976

Register No.:

April 2019

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 pertained to a simply supported one way slab:

Clear span	: 3800mm.
Width of support	: 230mm.
Thickness of slab	: 130mm.
Clear cover	: 15mm.
Reinforcement details	
Main reinforcement	: 10 mm dia. Fe415 steel at 150mm C/C.
Distributors	: 8 mm dia. Fe415 steel at 280mm C/C.

Adopt standard anchorage and curtailment wherever necessary.

Draw the following views to a suitable scale:

(i) Cross section of the slab.

(ii) Plan showing the arrangement of bottom reinforcement

(iii) Plan showing the arrangement of top reinforcement.

(iv) Prepare a bar bending schedule for 1 m width of slab.

II. The following are the details pertained to a floating type bio-gas plant:

Diameter of drum	: 1800mm.
Height of drum	: 1200mm.
Height of conical portion	: 150mm.
Top and bottom round flat	: 75mm wide 6mm thick.
Size of central guide post	: 230 × 230 mm in brick work in CM 1:5.
Thickness of digest wall	: 120mm.
Thickness of bottom concrete	: 150 mm.
Cornice size	: 75 × 140mm.

[Turn over...

Depth of digester wall

below Cornice upto foundation : 1500mm.

Depth of slurry above Cornice : 500mm.

Size of inlet chamber : 750 × 750 × 100mm.

Diameter of inlet and out let pipe : 75mm.

Bottom of inlet chamber : 300mm above slurry level.

Draw the following views to a suitable scale:

(i) Sectional elevation of bio – gas plant with inlet chamber.

(ii) Plan view of bio – gas plant with inlet chamber.
