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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: II - THEORY EXAMINATION (2024- 2025)

Subject: Design Thinking-I

Time: 3 Hours

Max. Marks: 100

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of **three Sections -A, B, & C**. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.
2. Maximum marks for each question are indicated on right -hand side of each question.
3. Illustrate your answers with neat sketches wherever necessary.
4. Assume suitable data if necessary.
5. Preferably, write the answers in sequential order.
6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION-A

20

1. Attempt all parts:-

- 1-a. Which one is not an element of great design? (CO1, K1) 1
- (a) Experience
 - (b) Simplicity
 - (c) Efficiency
 - (d) Complexity
- 1-b. Design Thinking typically helps in _____. (CO1, K3) 1
- (a) Innovation
 - (b) Data analytics
 - (c) Financial planning
 - (d) Operational efficiency
- 1-c. Value important for relationship is _____. (CO2, K1) 1
- (a) Integrity and character
 - (b) Arrogance
 - (c) Competition
 - (d) Aggresion
- 1-d. Which one is not a quality of good interviewer _____. (CO2, K1) 1
- (a) Observant
 - (b) Curious
 - (c) Good Listener

- (d) Arrogant
- 1-e. You have a good problem statement if team members: (CO3, K1) 1
- (a) Feel inspired.
 - (b) Have the criteria to evaluate ideas.
 - (c) Can use it to guide innovation efforts.
 - (d) All of the above
- 1-f. By using methods for synthesizing raw data into a meaningful and usable body of knowledge: (CO3,K1) 1
- (a) Empathy mapping and space saturate and group — we will be able to create an actionable design problem statement.
 - (b) Point of View that inspire the generation of ideas to solve it.
 - (c) How Might We questions open up to Ideation sessions where you explore ideas, which can help you solve your design challenge in an innovative way.
 - (d) All of the above
- 1-g. A statement is... (CO4, K1) 1
- (a) A question or exclamation
 - (b) An affirmation of prior beliefs
 - (c) An assertion that something is or is not the case
 - (d) An assertion that is neither true nor false
- 1-h. Statements backed by good reasons are... (CO4, K1) 1
- (a) Worthy of strong acceptance
 - (b) To be believed with certainty
 - (c) Never false
 - (d) Beyond all possible doubt
- 1-i. Words that frequently accompany arguments and signal that a premise or conclusion is present is called [CO5,K1] 1
- (a) Inference words
 - (b) Premise indicators
 - (c) Indicator words
 - (d) Equivalent words
- 1-j. A deductively valid argument cannot have (CO5,K1) 1
- (a) True premises and a false conclusion
 - (b) False premises and a true conclusion
 - (c) True premises and a true conclusion
 - (d) False premises and a false conclusion
2. Attempt all parts:-
- 2.a. Difference between Dialogue and debate. (CO1,K1) 2
- 2.b. Explain the ethical behaviour.(CO2,K1) 2

2.c.	What are the traits of good problem statement? (CO3,K1)	2
2.d.	Define fundamental concepts of critical thinking. (CO4,K1)	2
2.e.	What does invalid argument mean? (CO5,K1)	2

SECTION-B

30

3. Answer any five of the following:-

3-a.	What are 3 laws of Design Thinking? Explain with examples. (CO1, K1)	6
3-b.	What is a difference between Empathy and Sympathy. (CO1, K1)	6
3-c.	Give an illustration of CATWOE analysis. (CO2, K3)	6
3-d.	Describe the brainstorming with its benefits.(CO2,K1)	6
3.e.	How we can say that the Metaphors can be a powerful tool for improving the user experience? (CO3, K1)	6
3.g.	What are the four steps involved in determining whether an argument is deductive or inductive, sound or cogent? (CO5,K1)	6
3.f.	Demonstrate tribalism and give any example related to it. How it is handled by critical thinking. (CO4,K1)	6

SECTION-C

50

4. Answer any one of the following:-

4-a.	Discuss six key steps to design thinking mindset. (CO1, K1)	10
4-b.	Analyze the advantages of creativity. (CO1, K4)	10

5. Answer any one of the following:-

5-a.	What do you understand by 'trust'? What is its importance in human relationship? (CO2, K1)	10
5-b.	"Human being is more than just the body" – Explain. (CO2, K2)	10

6. Answer any one of the following:-

6-a.	Elaborate Million Dollar Idea and how to nurture it. (CO3,K1)	10
6-b.	Elaborate Black hat and Red hat. (CO3, K1)	10

7. Answer any one of the following:-

7-a.	Describe the features of critical thinking. Discuss it's significance in obtaining the solution of problems. (CO4,K1)	10
7-b.	Distinguish component areas that are necessary for successful critical thinking. (CO4,K1)	10

8. Answer any one of the following:-

8-a.	How you can say that deductive reasoning is different from inductive reasoning? (CO5, K1)	10
8-b.	What do you understand by simple and compound proposition? (CO5,K1)	10