

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2017****Subject Code: 2171305****Date: 10/11/2017****Subject Name: Environmental Monitoring and Statistics (Departmental Elective - II)****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.

		<b>MARKS</b>
<b>Q.1</b>	(a) Enumerate the importance of environmental monitoring.	<b>03</b>
	(b) Explain following: (1) Acid mine drainage, (2) Physical contaminants.	<b>04</b>
	(c) Write different steps involved for water monitoring. How are you going to implement these steps.	<b>07</b>
<b>Q.2</b>	(a) What is environmentally transmitted pathogen? Give at least three examples.	<b>03</b>
	(b) Describe air sampling techniques.	<b>04</b>
	(c) Elucidate the spatial and temporal environmental characteristics.	<b>07</b>
	<b>OR</b>	
	(c) Explain ground water monitoring by describing objectives, location of monitor wells, well construction design.	<b>07</b>
<b>Q.3</b>	(a) Describe chemical contaminants with three examples.	<b>03</b>
	(b) Describe fate and migration of contaminants in ground.	<b>04</b>
	(c) Analyze the mechanism of physical contaminant and possible control methods.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) What are environmental characteristics?	<b>03</b>
	(b) Describe sample variables with suitable examples.	<b>04</b>
	(c) Elaborate water sampling techniques. Describe socio-economic factors related with water monitoring.	<b>07</b>
<b>Q.4</b>	(a) Describe four types of environmental monitoring.	<b>03</b>
	(b) Construct a frequency distribution table.	<b>04</b>
	(c) Define: correlation, covariance and standard deviation.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Describe air monitoring standards.	<b>03</b>
	(b) How to store microbial contaminants?	<b>04</b>
	(c) Write different processes that lead to acid mine drainage.	<b>07</b>
<b>Q.5</b>	(a) What is regression analysis?	<b>03</b>
	(b) Discuss the operation of an electrostatic precipitator.	<b>04</b>
	(c) Describe electrometric and spectroscopic method.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Explain interpolation.	<b>03</b>
	(b) Describe sample processing microbial contaminant.	<b>04</b>
	(c) Describe normal probability function? Explain by giving suitable examples.	<b>07</b>