

C 5261

Name.....

Reg. No.....

**EIGHTH SEMESTER B.Tech. (ENGINEERING) DEGREE EXAMINATION  
JUNE 2010**

ME 04 805 (E)—AUTOMOBILE ENGINEERING

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.*

- I. (a) Explain the functions of a Ignition system.  
(b) Why even number of cylinders are preferred in multicylinder engines ? Plot the crank arrangement for a six cylinder engine.  
(c) Explain the carburation and mixture quality for an auto engine.  
(d) What are the requirements for a good spark plug ?  
(e) How does the king-pin inclination produce direction stability ?  
(f) Why is clutch placed between the flywheel and the transmission ?  
(g) Write a short note on engine tuning.  
(h) List the advantages of coil springs over leaf springs.

(8 × 5 = 40 marks)

- II. (a) Briefly explain :

(i) Valve tappet clearance ; (ii) Piston pin ; (iii) Autothermic pistons.

(15 marks)

*Or*

- (b) (i) Explain valve timing diagram of a 4-stroke, otto cycle engine.  
(ii) Explain the advantages and disadvantages of aluminium alloy cylinder and head.

(15 marks)

- III. (a) Explain construction and working of a MPFI system with neat sketch.

(15 marks)

*Or*

- (b) Explain the different types of lubrication systems used in automobiles with neat sketches.

(15 marks)

- IV. (a) Explain the construction of a multiple disc clutch with the aid of sketch. Which are the usual troubles with the clutch ? Suggest suitable remedies to clutch troubles.

(15 marks)

*Or*

- (b) Describe, with neat sketch, the hydraulic brake system of car.

(15 marks)

- V. (a) Briefly explain :

(i) Collapsible steering column ; (ii) Air bags.

*Or*

- (b) (i) What do you mean by preventive maintenance ? Explain briefly. (5 marks)

(ii) Is preventive maintenance cheaper ? Explain. (4 marks)

(iii) List the points relating to preventive maintenance which should be kept in mind for the trouble free working of a vehicle.

(6 marks)

(4 × 15 = 60 marks)