

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER – 2024**

**AUTOMOBILE ENGINEERING**

(Maximum Marks:100)

(Time: 3 Hours)

**PART - A**

( Maximum Marks : 10 )

**Marks**

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

1. Define Air – fuel ratio.
2. List any two properties of lubricants.
3. Write any two functions of clutch.
4. Define Caster.
5. List any two protection system used in automobiles.

( 5 x 2 = 10 )

**PART - B**

( Maximum Marks: 30 )

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

1. Describe the working of simple carburettor.
2. Explain the working of Electronic Control Module.
3. Explain the working of fluid coupling.
4. Explain the working of a Universal joint.
5. Distinguish between tubed tyres and tubeless tyres
6. Explain working of hydraulic brake system.
7. State the purpose of turbocharger.

( 5 x 6 = 30 )

**PART – C**

(Maximum Marks: 60)

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

**UNIT - I**

- III (a) Briefly describe about battery ignition system. (8)
- (b) Explain the fuel system of diesel engine. (7)

**OR**

- IV (a) Explain splash lubrication system. (7)  
(b) Compare air cooling and water cooling system. (8)

**UNIT – II**

- V (a) Describe the working principle of differential with sketch. (7)  
(b) Explain the working of single plate clutch. (8)

**OR**

- VI (a) Explain the working principle of a centrifugal clutch. (7)  
Explain the working of sliding mesh gear box. (8)

**UNIT – III**

- VII (a) Explain the steering system of an automobile. (8)  
(b) Explain with line diagram of pneumatic brake system. (7)

**OR**

- VIII (a) Compare radial ply tyres and cross ply tyres. (7)  
(b) Explain the following steering geometry. (8)  
(i) Camber (ii) Toe in & Toe out (iii) King pin inclination.

**UNIT – IV**

- IX (a) Briefly describe about common rail direct injection system. (8)  
(b) Briefly describe about Anti-lock braking system. (7)

**OR**

- X (a) What are the different air pollutants from automobiles? (7)  
(b) With a circuit diagram explain electronic ignition system. (8)

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