

Roll No.

OLE-3204

B. Tech. 5th Semester (Civil Engg.) Examination – April, 2021

WATER SUPPLY AND TREATMENT

Paper : PCC-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 *five* questions in all, selecting at least *one* question from each section, Question No. 1 is *compulsory*.

1. Explain the following : 3 × 5 = 15
- (i) Impurities in water
 - (ii) Ro plant
 - (iii) Canal intake
 - (iv) Mixing basins
 - (v) Population forecasting

SECTION – A

2. (i) What is planning, objectives and design period in Water supply scheme ? 7
- (ii) Explain source of water and their characteristics. 8
3. Explain the significance of the following Ammonia nitrogen, nitrates, turbidity, chlorides, nitrogenous material. 15

SECTION – B

4. (i) What points should be kept in mind at the time of layout of a water treatment plant ? Why a well-equipped laboratory is required at the water treatment plant ? 7
- (ii) Explain the theory of filtration of water. 8
5. Write short notes on : $5 \times 3 = 15$
- (i) Hardness of water
- (ii) Ion exchange process
- (iii) Recarbonation following softening

SECTION – C

6. Describe laying, jointing and testing of pipes. 15
7. (i) Draw a neat sketch of centrifugal pump also explain different characteristics of centrifugal pumps. 10
- (ii) What are various factors to be considered while selecting a site for pumping station ? 5

SECTION – D

8. (i) Write a note on distribution reservoirs, where are these located. 5
- (ii) Discuss with the help of diagrams various methods of laying out the distribution system. 10
9. (i) What is water pollution and what are its various sources ? 7
- (ii) What precautions should be taken to prevent pollution of water sources ? 8