

**DIPLOMA IN MECHANICAL ENGINEERING  
(DME)**

**Term-End Examination**

00644

**June, 2017**

**BME-061 : AUTOMOBILE ENGINEERING**

*Time : 2 hours*

*Maximum Marks : 70*

---

**Note :** *Question no. 1 is compulsory. Answer four more questions from questions no. 2 to 7. Use of scientific calculator is permitted.*

---

---

1. From the following multiple choice questions, choose the correct answer :  $7 \times 2 = 14$
- (a) Compression Ignition Engines use the following fuel :
- (i) Petrol
  - (ii) Diesel
  - (iii) LPG
  - (iv) Hydrogen
- (b) In 4-stroke engines, one engine cycle is completed in the following number of revolutions of crank shaft :
- (i) One
  - (ii) Two
  - (iii) Three
  - (iv) Four

(c) \_\_\_\_\_ joins the piston and the connecting rod.

(i) Crank pin

(ii) Piston rod

(iii) Gudgeon pin

(iv) Stud screw

(d) A \_\_\_\_\_ is connected in series in primary circuit to regulate the current.

(i) Ballast resistor

(ii) Distributor

(iii) Magneto

(iv) Regulator

(e) \_\_\_\_\_ acts as a circuit breaker between the generator and battery when the dynamo is not generating any current.

(i) Alternator

(ii) Starter

(iii) Condenser

(iv) Cutout relay

(f) \_\_\_\_\_ is a shaft that transmits power from transmission to the differential.

(i) Engine shaft

(ii) Propeller shaft

(iii) Rear axle

(iv) Universal joint

(g) \_\_\_\_\_ is the angle between the vertical line and the centre line of the tyre when viewed from the front of the vehicle.

- (i) Helix angle
- (ii) Camber angle
- (iii) Caster angle
- (iv) Steering angle

2. Explain the working of a four-stroke diesel engine with neat diagrams for each stroke. 14
  3. What is the function of a gear box ? What are the types of gear boxes ? Explain about the Sliding Mesh Gear Box with a neat diagram. 14
  4. What is the function of differential in an automobile ? Describe the working of a differential with a neat sketch. 14
  5. Write about the different types of steering gears used in automobiles, with neat sketches. 14
  6. What do you understand by 'Shock Absorbers' ? Explain the working of a Telescopic Type Shock Absorber. 14
  7. What is the principle of Vehicle Braking ? Classify Brakes and explain in detail about Hydraulic Brakes, with neat sketch. 14
-