

Reg.No.: 

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VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN  
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]  
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

**Question Paper Code: 50004**

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – NOV. / DEC. 2024  
Seventh Semester

Computer Science and Engineering  
U19CSV51 – DESIGN THINKING  
(Regulation 2019)

Time: Three Hours

Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	Mention the need for design thinking in the product development process.	2	K2	CO1
2.	What is STEEP analysis, and why is it important in design thinking?	2	K2	CO1
3.	Define journey mapping in design thinking.	2	K2	CO2
4.	How does empathizing help in need finding during design thinking?	2	K2	CO2
5.	List out the key rules of effective brainstorming.	2	K2	CO3
6.	What is prototyping, and why is it important in design thinking?	2	K2	CO3
7.	What is the purpose of assumption testing in design thinking?	2	K2	CO4
8.	How does rapid prototyping differ from traditional prototyping?	2	K2	CO4
9.	What is customer co-creation, and how does it benefit the design process?	2	K2	CO5
10.	What are quick wins, and why are they crucial in a learning launch?	2	K2	CO5

**PART – B**

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11.	a) Explain the phases of design thinking and discuss how they contribute to innovative problem-solving.	13	K2	CO1
	(OR)			
	b) What is STEEP analysis, and how does it integrate with strategic priorities and opportunity framing in design thinking?	13	K2	CO1
12.	a) Discuss the role of visualization techniques in design thinking, focusing on journey mapping, value chain analysis, and mind mapping.	13	K3	CO2
	(OR)			
	b) How does empathizing contribute to effective need finding and the development of user personas?	13	K3	CO2
13.	a) Discuss the key principles and techniques of brainstorming, and how they drive the generation of innovative ideas.	13	K3	CO3
	(OR)			
	b) What is prototyping, and how does it facilitate idea refinement and validation in the design thinking process?	13	K3	CO3
14.	a) Illustrate the connection between rapid prototyping and assumption testing, emphasizing their role in early-stage design and risk reduction.	13	K3	CO4
	(OR)			
	b) Explain how storyboarding helps visualize the user's journey and communicate concepts to stakeholders, making it a powerful tool for both design and user engagement.	13	K3	CO4
15.	a) How does customer co-creation drive innovation and contribute to successful product launches?	13	K3	CO5
	(OR)			
	b) Explain the concept of a learning launch and its role in testing ideas in a real-world context.	13	K3	CO5

PART – C

(1 x 15 = 15 Marks)

Q.No.	Questions	Marks	KL	CO
16. a)	Developing a User-Centric Healthcare Solution <b>Scenario:</b> A healthcare startup wants to design a digital platform that helps elderly people manage their medication schedules more effectively. The design team must understand the unique challenges faced by elderly users, their preferences, and their technological limitations. The team needs to develop a user-centric solution that simplifies the process and ensures user adherence.	15	K3	CO2
	(OR)			
b)	Redesigning the Customer Experience for a Retail Brand <b>Scenario:</b> A retail brand is struggling with customer engagement and retention in their physical stores. The brand's goal is to redesign the in-store experience to be more personalized and interactive, thereby increasing customer satisfaction and sales. The design team is tasked with identifying strategic opportunities, prototyping new concepts, and testing their effectiveness.	15	K3	CO5