

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V (NEW) EXAMINATION – SUMMER 2024****Subject Code:2150603****Date:23-05-2024****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.

		<b>MARKS</b>
<b>Q.1</b>	(a) Enlist the different physical, chemical and biological parameters for drinking water.	<b>03</b>
	(b) Explain the factors affecting the water demand.	<b>04</b>
	(c) Enlist the different methods used for population forecasting. Explain a Forecasting. Explain anyone in detail.	<b>07</b>
<b>Q.2</b>	(a) Write role of microorganisms in Environment.	<b>03</b>
	(b) Write short note on control of water born diseases.	<b>04</b>
	(c) Derive the Equation for first stage BOD..	<b>07</b>
<b>OR</b>		
(c)	Write a short note on transfer stations. How location of transfer stations is decided?	<b>07</b>
<b>Q.3</b>	(a) Define the terms: 1)Sewage 2)Waste Pipe 3)Traps	<b>03</b>
	(b) Write Principles of House Drainage..	<b>04</b>
	(c) State different type of plumbing system and explain with sketch single stack system and two pipe system.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Explain growth pattern of bacteria based upon the mass.	<b>03</b>
	(b) What is sewage farming? State the advantages of this Method of sewage disposal.	<b>04</b>
	(c) Discuss the merits and demerits of sanitary landfilling and method of composting of solid waste disposal.	<b>07</b>
<b>Q.4</b>	(a) Give the sanitary significance of colour, iron, and nitrate in water.	<b>03</b>
	(b) Give the classification of Air Pollutants.	<b>04</b>
	(c) Explain the different noise rating system and give the standards for Ambient noise standard.	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) How solid waste is collected and conveyed from streets?	<b>03</b>
	(b) Define(i) Garbage (ii) Incineration (iii) BOD (iv) Fog	<b>04</b>
	(c) The 5 days 30° C BOD of sewage is 300 mg/lit. Calculate its 5 days 20° C BOD. Assume the deoxygenation constant at 20° C $K_D(20^\circ)$ as 0.1	<b>07</b>
<b>Q.5</b>	(a) Explain with sketch Nahni Trap.	<b>03</b>
	(b) Explain the term composting. Discuss Indore Method of Composting	<b>04</b>

- (c) Explain any three chemical characteristics of water with its respective permissible limits. **07**

**OR**

- Q.5** (a) What are the effects of particulate matter on Human health? **03**  
(b) Write Limitations of EIA. **04**  
(c) Write a short note on Environmental Audit **07**

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