NAME: _____

ROLL NO.: _____ LAB GROUP_____

Booklet-B

CE101 Engineering Drawing July-Nov 2019

Indian Institute of Technology Guwahati

MID-SEMESTER EXAMINATION **Date: 14.09.2019**
Total Marks: 15 × 1 + 12 × 2 + 2 × 3 = 45 **Time: 1 hr (11:00 am – 12:00 pm)**

NOTES: (1) Answer all questions. **(2)** Questions 1-15 carry 1 mark each **(3)** Questions 16-27 carry 2 marks each **(4)** Questions 28-29 carry 3 marks each **(5)** There are no step marking. **(6)** This exam paper contains 8 pages, printed on both sides. **(7)** Free-hand drawing is allowed. **(8)** There is no negative marking. **(9)** In case of any discrepancy/missing data, write your assumption and solve. **(10)** In case of free hand sketches, take suitable lengths of the objects and the distances of points from XY. **(11)** Rough work to be done in attached sheet.

1-Mark questions

1. When a line is inclined at 40° to both HP and VP, its apparent inclination with HP is **Greater** than 40°.

2. The horizontal reference line XY is the result of intersection of an object's surface with the HP. Is this statement true/false? **False**

3. The true inclination of a lamina with a particular reference plane can be seen in its **Edge** view.

4. Profile plane is not a principal plane of projection. Is this statement true/false? **True**

5. A right circular cone is cut by a plane passing through its vertex. The true shape of the conic section represents a **Triangle**.

6. When the length of the object on the drawing is less than the length of actual object, the adopted scale is called as **Reducing scale / Reduction scale**.

7. When a line is perpendicular to vertical plane, its VT coincides with **Front** view.

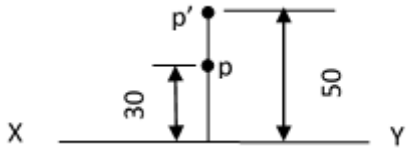
8. If a line is inclined to HP and parallel to VP, its **Top** view is parallel to XY reference line.

9. In a drawing sheet, left margin is drawn at **20** mm away from its edge.

10. The size of a letter is always described by its **Height**.

11. The point of intersections of a line (or its extensions) with the representative/reference planes are called as the **Traces** of the line.

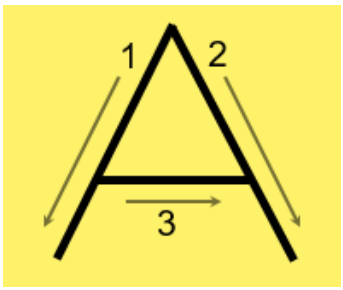
12. Considering the projected views of Point P as shown in the figure, the point P lies in the **Second** quadrant.



13. If a line is parallel to the HP and VP, then it can be seen as a point in **Side / Profile** view.

14. If a line is inclined to both VP and HP, then the front view and its VT are **Collinear / On the same straight line**.

