

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-IV EXAMINATION – WINTER 2025

Subject Code:3141312

Date:24-11-2025

Subject Name:Municipal 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.

	MARKS
Q.1 (a) What is the necessity of water supply scheme?	03
(b) Narrate the different sources of water for water supply in a town.	04
(c) Define: (1) Storm water (2) Infiltration (3) Porosity (4) permeability (5) aquifers (6) specific yield (7) aquiclude	07
Q.2 (a) Highlight the duties of water works engineers.	03
(b) What factors affect the design of an intake structure?	04
(c) Discuss in detail about quality and quantity of surface water and their usefulness for public water supplies	07
OR	
(c) Explain the layout of water treatment plant with neat sketch.	07
Q.3 (a) What is intake tower?	03
(b) Write a short note on the wastage of water in public water supplies.	04
(c) How the total quantity of water required by a town is estimated?	07
OR	
Q.3 (a) What is design period in designing water supply scheme?	03
(b) Differentiate between Separate sewerage system & combined sewerage system.	04
(c) Explain Canal Intake with a neat sketch showing all the components.	07
Q.4 (a) Write a note on fire hydrant.	03
(b) What is the function of hydrants in the distribution system? With the help of neat sketch describe hydrants	04
(c) Differentiate between: (i) Dead end system and radial system of water supply (ii) Gravity system and pressurized system of water supply	07
OR	
Q.4 (a) What is water meter? Enlist the types of water meter.	03
(b) Describe inverted siphon with neat sketch.	04
(c) Classify the pumps based on their principles of operation & power requirement.	07
Q.5 (a) What is drop manhole?	03
(b) How will you calculate the total horse power required for a pump?	04
(c) Write a note on 'Sewer cleaning equipment and devices.	07

OR

- Q.5** (a) Distinguish between expansion joint and flanged joint. **03**
(b) Discuss partially ventilated single stack plumbing system for house drainage. **04**
(c) List of various sewer appurtenances and explain drop manhole with neat sketch. **07**
