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## B.E. VIth Semester (CGPA) Examination, 2017

EF-339

CIVIL ENGG.

(Environmental Engg.-II)

Paper: CE-604

Time: 3 Hours]

[Maximum Marks: 60

Note: - Attempt all questions.

- 1. Write short notes on:
  - (i) BOD
  - (ii) COD
  - (iii) THOD
  - (iv) TOC
  - (v) TOD

SS-339

(1)

Turn Over



## UITians

2. What is Sewage Farming? What are its advantages over the method of sewage disposal by dilution? What precautions must be taken in its operation to prevent health hazards?

Or

What do you understand by 'Sewer Appurtenance'? Enumerate various appurtenance commonly used. Explain any *two* in detail.

3. For a small town, having projected population of 30,000 residing over an area of 20 hectares. Find the design discharge for the combined sewer for the following data:

Rate of water supply = 150 litres/day/per capita Run off co-efficient = 0.40

Time of concentration = 30 minutes.

Or

What is Sedimentation? How it can improve with coagulants? Describe the functioning of a rectangular sedimentation tank with neat sketch.

4. What is trickling filter? Explain with neat sketch. Compare the conventional and high rate trickling filter. Also stated the key parameters which considered in design of trickling filter.

Given a waste water containing 300 mg/l of ketone of Chemical formula CH<sub>3</sub>COC<sub>2</sub>H<sub>5</sub>,

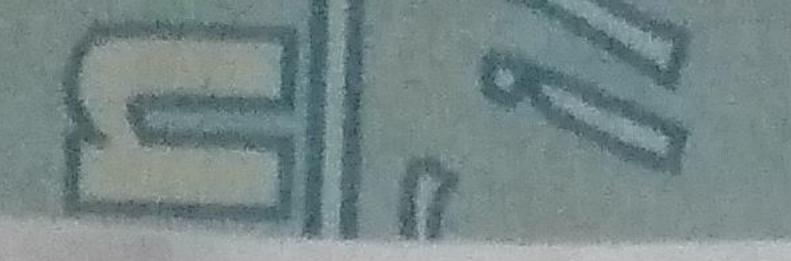
- (i) Calculate the COD
- (ii) Assume a K value (base 10) of 0.1/day

  Calculate the ultimate BOD and the 5 day BOD of the waste.
- 5. What do you understand by recirculation? What are the advantages of recirculation and explain the process of purification of sewage by trickling filters?

Or

What is meant by activated sludge? Describe with sketches the treatment of sewage by activated sludge process. Also mention the merits and demerits of activated sludge process method.

- 6. Write short notes on:
  - (i) Skimming tank
  - (ii) Grit chamber
  - (iii) Adsorption by activated sludge
  - (iv) Diatomaceous earth filter.



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Or

What is meant by digestion of sewage sludge? Describe the functioning of a digesting tank with sketch. Also mention the term 'Sludge Digestion Index'.