



Indian School Al Wadi Al Kabir

Assessment– II

Class: XI
Date: 05/12/2024

ENGINEERING GRAPHICS (046)
SET 1

Max. marks: 70
Time: 3 hours

General Instructions:

- (i) Attempt all the questions.
- (ii) Use both sides of the drawing sheet, if necessary.
- (iii) All dimensions are in millimetres.
- (iv) Missing and mismatching dimensions, if any, may be suitably assumed.
- (v) Follow the SP: 46 – 2003 revised codes. (with first angle method of projection).

20 × 1 = 20

SECTION – A

Q.1 to Q.20: Answer the following multiple-choice questions. Print the correct choice on your drawing sheet.

1. In first angle method of projection, the left side view is drawn on the:
 - (a) Left side of top view.
 - (b) Right side of front view.
 - (c) Left side of front view.
 - (d) Right side of top view.
2. Which one of these cannot be obtained by sectioning a cone?
 - (a) Parabola
 - (b) Ellipse
 - (c) Circle
 - (d) Square
3. If the front view and top view of a point are 60 mm above and 50 mm below XY line respectively, then the point is located in:
 - (a) Second quadrant.
 - (b) First quadrant.
 - (c) Third quadrant.
 - (d) Fourth quadrant.

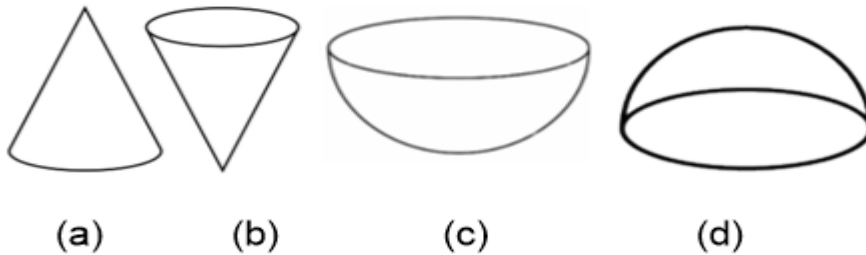
4. When the axis of a solid is parallel to HP and VP, then true shape of the base will be seen in the:

- (a) Front view.
- (b) Top view.
- (c) Side view.
- (d) Bottom view.

5. A right regular hexagonal prism is resting on HP on its base, its top view is a:

- (a) Square.
- (b) Rectangle.
- (c) Hexagon.
- (d) Pentagon.

6. A hemisphere resting on HP with its circular face on it.



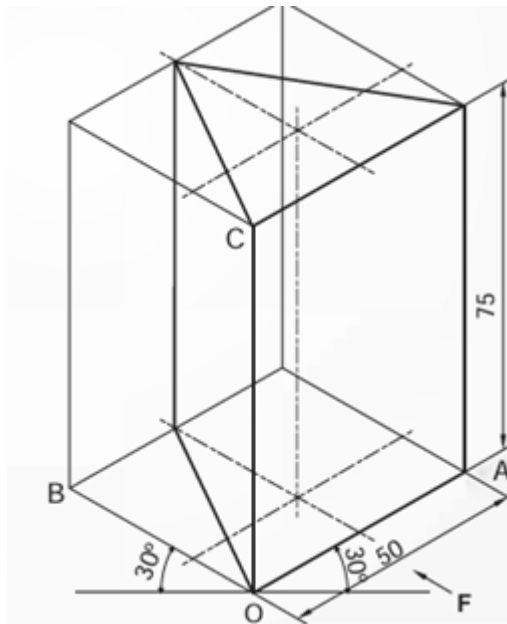
7. To understand some of the hidden geometry of components, an imaginary plane is used to cut the object which is called -----.

- (a) auxiliary plane
- (b) picture plane
- (c) section plane
- (d) additional plane

8. Which dimension is common in front view and side view?

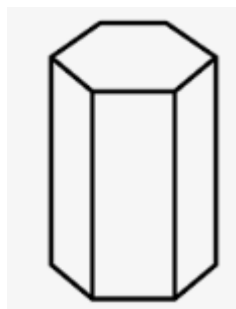
- (a) Length
- (b) Width
- (c) Height
- (d) All of these

9. Identify the solid and the position of axis line from the given figure.



- (a) Triangular pyramid and axis perpendicular to HP.
- (b) Triangular prism and axis perpendicular to VP.
- (c) Triangular pyramid and axis perpendicular to VP.
- (d) Triangular prism and axis perpendicular to HP.

