

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER– IV EXAMINATION – SUMMER 2026****Subject Code:3141312****Date:30-05-2026****Subject Name: Municipal 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.

- Q.1** (a) Draw a complete outlines of water supply scheme. **03**
 (b) Differentiate between Gravity system and pressurized system of water supply. **04**
 (c) Discuss about the surface water sources with respect to its quality and quantity. **07**
- Q.2** (a) Define the following terms: **03**
 (i) Percolation (ii) Aquifer (iii) Perched aquifer.
 (b) Explain river intake with the help of a neat sketch. **04**
 (c) Enlist and explain various factors which directly affect the per capita water demand. **07**
- OR**
- (c) Explain different types of water demands. **07**
- Q.3** (a) Define the following terms. (i) Non scouring velocity (ii) Dry weather flow (iii) Soil pipe. **03**
 (b) With the help of neat sketch describe hydrants. **04**
 (c) From a clear water reservoir 3 m deep and maximum water level at 30 m, water is pumped to an elevated reservoir at 75 m at the constant rate of 9,00,000 liter/hour. The distance is 1500 m. Give the economical diameter of the rising main and the water horse power of the pump. Neglect minor losses and take $f=0.01$. **07**
- OR**
- Q.3** (a) Define the following terms. (i) Anti siphonage pipe (ii) Self cleansing velocity (iii) invert **03**
 (b) List down the requirements of good distribution system. **04**
 (c) Give the classification of pumps. Explain Rotary pump with its merits and demerits. **07**
- Q.4** (a) Write a short note on sluice valve. **03**
 (b) Differentiate between drop manhole and manhole. **04**
 (c) Write a short note on different types of sewer joints. **07**
- OR**
- Q.4** (a) What precautions should be taken to prevent the explosions in sewers? **03**
 (b) Differentiate between Separate system and Combined system. **04**
 (c) Write a short note on “Various methods of collection for sanitation works”. **07**
- Q.5** (a) Differentiate between drains and sewers. **03**
 (b) Write a short note on maintenance of sewers. **04**
 (c) Write down the procedure for laying of sewer pipes. **07**
- OR**
- Q.5** (a) Why is it necessary to provide sewer appurtenances on the sewer lines? **03**
 (b) Enlist the different types of sewer sections & explain any one with neat sketch. **04**
 (c) Enlist various systems used in House Plumbing. Explain any one in detail. **07**
