Code : 021102

B.Tech 1st Semester Exam., 2018 (Old)

ENGINEERING GRAPHICS

Time : 3 hours *Full Marks* : 70

Instructions :

(i) The marks are indicated in the right-hand margin.

*(ii) There are **NINE** questions in this paper.*

*(iii) Attempt **FIVE** questions in all.*

*(iv) Question No. **1** is compulsory.*

1. Choose the correct option of the following (any *seven*) : 2×7=14

(a) The size of A3 drawing sheet recommended by the Bureau of Indian Standard is

(i) 841 mm × 1189 mm

(ii) 594 mm × 841 mm

(iii) 420 mm × 594 mm

(iv) 297 mm × 420 mm

(b) Continuous thick line is used for

(i) dimension line

(ii) extension line

(iii) visible outline

(iv) hatching

(c) Which one is the full scale?

(i) 1 : 1

(ii) 1 : 2

(iii) 5 : 1

(iv) 1 : 10

(d) In third angle projection method

(i) object is placed in between the plane and observer

(ii) projection plane is assumed to be transparent

(iii) observer is in between the object and the plane

(iv) None of the above

(e) Side view is projected on the

(i) profile plane

(ii) horizontal plane

(iii) vertical plane

(iv) None of the above

(f) If a point is in fourth quadrant,

(i) front view will be above reference line

(ii) front view will be below reference line

(iii) top view will be below reference line

(iv) None of the above

(g) The FV of a line represents true length and TV shortened in length, if the line is

(i) parallel to HP and perpendicular to VP

(ii) parallel to VP and perpendicular to HP

(iii) parallel to both HP and VP

(iv) parallel to VP and inclined to HP

(h) Dashed line is used to represent

(i) hidden edge

(ii) visible edge

(iii) line of symmetry

(iv) None of the above

(i) The eccentricity e for hyperbola is

(i) $e > 1$

(ii) $e = 1$

(iii) $e < 1$

(iv) $e = 2$

(j) FV of a hexagonal plane parallel to VP and perpendicular to HP is

(i) straight line

(ii) point

(iii) rectangle

(iv) hexagon

2. A line *AB*, 80 mm long, makes an angle of 30° with the VP and lies in a plane perpendicular to both the HP and the VP. Its end *A* is in the HP and the end *B* is in VP. Draw its projections and show its traces. 14

3. The top view of a plate, the surface of which is perpendicular to the VP and inclined at 60° to the HP is a circle of 60 mm diameter. Draw its three views. 14

4. A pentagonal pyramid, base 25 mm side and axis 50 mm long has one of its triangular faces in the VP and the edge of the base contained by that face makes an angle of 30° with the HP. Draw its projections. 14

5. A hexagonal prism, has a face on the HP and the axis parallel to the VP. It is cut by a vertical section plane, the HT of which makes an angle 45° with reference line *xy* and which cuts the axis at a point 20 mm

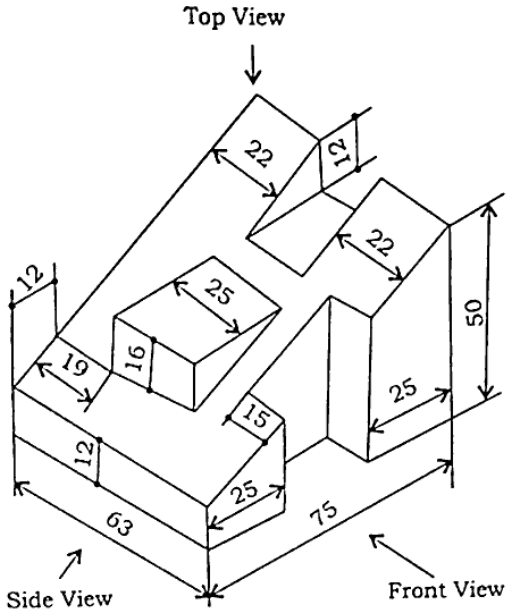
from one of its ends. Draw its sectional front view and true shape of the section. Side of base 25 mm long; height 65 mm. 14

6. A frustum of a square pyramid has its base 50 mm side, top 25 mm side and height 75 mm. Draw the development of its lateral surface. 14

7. A vertical cylinder of 80 mm diameter is completely penetrated by another cylinder of 60 mm diameter, their axes bisecting each other at right angles. Draw their projections showing curves of penetration, assuming the axis of penetrating cylinder to be parallel to the VP. 14

8. A cylindrical block of base 60 mm diameter and height 80 mm standing on HP with its axis perpendicular to the HP. Draw its isometric view. 14

9. Pictorial view of an object is given below :



Draw three views of this object by first-angle projection method. 14

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