



K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

In Sem Examination-II Summer 2025	
Exam Seat No.:	
Academic Year: 2024-2025	Semester: VI
Class: T.Y. B. Tech	Program: B. Tech
Branch Code: MEC	Pattern: 2022
Name of Course: Product Design, Innovation and Entrepreneurship	Course Code: MEC223015C
Max. Marks: 30	Duration: 1.15 Hrs.

Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains 01 page(s).
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required but justify it.
4. Draw the neat, labelled diagrams, wherever necessary.
5. The last columns indicate the Course Outcome of the Question/sub-question.

Marks CO

Question No. 1

- 1 a) Explain how innovation in product design impacts entrepreneurial ventures in mechanical engineering. (7) CO1

Question No. 2

- 2 a) Discuss how market analysis helps in identifying potential opportunities for product development. (8) CO1

OR

- 2 b) Explain how DFMA principles contribute to efficient product development in mechanical engineering. (8) CO1

Question No. 3

- 3 a) Describe the role of brainstorming in the concept generation phase of the design process. (7) CO2

Question No. 4

- 4 a) Explain how design optimization techniques help improve the efficiency and performance of a product. (8) CO2

OR

- 4 b) How does sustainability in product design influence environmental impact and resource efficiency? (8) CO2

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