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B.E./ B.Tech. (Chemical Engineering) / B.Text. First Semester (Old Course) (First Year)

# Engineering Drawing - I:1S7

P. Pages: 2

Time: Three Hours

\* 0 2 8 6 \*

AW - 3538

Max. Marks: 40

7

- Notes: 1. Due credit will be given to neatness and adequate dimensions.
  - 2. Assume suitable data wherever necessary.
  - 3. Retain the construction lines.
  - 4. Use of drawing instruments, is permitted.
- a) In a slider crank mechanism, the connecting rod BC is 100 mm long and the crank AB is 20 mm long. The slider C is sliding on a straight path passing through the point A. Draw the locus of the mid point P on the connecting rod BC for one complete revolution of the crank OB.
  - b) A thread unwound itself from a cylindrical drum of 60 mm in radius. Draw the locus of the free end of the thread for unwinding through an angle of 180°.

#### OR

- 2. a) Two cranks AO and BQ Oscillates about O and Q respectively. Trace the locus of the mid point P of the connecting Link AB, AO=45 cm, BQ = 67.5 cm, AB = 37.5 cm.
  - A circle of 40 mm diameter rolls along the inner circumference of another circle of 120 mm diameter. Draw the path of point P on the circumference of a rolling circle for one complete revolution. Draw the normal and tangent at any point on a curve.
- 3. a) Distance between the end projectors of line AB 80 mm long is 60 mm. It's one end A is 20 mm above H.P. and 30 mm in front of V.P. Draw the projections of a line if it is parallel to H.P. and also measure inclination with V.P.
  - b) A thin composite plate, Consists of a square ABCD of 60 mm sides with an additional semicircle constructed on CD as a diameter. The side AB is in the V.P. and makes 30° with the H.P and the surface of the plate makes an angle of 45° with the V.P. Draw its projections.

#### OR

- 4. a) A line AB of unknown length has its end A in H.P. and 25 mm in front of V.P. End B is 25 mm in front of V.P. and 55 mm above H.P. Draw the projection of line If it is inclined at 30° to H.P. and then find the T.L. of line AB.
  - b) A semi-circular thin plate of 60 mm diameter rests on the H.P. on its diameter which is inclined at 45° to the V.P. and the surface is inclined at 30° to the H.P. Draw the projections of the plate.



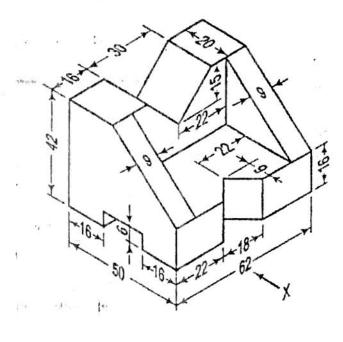
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5. Draw

- i) Front view.
- ii) Top view.
- iii) Side view.

By using first angle projection method.



OR

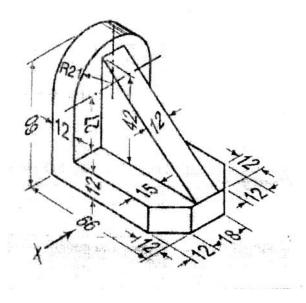
6. Draw.

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- i) Front view.
- ii) Top view.
- ( iii) Side view.

By using third angle projection method.



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