HALDIA INSTITUTE OF TECHNOLOGY

INTERNAL QUALITY ASSURANCE CELL
Academic Audit 2022-2023

Evaluation Sheet

Department Name: **Applied Electronics and Instrumentation Engineering**
Programme Name: B.Tech,

Academic Year: **2022-2023**

I. PEO's, PO's and Curriculum		
Sl No	**Criterion**	**Observations**
1	PSO's and PO's attainment	The values of PO 8 to PO 11, PO 12 did not reach target values (60% of maximum value). All the PSOs have been attained.
2	Revision in curriculum and validation date (provide details)	AEIE Syllabus structure under autonomy is modified in the BOS meeting held on 31th March, 2022 with all the departmental members and external experts.
3	Extent of its satisfaction with curriculum revision	Comments from all the exparts were incorporated in the autonomy syllabus and covered gap.

II. Faculty information and their contribution		
Sl No	**Criterion**	**Observations**
1	Teacher-Student ratio	1:16.25
2	Faculty Cadre ratio	1:2:9
3	Faculty qualifications	PhD:5, M.Tech:7
4	Average experience of faculty	14 years
5	Faculty contribution in writing Books Chapters	0 0
6	Members in Editorial boards	0
7	Faculty in professional organizations	0

8	Awards/ Rewards received	0
9	Industry collaborative projects	0
10	Faculty as resource persons in workshops/ training activities	0
11	National level events organized Conference Workshops/Seminars- FDPs International level events organized Conferences- Workshops Seminars	 2 1 0 0
12	Number of conferences /seminars workshops/ FDP's any exclusive programs attended for enrichment of teaching learning process	30

III. Teaching-Learning Process and Evaluation		
Sl No	**Criterion**	**Observations**
1	Curricular aspect	Under autonomous status, the Board of Studies (BOS) has been formulated which comprises of members from our mentoring and senior institutes and industries and the faculty members of our department to framed and implement the curricular and syllabus. Additionally value added courses are also there in 3rd and 4th year along with the mandatory curriculam to extent the knowledge of different fields.
2	Mechanism and activities for slow learners for their improvement outcomes	(i) Remedial/Extra classes are conducted especially for slow learner students after the primary level assessment with appropriate focus on the subject/topic. (ii) Individual academic counseling is done by the concerned subject teacher. (iii) The student mentoring is done frequently by the mentors of the department (Faculty guardian). The various academic records are maintained by this methodology. The records are finally sent to the parents for their cognizance about their wards. (iv) The Head of the department monitors the mentoring

		system frequently.
		(v) Mini projects are assigned to students in groups for hands-on learning for slow learners.
		(vi) Slow learners are encouraged and motivated to take up various online courses to improve their knowledge about a subject.
3	Student counseling mentoring mechanism	The student mentorship program incorporates the support of faculty members as "Mentors" to all the students in the college. Each student shall be assigned a "Mentor" to overcome their hurdles to achieve the goals desired by them in their academic career.
		The target of this Mentoring Programme is to identify fundamental mechanisms that will:
		1. Provide students with career and non-academic counseling.
		2. Provide students with information on preparatory courses such as skill courses, bridge courses, etc. for their academic prosperity.
		3. Focus and motivate students to achieve learning goals and thereby improve their academic performance.
		4. Guide, encourage, and advice the students about their upcoming student life, student health, mental and emotional well-being and listen to their issues with patience and help them solve their concerns with appropriate resources, support, and referral available.
		5. Generate curiosity and interest in academics and other institutional activities amongst the students.
4	Tutorial classes	In tutorial classes, different problems has been given to a group of students and try to follow the group discussion capability to solve an unknown problem. Sometimes quiz session and other learning methodology have been applied under the supervision of a faculty. These measures improve the knowledge in the subject and appropriate planning of any work for achieving the objective.
5	Monitoring of teaching-learning process (a) E-learning models: (b) Assessment of teaching process in classrooms (c) An innovative teaching process is	(a) Different types of assessment activities are: • Ungraded activities and feedback built into study materials in the form of e-content which has been uploaded in the repository of the institute website • Self-assessment quizzes and tests that allow learners to check their learning • Formal feedback on assignments from instructors, peers, or work place colleagues or mentors

	presented if any	• Informal dialogue with instructors, peers or others
	(d) Verification of course files:	• Ungraded tests that prepare learners for formal graded assessments
		(b) Assessment of teaching process in classrooms:
		The faculty practices diagnostic assessment, formative assessment, summative assessment, and informal assessment in the classroom so that it can be used throughout the learning process so that the students can explore and use a wide range of assessment methods to monitor their learners'.
		(d) Verification of course files is done at the end of the semester.
6	Training programs conducted for students	Industrial vocational training and internship at various industries
7	Students feedback& steps taken	Online student feedback for faculty is conducted in the department twice in every semester and based on the comments faculties are guided and instructed accordingly.
8	Scope for Self-learning Certified course Online courses	Students are instructed for attending online courses through NPTEL, COURSERA, and other online courses etc.
9	Results Analysis	Semester-wise result analyses for individual subjects are carried out by the respective subject teachers and Head of the department.
10	Parents meeting on evaluations of student's progress	Department organize parents meeting for analyzing year-wise students progress.
11	Student involvements in extra Curricular & Co-curricular activities:	Students participate in the institute's sports program and cultural meet. Students also join the departmental students chapters (ISA and ISoI) activities actively. Various workshops, seminars and webinars are organized in the department as well as AICTE IDEA lab for the involments of the students. Students are also motivated to participate various other actiuvities organized by other binstitutes.

