NS-134

December-2015

B.Arch., Sem.-V

AR-505 : Building Services – II

(New)

Time : 2 Hours] [**Max. Marks : 50**

1. (a) Give water requirement standards (LPCD) for any **seven** :   **7**
   (1) Hospital with 180 beds   (2) Office
   (3) Restaurant   (4) Factories with bath-room
   (5) Boarding school   (6) Garden
   (7) Cinema   (8) Car washing
   (9) Hotel

   (b) Draw neat sketch of Ferrule and Saddle connection – (House connection) and discuss requirements of goose neck.   **3**

2. (a) Explain water demand and discuss factors affecting water demand.   **4**
   (b) Calculate dimensions of underground and overhead water tank for a day school where 800 students study. Consider height of overhead tank and depth of under ground tank as 1.75 m. Also, consider shape of underground water tank as square and shape of overhead water tank as circular.   **6**

3. (a) Explain water supply distribution systems with neat sketch.   **4**
   (b) Draw neat sketch of water treatment plant and explain functions of any two units.   **3**
   (c) Draw neat sketch of underground water tank with all pipes.   **3**

4. (a) Explain different types of Traps with neat sketch.   **5**
   (b) Discuss in brief essentials of rural sanitation. Explain in brief various bore hole privy and aqua privy.   **5**

   OR

   (b) Define any **five** :   **5**
   (1) Night soil   (2) Soil pipe
   (3) Inspection Chamber   (4) Rubbish
   (5) Manhole   (6) Storm water

5. (a) Design a septic tank for the following data :   **6**
   (1) No. of people = 40
   (2) Sewage/capita/day = 110 litres
   (3) De-sludging period = 1 year
   (4) Length to width ratio = 2 : 1
   What would be the size of its soak well if the effluent from this septic tank is to be discharged in it ?

   (b) Draw neat sketch of Sewage treatment plant and explain functions of each unit.   **4**

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