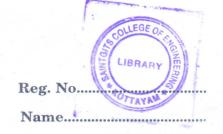
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B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Seventh Semester

Branch: Civil Engineering

CE 010 702—ENVIRONMENTAL ENGINEERING—I (CE)

(New Scheme—2010 Admission onwards—Regular/Supplementary)

Time: Three Hours

Maximum: 100 Marks

Part A

Answer all questions.
Each question carries 3 marks.

- 1. List notes on urban water supply systems.
- 2. Explain about classification of pumps.
- 3. Explain about purpose of aeration.
- 4. List out requirements of a good disinfectant.
- 5. Briefly explain pipe corrosion.

 $(5 \times 3 = 15 \text{ marks})$

Part B

 $Answer \ {\bf all} \ questions.$ Each question carries 5 marks.

- 6. Explain (a) Percapita demand; (b) Coliform index.
- 7. Explain about effect of storage on quality of water.
- 8. Explain about coagulants and dosage of coagulants.
- 9. Explain about theory of filtration.
- 10. Explain about storage capacity of balancing reservoir.

 $(5 \times 5 = 25 \text{ marks})$

Part C

Answer all questions.
Each question carries 12 marks.

11. The population figures of a town during four decades in 1960, 1970, 1980 and 1990 are 39,500, 48,000, 60,000 and 69,000 respectively. Predict its population in year 2010 by geometrical progression and incremental increase method.

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Turn over



- 12. Explain:
 - (a) Impurities in water and their importance.
 - (b) Turbidity and its measurement in laboratory.
- 13. Explain about various appurtenances in the distribution system.

Or

- 14. Estimate hydraulic gradient in a 2 m. diameter smooth concrete pipe carrying a discharge of 4 m³/s at 12° C.
- 15. Explain about plain sedimentation and theory of sedimentation.

Or

- 16. Explain (a) Theory of flocculation; (b) Clariflocculations.
- 17. Explain operation of rapid sand filters and slow sand filters.

Or

- 18. List notes on:
 - (a) Chlorination and its action.
 - (b) Super chlorination and break point chlorination.
- 19. Explain following treatment methods (a) Deflouridation; (b) Iron and manganese removal; (c) Removal of hardness.

Or

20. Explain about detection and prevention of leaks in distribution system.

 $(5 \times 12 = 60 \text{ marks})$