

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER– VI EXAMINATION – SUMMER 2026****Subject Code:3160513****Date:26-05-2026****Subject Name: Waste Water Engineering****Time: 10:30 AM TO 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.
4. Simple and non-programmable scientific calculators are allowed.

		MAR	Attribute
		KS	
Q.1	(a) Sketch the wastewater treatment flow diagram for the sugar industry.	03	(A)
	(b) Select and explain any primary treatment process for wastewater treatment.	04	(E)
	(c) Explain vermiculture and root zone wastewater treatment process.	07	(U)
Q.2	(a) List all parameters which can affect the anaerobic wastewater treatment process.	03	(R)
	(b) Differentiate between aerated lagoons and activated sludge treatment process.	04	(N)
	(c) Describe a process flow sheet of wastewater treatment for steel industries.	07	(R/U)
OR			
	(c) Discuss in detail the wastewater characteristics.	07	(R/U)
Q.3	(a) Explain the extended aeration wastewater treatment method.	03	(R/U)
	(b) Explain expanded bed reactors for anaerobic wastewater treatment.	04	(R/U)
	(c) Demonstrate and explain wastewater treatment flow diagram for the pulp and paper industry.	07	(A)
OR			
Q.3	(a) List all physical treatments involved in physicochemical treatment.	03	(R)
	(b) How pH can affect the anaerobic wastewater treatment process?	04	(R/U)
	(c) Demonstrate and explain the wastewater treatment scheme for the dyes industries.	07	(A)
Q.4	(a) List anaerobic treatment technologies.	03	(R)
	(b) Explain proportioning processes.	04	(R/U)
	(c) Explain a sequential batch reactor for aerobic wastewater treatment.	07	(U)
OR			
Q.4	(a) Explain the principle of the anaerobic treatment process.	03	(R/U)
	(b) Why sampling of wastewater is important?	04	(R)
	(c) Explain a rotating biological contactor for aerobic wastewater treatment.	07	(U)
Q.5	(a) Explain various sources of wastewater.	03	(R)
	(b) Explain stabilizing ponds for aerobic wastewater treatment.	04	(R/U)
	(c) Use recent technologies to explain in detail the need for wastewater treatment.	07	(A)
OR			
Q.5	(a) Which are the challenges faced to treat wastewater treatment?	03	(R)
	(b) Explain the process steps of trickling filters.	04	(R/U)
	(c) Interpret and explain the term “reuse and reclamation of treated wastewater”.	07	(A)