

**B. Tech. (EE) (Elective-V) 6th Semester  
(G Scheme) Examination, July-2022**

**CONVENTIONAL AND RENEWABLE ENERGY  
RESOURCES**

**Paper-OEC-EE-08-G**

*Time allowed : 3 hours]*

*[Maximum marks : 75*

**Note :** *Attempt five questions in all. Question No. 1 is compulsory. All questions carry equal marks.*

1. (a) What are different energy sources present in India ?
- (b) Draw Energy duration curve and Mass curve.
- (c) How is straight line depreciation different from sinking fund depreciation ?
- (d) What consideration govern the selection of sites for Hydro Power Plant ?
- (e) Differentiate between open and closed MHD cycles.
- (f) Name some electrical instruments used in Energy Audit.  $6 \times 2.5 = 15$

**Unit-I**

2. (a) Compare India with other developed countries of world in terms of Renewable Energy resources. 7.5

(b) Draw and explain need of Interconnected generation of power plant. 7.5

3. What are Conventional and Non-Conventional energy sources ? Describe briefly. 15

### Unit-II

4. (a) Define load factor capacity factor, utilization factor, diversity factor. 7.5

(b) Draw and explain difference between base load and peak load. 7.5

5. What is Tariff ? What objective should a utility kept in mind while deciding the tariff for consumers ? Also discuss the different types of tariff used for charging consumers of electric energy. 15

### Unit-III

6. Draw and explain schematic diagram and working of Thermal Power Plant. 15

7. How can solar energy be converted into electrical energy ? Explain with diagram showing elements of such a plant. 15

### Unit-IV

8. What is the aim of energy audit ? Explain in detail the various stages in energy audit. 15

9. Write short notes on : 15

(a) Co-generation

(b) Energy Efficient motors