

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech. II Year II Semester Regular Examinations July/August-2025

DESIGN THINKING & INNOVATION

(Common to All)

Time: 3 Hours

Max. Marks: 70

PART-A

(Answer all the Questions **10 x 2 = 20 Marks**)

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|---|---|---|-----|----|----|
| 1 | a | Name the five stages of the Design Thinking process. | CO1 | L1 | 2M |
| | b | How does Design Thinking help in product development? | CO1 | L2 | 2M |
| | c | Define the Empathize stage in Design Thinking. | CO2 | L1 | 2M |
| | d | Why Define stage is important in problem-solving? | CO2 | L4 | 2M |
| | e | What are the key principles of the art of innovation? | CO3 | L1 | 2M |
| | f | What role does risk-taking play in innovation? | CO3 | L1 | 2M |
| | g | What is problem formation in product design? | CO4 | L1 | 2M |
| | h | Define product design and its key components. | CO4 | L1 | 2M |
| | i | Define design thinking, and how is it applied in business innovation? | CO5 | L1 | 2M |
| | j | How does design thinking help businesses solve complex problems? | CO5 | L2 | 2M |

PART-B

(Answer all Five Units **5 x 10 = 50 Marks**)

UNIT-I

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| 2 | a | Explain the primary focus of traditional thinking. | CO1 | L2 | 5M |
| | b | Explain the importance of empathy in design thinking. | CO1 | L2 | 5M |

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| 3 | | Explain the impact of new materials in industrial design and their role in shaping sustainable practices. | CO1 | L2 | 10M |
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UNIT-II

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| 4 | a | List and Construct Five stages of Design Thinking process. | CO2 | L1 | 5M |
| | b | Explain five stages of Design Thinking process with suitable examples. | CO2 | L2 | 5M |

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| 5 | | Discuss a real-world case study where Design Thinking was used for a social innovation. | CO2 | L2 | 10M |
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UNIT-III

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| 6 | | Evaluate the effectiveness of design thinking in driving innovation across its different stages. | CO3 | L6 | 10M |
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| 7 | | Explain the importance of creativity and innovation in achieving organizational success, with examples. | CO3 | L2 | 10M |
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UNIT-IV

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| 8 | a | State product design and List out the different types of product strategies. | CO4 | L1 | 5M |
| | b | Explain the key stages in the product design process. | CO4 | L2 | 5M |

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| 9 | | Assess the effectiveness of various methods used to measure post-launch product success. | CO4 | L5 | 10M |
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UNIT-V

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| 10 | | Compare and contrast the application of design thinking in large organizations versus startups. How does each benefit from this approach? | CO5 | L4 | 10M |
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OR

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| 11 | a | Explain the concept of design thinking. | CO5 | L2 | 5M |
| | b | Apply the design thinking process in driving business and strategic innovation. | CO5 | L3 | 5M |

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