

All branches

(4 Hours)

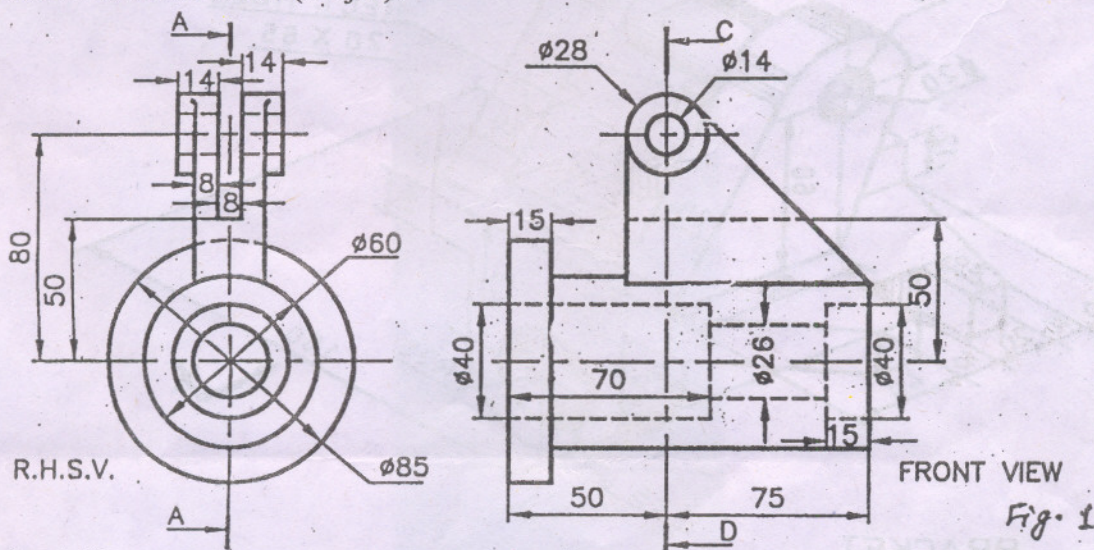
[Total Marks : 100]

- N.B.**
1. Question No.1 is **compulsory**.
  2. Answer any **four** questions out of remaining **six** questions.
  3. Answer to the questions should be grouped and written **together**.
  4. Use only drawing sheets for answering.
  5. **Neatness, accuracy and draftsmanship** will be considered while assessing.
  6. Use your judgment for any unspecified dimension.
  7. Use **first angle method** of projection.
  8. Retain **all** construction lines.

1. **Figure** shows F.V. and S.V. Draw :—

- (i) Sectional F.V.
- (ii) Sectional side view
- (iii) Top view

Insert atleast ten dimensions (Major).



- (a) A line RS has its end R 10 mm above HP and 15 mm in front of VP. The line makes an angle of  $20^\circ$  with HP and its plan measures 60 mm. End S is in second quadrant and is equidistance from both the reference planes. Obtain projections of the line. Find inclination with VP and TL. 10

(b) A hexagonal prism of 30 mm edges of the base and axis 80 mm long is resting on its base with an edge of base inclined at  $45^\circ$  to the VP. A horizontal cylindrical hole of 50 mm diameter is drilled through the prism such that the axis of the hole is parallel to the profile plane and the two axes bisect each other. Draw the development of the lateral surface of the prism with the hole. 10
- (a) A Pentagonal pyramid side of the base 30 mm and slant height 65 mm long is lying on one of its corner on the HP such that the two base edge passing through the corners on which it rests makes equal inclination with the HP one of its triangular surface is parallel to H. P. and perpendicular to V.P. and the base edge containing that triangular surface is parallel to both H.P. and V.P. Draw the projections of the solid when the apex is nearer to the observer. 15

(b) Draw neat, proportionate free hand sketches of the following :— 5

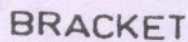
  - (i) Setscrew with fillister head and conical end
  - (ii) Hexagonal Nut.
- (a) A Right circular cone of diameter 60 mm and axis 70 mm is resting on H.P. on its base. It is cut by an A.I.P. such that true shape of section is an isosceles triangle with vertex angle  $40^\circ$ . Measure the Inclination of cutting plane. 12

(b) Draw neat, proportionate free hand sketches of the following :— 8

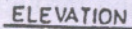
  - (i) Square headed bolt
  - (ii) Wing Nut
  - (iii) Tapped blind hole.



- 10



- 10



- 10

