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

Question Paper Code: 45105

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

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. Distinguish between coagulation and flocculation.
6. How will you remove the iron and manganese from the water?
7. Define adsorption.
8. Differentiate desalination and demineralization.
9. State the functions of service reservoir.
10. Discuss the advantage and disadvantage of RCC pipes.

PART - B (5 x 16 = 80 Marks)

11. (a) What are the factors to be considered while planning a public water supply scheme in India? (16)

Or

(b) (i) Explain the various sources of water. (8)

(ii) Enumerate the physical and chemical characteristics of water and their examination methods. (8)

12. (a) (i) Water is pumped from a river 3 *km* away, into a reservoir to supply water. The maximum difference of levels of water in river and reservoir is 25 *m*. The population of the town is 90,000 and per capita demand is 150 *lpd*. If the pumps are operated for 10 hours, determine the size of the pipe and the power of the pump. Assume the velocity of flow = 1.9*m/s*. f = 0.0075; efficiency of pump = 70%; Maximum daily demand as 1.5 the times average demand. (8)

(ii) With a neat sketch explain the reservoir intake structure. (8)

Or

(b) (i) Discuss the steps involved in laying of water supply pipes. (8)

(ii) Discuss the factors involved in the selection of pumps for water supply schemes. (8)

13. (a) (i) With a neat sketch explain the working of rapid sand filter. (8)

(ii) Discuss the function and design aspects of flash mixer. (8)

Or

(b) Interpret the various disinfection processes in detail. (16)

14. (a) Summarize the adsorption process in short. (16)

Or

(b) Explain the recent advances in water treatment processes. (16)

15. (a) Discuss about the service reservoirs in detail. (16)

Or

(b) Describe the various methods of installation of water mains. (16)

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