FACULTY OF ENGINEERING

B.E. I – Year (Backlog) Examination, December 2019
Subject: Engineering Graphics

Time: 3 Hours   **Max. Marks: 100**

Note: Answer all questions from Part – A, & Any five questions from Part – B.

PART – A (35 Marks)

1. Define full size scale, enlarged scale and reduced scale   (3)

2. Define Epicaycloid and Hypocycloid.   (4)

3. Draw the projections of the following points in the same ground line, keeping the projectors 20 mm apart: (3)

   a) 40 mm below H.P and 25 mm in front of V.P

   b) 15 mm above H.P. and 50 mm behind V.P

   c) 30 mm below H.P and 35 mm behind V.P

4. What is an auxiliary plane and auxiliary view? Explain with example   (4)

5. Define regular polyhedral, prism and pyramid.   (3)

6. Draw the projections of a cylinder, base 30 mm and axis 50 mm long , resting on one of its bases on the H.P with a vertical face perpendicular to V.P.   (4)

7. What is section, sectional front view and sectional top view?   (3)

8. Draw development of a square prism of base 40 mm side and height 70 mm.   (4)

9. Draw the isometric view of a square block of 50 mm side and 20 mm thickness.   (3)

10. Differentiate between first angle projection and third angle projection.   (4)

PART – B (65 Marks)

11. (a) A 3.2 cm long line represents a length of 4 meters. Extend the line to measure lengths up to 25 meters and show on it units of 1 meter and 5 meters. Show the length of 17 meters on this line.   (6)

   (b) A circle of 50 mm diameter rolls on the circumference of another circle of 175 mm diameter and outside it. Trace the locus of a point on the circumference of the rolling circle for one complete revolution. Name the curve.   (7)

12. A line AB 90 mm long is inclined at 45° to H.P and its top view makes an angle of 60° with V.P, the end A is in H.P and 12 mm in front of V.P. Draw its front view and find its true inclination with V.P.   (13)

13. A semi-circular plate of 80 mm diameter has its straight edge in the V.P and inclined at 45° to the H.P. The surface of the plate makes an angle of 30° with the V.P. Draw its projections.   (13)

14. A hexagonal pyramid, base 25 mm side and axis 50 mm long, has an edge of the base in the H.P. Its axis is inclined at 30° to the H.P and parallel to the V.P. Draw its projections.   (13)

15. A Pentagonal prism, 30 mm base side and axis 50 mm is standing on H.P on its base whose one side is perpendicular to V.P. It is cut by a section plane 45° inclined to H.P, through mid point of axis. Draw its front view, sectional top view and true shape of the section. (13)

16. A hemi-sphere of radius 20 mm is centrally placed over the frustum of a square pyramid whose top and bottom dimensions are 40 mm side and 60 mm side respectively and height of frustum is 70mm. Draw the isometric view of the combination. (13)

17. Draw the orthographic projection (front view, top view and one side view) of the given isometric projection. (13)

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