1. Properties of water

a) Physical Parameters
b) Chemical Parameters
c) Biological Parameters

2. Methods of Sewage Treatment

a) Preliminary Treatment

i) Screening **(Numerical)**
ii) Grit Chamber (Design) **(Numerical)**
iii) Detritus Tank
iv) Comminutor

b) Primary Treatment

i) Sedimentation **(Imp)**

- Primary and Secondary Sedimentation Tank
- Design of circular and rectangular Sedimentation tank **(Numerical)**

c) Secondary Treatment

i) Aerobic

- ASP (Activated Sludge Process)
- TF (Trickling Filters) **(Imp)**
  - Ordinary TF
  - High Rate TF
  - Subtopics:
    - ► Working of Filter
    - ► Advantages of Trickling Filter
    - ► Design of Trickling Filter **(Numerical)**
    - ► Efficiency of filter **(Numerical)**
    - ► Difference between Standard Filter and Trickling Filter
    - ► Recirculation Factor **(Numerical)**
    - ► Single stage Commonly Adopted Recirculation Process
    - ► Two stage Commonly Adopted Recirculation Process
    - ► Efficiency of Single Stage High rate trickling Filter**(Numerical)**
    - ► Two Stage high rate Trickling Filter Final Efficiency **(Numerical)**
    - ► Types of High rate Trickling Filter
- RBC (Rotating biological Contactor)
- MBBR (Moving bed biofilm Reactors)

d) Tertiary Treatment

3. Additional Topics

i) Skimming Tank, ii) Anaerobic Treatment