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BIEEE-011

B.Tech. ELECTRICAL ENGINEERING (BTELVI)

Term-End Examination

June, 2013

BIEEE-011 : ELECTRIC ENERGY UTILIZATION

Time : 3 Hours *Maximum Marks : 70*

Note : *Attempt **any five** questions. Each question carries **equal** marks.*

1. (a) What do you mean by "Electric traction" ? What are the requirements of an ideal traction system ? 7

   (b) Draw a typical speed-time curve for an electric train and explain what do you understand by crest speed and schedule speed ? 7

2. (a) Discuss the relative merits and demerits of direct and indirect electric arc-furnaces. 7

   (b) Define the term 'welding'. Compare A.C. and D.C. welding. 7

3. Explain the following terms used in electrolytic processes. 14

   (a) Current efficiency

   (b) Energy efficiency

   (c) Throwing power

   (d) Electro-chemical equivalent.

4. (a) Explain the construction and operation of fluorescent tube and compare it with tungsten filament lamp. **6+4=10**

(b) What are the aims of flood lighting and how are they achieved ? **4**

5. (a) Describe the function of complete air conditioning system. **7**

(b) Explain the technique used to control the temperature of refrigeration. **7**

6. (a) Explain the following terms related to refrigeration. **4+3**

(i) Coefficient of performance (C.O.P.)

(ii) Ton of refrigeration (T.R.)

(b) Explain how regenerative braking can be obtained in D.C. locomatives ? **7**

7. Write short notes on ***any two*** of the following : **7x2=14**

(a) Polor curves.

(b) Induction heating.

(c) Illumination levels for various purposes.
