
- Department repository of:
  - Lecture notes
  - Lab manuals
  - Question banks
  - Project reports

Accessibility

- Resources available on-campus and remotely
- Extended library hours during examinations

Support for Self-Learning

- Encouragement for MOOC certifications (NPTEL/SWAYAM)
- Faculty-guided self-learning assignments
- Support for competitive exams (GATE, higher studies)

Impact

- Improved student performance
- Increased participation in MOOCs and certifications
- Enhanced project quality and research exposure

9.10 E-Governance (5)

Institute Marks : 5.00

The institute has implemented e-governance systems to ensure efficiency, transparency, and sustainability in academic and administrative processes.

Academic and Learning Management

- Online course registration, attendance, and result processing
- Digital academic records and documentation

Administrative E-Governance

- Online systems for:
  - Admission and enrollment
  - Examination management
  - Faculty appraisal
- Paperless communication through institutional email and ERP

Campus-wide Computing Resources

- High-speed internet and Wi-Fi
- Computer labs with licensed software:
  - AutoCAD, SolidWorks, ANSYS, MATLAB

Sustainability

- Reduced paper usage
- Online approvals and documentation

Impact

- Faster decision-making
- Improved accessibility for students and faculty
- Transparent academic processes

9.11 Initiatives and Implementation of Sustainable Development Goals (SDGs) (10)

Institute Marks : 10.00

The department actively contributes to **SDG implementation**, particularly focusing on **quality education, clean energy, waste management, water conservation, and sustainability**.

Green Energy Initiatives

- Installation of **solar panels** for campus lighting
- Student projects on:
  - Solar thermal systems

Waste Management

- Projects on:
  - Solar Power Waste Collector
  - Plastic recycling techniques

Net Zero and Sustainability

- Awareness programs on carbon footprint reduction

Quality Education (SDG 4)

- Outcome-Based Education (OBE)
- Industry-relevant curriculum and projects
- Skill-based workshops and internships

Reuse – Recycle – Reduce

- Sustainable manufacturing practices taught in labs

Evidence of Implementation

- Student projects
- Outreach and awareness programs

Impact

- Student awareness on sustainability
- Practical application of SDGs
- Community benefit through outreach activities

9.12 Innovative Educational Initiatives and Implementation (5)

Institute Marks : 5.00

The department adopts innovative educational practices to support mobility, flexibility, inclusivity, and holistic development.

Student Mobility

- Participation in:
  - Internships
  - Industry training
  - Online courses from reputed platforms

Holistic Education

- Courses and activities on:
  - Professional ethics
  - Human values
  - Environmental studies

Subjects	Semester	Total Contact Hours	Credits
Sports/ Yoga/NCC/NSS	1	2	1
Swachha Bharat Mission	2	2	1
Environmental Studies	4	2	0
Essence of Indian Knowledge and Tradition	5	2	0

Multidisciplinary / Interdisciplinary Learning

- Projects involving:
  - Mechanical + Electrical

Indian Knowledge System (IKS)

Subjects	Semester	Total Contact Hours	Credits
Essence of Indian Knowledge and Tradition	5	2	0

Indian Language Initiatives

- Lectures, viva, and discussions allowed bilingually.

Inclusivity and Equity

- Support for:
  - SC-ST students
- Fee concessions, scholarships, mentoring support

Support for Slow Learners

- Identification through assessments
- Remedial classes
- Extra tutorials and mentoring
- Action plan with monitoring

9.13 Faculty Performance Appraisal and Development System (FPADS (10)

Institute Marks : 10.00

The institute has a well-defined and transparent FPADS aligned with institutional goals and NBA requirements.

Performance Appraisal System

Faculty appraisal is carried out annually based on:

- Teaching effectiveness
- Student feedback
- Research and publications
- Industry interaction and consultancy
- Administrative responsibilities
- Professional development activities

Implementation

- Self-appraisal by faculty
- Review by HOD and Principal

Faculty Development

- Encouragement for:
  - FDPs, workshops, conferences
  - Online certifications
  - Higher studies and research

Industry and Community Engagement

- Consultancy services
- Industrial visits and expert talks

Effectiveness

- Improved teaching quality
- Increased research output
- Enhanced industry linkage
- Faculty motivation and accountability

9.14 Outreach Activities (5)

Institute Marks : 5.00

The department actively engages students in **community-oriented outreach activities** to promote social responsibility.

- **Unnat Bharat Abhiyan (UBA)**
  - Village surveys
  - Technical solutions for local problems
- **Community Service**
- Cleanliness drives
- Energy conservation awareness
- Technical awareness programs in schools
- Skill development workshops
- **Society Connect Programs**

Student Participation

- Active involvement of students and faculty
- Integration with curriculum and projects

Achievements and Impact

- Improved community awareness
- Practical problem-solving exposure for students
- Development of leadership and social skills

Annexure I
(A) PROGRAM OUTCOME (POs)

Engineering Graduates will be able to:

PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science,computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)

PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)

PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).

PO5: Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)

PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).

PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)

PO8: Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences

PO10: Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

PO11: Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)

(B) PROGRAM SPECIFIC OUTCOME (PSOs)
Program should specify 2-4 program specific outcomes.

PSO1	Graduates will build confidence in applying mechanical engineering knowledge to solve real life problems
PSO2	Graduates will be inspired to pursue further education or research at prestigious institutions

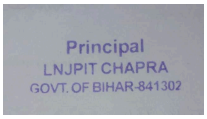
Declaration

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. BIMAL KUMAR
Designation : ASSOCIATE PROFESSOR
Signature :

Seal of The Institution :



Place : Saran, Chapra
Date : 12-02-2026 14:55:54