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paper code: P119-124(T1)

OCTOBER 2019 / INSEM (T1)

**F. Y. M. TECH. (Water Resources and Environmental
Engineering- Civil Engineering) (SEMESTER - I)
COURSE NAME: Advanced Water Treatment (Elective II)
COURSE CODE: CVPA11184A
(PATTERN 2018:R1)**

Time: [1 Hour]

[Max. Marks: 20]

Instructions to candidates:

- 1) Answer Q.1 OR Q.2, Q.3 OR Q.4
- 2) Figures to the right indicate full marks.
- 3) Use of scientific calculator is allowed
- 4) Use suitable data where ever required

Q.1 a) What are the Physical and Chemical Properties of surface water? Give their permissible limits as per IS. [6 marks]

b) What are the objectives of water quality parameters? [4marks]

OR

Q.2 a) What are the components of water supply schemes? Explain each in detail. [6 marks]

b) What are the factors affecting water consumption and variation in demand? [4 marks]

Q.3 a) Design a Cascade Aerator for treating a flow of 10 MLD. Assume the suitable data where ever necessary. [6 marks]

b) What is the Coagulation and Flocculation process in unit operations of water treatment? [4 marks]

OR

Q.4) Design of Clariflocculator for treating 10 MLD water with the help of following data.

- i) Surface loading of 1100 lit/hr/m^2
- ii) Detention period of 3 hours
- iii) Tank is circular with flocculator in the Centre and clarifier surrounding it.
- iv) Detention time for flocculation = 20 mins

[10 marks]
