NPTEL COURSES:

1. Students **Hephzipah A** and **Mounnish K G** from the Department of Mechanical Engineering successfully completed a **4-week NPTEL course on "Product Design and Development"** offered during **July–August 2024**. This achievement reflects their commitment to continuous learning and their interest in strengthening technical skills beyond the curriculum.

The course provided a comprehensive understanding of the fundamental principles and processes involved in product development. Key topics covered included customer need identification, concept generation, product architecture, design for manufacturing, prototyping, cost evaluation, and project management. Through structured modules, case studies, and quizzes, the course enabled students to gain practical insights into how modern engineering teams conceptualize, design, and bring innovative products to the market.

CO Code	Course Outcome (After completing the NPTEL course, the student will be able to…)
CO1	Explain different phases of product development, concept generation and selection.
CO2	Apply design thinking approaches for idea creation and concept refinement.
CO3	Develop engineering design specifications and apply modeling approaches for product development.
CO4	Analyze product architecture, materials, cost and manufacturability considerations.
CO5	Use modern tools and techniques for prototyping, product visualization and evaluation.

PO Statement:

PO1: Basic and discipline-specific knowledge

PO2: Problem analysis

PO3: Design / Development of solutions

PO4: Engineering tools, experimentation and testing

PO5: Engineering practices for Society, Sustainability and Environment

PO6: Project Management

PO7: Life-long Learning

CO–PO Mapping:

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	2	1	1	1	2
CO2	2	3	3	1	1	2	2
CO3	3	2	3	3	–	2	2
CO4	2	3	3	2	2	2	1
CO5	1	1	2	3	1	2	2

CO–PSO Mapping:

PSOs Statements:

PSO 1	Demonstrate abilities to plan, analyze, design, evaluate and to operate conventional and modern mechanical systems / processes.
PSO 2	Apply knowledge / techniques involving renewable energy and power plants related to energy generation that have an impact on society and environment.

Mapping Levels: 3 – High, 2 – Medium, 1 – Low, "–" No Mapping

CO / PSO	PSO1	PSO2
CO1	2	1
CO2	3	1
CO3	3	–
CO4	3	2
CO5	3	1

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत-कुशल भारत

This certificate is awarded to

HEPHZIPAH A

for successfully completing the course

Product Design and Development

with a consolidated score of **48** %

Online Assignments	18.33/25	Proctored Exam	30/75

Total number of candidates certified in this course: **1291**

Prof. Kaushik Ghosh,
Professor(Chemistry)
Coordinator CEC

Jul-Aug 2024
(4 week course)

Prof. Ranjana Pathania,
Professor (BSBE)
Coordinator (NPTEL)

Indian Institute of Technology Roorkee

FREE ONLINE EDUCATION swayam शिक्षित भारत, उन्नत भारत

Roll No: NPTEL24ME81S434900159 To verify the certificate No. of credits recommended: 1 or 2

Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत-कुशल भारत

This certificate is awarded to

MOUNNISH K G

for successfully completing the course

Product Design and Development

with a consolidated score of **62** %

Online Assignments	22.5/25	Proctored Exam	39/75

Total number of candidates certified in this course: **1291**

Prof. Kaushik Ghosh,
Professor(Chemistry)
Coordinator CEC

Jul-Aug 2024
(4 week course)

Prof. Ranjana Pathania,
Professor (BSBE)
Coordinator (NPTEL)

Indian Institute of Technology Roorkee

FREE ONLINE EDUCATION swayam शिक्षित भारत, उन्नत भारत

Roll No: NPTEL24ME81S334900043 To verify the certificate No. of credits recommended: 1 or 2

HoD i/c Principal

2. Our Mechanical Engineering students **Harikrishnan M**, **Karthik C**, and **Mounnish K G** successfully completed a **4-week NPTEL course on "Principles of Vibration Control"** offered during **July–August 2025**. Their participation in this certified program demonstrates their enthusiasm for advanced learning and their commitment to strengthening core mechanical engineering competencies.

The course provided an in-depth understanding of vibration fundamentals and modern control techniques used in engineering systems. Key topics covered included vibration analysis, dynamic modeling, damping methods, isolators, tuned mass dampers, active and passive control strategies, and real-world applications in automotive, aerospace, manufacturing, and structural engineering. Through lectures, problem-solving sessions, and assessments, students gained valuable insights into how vibration affects machine performance, reliability, and safety, and how engineers design solutions to mitigate these issues.

Course Outcomes (COs) – Principles of Vibration Control

CO Code	Course Outcome
CO1	Understand the fundamentals of vibration, vibration parameters, and sources of vibration in mechanical systems.
CO2	Analyze single and multi-degree freedom vibration systems and their dynamic behavior.
CO3	Apply vibration control methods such as isolation, damping, and tuned systems for real-time engineering problems.
CO4	Use analytical, numerical and experimental tools for vibration measurement and system evaluation.
CO5	Evaluate vibration issues in mechanical, industrial, and power-plant-related equipment considering safety, sustainability, and reliability.

POs (Given by You)

1. **PO1:** Basic and discipline-specific knowledge
2. **PO2:** Problem analysis
3. **PO3:** Design / Development of solutions
4. **PO4:** Engineering tools, experimentation and testing
5. **PO5:** Engineering practices for Society, Sustainability and Environment
6. **PO6:** Project Management
7. **PO7:** Life-long Learning

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	2	1	1	1	–	2
CO2	3	3	2	2	1	–	2
CO3	2	3	3	2	2	1	2
CO4	2	2	2	3	1	1	2
CO5	1	2	2	2	3	2	2

PSOs Statement:

PSO 1	Demonstrate abilities to plan, analyze, design, evaluate and to operate conventional and modern mechanical systems / processes.
PSO 2	Apply knowledge / techniques involving renewable energy and power plants related to energy generation that have an impact on society and environment.

