

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-IV (NEW) EXAMINATION – WINTER 2024

Subject Code: 3141312

Date: 27-11-2024

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) Draw a complete flow diagram of water supply scheme. | 03 |
| (b) Differentiate between gravity system and pressurized system of water supply. | 04 |
| (c) Write a note on Sanitary works. | 07 |
| Q.2 (a) Define the following terms: (i) Aquifer (ii) Design period (iii) Porosity. | 03 |
| (b) Enlist the various pipe joints and briefly explain any one. | 04 |
| (c) Enlist and explain the factors affecting domestic water demand. | 07 |
| OR | |
| (c) Define water demand and explain the various types of water demand. | 07 |
| Q.3 (a) Classify the pumps based on their principles of operation & power requirement. | 03 |
| (b) Give the design periods for various components of water supply scheme. | 04 |
| (c) Explain construction and working of Gate Valve with neat sketch. | 07 |
| OR | |
| Q.3 (a) Explain Dead-end system of water distribution. | 03 |
| (b) Write a short note on hydrants. | 04 |
| (c) Draw a neat sketch of River intake work and explain its working. | 07 |
| Q.4 (a) Define the following terms.: (i) Self cleansing velocity (ii) Dry weather flow (iii) Non scouring velocity | 03 |
| (b) Differentiate between drains & sewers. | 04 |
| (c) Enlist various systems used in House Plumbing. Explain any one in detail. | 07 |
| OR | |
| Q.4 (a) Define the following terms. (i) Infiltration (ii) storm water (iii) sewage | 03 |
| (b) Difference between storm water & sanitary sewage. | 04 |
| (c) Enlist the different types of materials for sewers. Explain any two in detail. | 07 |
| Q.5 (a) Write precautions required to prevent the explosions in sewers. | 03 |
| (b) Differentiate between Separate System & Combined System of Sewerage System. | 04 |
| (c) Explain the procedure for laying of sewer lines. | 07 |
| OR | |
| Q.5 (a) Define: (i) Non Scouring Velocity (ii) Waste Pipe (iii) Dry Weather Flow | 03 |
| (b) Enlist the safety equipments used for sewer maintenance works with their intended use. | 04 |
| (c) List of various sewer appurtenances and explain drop manhole with neat sketch. | 07 |
