

[illegible]

**Total No. of Questions : 09**

**B.Tech.(EE) PT (Sem.-7)**  
**ELECTRIC POWER UTILIZATION**  
**Subject Code : BTEE-601**

**Max. Marks : 60**

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt **ANY FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt **ANY TWO** questions.

## SECTION-A

**1. Write Briefly :**

- a. Write any four advantages of electric drive.
- b. State the different types of electric locomotive classes.
- c. Define the Arc welding.
- d. State the different law of illumination.
- e. Define the effective temperature of Air conditioning.
- f. Write any four differences between industrial and flood lighting.
- g. Write any four application of electrolysis.
- h. Define the Dielectric Heating.
- i. Define the load Equalization in electric drives.
- j. State the different types of artificial light sources.

### SECTION-B

2. Write the essential parts of electrical drives. What are the functions of a power modulator?
3. What do you mean by electro deposition? Explain briefly the factors affecting the electro deposition.
4. Draw and explain the substation arrangement of electric traction.
5. Discuss the method of temperature control in resistance furnace.
6. Explain the working of Compact Florescent Lamp (CFL).

### SECTION-C

7. Derive an expression for the total tractive effort for propulsion of a train.
8. It is required to flood light the front of a building  $30\text{m} \times 30\text{m}$  to give a brightness of  $30 \text{ lumens/m}^2$ . Co-efficient of reflection of building surface is 0.2 lamps of 500 watts having lumen output of 8000 each are used. Taking beam factor as 1.2 and maintenance factor as 0.8, calculate the number of lamp required.
9. Draw and explain the typical construction of electrical welding AC and DC set.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**