

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

B.Tech. IV Year I Semester Regular & Supplementary Examinations October/November-2025
POWER PLANT ENGINEERING
(Mechanical Engineering)

Time: 3 Hours**Max. Marks: 60**

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

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|---|--|-----|----|----|
| 1 | a Enumerate about power plant types. | CO1 | L1 | 6M |
| | b Discuss about the sources of energy. | CO1 | L2 | 6M |

OR

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|---|---|-----|----|-----|
| 2 | Draw the layout of hydel power plant and explain. | CO1 | L1 | 12M |
|---|---|-----|----|-----|

UNIT-II

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|---|--|-----|----|-----|
| 3 | Discuss the factors to be considered for the selection of a site for setting up a steam power plant. | CO2 | L2 | 12M |
|---|--|-----|----|-----|

OR

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|---|--------------------------------------|-----|----|----|
| 4 | a Discuss about over feed fuel bed. | CO2 | L2 | 6M |
| | b Describe about underfeed fuel bed. | CO2 | L2 | 6M |

UNIT-III

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|---|---|-----|----|----|
| 5 | a What is an IC engine? Explain its applications. | CO3 | L2 | 6M |
| | b How would you classify IC engines? Brief them. | CO3 | L2 | 6M |

OR

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|---|--|-----|----|----|
| 6 | a Classify the gas turbines. Write the major field of application of gas turbines. | CO3 | L4 | 6M |
| | b Name the Gas turbine fuels. Discuss the important properties to be considered for selecting gas turbine fuels. | CO3 | L2 | 6M |

UNIT-IV

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|---|--|-----|----|-----|
| 7 | What are the factors to be considered for site selection of hydroelectric power plant? | CO4 | L3 | 12M |
|---|--|-----|----|-----|

OR

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|---|--|-----|----|----|
| 8 | a Illustrate a high head power plant with a neat sketch. | CO4 | L2 | 6M |
| | b Compare base load plants with peak load plants. | CO4 | L4 | 6M |

UNIT-V

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|---|--|-----|----|----|
| 9 | a Discuss true chain reaction. | CO5 | L2 | 6M |
| | b Enumerate the requirements of fission process. | CO5 | L2 | 6M |

OR

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|----|---|-----|----|----|
| 10 | a Summarize the radiation hazards on living beings. | CO5 | L3 | 6M |
| | b Define shielding and its purpose. | CO5 | L1 | 6M |

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