Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V • EXAMINATION – SUMMER • 2015

Subject Code: 150603 **Date: 11/05/2015**

Subject Name: Environmental Engineering

Time: 02.30pm-05.00pm **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)**	Explain the role of microbes in environment and discuss schematically different phases of microbial growth.	**07**
	(b)	Differentiate industrial and domestic wastewater and discuss any four chemical characteristics of wastewater.	**07**
Q.2	**(a)**	Explain different impurities in water and describe different water borne diseases with control measures.	**07**
	(b)	What is Ist stage BOD? Determine BOD_8 at 15°C if BOD_5 at 20°C is 150 mg/l. $K_{D(20)}$ =0.23.	**07**
		OR	
	(b)	Define pH and find average of pH 2 and pH 6. Calculate how much acidic is pH 2 compared to pH of 6.	**07**
Q.3	**(a)**	What are temporary and permanent harnesses? Describe the method of determination of calcium hardness in the lab.	**07**
	(b)	Schematically describe different systems of plumbing with their constructional precautions.	**07**
		OR	
Q.3	**(a)**	Discuss briefly different disposal techniques of wastewater and explain with the sketch the oxygen sag curve.	**07**
	(b)	Classify different types of traps used in house drainage system indicating their purposes.	**07**
Q.4	**(a)**	Discuss briefly (a) Sanitary fittings (b) Incineration (c) composting	**07**
	(b)	Describe the working principal and flow diagram of solid waste management.	**07**
		OR	
Q.4	**(a)**	Discuss the composition of municipal solid waste and explain their methods of collection.	**07**
Q.4	**(b)**	Discuss the different methods of solid waste disposal and describe design and operation of sanitary land filling.	**07**
Q.5	**(a)**	Discuss primary and secondary air pollutants with effects of these pollutants on human beings.	**07**
	(b)	Enumerate different air pollution control devices and explain the functioning of electrostatic precipitator.	**07**
		OR	
Q.5	**(a)**	Write short notes on (a) EIA (b) COD (c) TS and TDS	**07**
	(b)	What is dB? Explain the effects of noise pollution.	**07**

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