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# B.M.S. College of Engineering, Bengaluru-560019

**Autonomous Institute Affiliated to VTU**

## February / March 2025 Semester End Main Examinations

**Programme: B.E.** **Semester: I**
**Branch: Common to all Branches** **Duration: 3 hrs**
**Course Code: 22ME1ESCED** **Max Marks: 100**
**Course: Computer Aided Engineering Drawing**

**Instructions**: 1. Answer any FOUR full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

**Important Note:** Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

| | | | UNIT – I (Sketching) | *CO* | *PO* | Marks |
|---|---|---|---|---|---|---|
| 1 | a) | | A point 'A' is 25 mm infront of VP, 15 mm above HP and 10 mm in front of RPP. Draw the three principal views of the point. | *CO1* | *PO1* | **05** |
| | b) | | Find the true length and true inclination of a line AB with HP having one of its ends 20 m infront of VP and 30 m above HP. The line is inclined at 40 deg. to VP and the right side view of the line is 60 m long and inclined at 60 deg. to the X1Y1 line. Draw all the three views of the line.6+33.6+ | *CO1* | *PO1* | **15** |
| | | | **OR** | | | |
| 2 | | | A pentagonal lamina of sides 25 mm is resting on one of its edges on HP with the corner opposite to that edge touching VP. This edge is parallel to VP and the corner, which touches VP is at a height of 15 mm above HP. Draw the projections of the lamina and determine the inclination of the lamina with HP and VP and the distance at which the parallel edge lies from VP. | *CO2* | *PO1*<br>*PO5* | **20** |
| | | | **UNIT – II (Solid edge)** | | | |
| 3 | | | A hexagonal pyramid 25 mm sides of base and 50 mm axis length is suspended freely from a corner of its base. Draw the projections of the pyramid when the axis appears to be inclined to VP at $45^0$. | *CO3* | *PO1*<br>*PO5* | **30** |
| | | | **OR** | | | |
| 4 | | | A square prism 35 mm sides of base and 60 mm axis length rests on HP on one of its corner of the base such that the two base edges containing the corner on which it rests make equal inclinations with HP. Draw the projections of the prism when the axis of the prism is inclined to HP at $40^0$ and to VP at $30^0$. | *CO3* | *PO1*<br>*PO5* | **30** |
| | | | **UNIT – III (Solid edge)** | | | |
| 5 | | | A sphere of diameter 40 mm rests centrally on the top smaller end of a frustum of hexagonal pyramid. The frustum of the pyramid has 25 mm sides at the top end, 40 mm sides at the base | *CO3* | *PO1*<br>*PO5* | **30** |

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| | | | and is 80 mm high. Draw the isometric projection of the combination of the solids. | | | |
| | | | **OR** | | | |
| | 6 | | A hemisphere of 60 mm diameter with its flat circular face at the top is placed centrally on the top flat end of another hemisphere of diameter 80 mm. Using solid edge software, create Solid modelling of the combination of solids and generate Front, Top and Isometric views. | *CO3* | *PO1*<br>*PO5* | **30** |
| | | | **UNIT – IV (Sketching)** | | | |
| | 7 | | A Pentagonal pyramid of 30 mm edge of base and 55 mm high vertically rests with one of its base edges parallel to VP and nearer to it. Two section planes cut it, both being perpendicular to VP. One of the section planes is horizontal and cuts the portion of the pyramid on the left of the axis at a height of 20 mm above the base of the pyramid. The other section plane inclined at 45 degrees to HP cuts the portion of the pyramid to the right of the axis passing through a point on it 20 mm above the base and leans upwards. Draw the development of the lower portion of the pyramid. | *CO1* | *PO1* | **20** |
| | | | **OR** | | | |
| | 8 | | A funnel is to be made of sheet metal. The funnel tapers from 40 mm to 20 mm diameter to a height of 20mm and from 20 mm to 15 mm diameter, for the next 20 mm height. The bottom of the funnel is bevelled off to a plane inclined at $45^0$ to the axis. Draw the development of the funnel. | *CO1* | *PO1* | **20** |

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