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Code No. : 1207

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD
B.E. I Year II – Semester (Main) Examinations, July - 2015

Engineering Graphics - II

Time: 3 hours

Max. Marks: 70

Note: Answer ALL questions in Part-A and any FIVE questions from Part-B

Part-A (10 X 2=20 Marks)

1. Describe the method to obtain the true shape of the section that can be obtained when a solid is cut by an auxiliary vertical plane.
2. Explain how you would locate the section plane which cuts a square pyramids to get a trapezium as true shape of the section.
3. Indicate the dimensions of the cone whose development is a semi circle of 100mm diameter.
4. Briefly explain the rectangle and triangle methods of development of surfaces.
5. Explain in brief the cutting plane method of determining the curves of intersections.
6. Define the terms isometric planes, isometric axis and isometric scale.
7. Draw isometric projection of a pentagonal prism with side: 30mm and axis: 60mm.
8. List all the varieties of pictorial projections.
9. Draw all possible views for a hexagonal pyramid.
10. Differentiate between isometric projections and isometric drawing.

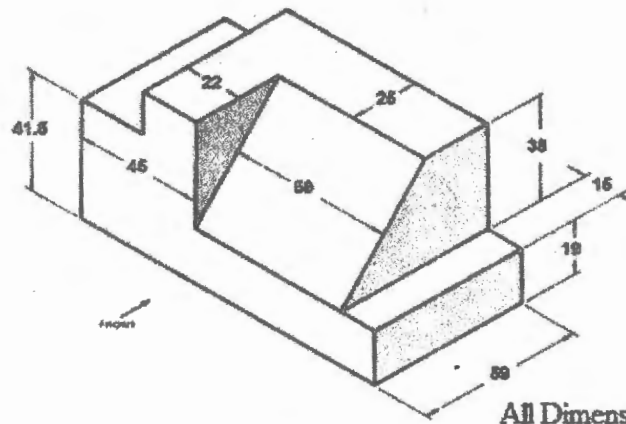
Part-B (5 X 10=50 Marks)

11. A cube of a side 50 mm rests on one of its faces on the ground with all the side faces equally inclined to the VP. It is cut by a section plane, inclined to the HP and perpendicular to the VP so that the true shape of the section is an equilateral triangle of the largest possible size. Draw the front view, sectional top view and the shape of the section. [10]
12. A cylinder of 50mm diameter and 85mm length rests on one of its generators with the axis inclined at 30 degrees to the VP. It is cut by a section plane perpendicular to the VP and inclined at 30 degrees to the HP and passing through the point on axis 10mm from one of the end surfaces. Draw the front view, the sectional top view and the true shape of the section. Draw the lateral surface of the remaining portion of the cylinder. [10]
13. A cone of 70mm diameter of the base and 80mm length of the axis is resting on its base with the axis perpendicular to the HP. It is completely penetrated by a cylinder of diameter 30mm such that the axis of the cylinder is parallel to and 5mm away from that of the axis of the cone. The plane containing both axis is parallel to VP. Draw the projections showing the curves of intersection. [10]
14. Draw isometric view of a cone placed over a frustum of a square pyramid. Dimension of the Frustum of square pyramid, axis: 50mm, top side: 40mm & bottom side: 60mm. Cone: diameter: 40mm and axis: 50mm. [10]

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15. Convert the following isometric drawing in to the orthographic views (FV, TV & RSV). [10]



16. A square pyramid of edges of the base 30mm and the axis 50mm rests on its base with an edge AB of the base inclined at 30° to the VP and nearer to the observer. A string starting from the midpoint M of the edge AB is wound around the pyramidal surface and brought back to the same point by the shortest path. Draw the projections and the development of the pyramid and show the position of the string on the development. [10]

17. Answer any two of the following:

- a) Discuss, in detail, the process of deciding the visibility when the given solid has a hole in it with a suitable example. [5]
- b) Draw the isometric view of a hollow cylinder with outer diameter: 60mm, inner diameter; 40mm axis; 60mm. [5]
- c) Draw all the three orthographic views for the following isometric drawing [5]

