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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

MCA

SEM: II - THEORY EXAMINATION (2021 - 2022)

Subject: Design Thinking

Time: 3 Hours

Max. Marks: 100

General Instructions:

1. The question paper comprises three sections, A, B, and C. You are expected to answer them as directed.
2. Section A - Question No- 1 is 1 marker & Question No- 2 carries 2 marks each.
3. Section B - Question No-3 is based on external choice carrying 6 marks each.
4. Section C - Questions No. 4-8 are within unit choice questions carrying 10 marks each.
5. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION A

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1. Attempt all parts:-

- 1-a. What are the steps of Design Thinking Process? (CO 1) 1
- (a) Understand > Draw > Ideate > Create > Test
  - (b) Empathise > Define > Ideate > Prototype > Test
  - (c) Empathise > Design > Implement > Produce > Test
  - (d) Understand > Define > Ideate > Produce > Try
- 1-b. Caitlin is creating a new product for university students. She takes a design-thinking approach. Her first step is addressing who she is creating the product for and conducts research on understanding this target market. What is this step in the design thinking process? (CO 1) 1
- (a) Define
  - (b) Ideate
  - (c) Empathise
  - (d) Prototype
- 1-c. Which is NOT a good interview strategy for the Empathy step? (CO 2) 1
- (a) Encourage the person to talk about experiences.
  - (b) Ask follow-up questions to get more information.

- (c) Try to uncover needs people may or may not be aware of.
- (d) Encourage short answers that get right to the point.
- 1-d. Areas of interaction between a customer and company are known as \_\_\_\_\_. (CO 2) 1
- (a) Touch points
  - (b) Pain points
  - (c) Shopping points
  - (d) Respect
- 1-e. Which among the following is not a tool used in define stage. (CO 3) 1
- (a) 5 Why's
  - (b) Brainstorming
  - (c) How Might We
  - (d) Point of View
- 1-f. Which of these is an effective question to use in the transition stage between Define and Ideate in design thinking? (CO 3) 1
- (a) How many prototypes should we develop?
  - (b) How might we increase battery life?
  - (c) What is our customer's problem?
  - (d) How are we going to solve this?
- 1-g. Breaking down a problem into its constituent parts during team discussion is which of the following steps in the Standard Agenda plan? (CO 3) 1
- (a) Criteria development
  - (b) Identification of the problem
  - (c) Analyzing the problem
  - (d) Evaluating problem solutions
- 1-h. What is the importance of critical thinking? (CO 4) 1
- (a) Critical thinking can help you focus on issues and gather relevant, accurate information.
  - (b) Critical thinking can help you analyze questions and problems
  - (c) Critical thinking can help you organize your thoughts logically.
  - (d) All of the above
- 1-i. Which of these is NOT a barrier to critical thinking? (CO 5) 1
- (a) Poor reading skills
  - (b) Poor listening skills

(c) Courage

(d) Bias

- 1-j. An argument intended to provide logically conclusive support for its conclusion is (CO 5) 1
- (a) Inductive
  - (b) Valid
  - (c) Deductive
  - (d) Sound

2. Attempt all parts:-

- 2.a. Give 2 examples of Limiting belief and how it can become a constraint. (CO 1) 2
- 2.b. Why trust is necessary in relationships? (CO2) 2
- 2.c. What do you understand with Ice Cream stick challenge? (CO 3) 2
- 2.d. Explain the concept of inductive argument. (CO 4) 2
- 2.e. Define premises, with example. (CO 5) 2

#### SECTION B

30

3. Answer any five of the following:-

- 3-a. What are the barriers to Listening? (CO 1) 6
- 3-b. Explain DCAFE forces. (CO1) 6
- 3-c. Differentiate between intention and competence. (CO 2) 6
- 3-d. Discuss the activities of body and self. (CO2) 6
- 3.e. What do you understand with root cause analysis? Which tools helps in root cause analysis? (CO 3) 6
- 3.f. Explain difference between Ostrich effect and Recency effect. (CO 4) 6
- 3.g. Define the components and types of an argument? (CO5) 6

#### SECTION C

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4. Answer any one of the following:-

- 4-a. What are 3 key elements of Design Thinking? Explain the types of observers. (CO 1) 10
- 4-b. What do you understand with Arcturus IV case study by Professor John Arnold? What are your imaginations about the same? (CO 1) 10

5. Answer any one of the following:-

- 5-a. What do you understand with persona? Create a persona of your favourite teacher. (CO 2) 10
- 5-b. What is CATWOE analysis? Do the CATWOE analysis for your department. (CO2) 10

6. Answer any one of the following:-

6-a. Write Short note on 6 thinking hats? A coffee store is experiencing decline in orders due to delay in ordering process. Apply 6 thinking hats to understand the problem. (CO3) 10

6-b. Define brainstorming tool. How Increase the association and Random Association technique helps in Brainstorming? (CO 3) 10

7. Answer any one of the following:-

7-a. What is critical thinking? Explain 5 pillars of critical thinking. (CO 4) 10

7-b. What do you understand with Cognitive Biases? Discuss any 5 cognitive bias with example. (CO4) 10

8. Answer any one of the following:-

8-a. What do you understand with Logical Fallacies? Explain any 5 Logical fallacies with example. (CO5) 10

8-b. Write short note on: (CO5) 10  
(i) Claim and argument  
(ii) Deductive, Inductive and Abductive Reasoning