Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 20272

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Fifth Semester

Civil Engineering

CE 6503 — ENVIRONMENTAL ENGINEERING – I

(Regulations 2013)

(Common to PTCE 6503 – Environmental Engineering – I for B.E. (Part-Time) – Third Semester – Civil Engineering – Regulations – 2014)

Time : Three hours | Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State the various reasons for water demand in the recent times.
2. Write in brief about the recharge of ground water.
3. Highlight the criteria required for the pipe materials in the water supply system.
4. Mention the basis for the selection of types and capacity of pumps.
5. What are flocculators?
6. What are the steps required for the maintenance aspects of water treatment plants?
7. Justify the requirement of aeration in the water treatment process.
8. What are the recent advances in the water treatment process?
9. Mention the important components needed for the water distribution to buildings.
10. Highlight the important aspects associated with leak detection

PART B — (5 × 13 = 65 marks)

11. (a) Elaborate the public water supply system in accordance with the population forecasting.

Or

(b) Explain about the planning of water supply system with respect to the impact of climate change.

12. (a) Describe in detail about the hydraulics of flow in pipes.

Or

(b) Give a detailed account on the selection of pumps and pipe materials suitable for the conveyance system.

13. (a) Explain about the process carried out in sedimentation tanks and sand filters during water treatment operation.

Or

(b) Explain about the practices adopted in the residue management.

14. (a) Elaborate, how are de-fluoridation and de-mineralization carried out in the advanced water treatment process?

Or

(b) Describe in detail about the principle and mechanism of desalination process.

15. (a) Give a detailed account on the key requirements of water distribution.

Or

(b) Explain the important aspects associated with the house service connection.

PART C — (1 × 15 = 15 marks)

16. (a) Explain about the analysis of distribution networks in water distribution and supply to buildings.

Or

(b) Explain the principles of design of water supply in buildings.

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