

BACHELOR OF ARCHITECTURE
3RD YR. 1ST SEM. EXAM (SUPPLEMENTARY)

SERVICES & EQUIPMENT-I

Time: Three Hours

Full Marks: 100

Instruction: Answer for 100 marks

01. Using appropriate sketches describe how water becomes available in Nature. Describe qualitative and quantitative requirements of potable water.

With the help of suitable sketches, describe intake work using Jack well and Infiltration gallery with a river as the source of supply of water. 25

02. Describe the process of treatment of raw water from a river source in a Water Treatment Plant. 25

03. With the help of appropriate sketches, describe the advantages and disadvantages of a 'Single Stack' and a 'Double Stack' system in connection with drainage. Describe the role and behaviour of a vertical Vent pipe connected to the Soil pipe at each floor for a tall building.

Discuss the utility of installation of 'Traps' in Drainage pipings. With the help of suitable sketches explain how Piping including traps are housed within a 'Sunk Slab'.

With the help of appropriate sketches, describe the functional utilities of 'Inspection Pit' and 'Man Hole'. 25

04. Draw plan and section of a Septic Tank and a Soak pit. Describe the process of purification of sewage in a Septic Tank 25

05. Describe 'Dry Risers' and 'Wet Risers' in connection with Fire Fighting. Describe the purpose of installation of 'Hose Reel Installation'. Name the different types of Sprinklers used in buildings. Using suitable sketches, describe the performance of any one of such type of sprinkler.

Specify the maximum travel distance acceptable by the Kolkata Municipal Corporation that should not be exceeded between two staircases in an Office Building. 25

06. Write short notes on (any five) (5X5) =25

- (i) Fire Hydrant
- (ii) Ductile Cast iron pipe
- (iii) Clariflocculator
- (iv) Bell & spigot joint in drainage piping
- (v) Vertical Turbine Pumps and Submersible Pumps
- (vi) Different Water supply Piping Joints
- (vii) Slope for laying drainage pipes
- (viii) Fixture Units
- (ix) Water Closet and Bidet
- (x) Centrifugal pumps