No. of Printed Pages : 3

BET-024

DIPLOMA IN CIVIL ENGINEERING (DCLE(G)) / DIPLOMA IN MECHANICAL ENGINEERING (DME) / DCLEVI / DMEVI / DELVI / DECVI / DCSVI

00652

Term-End Examination

December, 2016

BET-024 : E/M ENGINEERING

Time : 2 hours *Maximum Marks : 70*

Note : *Attempt **all** questions. Use of calculator is allowed. Symbols have their usual meanings.*

1. Answer any ***two*** of the following : *2×7=14*

(a) Compare the relative advantages and disadvantages of four-stroke and two-stroke engines.

(b) Describe how atmospheric pressure is measured.

(c) Explain Kelvin-Planck statement of the second law of thermodynamics.

2. Answer any ***two*** of the following : *2×7=14*

(a) Explain any ***two*** of the following terms as applied to I.C. engines :

(i) Stroke

(ii) T.D.C.

(iii) Compression ratio

(iv) Swept volume

(b) What are lifts ? How do you classify them ? Describe any one in brief.

(c) Name the cycle on which a petrol engine works. Write all four processes of this cycle.

3. Answer any ***two*** of the following : *2×7=14*

(a) State Ohm's law. Define resistivity. Write its SI unit.

(b) Define the term 'Motor'. Explain the construction and working principle of a DC motor.

(c) Explain Faraday's Laws of Electromagnetic Induction.

4. Answer any ***two*** of the following : *2×7=14*

(a) Explain the working principle and construction of a Galvanometer with a neat sketch.

(b) Define the following terms :

(i) Power

(ii) Apparent power

(iii) Power factor

(c) What is a transformer ? Derive an expression for generating emf by an operation of a transformer.

5. Write short notes on any ***two*** of the following : *2×7=14*

(a) Carnot and Otto cycles

(b) Enthalpy and Entropy

(c) Ohm's Law and Lenz's Rule