

B.E. 6th Semester Examination (Civil Engg.) ,

December-2011

SEWERAGE & SEWAGE TREATMENT

Paper - CE-308-E

Time allowed : 3 hours]

[Maximum marks : 100

Note : Attempt any five questions. All questions carry equal marks.

1. Draw a neat sketch of a standard egg-shaped sewer. Under what circumstances, it is more advantageous compared to a circular one? 20
2. What points should be kept in mind while designing sewers and how are they designed? 20
3. Explain the importance of the following in the design of sewers : $2 \times 10 = 20$
 - (i) Self-cleansing velocity; and
 - (ii) Non-scouring velocity
4. Describe in order the various stages followed in the construction of sewers. 20
5. Clearly differentiate between manhole and drop manhole. Also draw neat sketches of above. 20

6. What do you understand by self-purification property of a stream? Explain the factors affecting this property. 20
7. Write short notes on any *two* of the following :
(i) Sewage sickness;
(ii) Sludge bulking; and
(iii) Sewage farming 2×10=20
8. Write short notes on any *four* of the following :
(i) Plain Sedimentation
(ii) Activated sludge
(iii) Trickling filters
(iv) BOD
(v) Imhoff tank
(vi) Drying beds 4×5=20