

Roll No.

OLE-24289

B. Tech. 5th Semester (Civil Engg.)

Examination – April, 2021

WATER SUPPLY AND TREATMENT

Paper : CE-305-F

Time : Three Hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all, selecting *one* question from each Unit. Question No. **1** is *compulsory*.

1. Explain the following : $5 \times 4 = 20$

- (a) Water Demand
- (b) Water borne diseases
- (c) Dead end system
- (d) Leak detection
- (e) Coagulants

UNIT – I

2. (a) What is importance of water supply scheme ? 6
(b) What is population forecasting and different methods adopted ? Also, describe variations of water demands. 14
3. (a) What do you understand by wholesome water and what are the various methods of determining the turbidity of water ? 8
(b) Explain how knowledge of physical and chemical tests help in proper analysis of water ? 12

UNIT – II

4. (a) On what factors the dose of coagulants depends how the optimum coagulants dose is determined ? 6
(b) Give a sketch design with appropriate dimensions of a coagulation sedimentation tank to treat 5×10^6 ltr of water per day ? 14
5. Explain purification process in natural system and various tests performed in removal of taste and odour. 20

UNIT – III

6. What do you understand by Hume pipes ? How they are manufactured ? What are their merits and demerits over cast iron and steel pipe ? What are the circumstances under which they are provided ? 20

7. (a) What are the various types of powers which can be utilized for driving pumps ? 10
- (b) Draw neat sketches and describe the expansion joint and collar joint. 10

UNIT – IV

8. (a) What do you understand by continuous and intermittent to supply scheme of water compare both in respect of their merits and demerits ? 10
- (b) What are the functions of distribution system ? How total capacity of a Reservoir is determined ? 10
9. Write short note on : $5 \times 4 = 20$
- (a) Distribution reservoir
- (b) Capacity of the reservoir
- (c) Different accessories required in reservoir
- (d) Economical diameter of pipe.
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