

END TERM EXAMINATION

SIXTH SEMESTER [B.TECH] MAY-JUNE 2016

Paper Code: ETEE-312

Subject: Power Station Practice

Time: 3 Hours

Maximum Marks: 75

Note: Attempt any five questions including Q.no.1 which is compulsory.

- Q1 (a) Define renewable energy sources. How these sources are different than conventional generation sources?
(b) What is the difference between the thermal power plant and super thermal power plant?
(c) What is the difference between impulse and reaction turbine. Give their example.
(d) What is economic dispatch? How the economic dispatch help to achieve the merit order dispatching of power plants?
(e) What are the advantages of substation grounding? What are the methods of substation grounding? (5x5=25)
- Q2 (a) What is M.H.D. power generation? Explain. Draw the block diagram and explain the working of each component. (7.5)
(b) What is economizer? Explain its role. (5)
- Q3 (a) What is geo thermal energy? How this is extracted for power generation? Explain with neat and clean diagram? (7.5)
(b) What are the factors for location and site selection for the power plants? (5)
- Q4 What are the main and auxiliary equipments in a combined gas and steam turbine plants. Explain with layout the function of each component. (12.5)
- Q5 What are the various types of hydraulic turbines? Explain with neat and clean diagrams the operation of Pelton and Francis turbines. How they are different. (12.5)
- Q6 (a) What are the main and auxiliary equipments in a thermal power plant. List all of them. (5)
(b) Develop economic dispatch coordination equations considering the transmission loss. Give the iterative process to solve the equations. (7.5)
- Q7 What is the purpose of reactor in nuclear power plants. Explain with neat and clean diagrams the liquid metal fuelled reactor and fast breeder nuclear reactor. (12.5)
- Q8 (a) What are different bus bar arrangements? Explain with neat and clean diagram the breaker and half scheme. (7.5)
(b) What are the major equipments in pole mounted substation. Draw the neat and clean diagram showing all components. (5)
- Q9 Write short notes on:
(a) Gas insulated substation (6)
(b) Indoor substation (6.5)

P