Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC- SEMESTER–IV - EXAMINATION – SUMMER 2017

Subject Code: X41903 **Date:31/05/2017**

Subject Name: Power Plant Engineering

Time: 10:30 AM TO 01:00 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 the pollution from thermal power plants and its control.	**07**
	(b)	List out the factors to be consider while selecting a site for nuclear power plant. Explain each factor in brief.	**07**
Q.2	**(a)**	Explain with neat sketch the construction details and working of Loeffler boiler.	**07**
	(b)	What are the advantages and disadvantages of pulverized coal firing?	**07**
		OR	
	(b)	With neat sketch explain the four main circuits of modern thermal power plant.	**07**
Q.3	**(a)**	Explain with neat sketch Boiling Water Reactor. Also write its advantages and disadvantages.	**07**
	(b)	Explain different components of Nuclear reactor with neat sketch.	**07**
		OR	
Q.3	**(a)**	Write a short note on: CANDU reactor	**07**
	(b)	Write a short note on: Nuclear Fuels	**07**
Q.4	**(a)**	Explain the following terms giving suitable examples : (1) Connected load (2) Average load (3) Plant capacity factor (4) Diversity factor.	**07**
	(b)	Write a short note on: Cooling towers	**07**
		OR	
Q.4	**(a)**	What do you mean by load curve? What is its significance?	**07**
	(b)	Explain the terms: (1) Condenser efficiency (2) Vacuum efficiency. How the quantity of circulating cooling water mass for condenser is calculated?	**07**
Q.5	**(a)**	Draw the layout of diesel power plant. Describe its various systems in brief.	**07**
	(b)	Discuss the Unique features of the High pressure boilers.	**07**
		OR	
Q.5	**(a)**	What do you mean by boiler draught? Derive the equation of chimney height.	**07**
	(b)	Explain sea water treatment using reverse osmosis process.	**07**

****