MANJARA CHARITABLE TRUST
RAJIV GANDHI INSTITUTE OF TECHNOLOGY, MUMBAI
(Permanently Affiliated to University of Mumbai)
DEPARTMENT OF MECHANICAL ENGINEERING
(UG Program – NBA- Accredited; PG in Heat Power and Ph.D. Technology)

Action taken report during Academic Year 2022-23

Department Advisory Board Meeting dated 13th September, 2022

Date: 13/07/2023

Reference:

Minutes of meeting of Department Advisory Board meeting dated 13th September, 2022

- **Approval of CO PO Target matrix - R19 C Scheme syllabus**

The approved Target Matrix was disseminated to all faculty members for implementation in their respective courses. It is included in the department's official documentation. CO PO attainment is calculated for all courses of the 2022-23 batch which is the first passed-out batch of the R19 C Scheme syllabus. A comparison was drawn between the values of the PO target and the PO attained. An action is planned for the program outcomes which did not attain the targeted value.

- **Discussion on the Curriculum gap identified R19 C Scheme syllabus**

Special lectures/Industrial visits/workshops were arranged on curriculum gaps identified by course faculty or departmental senior faculty for a better understanding of subject knowledge.

Sr. No	Gap	Action Taken	Date-Month-Year	Resource Person with designation	No. of students present	Relevance to POs & PSOs
1	Inclusion of more algorithms in automation and artificial intelligence	Webinar on Robot Autonomy: Opportunities & Challenges	05-03-2023	Mr. Ameya Salvi, Alumni, RGIT	26	PO6, PO8, PO10, PSO2
2	Mathematical modeling of different rapid prototyping techniques	Smart Manufacturing & 3D Printing Industrial Training	07 to 08-10-2022	SAHAS Softech LLP Sakinaka	15	PO6,PO8, PSO1
3	Prospects for logistics and supply chain management	Seminar on International Placements & Opportunities	28-07-2022	Mr. Jignesh Doshi & Ms. Hiral, Kareer Krafters	88	PO8, PO11, PSO2
4	Design for manufacturing of product with emphasis on product design and PLM	Engineering Education	13-11-2022	Mr.Vacchani Raj Mahendra, Design Engineer, Jaivel Aerospace Pvt Ltd	47	PO6, PO8, PSO2

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5	use of reputed referencing and citation software in MS Word	Skill Development workshop	22 to 24/12/2022	Mr. Siddique Kazi	39	PO4, PO5, PO12, PSO1
6	Diagnosing and rescuing troubled projects	Engineering Skills of the Decade	18-07-2022	Danish Sayyad, Data Analyst, Intelligent Cricket	33	PO6, PO7, PSO2
7	Understanding disclosure agreements and creating awareness about government schemes	Knowledgeable & Awareness session on Intellectual Property Rights	15-09-2023	Mr Rohit Dave Prof. Hardik Shukla	42	PO5,PO6, PSO2
8	Industrial visit to understand the various processes in the processing plant	Industrial Visit	09-03-2023	Mahanand Dairy, Aarey Colony, Goregaon	46	PO4, PO5, PO10
9	Industrial visit to understand the design of the gating system in molding, Composite manufacturing, precipitation hardening, tool designations	Industrial visit	6 to 08/01/2023	Indo German Tool Room, Aurangabad	42	PO3, PO6, PO12
10	Design for manufacturing of product with emphasis on product design and PLM	Workshop on NX CAD	17 to 21/03/2023	Mr. Hanzala Maknojia ASME members	40	PO5, PO6, PO7, PO12
11	Ability to develop advanced algorithms	IoT workshop	27 to 29/01/2023	Mr. Mohammad Rafi Jalgaonkar, IOT Lead, GDSC, RGIT	45	PO1, PO12, PSO2

- **Offering various Honors/Minor degree programs**

Honors/Minor degree programs are an initiative by the University of Mumbai and AICTE. The program is intended to be implemented for semester V students and will continue till semester VIII. It is designed to provide Mechanical Engineering students with the option to choose courses such as Artificial Intelligence and Machine Learning (AIML), Blockchain, Robotics, and Electric Vehicles (EVs), among others, in addition to their regular curriculum.

