Engineering Graphics and Design

Instructions:

- **Attempt any 3 of 2,3,4,5 and 6**
- **Question 1 is compulsory**

1. a) The size of the title block for all sizes of drawing sheets is 185 mm x 65 mm
   b) The ratio of the length of the drawing of the object to the actual length of the object is called Representative Fraction.

   (2)

2. Construct a diagonal scale of 3: 200 i.e. $1:66\frac{2}{3}$ showing metres, decimetres and centimetres and to measure up to 6 metres. show a distance of 4.56 metres.

Length of the scale $= \dfrac{3}{200} \times 6\ m = 9\ cm.$

R.F. $= \dfrac{3}{200}$
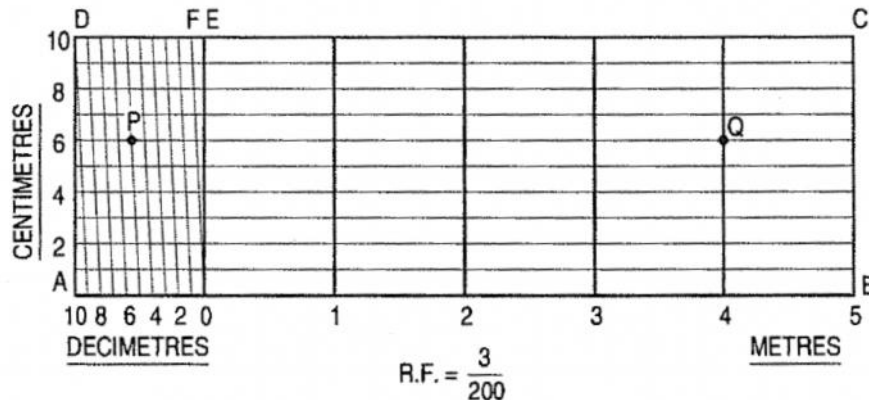
(6)

3. Draw a vernier scale of R.F. $= \dfrac{1}{2}$ to read centimetres upto 4 metres and on it, show lengths representing 2.39 m and 0.91 m.
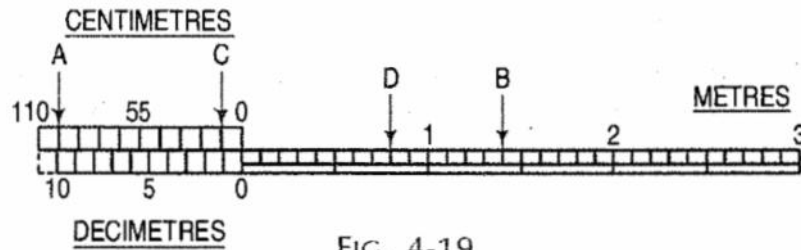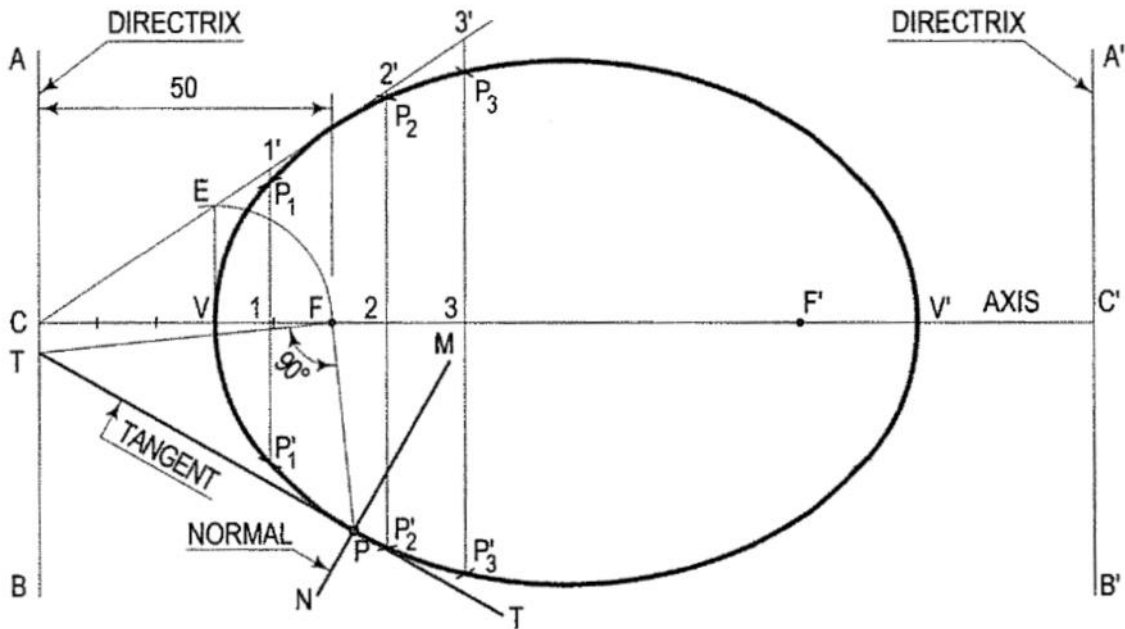
A   C

