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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

M.Tech (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

20

1. Attempt all parts:-

- 1-a. Out of following this is the first step of Design thinking Process in IDEO approach. (CO1) 1
- (a) Discovery
 - (b) Interpretation
 - (c) Ideation
 - (d) Feel
- 1-b. _____ is a complex interaction between the individual and their work situation at different levels of organization. (CO1) 1
- (a) Innovation
 - (b) Creativity
 - (c) Invention
 - (d) None of the above
- 1-c. CATWOE analysis was generated by(CO2) 1
- (a) Michael Porter

- (b) Perter F Druker
(c) Will Durand
(d) David Smyth
- 1-d. The needs of _____ can not be fulfilled by material. (CO2) 1
(a) consciousness
(b) material
(c) non-material
(d) None of the above
- 1-e. In the_____ stage you synthesise your observations about your users from the first stage, the Empathise stage. (CO3) 1
(a) Define
(b) Ideate
(c) Prototype
(d) Test
- 1-f. Journey map is best defined as. (CO3) 1
(a) It is a map to locate where the customer has travelled
(b) This only applies to the travel industry, since it involves maps
(c) It is a typical journey of a customer who goes through a certain experience
(d) The map that leads us to a profit making enterprise
- 1-g. Your dad read that using cell phones can cause brain cancer. He refuses to buy a cell phone because he is afraid of contracting brain cancer from using one. No matter how much you try to persuade him with other information, he will not listen. This is an example of?(CO4) 1
(a) Confirmation Bias
(b) Outcome Bias
(c) Blindspot Bias
(d) Anchoring Bias
- 1-h.is essentially is the polar opposite of inductive reasoning. (CO4) 1
(a) Inferential
(b) Deductive
(c) Conductive
(d) Assumptive
- 1-i. Propositional logic uses symbols to stand for statements and [CO5] 1

- (a) Non statements
- (b) The relationships between subject and predicate
- (c) Truth values
- (d) The relationships between statements

- 1-j. Deductive logic existing choices. (CO5) 1
- (a) broadens
 - (b) narrows down
 - (c) disqualifies
 - (d) differentiates

2. Attempt all parts:-

- 2.a. Explain the concept of limiting belief. (CO1) 2
- 2.b. Define the aboriginal culture.(CO2) 2
- 2.c. Describe brainwrite. (CO3) 2
- 2.d. Define rhetoric and its use. (CO4) 2
- 2.e. Discuss the method to know whether an argument is valid or invalid. (CO5) 2

SECTION B

30

3. Answer any five of the following:-

- 3-a. Explain the design mindset. Describe the characteristics of Design mindset. (CO1) 6
- 3-b. Describe the five forces of growth. (CO1) 6
- 3-c. Describe the effect of culture of an institution on its working and operations. (CO2) 6
- 3-d. State the situations when empathy map should be used. (CO2) 6
- 3.e. Write the differences between dreaming and imagining. (CO3) 6
- 3.f. Explain the Halo Effect and Ingroup Preference Bias. Explain both with examples. (CO4) 6
- 3.g. Differentiate between an argument and an explanation. (CO5) 6

SECTION C

50

4. Answer any one of the following:-

- 4-a. Think of any wicked problem which our country is facing right now. Government of India has appointed you as a consultant to work on this problem. List down the observations, form and refine a problem statement and list down feasible and sustainable idea. (CO1) 10

4-b. 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) 10

5. Answer any one of the following:-

5-a. Write a descriptive note on the importance of trust in relationships. (CO2) 10

5-b. Explain the culture in organization and its various types.(CO2) 10

6. Answer any one of the following:-

6-a. Explain the concept of Edward DeBono's six thinking hats. (CO3) 10

6-b. Describe the root cause analysis. Suggest some tools that help in root cause analysis. (CO3) 10

7. Answer any one of the following:-

7-a. "Linking the ideas in design thinking helps in creating the feasible solutions." Explain. (CO4) 10

7-b. Describe the methods and tips for overcoming cognitive bias. (CO4) 10

8. Answer any one of the following:-

8-a. Describe the concept of logical reasoning. Explain its various types. (CO5) 10

8-b. Elaborate the role of critical thinking in scientific reasoning. Also enlist five components of scientific reasoning. (CO5) 10

2022-23 Jan-Jun