

# B.Tech. sem - I All Branch.

**B.Tech. SEM -I (Chemical/ Civil/ Electrical/ Mechanical/ Production/  
Computer/ Info. Tech./ Electronics / Bio Medical / E & TC) 2014  
Course (CBCS) : SUMMER - 2019  
SUBJECT: ENGINEERING GRAPHICS**

Day: Saturday  
Date: 11/05/2019

S-2019-2526

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

**N.B:**

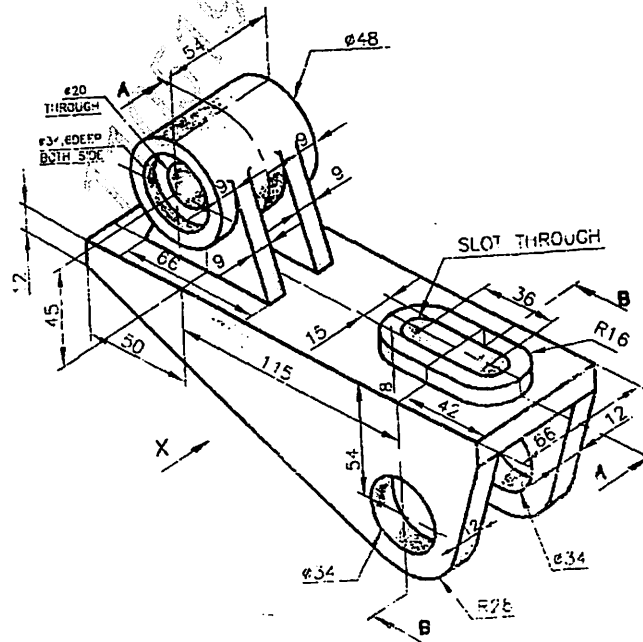
- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks. .
- 3) Draw neat labeled diagrams **WHEREVER** necessary.
- 4) Assume suitable data if necessary.

**Q.1** End P of inelastic thread, 185mm long is attached to the circumference of a circular disc of 50mm 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)

**OR**

**Q.1** A straight line PAQ measuring 110mm has its point 'A' 20mm from 'P' touching the circular plate of diameter 46mm. Trace the path P and Q of points, if line PAQ rolls on the circular plate without slipping. (10)

**Q.2** The pictorial drawing of a machine part is shown in Fig. Draw the following views of it use first angle method of projection: (10)  
i) Sectional front view on section plane A-A looking in the direction of arrow X:  
ii) Top view (Showing all the necessary dotted lines)



**P.T.O.**

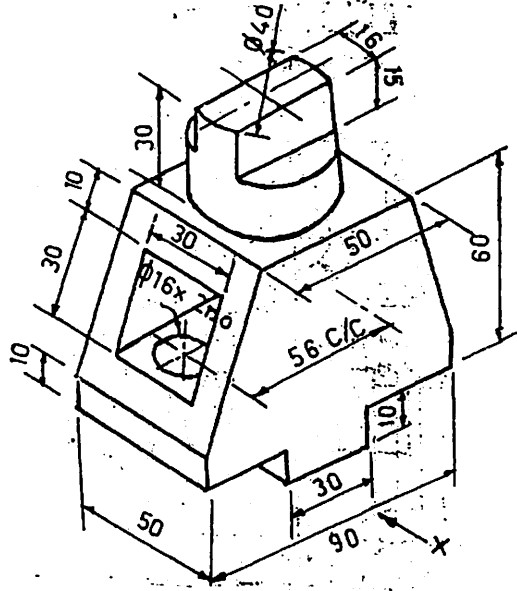
OR

Q.2

Draw the following views for the object shown:

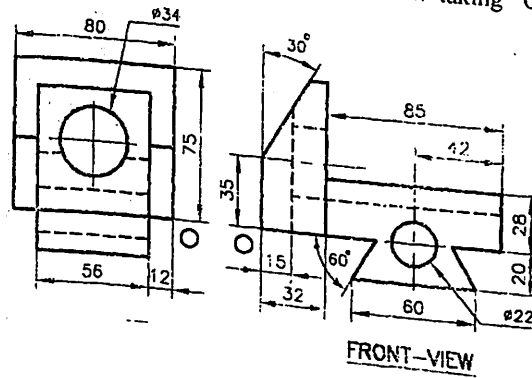
(10)

- i) Sectional front view in the direction of arrow X
- ii) Top view and
- iii) Side view



Q.3

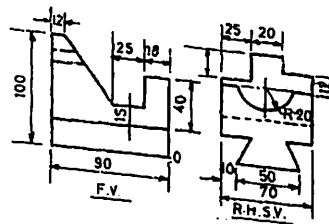
For the object shown in figure draw an isometric view taking 'O' as origin. (10)



OR

Q.3

For the two views of the object shown below draw its isometric view. (10)



- Q.4 A line AB 100mm long has end A 15mm above HP and 35mm in front of VP. The projector distance between VT and A is 40mm. The VT of the line is 10mm below HP. Draw the projections and find the inclination of the line with HP and VP also locate the HT. (10)

OR

- Q.4 Point P of a straight line PQ is 25mm above HP and point Q is 65mm in front of VP. The line makes an angle of  $30^\circ$  with HP and its plan is at  $45^\circ$  to the XY line. Draw the projections of the line if the plane length is 70mm. Also find the true length of the line and the angle made by the line with VP. Locate its traces. (10)

- Q.5 A circle of diameter 50mm has a point on the circumference on the VP. The circle makes  $45^\circ$  with the VP. Draw its projections if:  
i) The FV of the diameter through the point on the VP makes  $30^\circ$  with the HP.  
ii) The diameter through the point on the VP makes  $30^\circ$  with the HP. (10)

OR

- Q.5 A regular pentagonal plane ABCDE of 40mm side has side AB in the HP making an angle of  $15^\circ$  with the VP. The plane makes an angle of  $50^\circ$  with the HP and the point D lies in the VP. Draw the projections of the plane and find its angle with the VP. (10)

- Q.6 A triangular prism with side of base 40mm and length of axis 70mm has its edge of base in the VP and inclined at  $60^\circ$  to the HP. The rectangular face containing that edge makes  $30^\circ$  with the VP. Draw the projections of the prism. (10)

OR

- Q.6 A tetrahedron of 50mm side is resting on a face on the HP with a side of the base face perpendicular to the VP. The cutting plane cut the tetrahedron in such a way that the true shape of the section is a trapezium with parallel sides of 25mm and 14mm. Draw the front view top view and the true shape of the section. (10)

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