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| Question Paper Version : B |

First/Second Semester B.E./B.Tech./B.Design Degree Examination, June/July 2024
Innovation and Design Thinking

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 experience design in the context of design thinking?
    a) The process of designing physical products and services.
    b) The process of designing digital interfaces and interactions.
    c) The process of designing holistic experiences for users across all touch points.
    d) None of these

2. What is standardization in the context of design thinking?
    a) The process of creating standardized design solutions.
    b) The process of following a standard set of design principles.
    c) The process of establishing standards for design processes and methodologies.
    d) None of these

3. What is humanization in the context of design thinking?
    a) The process of marking designs more human centered and empathetic.
    b) The process of making designs more technically advanced.
    c) The process of making designs more aesthetically pleasing.
    d) None of these

4. How can a creative culture be fastened in the design thinking process?
    a) By encouraging risk-taking and experimentation
    b) By establishing rigid design processes and guide lines
    c) By prioritizing cost effectiveness over innovation
    d) None of these

5. What are some common tools and techniques used in rapid prototyping?
    a) Sketching, wire framing and paper prototyping
    b) 3D printing, laser cutting and CNC machining
    c) User research, market analysis and competitive analysis
    d) None of these

6. How can a business model be designed using design thinking?
   a) By identifying customer needs and pain points and designing solutions that address them.
   b) By following a set of established business practices and industry standards.
   c) By prioritizing cost effective over customer value.
   d) None of these

7. Which phase is referred to as an experimental phase where continuous iterations can take place?
   a) Define   b) Empathise   c) Prototype   d) None of these

8. What is the term used to describe the process of narrowing down thoughts to reach the final solution?
   a) Convergent thinking   b) Divergent thinking
   c) None of these   d) Both a and b

9. Design thinking is typically used to provide a solution based approach to problem solving
   a) True   b) False

10. Can design thinking be applied in professions outside of design?
    a) True   b) False

11. What is the goal of using agile technology in virtual collaboration environments for design thinking?
    a) To create aesthetically pleasing designs
    b) To increase efficiency and productivity in the design process
    c) To reduce costs for the organization
    d) To comply with industry regulations and standards

12. Why is scenario based prototyping important in innovation design thinking?
    a) It allows for faster development of prototypes
    b) It helps to identify potential usability issues before the product is released
    c) It reduces the cost of creating prototypes
    d) None of these

13. What is the first step in scenario based prototyping?
    a) Creating a detailed technical specification
    b) identifying potential users and use cases
    c) Building a physical mock up of the product
    d) None of these

14. What are the key stages of the design thinking process?
    a) Ideation, testing, and implementation
    b) Empathy, define, ideate, prototype and test
    c) Planning, execution and evaluation
    d) None of these

15. What is storytelling in the context of design thinking?
    a) If is the process of creating a narrative around a design solution.
    b) It is the process of creating a story board to communicate design ideas.
    c) It is the process of creating a visual representation of a design concept.
    d) None of these

16. What are some common tools and techniques used in strategic foresight?
    a) Scenario planning, trend analysis, and expert interviews
    b) Prototyping, user testing and iterative design
    c) Market research, customer feed back, and competitive analysis
    d) None of these

17. What are some common tools and techniques used in sensemaking?
    a) Empathy mapping, customer journey mapping and data visualization.
    b) Prototyping, user testing and iterative design
    c) Market research, customer feedback and competitive analysis
    d) None of these

18. What is maintenance in the context of design thinking?
    a) The process of repairing and upgrading existing design solutions.
    b) The process of creating new design solutions from scratch.
    c) The process of evaluating the effectiveness of existing design solutions.
    d) None of these

19. What is value redefinition in the context of design thinking?
    a) The process of identifying and redefining the value proposition of a design solution.
    b) The process of creating a detailed technical specification for a design solution.
    c) The process of evaluating the effectiveness of existing design solutions.
    d) None of these

20. What is extreme competition in the context of design thinking?
    a) The process of competing against other design teams to create the best solution.
    b) The process of pushing design teams to their limits to create innovative solutions.
    c) The process of collaborating with competitors to create a joint solution.
    d) None of these

21. What is real-time design interaction capture and analysis?
    a) A process of capturing user feedback after the design process is complete.
    b) A method of analyzing design interactions as they happen.
    c) A technique for capturing user interactions with a product after it is released.
    d) A way to analyze design interactions after they have occurred.

22. What types of interactions can be captured and analyzed in real-time design interaction capture and analysis?
    a) User feed back and comments   b) User interface interactions
    c) User demographic and preferences   d) User purchase behavior.

23. What is the importance of collaboration in design thinking?
    a) It speeds up the design process
    b) It eliminates the need for user research
    c) It ensures all design decisions are final
    d) It brings diverse perspectives and expertise to the design process.

24. What are some digital tools that can be enable efficient collaboration in design thinking?
    a) E Mail
    b) Social media platforms
    c) Video conferencing and collaboration software
    d) Design software

25. What is empathy in design?
    a) Understanding the emotions and experiences of users
    b) Creating products that appeal to users emotions
    c) Limiting the number of user persons in the design process
    d) Only designing products based on market research.

