UNIT I – PRINCIPLES OF DESIGN THINKING

1. Explain the five phases of the Design Thinking process with suitable examples.
2. Describe the importance of the "Understand the Problem" phase in planning a design thinking project.
3. How does the Observation Phase influence Point-of-View and Ideation phases?
4. What are the key elements of a successful Prototype phase?
5. Discuss the benefits and limitations of the "Test" phase in the design process.
6. Justify the need for Implementation in the Design Thinking framework.
7. Compare traditional problem-solving and design thinking processes.
8. Why is iteration critical in the Design Thinking process?
9. Illustrate the role of empathy in defining a user-centric problem.
10. Explain the application of the Design Thinking process in a real-life product development scenario.
11. Discuss the common challenges faced during the Ideate phase and suggest solutions.
12. Explain how “fail fast, learn faster” applies to testing in design thinking.
13. Critically analyze the Point-of-View phase with reference to user needs and insights.
14. How does Design Thinking encourage innovation and creativity?
15. Create a design thinking solution for improving a college canteen service using all five phases.

UNIT II – EXPLORE, EMPATHIZE AND EXPERIMENT PHASES

1. Explain the purpose and structure of STEEP analysis with an example.
2. How does stakeholder mapping influence the outcome of a design thinking project?
3. Differentiate between Field Observation and Deep User Interviews with case examples.
4. How does Empathize phase help in identifying unspoken user needs?
5. Discuss the role of Needs Finding and Persona Development in user-centered design.
6. Explain how the SCAMPER technique fosters innovative ideation.
7. What is Analogous Inspiration? How can it be used effectively in a design context?
8. Describe the role of Deconstruct and Reconstruct in reframing problems.
9. Explain Opportunity Framing and its significance in the exploration phase.
10. What are the benefits of using Experiment Methods & Tools in the early design phases?
11. Create a persona for a mobile banking app for elderly users and explain the design implications.
12. How does user experience design evolve through empathy and experimentation?
13. Develop a stakeholder map for a smart city waste management system.
14. Justify why understanding strategic priorities is essential before ideation.

UNIT III – ENGAGE AND EVOLVE PHASE

1. Explain the role of storytelling and storyboarding in concept communication.
2. How does co-creation enhance product relevance and acceptance?
3. Describe how concept synthesis leads to innovation. Provide examples.
4. Explain the application of CAP and 4S frameworks in evolving design ideas.
5. What are the strategic requirements in design thinking and how are they addressed?
6. Describe the importance of Activity System Integration in large-scale design.
7. What is the purpose of a viability analysis in evolving a concept into a solution?
8. Explain the Change Management tool using Review with a practical example.
9. Define quick wins. How do they contribute to stakeholder motivation?
10. Illustrate how art of storytelling influences user engagement.
11. Develop a concept for a health monitoring wearable using engage-evolve strategies.
12. Describe the methods and tools used in the engage phase of design.
13. Why is continuous user engagement important during the design evolution phase?
14. Analyze the use of Innovation tools in refining early-stage design ideas.
15. How can storytelling be used to gain stakeholder buy-in?

UNIT IV – VISUALIZATION

1. Define journey mapping and explain its significance in service design.
2. How is value chain analysis used in identifying innovation gaps?
3. Describe the role of mind mapping in the early design stages.
4. Explain the process and purpose of assumption testing in product development.
5. What are the steps involved in concept development in design thinking?
6. Discuss how brainstorming sessions contribute to innovative idea generation.
7. Differentiate between rapid prototyping and traditional prototyping methods.
8. Explain customer co-creation and its impact on final product success.
9. Describe the concept of Learning Launch with real-life applications.
10. How does visualization enhance communication of design ideas?
11. What is the significance of mapping tools in identifying user pain points?
12. Discuss how visualization helps align teams during the design process.
13. How can assumption testing minimize product failure risk?
14. Illustrate the importance of prototyping in refining user experience.
15. Design a mind map and journey map for an online grocery shopping app.

UNIT V – ADOPTION OF ARTIFICIAL INTELLIGENCE

1. Explain how AI is transforming the design thinking process.
2. What are the ethical considerations in AI-powered design?
3. Discuss the importance of explainable AI in user trust and system transparency.
4. What is AI-empowered design? How is it different from traditional approaches?
5. How does human-AI collaboration influence design efficiency?
6. Describe the role of adaptive design in AI systems.
7. Compare AI-based and rule-based design systems with examples.
8. How does AI support personalized design for users?
9. What are real-time AI systems? Explain with applications.
10. How is AI used in concept development and prototyping?
11. What is the role of learning algorithms in intelligent design systems?
12. Discuss how AI impacts user experience and decision-making.
13. How can designers ensure ethical, inclusive design when using AI?
14. Illustrate the design process of a smart assistant using AI and design thinking.
15. Describe the future trends in AI integration in design innovation.