15. Draw the capital letter "A" and mark the sequence of strokes.

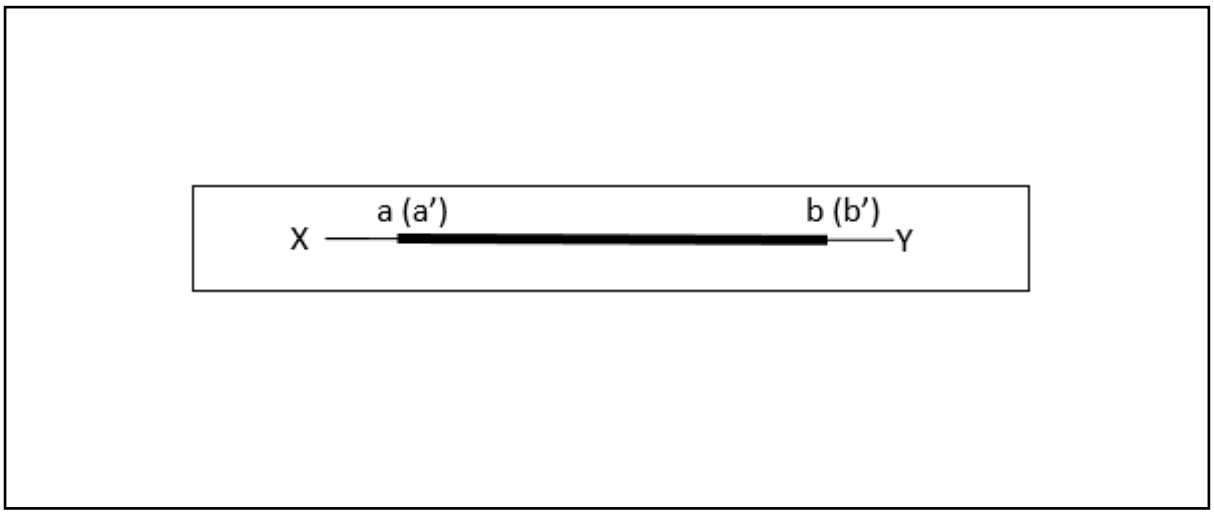


2-Mark questions

16. Why projection is not generally done in the IInd and IVth quadrants?

When projection done on 2nd or 4th quadrants are rotated, both the HP and VP overlap which results in overlapping views that is difficult to understand. Hence, it is not practiced.

17. Draw the projections (FV and TV) of a line AB that is contained by both HP and VP.



18. Any chord perpendicular to the axis of parabola is termed as **Double ordinate**. A particular chord passing through the ends of the parabola is called as **Base**.

19. Irregular boundary line are represented by **Continuous thin wavy** line, while Long break line is represented by **Continuous thin zig-zag** line. **(No need to draw/sketch the line)**

20. In the first-angle projection, the **Object** comes between the **Observer and plane / Plane and observer**.

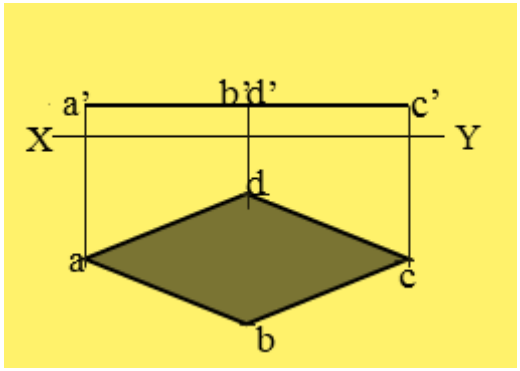
21. A line is inclined to both the plane and the inclination of top and front views with respect to XY are same. Comment on the actual inclination of the line with respect to HP and VP.

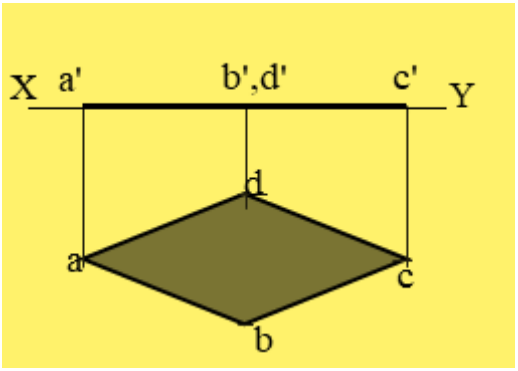
The line is equally inclined to both the HP and VP.

22. In orthographic projection, the **Projectors** are perpendicular to the **Planes** of projection.

23. A 50 mm diameter circular plane is seen as an ellipse in TV and FV. If this plane is perpendicular to profile planes, and makes equal angle with HP and VP, then the length of major axis in both the views is **50** mm.

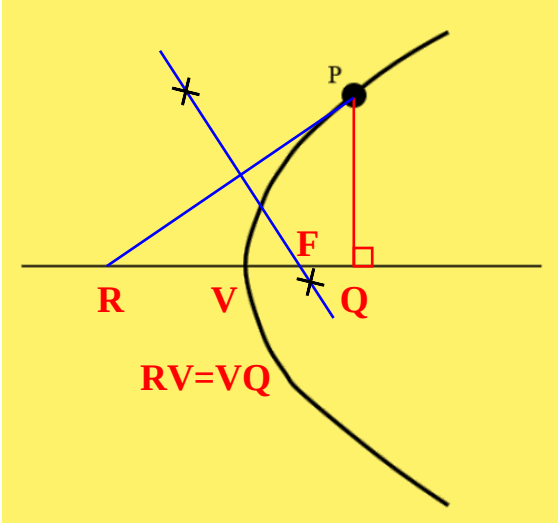
24. A rhombus rests on HP on one corner, while making an angle with HP. Draw the projections for the first set (or, initial) TV and FV.



