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Question Paper Version : A

Fourth Semester B.E. Degree Examination, June/July 2023**Design Thinking and Innovation**

Time: 1 hr.]

[Max. Marks: 50

INSTRUCTIONS TO THE CANDIDATES

1. Answer all the **fifty** questions, each question carries one mark.
2. Use only **Black ball point pen** for writing / darkening the circles.
3. **For each question, after selecting your answer, darken the appropriate circle corresponding to the same question number on the OMR sheet.**
4. Darkening two circles for the same question makes the answer invalid.
5. **Damaging/overwriting, using whiteners** on the **OMR** sheets are strictly prohibited.

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1. What is Design Thinking?
 - a) A method facilitated by UX designers
 - b) A process for creative problem solving
 - c) A process to teach design to non-designer
 - d) A methodology developed to discard old design methods
 2. Which of the following principles are not considered for design thinking?
 - a) Embrace Experimentation
 - b) Profit centric
 - c) Human centric design
 - d) Pattern identification for problem solving
 3. To empathize, one has to
 - a) Observe
 - b) Engage
 - c) Listen
 - d) All of these
 4. Design thinking follows
 - a) Water fall Model
 - b) Agile methodology
 - c) Both of these
 - d) None of these
 5. Which of the following is a key aspect of business model innovation?
 - a) Incrementally improving existing products.
 - b) Expanding the current customer base without any changes
 - c) Reducing operational costs without altering the business structure
 - d) Rethinking how value is created, delivered and captured.
 6. Which of the following business challenges is most suitable for applying design thinking?
 - a) Routine financial reporting and book keeping
 - b) Employee performance appraisal system
 - c) Developing a new product for changing customer preferences
 - d) Office space layout optimization.
 7. _____ Helps the design team and client to visualize and handle the design concept.
 - a) Define
 - b) Ideate
 - c) Empathise
 - d) Prototype

8. Which of the following are not tools of visualization?
a) Maps b) Images c) Stories d) Videos
9. _____ storytelling is the most compelling type of story
a) Aural b) Visual c) Textual d) All of these
10. Design thinking principle do not include
a) Feasibility b) Viability c) Desirability d) Credibility
11. Why is innovation so hard to do in organization?
a) Lack of financial resources b) Fear of failure and risk aversion
c) Over emphasis on short term goals d) limited access to technology
12. Innovation is defined as
a) The commercialization of a new product or process
b) The invention of a new product or process
c) A new product or process idea
d) The implementation of a new production method.
13. What is the primary driver of innovation?
a) Money b) Creativity c) Competition d) Technology
14. Which innovation methodology focuses on empathizing with end users to solve their problems?
a) Agile b) Design thinking c) Six sigma d) Water fall
15. What story telling tool involves creating a vivid mental picture through descriptive language?
a) Imagery b) Acronyms c) Hyperlink d) Puml
16. In storytelling, what does the term hook refer to?
a) The main characters name
b) The story's climax
c) An intriguing opening that grabs the audience attention
d) The conclusion of the story
17. What does MVP stand for in the context of innovation?
a) Most valuable player b) Minimum viable product
c) Maximum value proposition d) Market value potential
18. Which phase of the innovation process involves turning ideas into tangible products or services?
a) Ideation b) Validation c) Execution d) Feedback
19. Frank Robinson defined and coined the term
a) Design thinking b) Mind mapping c) MVP d) Hypothesis
20. Mind maps are used to _____ ideas
a) Generate b) Structure c) Visualize d) All of these
21. What is a common technique for idea generation in brainstorming sessions?
a) Swot analysis b) Mind mapping c) Flow charting d) Regression analysis
22. Which of the following is NOT a typical step in the idea generation process?
a) Idea evaluation b) Idea synthesis c) Idea validation d) Idea elimination

