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BME-061

00935

DIPLOMA IN MECHANICAL ENGINEERING (DME)

Term-End Examination

June, 2012

BME-061 : AUTOMOBILE ENGINEERING

Time : 2 Hours *Maximum Marks : 70*

Note : *Answer **any five** questions. Q. No. 1 is **compulsory**. Use of calculator is permitted.*

1. From the following multiple choice questions, choose the correct answer : **7x2=14**

(a) Which is an S.I engine ?

(i) Diesel engine

(ii) Petrol engine

(iii) Gas Turbine

(iv) None of the above

(b) What is the full form of LPG ?

(i) Liquified Petroleum Gas

(ii) Low Pressure Gas

(iii) Liquified Pressurised Gas

(iv) All of the above

(c) The power developed by the engine is transferred to the wheels by _____ system.

(i) Breaking system

(ii) Acceleration system

(iii) Steering system

(iv) Transmission system

(d) The process of cleaning of cylinder, by pushing burnt gases by fresh charge is known as _____

(i) Detonation

(ii) Oxidation

(iii) Scavenging

(iv) None of the above

(e) Velocity ratio of simple gear train is _____

(i) G_1/G_2 (ii) N_1/N_2

(iii) G_2/G_1 (iv) N_2/N_1

(f) Primary winding of ignition coil contains about _____ turns made of thick wire.

(i) 200 - 300

(ii) 500 - 1000

(iii) 2000 - 5000

(iv) 10,000 - 20,000

(g) In two stroke engine for suction and exhaust system _____ are used

(i) Ports

(ii) Valves

(iii) Gates

(iv) All of the above

2. List out the different components of automobile. Describe the mechanism of steering system. 14

3. What do you understand about power plant ? Explain the working of four stroke petrol engine with neat diagram. 14

4. What do you understand about ignition system ? Describe the working of battery ignition system with the help of neat diagram. 14

5. List different types of gear boxes used in automobiles. Explain the working of constant mesh gear box with the help of a simple diagram. 14

6. A simple gear train consists of three gears each of which mounted on a separate shaft. All the three shafts are parallel. Gear 1 is driver and rotates at 1000 rpm. Gear 1 drives gear 2 and gear 2 drives gear 3. The number of teeth on gear 1, 2 and 3 are 20, 30 and 50 respectively. Find : 14

(a) Speed ratio of gear train.

(b) Speed of follower (gear 3)

7. Describe the construction and working of hydraulic brakes. Also explain the advantages and disadvantages of hydraulic brakes. 14