G 610

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Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2014

First and Second Semesters

ENGINEERING GRAPHICS

(Old Scheme—Supplementary/Mercy Chance—Prior to 2010 Admissions)

[Common for all branches]

Time : Three Hours

Maximum : 100 Marks

Answer **all** *questions.*
Each question carries 20 *marks.*
Retain the construction lines. Neatness carries weightage.
Assume suitable missing dimensions in drawings if needed.
Drawing sheets to be supplied.

1. (a) Draw a parabolic arc with a span of 1000 mm. and a rise of 800 mm. using rectangular method. Draw a tangent and normal at any point P on the curve.

Or

(b) Construct a cycloid having a generating circle of 60 mm. diameter. Draw a tangent and a normal at any point P on the curve.

2. **(a) A cube of solid diagonal 100 mm. has one of its solid diagonals parallel to HP and perpendicular to VP. Draw its projections. What is the length of the cube's side ?**

Or

(b) The top view of a 75 mm. long line PQ measures 65 mm., while the front view is 50 mm. Its one end P is in the HP and 12 mm. infront of the VP. Draw the projections of PQ and determine its inclinations with the HP and VP.

3. (a) A cylinder of diameter 80 mm. and length 120 mm. has a square through hole of 40 mm. side. The axis of the cylinder and that of the hole are coinciding. The cylinder is on HP in such a way that the axis of the solid is making 35° with HP and the top view of the axis is making 60° with the XY line. Draw the projections of the cylinder if the side faces of the hole are equally inclined to HP.

Or

(b) A hexagonal prism base 40 mm. side and axis 75 mm. long has an edge of the base parallel to HP and inclined at 45° to VP. Its axis makes an angle of 60° to HP. Draw its projection.

4. (a) A transition piece connects a 50 mm. square pipe at the top and 100 mm. diameter pipe at the bottom. If the centre line of the circular pipe coincides with the geometrical centre of the square pipe in the plan and the height of the transition piece is 60 mm. draw its development.

Or

Turn over

(b) Draw the isometric view of a regular pentagon of 30 mm. side if its plane is vertical and one of its sides horizontal. Also draw an isometric projection if the plane is horizontal and one of its sides perpendicular to VP.

5. (a) A cylinder of 7 cm. diameter, standing on its base in the HP is completely penetrated by another cylinder of 5 cm. diameter, their axes bisecting each other at right angles. Draw their projections showing curves of penetration, assuming the axis of the penetrating cylinder to be parallel to the VP.

Or

(b) A square prism of 30 mm. side of base and height 40 mm. rests with its base on ground such that one of the rectangular faces is inclined at 30° to the picture plane. The nearest vertical edge touches the picture plane. The station point is 45 mm. infront of the picture plane, 65 mm. above the ground and lies opposite to the nearest vertical edge that touches the picture plane. Draw the perspective view.

(5 × 20 = 100 marks)