[01 – 3114]

III/IV B.E. DEGREE EXAMINATION.

First Semester

Civil Engineering

ENVIRONMENTAL ENGINEERING – I

(Common with Civil and Civil Environmental Engineering)

(w.e.f. admitted batch of 2006–2007)

Time : Three hours Maximum : 70 marks

Answer FIVE questions.

All questions carry equal marks.

It is compulsory to answer question 1 and it is to be answered in same sequence at one place.

Answer any FOUR questions from among the remaining Seven questions.

1. (a) What are the objectives of a water supply system?

   (b) Distinguish between a gravity well and an artesian well.

(c) What is blue baby syndrome? What is the pollutant responsible?

(d) Define the terms potability and palatability.

(e) What is temporary hardness and how is it removed?

(f) Write the purpose of pumps in distribution system.

(g) Distinguish between disinfection and sterilisation.

2. (a) Explain the role of an Environmental Engineer in society.

(b) Explain the following population forecasting methods.

(i) Arithmetical increase method

(ii) Incremental increase method

(iii) Geometrical increase method

3. (a) How is the capacity of storage reservoir detennined?

(b) Mention different types of pipes and pipe materials and write the merits and demerits.

4. (a) What is turbidity? How is it determined in laboratory?

   (b) Write short notes on water borne diseases.

5. Write short notes on

   (a) Sedimentation with coagulation

   (b) Chlorination

   (c) Defluoridation

6. With neat sketches explain the different layouts of distribution systems.

7. (a) Design a 15×10^6 l.p.d. water treatment with rapid sand filter.

   (b) Write short notes on corrosion in pipes.

8. Write short notes on any THREE:

   (a) Factors affecting per capita demand

   (b) Water borne diseases

   (c) SSF vs RSF

   (d) Infiltration galleries.