

CBCS SCHEME

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18SM751

Seventh Semester B.Tech. Degree Examination, Dec.2023/Jan.2024

Product Design and Development

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Briefly explain the characteristics and challenges of product development. (10 Marks)
b. Explain a generic development process in product design. (10 Marks)

OR

- 2 a. Briefly explain the AMF development process in product design. (10 Marks)
b. Explain the product planning process with a diagram. (10 Marks)

Module-2

- 3 a. Explain the process of identifying customer needs in product design and development. (10 Marks)
b. What is product specification? Explain the process of establishing target specifications in product design. (10 Marks)

OR

- 4 a. Briefly explain concept generation in product design and development. (10 Marks)
b. Explain the activity of concept generation in product design. (10 Marks)

Module-3

- 5 a. Explain the methodology for concept selection in product design and development. (10 Marks)
b. Explain concept screening and concept scoring in product design. (10 Marks)

OR

- 6 a. Explain the concept of testing in product design and development. (10 Marks)
b. What is product architecture? Explain the implications of product architecture in product design. (10 Marks)

Module-4

- 7 a. Explain the need for industrial design in product design. (10 Marks)
b. Define DFM. Explain the Impact of DFM in other factors in product design. (10 Marks)

OR

- 8 a. Define prototyping. Explain the principles of prototyping in product design. (10 Marks)
b. Explain the technologies and planning for prototypes in product design. (10 Marks)

Module-5

- 9 a. Explain the elements of economic analysis in product development. (10 Marks)
b. Explain the influence of qualitative factors on product success. (10 Marks)

OR

- 10 a. Explain the process of managing projects in product development. (10 Marks)
b. Explain project executive and project evaluation in product development. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.