KERALA GOVERNMENT CERTIFICATE EXAMINATION IN CIVIL ENGINEERING – JUNE, 2008

DRAWING

(Geometrical Drawing and Civil Engineering Drawing)

(Maximum marks : 100) [Time : 3 hours]

PART—A

(Answer any three questions)

1. Inscribe a regular heptagon in a circle of 100 mm diameter. 10

2. Inscribe a circle in a triangle having sides 50 mm, 65 mm and 75 mm long. 10

3. Draw the isometric view of a pentagonal prism of base 60 mm square and axis 100 mm long which is resting on its base with a vertical face perpendicular to vertical plane. 10

4. Prepare the front and top views of the given figure No. III. 10

5. Draw the complete development of an elbow shown in figure II. 10

PART—B

(Answer question No. VI and any one among VII and VIII)

VI. Line sketch of a building is given in figure No. I. Draw the following views:

(a) Detailed plan

(b) Section through CD.

Details:

Foundation: Rubble masonry in cement mortar 1:3, 60 cm wide and 60 cm height over a bed of concrete 1:4:8, 80 cm wide and 200 mm height.

Basement: Rubble masonry in cement mortar 1:8, 45 cm wide and 45 cm height.

Superstructure: Brick masonry in cement mortar 1:8, 200 mm thick and 320 cm height.

Lintel: RCC, M20 grade, 150 mm thick throughout the walls.

Sunshade: RCC, M20 grade, on the outer walls 60 cm projection 10 to 6 cm thick.

Roof: RCC, M20 grade, 120 mm thick, 180 mm projection from outer walls.
Doors
D: 100 × 210 cm, fully panelled, single leaf.
D1: 90 × 210 cm, do.
D2: 80 × 210 cm, do.

Windows
W1: 150 × 140 cm fully glazed three leaves
W2: 100 × 100 cm do. two leaves

Ventilator
V: 100 × 50 cm do.

(Missing data may suitably be assumed.)

VII
Draw the plan and section showing arrangements of reinforcement of footing for an RCC column.
Footing 160 cm × 160 cm, Column 30 cm × 30 cm.
Re-inforcement details:
Footing: 10 mm φ bars @ 14 Nos. on both sides.
Column: Main bars - 4 Nos., 15 cm φ
Lateral ties - 3 mm φ at 15 cm on
Suitable cover to reinforcement and RCC layer - First cover 3 cm, assumed.

OR

VIII
Draw an elliptical force centered arch of one brick thick and 2.5 m span.

PART-C
(Answer any one among IX and X)

IX
Write short notes on any two from the following:
(a) GRID (b) SNAP (c) ORTHO command.

OR

X (a) Write the AutoCAD programme to draw an ellipse.
(b) Differentiate copy and mirror command.

I
100 m, 75 m, ബഡാ-ട്രോബ്ല്യൂസ് തുള്ളിയിൽ എത്തികൂട്ടിയ നിര.

II
50 മീ., 65 മീ., 75 മീ., ഏക-ബഡാ തുള്ളിയിൽ എത്തികൂട്ടിയ നിര.

III
50 മീ., ബഡാ, 100 മീ., ഏക-ബഡാ തുള്ളിയിൽ എത്തികൂട്ടിയ നിര."ബഡാ" തുള്ളിയിൽ എത്തികൂട്ടിയ നിര. 13
All Dimensions are in mm