

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V- EXAMINATION – SUMMER 2016****Subject Code: 150603****Date: 09/05/2016****Subject Name: Environmental Engineering****Time: 02:30 PM to 05:00 PM****Total Marks: 70****Instructions:**

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

i.

- Q.1** (a) Explain with sketch the microbial growth curve **07**
 (b) Enumerate different physical and biological characteristics of water and discuss turbidity and its importance. **07**

- Q.2** (a) Define BOD and COD. Differentiate with sketch Ist stage and IInd stage BOD. **07**
 (b) Why BOD is determined for 5 days at 20°C. What will be the BOD₅ at 20°C if BOD₁ at 35°C is 110 mg/l. $K_{D(20)} = 0.10$. **07**

OR

- (b) Explain the pH scale and calculate how much acidic is pH 2 compared to pH of 6. **07**

- Q.3** (a) What do you mean by temporary and permanent hardness? Describe the EDTA method of determination of total hardness in the laboratory. **07**
 (b) Describe one pipe and two pipe plumbing systems with their neat sketches. **07**

OR

- Q.3** (a) How self-purification is achieved in natural water bodies? Explain with the sketch the oxygen sag curve. **07**
 (b) Discuss any two types of traps used in house drainage system indicating their locations and purpose. **07**

- Q.4** (a) Discuss the drainage plan of building showing its layout. **07**
 (b) Describe the flow diagram of solid waste management indicating their all functional elements. **07**

OR

- Q.4** (a) Discuss the composition of municipal solid waste and explain the methods of collection of municipal solid waste. **07**
Q.4 (b) Discuss the method of composting of solid waste disposal and describe its merits and demerits. **07**

- Q.5** (a) Differentiate primary and secondary air pollutants? Discuss the effects of carbon mono oxide on human beings. **07**
 (b) Enumerate different air pollution control devices and explain the functioning of scrubber. **07**

OR

- Q.5** (a) Write short notes on (a) EIA (b) Total solids in water **07**
 (b) What is dB? Give its values for different sources and discuss some ways to control noise pollution. **07**
