Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 25200

B.E./B.Tech. DEGREE EXAMINATION, DECEMBER/JANUARY 2019.

First Semester

Civil Engineering

GE 8152 — ENGINEERING GRAPHICS

(Common to all Branches)

(Regulations 2017)

Time : Three hours | Maximum : 100 marks

Answer ALL questions.

(5 × 20 = 100)

1. (a) Draw the free hand sketches of the front, top and the right side view of the pictorial view shown in Fig. 1(a). All dimensions are in mm.

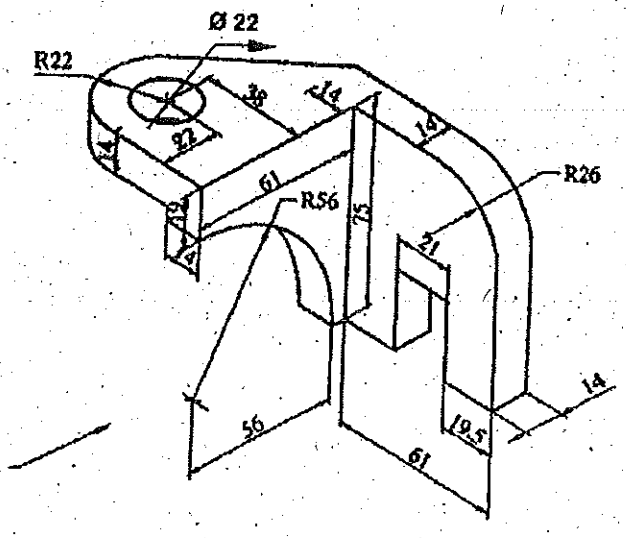

Fig. 1(a)

Or

(b) A circle of 50 mm diameter rolls clockwise on a horizontal line for half a revolution and then on a line inclined at 60° to the horizontal for another half a revolution in the same direction. Draw the curve traced by a point *P* on the circumference of the circle, taking the top most point on the rolling circle as the initial position of the generating point.

2. (a) The front view of the line *AB* of length 70 mm is inclined at 30° to '*xy*' line and measures 45 mm. The end *A* is 20 mm above H.P and 25 mm in front of V.P. Draw the projections of the line and find the inclinations with H.P and V.P by rotating line method.

Or

(b) A regular pentagonal lamina of 30 mm base edges rests on one of its corners on H.P. Draw its projections when the surface of the plate makes 60° with H.P, and the top view of the diagonal passing through that corner on H.P makes 45° with V.P.

3. (a) A pentagonal prism 30 mm side of base and axis 70 mm long is resting on one of its edges of the base, in such a way that the base makes an angle of 40° with H.P. Draw the projections if the axis is parallel to V.P.

Or

(b) A cylinder of base diameter 30 mm and axis 70 mm long has its cylindrical end that is inclined at 30° to V.P. Draw its projections, when the front view of the axis is parallel to the reference line.

4. (a) A hexagonal pyramid, base 30 mm side and axis 65 mm long, is resting on its base on the H.P. with two edges parallel to the V.P. It is cut by a section plane, perpendicular to the V.P. which is inclined at 45° to the H.P. and intersecting the axis at a point 25 mm above the base. Draw the front view, sectional top view, sectional side view and true shape of the section.

Or

(b) A cone of base diameter 60 mm and height 70 mm is resting on its base on the ground. It is cut by a plane perpendicular to the V.P. and parallel to the H.P. at the distance 20 mm from the vertex. It is also cut by a plane inclined at 40° to the base and meeting the axis at a point 20 mm above base. Draw the development of the lateral surface of the cut cone.

5. (a) Draw the isometric view of a hexagonal pyramid of base side 30 mm and height 70 mm rests on its base on H.P with a base edge parallel to V.P. It is cut by a plane perpendicular to V.P inclined at 45° to H.P and meeting the axis at 40 mm from the base.

Or

(b) A rectangular pyramid of sides of base 30 mm × 20 mm and height 40 mm rests with its base on the ground such that one of the longer base edges is parallel to the picture plane and 15 mm behind it. The observer is 50 mm in front of the picture plane, 25 mm to the left of the axis of the pyramid and 50 mm above the ground. Draw the perspective view of the pyramid.