23. Which tool is often used for visualizing and organizing ideas and concepts in a hierarchical or branching structure?
 - a) Spreadsheet
 - b) Mind mapping software
 - c) Word processor
 - d) Presentation software
24. Which of the following is a key benefit of using mind mapping for idea generation?
 - a) Linear thinking
 - b) Restrictive structure
 - c) Visualization of connections
 - d) Limited creativity
25. In the idea generation process what does the acronym "SWOT" stand for
 - a) Structured way of thinking
 - b) Strengths, weaknesses, opportunities, threats
 - c) Systematic workflow of tasks
 - d) Strategic wisdom of teams
26. Which step in the idea generation process involved combining, refining or expanding on generated idea?
 - a) Idea evaluation
 - b) Idea synthesis
 - c) Idea validation
 - d) Idea elimination
27. What is the primary goal of conducting A/B testing in experimentation?
 - a) To test multiple variable simultaneously
 - b) To compare two versions of a variable to determine which performs better
 - c) To measure the overall performance of a system
 - d) To generate new ideas for improvement.
28. What is the primary purpose of a control variable in experimentation?
 - a) To manipulate the outcome
 - b) To observe the dependent variable
 - c) To keep condition constant and unchanged
 - d) To randomize the experiment
29. What is the key in any design thinking process?
 - a) Empathy
 - b) Defining the problem
 - c) Designing the solution
 - d) None of these
30. What is the primary goal of conducting A/B testing in experimentation?
 - a) To test multiple variable simultaneously
 - b) To compare two versions of a variable to determine which performs better.
 - c) To measure the overall performance of a system
 - d) To generate new ideas for improvement.
31. What is the primary goal of human centered design?
 - a) Maximizing profits
 - b) Solving problems for users
 - c) Speeding up development
 - d) Reducing costs
32. Which stage of the design thinking process involves defining the problem and understanding user? Needs?
 - a) Ideation
 - b) Prototyping
 - c) Empathize
 - d) Test
33. Which method is commonly used to gather qualitative data about user experiences with a prototype?
 - a) Surveys
 - b) A/B testing
 - c) Focus groups
 - d) Analytics
34. What is the primary purpose of conducting A/B testing with prototypes?
 - a) To identify usability issues
 - b) To compare two different design concepts
 - c) To gather demographic information about user
 - d) To determine the cost of production.

35. Which of the following is NOT a key principle of human centered design?
 a) Empathize with users b) Focus on aesthetics
 c) Collaborate across disciplines d) Iterate and refine
36. What is the primary goal of human centered design?
 a) Maximizing profits b) Solving problem for users
 c) Speeding up development d) Reducing costs
37. Which stage of the design thinking process involves defining the problem and understanding user needs?
 a) Ideation b) Prototyping c) Empathize d) Test
38. Human-centric design was re-interpreted as an acronym to mean
 a) Hear, create deliver b) Hear, create, design
 c) Hold, create, deliver d) Hear, compile, deliver
39. _____ helps the design team and client to visualize and handle the design concept
 a) Define b) Ideate c) Empathise d) Prototype
40. BPM stands for
 a) Building product management b) Business product management
 c) Business process management d) Basic product management
41. Is prototyping a step in the design thinking process?
 a) True b) False c) Both a and b d) None of these
42. Prototype should only be demonstrated and tested within the team
 a) True b) False c) Both d) None of these
43. What is the main benefit of developing and testing prototypes during the design process?
 a) It helps save time and resources b) It ensures the final product is bug free
 c) It eliminates the need for user feedback
 d) It's a one-time effort to create the final product.
44. Which of the following design thinking stages typically comes after ideation and before prototyping?
 a) Empathize b) Define c) Test d) Implement
45. Which is not one of the types of prototype of prototyping model?
 a) horizontal prototype b) Vertical prototype
 c) Diagonal prototype d) Domain prototype
46. During which stage would you want to try to "think outside of the box"
 a) Prototype b) Define c) Ideate d) Empathize
47. During which stage would you create a model of your solution?
 a) Prototype b) Define c) Ideate d) Test
48. When making sense of observation and insights from user research, which method can help identify patterns and trends?
 a) SWOT analysis b) Root cause c) Affinity mapping d) Competitive analysis
49. Design impact the business
 a) True b) False c) Both a and b d) None of these
50. Design thinking encompasses
 a) Desirability b) Feasibility c) Viability d) All of these

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