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Question Paper Code: 36103

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Sixth Semester

Civil Engineering

01UCE603 - WASTE WATER ENGINEERING

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Define population equivalent.
2. Define population equivalent.
3. What are the objectives of sewage treatment process?
4. What is meant by Grey Water harvesting?
5. Define activated sludge process.
6. Mention the operational troubles that can occur in Trickling filter.
7. What is UASB?
8. Write the zones of pollution of river.
9. Define thickening of sludge.
10. What is Elutriation of sludge?

PART - B (5 x 16 = 80 Marks)

11. (a) Discuss the factors involved in the estimation of quantity of sewage. (16)

Or

(i) Explain the methods of two pipe and one pipe plumbing system. (8)

(ii) With neat sketch explain the component parts of the deep manhole. (8)

12. (a) With neat sketch explain the principle of septic tank. (16)

Or

(b) Discuss about the construction, operation and maintenance of primary treatment units. (16)

13. (a) What are stabilization pond? Explain the various methods of treatment available using stabilization pond and list the major merits and demerits of it. (16)

Or

(b) With neat sketch, discuss the working principle of trickling filter.. (16)

14. (a) Explain the various stages involved in the self purification of rivers with neat sketch. (16)

Or

(b) With neat sketches, explain the various methods of sewage disposal. (16)

15. (a) Describe the various methods of disposal of dewatered sludge, highlighting their suitability, merits and demerits. (16)

Or

(b) Explain with a flow chart the working principle of a anaerobic sludge digester. (16)