Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER–IV • EXAMINATION – WINTER 2013

Subject Code: X41903 **Date: 07-12-2013**

Subject Name: Power Plant Engineering

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)**	Draw layout of the Modern Thermal Power Plant and explain main circuit and the path of flow.	**07**
	(b)	Draw and explain Velox boiler with neat sketch.	**07**
Q.2	**(a)**	Explain SodiumZeolite feed water treatment process used in Thermal power plant.	**07**
	(b)	Write short note on different Impurities in water and their effects.	**07**
		OR	
	(b)	Write short note of effect of different pollutants on the human health and vegetation.	**07**
Q.3	**(a)**	Draw layout of the Diesel Power plant and explain working of different parts in short.	**07**
	(b)	Explain the Unique features of the High pressure boiler.	**07**
		OR	
Q.3	**(a)**	What is Jet condenser ? Explain High level Jet condenser.	**07**
	(b)	The reading taken during test on surface condenser are: Mean condenser temperature =36^0C, Hot well temperature =30^0C, condenser vacuum =70 cm of Hg,barometer reading=76cm of Hg, Condensate collected 12 kg/min,cooling water enters at 23^0C and leaves at 32^0C, flow beaing 38000 kg/hr, Find (i) mass of air present per cubic metre of condenser.(ii)quality of steam at condenser inlet(iii)vacuum efficiency(iii)condenser efficiency.	**07**
Q.4	**(a)**	Explain different component of Nuclear reactor with neat sketch.	**07**
	(b)	Explain CANDU reactor.	**07**
		OR	
Q.4	**(a)**	What is Boiler Draft? How drafts are classified?	**07**
Q.4	**(b)**	Write short note on the Balanced Draft.	**07**
Q.5	**(a)**	Write short note on Inplant handling of Coal.	**07**
	(b)	Explain Low velocity and High velocity type Hydraulic Ash handling system.	**07**
		OR	
Q.5	**(a)**	Explain importance of Load factor and Diversity factor.	**07**
	(b)	Explain briefly (i) Load curve (ii) Load duration curve.	**07**

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