

Code: 9A01603

R09

B.Tech III Year II Semester (R09) Supplementary Examinations May/June 2016

ENVIRONMENTAL ENGINEERING - I

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

- 1 (a) What are intake structures? Sketch and explain briefly the working of river intake.
(b) Discuss the factors affecting per capita water demand.
- 2 (a) Sketch a flow diagram of water treatment process and briefly explain the function of each unit.
(b) What are coagulants? Write the chemical reactions of alum with water and give reasons why alum is widely used.
- 3 (a) What are the operational problems of filters? Discuss the remedial measures.
(b) What is chlorine demand? Explain briefly different types of chlorination practiced in water treatment.
- 4 (a) Sketch and explain dead end layout system of water distribution giving its advantages and disadvantages.
(b) Explain the step by step procedure of laying and testing of water supply pipe lines.
- 5 (a) Bring out the differences between water carriage system and conservancy system.
(b) Explain rational method of estimating storm water flow. Discuss the methods of determining various parameters used in the formula.
- 6 (a) With a neat sketch explain the use of a deep manhole.
(b) Explain with sketches any two types of taps used in house drainage system.
- 7 (a) What is a grit chamber? Explain the working of a grit chamber with neat sketch.
(b) Explain the biological process that takes place during the treatment of sewage in trickling filter.
- 8 (a) Explain with a flow diagram, various processes involved in sludge treatment & disposal.
(b) What is a sludge drying bed? Explain the salient features of sludge drying bed using a neat sketch.
