

HALDIA INSTITUTE OF TECHNOLOGY

INTERNAL QUALITY ASSURANCE CELL

Academic Audit 2022-2023

Evaluation Sheet

Department Name: **Mechanical Engineering**

Programme Name: B.Tech, M.Tech

Academic Year: **2022-2023**

I. PEO's, PO's and Curriculum		
Sl No	Criterion	Observations
1	PEO's and PO's attainment	The actual values of PO 3, PO 6, PO 7, PO 8, PO 10, and PO 11 did not reach target values All the PEOs have been attained.
2	Revision in curriculum and validation date (provide details)	For their preliminary thoughts on the reform or modification of the curriculum, the BOS experts were consulted. During a meeting of the BOS on April 10, 2023, the curriculum was eventually approved.
3	The extent of its satisfaction with curriculum revision	The previously existing curriculum gaps are lessened by this newly organised Curriculum. Additional modifications might be done later, depending on the input received.

II. Faculty information and their contribution		
Sl No	Criterion	Observations
1	Teacher-Student ratio	23.6:1
2	Faculty Cadre ratio	5:6:16
3	Faculty qualifications	PhD:15,M.Tech:12
4	Average experience of faculty	14 years
5	Faculty contribution to writing Books	2

	Chapters	7
6	Members of Editorial boards	2
7	Faculty in professional organizations	8
8	Awards/ Rewards received	NIL
9	Industry collaborative projects	2
10	Faculty as resource persons in workshops/ trainingactivities	15
11	National-level events organized Conference Workshops/Seminars- FDPs International-level events organized Conferences- Workshops-Seminars	0 3 4
12	Number of conferences /seminars workshops/ FDP's anyexclusive programs attended for the enrichment of the teaching-learning process	22

III. Teaching-Learning Process and Evaluation		
Sl No	Criterion	Observations
1	Curricular aspect	Under the autonomous status, the board of studies was created, and the curriculum and syllabus were subsequently created and implemented.
2	Mechanisms and activities for slow learners for their improvement outcomes	<p>a) Remedial or supplementary classes should focus on the subjects or topic codes in which the students are thought to be slow learners.</p> <p>b) The concerned subject instructor provides one-on-one academic counselling.</p> <p>c) Student help desk</p> <p>d) Study groups are created for students to learn from one another.</p> <p>e) Individual counselling is provided through the mentoring (Teacher Guardian) programme, which looks after the pupils. The Mentors preserve the student's whole academic record, which is periodically shared with the Parents by the Teacher Guardian. The</p>

		mentors offer advice and encourage to slow learners.
3	Student counselling mentoring mechanism	<p>To support the undergraduate mentorship initiative, faculty members act as "Mentors" to all of the college's students. Each student will be assigned a "Mentor" who will assist them in overcoming challenges and achieving the academic goals they have set for themselves.</p> <p>The goal of this mentorship programme is to identify crucial procedures that will:</p> <p>a) Provide students with non-academic and career coaching.</p> <p>b) To ensure their success in the classroom, let students know about preparatory courses including skill courses, bridge courses, etc.</p> <p>c) Encouraging pupils to achieve their academic goals and retaining their attention would improve their academic performance.</p> <p>d) Provide the kids with direction, inspiration, and advice about their upcoming college experience, their health as students, and their mental and emotional well-being.</p>
4	Tutorial classes	During tutorial classes, students take part in group discussions, classroom activities, in-class assessments, work projects, and faculty supervision. These actions improve subject comprehension and appropriate planning for any effort necessary to achieve the objective.
5	Monitoring of the teaching-learning process (a) E-learning models: (b) Assessment of the teaching process in classrooms (c) Innovative teaching process in presented if any (d) Verification of course files:	<p>a) A variety of assessment activities, including:</p> <ul style="list-style-type: none"> • Ungraded exercises and feedback included in study materials in the form of e-content that has been uploaded to the institute website • Quizzes and tests that allow students to evaluate their learning through self-evaluation • Informal conversations with teachers, peers, or others • Formal comments on assignments from instructors, peers, or mentors at work • Tests without grades that prepare students for official graded assessments <p>b) Reviewing the instruction in the classroom:</p> <p>c) The faculty employs diagnostic assessment, formative assessment, summative assessment, and informal assessment in the classroom to be employed throughout the learning process. This enables students to test out and use a range of</p>

