

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V (NEW) - EXAMINATION – SUMMER 2018

Subject Code:2150603

Date:30/04/2018

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.

- Q.1**
- (a) State the role of microorganisms in the environment. **03**
 - (b) Explain temporary and permanent hardness. **04**
 - (c) Enumerate different sources of water. Explain surface sources in sources in detail. **07**

- Q.2**
- (a) Differentiate between: BOD and COD. **03**
 - (b) Define pH and calculate how much acidic is pH 4 Compared to pH of 6. **04**
 - (c) Write a short note on control of water born diseases. **07**

OR

- (c) Enlist different chemical characteristics of water and discuss about acidity with their environmental significance. **07**

- Q.3**
- (a) Write a short note on Aerobic Decomposition. **03**
 - (b) Write a short note on Waste water disposal by dilution. **04**
 - (c) Discuss briefly the process of self purification of natural receiving water. Explain the oxygen sag curve with sketch. **07**

OR

- Q.3**
- (a) Define: Sewage, Sullage and Sewerage. **03**
 - (b) Write a short note on Disposal of treated waste water onto land. **04**
 - (c) The 5 day 30°C BOD of sewage sample is 110mg/l. Calculate its 5 days 20°C BOD. Assume the deoxygenation constant at 20°C , $K_D(20^\circ)$ as 0.1. **07**

- Q.4**
- (a) Define: Vent pipe, Rainwater pipe, Anti-siphonage pipe **03**
 - (b) Write short note on Composting. **04**
 - (c) What is solid waste management? State the composition and characteristics of the municipal solid waste. **07**

OR

- Q.4**
- (a) Write short note on Incineration. **03**
 - (b) Classify the traps according to shape and describe with sketch the same. **04**
 - (c) What is dB? Explain the effects of noise pollution. **07**

- Q.5**
- (a) Write note on EIA. **03**
 - (b) Write short note on Sanitary landfilling. **04**
 - (c) Schematically describe different systems of plumbing with their constructional precautions. **07**

OR

- Q.5**
- (a) Write short note on Electrostatic Precipitators. **03**
 - (b) Write short note on Environmental (Protection) Act. **04**
 - (c) What is air pollution? Discuss its effects on human, animal and plants. **07**