

**GUJARAT TECHNOLOGICAL UNIVERSITY****B.E. Sem-I/II Examination June-July-2011****Subject code: 110013****Subject Name: Engineering Graphics****Date: 13/07/11****Total Marks: 70****Time: 10:30am to 1:30pm****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Retain all construction lines and show the required dimensions.
5. Take suitable scale whenever required and mention it clearly.
6. Figures drawn in the question paper are not to the scale.

**Q.1** **Fig.-1** shows pictorial view of an object. Draw the following views **14**  
using first angle projection method.  
(1) Sectional Elevation from X (2) Top view (3) Right hand side view.

- Q.2** (a) Draw an ellipse having major axis 120 mm and minor axis 80 mm. Use **07**  
Arc of circle method.
- (b) A circle of 50 mm diameter rolls along a straight line without slipping. **07**  
Draw the curve traced out by the point P on the periphery of the circle.  
Take the initial position the point at the bottom on vertical centre line of  
the circle. Name the curve and also draw tangent and normal to the  
curve at suitable point on the curve.

OR

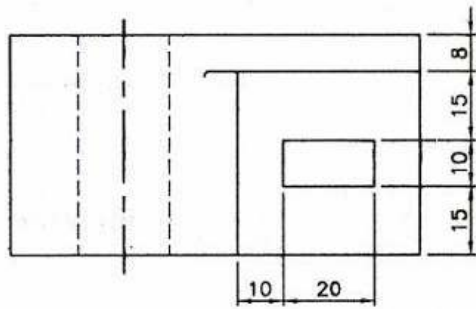
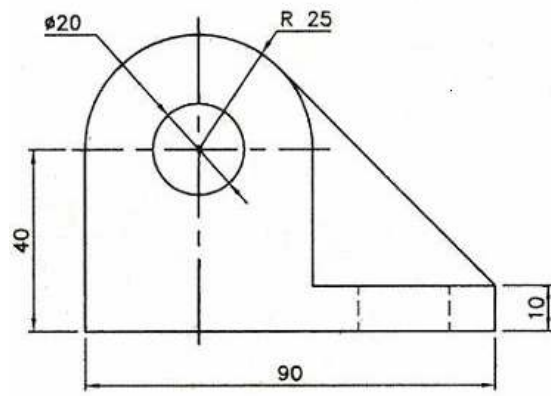
- (b) A circular disc of diameter 90 mm rotates about its centre in clockwise **07**  
direction. While the disc completes one revolution, an insect walks  
across the diameter of the disc from one end to the other end and come  
back to the original point on the diameter of the disc. Plot the locus of  
path of insect, assuming both the rotation of disc and movement of the  
insect as uniform.

- Q.3** (a) A straight line AB is inclined to the H.P. by  $30^\circ$  and to the V.P. by  $60^\circ$ , **07**  
if true length of line is 100 mm find lengths of plan and elevation of the  
line and draw the projections.
- (b) A square plate PQRS of side 35 mm is resting on corner P with diagonal **07**  
PR making  $30^\circ$  with H.P. and diagonal QS inclined to V.P. by  $60^\circ$  and  
parallel to H.P. Draw the projections of the square plate.

OR

- Q.3** (a) The distance between end projectors of a straight line CD is 65 mm. **07**  
The point C is 30 mm above H.P. and 25 mm behind V.P. The point D  
is 40 mm above H.P. and 20 mm in front V.P. Draw the projections of  
straight line CD. Through which principal plane the straight line will  
pass and what will be the distance of the point of intersection of line  
from the other principal plane?
- (b) A hexagonal plate is resting on one of its side on H.P. The side on **07**  
which it rests makes an angle of  $45^\circ$  with V.P. and the plate makes an  
angle of  $30^\circ$  with H.P. Draw the projections of the plate.





ALL DIMENSIONS ARE IN mm.

Figure2.Question5