| BME-061 |

DIPLOMA IN MECHANICAL ENGINEERING (DME)

01972

Term-End Examination

December, 2011

BME-061 : AUTOMOBILE ENGINEERING

Time : 2 hours *Maximum Marks : 70*

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

1. Multiple choice questions. Choose the correct answers. **7x2=14**

    (a) The purpose of clutch is _____
        (i) to slow down the engine speed.
        (ii) to increase the engine speed.
        (iii) to couple or decouple the engine and transmission.
        (iv) to transfer power from engine to wheels.

    (b) The primary function of steering system is

        _____ .
        (i) to provide horn
        (ii) to provide angular motion to front wheels.
        (iii) to run the vehicle without problem
        (iv) none of the above

(c) What is the full form of CNG ?

(i) Compressed Natural Gas.

(ii) Combined Natural Gas.

(iii) Complex Natural Gas.

(iv) All of the above.

(d) All the power for running the engine is obtained during _____ .

(i) Suction stroke

(ii) Compression stroke.

(iii) Exhaust stroke.

(iv) Expansion stroke.

(e) In a four stroke cycle petrol engine during suction stroke :

(i) Only air is sucked in

(ii) Only petrol is sucked in

(iii) Mixture of petrol and air is sucked in

(iv) None of the above.

(f) In a hydraulic breaking system _____ is used.

(i) Compressed air pressure

(ii) Fluid pressure

(iii) Atmospheric pressure

(iv) All of the above.

(g) In leaf springs _____ is largest one .

(i) Lowest leaf

(ii) Middle leaf.

(iii) Upper middle leaf.

(iv) Top most leaf.

2. Define automobile engineering. Classify the vehicles on the basis of different aspects giving examples. **14**

3. Describe the working of two stroke petrol engine with the help of neat diagram. **14**

4. Draw a neat sketch of magneto ignition system and explain its working. **14**

5. A simple gear train consists of two gears which are mounted on two different shafts. The two shafts are parallel. Gear 1 is driver and gear 2 is follower. The speed of gear 1 is 600 rpm. The number of teeth on gears 1 and 2 are 20 and 60 respectively. **14**

   Determine :

   (a) Speed or velocity ratio of gear train.

   (b) Train value.

   (c) Speed of second gear.

6. What is the function of a universal joint ? Explain with the help of neat sketch. Where it is used in the transmission system of an automobile ? Explain. **14**

7. What is the function of a shock absorber ? How does a hydraulic shock absorber work ? Explain. **14**

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