

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

**DIPLOMA ENGINEERING – SEMESTER – V – • EXAMINATION – SUMMER 2016**

**Subject Code: 350504**

**Date: 19/05/2016**

**Subject Name: Utility and Instrumentation in Chemical Plant**

**Time: 02.30 PM TO 05.00 PM**

**Total Marks: 70**

**Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Each question carry equal marks (14 marks).

Q.1	(a)	List out Various Methods of Water Softening and Purification. Explain any one	07
	(b)	Define Boiler? Explain Locomotive Fire tube boiler	
Q.2	(a)	List out various Types of Air compressors and Explain any one	07
	(b)	List out the various utilities used in chemical industries .explain any one	07
		OR	
	(b)	Differentiate between Hard and Soft water	
Q.3	(a)	Explain construction & working of Mercury in glass thermometer	07
	(b)	List out Pressure measuring Device. Explain Dead weight pressure gauge	07
		OR	
Q.3	(a)	Classify Level measurement device and Explain Diaphragm box method	07
	(b)	State the selection criteria for Refrigerant	
Q.4	(a)	Discuss the various Basic elements of instruments in detail	07
	(b)	Write short note on Hair hygrometer and PH meter	07
		OR	
Q.4	(a)	Define Instrumentation? Explain Static Characteristics of Instruments	07
	(b)	List out the various Temperature Scale, Their Temperature Range based on ice point and boiling point of water.	07
Q.5	(a)	List out Viscosity Measurement Method Explain Falling Sphere Method	07
	(b)	Explain Function of Relays and Interlocks	07
		OR	
Q.5	(a)	Write down the Brief Idea of PLC and DCS system	07
-	(b)	Explain Coriolis Meter	07

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