

GUJARAT TECHNOLOGICAL UNIVERSITY
BCA/MCA INTEGRATED – SEMESTER 3 – EXAMINATION – SUMMER 2026

Subject Code: BC03001071

Date: 25/05/2026

Subject Name: DESIGN THINKING AND INNOVATION

Time: 02:30 PM TO 05:00 PM

Total Marks: 70

Instructions:

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**
- 4. Use of simple calculators and non-programmable scientific calculators are permitted.**

- Q.1** (a) Explain the difference between facts, observations, and insights. Support your answer with suitable examples. **07**
- (b) Explain in detail the four main principles of design thinking. Support your answer with suitable examples **07**
- Q.2** (a) How is design thinking used in business innovation? **07**
- (b) Explain how design thinking has been applied to improve healthcare services. Give suitable examples. **07**
- OR
- (b) Why is design thinking important in the public sector? **07**
- Q.3** (a) What is a persona in design thinking? List and explain the steps to create a user persona. **07**
- (b) Why is empathy considered the foundation of design thinking? **07**
- OR
- Q.3** (a) How does group brainstorming encourage idea development? **07**
- (b) Describe a case study where iterative prototyping significantly improved a product. **07**
- Q.4** (a) How is user feedback gathered and utilized during the testing stage of a project? **07**
- (b) What is a Point-of-View (POV) statement in design thinking? Explain how it is constructed and describe its importance in the design process. **07**
- OR
- Q.4** (a) Explain the difference between divergent and convergent thinking. Support your answer with suitable examples. **07**
- (b) How can digital tools be used to support activities like empathy research, journey mapping, and prototyping design thinking? **07**
- Q.5** (a) How do leading companies like IDEO or Apple use design thinking to drive user-centered innovation? **07**
- (b) What is the Six thinking Hats technique, and how does it improve collaboration and decision-making in teams? **07**

OR

Q.5	(a) How does prototyping contribute to problem-solving and innovation in design thinking?	07
	(b) How does failure contribute to learning and improvement in the design thinking process?	07

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
BCA/MCA INTEGRATED - SEMESTER - III EXAMINATION - WINTER 2025

Subject Code: BC03001071

Date: 08-12-2025

Subject Name: Design Thinking and Innovation

Time: 10:30 AM TO 01:00 PM

Total Marks: 70

Instructions

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**
- 4. Use of simple calculators and non-programmable scientific calculators are permitted.**

	Marks
Q.1 (a) What is design thinking? explain its attributes	07
(b) Explain models of design thinking in detail	07
Q.2 (a) Explain persona creation in details	07
(b) What is observation? Explain it's types	07
OR	
(b) Explain origin of design thinking	07
Q.3 (a) Explain HMW questions in know your problem	07
(b) Explain how to know your problem in details	07
OR	
(a) Explain role playing in details	07
(b) What is brainstorming ? Explain in details	07
Q.4 (a) Explain mind mapping in details	07
(b) Explain the six thinking hats	07
OR	
(a) Explain know your failure in details	07
(b) Explain concept sketching in details	07
Q.5 (a) Explain user feedback details design thinking	07
(b) Explain case study in design thinking	07
OR	
(a) Explain how to know your user	07
(b) How to know your product in details?	07
