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Question Paper Code: 31515

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2016

Fifth Semester

Civil Engineering

01UCE505 - WATER SUPPLY ENGINEERING

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Write any two fire fighting formulas.
2. List out any four drinking water standards.
3. What is meant by water hammer?
4. List out the various type of pumps.
5. Define unit operation and unit processes.
6. What are the advantages of rapid sand filter?
7. What is meant by reverse osmosis process?
8. What is meant by adsorption?
9. List out the requirement of water distribution.
10. List various methods of leak detection.

PART - B (5 x 16 = 80 Marks)

11. (a) The population of 5 decades from 1990 to 2030 are given below. Find out the population after one, two and three decade beyond the last known decades by arithmetic increase method, Geometric increase method, Incremental increase method. (16)

| Year | 1990 | 2000 | 2010 | 2020 | 2030 |
|------------|-------|-------|-------|-------|-------|
| Population | 25000 | 28000 | 34000 | 42000 | 47000 |

Or

- (b) Explain in detailed sources of water and their characteristics. (16)
12. (a) Explain in detail about intake structures with neat sketch. (16)

Or

- (b) Discuss and detailed about the joints in pipes and testing of pipes. (16)
13. (a) We are the engineers of the nation, responsible for maintain the quality of drinking water. For that purpose design a structure which is used to remove the suspended particles from water for a capacity of 5 MLD flow. (16)

Or

- (b) Explain in detailed about the disinfection process for the purpose of drinking Water. (16)
14. (a) Discuss briefly about the
- (i) Water softening process (6)
 - (ii) Ion exchange method (6)
 - (ii) Desalination process (4)

Or

- (b) Explain the recent advances in water treatment processes. (16)
15. (a) Explain briefly the network design in water distribution system? (16)

Or

- (b) Briefly discus about water piping systems in buildings. (16)