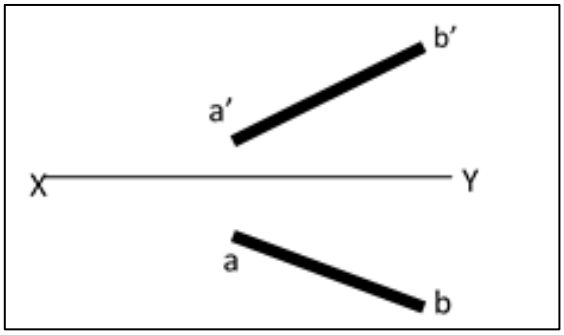


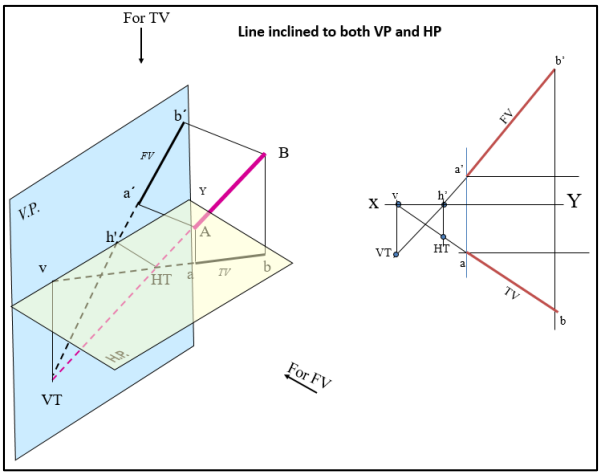
25. Given the parabola and a point P located on it, as shown in the figure, write the steps to locate the focus of the parabola. Also, sketch the same on the figure provided.

1. Draw a perpendicular PQ to the given axis
2. Mark a point R on the axis such that RV=VQ
3. Join RP. Draw a perpendicular bisector of RP cutting the axis at F, F is the focus



26. The projections of line AB are shown in the figure. The VT of line AB lies in **Common plane of the third and fourth** quadrant.

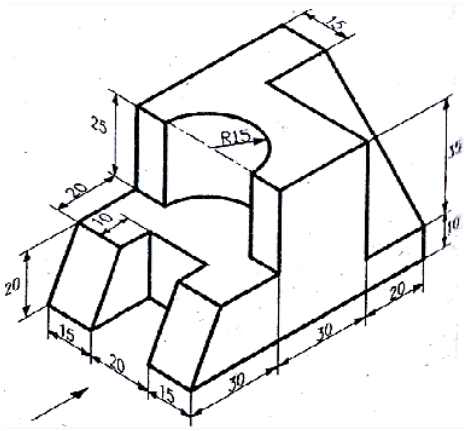


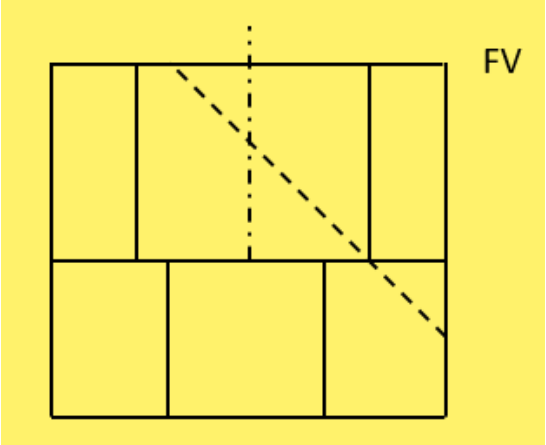


This image is only for representation purpose.

Nothing to do with the evaluation.

