

TED (10)-3005

Reg. No.

(REVISION—2010)

Signature

SECOND SEMESTER DIPLOMA EXAMINATION IN AUTOMOBILE
ENGINEERING—OCTOBER, 2011

AUTOMOBILE POWER PLANT

[Time : 3 hours

(Maximum marks : 100)

PART—A

Marks

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

1. Define the term indirect injection.
2. State two important functions of oil pump.
3. State venturi principle adopted in carburettor.
4. State the use of heater plug in diesel engines.
5. Why electric fans for cooling the engine is provided in modern cars ? (5×2=10)

PART—B

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

1. State and explain two methods adopted for offset engine.
2. Describe the relation of crankpins and firing order of a four cylinder engine.
3. Explain the use of anti-dieseling solenoid employed in carburettor.
4. How air injection system in diesel engines works ? Explain.
5. List the three main requirements of diesel fuel injection system.
6. Sketch the location of pressure relief valve in lubrication system and state its use.
7. Sketch and explain forced circulation system employed in water cooling of an engine. (5×6=30)

PART—C

(Answer *one* full question from each unit. Each 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

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[P.T.O.]

- IV (a) How crank shaft and cam shaft gears are connected? Sketch two arrangements. 8
 (b) Define the following terms in valve opening :
 (i) Lead (ii) Valve overlap 7
 (ii) Lag

UNIT—II

- V (a) Explain the constructional details of following types of mufflers :
 (i) Baffle type (ii) Wave cancellation type 8
 (b) Describe the use of compensation jet employed in carburettor. 7

OR

- VI (a) List the main components in petrol engine fuel system and explain briefly the use of each component. 8
 (b) Describe the following types of carburettors :
 (i) Up draft (ii) Side draft 7
 (ii) Down draft.

UNIT—III

- VII (a) Compare pre-combustion chamber and swirl chamber employed in diesel engines. 8
 (b) How a fuel feed pump is working in diesel engines? Describe. 7

OR

- VIII (a) Compare hole type nozzle and pintle type nozzle used in diesel engines. 8
 (b) How a pneumatic governor controls engine speed in diesel engines? 7

UNIT—IV

- IX (a) Sketch and explain the working of vane type pump used in lubrication system of an engine. 8
 (b) Explain the construction and function of radiator pressure cap. 7

OR

- X (a) Draw the line diagram for full flow filtration method used in lubrication system of an engine and explain how it works. 8
 (b) Sketch and explain the construction of a radiator. 7

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