

JK LAKSHMIPAT UNIVERSITY, JAIPUR

INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination, November 2016
B. Tech in Civil Engineering, Semester I

Roll No.....

CE102: Engineering Drawing

Time: 4 hours

Max. Marks: 100

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Assume suitable data wherever required and mention it clearly.
3. Writing appropriate units, nomenclature, and drawing neatly (Proper lettering and dimensioning) on the A3 drawing sheet provided along with Title Block
4. Align method of dimensioning to be followed
5. Clearly show all the steps of construction lines and dimensions following the guidelines of Engineering Drawing

Q.1		
Q.1A)	The distance between Jaipur and Ahmedabad is 678 km. In a railway map it is represented by a line 8 cm long. Find it's R.F. Draw a diagonal scale to show single km. And maximum 700 km. Indicate on it following distances. 1) 122 km 2) 444 km 3) 349 km 4) 652 km.	05
Q.1B)	A distance of 40 miles is represented by a line 8 cm long. Construct a plain scale to read 80 miles. Also construct a comparative scale to read kilometers up to 120 km (1 m = 1.609 km).	05
Q.2A)	In a map a 36 km distance is shown by a line 45 cms long. Calculate the R.F. and construct a plain scale to read kilometers and hectometers, for max. 12 km. Show a distance of 8.3 km on it?	05
Q.2B)	A 5 cm long line represents a length of 5 metres. Extend this line to measure lengths up to 30 metres and show on it units of metre and 5 metres. Show the length of 14 metre on this line ?	05
Q.3A)	The actual length of 300 m of an Auditorium is represented by a line of 9 cm on a drawing. Draw a Vernier to read up to 400 m. Mark on it, a length of 222 m (Backward Vernier / Retrograde Vernier Scale) ?	05
Q.3B)	Construct a ΔABC having Angle $ABC = 57^\circ$ and Angle $BAC = 104^\circ$ construct angles by using scale of cords	05
Q.4A)	Using DIRECTRIX-FOCUS METHOD draw point F which is 50 mm from a line AB. A point P is moving in a plane such that the ratio of its distances from F and line AB remains constant and equals to a). $\frac{2}{3}$ draw locus of point P. { Maintaining, ECCENTRICITY = $\frac{2}{3}$ } b). 1 draw locus of point P. { Maintaining, ECCENTRICITY = 1 } c). $\frac{3}{2}$ draw locus of point P. { Maintaining, ECCENTRICITY = $\frac{3}{2}$ }	05

Q.4B) Draw an ellipse by :

05

- Rectangle method.
- Concentric circle method.
- By Arcs of circle method.

Take major axis 80 mm and minor axis 55 mm long?

Q.5)

10

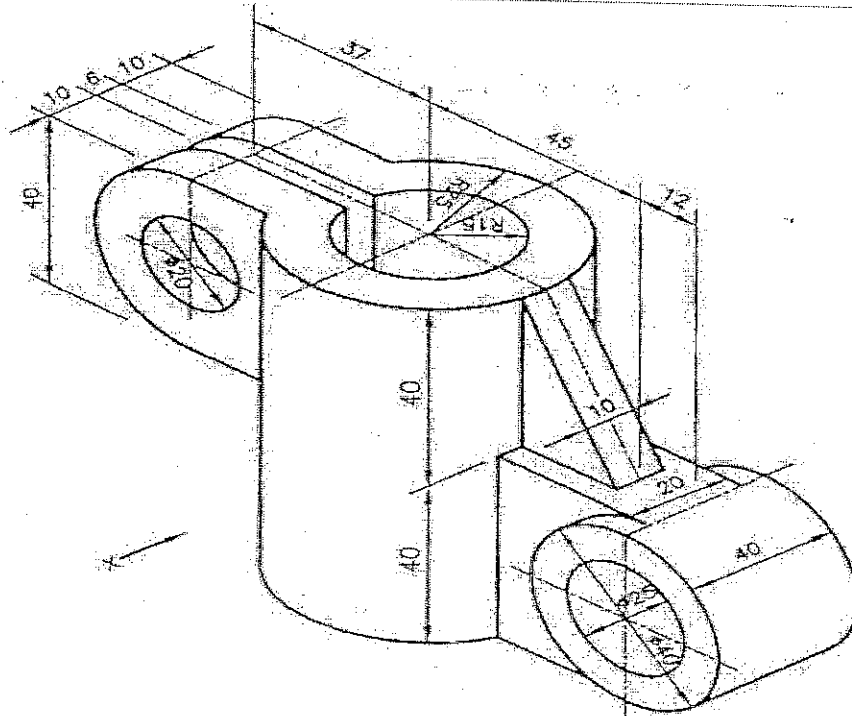


Figure 1

Following the first angel projection method draw the orthographic projection of the object shown in Isometric view. Clearly show the figure title for different views (FV, TV and LSV), along with the plane of projection mentioning their dimensions.

