

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-III (NEW) - EXAMINATION – SUMMER 2017****Subject Code: 2133505****Date: 05/06/2017****Subject Name: Chemistry for Environmental Science and Technology****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>	<b>Short Questions</b>	<b>14</b>
	1 Define Photochemical Smog.	
	2 Name any one greenhouse gas.	
	3 Write full form of TDs & TSS	
	4 List out the types of sedimentation tanks.	
	5 Define hydrological cycle.	
	6 Define Bioaccumulation.	
	7 Define permanent hardness.	
	8 Name tests used for the estimation of residual chlorine.	
	9 What should the limit of DO in discharged effluent?	
	10 Write full form of AAS	
	11 Maximum permissible limit of fluoride in drinking water is _____ mg/l.	
	12 The pH of acid rain is below _____.	
	13 Name a coagulant which is added to wastewater if the pH of water is acidic.	
	14 What do you mean by pre chlorination?	
<b>Q.2</b>	(a) Write a note on photochemical smog.	<b>03</b>
	(b) Explain break point chlorination and post chlorination.	<b>04</b>
	(c) Explain the method of measurement of heavy metals in a wastewater sample.	<b>07</b>
	<b>OR</b>	
	(c) What do you understand by bio accumulation and bio magnification? Explain in detail.	<b>07</b>
<b>Q.3</b>	(a) Explain the techniques for the removal of iron and manganese from the wastewater.	<b>03</b>
	(b) What do u mean by RSPM? Explain its measurement techniques.	<b>04</b>
	(c) Explain the method of measurement of hardness in a wastewater sample.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Explain Most probable number test for a water sample.	<b>03</b>
	(b) Explain the different tests used for estimation of residual chlorine in water.	<b>04</b>
	(c) Explain the construction and working of TDS meter in detail.	<b>07</b>
<b>Q.4</b>	(a) What do you mean by acid rain? Explain its phenomena.	<b>03</b>
	(b) Explain the terms greenhouse effect.	<b>04</b>
	(c) Explain the different types of impurities present in wastewater	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Write a note on Global Warming along with its effects.	<b>03</b>
	(b) Explain hydrological cycle with a neat flow diagram.	<b>04</b>

- (c) Explain the method of measurement of Chloride in a wastewater sample. **07**
- Q.5** (a) Explain in brief the methods used to remove permanent hardness from wastewater. **03**
- (b) Draw a neat sketch of rectangular sedimentation tank. **04**
- (c) Explain the construction and working of flame photometer in detail. **07**
- OR**
- Q.5** (a) Write a note on Environmental toxicity. **03**
- (b) Write a note on different types of impurities present in soil. **04**
- (c) Explain the method of measurement of Color in a wastewater sample. **07**

\*\*\*\*\*