Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V • EXAMINATION - SUMMER • 2014

Su	bject	Code: 151904 Date: 17-06-2014	
Tiı	•	Name: Power Plant Engineering 0.30 am - 01.00 pm Total Marks: 70	
IIIS	1. 2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	Explain with neat sketch, construction and working of La Mont Boiler. Draw a steam power plant and discuss its advantages.	07 07
Q.2	(a)	State general lay of modern steam power plant label major component and state function of each component.	07
	(b)	Calculate the cost of generation per kWhr for a power station having following data: Installed capacity of plant =200MW; Capital cost=Rs400; crores Rate of interest and depreciation =12% Annual cost of fuel, salaries and taxation=Rs 5 crores; Load factor=50%. Also estimate the saving in cost per KWhr if annual factor is raised to 60%.	07
		OR	
	(b)	Explain the constructional difference between Low pressure and High pressure boiler	07
Q.3	(a) (b)	What are the reasons of corrosion in a boiler and how it is control? Derive an expression for maximum discharge through a chimney. OR	07 07
Q.3	(a) (b)	Draw and explain diesel engine power plant. Explain the working of Electrostatic precipitator with neat sketch.	07 07
Q.4	(a) (b)	Explain with neat sketch construction and working of CANDU type reactor. Discuss bad effects of acid rains. How acid rains are controlled?	07 07
Q.4	(a) (b)	OR Write short note on sodium zeolite ion exchange process. Differentiate between Jet and Surface condensers.	07 07
Q.5	(a) (b)	Explain seawater treatment using reverse osmosis process. Give the comparison between the following: (i) Nuclear power plant and thermal power plant (ii) Diesel power plant and thermal power plant OR	07 07
Q.5	(a)	What are fission fragment and fission product? Explain Fission Reaction with an example.	07
	(b)	With neat sketch explain Pneumatic ash handling system. List its advantages and disadvantages.	07
