Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER–IV EXAMINATION – WINTER 2015

Subject Code:X41903 **Date:23/12/2015**

Subject Name: Power Plant Engineering

Time: 02:30pm to 05:00pm **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)**	Write explanatory note on layout of a modern thermal power plant including main circuit and path of flow.	**07**
	(b	What are the basic resources in India for power generation? Explain the present power position of India.	**07**
Q.2	**(a)**	Why economizer is used in thermal power plant? Why it is located after the feed pump? How does air preheating save the fuel? Classify air preheaters.	**07**
	(b	Explain velox boiler with neat sketch.	**07**
		OR	
	(b	Explain with neat sketch pressurized FBC system.	**07**
Q.3	**(a)**	Explain belt conveyor, screw conveyor and bucket elevator.	**07**
	(b	Write short notes on cyclone burner.	**07**
		OR	
Q.3	**(a)**	Explain low velocity and high velocity ash handling system with neat sketch.	**07**
	(b	Explain single retort stocker with neat sketch.	**07**
Q.4	**(a)**	What is the necessity of cooling tower in thermal power plant? Explain with neat sketch forced draught cooling tower.	**07**
	(b	Write short notes on hot soda lime treatment for feed water.	**07**
		OR	
Q.4	**(a)**	Compare mechanical draught and natural draught cooling tower.	**07**
	(b	Explain sea water treatment using reverse osmosis process.	**07**
Q.5	**(a)**	State field of application of diesel power plant. Discuss its advantages and disadvantages.	**07**
	(b	Explain pressurized water reactor.	**07**
		OR	
Q.5	**(a)**	Explain with the help of neat sketch the working of thermostate cooling system.	**07**
	(b	Explain liquid metal cooled reactor.	**07**

****