

1132**Code : 15CE42T***Register
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IV Semester Diploma Examination, Nov./Dec.-2018**SANITARY ENGINEERING****Time : 3 Hours |****| Max. Marks : 100**

- Note :** (i) Answer any **six** questions from Part – A. Each questions carries **5** marks.
(ii) Answer any **seven** questions from Part – B. Each questions carries **10** marks.

PART – A

1. Define :
Waste, Garbage, Sewer, Sewerage & Invert 5
2. Explain types of waste water sampling methods. 5
3. Compare separate and combined sewerage system. 5
4. Explain different shapes of surface drains and its functions. 5
5. Explain the functions of screens with the help of a sketch. 5
6. Explain waste water recycling. 5
7. Define the following : 5
Stack,
Trap
Vent Pipe
Water seal &
Cowl
8. State classification of air pollutants. 5
9. Describe : 5
(i) Ozone layer depletion
(ii) Acid rain

PART - B

10. (a) Explain the factors affecting the quantity of sanitary sewage. 5
(b) Calculate the velocity and discharge for a sewer running full. The diameter of sewer is 150 mm and it is laid at a gradient of 1 in 50. Assume $N = 0.013$. Use Manning's formula. 5
11. (a) Compare COD with BOD. 5
(b) Sketch and explain the testing of sewer line. 5
12. A combined sewer of circular section is to be laid to serve a particular area. Calculate its size from the following data : 10
Area to be served = 120 hectares
Population coverage = 1 lakh
Maximum velocity of flow = 2.75 m/sec.
Time of entry = 3 min.
Time of flow = 17 min
Rate of water supply = 280 LPCD
Impermeability factor = 0.50
Assume any additional data required, wherever necessary.
13. Explain with a neat sketch drop manhole. 10
14. Explain with a neat sketch Automatic flushing tank. 10
15. Illustrate with sketch the functioning of Trickling filter. 10
16. Explain in detail method of sewage disposal by land treatment. 10
17. Describe self purification of streams. 10
18. List and explain the sanitary fitting tests. 10
19. With the help of flow diagram explain the methodology of E.I.A. 10