

**B. Tech. (Sem. - 1<sup>st</sup> / 2<sup>nd</sup>)****ENGINEERING DRAWING & COMPUTER GRAPHICS****SUBJECT CODE : ME - 102 (2k4 & Onwards)****Paper ID : [A0116]**

[Note : Please fill subject code and paper ID on OMR]

**Time : 03 Hours****Maximum Marks : 60****Instruction to Candidates:**

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Five** questions from Section - B & C.
- 3) Select atleast **Two** questions from Section - B & C.

**Section - A****Q1)****(Marks : 2 each)**

- a) When a point is situated in the first quadrant it will be located above the HP and in front of VP. (True / False)
- b) What do you mean by single stroke lettering?
- c) Explain the procedure for working out true shape of surface inclined to HP.
- d) A solid with two identical ends is called \_\_\_\_\_.
- e) A cone is generated by the revolution of a \_\_\_\_\_ about its altitude.
- f) What do you understand by Frustum?
- g) A \_\_\_\_\_ is a polyhedron composed of a regular polygon and a number of triangular faces.
- h) The true shape of a section will be seen in the front view of an object when the section plane is \_\_\_\_\_ to the VP.
- i) Explain the method used for development of a right cone.
- j) Intersection of plane surfaces and curves surface gives \_\_\_\_\_  
(Line / Curve / Surface)

**R-809****P.T.O.**

**Section - B****(Marks : 8 each)**

- Q2)** (a) Section lines are inclined at \_\_\_\_\_ angle to \_\_\_\_\_ line.  
(b) Show the following lines schematically and explain their significance :  
(i) Outline or Object line  
(ii) Centre line or Locus line  
(c) Differentiate between first angle projections and third angle projections employed in engineering drawing.
- Q3)** The projection of the ends of a line EF are 60 mm apart, end E is 15 mm above HP and 20 mm in front of VP. End F is 10 mm below HP and 35 mm behind VP. Determine its true length, traces and inclination of the line with the two reference planes.
- Q4)** A right circular cone, base 50 mm diameter, axis 65 mm long, when it is resting on HP on a point of its base circle, with axis making an angle  $30^\circ$  with HP and plan of axis  $45^\circ$  with VP.
- Q5)** A pentagonal pyramid of base 35 mm and height 60 mm rests with its base on HP such that one of its base edges is perpendicular to VP. A section plane inclined at  $45^\circ$  to HP and perpendicular to VP cuts the pyramid through its axis at 25 mm from the apex. Draw the sectional front and top views and true shape of the section.

**Section - C****(Marks : 8 each)**

- Q6)** A square prism of base 45 mm and height 20 mm rests centrally on the top face of a cylinder of 60 mm diameter and 30 mm height. Draw the isometric projects of the combined solid.
- Q7)** What are the uses of freehand sketching in engineering field? Describe the steps to be followed in sketching a square?

**Q8)** Draw the development of the cone having base diameter 40 mm and axis height 50 mm. The cone has been cut by a straight section plane parallel to its base at a distance of 30 mm from its base.

**Q9)** A vertical cylinder of 50 mm diameter and height 70 mm, is standing on its base on HP and with the axis perpendicular to HP. It is completely penetrated by another horizontal cylinder of 45 mm diameter and 80 mm long. The axis of the horizontal cylinder is parallel to VP and the two axes bisect each other. Draw the projections showing curves of intersection?