Subject Code: 150603

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

BE - SEMESTER-V • EXAMINATION - WINTER • 2014

Date: 03-12-2014

**Subject Name: Environmental Engineering** Time: 10.30 am - 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. 07 Define environment. Explain the role of microorganism in the environment. **Q.1** (a) Enlist the different physical, chemical, biological parameters for drinking water. **(b)** 07 Explain any one physical parameter in detail. **07** 0.2 Define the following terms. (a) (1) COD (2) Manhole (3) Plumbing system (4) Phototrophs (5) Rubbish (6) Air pollution (7) Mist. **(b)** Write drinking water quality standards as per BIS. **07** Give classification of trap. Explain with sketch intercepting trap. **(b) 07** Write a short note on "composting as a method of disposal of solid waste". 0.3 07 (a) Define Air pollution. Write sources of air pollution. **07 (b)** Explain in brief different factors affecting self purification capacity of the river **07** 0.3 (a) or stream. Define Environmental Audit. Explain in detail steps involved in conducting the **07 (b)** Environmental Audit. 0.4 Explain the different factors affecting rate of water demand. **07** (a) The following data have been noted from the census department: **07 (b) Population** Year 1950 80,000 1960 1,55,000 1970 2,50,000 1980 4,78,000 1990 8,53,000 2000 9,80,000 Calculate Probable Population in the year 2030 using Incremental increase method. Describe the characteristics of the waste generated from the following 0.4 **07** (a) industries. (1)Paper and pulp industry (2) dairy industry Explain Eutrophication and sewage sickness. Also discuss their role in **(b) 07** Environmental engineering. **Q.5** Enlist the different equipments/devices used for control of particulate matter. **07** (a) Explain with neat sketch Gravitational settling chamber. Also write its advantages and disadvantages. Explain in brief methodology of Environmental Impact Assessment. **(b) 07** OR Write the different control measures for noise pollution **07** Q.5 (a) Explain the growth pattern of microorganisms based on mass. **07 (b)** \*\*\*\*\*