

16001(D)

B. Tech 1st Semester Examination
Engineering Drawing & Graphics (CBS)

ME-102

Time : 3 Hours

Max. Marks : 40

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt any five questions, selecting at least one question from each unit. Question no. 9 is compulsory. Assume any missing data.

UNIT - I

- (a) A car is running at a speed of 50 km/hr. Construct a diagonal scale to show 1 km by 3 cm and to measure upto 6 km. Mark on the scale the distance covered by the car in 5 minutes 28 seconds.
- (b) A line AB, 75 mm long is inclined at 45° to the HP and 30° to the VP. Its end B is in the HP and 40 mm in front of the VP. Draw the projection of the line AB and determine the traces of the line. (4+4=8)
- Show by means of a drawing that when the diameter of the directing circle is twice the diameter of the generating circle, the hypocycloid is a straight line. Take the diameter of the generating circle equal to 50 mm. (8)

UNIT - II

- A hexagonal prism, base 40 mm side and height 40 mm has a hole of 40 mm diameter drilled centrally through its ends. Draw its projections when it is resting on one of its corner on the HP with its axis inclined at 60° to the HP and two of its faces parallel to the VP. (8)
- A hollow square prism, base 40 mm side and axis 65 mm long, has its base on the HP and all the edges of the base equally inclined to the VP. It is cut by a section plane perpendicular to VP, inclined at 45° to the HP and bisecting the axis of the pyramid. Draw its sectional front top view, sectional side view and true shape of the section. (8)

UNIT - III

- A hemisphere of 50 mm diameter is centrally placed on a frustum of a cone of 50 mm base diameter and 30 mm top diameter and 50 mm long axis. Draw the isometric view of the pair. (8)
- A cone, base 75 mm diameter and axis 80 mm long is resting on its base on the HP. It is cut by a section plane perpendicular to the VP, inclined 45° to the HP and cutting the axis at a point 35 mm from the apex. Draw its front view, sectional top view, sectional side view and true shape of the section. (8)

UNIT - IV

- A vertical square prism, base 50 mm side and height 90 mm has a face inclined at 30° to the VP. It is completely penetrated by another square prism, base 40 mm side and axis 100 mm long, faces of which are equally inclined to the VP. The axes of the two prisms are parallel to the VP and bisect each other at right angles. Draw the projections showing lines of intersection. (8)
- A cone, 50 mm base diameter and 70 mm long axis is standing on its base on HP. It is cut by a section plane 45° inclined to the HP through base end of the end generators. Draw the projection and development of surfaces of remaining solid. (8)

UNIT - V

- (a) What is the convention of representing first-angle projection method?
(b) What is meant by traces of lines?
(c) Define orthographic projection.
(d) What is meant by a sectional view?
(e) Explain with the help of a drawing four centre method for the isometric projection of a circle.
(f) What is the difference between an isometric view and isometric drawing?
(g) Name the method used to develop the surfaces of a prism,
(h) What do you mean by line of intersection? (8×1=8)