KUMARAGURU
college of technology
character is life

Register Number:……..…

M.TECH DEGREE EXAMINATIONS: NOV/DEC 2023

(Regulation 2018)

First Semester

MASTERS OF TECHNOLOGY MANAGEMENT

P18TME0034: Applied Design Thinking

COURSE OUTCOMES

CO1: Apply a scientific method to define & test various hypotheses to mitigate the inherent risks in product innovations.

CO2: Demonstrate the learning to identify different beneficiaries & market segments, define the early adopters and choose the target user/buyer from the selected market.

CO3: Design the solution [MUP] concept based on the proposed value defined for the target customer exploring various alternate solutions to achieve value-price fit.

CO4: Develop skills in empathising, critical thinking, analysing, storytelling & pitching.

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Design Thinking is: CO1 [K_2]
   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

2. Types of Adoption Barriers include CO2 [K_2]
   a) Time consumption
   b) Accessibility
   c) Skills/Expertise
   d) All of the above

3. What is the first step in the Design Thinking Process? CO1 [K_2]
   a) Define
   b) Empathise
   c) Ideate
   d) Prototype

4. If you are an innovator, and if you come across any problem, the first step is to _____ CO2 [K_2]
   a) Ideate a solution
   b) Build Prototype
   c) Understand the problem thoroughly
   d) None of the above

5. Process innovation refers to_____ CO3 [K_2]

a) The development of a new service
b) The development of a new product
c) The implementation of a new or improved production method
d) The development of new products or services

6. Which is NOT a good practice for preparing a presentation CO4 [K_2]
a) Visualize your content
b) Keep it simple
c) Use big paragraphs as content
d) Bullet/Highlight your key points

7. Which of the following is TRUE? CO2 [K_2]
a) By empathizing, one can define a problem well, and conceive creative solutions resulting in breakthrough innovations
b) Empathy makes you a better person, but innovation requires a lot of box thinking and not empathy
c) Inventions are sudden eureka moments and not really a part of research or exploration
d) None of the above

8. The storytelling method can influence how we make decisions and how we persuade others of our ideas CO4 [K_2]
a) True
False

9. How do you conduct customer discovery? CO2 [K_2]
a) E-Mail
b) Phone Call
c) Interview
d) All of the above

10. One needs to have professional training in design to become a design thinker. CO1 [K_2]
a) True
b) False

PART B (10 x 2 = 20 Marks)

11. What is the need for design thinking? CO1 [K_2]
12. What are the stages of the design thinking process? CO1 [K_2]
13. What kind of risk is associated with product innovations in the early stage that design thinking helps to mitigate? CO2 [K_2]
14. Explain the importance of problem validation CO3 [K_2]
15. What is an MUP & Why do you build it? CO3 [K_2]
16. What is human-centric design thinking? CO1 [K_2]
17. What's the difference between a user and a customer CO2 [K_2]
18. Problem Validation & Customer Discovery canvas helps in which stage of design thinking? CO2 [K_2]

19.	List the five factors of the Product innovation rubric.	CO1	[K_2]
20.	What is the importance of the Value Proposition?	CO3	[K_2]

PART C (6 x 5 = 30 Marks)

21.	Explain Adoption Barriers with their different types.	CO2	[K_2]
22.	Explain the different risks in Product Innovation.	CO1	[K_2]
23.	Explain the best practices for preparing the pitch for the investors	CO4	[K_2]
24.	Explain the various metrics of challenge brief canvas with an example	CO3	[K_2]
25.	Describe the concept generation process in building an MUP	CO3	[K_2]
26.	Summarize the importance of storytelling during the presentation	CO4	[K_2]

Answer any FOUR Questions

PART D (4 x 10 = 40 Marks)

27.	Describe all stages of the design thinking used for product innovation with target customers	CO1	[K_2]
28.	Explain the process involved in problem validation and customer discovery	CO2	[K_2]
29.	Hull cleaning is an integral part of any moored or berthed vessels maintenance program to prevent the vessel from slowing down with growth and increasing fuel costs. Due to the effect of barnacles and other biofouling processes in the ship's hull, the drag of the ship increases thereby causing an extra fuel consumption expense of 40%. Currently, there is no other mechanism followed other than deploying manual labour for the inspection of the ship hull – Describe the value proposition for the problem statement.	CO3	[K_4]
30.	Summarize the Do's and Dont's in preparing a presentation using the 3Min Pitch Canvas	CO3	[K_2]
31.	Explain the MUP concept assessment technique with a suitable problem statement of your own	CO3	[K_5]

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