

**M. SC. (ENVIRONMENT SCIENCE AND TECHNOLOGY) SEM -
II (CBCS) (2013 COURSE) : SUMMER - 2018
SUBJECT: ENGINEERED SYSTEMS FOR WATER AND WASTE WATER**

Day: **Saturday**
Date: **21/04/2018**

S-2018-1102

Time: **10.00 AM TO 01.00 PM**
Max. Marks: 60

N.B.:

- 1) Answer **ANY FIVE** questions.
- 2) Figures to right indicate **FULL** marks.
- 3) Draw neat and labeled diagram **WHEREVER** necessary.

-
- Q.1** a) Explain in brief the different methods of population forecasting. (06)
b) Give the drinking water quality standards. (06)
- Q.2** a) Describe three methods of disinfection of water. (06)
b) Differentiate between the lime soda process and zeolite process for softening of drinking water. (06)
- Q.3** a) Discuss the design criteria for activated sludge process. (06)
b) Differentiate between coagulation and flocculation. (06)
- Q.4** a) Describe how dissolved oxygen (DO) decreases in a river or stream along a certain distance by degradation of biochemical oxygen demand (BOD). (06)
b) Design a cascade aerator for 5 MLD. Assume suitable data. (06)
- Q.5** a) Differentiate between activated sludge process and trickling filter. (06)
b) Write a note on natural method of wastewater disposal. (06)
- Q.6** Answer **ANY THREE** of the following (12)
a) Root zone technology
b) Backwashing of rapid sand filter
c) Disposal of screen waste
d) Pressure filter

* * * * *