

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

B Tech III Year II Semester Regular Examinations August-2023

AUTOMOBILE 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 Differentiate between S I engines and CI engines. | CO1 | L2 | 6M |
| | b List out the components of I.C engine and its function. | CO1 | L2 | 6M |

OR

- | | | | | |
|---|---|-----|----|----|
| 2 | a Write characteristics of good chassis and frame. | CO1 | L2 | 6M |
| | b Explicate front and rear wheel drive layout in detail with relevant sketch. | CO1 | L2 | 6M |

UNIT-II

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|---|--|-----|----|----|
| 3 | a Discuss in detail about the CRDI engines. | CO2 | L2 | 6M |
| | b Differentiate between MPFI and CRDI fuel injection system. | CO2 | L2 | 6M |

OR

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|---|--|-----|----|----|
| 4 | a Write a note on emissions from alternative fuels like hydrogen, biomass and alcohol. | CO2 | L2 | 6M |
| | b Elucidate the working of 3-way catalytic converter with a neat sketc. | CO2 | L2 | 6M |

UNIT-III

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|---|---|-----|----|----|
| 5 | a Describe the grading phenomena of Lubricant | CO3 | L2 | 6M |
| | b Is lubricant used in 2 stroke and 4 stroke engines are same? Explain. | CO3 | L4 | 6M |

OR

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|---|---|-----|----|----|
| 6 | a State the necessity of Bendix Drive. | CO3 | L1 | 6M |
| | b Explain with neat sketch about Starting System in automobile. | CO3 | L1 | 6M |

UNIT-IV

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|---|--|-----|----|----|
| 7 | a Explain in details about Front Axle with neat diagram. | CO6 | L2 | 6M |
| | b Differentiate between rear axle and front axle drive system. | CO6 | L4 | 6M |

OR

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|---|--|-----|----|----|
| 8 | a Explain the mechanism of Hotchkiss drive and torque tube drive | CO4 | L2 | 6M |
| | b Describe the working principle of fluid fly wheel with the help of a sketch. | CO4 | L2 | 6M |

UNIT-V

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|---|--|-----|----|----|
| 9 | a Briefly explain about the Davi's Steering Mechanism with neat sketch. | CO5 | L2 | 6M |
| | b Explain with the help of a neat layout about Rigid Axle Suspension system. | CO5 | L2 | 6M |

OR

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|----|---|-----|----|----|
| 10 | a What are the different types of steering gears used in an automobile and mention the advantages of each gear. | CO6 | L2 | 6M |
| | b What are the functions and components of the steering system. | CO6 | L2 | 6M |

*** END ***

