

# JK LAKSHMIPAT UNIVERSITY, JAIPUR

## INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination (Special), January 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 Delhi is 250 km. In a railway map it is represented by a line 6 cm long. Find it's R.F. Draw a diagonal scale to show single km. And maximum 600 km. Indicate on it following distances. 1) 232 km 2) 436 km 3) 259 km 4) 579 km.                                                                                                                                                                                    | 05 |
| Q.1B) | Inscribe a regular polygon of 4, 5 and 6 sides, given the length of its sides equal to 25 mm ? Use the generalized method which can be used to construct regular polygon of any number of sides given (Method III, discussed in the class) ?                                                                                                                                                                                                         | 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 4.5 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 12 metre on this line ?                                                                                                                                                                                                                                                       | 05 |
| Q.3A) | The actual length of 400 m of an Auditorium is represented by a line of 12 cm on a drawing. Draw a Vernier to read up to 500 m. Mark on it, a length of 343 m (Backward Vernier / Retrograde Vernier Scale) ?                                                                                                                                                                                                                                        | 05 |
| Q.3B) | Construct a $\Delta ABC$ having Angle $ABC = 46^\circ$ and Angle $BAC = 105^\circ$ construct angles by using scale of cords                                                                                                                                                                                                                                                                                                                          | 05 |
| Q.4A) | Using DIRECTRIX-FOCUS METHOD draw point F which is 60 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<br>a). $\frac{2}{3}$ draw locus of point P. { Maintaining, ECCENTRICITY = $\frac{2}{3}$ }<br>b). 1 draw locus of point P. { Maintaining, ECCENTRICITY = 1 }<br>c). $\frac{3}{2}$ draw locus of point P. { Maintaining, ECCENTRICITY = $\frac{3}{2}$ } | 05 |

Q.4B Draw an ellipse by :

05

- a) Rectangle method.
- b) Concentric circle method.
- c) By Arcs of circle method.

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

Q.5)

1  
0

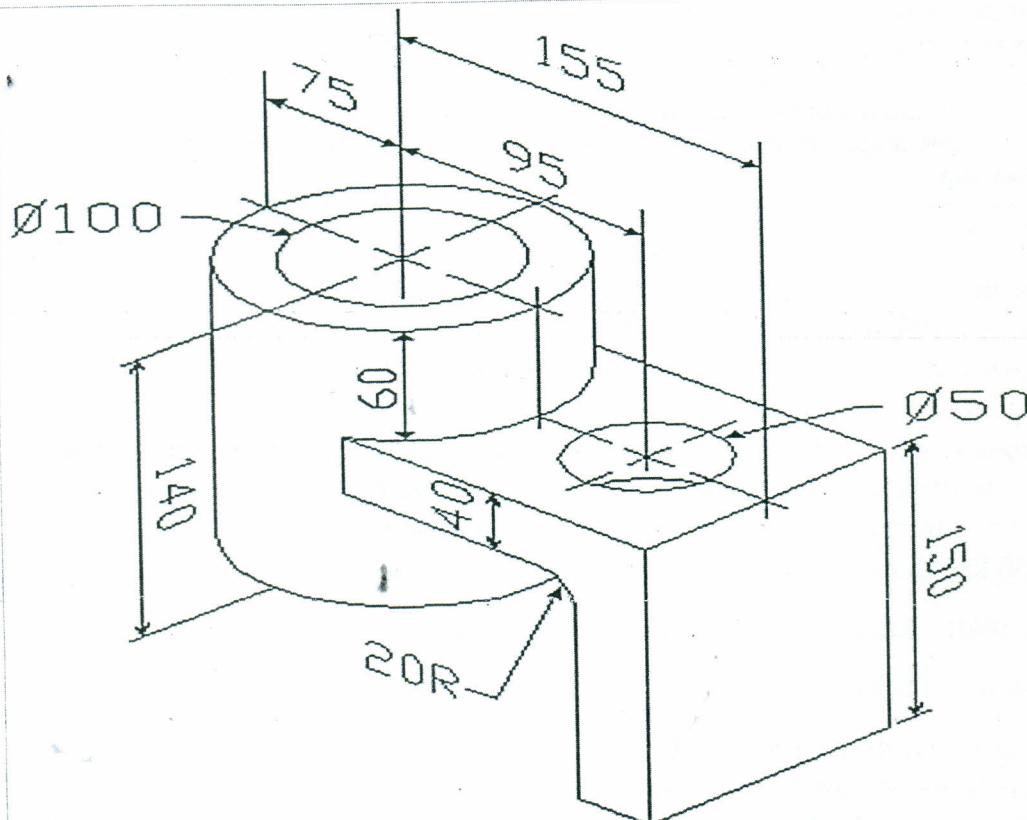


Figure 1

Following the first angel projection method draw the orthographic projection of the Shaft Support shown in Isometric view. Clearly show the figure title for different views (FV, TV and LSV), along with the plane of projection. Scale Factor for the Shaft Support= 1:20. Draw to actual scale.

