**Q. Code: 575208**

**Reg. No.** | | | | | | | | | |

# B.E. / B.TECH. DEGREE EXAMINATIONS, DEC 2019

First Semester

## GE18151 – ENGINEERING DRAWING

*(Common to all branches)*

**(Regulation 2018)**

**Time: Three Hours** **Maximum : 100 Marks**

Answer **ALL** questions

**PART A - (5 X 20 = 100 Marks)**

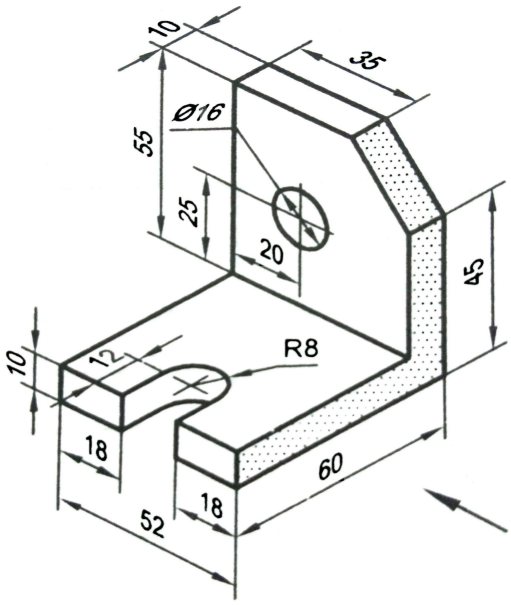
| | | | | | CO | RBT |
|---|---|---|---|---|---|---|
| 1. | (a) | (i) | A coin of 40mm diameter rolls over a horizontal table without slipping. A point on the circumference of the coin is in contact with the table surface in the beginning and after one complete revolution. Draw the path traced by the point. Draw a tangent and normal to the curve at a point, located 30mm above the base line. | **(12 )** | **2** | **U** |
| | | (ii) | Draw the projections of the following points on a common reference line, keeping the projectors 35mm apart:<br>A, 35mm above HP and 25mm in front of VP<br>B, 40mm below HP and 15mm behind VP<br>C, 50mm above HP and 25mm behind VP<br>D, 45mm below HP and 25mm in front of VP | **(8)** | **2** | **U** |
| | | | **(OR)** | | | |
| | (b) | | The projections of a line measure 80mm in the top view and 70mm in the front view. The mid-point of the line is 45mm in front of VP and 35mm above HP. One end is 10mm in front of VP and nearer to it. Draw the projections. Find true length and true inclinations with reference planes. | **(20)** | **3** | **U** |
| 2. | (a) | | A hexagonal plate of side 30mm rests on VP on one of its corners with the sides containing the corner being equally inclined to VP. The surface of the plate makes $50^0$ with VP and perpendicular to HP. Draw the top and front views of the hexagonal plate. | **(20)** | **3** | **R** |
| | | | **(OR)** | | | |
| | (b) | | A hexagonal prism of base side 30mm and axis length 40mm is resting on HP on one of its base edge. Draw its projections when the base containing the resting edge is inclined at $60^0$ to HP and the solid axis is parallel to VP. | **(20)** | **3** | **R** |
| 3. | (a) | | A pentagonal pyramid, side of base 30mm and height 52mm, stands with its base on HP and an edge of the base is parallel to VP and nearer to it. It is cut by a plane perpendicular to VP, inclined at $40^0$ to HP and passing through a point on the axis, 32mm above the base. Draw the front view, sectional top view and true shape of the section. | **(20)** | **4** | **U** |
| | | | **(OR)** | | | |

(b) A right circular cone of base diameter 60mm and height 70mm is resting on its base on the ground. It is cut by a plane inclined at $30^0$ to HP and perpendicular to VP. The cutting plane bisects the axis of the cone. Draw the development of the lateral surface of the truncated cone. **(20) 4 U**

4. (a) A cylinder of base diameter 60mm and height 70mm rests with its base on HP. A section plane perpendicular to VP and inclined at $45^0$ to HP passes through the axis at a distance of 50mm above its base. Draw the isometric view of the truncated cylinder showing the cut surface. **(20) 5 AP**

**(OR)**

(b) Draw orthographic views (Front view, Top view and Left Side view) of the component shown in the following picture: **(20) 5 AP**




5. (a) A square prism side of base 40mm and height 60mm rests with its base on the ground such that one of its rectangular faces is parallel to and 10mm behind the picture plane. The station point is 30mm in front of PP, 80mm above the ground plane and lies in a central plane 45mm to the right of the center of the prism. Draw the perspective projection of the square prism by visual ray method. **(20) 5 U**

**(OR)**

(b) A square pyramid of base edge 40mm and altitude 50mm, rests with its base on the ground plane such that all the edges of the base are equally inclined to the PP. One of the corners of the base is touching the PP. The station point is 60mm in front of the PP, 80mm above the ground plane and lies in a central plane which passes through the axis of the pyramid. Draw the perspective projection by vanishing point method. **(20) 5 U**