

Wastewater Engineering

Day: MTWTFSS

Date: ___/___/___

Q# 01

Answer

Wastewater Engineering

It is the application of engineering methods to improve sanitation of human communities, primarily by providing the removal & disposal of human waste, treatment and reuse application for various purposes.

Applications

- 1) By disposing off treated wastewater in order to reduce off ground water contamination and protect aquatic life.
- 2) Wastewater engineering deals

with the management of wastewater and its treatment ~~for~~ to reuse it for various purposes

3) The recovery of sewage is an effective means of saving water resources and promoting the reuse of water resources. It is an important measure to reduce the pollution of sewage & protect the environment.

4) Primary objective of wastewater engineering is to provide a good sanitary environmental condition in a city.

Q#02

Answer

In situation where wastewater flow rate data are limited or unavailable wastewater flow rate estimate have to be developed from water consumption records in other information.

About 60-85% of supplied water per capita becomes waste water.

Simply wastewater generated is dependent on supplied water. As the supplied water increases, the waste water will be more.

Q. # 03

Answer

A characterization of wastewater provides a wide variety of information regarding the type and concentration of contaminants present.

With characterization of wastewater we determine the nature of contaminant (physical, biological, chemical) and then design waste water treatment plant according to the nature of contaminants.

Q #04

Answer.

Characteristics of Wastewater

1) Physical Characteristics

- a) Turbidity
- b) color
- c) Odor
- d) total solids
- e) temperature

2) Chemical Characteristics

- a) Chemical oxygen demand (COD)
- b) Total organic carbon (TOC)
- c) Nitrogen

Checked By:.....Parents:.....Excellent Good 

- d) phosphorous, chlorides
- e) pH
- f) Heavy metals
- g) trace elements
- h) priority pollutants

3) Biological Characteristics

- a) Biological oxygen demand (BOD)
- b) Oxygen required for nitrification
- c) Microbial population (Bacteria, pathogens).

Q # 05

See the slides lecture #5

Answer
Combined System
Advantages
 (from lectures)

- 1) Both domestic
- 2.
- 3.
- 4.) preferred

Disadvantages

1. ~~High~~ Initial cost ———

2.

3.

4.

5. ——— unconomical.

Seperate System

Advantages

1. Size ———

2. ———

3.

4. ——— any treatment

Disadvantages

1. Since the

2. ———

3. ———

4. ——— high.

→ I will suggest combined
sewerage systems because
both domestic sewage &

Storm water are carried
in a single sewer so
construction cost is
less and sewers are
of large size ~~and~~ so
they are easy to
clean.