

29.1.9

**B. Arch. Part - II 3<sup>rd</sup> Semester Final Examination, 2008**

**PLUMBING SERVICES (AR - 304)**

Time: 3 hours

Full Marks: 70

*To the point answers with appropriate proportionate sketches, wherever necessary, are appreciated.*

**Answer to question no. 1 is compulsory.**

**Answer any other five questions taking at least one from each of the groups A, B and C.**

1. Fill in the following blanks with appropriate word or group of words: — 1 x 10
- (i) The flow of water or other liquids, mixtures of substances into the distributing pipes of a system of supply potable water from any source or sources other than its intended source with a direction reverse to that intended is termed as \_\_\_\_\_ of water.
  - (ii) A pipe connecting one or more soil appliances to the main soil pipe is termed as \_\_\_\_\_.
  - (iii) \_\_\_\_\_ is the open waterway through which sewage, storm water or other liquid wastes flow at the invert of a manhole or an inspection chamber.
  - (iv) The topmost point of the inside of a trap outlet is termed as \_\_\_\_\_ of trap.
  - (v) \_\_\_\_\_ tap is a tap connected to a system of piping not subject to water pressure from the water main.
  - (vi) \_\_\_\_\_ shall mean coupling, flange, branch, bend, tees, elbows, unions, waste with plug, P or S trap with vent, stop ferrule, stop tap, bib tap, pillar tap etc.
  - (vii) The line joining the points of greatest depths below ground level up to which the moisture in the soil freezes is called as \_\_\_\_\_ line.
  - (viii) \_\_\_\_\_ water is the water which is satisfactory for drinking, culinary and domestic purposes and meets the requirements of the water supplying authority.
  - (ix) \_\_\_\_\_ is a fittings or device so designed and constructed as to provide, when properly vented, a liquid seal which will prevent the back passage of air without materially affecting the flow of sewage or waste water through it.
  - (x) \_\_\_\_\_ is an overflow pipe so fixed that its outlet, whether inside or outside a building, is in a conspicuous position where the discharge of any water therefrom can be readily seen.

**GROUP – A**

- 2. (a) Make a comparative study between 'Continuous' & 'Intermittent' water supply. 4
- (b) State the general requirements of water distribution system. 8
- 3. (a) Why should one require water to be stored in a reservoir of a building? 2
- (b) Draw neat labelled sketch of an overhead reservoir situated on staircase block of a building. 10

**GROUP - B**

4. Compare between the functioning of a 'Squatting Type' Water Closet and a 'Sitting Type' Water Closet. 12
5. (a) Classify 'trap' on the basis of their use and / or location. 3  
(b) Compare the various provisions of 'inlet' and 'outlet' pipes in different trap chambers. 9
6. Design and draw neat labelled sketches (plan and longitudinal section) of a septic tank for an isolated building where four families reside. Mention any data that you assume necessary for your design. 12
7. (a) Define a 'plumbing system'. 2  
(b) Make a comparative study between different plumbing systems. 10

**GROUP - C**

8. Write short notes on the following :- 6 x 2  
(a) Air relief valve,  
(b) Stop Cock.
9. Write short notes on the following :- 6 x 2  
(a) Spigot and socket joint,  
(b) Lagging of pipes.
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