

R13

Code No: 126EH

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, December - 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)**

- 1.a) Write the types of automobile engines. [2]
- b) Write the requirements of diesel injection systems. [3]
- c) Write about antifreeze solutions. [2]
- d) Briefly write the functions of an ignition system. [3]
- e) Write the principle of clutch. [2]
- f) Write about the objects of suspension system. [3]
- g) Define camber and king pin inclination. [2]
- h) Write the requirements of brake fluid. [3]
- i) Write the applications of CNG as alternate fuel. [2]
- j) Write the demerits of Hydrogen as a fuel for IC Engines. [3]

PART - B**(50 Marks)**

- 2.a) Write about engine lubrication.
 - b) Explain about MPFI and GDI Systems. [5+5]
- OR**
- 3.a) Explain the testing of fuel pumps.
 - b) Write about CRDI and TDI Systems. [5+5]
- 4.a) Explain the evaporative cooling system with the help of neat sketch.
 - b) Explain about electronic ignition system using contact breaker. [5+5]
- OR**
- 5.a) Describe about pressure sealed cooling.
 - b) Write about horn, wiper and engine temperature indicator. [4+6]
- 6.a) Explain the working of cone clutch used in an automobile with a neat sketch.
 - b) Write about torsion bar. [5+5]
- OR**
- 7.a) With the help of a neat sketch, explain the construction and operation of a constant mesh gearbox.
 - b) Write about independent suspension system. [5+5]

- 8.a) Explain the working of hydraulic brake system with neat diagram.
b) Write about center point steering and steering linkages. [5+5]
- OR**
- 9.a) Write about pneumatic brakes.
b) Explain about Davis steering mechanism with neat sketch. [5+5]
- 10.a) Write about the International Pollution standards.
b) Explain about common rail diesel injection. [5+5]
- OR**
- 11.a) Explain the techniques of pollution control.
b) Write about Biomass, alcohols and LPG as alternate fuels. [5+5]

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