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B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

February / March 2023 Semester End Main Examinations

Programme: B.E.

Semester: V

Branch: Industrial Engineering and Management

Duration: 3 hrs.

Course Code: 20IM5DEPDD

Max Marks: 100

Course: Product Design & Development

Date: 09.03.2023

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

UNIT - I

1 a) Identify the various criteria for evaluating fundamentally new product opportunities. **10**

b) What are some of the biggest challenges you face as a product designer? **10**

OR

2 a) “Something that cannot be measured cannot be improved”. Further, knowing what metric needs to be measured goes a long way in success of Product Benchmarking. Choose any digital interactive product (Mention clearly) of your choice and identify the metrics for the following aspects. **10**

Sl no	Product aspect	Description	Metric to be identified
1	Happiness	Measures of user attitudes or perceptions	
2	Engagement	Level of user involvement	
3	Adoption	Initial uptake of a product, service, or feature	
4	Retention	How existing users return, and remain active in the product	
5	Task effectiveness and efficiency	Efficiency, effectiveness, and errors	

b) Highlight the various activities conducted during concept development process with a case example. **10**

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

UNIT - II

3 a) Consider any product of your choice and develop a mission statement to be followed by product development team. **10**

b) If the specifications of the competitive products are not different from the new product under consideration then should the product team make some differentiation in the specifications? What is your opinion on above statement? **10**

UNIT - III

4 a) How you might use concept selection method to decide whether to offer a single product to the marketplace or to offer different product options? Justify. **10**

b) List and explain different motives organizations use for product change with some examples. **10**

OR

5 a) How should a company align the concept generation and selection process when the product designing job is outsourced to a design company? Justify with an example. **10**

b) Explain the methodology used to test the product concepts by taking the example of smart phone. **10**

UNIT - IV

6 a) Taking example of any product, differentiate between ergonomic needs and aesthetic needs. **10**

b) Take any product of your choice and share your experience dealing with HCD (human-centered design). **10**

UNIT - V

7 a) List and explain various ways in which you can protect your ideas to start your own enterprise. **10**

b) Briefly explain the procedure for obtaining patents in India. **10**