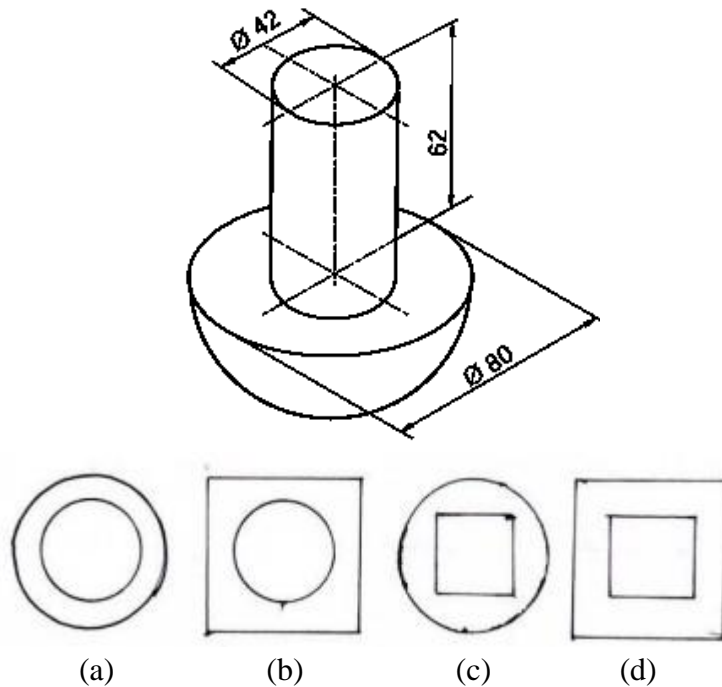
10. Match LIST – I with LIST – II, for the given three dimensional solid:



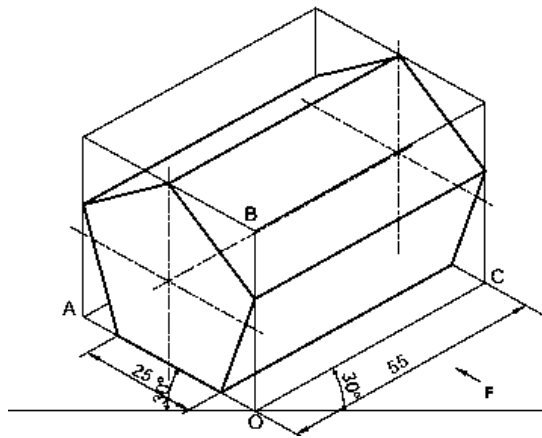
LIST 1:	LIST II:
1.Total number of hexagonal bases	(i) Parallel to HP
2.Total number of rectangular faces	(ii) Perpendicular to HP
3.Base of the solid	(iii) Six
4.Axis of the solid	(iv) Two

- (a) 1-(iv), 2-(iii), 3-(i), 4-(ii)
- (b) 1-(i), 2-(iii), 3-(ii), 4-(iv)
- (c) 1-(iii), 2-(ii), 3-(i), 4-(iv)
- (d) 1-(ii), 2-(iv), 3-(iii), 4-(i)

11. The isometric projection of combination of solids is shown. Choose the correct top view in orthographic projection for this combination.



