

**B.TECH. SEM -I (CHEMICAL/ CIVIL/ ELECTRICAL/
MECHANICAL/ PRODUCTION/ COMPUTER/ INFO. TECH./
ELECTRONICS / BIO MEDICAL / E & TC) 2014 COURSE (CBCS) :
WINTER - 2017**

SUBJECT: ENGINEERING GRAPHICS*

Day: **Saturday**
Date: **13/01/2018**

W-2017-1997

Time: **10.00 AM TO 02.00 PM**
Max. Marks: **60**

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate full marks.
- 3) Only half imperial size drawing sheets should be used as answer book.
- 4) Assume suitable data if necessary.

Q.1 a) Draw an ellipse if the distance of focus from the directrix is 70 mm and the eccentricity is $\frac{3}{4}$. **(05)**

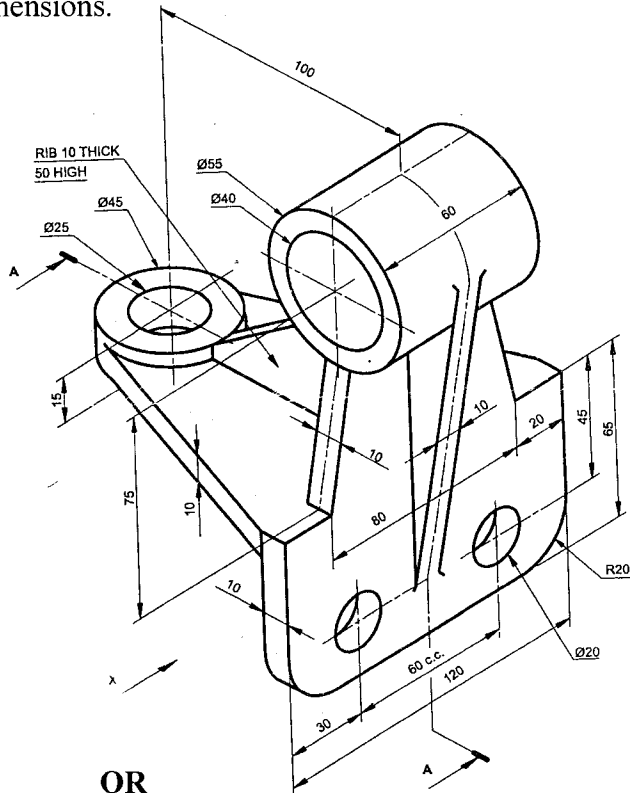
b) Draw a circle of 50mm diameter. At any points A on its circumference, draw a tangent AB, of any length. Draw diameter AP. Plot the locus of point P. When the circle rolls along AB (without slipping) for one complete revolution. Name the curve. **(05)**

OR

Q.1 End P of inelastic thread, 185 mm long is attached to the circumference of a circular disc of 50 mm diameter. Draw the locus of free end Q of thread, if it is completely unwound from the disc, keeping the thread always tight. Name the curve **(10)**

Q.2 Fig. shows a pictorial view of a Control Rod Guide. Draw the following views by first angle method of projection:

- i) Sectional elevation along A-A
- ii) Right hand side view
- iii) Plan. Show all dimensions.



