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- (c) invent and explore concepts by being able to record ideas quickly
- (d) All of the above
- 1-d. Convergent thinking is a method of (CO 4) 1
- (a) Narrowing the available solutions to a final solution
- (b) Finding many possible solutions in the first stance
- (c) Both
- (d) None

- 1-e. is the first step of hypothesis testing. (CO 5) 1
- (a) research
- (b) validation
- (c) formulation
- (d) recording

2. Attempt all parts:-

- 2.a. Define wicked Problems. (CO 1) 2
- 2.b. Explain how might we tool in case of a designing a mobile phone cover. (CO 2) 2
- 2.c. Write short note on what White hat represents. (CO 3) 2
- 2.d. Describe any two tools used for prototyping. (CO 4) 2
- 2.e. Define Taguchi method. (CO 5) 2

SECTION B

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3. Answer any three of the following:-

- 3-a. What is a wicked problem? Why are they difficult to solve? State their characteristics. (CO 1) 5
- 3-b. Explain POV ? And solve the old man vehicle problem who lives in a city in proper template. (CO 2) 5
- 3.c. Discuss three laws of design thinking. (CO 3) 5
- 3.d. Explain SWOT analysis with suitable example. (CO 4) 5
- 3.e. Define Guerrilla Interviews test. Explain the significance of guerrilla research. (CO 5) 5

SECTION C

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4. Answer any one of the following:-

- 4-a. Describe frictional forces. How can we overcome them? (CO 1) 4
- 4-b. Discuss the Arcturus IV theory given by Professor John E. Arnold. What are your 4

imagination for Arcturus IV (CO 1)

5. Answer any one of the following:-

- 5-a. Explain 5 Why's tool with suitable example. (CO 2) 4
- 5-b. Write down the emphasis of Define Stage of Design Thinking. Explain POV tool with example. (CO 2) 4

6. Answer any one of the following:-

- 6-a. Explain the Steps to conduct a "How Might We" exercise. Give importance of Ice Cream Stick challenge to build a HMW statement. (CO 3) 4
- 6-b. Describe how does the Double Diamond Approach works. (CO 3) 4

7. Answer any one of the following:-

- 7-a. Write short note on napkin pitch with suitable example. (CO 4) 4
- 7-b. Discuss the check-list for designing a good minimum viable product. (CO 4) 4

8. Answer any one of the following:-

- 8-a. Define Vroom Yetton Matrix. How it helps in decision making? (CO 5) 4
- 8-b. What is alpha and beta testing? Differentiate them. (CO 5) 4