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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: 60001**

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

**Eighth Semester**

**Information Technology**

**U19ITV51 – 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.	What is the importance of design thinking in business?	2	K2	CO1
2.	Define the purpose of STEEP analysis in the Explore phase of design thinking.	2	K2	CO1
3.	Show the role of journey mapping in empathize phase.	2	K2	CO2
4.	Define 'User Personas' and their significance in the design process.	2	K2	CO2
5.	What is the 'Zen of Brainstorming'?	2	K2	CO3
6.	Why is prototyping important in the concept development process?	2	K2	CO3
7.	List out the key steps involved in assumption testing.	2	K2	CO4
8.	State the purpose of storyboarding in the Engage phase of design thinking.	2	K2	CO4
9.	What is customer co-creation, and why is it important in the Evolve phase?	2	K2	CO5
10.	Define the concept of 'Quick Wins' in the design thinking process.	2	K2	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	Discuss the role of design thinking in modern business practices. How does it integrate with the overall design process, and what are the key steps involved in creating a design brief?	13	K2	CO1
	(OR)			
b)	Analyze the STEEP analysis framework in detail. How does it help in identifying strategic priorities, and what is the significance of stakeholder mapping and opportunity framing in the Explore phase?	13	K2	CO1
12. a)	Explain the process and importance of deep user interviews and need finding in the Empathize phase of design thinking. How do these methods contribute to creating accurate user personas?	13	K3	CO2
	(OR)			
b)	Describe the journey mapping process and its impact on understanding the user experience. How does mind mapping assist in organizing insights gathered from observations and value chain analysis?	13	K3	CO2
13. a)	Critically evaluate the role of brainstorming in the design thinking process. Discuss the various techniques of brainstorming, including the 'Zen of Brainstorming,' and explain how concept development and prototyping follow this phase.	13	K3	CO3
	(OR)			
b)	Discuss the different methods of ideation used in the Experiment phase. How does the process of idea refinement contribute to the development of a successful prototype? Provide examples to support your explanation.	13	K3	CO3
14. a)	Explain the process of assumption testing in design thinking. Discuss the importance of rapid prototyping and how it is used to engage stakeholders effectively during the design process.	13	K3	CO4
	(OR)			
b)	Analyze the role of storyboarding in the Engage phase. How can storyboarding be used as a tool for communicating complex ideas, and what is its significance in a design thinking case study?	13	K3	CO4

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| 15. a) | Discuss the concept of customer co-creation in the Evolve phase of design thinking. How does it contribute to the Learning Launch, and what strategies can be employed to lead growth and innovation effectively?  | 13 | K3 | CO5 |
| (OR)   |  |    |    |     |
| b)     | Explain the process of concept synthesis in design thinking. How do strategic requirements and evolved activity systems contribute to achieving quick wins and ensuring the long-term success of a design project? | 13 | K3 | CO5 |

**PART – C**

(1 x 15 = 15 Marks)

Q.No.	Questions	Marks	KL	CO
16. a)	Designing a New Urban Transportation System Using Design Thinking You are part of a team tasked with designing a new urban transportation system for a rapidly growing city. The city is facing challenges related to traffic congestion, environmental sustainability, and accessibility for all residents, including those with disabilities. Your team is expected to use the design thinking process to develop a solution.	15	K3	CO2
(OR)				
b)	Redesigning a Customer Experience for an E-commerce Platform Your company is a major e-commerce platform facing increasing competition and customer complaints regarding the user experience on your website and mobile app. The company leadership has decided to undertake a complete redesign of the customer experience, using design thinking principles.	15	K3	CO5