



DEVELOPMENT ACTIVITIES

a. Product Development

Product development in mechanical engineering student projects involves the design, analysis, fabrication, and testing of mechanical systems or components to solve practical problems. This hands-on process helps students apply core mechanical engineering principles—such as mechanics, materials science, thermodynamics, and manufacturing—to create functional prototypes or devices. Throughout the project, students engage in concept generation, computer-aided design (CAD), material selection, machining or 3D printing, assembly, and performance evaluation. This comprehensive experience not only strengthens their technical skills but also promotes critical thinking, innovation, and teamwork.

By working through the entire product development cycle, mechanical engineering students gain valuable insights into real-world engineering challenges, preparing them for successful careers in industry and research.

Table 5.7.3.A List of products developed through projects and research.

Sl. No.	Description of Product	Faculty	Year	
1.	Solar powered seed germination for marginal farmers	Mr. Rajashekargoud H Angadi	2019	
2.	Rice transplanter machine	Mr. V.Sushanthkumar	2022	 
3.	Design and fabrication of 360 degree rotating fire extinguisher.	Mr. Vijay Palled	2025	



b. Research Laboratories

K-Tech Innovation Hub is a chain of hardware product startup incubators across the state of Karnataka, spanning over 50,000 sq.ft. across different centers in Karnataka. The goal is to make Karnataka the epicenter of product innovation across the world. Each center can accommodate 60-80 individuals and offers a shared prototyping facility, co-working space, private office spaces, training room, and other amenities and a host of services.

The Government of Karnataka, Department of IT, BT and S&T has sanctioned NAIN centre to Angadi Institute of Technology & Management, based on the Infrastructure facilities available and other Research and Innovation activities conducted by the college. Under the New Age Incubation Network, students are encouraged to identify local problems and address those using concepts of frugal innovation, and to develop appropriate technology-based solutions and working prototypes. AITM NAIN centre shall provide mentors assigned to the students to help them to formulate a business model based on new technology and encourage them to think like entrepreneurs.



Under K.Tech sponsorship, the department has developed the following product:

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Sl. No.	Description of Product	Faculty	Photos
1.	Design and fabrication of magnetic levitating frictionless windmill.	Mr. Rajashekharagoud H Angadi	

c. Instructional materials

Table 5.7.3.C presents the instructional materials used by the department and indicates where they are available for reference.

Sl no	Type	Source
1.	Lecture Notes	Website & individual staff
2.	PPT's	Website & individual staff
3.	Lab Manuals	Dept. Labrary & website
4.	Project Reports	Dept. Labrary
5	Skill lab manual	Dept. Labrary & website

d. Working models/charts/monograms

Working models are used to facilitate a better understanding of complex concepts that students might find difficult to visualize. These models provide a tangible, hands-on experience, allowing students to observe the functioning of individual parts and how they interact, thereby enhancing comprehension and retention.

Table 5.7.3.D provides details of the working models available in the department for student use.

Sl no	Model	Relevance to the subject	Description
1.	Scotch Yoke Mechanism	Kinematics of Machines	These models will help students better understand concepts in the subject of kinematics
2.	Slider Crank Mechanism	Kinematics of Machines	These models will help students better understand concepts in the subject of kinematics
3.	Crank and slotted lever Mechanism	Kinematics of Machines	These models will help students better understand concepts in the subject of kinematics
4.	Four bar Mechanism	Kinematics of Machines	These models will help students better understand concepts in the subject of kinematics



Department of Mechanical Engineering

5.	Cut section of 4 stroke diesel Engine	IC Engines	These models will help students better understand concepts in the subject of IC engines and Thermodynamics subjects.
6.	Cut section of 2 stroke petrol engine	IC Engines	These models will help students better understand concepts in the subject of IC engines and Thermodynamics subjects.

