NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

M.TECH (INTEGRATED)

SEM: II CARRY OVER THEORY EXAMINATION - AUGUST 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.   Design Thinking is: (CO1)   1

         (a) Thinking about design

         (b) Designing ways in which people think

         (c) Asking users to solve problems

         (d) Defining, framing and solving problems from users' perspectives

1-b.   The Empathize phase deals with: (CO1)   1

         (a) Fine tune products or services till they are no more bugs in them

         (b) Get in the shoes of the customers and understand the situation from their perspective

         (c) Interviewing people to get their opinions, feedback and shortcomings of your current product/service

         (d) Prototype a concept and check if it stands the test of the market

1-c.   Design thinking proces starts with _____. (CO2)   1

         (a) Feel

(b) Ideate

(c) Emapthy

(d) Communicate

1-d. Affinity clusters are related to_____ .(CO2)   1

(a) Ideation

(b) Evaluation

(c) Analysis

(d) Prototyping

1-e. Creating Personas will help you to: (CO3)   1

(a) Understand your users' needs, experiences, behaviours and goals.

(b) Help you step out of yourself.

(c) Help you to recognise that different people have different needs and expectations.

(d) All of the above

1-f. Characteristics required for successful ideation are: (CO3)   1

(a) Adapting

(b) Connecting

(c) Disrupting

(d) All of the above

1-g. Critical thinking concerns with: (CO4)   1

(a) Determining the cause of our beliefs

(b) Pinpointing the psychological basis of our beliefs

(c) Determining the quality of our beliefs

(d) Assessing the practical impact of our beliefs

1-h. The process of reasoning from a premise or premises to a conclusion based on those premises is known as: (CO4)   1

(a) Extended reasoning

(b) Subordinate premise

(c) Dialectic

(d) Inference

1-i. An inductive argument that succeeds in providing probable, but not conclusive, logical support for its conclusion is said to be [CO5]   1

(a) Inductive

(b) Cogent

(c) Weak

(d) Strong

1-j.	Words that frequently accompany arguments and signal that a premise or conclusion is present is called [CO5]	1

(a) Inference words

(b) Premise indicators

(c) Indicator words

(d) Equivalent words

2. Attempt all parts:-

2.a.	Explain the wicked Problems. (CO1)	2
2.b.	Elaborate the role of education in human life. (CO2)	2
2.c.	Discuss the role of ideation in problem solving. (CO3)	2
2.d.	List the characteristics of well cultivated thinker. (CO4)	2
2.e.	Differentiate between valid and invalid arguments. (CO5)	2

SECTION B   **30**

3. Answer any <u>five</u> of the following:-

3-a.	Differentiate between Listening and Hearing. Give examples. (CO1)	6
3-b.	Discuss the framework for Creativity and Innovation. (CO1)	6
3-c.	Enumerate significant characteristics of socialiation. (CO2)	6
3-d.	Define different perspectives of ethical behaviour.(CO2)	6
3.e.	Descibe Bingo Selection and Idea Affinity Maps.(CO3)	6
3.f.	Elaborate Analogies and provocation. (CO4)	6
3.g.	Explain with diagram the "Components of Scientific Reasoning". (CO5)	6

SECTION C   **50**

4. Answer any <u>one</u> of the following:-

4-a.	Discuss in detail key elements of the design thinking process. Also draw a neat and clean diagram. (CO1)	10
4-b.	Describe 13 musical notes of Design mindset. How do they impact our thinking? (CO1)	10

5. Answer any <u>one</u> of the following:-

5-a.	Describe the culture in the startups in line with changing trends to earn livelihood.(CO2)	10

5-b.   Describe the empathy map and its application.(CO2)   10

6. Answer any <u>one</u> of the following:-

6-a.   Differentiate between Sketch and Prototype. (CO3)   10

6-b.   Create a journey map for a rural student taken admission into your college.   10
         (CO3)

7. Answer any <u>one</u> of the following:-

7-a.   Explain various cognitive bias in critical thinking. (CO4)   10

7-b.   Describe the features of critical thinking. Discuss it's significance in obtaining   10
         the solution of problems. (CO4)

8. Answer any <u>one</u> of the following:-

8-a.   Define propositional logic and identify the role that logic plays in critical   10
         thinking with example. (CO5)

8-b.   Discuss the role of probability and judgment in critical thinking with   10
         appropriate example. (CO5)