

Reg. No.

B.Tech. DEGREE EXAMINATION, JUNE 2023
Fourth Semester

18MBH262J – DESIGN THINKING

(For the candidates admitted from the academic year 2018-2019 to 2021-2022)

Note:

- (i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.
- (ii) **Part - B & Part - C** should be answered in answer booklet.

Time: 3 hours

Max. Marks: 100

PART – A (20 × 1 = 20 Marks)Answer **ALL** Questions

| | Marks | BL | CO | PO |
|--|-------|----|----|----|
| 1. Design thinking is not (A) Human – centric (C) Linear (B) Iterative (D) A problem solving technique | 1 | 1 | 1 | 2 |
| 2. Design thinking does not involve (A) Analysis (C) Divergent thinking (B) Synthesis (D) Parallel processing | 1 | 1 | 1 | 2 |
| 3. The stages of design thinking are (A) Define, empathize, ideate, prototype, test (B) Empathize, ideate, define, produce, test (C) Empathize, define, ideate, prototype, test (D) Empathize, define, ideate, produce, test | 1 | 2 | 1 | 3 |
| 4. Empathize is to _____ with the user. (A) Sympathize (C) Talk (B) Walk in the shoes of (D) Help | 1 | 2 | 1 | 2 |
| 5. Find the odd one out (A) Says (C) Thinks (B) Does (D) Creates | 1 | 2 | 2 | 3 |
| 6. _____ is a collaborative visualization to articulate what we know about a particular user. (A) Scamper (C) Six thinking hats (B) Empathy map (D) Divergent thinking | 1 | 3 | 2 | 3 |
| 7. Find the odd one out. (A) What (C) When (B) Who (D) Where | 1 | 4 | 2 | 3 |
| 8. During _____ stage, the consultation with experts to learn more about the areas of concern of the user happens. (A) Prototype (C) Empathize (B) Define (D) Ideate | 1 | 4 | 2 | 4 |

| | | | | |
|---|---|---|---|---|
| 9. Find the odd one out | 1 | 2 | 3 | 4 |
| (A) Mind mapping | | | | |
| (B) Empathy map | | | | |
| (C) Brainstorm | | | | |
| (D) Scamper | | | | |
| 10. Ideate stage involves | 1 | 2 | 3 | 4 |
| (A) Idea generation | | | | |
| (B) Process specification | | | | |
| (C) System modelling | | | | |
| (D) Problem analysis | | | | |
| 11. The step that follows define stage of design thinking is | 1 | 2 | 3 | 2 |
| (A) Empathize | | | | |
| (B) Ideate | | | | |
| (C) Prototype | | | | |
| (D) Test | | | | |
| 12. The step that precedes prototype is | 1 | 2 | 3 | 2 |
| (A) Empathize | | | | |
| (B) Ideate | | | | |
| (C) Prototype | | | | |
| (D) Define | | | | |
| 13. In the _____ stage, a model of your solution is created. | 1 | 1 | 4 | 2 |
| (A) Prototype | | | | |
| (B) Define | | | | |
| (C) Ideate | | | | |
| (D) Test | | | | |
| 14. Users being able to try out solutions for themselves happens in _____ stage. | 1 | 1 | 4 | 2 |
| (A) Define | | | | |
| (B) Prototype | | | | |
| (C) Ideate | | | | |
| (D) Test | | | | |
| 15. _____ is an experimental phase where you are trying out solutions you previously brainstormed. | 1 | 1 | 4 | 3 |
| (A) Prototype | | | | |
| (B) Test | | | | |
| (C) Define | | | | |
| (D) Ideate | | | | |
| 16. After you ideate, the next step is to | 1 | 1 | 4 | 2 |
| (A) Define | | | | |
| (B) Prototype | | | | |
| (C) Empathize | | | | |
| (D) Test | | | | |
| 17. Continuous iterations happen in _____ stage. | 1 | 2 | 5 | 3 |
| (A) Prototype | | | | |
| (B) Define | | | | |
| (C) Empathize | | | | |
| (D) Test | | | | |
| 18. Gaining feedback from users on how the solution meets their needs is in _____ stage. | 1 | 3 | 5 | 3 |
| (A) Prototype | | | | |
| (B) Test | | | | |
| (C) Empathize | | | | |
| (D) Ideate | | | | |
| 19. Collecting _____ is an important portion of testing a prototype in the test stage of design thinking. | 1 | 4 | 5 | 4 |
| (A) Pictures | | | | |
| (B) Money | | | | |
| (C) Feedback | | | | |
| (D) Emails | | | | |
| 20. In the test stage of design thinking, you | 1 | 4 | 5 | 2 |
| (A) Conduct a written test | | | | |
| (B) Allow consumers to test a product | | | | |
| (C) Engage in internal testing with employees | | | | |
| (D) Test the products designed by competitors | | | | |

PART – B (5 × 4 = 20 Marks)

Answer ANY FIVE Questions

| | Marks | BL | CO | PO |
|--|-------|----|----|----|
| 21. “Design thinking is non-linear”. Comment. | 4 | 3 | 1 | 1 |
| 22. What is an empathy map? Draw and explain its quadrants. | 4 | 2 | 2 | 1 |
| 23. Explain briefly how “5 whys” helps in problem definition of design thinking. | 4 | 1 | 2 | 2 |
| 24. Discuss the three rules of prioritizing the problems. | 4 | 1 | 3 | 2 |
| 25. Design thinking is human centric in its approach. Justify. | 4 | 5 | 3 | 2 |
| 26. Explain briefly how prototyping helps in design thinking to solve user’s problems. | 4 | 4 | 4 | 3 |
| 27. Briefly state the rules of brainstorming. | 4 | 2 | 5 | 4 |

PART – C (5 × 12 = 60 Marks)

Answer ALL Questions

| | Marks | BL | CO | PO |
|---|-------|----|----|----|
| 28. a. Discuss how design thinking has helped solve real world problems with suitable examples. | 12 | 1 | 1 | 1 |
| (OR) | | | | |
| b. Explain the different stages of design thinking. | 12 | 2 | 1 | 2 |
| 29. a. Explain the define stage of design thinking and discuss its significance. | 12 | 2 | 2 | 3 |
| (OR) | | | | |
| b. Explain the various tools that help in problem definition of design thinking. | 12 | 3 | 2 | 3 |
| 30. a. Discuss how brainstorming, brainwriting, gamesstorming and mindmapping helps in ideation stage of design thinking. | 12 | 3 | 3 | 3 |
| (OR) | | | | |
| b. Explain SCAMPER technique of ideation used in design thinking. | 12 | 3 | 3 | 3 |
| 31. a. Discuss the need and importance of prototyping in design thinking. | 12 | 4 | 4 | 4 |
| (OR) | | | | |
| b. Elaborate on the steps involved in prototyping. | 12 | 2 | 4 | 4 |
| 32. a. Discuss the need and importance of testing in design thinking. | 12 | 4 | 5 | 4 |
| (OR) | | | | |
| b. Bring out the guidelines for conducting testing in design thinking. | 12 | 3 | 5 | 3 |

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