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

Question Paper Code: 45105

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

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. List the various types of water demand.
2. Identify the factors governing design period.
3. What are the factors governing the location of an intake?
4. What are the factors involved in the selection of pipe materials?
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. Name the various methods of distribution systems.
10. Discuss the advantage and disadvantage of RCC pipes.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Given the following data, calculate the future population for the year 2030 by incremental increase method. (8)

Year	1970	1980	1990	2000	2010
Population	85000	110500	144000	184000	221000

(ii) Discuss the factors affecting per capita demand. (8)

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) Discuss the various tests carried out in pipes. (16)

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) (i) Explain the causes and control measures for pipe corrosion. (8)

(ii) Discuss the principle and methods of disinfection. (8)

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

Or

(b) (i) Explain the electro dialysis method of desalination with a diagram. (8)

(ii) Explain the demineralization process of water softening. (8)

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

Or

(b) (i) Explain the analysis of distribution network using Hardy Cross method. (8)

(ii) Explain the components of house service connection with a neat sketch. (8)

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