

Roll No. _____

3204

**B. Tech. (Civil Engg.) 5th Semester
Examination – February, 2022**

WATER SUPPLY AND TREATMENT

Paper: FCC-CE-307-G

Time : Three hours]

[Maximum Marks : 75

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 first questions in all, selecting one question from each Unit. Question No. 1 is compulsory. All questions carry equal marks.

1. (a) What is the necessity of water treatment ?
2.5 = 6 = 15
- (b) Classify the population forecasting methods used for designing the public water supply schemes ?
- (c) What do you understand by the chemical examination of water ? Why is it necessary ?
- (d) Write a short note on the mixing of coagulants.
- (e) Define water softening, what is its use ?
- (f) Enumerate the different types of valves used in the water conveyance system.

UNIT - I

- 2. (a) What do you mean by the term water demand ? Explain its variations with a neat diagram. 7
- (b) What do you mean by the term per capita demand ? What would be the average water demand for UIET of your University ? If the design population is 5000 estimate the maximum hourly, maximum daily, and maximum monthly water demand. 8
- 3. (a) Discuss the different biological parameters to be tested for determining the suitability of drinking water from a particular source. 7
- (b) What are the common chemical parameters to be examined for drinking water ? Give their permissible limits also. 8

UNIT - II

- 4. Explain sedimentation with coagulation with its design aspects ? 15
- 5. (a) What is water softening ? Describe the Procedure of the zeolite process for water softening. 7
- (b) Write a short note on Defluoridation and Dissolved Solids Removal. 8

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UNIT - III

- 6. (a) Classify various types of pressure pipes on the basis of construction material. Also, mention the advantages and disadvantages of the cast iron pipes. 7
- (b) Explain the different types of appearances of pipes with neat sketches ? 8
- 7. (a) Define total lift of the pump ? Calculate the total horsepower required for a pump ? 7
- (b) What are the necessities of pump usage ? What are the various factors involved in the selection of pumps ? 8

UNIT - IV

- 8. What is the purpose of an elevated Reservoir in the water supply ? what are the types of reservoirs ? How is the capacity of an overhead Reservoir determined ? 15
- 9. What is water pollution ? Explain its Preventive Measures and Control ? 15

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