

**B.TECH. SEM -II (2007 COURSE) (ALL BRANCHES) :**  
**SUMMER - 2018**

**SUBJECT : ENGINEERING GRAPHICS – II\***

Day : **Monday**  
Date : **11/06/2018**

**S-2018-2556**

Time : **10.00 AM TO 02.00 PM**  
Max. Marks : 80

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Use of non-programmable **CALCULATOR** is allowed.
- 4) Answers to both the section should be written in **SEPARATE** answer book.
- 5) Assume suitable data if necessary.

**SECTION – I**

**Q.1** Figure 1 shows a pictorial view of ROD SUPPORT. Draw to scale full size [13]  
the following views, by using first angle method of projection:

- a) Sectional elevation (section along A – a) in the direction of arrow X
- b) Plan
- c) End – View

Enter important dimensions on the views.

**OR**

A pictorial drawing of a machine part is shown in figure 2. Draw using full size scale, the following views of it. Use first angle method of projection and insert all dimensions:

- a) An elevation, looking in the direction of arrow X.
- b) Sectional plan, on section plane M – N.
- c) An end – view.

**Q.2** Refer figure 3 of an object and draw its isometric view taking “O” as the origin. [14]

**OR**

a) Figure 4 shows the two cranks AB and CD which are connected by the rod BD. [07]  
Crank AB rotates about A, while the crank CD oscillates on an arc with centre C. Draw the locus of a point P on the rod BD, 35 cm for the complete revolution of crank AB.

b) Redraw figure 5 and write the steps to be followed and commands to be used [07]  
sequentially to draw the same, using ACAD package on computer.

**Q.3** The end A of the line AB is 20 mm above HP and its end B is 10 mm in front [13]  
of VP. The elevation of line makes  $45^\circ$  with XY line while its VT is 100 mm above HP. If the distance between the end projectors of line AB is 70 mm, draw the projections of the line. Determine its true length, its inclination and locate its HT.

**OR**

A triangular plane has sides 75 mm, 70 mm and 60 mm. Its top view is a right angle triangle with one side as 75 mm making an angle of  $60^\circ$  with XY. Draw the projections and find its angle with VP and HP

P.T.O.

SECTION – II

**Q.4** A square pyramid side of base 40 mm and axis length 60 mm is kept on the VP [13]  
on one of its base edges in such a way that its axis makes an angle of  $30^{\circ}$  with  
the VP and  $45^{\circ}$  with the HP. Draw the projection of the pyramid keeping apex  
of the pyramid away from the observer.

OR

A sphere of 60 mm diameter is kept on the HP. It is cut by an AIP inclined at  
 $45^{\circ}$  to the HP. The section plane passes through the sphere at a distance of 10  
mm from the centre of the sphere and above it. Draw F.V., sectional T.V. and  
true shape of the section.

**Q.5** A cylinder having base diameter 50 mm and axis length 70 mm has its base in [13]  
HP. A square hole of side 25 mm is drilled centrally having its side equally  
inclined with HP and its axis being perpendicular to VP and bisecting the axis of  
the cylinder. Draw the development of the cylinder with the hole.

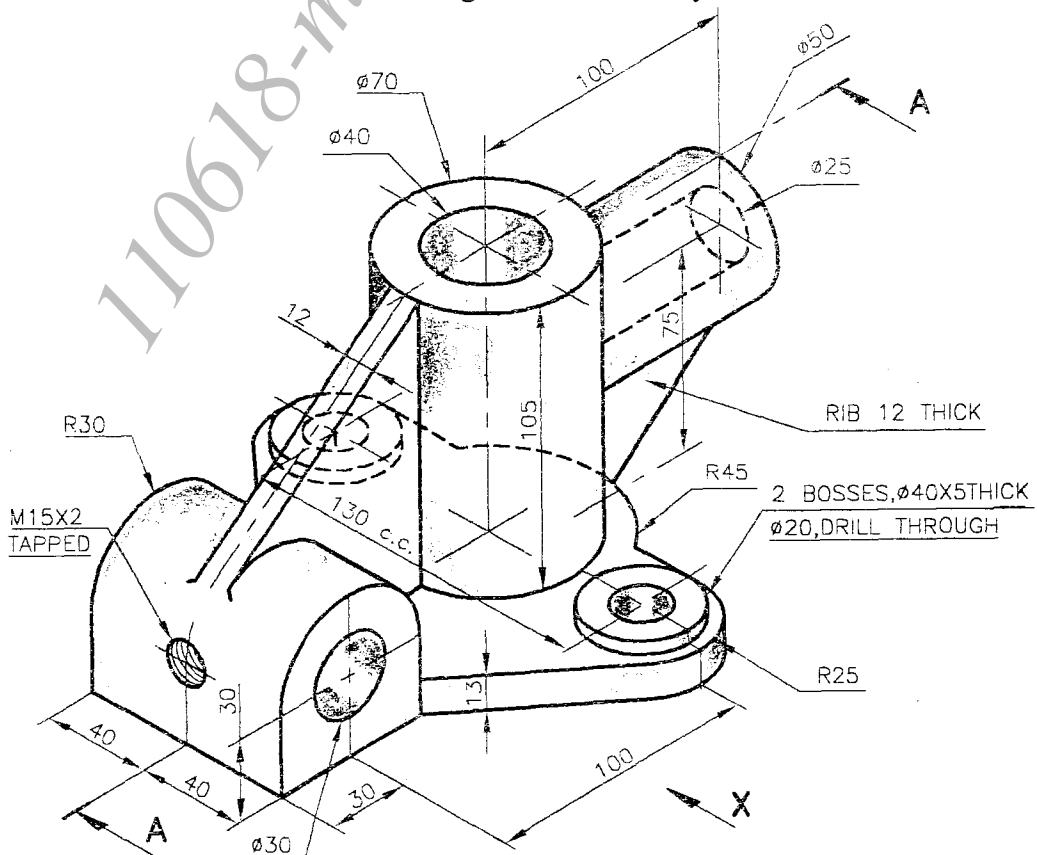
OR

A vertical cone of base diameter 60 mm and axis length 70 mm is kept on the HP  
on its base it is drilled by horizontal cylinder of diameter 27 mm. The axis of the  
cylinder is perpendicular to VP and intersects the axis of the cone 20 mm above  
the base. Draw the development of cone with the hole.

