

April 2018

Time – Three hours
(Maximum Marks: 75)

- [N.B: (1) Answer any one questions in the drawing sheet supplied.**
(2) Drawing should be drawn neatly on the drawing sheet with suitable scale.
(3) Drawing should be fully dimensioned.
(4) Assume suitable dimensions wherever necessary.]

PART – A

- I. The following are the details of a septic tank with dispersion trench.

Septic Tank

Length	= 3200 mm
Breadth	= 1600 mm
Depth of liquid at inlet end	= 1300 mm
Free board	= 500 mm
Distance of baffle wall from inlet end	= 1700 mm
Width of side walls	= 300 mm
Depth of foundation concrete	= 250 mm
Foundation concrete offset	= 150 mm
Width of baffle wall	= 200 mm
Diameter of inlet and outlet pipes	= 100 mm

Dispersion Trench

Length of dispersion trench	= 9000 mm
Width of trench	= 650 mm
Depth of dispersion trench	= 650 mm

Assume any other suitable data if required. Draw the following views to a suitable scale.

1. Sectional plan of septic tank with dispersion trench (35 marks)
2. Longitudinal section of septic tank with dispersion trench. (40 marks)

- II. The following are the details pertained to a lintel cum sunshade.

Clear span	= 2.50 m
Width of support on either side	= 200 mm
Size of lintel	= 750 mm
Thickness of sunshade at support	= 150 mm
Thickness of sunshade at free end	= 70 mm

Reinforcement details:

Lintel

Main reinforcement	= 5 Nos. of 16 mm # Fe 415
Hanger bars	= 2 Nos. of 12 mm # Fe 415
Shear reinforcement	= 8 mm # 2 legged stirrups @ 200 mm c/c.

[Turn over....

Sunshade:

- Main reinforcement = 12 mm # @ 350 mm c/c
- Curtailed bar = 12 mm # @ 320 mm c/c at L/2 distance.
- Distributors = 8 mm # @ 250 mm c/c.

Adopt any other data, if necessary.

Draw the following views to a suitable scale.

- (i) Longitudinal section of lintel and cross section of sunshade. (30 marks)
- (ii) Plan of lintel cum sunshade. (20 marks)
- (iii) Prepare bar bending schedule. (25 marks)

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