

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- VIth SEMESTER–EXAMINATION – MAY- 2012****Subject code: 161301****Date: 09/05/2012****Subject Name: Municipal Engineering****Time: 10:30 am – 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.

Q.1 (a) Compare the surface water and ground water sources based on quantity and quality. **07**

(b) With the help of a neat sketch , write down the construction and functions of a drop manhole. **07**

Q.2 (a) Write down the difference between: **07**

- (i) Combined sewerage system and separate sewerage system
- (ii) Gravity system and pressurized system of water supply.

(b) Enlist and explain the factors affecting the demand of water. **07**

OR

(b) Enlist the points to be kept in mind while selecting the location for Intake works from rivers. **07**

Q.3 (a) Enlist the different types of valves used in water supply system. With the help of a neat sketch, explain any one type of valve. **07**

(b) Draw a neat sketch of Lake intake and explain its working. **07**

OR

Q.3 (a) With the help of neat sketch explain the Dead-end system of water distribution and enlist its limitations. **07**

(b) Prepare a list of pumps used in water supply and explain any two. **07**

Q.4 (a) Define the terms : **07**

- (i) Sewage (ii) Storm water (iii) Infiltration (iv) Invert
- (v) Self cleansing velocity (vi) Non scouring velocity (vii) Dry weather flow

(b) Enlist and explain the factors affecting the quantity of storm water. **07**

OR

Q.4 (a) Explain the terms : Time of concentration and inlet time. **07**

(b) A 2.0m circular sewer is laid on a slope of 0.0008. If $n=0.013$ in Manning's formula, determine the discharge Q and velocity V when the sewer is flowing full **07**

Q.5 (a) Give the breakup of the total per capita water demand. Explain each type of water demand. **07**

(b) Enlist the different types of material for sewers. Explain any two in detail. **07**

OR

Q.5 (a) Why are storm relief works provided in sewerage system? Prepare a list of different storm relief works and explain any one with sketch. **07**

(b) Write a short note on 'Laying of Sewers'. **07**
