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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

MCA

SEM: II - CARRY OVER THEORY EXAMINATION -JUNE 2023

Subject: Design Thinking

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

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1. Attempt all parts:-

- 1-a. Identify the correct statements. (CO 1) 1
- (a) In Design Thinking, the outcomes are limited.
 - (b) Design Thinking is a possibility and the outcomes are endless.
 - (c) In Design Thinking, a logic with imagination and intuition is incorporated.
 - (d) Design Thinking is a linear process.
- 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. During which step do you explore the ways in which users experience your area of concern? (CO 2) 1
- (a) Prototype
 - (b) Ideate
 - (c) Define
 - (d) Empathise
- 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 the following is an effective technique for dealing with troublesome group members? (CO 4) 1
- (a) Embrace their disruptive behavior
 - (b) Use the same behaviors as the disruptive member to demonstrate why their behaviors are flawed
 - (c) Create an environment where the disruptive member does not feel welcome
 - (d) Confront the person directly
- 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. Words that frequently accompany arguments and signal that a premise or conclusion is present is called. (CO 4) 1
- (a) Inference words
 - (b) Premise indicators
 - (c) Indicator words
 - (d) Equivalent words

- 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. The first step in investigating possible implicit premises is to... (CO 5) 1
- (a) Search for a credible premise that would make the argument as strong as possible
 - (b) Rewrite the argument
 - (c) Search for a credible premise that would make the argument valid
 - (d) Make a bad argument good

2. Attempt all parts:-

- 2.a. Give any 2 instances of importance of listening over hearing. Illustrate with real time examples. (CO 1) 2
- 2.b. Explain the culture in organization and its various types. (CO2) 2
- 2.c. What do you understand with Ice Cream stick challenge? (CO 3) 2
- 2.d. What are various components of scientific reasoning? Explain. (CO 4) 2
- 2.e. Define premises, with example. (CO 5) 2

SECTION B

30

3. Answer any five of the following:-

- 3-a. Explain DCAFE forces. (CO1) 6
- 3-b. What are 3 laws of design thinking? (CO 1) 6
- 3-c. How empathy can be playing an important role in understanding the problem? (CO 2) 6
- 3-d. Discuss the family as the smallest unit of human interaction. (CO 2) 6
- 3.e. What are five steps of design thinking? Explain role of Define tool in design process. (CO 3) 6
- 3.f. Discuss the significance of propositional logic in critical thinking? (CO 4) 6
- 3.g. Define the components and types of an argument? (CO5) 6

SECTION C

50

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? 10
What are your imaginations about the same? (CO 1)

5. Answer any one of the following:-

- 5-a. Discuss the needs, activities of body and self. (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. What is 5 Why tool? How it helps in root cause finding explain with 10
example. (CO 3)
6-b. Define brainstorming tool. How Increase the association and Random 10
Association technique helps in Brainstorming? (CO 3)

7. Answer any one of the following:-

- 7-a. What is critical thinking? Explain 5 pillars of critical thinking. (CO 4) 10
7-b. Define cognitive bias. Explain its types 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 10
with example. (CO5)
8-b. Write short note on: (CO5) 10
(i) Claim and argument
(ii) Deductive, Inductive and Abductive Reasoning