

IV B.Tech II Semester Regular Examinations, April/May 2005
AUTOMOBILE ENGINEERING
(Mechanical Engineering)

Time: 3 hours

Max Marks: 70

Answer any FIVE Questions
All Questions carry equal marks

1. (a) What are the various causes for the defects in the frame of the automobiles and explain the methods of repairing them?
(b) What are the various engines used in practice and mention their relative advantages?
2. (a) What are the advantages and disadvantages of gas turbines over reciprocating engines to be used on automobiles?
(b) What are the various additives used in coolants and explain various problems encountered in cooling systems?
3. (a) Describe the reasons for not using water cooling systems on two-wheelers.
(b) Differentiate between magnetic pulse ignition systems and Electronic ignition systems.
4. (a) Describe the construction and working of solid injection system of diesel fuel supply in C.I. engine.
(b) Calculate the weight of petrol issuing out of 1mm. dia jet of a carburetor which records of venturi depression of 1020mm of water. The sp. gr of petrol is 0.77 and coefficient of discharge of Jet is 0.6.
5. (a) Draw the layout of the circuit used for Battery charging system using generator.
(b) Differentiate between magnetic and centrifugal clutches used in practice mentioning their relative advantages.
6. (a) Sketch and explain the construction and working of torque converter. Bring out the differences between torque converter and fly wheel.
(b) Explain the construction and working principle of sliding mesh, constant mesh and synchro-mesh gear boxes.
7. (a) Sketch the arrangement of Hydraulic and pneumatic braking systems used in automobiles.
(b) Draw the construction and working principle of Ackermann steering mechanism.
8. Answer the following:
 - (a) Suspension system

- (b) Full floating axles
- (c) Fuel injection and timing

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