

Reg. No:

--	--	--	--	--	--	--	--	--	--

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

**B.Tech II Year II Semester Supplementary Examinations July-2022**

**MECHANICAL ENGINEERING**

(Common to CE & AG)

Time: 3 hours

Max. Marks: 60

**PART-A**

(Answer all the Questions 5 x 2 = 10 Marks)

- |   |   |   |    |    |
|---|---|---|----|----|
| 1 | a | Define Compression ratio.               | L2 | 2M |
|   | b | What are the advantages of CRDI Engine? | L1 | 2M |
|   | c | Define Refrigerant.                     | L2 | 2M |
|   | d | What is the purpose of Clutch?          | L1 | 2M |
|   | e | What is mean by Casting?                | L2 | 2M |

**PART-B**

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

**UNIT-I**

- |   |   |  |    |    |
|---|---|--|----|----|
| 2 | a | List & Explain the different types of process in Diesel Cycle. | L1 | 5M |
|   | b | Express the Vander walls Equation.                             | L2 | 5M |

**OR**

- |   |   |  |    |    |
|---|---|--|----|----|
| 3 | a | Explain in detail about different process in Carnot Cycle. | L1 | 2M |
|   | b | Solve the efficiency of Diesel cycle using PV diagram.     | L2 | 8M |

**UNIT-II**

- |   |   |  |    |    |
|---|---|--|----|----|
| 4 | a | What do you know about classification of Boilers? Discuss? | L1 | 5M |
|   | b | Explain the term Gas turbine and its Classification.       | L1 | 5M |

**OR**

- |   |   |   |    |    |
|---|---|---|----|----|
| 5 | a | What is a Hybrid Engines? Explain its Types?                      | L2 | 5M |
|   | b | Discuss on different types of fuels used in Industry Application. | L1 | 5M |

**UNIT-III**

- |   |   |                                     |    |    |
|---|---|-------------------------------------|----|----|
| 6 | a | What is Coefficient of Performance? | L1 | 5M |
|   | b | Define Heat Pump.                   | L2 | 5M |

**OR**

- |   |   |   |    |    |
|---|---|---|----|----|
| 7 | a | Explain the working of split air conditioner. | L2 | 8M |
|   | b | Define Heat Pump.                             | L2 | 2M |

**UNIT-IV**

- |   |   |                                    |    |    |
|---|---|------------------------------------|----|----|
| 8 | a | Define Engineering Materials.      | L1 | 6M |
|   | b | Define power Transmission Devices. |    | 4M |

**OR**

- |   |   |                                      |    |    |
|---|---|--------------------------------------|----|----|
| 9 | a | Discuss in detail about Chain drive. | L2 | 5M |
|   | b | Define briefly about Rope drives.    | L1 | 5M |

**UNIT-V**

- |    |   |                          |    |    |
|----|---|--------------------------|----|----|
| 10 | a | Explain about Casting.   | L1 | 5M |
|    | b | What is mean by Brazing? | L1 | 5M |

**OR**

- |    |   |  |    |    |
|----|---|--|----|----|
| 11 | a | Explain about Powder Metallurgy.       | L2 | 5M |
|    | b | Explain about Forging and their types. | L1 | 5M |

\*\*\*END\*\*\*