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Question Paper Code: 36103

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

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 dry weather flow.
2. Define design period.
3. What are the objectives of sewage treatment process?
4. What is meant by Grey Water harvesting?
5. What is Activated sludge process?
6. Mention the operational troubles that can occur in Trickling filter.
7. What are the methods of disposing the sewage effluent?
8. What is meant by oxygen sag curve?
9. Give different types of thicker unit.
10. What is meant by ripened sludge?

PART - B (5 x 16 = 80 Marks)

11. (a) What is sewage? Explain contaminants present in the sewage and type of treatment needed to remove those contaminants present in the 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) (i) With a neat sketch, explain the working of a septic tank. (8)
- (ii) Discuss the functions of an bar screen with neat sketch. (8)

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) (i) With neat sketch, discuss the working principle of trickling filter. (8)
- (ii) Discuss the various methods of waste water reclamation techniques. (8)
14. (a) Explain the various stages involved in the self purification of rivers with neat sketch. (16)

Or

- (b) Explain self purification of surface water bodies. (16)
15. (a) Explain the various thickening methods involved in sludge. State the objective of sludge thickening. (16)

Or

- (b) What is sludge digestion? Describe about anaerobic digestion process in recovery of biogas. (16)
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