PVP 14

Code: EE4T3

II B.Tech - II Semester – Regular / Supplementary Examinations
October - 2020

ELECTRICAL POWER GENERATION
(ELECTRICAL & ELECTRONICS ENGINEERING)

Duration: 3 hours Max. Marks: 70

PART – A

Answer ***all*** the questions. All questions carry equal marks

11 x 2 = 22

1.

a) List the factors for the selection of site for hydroelectric power plants.
b) Classify hydroelectric plants.
c) What is the use of condenser in thermal power station?
d) Draw the Flue gas flow diagram of a thermal power plant.
e) Discuss the disadvantages of nuclear power plants.
f) What is the necessity of moderator in nuclear power station?
g) The maximum demand on a power station is 500 MW. If the annual load factor is 30%, Calculate the total energy generated per year.
h) Write different types of tariffs.
i) What are the different classification of substations?
j) Draw the diagram of sectionalized single bus bar.
k) What is load duration curve?

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) What are different types of turbines used in hydroelectric power plant? Discuss in detail. 8 M

   b) What are the different parameters to be considered to construct a hydroelectric power plant? 8 M

3. a) Draw labeled schematic block diagram of thermal power plant showing all the elements. 8 M

   b) Explain about Economizer. 8 M

4. Draw schematic arrangement of a nuclear power station and explain each part. 16 M

5. a) Explain two part tariff and three part tariff methods. 8 M

   b) A power station is to supply four regions of loads whose peak loads are 15,000KW, 10,000KW, 9,000KW & 11,000KW respectively. The diversity factor of the loads at the station is 1.5 and the average annual load factor is 50%. Calculate the maximum demand on the station and the annual energy from the station. 8 M

6. Draw the substation layout by showing all the locations of the substation equipment and discuss about advantages of the gas insulated substations. 16 M