26. Why is empathy important in the design process?
    a) It ensures all design decisions are final
    b) It brings perspectives and expertise to the design process
    c) It speeds up the design process
    d) It results in product that meet users needs and desires.

27. What is the benefit of empathy in design?
    a) It guarantees success in the market
    b) It speeds up the design process
    c) It ensures all design decisions are final
    d) It leads to more meaningful and impactful products.

28. What is distributed design collaboration?
    a) Collaboration between designers who are geographically separated.
    b) Collaboration between designers and machines.
    c) Collaboration between designers and machines
    d) Collaboration between designers from different industries.

29. What are some challenges of distributed design collaboration?
    a) Limited access to digital tools
    b) Technical difficulties and connectivity issues
    c) A lack of clear communication channels
    d) A limited pool of expertise and perspectives

30. What are some benefits of real-time interaction and analysis in design thinking?
    a) It allows for quick and agile decision making
    b) It limits the number of team members involved in the design process
    c) It eliminates the need for user research and testing
    d) It reduces the amount of feed back received from users.

31. Design thinking is _____
    a) A process that allows engineers and designers to create new and innovative solutions to business challenges.
    b) An iterative, non-linear process which focuses on a collaboration between designers and users
    c) a and b
    d) None of these

32. Select the correct order of the different stages of design thinking.
    i) Empathize   ii) Define   iii) Ideate   iv) Prototype   v) Test
    a) ii – iii – iv – v – i   b) i – ii – iii – iv – v
    c) iii – iv – v – i – ii   d) iv – v – i – ii – iii

33. Which of the following principles are not considered for design thinking?
    a) Embrace experimentation   b) Human centric design
    c) Profit centric   d) Pattern identification for problem solving

34. To empathize one has to
    a) Observe   b) Engage   c) Listen   d) All of these

35. Which of the following are not tools of visualization?
    a) Maps   b) Images   c) Stories   d) Videos

36. Journey mapping is also called _____ mapping
    a) Path   b) Experience   c) Conduct   d) Feedback

37. Which of the following are not tools of design thinking?
    a) Co creation   b) Proto typing   c) Mind mapping   d) Online mapping

38. Which design thinking phase is closely related to the creation of an minimum viable product (MVP)?
    a) Empathize   b) Prototype   c) Ideate   d) Test

39. Which one is the minimum viable product?
    a)   b)

    c) Both a and b   d) None of these

40. How can the theory and practice of design thinking work together?
    a) Theory provides a set of rules to follow, while practice ensures the rules are applied effectively.
    b) Theory and practice are two separate processes that do not overlap.
    c) Theory provides a framework for creative problem solving, while practice develops the skills and knowledge to apply the framework effectively.
    d) Theory and practice are interchangeable and can be used in any order.

41. How can real time interaction and analysis be integrated into the design process?
    a) By conducting user research and testing at the end of the design process only.
    b) By eliminating user feedback and relying solely on personal preferences.
    c) By analyzing market trends and sales data only.
    d) By incorporating user feedback throughout the entire design process.

42. What are some common tools used in the empathy phase of design thinking?
    a) Persona development and user interviews
    b) Brain storming and ideation sessions
    c) Sketching and prototyping
    d) User testing and feedback analysis.

43. What is the role of empathy in design thinking in IT?
    a) To understand the needs and challenges of IT users and stake holders.
    b) To create visually appealing IT products and services.
    c) To ensure compliance with industry standards and regulations.
    d) To increase profits for the IT organization.

44. What is the importance of prototyping in design thinking in IT?
    a) To test and refine IT products and services before launch.
    b) To show case IT capabilities to stake holders.
    c) To impress user with cutting edge technology.
    d) To ensure compliance with industry standards and regulations.

45. What is the goal of using design thinking in business process modeling?
    a) To create visually appealing process diagrams.
    b) To stream line business operations and increase efficiency.
    c) To reduce costs for the organization.
    d) To comply with industry regulations and standards.

46. What is the importance of prototyping in design thinking in business process modeling?
    a) To test and refine process models before implementation.
    b) To show case the organizations capabilities to stakeholders.
    c) To impress users with cutting edge technology.
    d) To ensure compliance with industry standards and regulations.

47. What are some common challenges that can be addressed using design thinking in business process modeling?
    a) Inefficient processes that waste time and resources.
    b) Poor communication and collaboration between departments.
    c) Resistance to change from process users and stakeholders.
    d) All of these

48. What is the goal of using agile methodology in design thinking?
    a) To create aesthetically pleasing designs
    b) To increase efficiency and productivity in the design process
    c) To reduce costs for the organization
    d) To comply with Industry regulations and standards.

49. What is the importance of prototyping in agile design thinking?
    a) To quickly test and refine design ideas
    b) To showcase design capabilities to stoke holders
    c) To impress users with cutting edge technology
    d) To ensure compliance with industry standards and regulations

50. What are some common challenges that can be addressed using agile design thinking?
    a) Inefficient design processes that waste time and resources.
    b) Poor communication and collaboration between team members.
    c) Resistance to change from users and stakeholders.
    d) All of these

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