

SIXTH SEMESTER DIPLOMA EXAMINATION IN MECHANICAL  
ENGINEERING—OCTOBER, 2013

**AUTOMOBILE ENGINEERING**

[Time : 3 hours

(Maximum marks : 100)

Marks

PART—A

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

1. What do you mean by Air-fuel ratio ?
2. List any two sources of noise in an automobile.
3. What is a CV joint ?
4. Define king pin inclination.
5. What is a spoked wheel ?

(5×2=10)

PART—B

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

1. Draw a neat layout of the fuel injection system of a diesel engine.
2. What are the exhaust pollutants emitted by petrol or diesel vehicle ?
3. Write any six requirements of a clutch.
4. Explain the working principle of epicyclic gear box.
5. Explain leaf spring suspension.
6. How mechanical brakes are operated ?
7. Write short notes in central locking system.

(5×6=30)

PART—C

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

UNIT – I

III Explain with neat sketch the working principle of fuel injection pump. 15

OR

IV (a) Briefly explain any two methods of governing of IC Engine. 8

(b) With the help of sketch explain the working of AC mechanical pump. 7

## UNIT – II

- V (a) With a neat sketch explain the working of a single plate clutch. 8  
(b) With block diagram explain how the power is transmitted from engine to rear axle. 7

OR

- VI (a) With neat sketch explain the construction and working of propeller shaft. 8  
(b) Explain the working of fluid fly wheel with figure. 7

## UNIT – III

- VII (a) Sketch and explain the working of recirculating ball type steering gear box. 8  
(b) Draw and explain semi floating axle. 7

OR

- VIII (a) Write short notes on Camber, Caster Toe in and Toe out. 8  
(b) State the advantages of front independent suspension system. 7

## UNIT – IV

- IX (a) Explain the working of master cylinder of hydraulic brake system. 8  
(b) Explain leading and trailing brakes. 7

OR

- X (a) Briefly explain about Common Rail Diesel Injection system. 8  
(b) Explain about Tube less tyres. 7
-