

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

B.Tech. II Year II Semester Supplementary Examinations December-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 Define the Design Thinking. | CO1 | L1 | 2M |
| b How is Design Thinking different from traditional problem-solving? | CO1 | L2 | 2M |
| c What is the purpose of the Ideate phase? | CO2 | L1 | 2M |
| d How does prototyping help in refining an idea? | CO2 | L2 | 2M |
| e How does design thinking contribute to innovation? | CO3 | L2 | 2M |
| f Compare creativity and innovation. | CO3 | L4 | 2M |
| g How does product value impact a company's success? | CO4 | L2 | 2M |
| h List out the factors influence product planning.. | CO4 | L1 | 2M |
| i Why is empathy important in design thinking for business? | CO5 | L4 | 2M |
| j How can businesses use design thinking to create customer-centric products? | CO5 | L2 | 2M |

PART-B

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

UNIT-I

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| 2 Explain the role of prototyping in design thinking. How can prototyping help designers refine their ideas and create innovative solutions? | CO1 | L2 | 10M |
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OR

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| 3 a How does it differ from the focus of design thinking? | CO1 | L2 | 5M |
| b Develop a case study of a successful design thinking project. | CO1 | L3 | 5M |

UNIT-II

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| 4 a List and explain the Design Thinking drive new inventions. | CO2 | L1 | 5M |
| b Choose some examples of innovative products developed using this approach. | CO2 | L3 | 5M |

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| 5 Explain the role of brainstorming in the design thinking process. | CO2 | L2 | 10M |
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UNIT-III

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| 6 a Define creativity and innovation with suitable examples. | CO3 | L1 | 5M |
| b Explain the concept of the art of innovation. | CO3 | L2 | 5M |

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| 7 Evaluate the effectiveness of current practices used by companies to measure creativity and innovation outcomes. | CO3 | L6 | 10M |
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UNIT-IV

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| 8 Describe the steps involved in problem formation and its importance in product design. | CO4 | L1 | 10M |
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| 9 Describe how sustainability principles can be applied to the design of a common consumer product. | CO4 | L1 | 10M |
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UNIT-V

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| 10 a Discuss how design thinking supports businesses in maintaining relevance and competitive markets. | CO5 | L2 | 5M |
| b How companies that have successfully implemented design thinking principles. | CO5 | L2 | 5M |

OR

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| 11 Make use of design thinking to define and test business models? Explain the process with case studies. | CO5 | L3 | 10M |
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