Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - IVth Semester–Examination – May- 2012

Subject code: X41903

Subject Name: POWER PLANT ENGINEERING

Date:10/05/2012 **Time: 02:30 pm – 05:00 pm**

Total Marks: 70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Explain a Modern Thermal Power Plant with neat sketch.	**07**
	(b)	Write Unique features of High pressure boiler and Explain working of Lamount boiler with neat sketch	**07**
Q.2	**(a)**	Draw and explain storage type Hydro electric power plant	**07**
	(b)	Explain Velox boiler with neat diagram and discuss it's advantages and disadvantages.	**07**
		OR	
	(b)	Explain site selection of Hydro electric power plant.	**07**
Q.3	**(a)**	Explain construction and working of the Diesel electric power plant with near sketch.	**07**
	(b)	Explain Coal handling system of power plant in short.	**07**
		OR	
Q.3	**(a)**	Write field of use for the diesel electric power plant and explain lubrication system of diesel electric power plant.	**07**
	(b)	Explain Pneumatic ash handling system with neat sketch.	**07**
Q.4	**(a)**	Draw and explain CANDU reactor with neat sketch.	**07**
	(b)	Write short note on nuclear pollution and waste disposal.	**07**
		OR	
Q.4	**(a)**	Write short note of different methods of controlling of SO_2 from air.	**07**
	(b)	Explain Sodium Zeolite water softner with neat sketch.	**07**
Q.5	**(a)**	In a condenser test , following observations are made, Vacuum = 70.1 cm if Hg Barometer = 76.3 cm if Hg Mean temperature of condensation = 35^0C Hot well temperature = 29^0C Amount of cooling water = 46270 kg per hour Inlet temperature of cooling water = 16.75^0C Outlet temperature of cooling water = 31.15^0C Amount of condensate = 1188 kg per hour Find, 1.The amount of air present per m^3 of condenser volume 2.The state steam entering the condenser 3.The vacuum efficiency	**07**
	(b)	Write a short note on the natural draft cooling tower with neat sketch.	**07**
		OR	
Q.5	**(a)**	Explain the Reverse Osmosis process and explain sea water treatment using Reverse	**07**

Osmosis process

(b) Explain Load curves and discuss Ideal and Realized load curve also explain effect of variable load on power plant design. **07**

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