D   B

110   55   0   METRES

10   5   0   1   2   3

DECIMETRES

FIG. 4-19

Length of the scale $= \dfrac{1}{25} \times 4 \times 100 = 16$ cm.
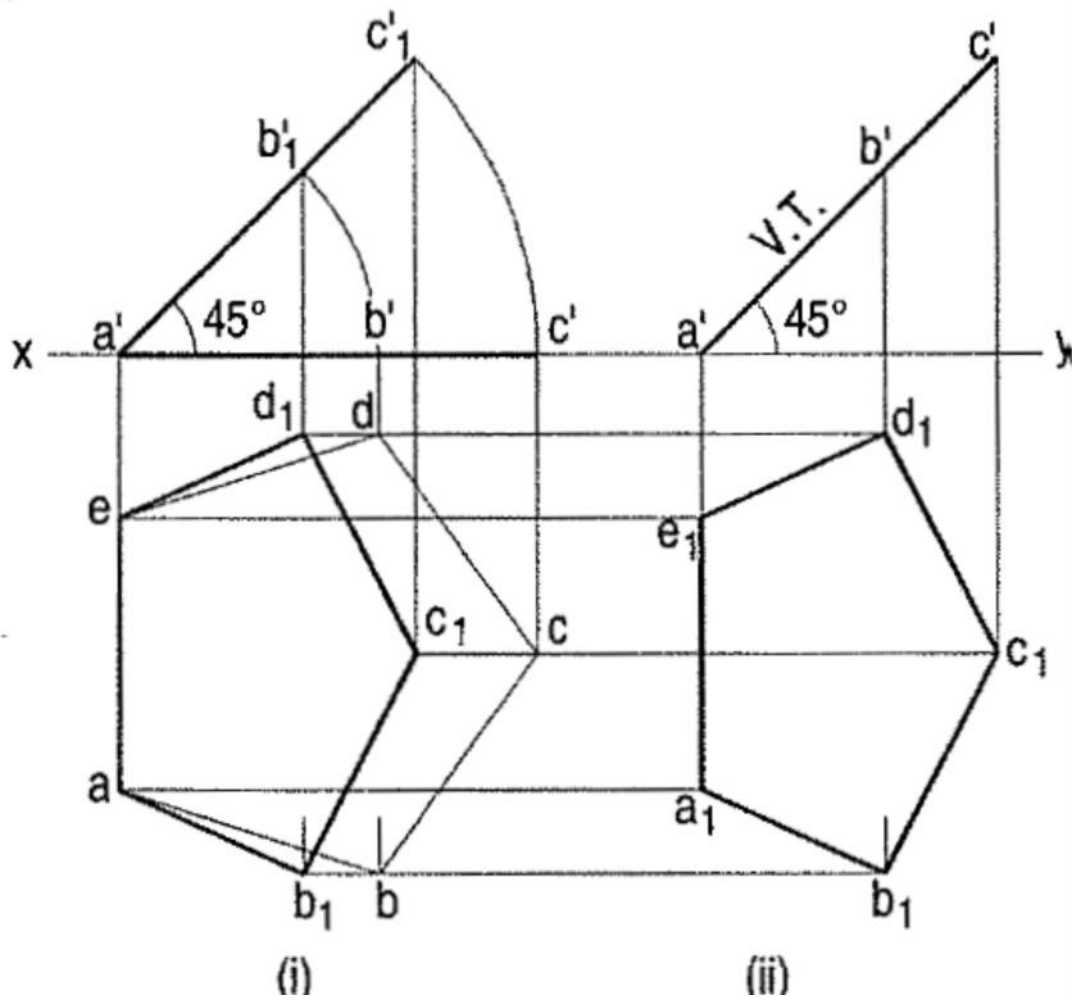
(6)

