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Question Paper Code: R3F05

B B.E./B.Tech. DEGREE EXAMINATION, NOV 2025

Fifth Semester

Computer Science And Design

R21UCD305 – DESIGN THINKING

(Regulations R2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Where does empathy fit into the Design Thinking process? CO1-U
2. How can we effectively use the visualization tool in design thinking process? CO1-U
3. How the four Ws use to frame a problem statement? CO1-U
4. Prepare any 4 empathy interview questions for the following. 'How to improve the learning ambience in an institution?' CO1-U
5. What is meant by A/B testing? CO1-U
6. Write a note on convergent thinking. CO1-U
7. Give the diagrammatic description of an iterative design process for interaction design. CO1-U
8. List out the "four Es" to provide a basis for creating a living document. CO1-U
9. What are the effects of common gestures. CO1-U
10. Give expansion for the following gaming genre acronyms: MOBA, ARPG CO1-U

PART – B (5 x 16= 80 Marks)

11. (a) Write notes on Maslow's hierarchy of needs in detail. CO1-U (16)
Or
(b) Describe the problem solving approaches used in design thinking. CO1-U (16)
Explain why the Kellogg's project failed in Indian markets.

12. (a) Consider the following scenario and do the following. CO2-App (16)
- (i) Follow the steps used in empathize phase and give a clear explanation with proper justification.
 - (ii) Prepare a persona and empathy map.
 - (iii) Frame a good problem statement.
- Humans depend on water and our need for this precious resource is growing alongside our population. How will we meet the needs of the future without harming the environment?
- Or
- (b) Conduct an empathy map for a group of college students struggling with online learning. Explain how this tool helps in gathering user insights and how these insights influence the design process. CO2-App (16)
13. (a) Explain the differences among guidelines, principles, and theories. CO1-U (16)
- Or
- (b) Explain the key usability requirements for an e-commerce website for rural artisans and describe how user testing and feedback collection help in understanding the usability of the website. CO1-U (16)
14. (a) Explain how expert reviews help to evaluate an interface design. CO1-U (16)
- Or
- (b) Describe the concepts of design frameworks. CO1-U (16)
15. (a) Explain the differences between various kinds of direct manipulation with respect to translational distances. CO1-U (16)
- Or
- (b) Describe the concepts of augmented and virtual reality. CO1-U (16)