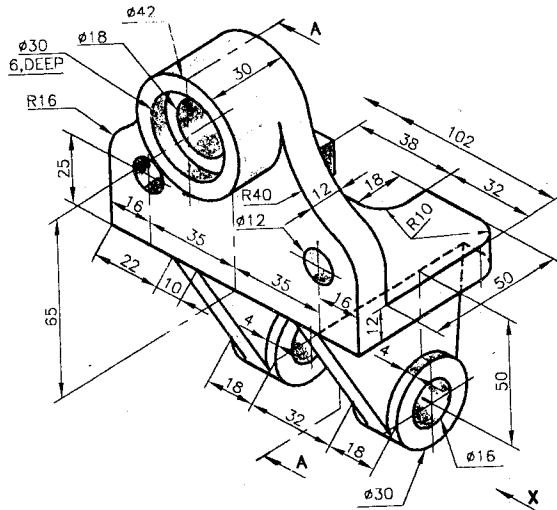
OR

P. T. O.

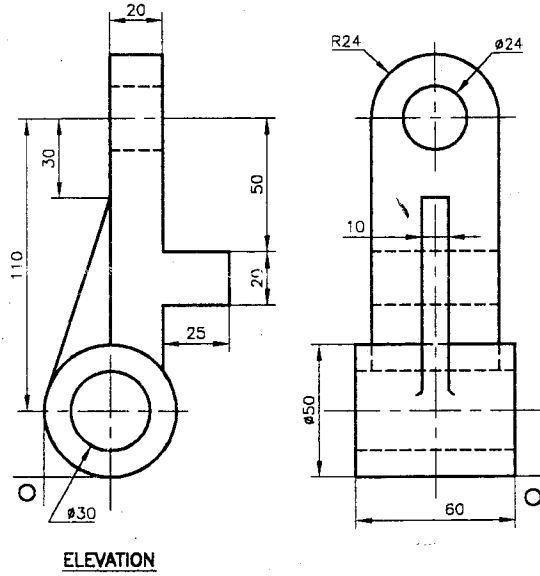
Q.2 A pictorial view of an object an ADJUSTABLE SHAFT SUPPORT is shown in fig. Draw to scale full size the following views, by using first angle method of projections

- i) An elevation looking in the direction of arrow X.
- ii) Plan
- iii) End view

Give important dimensions.

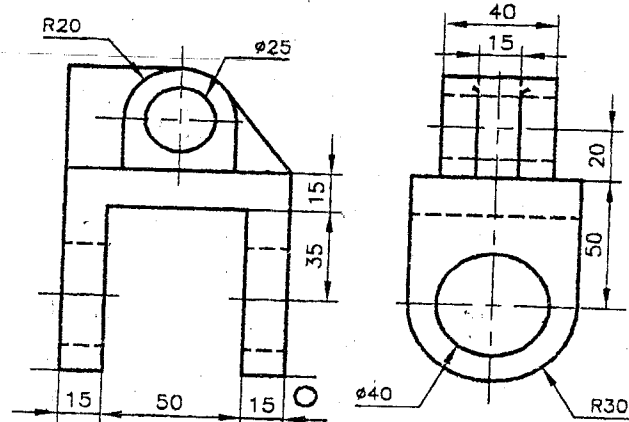


Q.3 Refer the following Fig. of an object and draw its isometric view taking “O” as the origin.



OR

Q.3 Refer the following Fig. of an object and draw its isometric view taking “O” as the origin.



- Q.4** A line AB appears to be of 75 mm in elevation and inclined at 45° . The end B is 80 mm above H.P. while end A is 50 mm in front of V.P. The projector distance between H.T. and V.T. is 90 mm. Draw the projections and find its true length and inclination with H.P. and V.P. Also locate its traces. **(10)**

OR

- Q.4** A line PQ has its end P 15 mm above the H.P. and 25 mm in front of the V.P. The line makes an angle of 20° with the H.P. and its plan measures 90 mm. The end Q is in the first Quadrant and is equidistant from both the reference planes. Obtain the projections of the line, find the inclination of the line with the V.P. and the traces. **(10)**

- Q.5** A semicircular plate of 80 mm diameter has its straight edge in the V.P. and inclined at 45° to the H.P. The surface of the plate makes an angle of 30° with the V.P. Draw its projection **(10)**

OR

- Q.5** ABC is an equilateral triangle of side 60 mm long. Its corner A is on H.P. and side BC is 20 mm above H.P. Draw the projections of the triangle when side BC is inclined to V.P. at an angle of 50° . Find the inclination of plane with H.P. and V.P. **(10)**

- Q.6** A 60 mm tetrahedron rests on an edge on the H.P. that edge makes an angle of 45° with V.P. The apex is 35 mm above the H. P. Draw the projections. **(10)**

OR

- Q.6** A cone of base diameter 80 mm and 90 mm height is resting on the H.P. on its base. It is cut by an A.I.P. in such way that the true shape of the cut surface is a parabola of 55 mm axis length. Draw the front view and Top view of the remaining portion of the cone. Show also the true shape of the section. **(10)**

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