Program Presentation and Discussion: Dr. R. V. Kale conducted a detailed presentation for students to explain the objectives and benefits of the Honors/Minor degree programs. During this presentation, the need for such programs to enhance students' skills, knowledge, and career prospects was highlighted.

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Planning and Integration: The Mechanical Engineering department collaborated with other concerned departments and faculty members to ensure the smooth integration of the Honors/Minor degree program's courses with the regular curriculum. The goal is to provide a balanced and manageable workload for the students while enabling them to gain additional knowledge in their chosen fields.

Registration and Enrollment: The necessary arrangements were made to facilitate the registration and enrollment of interested students into the Honors/Minor degree programs. Guidelines were issued to assist students in understanding the course selection process and academic requirements.

- **Installation of Industry Sponsored Laboratory in the Department.**

Identifying Collaboration Opportunities: All faculty members assessed various opportunities for collaboration with potential industry sponsors. These opportunities include joint research projects, industry-sponsored laboratories, and knowledge-sharing sessions.

Eyantra Robotics Lab and IoT Lab are new labs that are set up in the Mechanical Department. The initiative aimed to equip students with hands-on experience and practical knowledge in robotics and the Internet of Things (IoT) to prepare them for the challenges of the modern technological landscape.

Planning and Proposal Development: The process commenced with meticulous planning and development of detailed proposals for both the Eyantra Robotics Lab and the IoT Lab. These proposals outlined the objectives, scope, required resources, and the anticipated benefits of the labs for the students and the department.

Fund Allocation: Necessary funds were allocated by the department to support the setup of both labs. The budget accounted for equipment procurement, infrastructure development, and any other essential requirements for smooth lab operations.

Infrastructure Setup: Dedicated spaces were identified and prepared within the Mechanical Department to accommodate both the Eyantra Robotics Lab and the IoT Lab. Necessary infrastructure, such as workstations, shelves, and storage units, was set up to ensure a conducive learning environment.

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Equipment and Materials Procurement: State-of-the-art robotics kits, IoT devices, sensors, microcontrollers, and other required equipment were procured for both labs. Emphasis was placed on selecting industry-relevant tools and technologies to enhance students' learning experiences.

The establishment of the Eyantra Robotics Lab and IoT Lab in the Mechanical Department has been a significant milestone in enhancing students' technical skills and knowledge. The labs have provided a platform for hands-on learning, fostering creativity, innovation, and problem-solving abilities among students. The department's commitment to providing cutting-edge learning experiences is reflected in these state-of-the-art facilities.

- ▪ **Discussion on offering more industry-based Mini/Major Projects to Students.**

Utilizing Student Contacts: The faculty members were encouraged to utilize the existing student contacts who had secured internships or worked in the industry. These students' experiences and connections could serve as a bridge to establish fruitful collaborations for project opportunities.

Industry Networking Events: The department organized networking events and industry-academia interaction sessions. These events provided a platform for faculty members to meet with industry professionals, discuss potential project ideas, and explore opportunities for collaboration.

Project Proposal Development: Students were asked to develop comprehensive project proposals that outline the objectives, scope, and expected outcomes of mini and major projects. These proposals were tailored to align with the interests and requirements of potential industry partners.

Monitoring and Evaluation: The faculty task force set up a monitoring and evaluation mechanism to oversee the progress of ongoing projects and assess their impact on students' learning and industry engagement. Feedback from both faculty members and industry mentors was actively collected to enhance future collaborations.

Students of the department are now encouraged by the faculty members to undertake multidisciplinary projects along with RGIT faculty members with support from the Institute- in the areas of Artificial Intelligence, Machine learning, etc. This will help the

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students to develop industry-ready skills that are relevant to fetch a good job in the current scenario.

Dr R. V. Kale

Head, Department of Mechanical Engineering