NEW SCHEME

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Second Semester B.E Degree Examination, July/August 2005
Common to all Branches
Engineering Graphics

Time: 4 hrs.]   [Max.Marks : 100

Note: *1. Answer any FIVE full questions*
2. All questions carry equal marks.
3. Use first angle projection method and BIS conventions.
4. Retain all construction lines.
5. Assume any missing data suitably.

**1.** (a) Draw the projections of the following:

    (i)   The point P is 30mm above HP and 20mm in front of VP.

    (ii) The point Q is 20mm behind VP and 40mm above HP.

    (iii) The point R is 15mm below HP and 25mm behind VP.

    (iv) The point S is 10mm below HP and 20mm in front of VP.

    (v) The point T is both in HP and VP.   **(5 Marks)**

    (b) A line PQ 75mm long is inclined to HP at 30^0 and inclined to VP at 45^0. The end P is in both HP and VP. Draw front and top views of line and determine their lengths. Also determine the perpendicular distance of end Q from both HP and VP. Find the distance between end projectors.   **(15 Marks)**

2. (a) The following are projections of points A,B,C,D and E respectively. Reproduce them on the drawing sheet and state their quadrants and distance from reference planes. Maintain distance between projectors of points to be 25mm. All dimensions given in the figure below are in mm only.

Q 2(a)
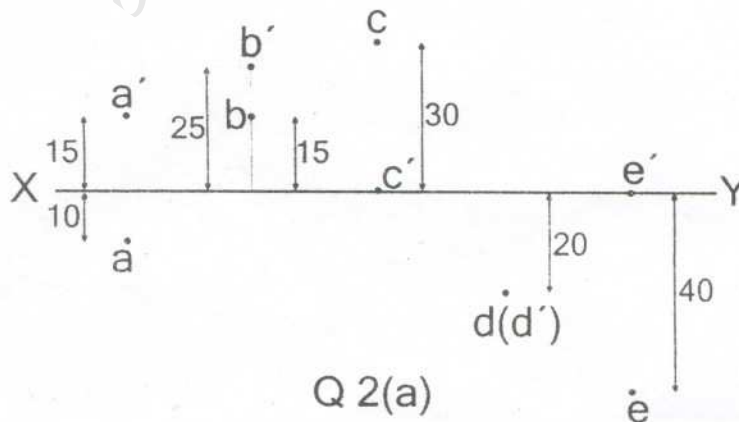
                                               (5 Marks)

(b) Top view of a line AB measures 60mm while front view measures 70mm. The distance between end projectors measured parallel to XY is 50mm. End A is nearer to VP than end B and 15mm in front of it. End B is nearer to HP than end A and 20mm above it. Draw the projections and determine the true length inclinations of the line AB with HP and VP. **(15 Marks)**

3. An isosceles triangular lamina of base 60mm and altitude 90mm is standing on its base on HP, such that the surface is inclined to HP at 30^0 and the altitude is inclined to VP at 45^0. Draw the top and front views of the lamina. **(20 Marks)**

4. A hexagonal prism of 30mm side of base and height 60mm rests in one of its edges of base on HP such that axis is parallel to VP and inclined to HP at 40^0 such that top base is to the right of bottom base. Draw front and top view of the prism. Also draw the side view looking from the left. **(20 Marks)**

5. A cone of base diameter 50mm and axis 65mm rests on HP one of its end generators with its axis parallel to VP such that apex is to the right of the base. Draw front and top view of the cone. Also draw the side view looking from the left. **(20 Marks)**

6. A pentagonal pyramid of base side 30mm and axis height 50mm rests on HP on its base with a base edge parallel to and 10mm in front of VP. Draw front and top view of the pyramid. Also draw the development of the lateral surface of this pyramid. **(20 Marks)**

7. A sphere of diameter 40mm rests centrally on the top of a smaller end of a frustum of a square pyramid. The frustum has 30mm sides at the top, 60mm sides at the bottom and is 80mm high. Draw the plan and elevation of the combined solids. Also draw the isometric projection of the combined solids. **(20 Marks)**

8. A square pyramid of base side 20mm and height 40mm rests on top of a cube of sides 30mm co axially such that a base side of pyramid is parallel to a base of the cube. Draw plan and elevation of the combined solids. Also draw the isometric projection of the combined solids. **(20 Marks)**

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