

Code No: 126EH

R13

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, May - 2017

AUTOMOBILE ENGINEERING

(Common to ME, MCT)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B. Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

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|------|---|-----|
| 1.a) | Define Chassis. | [2] |
| b) | What is MPFI system? | [3] |
| c) | Define thermostat. | [2] |
| d) | What are the requirements of a good spark plug? | [3] |
| e) | Define contact breakers. | [2] |
| f) | What is the function of a propeller shaft? | [3] |
| g) | What is King pin inclination? | [2] |
| h) | What is meant by Toe-in and Toe-out? | [3] |
| i) | Name the different alternative fuels. | [2] |
| j) | Define octane and Cetane numbers. | [3] |

PART - B

(50 Marks)

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|------|--|-------|
| 2.a) | Classify the different types of carburetors. | |
| b) | Show and explain with reason the mixture requirement for idling, cruising and high power range at various throttle openings. | [5+5] |

OR

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|------|--|-------|
| 3.a) | What is the function of Fuel-injection holder? | |
| b) | Explain the different types of nozzles with neat sketches. | [5+5] |

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| 4.a) | What are the advantages of liquid-cooling systems. | |
| b) | Explain the working of thermo-syphon cooling system. | [5+5] |

OR

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|------|--|-------|
| 5.a) | What are the factors that affect spark-advance. | |
| b) | Briefly explain the working of the battery-ignition system with the help of a circuit diagram. | [5+5] |

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|------|---|-------|
| 6.a) | What is the principle of differential? | |
| b) | Differentiate between Torque tube and Hotch-kiss drive. | [5+5] |

OR

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|------|--|-------|
| 7.a) | What are the function of a shock absorber? | |
| b) | Explain the construction and working of telescopic type of shock absorber with the help of a neat diagram. | [5+5] |

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8.a) Write a short note on Tandem master cylinder.
b) Explain hydraulic brake system with neat sketch. [5+5]

OR

9.a) Write a short note on Ackerman steering gear mechanism.
b) Explain the construction and working of Davis steering gear mechanism. [5+5]

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10.a) What are the advantages of C.N.G and L.P.G?
b) Explain the working of a catalytic converter. [5+5]

OR

11.a) How hydrogen fuel is used as an alternate fuel?
b) What are the advantages and disadvantages of Bio-diesel? [5+5]

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