Q.6)

10

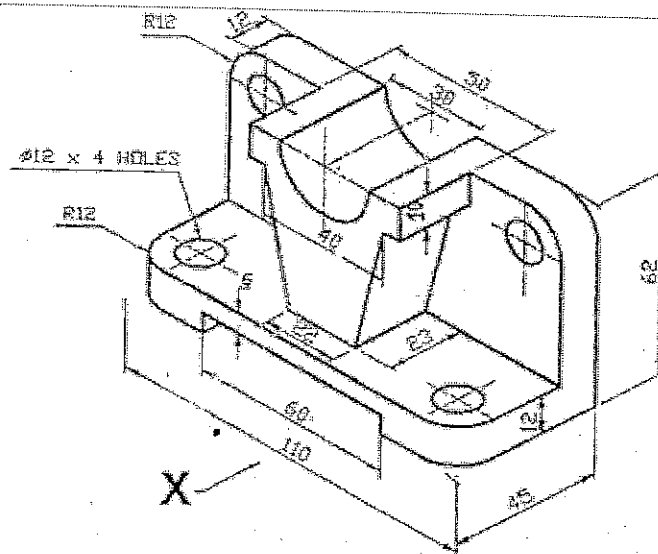


Figure 2

Following the first angle projection method draw the orthographic projection of the Figure 2 shown in Isometric view, show all the views : (FV, TV and LSV).

Along with the plane of projection mentioning their dimensions.

Q7)

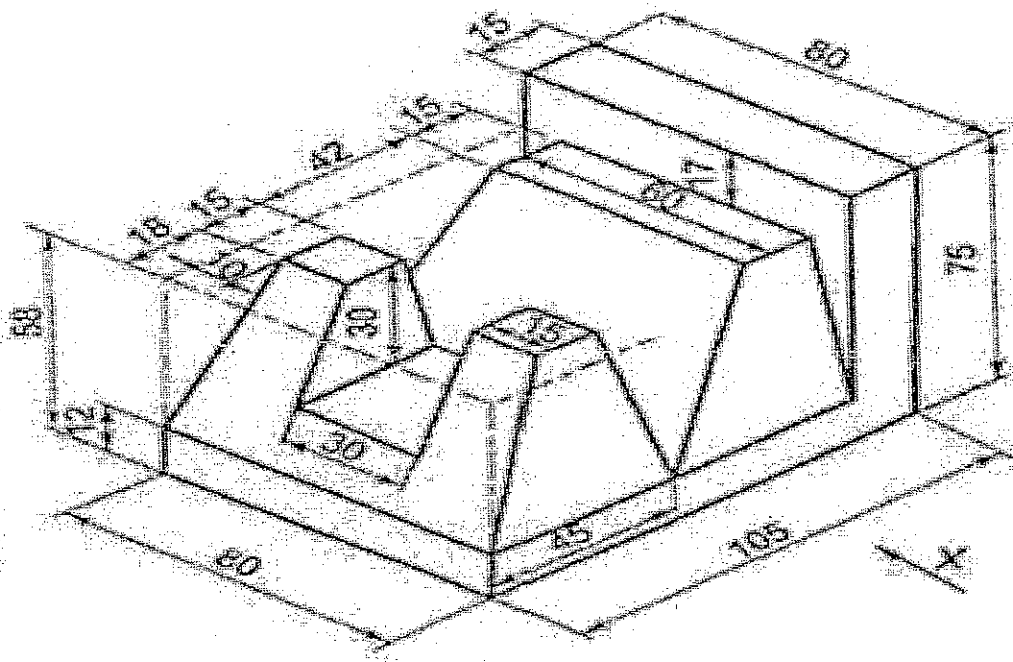


Figure 3

Following the first angle projection method draw the orthographic projection of the Figure 3 shown in Isometric view, show all the views : (FV, TV and LSV). Along with the plane of projection mentioning their dimensions.

