

**B. TECH.-VIEP-ELECTRICAL
ENGINEERING (BTELVI)**

Term-End Examination

June, 2019

BIEEE-011 : ELECTRIC ENERGY UTILIZATION

Time : 3 Hours

Maximum Marks : 70

Note : Attempt any five questions. Assume missing data, if any with suitable justification. All questions carry equal marks.

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1. (a) Mention the requirements of an ideal traction system. 7
 - (b) Why is a DC series motor ideally suited for traction purposes ? Explain. 7
 2. (a) Discuss advantages of electrically produced heat. Discuss various methods of controlling the temperature in resistance ovens. 7
 - (b) What are the factors which limit the choice of frequency in induction and dielectric heating ? 7

3. (a) What is photometry ? Describe photovoltaic method of photometry and discuss its limitations. 7
- (b) Describe one method of measuring brightness of source. 7
4. (a) What are the important factors involved in a proper and efficient air conditioning system ? 7
- (b) Describe various types of air conditioning systems. 7
5. (a) Sketch and explain the typical speed time curve for main line service. 7
- (b) Explain regenerative braking used for DC series traction motors. 7
6. (a) Explain clearly 'Pinch effect' and 'Skin effect'. 7
- (b) Explain the principle of higher frequency eddy current heating. 7
7. (a) Explain lumen or flux method of calculation for interior lightning. 7
- (b) Explain the technology involved in electric vehicles. 7