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Question Paper Code: R1710

B.E./B.Tech. DEGREE EXAMINATION, NOV /DEC 2024

First Semester

Computer Science and Design

R21UME110–ENGINEERING DRAWING AND DESIGN

(Regulations R2021)

Duration: Three hours

Maximum:100Marks

PART A- (5x20 =100 Marks)

Answer All Questions

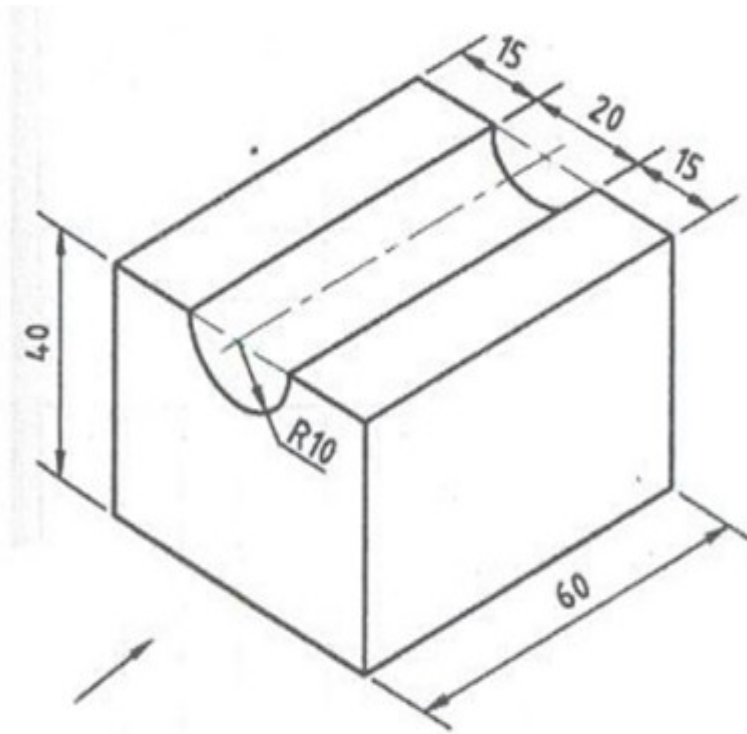
1. (a) Draw an ellipse when the distance of focus from the directrix is equal to 35 mm and eccentricity is $\frac{3}{4}$. Also draw a tangent and a normal at any point on the ellipse. CO1-App (20)
- Or
- (b) An inelastic string of 150 mm long has its one end attached to the circumference of a circular disc of 40 mm diameter. Draw the curve traced out by the other end of the string when it is completely wound around the disc keeping the string always tight. Name the curve obtained. Draw the tangent and normal to the curve at a point distance 100 mm from the centre of the disc. CO1-App (20)
2. (a) A cylinder of base diameter 50mm and axis height 65mm is resting on the ground with one of its base point. The axis is inclined at 40° to HP and parallel to VP. Draw its projections. CO2-App (20)
- Or
- (b) A Rectangular Prism of base side of 25 X 50 X 70 mm stands with its base on HP such that one of the base edge is parallel to VP. It is cut by a sectional plane perpendicular to the VP ,inclined at 45° to HP and bisecting the axis. Draw the development of the surface of the cut solid. CO2-App (20)

3. (a) Draw the Isometric view of a cylinder of base 50 mm diameter and 70 mm height when it rests with its base on HP. CO3-App (20)

Or

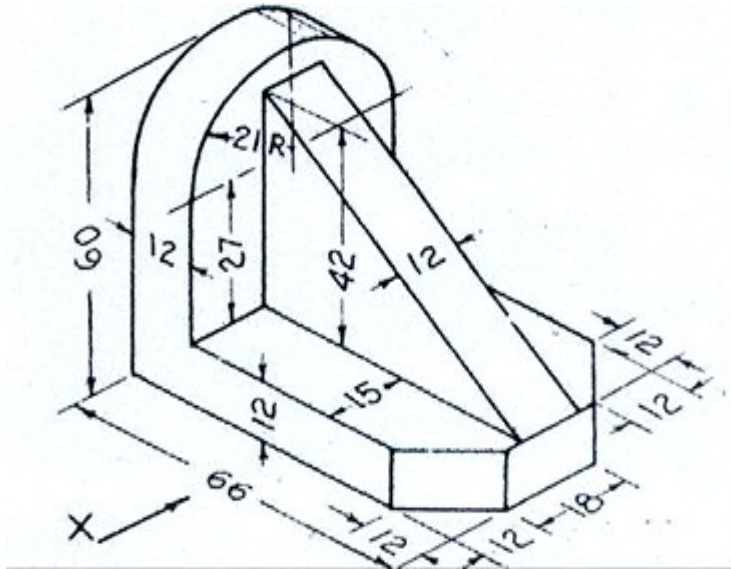
- (b) Draw the perspective view of a pentagonal prism of base side 20 mm and height 40 mm when it rests on the ground plane with one of its rectangular faces parallel to VP and 20 mm behind the picture plane. The station point is 45 mm in front of the PP and 60 mm above the GP. The observer is 30 mm to the left of the axis. Draw the perspective by visual ray method. CO3-App (20)

4. (a) Draw the front view, top view and right side view of the machined element shown in figure. All dimensions are in mm. CO4-App (20)



Or

- (b) Draw three views of the blocks shown pictorially in figure according to first angle projection. All dimensions are in mm. CO4-App (20)



5. (a) Construct the involute of a square with a side of 35 mm. Draw a tangent and normal at any point on the curve. CO1-App (20)

Or

- (b) A thin circular disc of 60 mm diameter is allowed to roll without slipping over the horizontal plane. Draw the curve traced by the point on the circumference of the disc. Draw a tangent and normal at any point on the cycloid curve. CO1-App (20)

