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Question Paper Code : 50300

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017

Sixth Semester

Civil Engineering

CE 6605 – ENVIRONMENTAL ENGINEERING – II

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A

(10×2=20 Marks)

1. Write the various sources of waste water generation.
2. Differentiate sewage, sullage and garbage.
3. What is sewerage ?
4. Write the various types of pumps and their functions.
5. What is an Oxidation Pond.
6. What is Sludge ?
7. What is Sludge Thickening ?
8. What is Sludge Conditioning ?
9. What is Coagulation Process ?
10. What is Biochemical Oxygen Demand ?



PART – B

(5×16=80 Marks)

11. a) Write in detail the various adverse effects of Waste Water, the estimation of sanitary sewage flow and storm runoff with the different factors affecting the characteristics and composition of sewage. (16)

(OR)

- b) Write the effluent standards as prescribed by CPCB in India. What are the various legal requirements to be met before discharging any effluent in public sewers or canals or rivers? (16)

12. a) With the help of neat sketch design a sanitary and storm water sewer to an Indian town with a population of 5 lakhs. (16)

(OR)

- b) a) Sketch and describe in detail the working a pressure filter. (8)

- b) Explain centrifugal pumps and reciprocal pumps. (8)

13. a) a) Sketch and describe construction and working of a septic tank. (8)

- b) Explain the process of purification of sewage by trickling filter. (8)

(OR)

- b) a) With the help of neat sketch explain the process of Primary Treatment of Sewage. (8)

- b) What is Grey Water harvesting and how it being carried out? (8)

14. a) Write the principles, functions and design and drawing of units with reference to Activated Sludge Process. (16)

(OR)

- b) Write the process of Reclamation and Reuse of Sewage. With the help of neat sketch explain the sewage recycle plant for a residential complex. (16)

15. a) Explain the characteristics of sludge and how biogas can be recovered. (16)

(OR)

- b) Explain the various advances in the treatment of sludge and mode of disposal. (16)