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180746/170746

Civil Engg

Subject : Water supply & waste water Engg. and Irrigation Engg Drawing

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Very short questions. Attempt all ten questions. (10x2=20)

Q.1 Define Sewage.

Q.2 Define Vent Pipe.

Q.3 Draw the Symbol of Manhole.

Q.4 Draw the symbol of Combination Sink.

Q.5 Define Sludge.

Q.6 Define Baffle walls.

Q.7 Define Dowel.

Q.8 Define Guide Bank.

Q.9 Define Silt Excluders.

Q.10 Define Scouring sluices

SECTION-B

Note: Short answer type questions. Attempt any five questions out of eight questions. (5x8=40)

Q.11 Draw the X-section of a semi-circular Drain.

Q.12 Draw the X-section of R.C.C sewer having 750 mm diameter.

Q.13 Draw the Plan, section of Grease Trap Chamber.

Q.14 Draw section Plan X-Section for a Septic tank for 15 users.

Q.15 Draw the cross-section of a channel, fully in cutting from the following data

Bed Width = 3 m

F.SL depth = 0.80 m.

Free Board = 500 mm

Side slope in cutting 1:1

Width of service road 3.60m.

Use any other data, not given, as per standard proportions.

Q.16 Draw L-section of a brick masonary trapezoidal weir crest. Use the following details use your

own size for other details, if required

Top width of weir = 1.80 m

Down stream batter = 1:4

UP stream C. ConC backing = 1.20 wide

Height of weir an upstream = 2.0 m

C.conc floor upstream = 200 thick with suitable supporting cut off wall.

Length of C.conc floor upstream = 2.50 + 900 + 5.80 + 900 + 5.80 +900 + 6.00 (is boulder Pitching)

Sand filling below floor = 150

Pubble compacted = 150

Downstream cistern's length = 6 m

Down stream floor after cistern= 10+900+15 (15 is boulder Pitchins)

Q.17 Draw the cross-section of a Homogeneous Earth Dam.

Q.18 Draw the details of Rain water harvesting system. Using Recharge through abandoned dug well.

SECTION-C

Note: Long answer questions. Attempt any two questions out of three questions. (20x2=40)

Q.19 Draw the plan, X-section and sectional elevation of an Drop manhole 3.30 m deep, depth of Drop is 2m. Diameter is 2.0 m. Sewer Pipe is 30 cm Diameter and Drop pipe is 20 cm. Assume other Missing data as per BIS.

Q.20 Draw the detailed elevation of two pipe system for drainage services of a building.

Q.21 Draw to a suitable scale, only detailed plan of the layout of a canal Headworks. USE suitable data, where needed.