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Question Paper Code	12568
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B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024

Eighth Semester

Electronics and Communication Engineering

20ECEL804 - EMBEDDED PRODUCT DEVELOPMENT

Regulations - 2020

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

	Marks	K- Level	CO
1. Differentiate market pull and technology push products.	2	K2	CO1
2. Define a product development organization.	2	K1	CO1
3. Show the physical decomposition of a bicycle.	2	K2	CO2
4. What are latent needs?	2	K1	CO2
5. Define delayed differentiation.	2	K1	CO3
6. List any four motives for product change.	2	K1	CO3
7. What is software recode?	2	K1	CO4
8. What is CAD? Give some examples.	2	K1	CO4
9. List various PCB documents.	2	K1	CO5
10. What is the difference between single, double and multi-layer PCBs?	2	K2	CO5

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Explain the phases of generic product development process and point out the tasks and responsibilities of the organization.	13	K2	CO1
OR			
b) Explain the steps involved in product planning process.	13	K2	CO1
12. a) Elaborate the process of concept screening and concept scoring.	13	K2	CO2
OR			
b) Discuss on how behavior analysis on both customer and competitor is done.	13	K2	CO2
13. a) Explain the four-step method for establishing the product architecture.	13	K2	CO3
OR			
b) Explain the principles of prototyping in detail.	13	K2	CO3
14. a) Explain the need for CAE/CAD/CAM in Industrial design, using suitable illustrations.	13	K2	CO4

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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OR

- b) Explain the basics of reverse engineering and its strategies in detail. 13 K2 CO4
15. a) Explain Grounding and Noise elimination methods in detail with diagrams. 13 K2 CO5

OR

- b) Explain any two embedded product modeling techniques in detail. 13 K2 CO5

PART - C (1 × 15 = 15 Marks)

16. a) Explain the various translation and debugging tools used in Embedded product design. 15 K2 CO6

OR

- b) Explain the criteria in selection of Processors and Memories in Embedded Products Design. 15 K2 CO6