

Tertiary and Vocational Education Commission

NVQ Level 05 – Semester II

Construction Technology

**Water Supply, Drainage and
Sewerage Technology - I**

F45C001M12

Three Hours

Answer any five (05) questions

Q1.

- a) List down the type of water resources.
- b) Write down the five parameters for water quality.
- c) Explain the reasons for water supply system always keeping under pressure.
- d) State the differences between “surface water” and “ground water”

(5×4 Marks)

Q2.

- a) Describe the common purification process practicing in water treatment in Sri Lanka.
- b) What are the factors should be considered when designing a small community water supply schemes?
- c) State that the basic requirement of an ideal disinfectant.
- d) State two disinfectants commonly using in water purifications.

(5×4 Marks)

Q3.

- a) Explain the actions of aeration. **(4 Marks)**
- b) A water treatment plant consists with three sedimentation tanks and it purifies $1200\text{m}^3/\text{d}$ of water. Total effluent weir loading is 30m^3 and length, width and depth of the all sedimentation tanks are respectively 27m, 5m and 3.8m.

Calculate,

- a. The retention time
- b. Over flow rate
- c. Horizontal velocity of flow

(3×4 Marks)

C) What are the factors to be considered when choosing reservoir tank? **(4 Marks)**

Q4.

a) Provide three advantages for having waste water pipe lines in your residence.

(3 Marks)

b) Write down the purposes of valve types mentioning below,

a. Foot Valve

b. Sluice valve

c. Gate Valve

d. Air Valve

(3×4 Marks)

C) Draw a neat and labeled sketch of a gulley trap.

(5 Marks)

Q5.

a) What do you mean by the term of “per capita demand”?

(4 Marks)

b) Sketch a flow diagram of water supply scheme by expressing all the components.

(8 Marks)

c) Sketch the layout of a sewage drainage system with septic tank.

(8 Marks)

Q6.

Write short notes on the followings,

a. Deep well

b. Gulley trap

c. Waterborne diseases

d. Manhole

e. Vent pipe

(4 Marks for each)