

Total No. of Questions: 6

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Enrollment No.....



Faculty of Engineering
End Sem (Odd) Examination Dec-2022
OE00083 Value Creation Through Design Thinking
Programme: B.Tech. Branch/Specialisation: All

Duration: 3 Hrs.

Maximum Marks: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1
- i. What is design thinking? 1
(a) A method facilitated by UX designer
(b) A process for creative problem solving
(c) A process to teach design to non-designers
(d) A methodology developed to discard old design methods
 - ii. _____ is used with the objective of identifying needs 1
that customers are often unable to articulate.
(a) Mind mapping (b) Experience mapping
(c) Story telling (d) Rapid concept development
 - iii. Method of linking different ideas together by finding 1
commonalities between them.
(a) Brainstorming web (b) Free association
(c) Future process (d) Free writing
 - iv. _____ take constraints into consideration and are seen as 1
an outline for the design of a potential solution.
(a) Problems (b) Future process
(c) Criteria (d) Free writing
 - v. Which one of the following gives suggestions for new product and 1
also helps to market new products?
(a) Existing products and services
(b) Distribution channels
(c) Federal government
(d) Consumers

P.T.O.


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- vi. An entrepreneur who owns most of the mango orchards in a locality wants to launch bottled mango salsa. His premium-quality mangoes are rated high in the market. In which block of the Lean Canvas should he capture this information? **1**
 (a) Solution (b) Unique value proposition
 (c) Unfair advantage (d) Key metrics
- vii. Arav and Mohan make jewellery meant for festive occasions. They sell their products via multiple jewel stores. Recently they have collaborated with a new online platform that works as a marketplace for ornaments. The marketplace will charge a commission on every piece of jewellery sold through their platform. Which of the following blocks of their business model will be impacted because of this new distribution channel? **1**
 (a) Unique value proposition (b) Problem
 (c) Cost (d) None of these
- viii. Experimental design methods are not used _____. **1**
 (a) Evaluating the process capability
 (b) In process development
 (c) In process troubleshooting to improve process performance
 (d) To obtain a process that is robust and insensitive to external sources of variability
- ix. Which of these is not taken into consideration for a product life cycle in case of design for environment **1**
 (a) Environment (b) Health
 (c) Cost (d) Safety
- x. Which of the following life cycle model can be chosen if the development team has less experience on similar projects? **1**
 (a) Spiral (b) Waterfall (c) Iterative (d) Agile
- Q.2 i. How will you identify customer needs? **3**
 ii. What is the need for design thinking? Discuss various stages of the design thinking process in detail? **7**
- OR iii. What aspects of design thinking are most suitable for start-ups and small enterprises? **7**

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- Q.3 i. Define ideate and brainstorming. **3**
 ii. What are the rules of brainstorming? Explain various types of advanced brainstorming techniques. **7**
- OR iii. How product metrics is established? “User needs are to be translated into product specifications” Elaborate in detail. **7**
- Q.4 i. Give real life examples of prototyping strategies. **4**
 ii. What do you understand by minimum viable product? How minimum viable product testing is done? **6**
- OR iii. What are the various prototyping methods? Explain any one with suitable example. **6**
- Q.5 i. Why sustainable business model is so important? **4**
 ii. What are the different types of business models? Explain any one in brief. **6**
- OR iii. How to build a Lean Canvas step by step. **6**
- Q.6 Write a short note on any two:
 i. Design for environment **5**
 ii. Product development process (any one) **5**
 iii. Product life cycle **5**

Scheme of Marking

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Note: The Paper Setter should provide the answer wise splitting of the marks in the scheme below.

Q.1	i)	What is design thinking? a) A process for creative problem solving	1
	ii)	_____ is used with the objective of identifying needs that customers are often unable to articulate. b) Experience mapping	1
	iii)	Method of linking different ideas together by finding commonalities between them. a) Brainstorming web	1
	iv)	_____ take constraints into consideration and are seen as an outline for the design of a potential solution. c) Criteria	1
	v)	Which one of the following gives suggestions for new product and also helps to market new products? b) Distribution channels	1
	vi)	An entrepreneur who owns most of the mango orchards in a locality wants to launch bottled mango salsa. His premium-quality mangoes are rated high in the market. In which block of the Lean Canvas should he capture this information? c) Unfair Advantage	1
	vii)	Arav and Mohan make jewellery meant for festive occasions. They sell their products via multiple jewel stores. Recently they have collaborated with a new online platform that works as a marketplace for ornaments. The marketplace will charge a commission on every piece of jewellery sold through their platform. Which of the following blocks of their business model will be impacted because of this new distribution channel? c) Cost	1

	viii)	Experimental design methods are not used _____ a) Evaluating the process capability	1
	ix)	Which of these is not taken into consideration for a product life cycle in case of design for environment c) cost	1
	x)	Which of the following life cycle model can be chosen if the development team has less experience on similar projects? a) spiral	1
Q.2	i.	How would you identify customer needs? Three points - 1 mark each	3
	ii.	What is the need for design thinking ? Discuss various stages of the design thinking process in detail? Need for design thinking - 2 marks Stages of design thinking - 5 marks	7
OR	iii.	What aspects of design thinking are most suitable for start-ups and small enterprises? design thinking for startup - 3.5 marks design thinking for small enterprise - 3.5 marks	7
Q.3	i	Define ideate and brainstorming? ideate definition - 1.5 marks brainstorming definition - 1.5 marks	3
	ii	What are the rules of brainstorming? Explain various types of advanced brainstorming techniques? Rules of brainstorming - 2 marks Brainstorming techniques - 5 marks	7
OR	iii	How product metric is established. "User needs are to be translated into product specifications" Elaborate in detail. Product metrics - 2 marks User need in to product specification explanation - 5 marks	7
Q.4	i	Give real life examples of prototyping strategies. Four strategies - 2 marks Four examples - 2 marks	4

	ii	What do you understand by Minimum Viable Product ? How Minimum Viable Product Testing is done. MVP definition - 2 marks Testing of minimum viable product - 4 marks	6
OR	iii	Explain in detail various prototyping methods with examples. Methods of prototyping - 2 marks Explanation any one - 3 marks example - 1 marks	6
Q.5	i	Why is a sustainable business model important? Importance - 4 marks	4
	ii	What are different types of business models ? Explain any one in brief. Different types of business models - 2 marks Any one business models explanation - 4 marks	6
OR	iii	How to build a Lean Canvas step by step. Lean canvas steps - 1 mark each	6
Q.6		Write a short note on following (any two)	
	i	Design for environment Explanation - 5 marks	5
	ii	Product development process (any one) Flow diagram - 2 marks Explanation - 3 marks	5
	iii	Product life cycle Block diagram - 2 marks Explanation - 3 marks	5