OR

Q7)

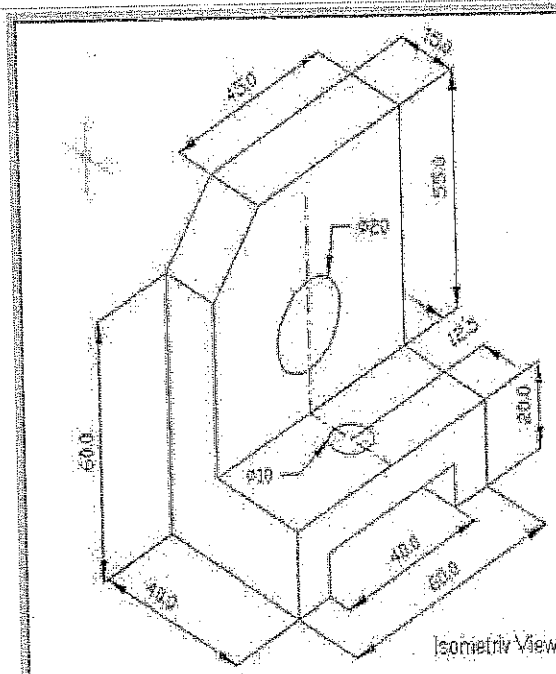
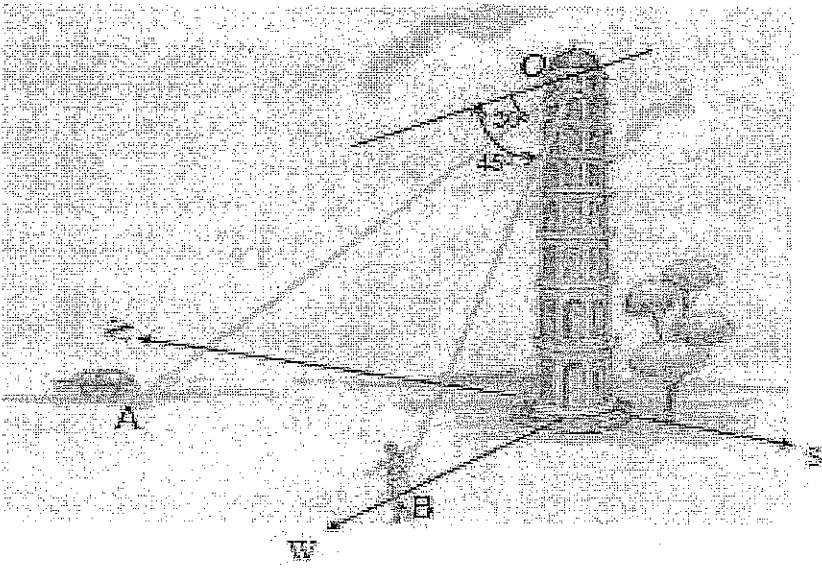


Figure 4

Following the first angle projection method draw the orthographic projection of the Figure 4 shown in Isometric view, show all the views: (FV, TV and LSV).

	Along with the plane of projection mentioning their dimensions.	
Q8).	A line AB is 70 mm long and it is 30° & 40° Inclined to HP & VP respectively. End A is 12mm above HP and 10 mm in front of VP. Draw projections. Line is in 1 st quadrant.	10
Q.9)	Line AB 75mm long makes 45° inclination with VP while it's FV makes 55° . End A is 10 mm above HP and 15 mm in front of VP. If line is in 1 st quadrant draw it's projections and find it's inclination with HP.	10
	OR	
Q9).	A person observes two objects, A & B, on the ground, from a tower, 15 M high, At the angles of depression 30° & 45° . Object A is due North-West direction of observer and object B is due West direction. Draw projections of situation and find distance of objects from observer and from tower also.	10
	 Figure 5	
Q.10)	Rectangle 30mm and 50mm sides is resting on HP on one small side which is 30° inclined to VP, while the surface of the plane makes 45° inclination with HP. Draw it's projections following first angle projection system ?	10
	OR	
Q.10)	A $30^\circ - 60^\circ$ set square of longest side 100 mm long, is in VP and 30° inclined to HP while it's surface is 45° inclined to VP. Draw it's projections following first angle project system?	10