

Enrollment No.....



Faculty of Engineering
End Sem (Odd) Examination Dec-2022
EN3ES13 Design Thinking

Programme: B.Tech.

Branch/Specialisation: CSBS

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. Design thinking is- 1
 (a) Thinking about design
 (b) Designing ways in which people think
 (c) Asking users to solve problems
 (d) Defining, framing, and solving problems from users' perspectives
- ii. What are the steps of the design thinking process? 1
 (a) Understand → Draw → Ideate → Create → Test
 (b) Empathise → Define → Ideate → Prototype → Test
 (c) Empathise → Design → Implement → Produce → Test
 (d) Understand → Define → Ideate → Produce → Try
- iii. In design, where does the information used to put together a problem statement come from? 1
 (a) The design stage (b) The ideate stage
 (c) The define stage (d) The testing stage
- iv. Which of these are NOT components of a mind map? 1
 (a) Branches (b) Arrows
 (c) Central idea (d) All of these
- v. The three "I"s of design thinking DO NOT include- 1
 (a) Interest (b) Implementation
 (c) Inspiration (d) Ideation
- vi. Collaborative teamwork is essential in design thinking for 1
 (a) Equal importance to all members
 (b) Solving multifaceted problems
 (c) Unbiased selection of ideas
 (d) Better failure management

P.T.O.

[2]

- vii. What happens in the test stage of design thinking? **1**
 (a) You conduct a written test of your design team.
 (b) You allow consumers to test a product or service.
 (c) You engage in internal testing with employees.
 (d) You test products designed by competitors
- viii. Collecting _____ is an important portion of testing a prototype in the test stage of design thinking. **1**
 (a) Pictures (b) Money
 (c) Feedback (d) Emails
- ix. What element of User Experience Design would the design strategy fall under? **1**
 (a) Interaction design (b) Experience strategy
 (c) User research (d) Information architecture
- x. Which of the following is NOT part of the idea selection process in design thinking? **1**
 (a) Grouping related concepts together
 (b) Identifying selection criteria
 (c) Deliberating
 (d) Prototyping

- Q.2 i. Why do we need design thinking? **4**
 ii. What are the six stages of design thinking? Explain it. **6**
 OR iii. Write a difference between innovation and creativity. **6**
- Q.3 i. What is brainstorming and mind mapping? **4**
 ii. What are the methods of generating ideas in creativity? **6**
 OR iii. How do you define a problem statement? What are the elements of a problem statement? **6**
- Q.4 i. What are design ethics and why are they important? **4**
 ii. What are the five steps in design process? Explain it. **6**
 OR iii. How are creativity and innovation parts of a design process? Why is creativity, innovation and design important? **6**
- Q.5 i. What happens in a test stage of design thinking? **4**
 ii. What is modelling in business process management? How design thinking is used in business process modelling? **6**

[3]

- OR iii. What is agile collaboration? What are the advantages of agile in virtual collaboration? **6**
- Q.6 Attempt any two:
 i. What are sense-making strategies and value redefinition? **5**
 ii. What are different types of rapid prototyping? What is an example of rapid prototyping? **5**
 iii. What is strategy and business model? What are the types of business models? **5**

Marking Scheme
EN3ES13 Design Thinking

Q.1	i)	Design Thinking is: d. Defining, framing, and solving problems from users' perspectives	1
	ii)	What are the steps of the design thinking process? (b) Empathise > Define > Ideate > Prototype > Test	1
	iii)	In design, where does the information used to put together a problem statement come from? c. The Define Stage	1
	iv)	Which of these are NOT components of a mind map? 1 mark awarded to the student	1
	v)	The three "I"s of Design thinking DO NOT include a. Interest	1
	vi)	Collaborative teamwork is essential in design thinking for d. Better failure management	1
	vii)	What happens in the test stage of design thinking? c. You engage in internal testing with employees.	1
	viii)	Collecting _____ is an important portion of testing a prototype in the test stage of design thinking. c. Feedback	1
	ix)	What element of User Experience Design would the design strategy fall under? d. Information Architecture	1
	x)	Which of the following is NOT part of the idea selection process in DT? d. Prototyping	1
Q.2	i.	Why do we need design thinking?(Atleast 4 point 1 marks each)	4
	ii.	What are the 6 stages of design thinking? Explain it. (each stages 1 marks)	6
OR	iii.	Write a difference between innovation and creativity? (Atleast 6 point 1 marks each)	6
Q.3	i.	What is brainstorming (2 marks) and mind mapping (2 marks)	4
	ii.	What are the methods of generating ideas in creativity? (Atleast 6 point 1 marks each)	6
OR	iii.	How do you define a problem statement? (3 marks)What are the elements of a problem statement? (3 marks)	6

Q.4	i.	What are design ethics (2 marks)and why are they important? (2 marks)	4
	ii.	What are the five steps in design process? Explain it.	6
OR	iii.	How are creativity and innovation parts of a design process? (3 marks) Why is creativity innovation and design important? (3 marks)	6
Q.5	i.	What happens in a test stage of design thinking?	4
	ii.	What is modelling in business process management? (3 marks)How design thinking is used in business process modelling? (3 marks)	6
OR	iii.	What is agile collaboration? (3 marks)What are the advantages of agile in virtual collaboration? (3 marks)	6
Q.6			
	i.	What are sense-making strategies (2.5 marks)and Value redefinition? (2.5 marks)	5
	ii.	What are different types of rapid prototyping? (2.5 marks) What is an example of rapid prototyping? (2.5 marks)	5
	iii.	What is strategy and business model? (2.5 marks) What are the types of business models? (2.5 marks)	5
