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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

MCA (Integrated)

SEM: II - THEORY EXAMINATION (2022-2023)

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

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1. Attempt all parts:-

- | | | |
|------|--|---|
| 1-a. | What are the steps of Design Thinking Process? (CO1) | 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. | What is a prototype as it relates to design thinking? (CO1) | 1 |
| | (a) A model used to help define the problem that needs solved. | |
| | (b) A planning stage for designers to empathize with users. | |
| | (c) A model that end users can test and give feedback on. | |
| | (d) A method of brainstorming to come up with various ideas. | |
| 1-c. | The fourth step in the design thinking process is: (CO2) | 1 |
| | (a) Ideate | |
| | (b) Define | |
| | (c) Prototype | |

- (d) Test
- 1-d. Which is not an aspect of the Define step of design thinking? (CO2) 1
- (a) Create a composite user to give perspective to the solution
 - (b) Develop a Point of View statement to state user's need
 - (c) Define different possible solutions to the problem
 - (d) Recognise a challenge with a "How Might We" question
- 1-e. What is an empathy map? (CO3) 1
- (a) A tool used by pilots to guide their direction.
 - (b) A template that organizes a user's behaviors and feelings.
 - (c) A tool used by designers to understand customers.
 - (d) A tool used by teachers to support students.
- 1-f. 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-g. The word critical in critical thinking refers to (CO4) 1
- (a) A fault-finding attitude
 - (b) Attempts to win an argument
 - (c) Using careful judgment or judicious evaluation
 - (d) A lack of respect for other people
- 1-h. Biases are shortcuts in our thinking. Which collective term best describes both conscious and subconscious bias? (CO4) 1
- (a) Unknown Bias
 - (b) Cognitive Bias
 - (c) Known Bias
 - (d) None of these
- 1-i. The fallacy of appeal to the person is rejecting a claim by (CO5) 1
- (a) Using rhetoric
 - (b) Making false statements
 - (c) Ignoring the person
 - (d) Criticizing the person who makes it
- 1-j. Arguing that a lack of evidence proves something is the fallacy of design 1

thinking. (CO5)

- (a) Appeal to ignorance
- (b) Double negative
- (c) Equivocation
- (d) Burden of proof

2. Attempt all parts:-

- 2.a. Write down any three scenarios where you have seen Design thinking being applied around you and how did it impact you or someone else. (CO1) 2
- 2.b. Describe the human being as co-existence of self and body depicting need, activity and response. (CO2) 2
- 2.c. Write short note on double diamond approach (CO3) 2
- 2.d. Differentiate between inductive argument and deductive argument. (CO4) 2
- 2.e. How does fallacy influence your thinking? Explain. (CO5) 2

SECTION B

30

3. Answer any five of the following:-

- 3-a. What are the wicked problem. (CO1) 6
- 3-b. Explain DCAFE forces. (CO1) 6
- 3-c. Explain the Self Actualization needs. (CO2) 6
- 3-d. What do you understand by basic needs of human being? (CO2) 6
- 3.e. Create a journey map for a rural student taken admission into your college. (CO3) 6
- 3.f. What is Logic? Why logic is important in Critical Thinking? (CO4) 6
- 3.g. Explain three arguments with premises with appropriate example. (CO5) 6

SECTION C

50

4. Answer any one of the following:-

- 4-a. Design Thinking is core medium of innovation. Explain (CO1) 10
- 4-b. What are the key tenets of Design thinking? (CO1) 10

5. Answer any one of the following:-

- 5-a. Elaborate the role of education in human life. (CO2) 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. How can Six Thinking Hats helps in Problem solving? (CO3) 10

7. Answer any one of the following:-

7-a. Describe the Jerk factor with example. (CO4) 10

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

8. Answer any one of the following:-

8-a. Determine Straw Man fallacy and Bandwagon fallacy. (CO5) 10

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

2022-23 Jan_Jun