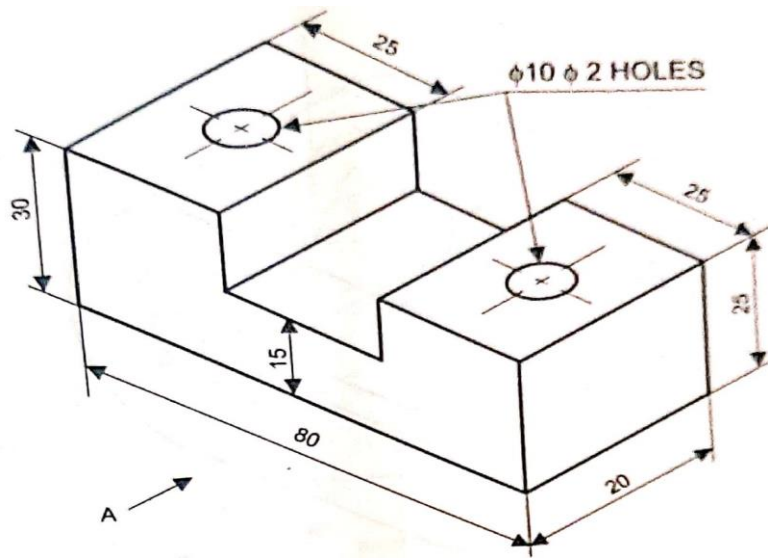
12. Choose the correct statements for the given figure:



- (i) The figure shows a pentagonal prism with axis perpendicular to HP.
- (ii) The figure shows a pentagonal pyramid with axis perpendicular to HP.
- (iii) The figure shows a pentagonal prism with axis parallel to both HP and VP.
- (iv) The figure shows a hexagonal prism with axis parallel to both HP and VP.

- (a) (i) only
- (b) (ii) and (iv)
- (c) (iii) only
- (d) (i) and (iv)

13. Identify which side view is visible to the observer and where we have to represent it?



- (a) Right side view and represent at left side of front view.
- (b) Left side view and represent at left side itself.
- (c) Right side view and represent at left side of top view.
- (d) Left side view and represent at right side of front view.

14. Which line is used as a boundary line of the drawing sheet?

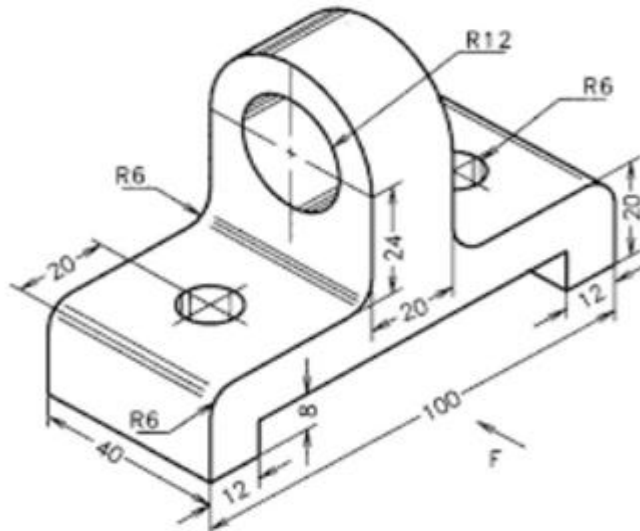
- (a) Continuous thin line
- (b) Hidden line
- (c) Construction line
- (d) Continuous thick line

15. The line of intersection of the vertical plane and horizontal plane is called ----- .

- (a) Plane of projection
- (b) Station point
- (c) Reference line/XY line
- (d) Projectors

Q16. to Q.20: Read the following paragraph and answer the questions given below.

You are working with a mechanical design team to represent a simple machine block that will be part of a larger assembly. The machine block has several basic features such as holes and slots. The goal is to create accurate orthographic projections (top view, front view, and side view) for the block, which will be used for fabrication.



16. According to first angle method of projection, the front view will be represented -----.
- below the XY line
 - above the XY line
 - left side of XY line
 - right side of XY line
17. As per the direction of viewing, what will be horizontal length of the front view?
- 40 mm
 - 20 mm
 - 24 mm
 - 100 mm
18. The horizontal length of the side view is ----- mm as per the figure.
- 20
 - 40
 - 100
 - 24
19. In the given figure, which side view is visible with all the dimensions?
- Left
 - Right
 - Bottom
 - None of the above
20. The projection with multiple views is known as -----.
- Isometric projection
 - Orthographic projection
 - Perspective projection
 - Oblique projection

