

Code No: 56022

R09

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech III Year II Semester Examinations, December-2014/January-2015
AUTOMOBILE ENGINEERING
(Common to ME, MCT)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

- 1.a) Why the ventilation needs to be given for crank case of the engine cylinder? Explain in detail.
- b) What is de-carbonisation of I C Engine components? Explain the significance of de-carbonisation.
- 2.a) How to maintain the required air fuel ratio in the carburetor of S I Engine? Explain the operating principle.
- b) What are the required components of fuel injection system used in diesel engines? Explain.
- 3.a) What are different anti freezing elements added into the coolant of automobiles? Explain the importance of anti freezing elements.
- b) Explain the constructional and working features of electronic ignition system along with line diagrams.
- 4.a) How to incorporate multi fuel injection system in S I Engines? Why multi fuel injection is required? Explain.
- b) What are different gaseous fuels used for automobiles? Explain their advantages and limitations.
- 5.a) What is the circuit mechanism required in automobile for charging from the engine? Explain.
- b) Explain different pressure gauges required in automobile. Where are they used in the engine? Explain.
- 6.a) Compare centrifugal clutch with magnetic clutch in automobile and explain in detail.
- b) What is the use of differential in rear axle? Explain its functionality.
- 7.a) What is rigid axle suspension system? How does it help in absorbing the shocks and how is it advantages over other suspension systems?
- b) Differentiate between mechanical, hydraulic and pneumatic braking systems used in automobiles.
- 8.a) What are different types of steering links used in automobile engines for better steering condition? Explain.
- b) Explain the Ackerman steering gear mechanism with suitable diagram.

---ooOoo---