CO–PSO Mapping (Principles of Vibration Control)

Mapping Levels: 3 – High, 2 – Medium, 1 – Low

CO / PSO	PSO1	PSO2
CO1	2	1
CO2	3	1
CO3	3	2
CO4	3	1
CO5	3	3

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत-कुशल भारत

This certificate is awarded to

HARIKRISHNAN M

for successfully completing the course

Principles of Vibration Control

with a consolidated score of **48** %

Online Assignments	18.33/25	Proctored Exam	30/75

Total number of candidates certified in this course: **29**

Prof. B. V. Ratish Kumar
Chairman, Centre for Continuing Education
IIT Kanpur

Jul-Aug 2025

(4 week course)

Prof. Satyaki Roy
NPTEL Coordinator
IIT Kanpur

Indian Institute of Technology Kanpur

FREE ONLINE EDUCATION swayam शिक्षित भारत, उन्नत भारत

Roll No: NPTEL25ME127S535101721 To verify the certificate No. of credits recommended: 1 or 2

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत-कुशल भारत

This certificate is awarded to

KARTHIK C

for successfully completing the course

Principles of Vibration Control

with a consolidated score of **48** %

Online Assignments	18.33/25	Proctored Exam	30/75

Total number of candidates certified in this course: **29**

Prof. B. V. Ratish Kumar
Chairman, Centre for Continuing Education
IIT Kanpur

Jul-Aug 2025

(4 week course)

Prof. Satyaki Roy
NPTEL Coordinator
IIT Kanpur

Indian Institute of Technology Kanpur

FREE ONLINE EDUCATION swayam शिक्षित भारत, उन्नत भारत

Roll No: NPTEL25ME127S535101719 To verify the certificate No. of credits recommended: 1 or 2

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत-कुशल भारत

This certificate is awarded to

MOUNNISH K G

for successfully completing the course

Principles of Vibration Control

with a consolidated score of **51** %

Online Assignments	18.33/25	Proctored Exam	33/75

Total number of candidates certified in this course: **29**

Prof. B. V. Ratish Kumar
Chairman, Centre for Continuing Education
IIT Kanpur

Jul-Aug 2025
(4 week course)

Prof. Satyaki Roy
NPTEL Coordinator
IIT Kanpur

Indian Institute of Technology Kanpur

FREE ONLINE EDUCATION swayam शिक्षित भारत, उन्नत भारत

Roll No: NPTEL25ME127S535101686 To verify the certificate No. of credits recommended: 1 or 2

HoD i/c

Principal

3. Mechanical Engineering student **Mounnish K G** has successfully completed a **12-week NPTEL course on "Fundamentals of Artificial Intelligence"** offered during **July–October 2025**. This accomplishment reflects his dedication to multidisciplinary learning and his interest in integrating emerging technologies with core engineering knowledge.

The comprehensive course covered essential AI concepts such as problem-solving strategies, search algorithms, machine learning basics, neural networks, knowledge representation, reasoning, and intelligent system design. It also introduced practical applications of AI across various domains, including robotics, automation, manufacturing systems, predictive maintenance, and smart engineering solutions.

Course Outcomes (COs) – Fundamentals of Artificial Intelligence

CO Code	Course Outcome
CO1	Understand the basic concepts, history, and scope of Artificial Intelligence.
CO2	Apply AI problem-solving methods such as search techniques and knowledge representation.
CO3	Use machine learning fundamentals for classification, prediction, and pattern recognition.
CO4	Apply AI tools and algorithms for engineering problem-solving and decision-making.
CO5	Analyse the impact of AI on society, ethics, environment, and engineering practice.

Pos Statements:

1. **PO1:** Basic and discipline-specific knowledge
2. **PO2:** Problem analysis
3. **PO3:** Design / Development of solutions
4. **PO4:** Engineering tools, experimentation and testing
5. **PO5:** Engineering practices for Society, Sustainability and Environment
6. **PO6:** Project Management
7. **PO7:** Life-long Learning

CO–PO Mapping (Fundamentals of AI)

Mapping Levels: 3 – High, 2 – Medium, 1 – Low, "–" No Mapping

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	1	–	1	1	–	3
CO2	3	3	2	2	1	–	2
CO3	2	3	2	3	1	–	2
CO4	2	3	3	3	1	2	2
CO5	1	2	1	1	3	2	2

PSOs Statement:

PSO 1	Demonstrate abilities to plan, analyze, design, evaluate and to operate conventional and modern mechanical systems / processes.
PSO 2	Apply knowledge / techniques involving renewable energy and power plants related to energy generation that have an impact on society and environment.

CO–PSO Mapping (Fundamentals of AI)

Mapping Levels: 3 – High, 2 – Medium, 1 – Low

CO / PSO	PSO1	PSO2
CO1	1	1
CO2	2	1
CO3	2	–
CO4	3	1
CO5	2	2

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत-कुशल भारत

This certificate is awarded to

MOUNNISH K G

for successfully completing the course

Fundamentals of Artificial Intelligence

with a consolidated score of **51** %

Online Assignments	20.66/25	Proctored Exam	30/75

Total number of candidates certified in this course: **3795**

Jul-Oct 2025

(12 week course)

Dr. Salil Kashyap
Coordinator, Centre for Educational Technology,
IIT Guwahati

Indian Institute of Technology Guwahati

FREE ONLINE EDUCATION
swayam
शिक्षित भारत, उन्नत भारत

Roll No: NPTEL25GE55S1156001557 To verify the certificate No. of credits recommended: 3 or 4

HoD i/c

Principal