

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER – 2020**

**AUTOMOBILE POWERPLANT**

[Maximum Marks: 75]

[Time: 2.15 Hours]

**PART-A**

(Answer *any three* questions in one or two sentences. Each question carries 2 marks)

- I. 1. Define swept Volume of an Engine cylinder.  
2. State the use of cams on camshaft.  
3. Define the term carburetion.  
4. List two types of fuel injection pumps in conventional diesel fuel system.  
5. List two advantages of air cooling. (3 x 2 = 6)

**PART-B**

(Answer *any four* of the following questions. Each question carries 6 marks)

- II 1. Write short note on (i) Bore (ii) Stroke (iii) BDC (iv) TDC of an engine cylinder.  
2. list six advantages of Two-stroke Engine.  
3. Explain about starting circuit in solex carburetor.  
4. List six advantages of MPFI system.  
5. State the importance of CRDI fuel system.  
6. List four requirements of cooling system.  
7. State four purposes of Engine Lubrication. (4 x 6 = 24)

**PART-C**

(Answer *any of the three units* from the following. Each full question carries 15 marks)

**UNIT – I**

- III (a) Explain the working of two-stroke petrol engine with the aid of sketches. (7)  
(b) Compare the differences between two-stroke and Four stroke Engines (with any four points). (8)

**OR**

- IV (a) Explain briefly about (i) L head engine and (ii) T head engine with necessary sketch. (7)
- (b) Explain arrangement of cylinders in (i) Horizontally opposed and (ii) V type with necessary sketch. (8)

**UNIT - II**

- V (a) Explain working of simple carburetor with a sketch. (7)
- (b) Describe working of A C Mechanical pump with sketch. (8)

**OR**

- VI (a) Write short note on (i) Sidedraft (ii) Updraft and (iii) Down draft type of carburetor. (7)
- (b) Describe the working of acceleration pump circuit in solex carburetor. (8)

**UNIT- III**

- VII (a) Describe in-line pump type fuel injection system incorporated in a Four-Cylinder Diesel Engine with a sketch. (7)
- (b) Explain the working of pneumatic governor fitted in FI Pump with a sketch. (8)

**OR**

- VIII (a) Describe the working of Diesel injector (Conventional type). (8)
- (b) Write short note on (i) Single hole nozzle (ii) Pintle nozzle. (7)

**UNIT - IV**

- IX (a) Describe the pump circulation system in water cooling of an Engine. (7)
- (b) Describe any two types of radiator cores. (8)

**OR**

- X (a) Describe the working of Oil-pressure relief valve in engine lubrication. (7)
- (b) Sketch a radiator pressure cap and explain its working. (8)

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