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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

M.Tech(Integrated)

SEM: V - THEORY EXAMINATION (2024 - 2025)

Subject: Design Thinking-II

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. Six Key Steps to a Design Thinking Mindset involves: (CO1,K1)

1

- (a) Frame a Question
- (b) Gather Inspiration
- (c) Generate Ideas
- (d) All of the above

1-b. Divergence involves: (CO1,K2))

1

- (a) Ideate, What if & Brainstorm.
- (b) What works and connecting the dots.
- (c) To observe clearly what is happening around in any situation.
- (d) The identification of the problem statement is key in the Design process.

1-c. Brainstorming rules includes: (CO2,K1)

1

- (a) Time limit
- (b) Topic focussed
- (c) No criticism
- (d) All of the above

1-d. Convergent thinking can be examined through which lenses- (CO2,K1)

1

- (a) Desirability
- (b) Viability
- (c) Feasibility

- (d) All of the above
- 1-e. Taguchi's method also known as..... (CO3,K2) 1
- (a) user acceptance testing
 - (b) user interface model
 - (c) robust design methods
 - (d) all of the above
- 1-f. Guerrilla research is a quick andway of learning about and understanding experiences (CO3,K1) 1
- (a) low cost
 - (b) high cost
 - (c) different
 - (d) boring
- 1-g. Tuckman propounded the model for: (CO4,K2) 1
- (a) Group behaviour
 - (b) General management
 - (c) Effective communication
 - (d) Team building
- 1-h. In DMAIC, "C" stands for: (CO4,K1) 1
- (a) Control
 - (b) Compare
 - (c) Collect
 - (d) Confirm
- 1-i. Human Centered Approach deals with:(CO5,K1) 1
- (a) Nature
 - (b) Community
 - (c) Individual
 - (d) All of these
- 1-j. In the Johari Window, the things that we know about ourselves and keep to ourselves represent our (CO5,K2) 1
- (a) blind self.
 - (b) unknown self
 - (c) hidden self.
 - (d) open self.
2. Attempt all parts:-
- 2.a. How does the McDonald's Milkshakes improved customer experience? (CO1,K1) 2
- 2.b. Discuss 10-100-1000 gm law of design thinking. (CO2,K2) 2
- 2.c. Laura has a sampling frame of all the people who are members of a club. She gives each member a unique reference number and uses a random number 2

	generator to select the sample. Which sampling method is Laura using?Justify the answer. (CO3,K3)	
2.d.	Describe the durability in reference to quality. (CO4,K1)	2
2.e.	Define FIRO-B Test. (CO5,K1)	2
<u>SECTION-B</u>		30
3.	Answer any <u>five</u> of the following:-	
3-a.	Elaborate the following term as per wheel of life: (1) Spiritual (2) Physical (CO1,K2)	6
3-b.	Analyze "The Golden Circle" with help of Apple example. (CO1,K3)	6
3-c.	Explain the role of the Vroom Yetton Matrix in refinement and prototyping . (CO2,K2)	6
3-d.	Which tools and techniques (such as paper models, storyboards, or pseudo-codes) can be used to create an effective prototype for your 1000gm idea, and how do these tools contribute to the convergence process?. (CO2,K3)	6
3.e.	Describe the elements of storytelling proposed by Aristotle. (CO3,K2)	6
3.f.	Explain the different traits and qualities of the leaders with an example.. (CO4,K2)	6
3.g.	Explain darshan according to Jain Darshan. (CO5,K2)	6
<u>SECTION-C</u>		50
4.	Answer any <u>one</u> of the following:-	
4-a.	Why is the concept of the "Higher Purpose" important in Design Thinking, and how can it impact the design process and final outcome of a project?. (CO1,K2)	10
4-b.	Studying the case studies like DBS Singapore and Bank of America's Keep the Change campaign, how did they apply Design Thinking principles to create customer-centered innovations?. (CO1,K3)	10
5.	Answer any <u>one</u> of the following:-	
5-a.	Why is it essential to gather user feedback during prototyping, and how can it guide the revision of your brainstormed ideas during the 1000gm stage?. (CO2,K2)	10
5-b.	Identify the insights that can be drawn from case studies like Careerbuddy, You-Me-Health, and IBM Learning Launch, and how can these lessons be applied to your 1000gm prototype to create a user-centered solution?. (CO2,K3)	10
6.	Answer any <u>one</u> of the following:-	
6-a.	Explain the importance of observation and Dialogue in design thinking. (CO3,K1)	10
6-b.	Explain various types of usability testing methods . (CO3,K2)	10
7.	Answer any <u>one</u> of the following:-	
7-a.	Discuss the team building models :Tuckman and Belbin and importance of the spatial elements for innovation. (CO4,K2)	10
7-b.	Describe the 6 Sigma and Kaizen importance in design thinking and also discuss the case study of the Mumbai Dibbawallas. (CO4,K3)	10

8. Answer any one of the following:-

- 8-a. Define the Interconnectedness and mutual fulfilment among the four orders of nature recyclability and self-regulation in nature. Explain the shifting the Thinking .(CO5,K3) 10
- 8-b. Define the importance of the behaviour skills in design thinking . Explain the term ENFJ in terms of MBTI test .Justify with an example(CO5,K3) 10

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