4. Construct an ellipse when the distance of the focus from the directrix is equal to 50 mm and eccentricity is $\dfrac{2}{3}$.
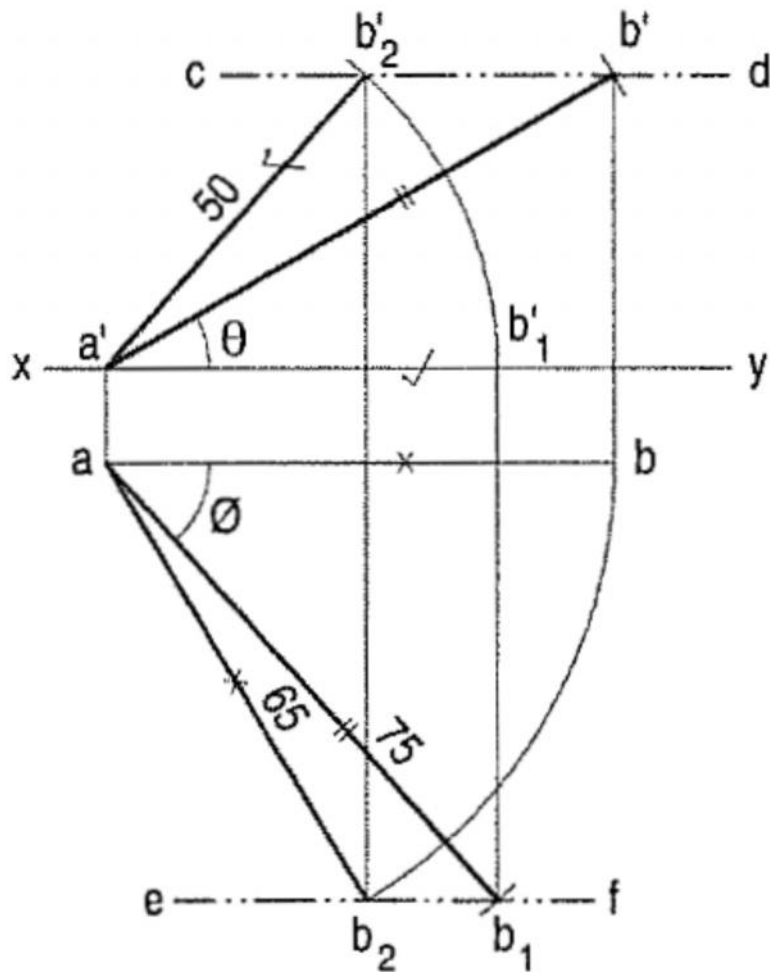

Directrix and focus

(6)

5. A regular pentagon of 25 mm side has one side on the ground. Its plane is inclined at 45° to the H.P and perpendicular to the V.P. Draw its projections and show its traces. (6)

(i)   (ii)

6. The top view of a 75 mm long line AB measures 65 mm, while the length of its front view is 50 mm. It's one end A is in the H.P. and 12 mm in front of the V.P. Draw the projections of AB determine its inclinations with the H.P. and the V.P. and find its traces.

(6)