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24323

B. Tech. 6th Semester (EE)

Examination – May, 2019

ELECTRIC POWER GENERATION

Paper : EE-318-F

Time : Three Hours] *[Maximum Marks : 100*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions in all, selecting *one* question from each Section. Question Number 1 is *compulsory*. All questions carry equal marks.

1. (a) Discuss the factors to be considered for selection of site for tidal power plant. 10 × 2 = 20

(b) State any *two* types of condenser used in thermal power plant.

(c) List four applications of diesel power plant.

(d) What is the use of Spillways ?

(e) What is the function of control rod in nuclear reactor ?

(f) Mention the importance of high load factor.

(g) Define base load and peak load.

(h) What is load duration curve ?

(i) Write the expression for overall annual cost of electric energy generated by power plant in two part form.

(j) What is an economizer ?

SECTION – A

2. Discuss recent trends of generation of electric power. Discuss and compare different sources of energy available in nature. 20

3. (a) What is interconnected grid system ? Explain the advantages of using such system. 10

(b) Explain conventional and non conventional sources of electric energy. 10

SECTION – B

4. (a) Describe the desirable characteristics of tariff. Discuss some of important types of tariff commonly used. 10

(b) What is economics of power generation ? How Depreciation charge can be calculated by Sinking fund method ? 10

5. (a) Define the following terms : 10

(a) Load factor

(b) Diversity factor

(c) Plant capacity factor

(d) Plant use factor

(e) Demand factor

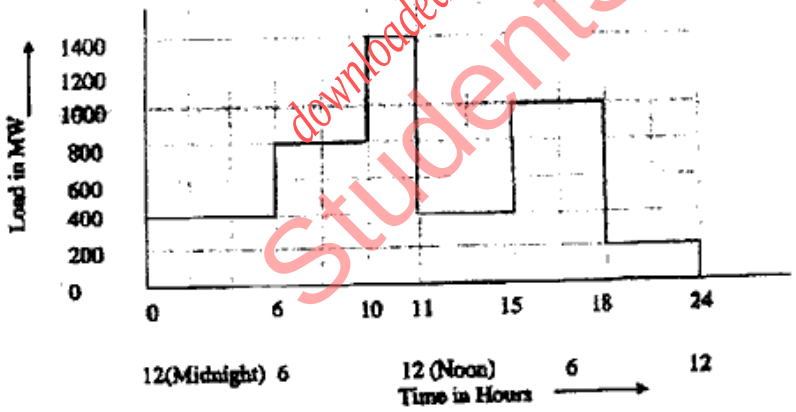
(b) The daily load curve of a power station is shown in figure. Study the figure and answer the following questions : 10

(a) What is the maximum demand on the power station ?

(b) Calculate units generated per day.

(c) Find average load.

(d) What is the load factor ?



SECTION – C

6. (a) Draw schematic diagram for geo thermal generating system. Also mention the barriers associated with geothermal power generation. 10

(b) With the help of block diagram, explain the working of wind energy conversion system. 10

7. (a) How the Hydel plants are classified ? Explain with neat figure pump storage plants for peak load. 10

(b) With a schematic diagram, explain the working of nuclear power station. 10

SECTION – D

8. (a) What are energy efficient motors ? How they are different from ordinary motors. Mention advantages of energy efficient motors. 10

(b) What is energy audit ? Explain briefly difference between preliminary and detailed energy audit. 10

9. (a) Explain the concept of co-generation and discus its benefits. 10

(b) Explain the managerial functions involved in energy management system 10