# QUESTION BANK II (I Scheme)

**Course: Energy Conservation and Audit** **Course Abbreviation: ECA**
**Course Code: (22525)** **Unit Test: II**
**Semester: 5I** **Program Code: EE**

## CHAPTER 4: Energy Conservation through Cogeneration and Tariff (16 marks) (CO4)

### 2 Marks

1) Give classification of co-generation system on the basis of sequence of use and use of technology.
2) State the advantages of cogeneration.
3) State two benefits of combined heat power generation.
4) State any two feature of topping cycle co-generation.
5) State the objectives of tariff systems.
6) List the different types of tariff.
7) State the components of availability-based tariff.

### 4 Marks

8) Summarize the factors considered while selecting the co-generation system.
9) Explain with diagram: (i) Topping cycle type of cogeneration (ii) Bottoming type of cogeneration (iii) Steam turbine co-generation system (iv) Gas turbine co-generation system.
10) Choose any four tariff schedule to reduce electricity bill of commercial consumer.
11) Make use of load factor and maximum demand tariff to minimize electrical consumption of electrical installation.
12) An industrial consumer charged with the scheduled tariff of Rs.250 /kVA per month for maximum demand and 150paisa per unit consumed for load factor of 60% and 80%. Find overall cost per unit at i) unity P.F. ii) 0.9 P.F. consider maximum demand of 50 kVA.
13) Explain the penalty clause of poor power factor while preparing energy bill.
14) Illustrate the benefits of time off day and peak off day tariff relevant to energy cost along with its impact on energy bill.
15) Identify the benefits and applications of availability-based tariff and power factor tariff.

## CHAPTER 5: Energy Audit of Electrical Systems (16 marks) (CO5)

**2 Marks**

16) State the definition of energy audit as per energy conservation act.
17) List any four instruments used in energy audit with their application.

**4 Marks**

18) Illustrate significance of Sankey diagram to identify the area for energy conservation in thermal system.
19) Recall the steps followed in walk through energy audit.
20) Explain: Payback period and detailed audit in relevance to energy efficiency.
21) State difference between "walk through audit" and "detailed audit".
22) Explain stepwise the “Detailed energy audit” procedure.
23) Describe with flow chart, the detailed energy audit procedure.
24) Outline questionaires to carry out energy audit of electrical workshop.
25) Prepare the general audit report format of electrical installation of concert hall/ theatre.
26) Draw power flow diagram of induction motor and describe methods of improving efficiency by good power quality.
    OR
    What is `energy flow diagram' '? State its significance.