BME-061

DIPLOMA IN MECHANICAL ENGINEERING (DME)

Term-End Examination

□□□5□   **June, 2016**

BME-061 : AUTOMOBILE ENGINEERING

Time : 2 hours   *Maximum Marks : 70*

Note : *Answer any five questions.*

1. (a) Describe the working of Ackerman's principle of steering with a neat sketch.

   (b) Describe the disc brake. Compare the disc brakes with drum brakes.   *2×7=14*

2. (a) Describe the working of a 4-stroke diesel engine with a neat diagram.

   (b) Discuss a coil spring suspension system. *2×7=14*

3. (a) Describe the working of magneto ignition system with a neat sketch.

   (b) Explain the working of multi-plate clutches.   *2×7=14*

4. (a) Explain the working of a constant mesh gear box.

   (b) Explain the working of differential.   *2×7=14*

5. (a) Differentiate between simple gear train and compound gear train.

(b) In an epicyclic gear train, an arm carries two gears A and B having 36 and 45 teeth respectively. If the arm rotates at 150 rpm in the anticlockwise direction about the centre of the gear A which is fixed, determine the speed of gear B. If the gear A instead of being fixed, makes 300 rpm in the clockwise direction, what will be the speed of gear B ? $2 \times 7 = 14$

6. (a) Discuss the ignition system of a 4-stroke SI engine.

(b) List out various types of frames and describe in brief the conventional frame. $2 \times 7 = 14$

7. Write short notes on the following : $4 \times 3\frac{1}{2} = 14$

(a) Camber angle

(b) Caster angle

(c) Vacuum brake

(d) Leaf spring