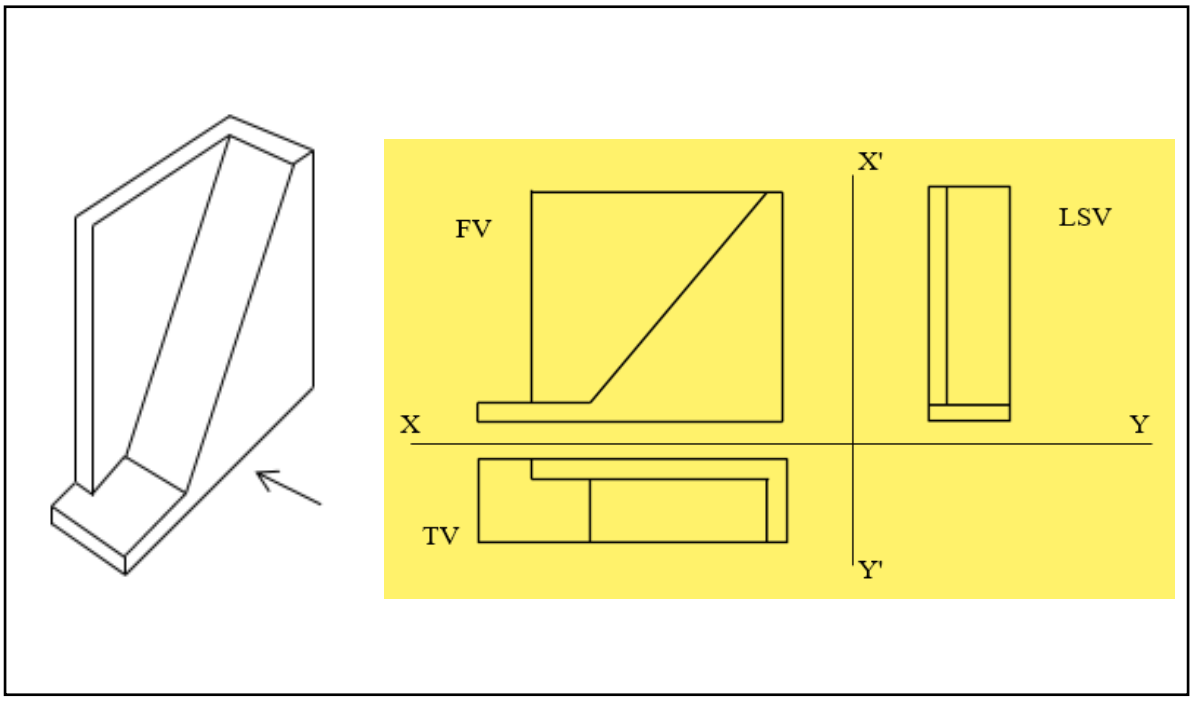
27. Consider the object as shown in the figure. Make free-hand sketch of the FV of the object. Exact representation of dimension is not required.





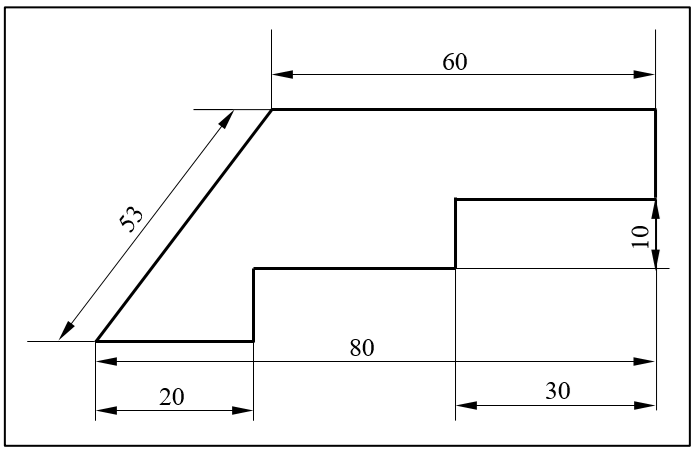
3-marks Questions

28. Using the first angle projection method for the object as shown in the figure, make free-hand sketch and properly mark the views as FV, TV and LSV.



29. Identify any three mistakes regarding dimensioning of the given object. **(ANY THREE)**

(a) Extension lines are in contact with the object lines
(b) Longer dimension is placed closer to the object, while the smaller dimensions are away
(c) Object line is directly used for dimensioning for dimension 10
(d) For the dimension 53, the extension line is not placed perpendicular to the object line
(e) Complete information about the vertical features of the object are not provided
(f) Extension lines are criss-crossing or intersecting each other



SHEET FOR ROUGH WORK

(WILL NOT BE CONSIDERED FOR EVALUATION)