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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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