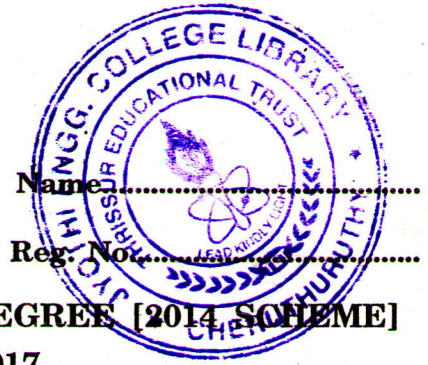


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**SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE [2014 SCHEME]
EXAMINATION, NOVEMBER 2017**

Civil Engineering

CE 14 703—ENVIRONMENTAL ENGINEERING—I

Time : Three Hours

Maximum : 100 Marks

Part A

I. Answer any *eight* questions out of ten :

- 1 Explain about Variation in water demand.
- 2 Brief about Comparative graphical method of Population forecasting.
- 3 Describe the Hydrological Cycle.
- 4 Explain the procedure for estimation of suspended solids present in the water sample.
- 5 Classify and brief about Flocculation.
- 6 Explain the method of removal Iron from water.
- 7 Classify and explain the based on shape.
- 8 Explain the requirements of a Good distribution system.
- 9 Compare slow sand filter and rapid sand filter.
- 10 Explain about defluoridation.

(8 × 5 = 40 marks)

Part B

II. Answer *all* questions :

- 11 Explain in detail about the different types of water demands.

Or

- 12 The populations of the past three successive census of a city are as given below :

Census year	:	1991	2001	2011
Population	:	40 000	160 000	280 000

Determine the expected population of the city for the year 2021 by Logistic method.

- 13 Illustrate the method of estimating yield of well under steady state condition with neat drawing.

Or

Turn over

14 What are drinking water standards ? Give the Permissible limit for any two parameters from physical, chemical and biological characteristics. Explain the procedure for estimating hardness present in the water sample.

15 Design a rapid sand filter for treating a quantity of 5 MLD. Assume relevant criteria.

Or

16 What is chlorination ? classify it. Describe about Break Point Chlorination in detail.

17 Explain about various distribution system with neat diagram.

Or

18 Explain in detail about the cleaning and maintenance of pipes.

(4 × 15 = 60 marks)