

SIXTH SEMESTER DIPLOMA EXAMINATION IN MECHANICAL  
ENGINEERING — MARCH, 2015

**AUTOMOBILE ENGINEERING**

[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. State the function of a carburettor.
2. What is breathing of fuel tank ?
3. What is the function of slip joint (sliding joint) in propeller shaft ?
4. Define camber.
5. State the function of well in the wheel rim.

(5×2=10)

PART—B

(Maximum marks : 30)

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

1. Draw the layout of fuel system in petrol engine and name each elements.
2. Draw and explain the working of epicyclic transmission.
3. Explain the working of a differential in automobiles.
4. List the various type of rear axles in use. Explain semi floating axles.
5. Explain Rack and pinion steering gear with sketch.
6. List out the requirement of an automobile wheel.
7. Explain brake bleeding process.

(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) With sketch explain the working of A.C mechanical pump. 8
- (b) Explain the effects of any three exhaust pollutants in human beings. 7

OR

- |  | Marks |
|--|-------|
| IV (a) Explain the working of Bosch fuel injection pump.                               | 8     |
| (b) List the required properties of lubricant and mention effects on automobile parts. | 7     |

## UNIT—II

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|---|---|
| V (a) With sketch explain fluid fly wheel.    | 8 |
| (b) Draw a sliding mesh gear box and explain. | 7 |

OR

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|---|---|
| VI (a) Sketch and name the components of single plate clutch. | 8 |
| (b) Draw and explain over drive.                              | 7 |

## UNIT—III

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|--|---|
| VII (a) Draw a steering system and mention the function of components.   | 8 |
| (b) Explain the construction of semi elliptical leaf spring with sketch. | 7 |

OR

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| VIII (a) Draw and explain Wish bone suspension system. | 8 |
| (b) Explain Toe-in and Toe-out.                        | 7 |

## UNIT—IV

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|---|---|
| IX (a) Explain different parts of a tubed tyre.           | 8 |
| (b) List out the merits and demerits of disc type brakes. | 7 |

OR

- |  |   |
|--|---|
| X (a) Explain the working of hydraulics brake system.  | 8 |
| (b) What is centre locking system and its advantages ? | 7 |