

SECOND SEMESTER DIPLOMA EXAMINATION IN AUTOMOBILE
ENGINEERING—OCTOBER, 2014

AUTOMOBILE POWER PLANT

[Time : 3 hours

(Maximum marks : 100)

PART—A

(Maximum marks : 10)

Marks

I Answer the following questions in one or two sentences. Each question carries 2 marks.

1. Name two classification of IC engines according to valve operating mechanisms.
2. List different materials for engine gaskets.
3. What are the functions of a carburettor ?
4. State the use of heater plug in diesel engines.
5. Name any two corrosion inhibitors. (5×2=10)

PART—B

(Maximum marks : 30)

II Answer *any five* of the following. Each question carries 6 marks.

1. Explain briefly about different types of engine valves.
2. Discuss light duty type air cleaner with a simple sketch.
3. Briefly explain any three functions of diesel fuel supply system.
4. With the help of a neat sketch, explain the construction of an oil strainer.
5. Explain the construction and working of a bellows type thermostat with neat sketch.
6. Describe in detail the function and construction of connecting rod.
7. Discuss the working of a diesel fuel injector. (5×6=30)

PART—C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

UNIT—I

- III (a) Sketch and explain the constructional details of an I.C. engine piston. 8
- (b) Sketch and explain any two methods of arrangement used in connecting exhaust manifold with engine. 7

OR

- IV (a) Explain any two valve actuating mechanisms with side camshaft using suitable sketches. 8
- (b) Describe in detail the function and construction of the cylinder block. 7

UNIT—II

- V (a) Suggest modification to the simple type carburettor to meet the difficulty of idling. Explain with a sketch. 8
- (b) Describe the working of SU electrical pump with suitable figure. 7

OR

- VI (a) Explain the constructional details of following types of mufflers with sketches :
(i) Baffle type (ii) Wave cancellation type 8
- (b) Explain about the mixture strength requirement in detail for petrol engines. 7

UNIT—III

- VII (a) Draw the sketches showing the details of common rail fuel injection and individual fuel injection system. 8
- (b) Explain about primary and secondary filters. 7

OR

- VIII With the help of sketch explain the working of jerk type fuel injection pump. 15

UNIT—IV

- IX (a) Explain about radiator. 7
- (b) Explain about pressure system of lubrication. 8

OR

- X (a) Discuss the necessity of oil filter and describe any one type of secondary oil filter with neat sketch. 8
- (b) Explain the classification of radiator fans. 7

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