JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech I Year II Semester Examinations, March/April - 2023
ENGINEERING GRAPHICS
(Computer Science and Engineering)

Time: 3 hours   Max. Marks: 75

Answer any five questions
All questions carry equal marks
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1.a)   A vertex of a hyperbola is 50 mm from its focus. Draw two parts of the hyperbola, if the eccentricity is 3/2. Mark asymptotes and directrices.

b)   The distance between two towns is 250 km and is represented by a line of length 50mm on a map. Construct a scale to read 600 km and indicate a distance of 530 km on it.[10+5]

OR

2.   A circle of 40 mm diameter rolls along a straight line without slipping. Draw the curve traced by a point on the circumference for one and a half revolutions of the circle. Name the curve. Draw a normal and tangent to the curve at a point 25 mm from the straight line. [15]

3.   A 100 mm long line PQ is inclined at 30° to the HP and 45° to the VP. A point M lies on the line at a distance of 60 mm from the end P and has the front view 15 mm above the xy and top view 25 mm below its front view. Draw the projections of the line and determine the traces. [15]

OR

4.   A triangular plane PQR has its vertices P, Q and R at 40 mm, 60 mm and 20 mm above the HP respectively, and 25 mm, 65 mm and 10 mm in front of the VP respectively. If the projectors of P and Q are 40 mm apart and those of Q and R are 50 mm apart, determine the true shape of the plane PQR. [15]

5.   A square pyramid of base side 45 mm and axis 70 mm is resting on its base in the HP with a side of base parallel to the VP. Draw its sectional top view, sectional side view and true shape of the section when it is cut by a plane perpendicular to the VP, bisecting the axis and is inclined at 45° to the HP. [15]

OR

6.   Draw the projections of a cone, base 75 mm diameter and axis 100 mm long, lying on the ground on one of its generators with the axis parallel to the VP. [15]

7.   Figure 1 shows the front view of a truncated cylinder of diameter 50 mm resting on its base on the HP. Draw the development of its lateral surface. [15]
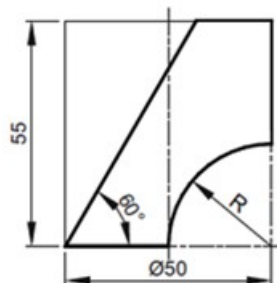
Figure 1

8.   A square prism of base side 60 mm is resting on its base on the HP. It is completely penetrated by another square prism of base side 40 mm, such that their axes are 10 mm apart. The axis of the penetrating prism is parallel to both H.P. and V.P., while the faces of both the prisms are equally inclined to the V.P. Draw the projections of the combination and show lines of intersection.   [15]

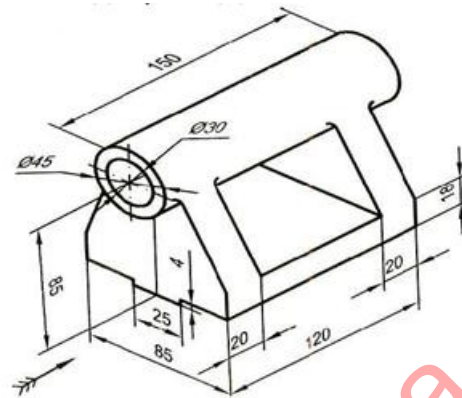9.   Draw the front view, top view and side view of the part shown in figure 2.All dimensions are in mm only.   [15]

Figure 2

OR

10.   Construct the isometric view of orthographic views that are given in figure 3. All dimensions are in mm only.   [15]
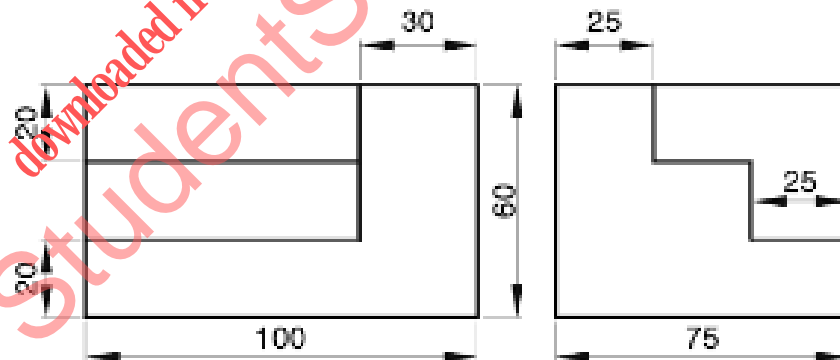

Figure 3

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