IV. Research, Consultancy and Extension

Sl No.	Criterion	Observations
1	Faculty publications in journals National-	0

	International-	
2	Publications in conference	
	National-	0
	International-	3
3	PhDs-Registered	0
	Awarded	1
	Pursuing	7
4	Funded R & D projects	
	Applied	15
	Sanctioned	
	Ongoing	3
	Completed	1
5	Patent applied	1
	Patent awarded	3
6	In-house R & D grants & projects	0
7	New research facilities/ laboratory facilities provided	1
8	MOU's with industries/ R & D/ Premier institutes	0
9	Research centers of excellence established	NIL

V. Infrastructure and Learning Resources		
Sl No	**Criterion**	**Observations**
1	Adequacy of infrastructural facilities to improve the teaching learning process Class rooms:	 Smart class room with normal class rooms (02 Nos.) available.

	Laboratories:	8 laboratories available.
	ICT/e-class rooms:	1 e-class rooms
	Seminar halls:	NIL
2	Internet facilities for faculty & students	Yes
3	Modern/ new equipment added in laboratories	Yes
4	Details of computing facilities and improvement	Control SystemLaboratory and Microprocessor laboratory
5	Department level library resources	Yes

VI. Student information, Support and Progression

Sl. No.	Criterion	Observations
1	Department student clubs	ISA and ISoI Student chapter
2	Details of coaching provided for GATE/ GRE/ any other competitive exams for higher studies	GATE books are made available in the Departmental Library. Preparatory classes have been taken to revise the subject knowledge for different competitive examinations.
3	Industrial visits and academic visits	College organizes industrial visits and internships.

VII. SWOC Analysis of the Department

Sl. No.	Criterion	Observations
1	Strength:	1. Qualified faculty. 2. Organized administrative activities. 3. Organised intra-departmental activities. 4. Good industry interactions. 5.Good projects done by students.
2	Weakness:	1. Less research funding. 2. Student involving in higher studies. 3. Quality of students are not satisfactory.
3	Opportunities	1. Location and connectivity (Proximity to HALDIA core industry hubs and SECTOR V IT hub in KOLKATA. 2. Aspiring students, faculty members. 3. New industry demands on machine learning (ML), AI, automation,IoT, renewable energy, etc.

4	Best practice/ Innovative:	1. Reform of pedagogical approach including experiential learning, active learning etc. 2. Emphasis is given towards more hands on collaborative project execution 3. Student stakeholders are exposed to real product development & real life activities 4. Student project exhibitions in the thrust areas of technology like AI and IoT. 5. Systematic course mapping and use of new technological toolsboth for faculty and students. 6. Well streamlined, transparent, centralized examination conducting activities like paper setting and evaluation.
5	Future plans:	1. Upgradation of departmental infrastructures (e.g. laboratory facilities and space, library and other academic infrastructures) to suit the pace of modernization and emerging technological upliftment. 2. Upgrading skills of faculty members to match rapid growth and technology advancements in market and industries. 3. Attracting more students with outstanding academic records towards engineering education and future prospects. 4. Routine upgradation and improvement on curriculum according to the new and recent technological perspectives. 5. Training and development of English communication skills, and other aspects of professional communication and team work in students from rural / semi-urban background. 6. Providing social, rich cultural and environmental values to the student culture. 7. Shifting from conventional to green energy driven department in future. 8. Improvement in orienting our students for sports and co-curricular activities. 9. Enhancing more carreer guidance towards orienting students for their future aspects.

Academic Audit Report 2022-23

1. Name of Department: **Applied Electronics and Instrumentation Engineering**

2. No of full time permanent faculty: 12

3. No of part time Visiting temporary contractual faculty: Nil

4. No of PG/UG courses: UG-1,

5. Curriculum Revisions during the year: Yes

6. Research: Publications in journals: International-9   National-Nil

7. PhD Awarded: 1

8. Faculty guiding Ph.D: 1

9. Number of Conferences/Lectures Organized: 0

10. Ongoing Sponsored projects & amount: Nil

11. No of Faculty using: ICT & PPT   12

12. New Equipment and Infrastructure added: Yes

13. Student feedback on Curriculum (Yes/ No):   Yes

14. Strengths:

1. The Departments is competent and actively contribute towards improvement of students' employability (70 – 80% rate of recruitment in the last few years).

2. Many of the faculties have been actively publishing in national/international journal, peer-reviewed journals, books, book chapters, etc.

3. Students passing out from the department have been strengthening a tremendously successful pool of alumni, who are achieving excellent heights as professionals in different academic, business and industry organizations of national and international repute.

4. Many of the passout students are taking up entrepreneurship in small scales.

5. Mentorship, guidance, counseling, enhanced student-teacher communication in the department.

15. Weaknesses:

1. Less number of research funding.

2. Orienting the students for higher studies.

3. Student involvement in research activities.

4. Less Interdisciplinary interactions.

16. Suggestions for improvement

1. Upgradation of departmental infrastructures (e.g. laboratory facilities and space, library and other academic infrastructures) to match the pace of modernization and emerging technological upliftments.

2. Enhancing the skills of Faculty members to match rapid growth and technology advancements in industries.

3. Attracting more students with outstanding academic records towards engineering education and entrpreneurship.

4. Routine upgradation and improvement on curriculum.

5. Training and development of English communication skills, and other aspects of professional communication and team work in students from rural/semi-urban background.

6. Training and development of students to take up more entrepreneurships.

Departmental Coordinator: Mr. Debadatta Ghosh

Academic Auditors: Prof. (Dr.) T. K. Jana

HOD   **IQAC Coordinator & Dean SoE**   **Principal**