

Code No: 152AG**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B.Tech I Year II Semester Examinations, May - 2019****ENGINEERING GRAPHICS****(Computer Science and Engineering)****Time: 3 hours****Max Marks: 75****Answer all five questions****All questions carry equal marks**

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- 1.a) The distance between the centers of two drilled holes which are 0.8 m apart is shown by a line of 2 cm on the drawing. Construct a scale to read up to 5 m. Show on the scale a length of 2.3 m.
- b) A stone thrown from the ground level reaches a maximum height of 20 m and falls on the ground at a distance of 35 m from the point of projection. Trace the path of the stone.

[7+8]

OR

2. Draw a hypocycloid whose diameter of rolling circle is 60 mm and the diameter of the base circle is 180 mm. Draw a tangent and normal at any point on the curve. If the diameter of the base circle is reduced to 120 mm what will be the curve? Construct at least two points on the new curve

[15]

- 3.a) A point 40 mm above xy line is the plan view of three points A, B and C. The point A is 20 mm above, the point B is 30 mm below and the point C is on the HP. Determine the projections of A, B and C.
- b) Draw the projections of a line 70 mm long having one of its ends lying both in the HP and the VP. The other end is 40 mm above the HP and 35 mm in front of the VP. Find the inclinations of the line with the HP and the VP.

[7+8]

OR

4. A triangular lamina having sides 40 mm, 60 mm and 80 mm is held in such a way that the smallest side is parallel to the HP and perpendicular to the VP. The plane of the lamina is inclined at 60° to the HP. Draw the projections of the lamina.
5. A cylinder of base 30 mm diameter and axis 45 mm long is resting on a point of its base on HP so that the axis is inclined at 30° with HP. Draw the projections of the cylinder when the top view of the axis is inclined at 45° with xy.

[15]

OR

6. A square pyramid base 40 mm side and axis 60 mm long has its base on the HP and base edges equally inclined to the VP. It is cut by a section plane inclined at 30° to the HP perpendicular to VP and bisecting the axis. Draw its sectional views and true shape of the section.
7. A lamp shape is formed by cutting a cone of 70 mm diameter and 90 mm height by a horizontal cutting plane at a distance of 36 mm from the apex and another cutting plane inclined at 30 degree to HP, passing through the lower left corner of the base. Draw the development of the shade.

[15]

OR

8. A square prism of base side 60 mm rests on one of its ends on the HP with the base sides equally inclined to the VP. It is penetrated fully by another square prism of base side 45 mm with the base side equally inclined to the HP. The axes intersect at right angles. The axis of the penetrating prism is parallel to both the HP and the VP. Draw the projections of the prisms and show the lines of intersection.

[15]

- OR**

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- TOOL POST
SLIDE
- Isometric view of a tool post slide. Dimensions are as follows:
- Overall length: 110
 - Overall width: 50
 - Overall height: 25
 - Top surface width: 54
 - Top surface depth: 18
 - Top surface angle: 60°
 - Top surface width (right side): 18
 - Top surface depth (right side): 18
 - Top surface angle (right side): 60°
 - Top surface width (bottom right): 30
 - Top surface depth (bottom right): 12
 - Top surface angle (bottom right): 60°
 - Top surface width (bottom right): 12
 - Top surface depth (bottom right): 9
 - Top surface angle (bottom right): 60°
 - Top surface width (bottom right): 9
 - Top surface depth (bottom right): 9
 - Top surface angle (bottom right): 60°
 - Top surface width (bottom right): 8
 - Top surface depth (bottom right): 8
 - Top surface angle (bottom right): 60°

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