GUJARAT TECHNOLOGICAL UNIVERSITY
BE- SEMESTER–V (NEW) EXAMINATION – WINTER 2020

Subject Code:3151712   **Date:22/01/2021**
Subject Name:Environmental Instrumentation
Time:10:30 AM TO 12:30 PM   **Total Marks: 56**
Instructions:
1. **Attempt any FOUR questions out of EIGHT questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

		MARKS
Q.1	**(a)** Explain the necessity of Instrumentation & Control for environment.	**03**
	(b) How Portable Instruments are Differ from Stationary Instruments.	**04**
	(c) Write a short note on sensor requirement for environment.	**07**
Q.2	**(a)** Why instrumentation engineer needs to assure quality of water.	**03**
	(b) How does quality of water effects environment?	**04**
	(c) What are the sources of water? What are the effects of quality of water?	**07**
Q.3	**(a)** List the standards for raw and treated water.	**03**
	(b) List and give a detailed classification of raw water sources in nature.	**04**
	(c) Write a short note on water treatment facilities and their process design.	**07**
Q.4	**(a)** Explain Strokes law.	**03**
	(b) Explain the design criteria for settling tank.	**04**
	(c) Explain settling of discrete particles with equations.	**07**
Q.5	**(a)** State Different Types of Sedimentation.	**03**
	(b) List and explain various categories of air measuring devices.	**04**
	(c) Explain Different Types of Settling in Detail.	**07**
Q.6	**(a)** Explain measurement of CO.	**03**
	(b) Explain the measurement technique for NOx.	**04**
	(c) Explain SO2 monitoring analyzer.	**07**
Q.7	**(a)** Explain Vane anemometer in detail.	**03**
	(b) Role of NGO in Environment Protection.	**04**
	(c) Describe Hot wire Anemometer for Gas flow.	**07**
Q.8	**(a)** Explain control of air pollution.	**03**
	(b) Explain measurement of ambient air quality.	**04**
	(c) Explain the different concentrations of pollutants that affect the quality of air.	**07**

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