

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2021****Subject Code:2150603****Date:20/12/2021****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.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) Enlist and explain different sources of surface water. **03**
 (b) Give the classification of microorganisms. **04**
 (c) Explain different type of water demands in brief. **07**
- Q.2** (a) Differentiate between BOD and COD. **03**
 (b) The 4 day 30 °C BOD of a sewage sample is 200 mg/l. Calculate its 5 day 35 °C BOD. Assume deoxygenation constant at 20 °C as 0.1. **04**
 (c) Explain the factors affecting self purification capacity of the river. **07**
- OR**
- (c) Explain different zones of pollution in a river. **07**
- Q.3** (a) Enlist and explain different physical quality parameter of drinking water. **03**
 (b) Write short note on water borne diseases. **04**
 (c) Explain oxygen sag curve with a neat sketch. **07**
- OR**
- Q.3** (a) Explain different types of solids found in wastewater **03**
 (b) Give sanitary significance of following parameters, with reference to drinking water: 1. Nitrate 2. Fluoride 3. Mercury 4. pH **04**
 (c) Explain different physical characteristics of wastewater **07**
- Q.4** (a) Define: 1. Sullage 2. Soil pipe 3. Waste pipe. **03**
 (b) Explain land fill method used for disposal of solid waste. **04**
 (c) Enlist the principles of house drainage system. **07**
- OR**
- Q.4** (a) Define: 1. Rubbish 2. Garbage 3. Leachate **03**
 (b) Explain different types of plumbing systems used for house drainage. **04**
 (c) What is transfer station? When it is needed? Enlist the points to be considered for fixing the location of the transfer station. **07**
- Q.5** (a) State the sources and effects of oxides of nitrogen. **03**
 (b) Give the classification of air pollutants. **04**
 (c) Explain how noise pollution can be controlled. **07**
- OR**
- Q.5** (a) State the sources of noise pollution. **03**
 (b) What is the Environmental (Protection) Act-1986, what are its objectives? **04**
 (c) Explain different equipments used for control of particulate matter. **07**
