

SAMPLE PAPERS
DIPLOMA FIFTH SEMESTER EXAMINATION 2025 (JUT)
DESIGN THINKING
DIPLOMA WALLAH

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(MADE WITH ❤ BY SANGAM)

Full Marks: 70 marks | Time: 3 Hours

Instructions:

- Question No. 1 is compulsory.
 - Answer any **FOUR** questions from the remaining (Q.2 to Q. 7 marks).
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Q.1 Multiple Choice Questions (Compulsory)

(7 Questions × 2 Marks = 14 Marks)

1. Which of the following is NOT one of the three core criteria for successful innovation in Design Thinking?
 - A) Feasibility
 - B) Viability
 - C) Desirability
 - D) Predictability
2. In the context of observation techniques, a "Structured Approach" is best suited for:
 - A) Uncovering unknown needs
 - B) Validating specific hypotheses
 - C) Exploring random user behaviors
 - D) Generating wild ideas
3. "Fogg's Behavior Model" suggests that behavior is a result of:
 - A) Motivation + Ability + Trigger
 - B) Idea + Prototype + Test
 - C) Empathy + Definition + Ideation
 - D) Viability + Feasibility + Cost
4. Which mapping tool is primarily used to organize large amounts of data by grouping similar notes or ideas?
 - A) Journey Map
 - B) Empathy Map

- C) Affinity Diagram
- D) Mind Map
- 5. The "Tangibility Rule" in Design Thinking principles emphasizes:
 - A) Making ideas concrete through prototyping
 - B) Keeping ideas abstract
 - C) Focusing only on software
 - D) Removing all physical constraints
- 6. Which phase of the Design Thinking framework involves challenging assumptions and creating a wide range of ideas?
 - A) Empathize
 - B) Define
 - C) Ideate
 - D) Test
- 7. "Systemic Inspiration" generally requires:
 - A) A homogeneous team
 - B) Looking only at internal data
 - C) Identifying new sources of ideas outside regular work
 - D) Analyzing past financial reports

Q.2

(A) Define Design Thinking and explain in detail the Principles of Design Thinking. Discuss how these principles differentiate Design Thinking from traditional problem-solving approaches. (7 Marks)

(B) Elaborate on the Design Thinking Frameworks used in the industry. Explain the complete process flow and the critical role of each phase in generating innovative solutions. (7 Marks)

Q.3

(A) Explain the Basis for Design Thinking. Discuss the essential Design Thinking Skills required for an individual or a team to successfully implement the methodology. (7 Marks)

(B) What are Ideation Tools? Explain the techniques of Brainstorming and Innovation Heuristics in detail, highlighting how they help in discovering new sources of ideas. (7 Marks)

Q.4

(A) Explain the process of Listening and Empathizing in Design Thinking. Describe the difference between the Structured and Open-Ended Approach in observation techniques for gathering user insights. (7 Marks)

(B) Define and explain the practical application of Empathy Map, Affinity Diagram, and Journey Map in a Design Thinking project. (7 Marks)

Q.5

(A) Explain the role of Storytelling in communicating innovation concepts. Describe the process of Scenario Planning and the steps involved in the Development of Scenarios. (7 Marks)

(B) How can frameworks be applied to strengthen communication and sustain a culture of innovation within an organization? Discuss the importance of assessing developer and user perspectives for potential bias. (7 Marks)

Q.6

(A) Briefly explain the concepts associated with Viability and Feasibility when proposing an innovation project. (7 Marks)

(B) What is meant by Systemic Inspiration and why is it essential for a Design Thinking mindset? (7 Marks)

Q.7 Short Notes (Answer Any FOUR)

(4 × 3.5 Marks = 14 Marks)

A) Role and composition of a Design Thinking Team

B) Cognitive Fixedness and methods to overcome it

C) Behaviour Models in ideation

D) Improvisation in Storytelling

E) Mind Map



SOLUTIONS: SAMPLE PAPER 1**Q.1 MCQ Answer Key**

1. **D** (Predictability)
2. **B** (Validating specific hypotheses)
3. **A** (Motivation + Ability + Trigger)
4. **C** (Affinity Diagram)
5. **A** (Making ideas concrete through prototyping)
6. **C** (Ideate)
7. **C** (Identifying new sources of ideas outside regular work)

Theory Solutions (Hints/Model Content)**Q.2 (A) Define DT & Principles:** ¹

- *Def:* Human-centered, iterative process².
- *Principles:* Human rule (social activity), Ambiguity rule (preserve unknowns), Re-design rule (nothing from scratch), Tangibility rule (make ideas tangible)³.
- *Diff:* Traditional is logic-driven/linear; DT is iterative/user-centric⁴.

Q.2 (B) Frameworks: ⁵

- *5 Stages:* Empathize (Research), Define (Problem statement), Ideate (Generate ideas), Prototype (Create solutions), Test (Try out)⁶.

Q.3 (A) Basis & Skills: ⁷

- *Basis:* Feasibility (Possible?), Viability (Profitable?), Desirability (Wanted?)⁸.
- *Skills:* Empathy, Integrative Thinking, Optimism, Experimentation⁹.

Q.3 (B) Ideation Tools: ¹⁰

- *Brainstorming:* Quantity over quality, defer judgment¹¹.
- *Heuristics:* Mental shortcuts (e.g., reverse process) to find novel ideas¹².

Q.4 (A) Listening/Empathizing: ¹³

- *Observation:* Seeing what people do vs say¹⁴.
- *Structured:* Checklists/metrics (Validating)¹⁵.
- *Open-Ended:* Flexible/exploratory (Uncovering unknown needs)¹⁶.

Q.4 (B) Maps: ¹⁷

- *Empathy Map:* Says/Thinks/Does/Feels¹⁸.
- *Affinity:* Grouping similar notes¹⁹.
- *Journey:* User process over time/touchpoints²⁰.

Q.5 (A) Storytelling/Scenarios: ²¹

- *Storytelling:* Communicates context and emotion²².
- *Scenario Planning:* Imagining futures (Best/Worst case)²³.

Q.5 (B) Communication/Bias: ²⁴

- *Bias*: Developer (Technical) vs User (Experiential). Frameworks align these²⁵.
- *Culture*: Support risk-taking, fail fast²⁶.

Q.6 (A) Viability/Feasibility: ²⁷

- *Feasibility*: Technical possibility. *Viability*: Business sustainability²⁸.

Q.6 (B) Systemic Inspiration: ²⁹

- Looking for new models outside the regular atmosphere to drive innovation³⁰.

Q.7 Short Notes: ³¹

- (A) Cross-functional, diverse skills, facilitator leader.
- (B) Mental ruts; overcome by analogies/changing environment.
- (C) Predict human actions (Fogg's model).
- (D) Quickly test narrative concepts.
- (E) Hierarchical visual structure around a central subject.