		assessment techniques to monitor their growth. (d) Course files are checked at the end of the semester.
6	Training programs conducted for students	Industry internships and industrial apprenticeship courses
7	Students' feedback & steps taken	The department gathers online student comments for the teachers, who are then instructed and trained by the feedback.
8	Scope for Self-learning Certified course Online courses	Students are encouraged to use NPTEL, COURSEREA, EDX, and other online learning tools.
9	Results Analysis	The outcomes are examined by the various subject professors on a semester-by-semester basis.
10	Parents meeting on evaluations of student's progress	The department arranges a meeting with the parents to examine student progress year by year.
11	Student involvement in extracurricular & co-curricular activities:	Students participate in the institute's sporting and social programmes. Students in the department can join groups like SAE and ISHRAE. As part of the programme, students build their Formula 1 and Go Kart cars to compete in a variety of national events. Three different clubs—one for technology, one for sports, and one for culture—are run by students under the guidance of the professor. The department's alumni reunions are routinely organised by both current and former students.

ME EVEN RESULT IN 2022-23					
Semester	No. of Students	Semester	No. of Students	Semester	No. of Students
4th SEM		6 th SEM		8 th SEM	
9>	4	9>		9>	12
8>	31	8>	34	8>	85
7>	43	7>	66	7>	64
6>	15	6>	18	6>	17
XP	30	XP	2	XP	3
	123		120		181

ME ODD RESULT 2022-23					
Semester	No. of Students	Semester	No. of Students	Semester	No. of Students
3 RD SEM		5 TH SEM		7 TH SEM	
9>	15	9>	3	9>	24
8>	40	8>	35	8>	82
7>	36	7>	57	7>	57
6>	23	6>	21	6>	14
XP	13	XP	4	XP	1
	127		120		178

IV. Research, Consultancy and Extension			
SI No.	Criterion	Observations	
1	Faculty publications in journals	0	
	National- International-	6	
2	Publications in conference	3	
	National- International-		
3	PhDs-Registered	3	
	Awarded	1	
	Pursuing	7	
4	Funded R&D projects	2(CSIR and AICTE Funded)	
	Applied		14
	Sanctioned		
	Ongoing		
5	Completed	0	
	Patent applied	0	
Patent awarded			
6	In-house R & D grants & projects	6	
7	New research facilities/ laboratory facilities provided	2	
8	MOUs with industries/ R & D/ Premier institutes	1	
9	Research centres of Excellence established	NIL	

V. Infrastructure and Learning Resources		
Sl No	Criterion	Observations
1	Adequacy of infrastructural facilities to improve the teaching-learning process Classrooms: Laboratories: ICT/e-classrooms: Seminar halls:	Smart classroom with normal classrooms (04 Nos.) available. 15 laboratories available. 2 e-class rooms
2	Internet facilities for faculty & students	Yes
3	Modern/ new equipment added in laboratories	Yes
4	Details of computing facilities and improvement	CAD/CAM Laboratory
5	Department-level library resources	Yes

VI. Student information, Support and Progression		
Sl. No.	Criterion	Observations
1	Department student clubs	SAE Collegiate Club, ME Club, NEEDS, SAMARPAN
2	Details of coaching provided for GATE/ GRE/ any other competitive exams for higher studies	Yes, coaching is provided to students for GATE.
3	Industrial visits and academic visits	The college organised industrial visits and internships.

