

R09

Code No: 09A60307

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD

B. Tech III Year II Semester Examinations, June - 2014

AUTOMOBILE ENGINEERING

(Common to ME, MCT)

Time: 3 hours

Max. Marks: 75

**Answer any five questions
All questions carry equal marks**

1. a) Discuss the functions of transmission system in automobiles.
b) What are the different factors to be considered in classifying the engines? Discuss the same in detail with appropriate examples.
2. a) Discuss the working of a simple single jet carburetor. Explain various defects of such a carburetor. How are these rectified?
b) Discuss in details the functions of fuel supply system in an automotive diesel engine. Describe the various components used to perform these functions.
3. a) Name different methods of Engine cooling. Explain in detail the air cooling method.
b) Give detailed account of the battery ignition system. Illustrate your answer with neat sketches.
4. How does an automobile contribute towards pollution of the atmosphere? Discuss the various techniques to reduce pollution and improve engine efficiency in SI and CI engines.
5. a) In the electrical system of an automobile, explain the principle of generator and give its construction details.
b) Draw a simplified wiring circuit for the lighting system of car and discuss the same.
6. a) Explain by means of a neat sketch working of a single plate clutch.
b) What is an epicyclic gear box? Describe its principle with the help of neat sketch.
7. a) What is the purpose of independent suspension? Explain various methods to achieve the same in front and rear axles of cars. Describe its advantages and disadvantages also.
b) What are the essential characteristics of a good braking fluid? Give complete details.
8. a) Explain the terms: camber, castor, steering axis inclination and toe-in. what are the effects of each on the steering characteristics of a vehicle.
b) Discuss in detail the Ackermann steering mechanism.
