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Question Paper Code: R2709

B.E./B.Tech. DEGREE EXAMINATION, APRIL / MAY 2025

Second Semester

Civil Engineering

R21UME209 ENGINEERING DRAWING

(Regulations R2021)

(Common to EEE, ECE, BME, AGRI & Biotech Engineering branches)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 20 = 100 Marks)

1. (a) A circle of 50 mm diameter rolls along a line. A point on the circumference of the circle is in contact with the line in the beginning and after one complete revolution. Draw the cycloid path of point. Draw a tangent and normal at any point on the curve. CO1- App (20)
Or
(b) Draw the projection of the following points. Give 30mm space between each projector with proper dimensions. CO1- App (20)
 1. Point A is 40 mm above the HP and 30 mm in front of the VP.
 2. Point B is 25 mm below the HP and 50 mm behind the VP.
 3. Point C lies in the VP and is 20 mm above HP.
 4. Point D lies in the HP and is 35 mm in front of the VP.
 5. Point E is 10 mm below HP and 60 mm in front of VP.
 6. Point F is 10 mm above HP and 60 mm in front of VP.
2. (a) A square prism of base side 35 mm and height 80 mm resting on its base edges on HP such that, the axis is inclined at 40° to H.P and parallel to VP. Draw its projections. CO2- App (20)
Or
(b) A hexagonal pyramid of base side 30 mm, axis height 75 mm is resting on HP on one of its base corner with its axis inclined at 30° to HP and parallel to VP. Draw the projections of the pyramid CO2- App (20)

3. (a) A square prism of base side 35mm and axis 65mm is resting on HP on its base with two of its rectangular faces are equally inclined to VP. It is cut by a plane inclined at 45° to HP and bisecting the axis. Draw the front view, sectional top view and true shape of section. CO3- App (20)

Or

- (b) A hexagonal pyramid of base side 30 mm and axis height 70 mm is resting on HP on its base with a base edge parallel to VP. It is cut by a plane perpendicular to VP, inclined 30° to HP and passing through a point in its axis at a distance of 35 mm from the base. Draw front view, sectional top view and true shape of the section. CO3- App (20)
4. (a) Draw the development of a hexagonal pyramid of base side 30mm and axis 65mm is resting on HP with its base such that two of its base sides parallel to VP. It is cut by a plane inclined at 35° to HP and passing through the axis at 30mm from the base. CO4- App (20)

Or

- (b) A pentagonal pyramid of base side 30mm and height 75mm rests on its base on HP with one of its base sides perpendicular to VP. Draw the isometric view of the pyramid. CO4- App (20)
5. (a) A pentagonal pyramid of base side 30 mm and height 60 mm is standing on its base on the ground plane with a base side parallel to PP and 25 mm behind the PP. The central plane is 35mm to the left of the apex and the station point is 40mm in front of PP and 20mm above the ground plane. Draw the perspective view of the pyramid CO5-App (20)

Or

- (b) Draw the front, top and right side views of the object shown in figure. CO5-App (20)

