

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : 31005

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2013.

Fifth Semester

Civil Engineering

080100027 — WATER SUPPLY ENGINEERING

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write the objectives of water supply schemes.
2. Define the term Design period.
3. List out the various types of rain gauges used in rainfall measurement.
4. Give the line sketch of a bore well and mention its components.
5. Enumerate the factors responsible for degrading the quality of water.
6. What is meant by pipe corrosion?
7. Define the term unit operations.
8. State the purpose of disinfection.
9. Distinguish between gravity system and pumped system of water supply.
10. How will you fix the height of distribution reservoir?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Discuss the factors to be considered in planning and design of water supply schemes. (8)
- (ii) Explain how the water demand is estimated during the design of water distribution system. (8)

Or

- (b) Discuss in detail the merits and demerits of various methods available for forecasting population. (16)

12. (a) With help of a neat sketch explain hydrological cycle and state the factors contributing to the change in cycle. (16)

Or

- (b) Comment on the water quality issues associated with surface and subsurface water. State the measures required to overcome it. (16)

13. (a) Define the term potable water and list out the drinking water quality standards prescribed by BIS with reference to desirable and maximum permissible limits. (16)

Or

- (b) Give the step by step procedure used for the design of water main pipe lines. Write the role of Nomogram in the design of water main pipelines. (16)

14. (a) Draw the line sketch of a typical water treatment plant and state the role of each unit in treating the surface water. (16)

Or

- (b) Write a note on

- (i) Colour removal (8)
(ii) Water softening. (8)

15. (a) With a neat sketch explain the structural differences, working principle and operating system of canal intake with river intake. (16)

Or

- (b) State the factors responsible for wastage of water in a distribution system. Explain the measures required to overcome water wastage. (16)