Code: 13A02403 **R13**

B.Tech II Year II Semester (R13) Supplementary Examinations December 2016

ELECTRICAL POWER GENERATING SYSTEMS

(Electrical and Electronics Engineering)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) What are the various methods used for the disposal of ash in thermal power stations?
(b) What is condenser? Name the different types of condenser.
(c) How do we classify the hydro-electric power plants?
(d) What are the properties of reactor control rods?
(e) Write the expression for estimation of average solar radiation.
(f) What are the two primary mechanisms for producing forces from wind?
(g) List the drawbacks of geothermal energy conversions.
(h) What are the methods of biomass energy conversion technologies?
(i) What is load duration curve?
(j) Define diversity factor.

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 Explain the operation of thermal power station with block diagram.

OR

3 Name the different types of steam turbines. Explain any one type of steam turbine.

UNIT – II

4 What are the factors considered for the selection of site for hydro-electric power plants?

OR

5 Discuss various parts and their functions of a nuclear reactor.

UNIT – III

6 Write a short note on the different types of solar energy collectors.

OR

7 Write briefly about the different types of horizontal axis wind mills.

UNIT – IV

8 Name the different types of biogas digesters and explain any one type the biogas digester.

OR

9 Explain the ocean thermal electric power generation of open cycle system and closed cycle system with schematic diagrams.

UNIT – V

10 Discuss the different classifications of costs of electrical energy.

OR

11 A factory has a maximum load of 240 kW at 0.8 p.f. lag, with an annual consumption of 50,000 units. The tariff is Rs 50 per kVA of maximum demand plus 10 paise per unit. Calculate the flat rate of energy consumption. What will be annual saving if p.f. is raised to unity?

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