

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

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