

[Total No. of Questions - 9] [Total No. of Printed Pages - 4]  
(2063)

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**B.Tech 2nd Semester Examination**  
**Engineering Drawing and Graphics (NS)**  
**BE-103**

**Time : 3 Hours**

**Max. Marks : 100**

*The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.*

- Note :** (i) A drawing Sheet is needed to attempt this question paper.
- (ii) Attempt five questions in all, select one question from each sections A, B, C and D. Section E is compulsory.

**SECTION - A**

1. A line AB, 65 mm long, has its ends A 20 mm above the H.P. and 25 mm in front of the V.P. The end B is 50 mm above H.P. and 65 mm in front of the V.P. Draw the projections of AB and show its inclinations with H.P. and V.P. **(20)**
2. Construct a vernier scale of R.F. = 1/75 to read inches and to measure up to 14 yards. Show on this, the distances of 4 yard 1 foot 9 inches, 6 yard 2 feet 3 inches, and 0 yard 2 feet 7 inches. **(20)**

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[P.T.O.]

**SECTION - B**

3. A regular tetrahedron, edge of base 40 mm, is resting on one of its edges on the horizontal plane. The resting edge makes an angle of  $30^\circ$  to the VP and the face containing that edge makes an angle of  $45^\circ$  to the HP. Draw its projections. (20)
4. A cube of 35 mm long edges is resting on the ground on one of its faces with a vertical face inclined at  $30^\circ$  to the V.P. It is cut by a section plane parallel to the V.P. and 9 mm away from the axis and nearer the V.P. Draw its sectional front view and the top view. (20)

**SECTION - C**

5. A frustum of a square pyramid has its base 60 mm side, top 30 mm side and height 70 mm. Draw the development of its lateral surface. (20)
6. A triangular prism, base 30 mm side and axis 50 mm long, is lying on the ground on one of its rectangular faces with its inclined at  $30^\circ$  to the VP. It is cut by a horizontal section plane, at a distance of 12 mm above the ground. Draw its front view and sectional top view.

**SECTION - D**

7. Draw the isomeric view of the casting, two views of which are shown in third angle projection in Fig. 1. (20)

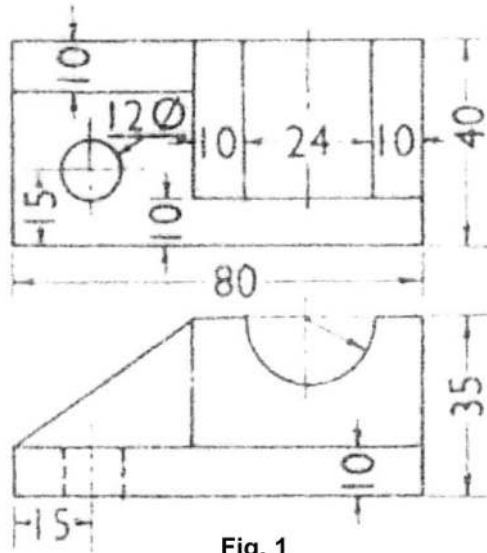


Fig. 1

8. Determine the magnitude of forces in the simple truss given in the Fig. 2 using graphical method. (20)

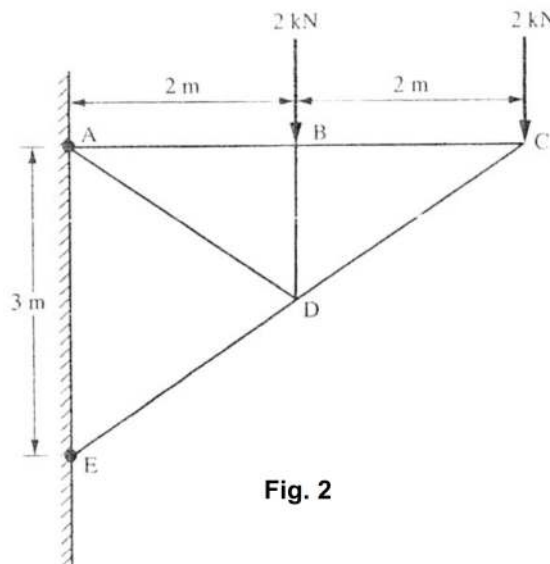


Fig. 2

**SECTION - E**

9. Reply the following (Fill in the blanks/tick the right one/define/draw).

- (a) Octahedron has equal \_\_\_\_\_ equilateral triangles as faces.
- (b) Lower case letters are generally used in \_\_\_\_\_ drawings.
- (c) Draw hatching or section lines.
- (d) When the drawing is drawn of the same size as that of the object, the scale used is called \_\_\_\_\_
- (e) What is Representative Fraction (R.F.) of a scale.
- (f) When the drawing is drawn of the smaller size as that of the object, the scale used is called \_\_\_\_\_
- (g) The two planes employed for the purpose of orthographic projections are called \_\_\_\_\_ planes of projection.
- (h) Drawings of buildings are drawn using \_\_\_\_\_ scale
- (i) When a plane is perpendicular to a reference plane, it's trace on that plane is a \_\_\_\_\_
- (j) Pyramid is a polyhedron having \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (Define).

**(10×2=20)**