

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)

Marks

- | | | |
|-----|--|----|
| I | Inscribe a regular heptagon in a circle of 100 mm diameter. | 10 |
| II | Inscribe a circle in a triangle having sides 50 mm, 65 mm and 75 mm long. | 10 |
| III | Draw the isometric view of a pentagonal prism of base 50 mm side and axis 100 mm long which is resting on its base with a vertical face perpendicular to vertical plane. | 10 |
| IV | Prepare the front and top views of the given figure No. III. | 10 |
| V | 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 p c c 1 : 4 : 8, 80 cm wide and 200 mm height |
| Basement | : | Rubble masonry in cement mortar 1 : 3, 45 cm wide and 45 cm height |
| Superstructure | : | Brick masonry in cement mortar 1 : 3, 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, 150 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 $160 \text{ cm} \times 160 \text{ cm}$, Column $30 \text{ cm} \times 30 \text{ cm}$.

Re-inforcement details :

- Footing : $10 \text{ mm } \phi$ bars @ 14 Nos. on both sides.
 Column : Main bars - 4 Nos. $16 \text{ mm } \phi$.
 Lateral ties - $3 \text{ mm } \phi$ @ 13 cm.

Suitable cover to reinforcement and PCC level may be assumed.

OR

VIII Draw an elliptical three 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.

[മലയാള പരീക്ഷ]

പാർട്ട് - എ

- I 100 മി.മീ. വ്യാസമുള്ള ഒരു വൃത്തത്തിനുള്ളിൽ ഒരു ചതുരം നിർമ്മിക്കുക.
 II 50 മി.മീ., 65 മി.മീ., 75 മി.മീ. വശങ്ങളുള്ള ഒരു ത്രികോണം നൽകുന്ന ഒരു വൃത്തം സ്പർശകമായി വരയ്ക്കുക.
 III 50 മി.മീ. വശങ്ങളും 100 മി.മീ. നീളവുമുള്ള ഒരു പത്യാകൃതി സമതലത്തിന്റെ ഐസൊമെട്രിക് കാഴ്ച വരയ്ക്കുക.

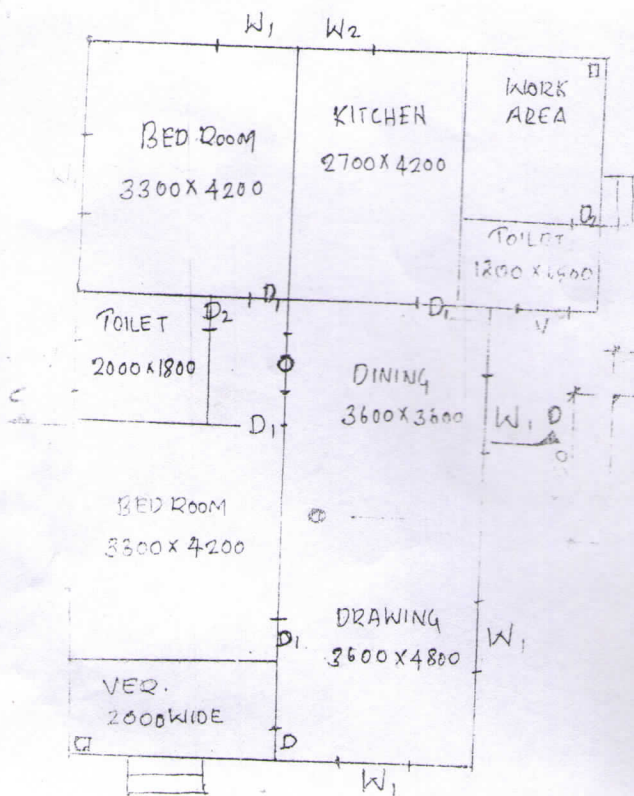


FIG - 1

All Dimensions are in mm

$D = 100 \times 210$ cm

$D_1 = 90 \times 210$ "

$D_2 = 80 \times 210$ "

O - opening

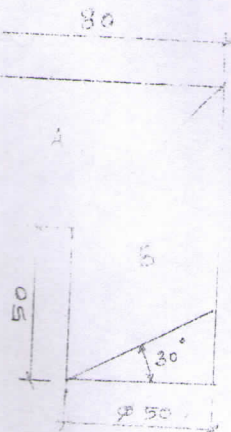


FIG - II ELBOW

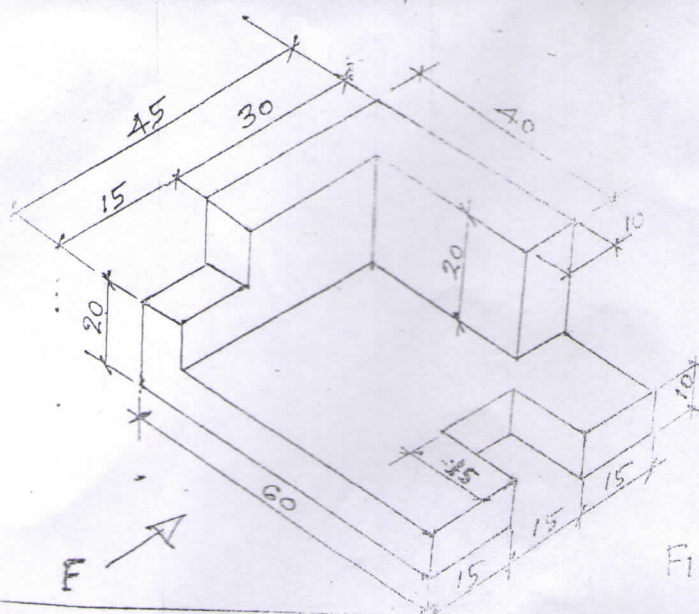


FIG - III