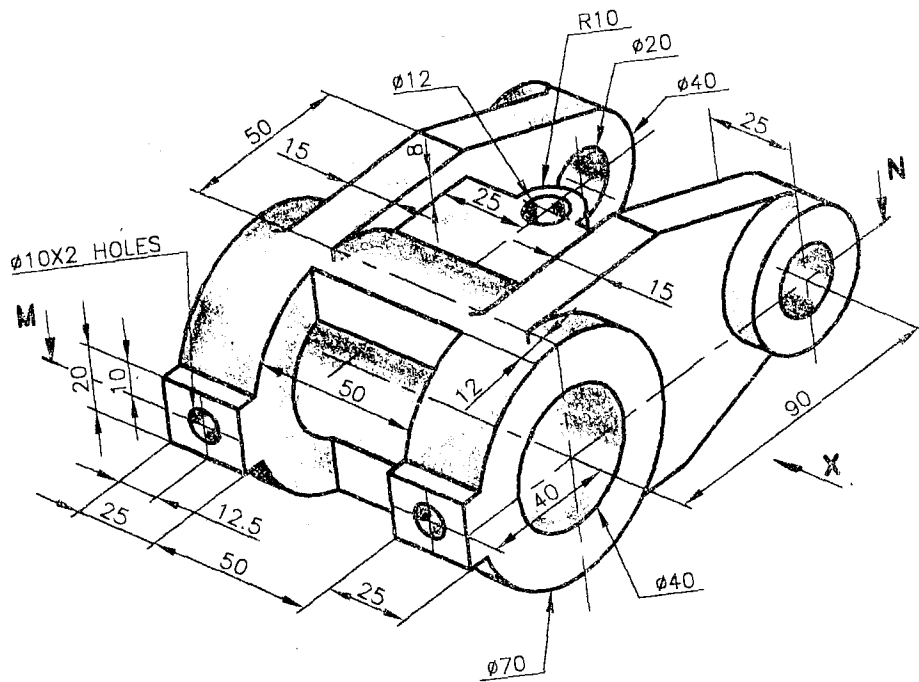
**Q.6** A vertical square prism base 60 mm side axis height 105 mm has a rear [14]  
rectangular face inclined at  $30^{\circ}$  to VP. It is completely penetrated by a horizontal  
square prism of 45 mm edge of base and 105 mm long, faces of which are equally  
inclined to HP axis of two prisms are parallel to VP and bisect each other at right  
angles. Draw the projections of solids showing lines of intersection.

OR

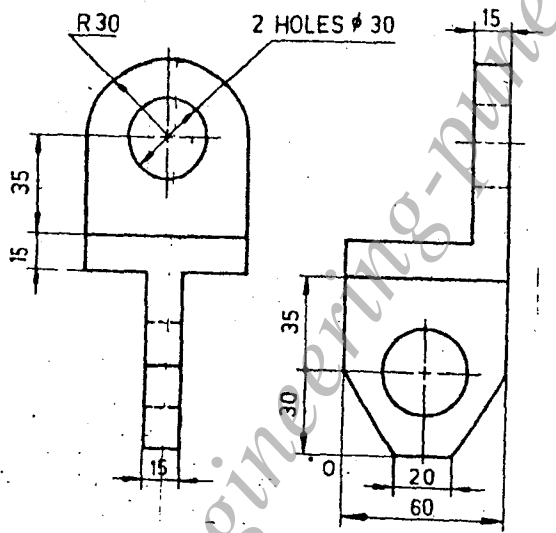
A vertical cylinder of 75 mm diameter is penetrated by another cylinder of 50  
mm diameter, the axis of which is parallel to both the HP and VP. The two axis  
are 9 mm apart. Draw the projections of two cylinders showing curve of  
intersection. Assume suitable axis lengths for both the cylinders.



Q: No. 1, Fig: 1

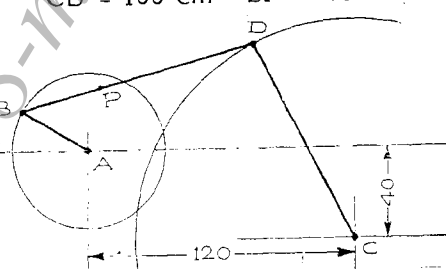


Q1: No. 1, Fig: 2

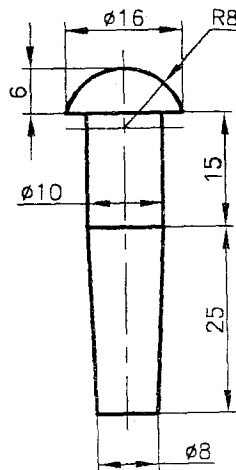


Q: No. 2, Fig: 3

AB = 35 cm    BD = 100 cm  
 CD = 100 cm    BP = 35 cm.



Q: No. 2a, Fig: 4



Q: No. 2b, Fig: 5