VII. SWOC Analysis of the Department		
Sl. No.	Criterion	Observations
1	Strength:	<ol style="list-style-type: none"> 1. Academic personnel of the highest caliber, with more than 50% of the professors holding PhDs. 2. Well-organized administrative tasks. 3. Positive business relationships. 4. Internally held programmes for students that are led by outside experts. 5. Prominent academics from prestigious universities offered a guest lecture.

2	Weakness:	1. Research funding is less plentiful. 2. Faculty members don't have enough time for personal development. 3. Exchanges across different disciplines
3	Opportunities	a) Location and link (closeness to business centres, the core, and IT). b) Aspiring college students and faculty. b) New industrial standards for automation, artificial intelligence, machine learning, etc.
4	Best practice/ Innovative:	a) An emphasis on creating solutions to issues. b) Going beyond the course syllabus c) Student work displays and links to course activities d) Systematic course planning and software used by professors and students to keep track of their assignments. e) Centralised, well-organized procedures for setting up and evaluating exam papers.
5	Future plans:	a) Improving departmental infrastructures (such as library space, laboratory space, and other academic infrastructures) to keep up with the speed of modernization and expanding technological advancement. b) Improving faculty members' abilities to stay up with the industry's rapid technical advancements and expansion c) Increasing the proportion of students with strong academic records who seek careers in engineering. d) Continual improvement and updating of the curriculum e) Teaching English communication skills to students from rural and semi-urban backgrounds as well as other aspects of professional collaboration and partnership

Academic Audit Report 2022-23

1. Name of Department: **Mechanical Engineering**
2. No of full-time permanent faculty: 25
3. No part-time Visiting temporary contractual faculty: Nil
4. No of PG/UG courses: UG-1, PG-1
5. Curriculum Revisions during the year: Revised
6. Research: Publications in journals: International-7 National-Nil

7. PhD Awarded:	1
8. Faculty guiding Ph.D:	5
9. Number of Conferences/Lectures Organized:	4
10. Ongoing Sponsored projects & amount:	2, amount 26 Lakhs (Total)
11. No of Faculty using:ICT & PPT	25
12. New Equipment and Infrastructure added:	3D printing, Scanning M/c
13. Student feedback on Curriculum (Yes/ No):	Yes

14. Strengths:

a) The Departments are competent and actively work to enhance students' employability (recruitment rates have improved from 75 to 82per cent over the previous four to five years), as well as their performance on difficult exams like the GATE, GRE, TOEFL, CAT, and MAT.

b) Many of the faculties have been actively engaged in research thanks to funding from the AICTE, CSIR, and other governmental agencies.

c) A significant portion of the faculty members have been actively publishing books, book chapters, peer-reviewed journals, national and international periodicals, etc.

d) The department's graduates are joining a group of former students who have excelled as professionals in a range of esteemed national and worldwide academic, corporate, and industry institutions.

e) Increased departmental mentoring, guidance, and counselling relationships between students and teachers.

15. Weaknesses:

a) Insufficient time for academic members to work on themselves.

b) Less money for research.

b) Lower levels of student involvement in research initiatives.

d) In regular cross-disciplinary encounters.

16. Suggestions for improvement

a) Improving departmental infrastructures (such as laboratory space and facilities, libraries, and other academic infrastructures) to suit the pace of modernization and escalating technological innovation.

b) Improving faculty members' abilities to stay up with the industry's rapid technical advancements and expansion

c) Increasing the proportion of students with strong academic records who seek careers in engineering.

b) Continual improvement and updating of the curriculum

e) Teaching English communication skills to students from semi-rural and rural backgrounds as well as other aspects of professional communication and teamwork

17. Departmental Coordinator:

Dr. Abhishek Samanta

18. Academic Auditors:

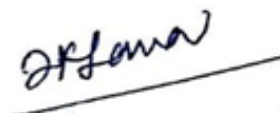
Prof. (Dr.) T. K. Jana



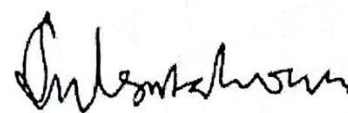
HOD



IQAC Coordinator



Dean



Principal