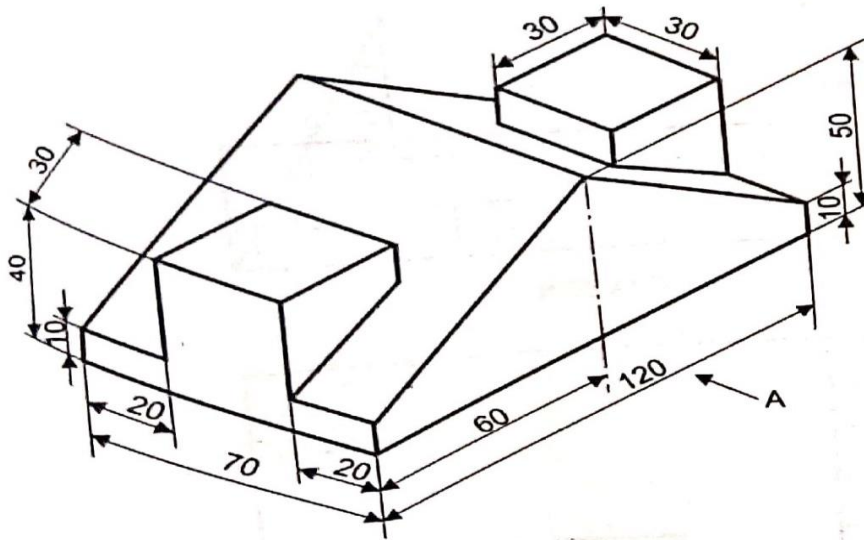
SECTION B

$$2 \times 3 = 6$$

21. Draw the given equilateral triangle of side = 50 mm. Inscribe a circle in it.
22. Construct a regular pentagon ABCDE of 30 mm sides using compasses.

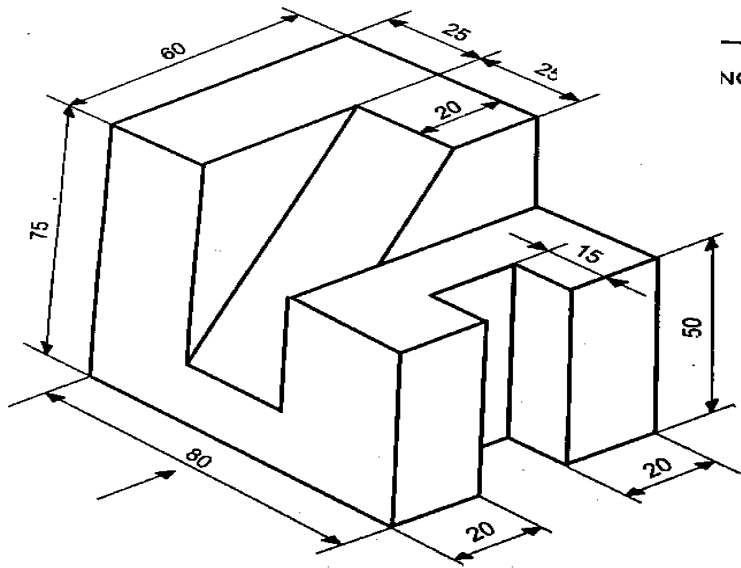
$$2 \times 5 = 10$$

23. A line AB, 75 mm long makes an angle of 60 degree with the HP and its top view makes an angle of 45 degree with VP. Its end A is 10 mm above HP and 20 mm in front of VP. Draw its front view and top view using line rotation method.
24. Project front view, side view and top view of the machine block, to scale 1:1.



$$2 \times 7 = 14$$

25. A hexagonal pyramid is resting on its base on the ground with two of its base edges of length 30 mm, parallel to HP. A horizontal section plane, bisects the 80 mm long axis. The axis is perpendicular to HP. Draw the front view and sectional top view.
26. Project front view, side view and top view of the machine block, to scale 1:1.



$$2 \times 10 = 20$$

27. A hexagonal pyramid of 25 mm base edges and 60 mm long horizontal axis, is resting on one corner of its base, on HP with two opposite base edges parallel to VP (axis is parallel to both HP and VP). It is sectioned by a vertical plane parallel to VP and 10 mm away from its axis. Project its top view and sectional front view.
28. A hexagonal prism having a 30 mm edge of its base and an axis of 60 mm length is resting on one of its rectangular faces with its axis parallel to both HP and VP. Draw the projections of the prism.