

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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