



INDIAN SCHOOL AL WADI AL KABIR

FIRST ASSESSMENT (2023 - 24)

Class: XI

Sub: ENGINEERING GRAPHICS (046)

Max Marks: 70

Date:01.10.2023

Set - 1

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 millimeters.
- (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 x 1 = 20

SECTION – A

1. In engineering graphics all dimensions are denoted in -----

- a. Millimeter
- b. Centimeter
- c. Meter
- d. Yard

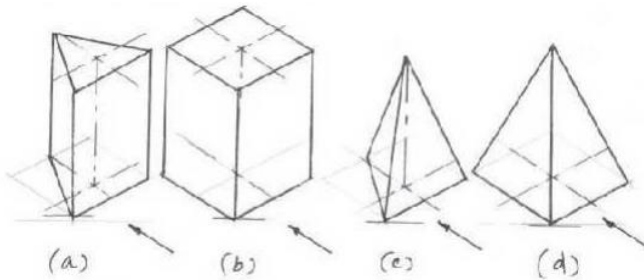
2. According to first angle method of projection, the front view of a solid is rectangle and top view is pentagon, Identify the three-dimensional solid?

- a. Cone
- b. Cylinder
- c. Pentagonal pyramid
- d. Pentagonal prism

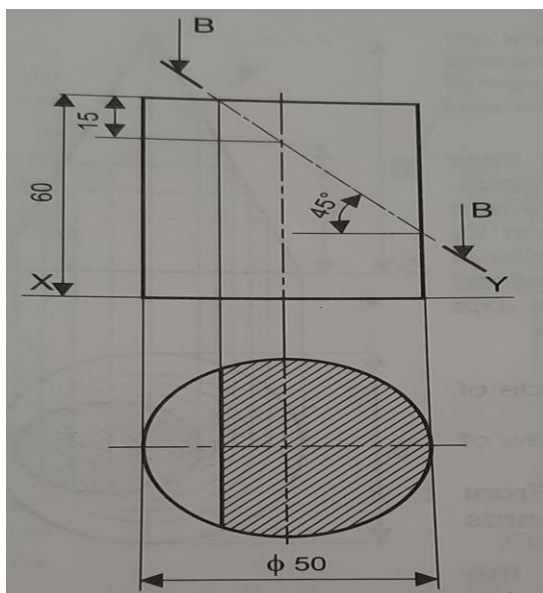
3. When a point lies in HP its view from the front will be-----

- a. On XY line
- b. Below XY line
- c. Above XY line
- d. None of these

4. A vertical square prism with its axis perpendicular to HP and parallel to VP.



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

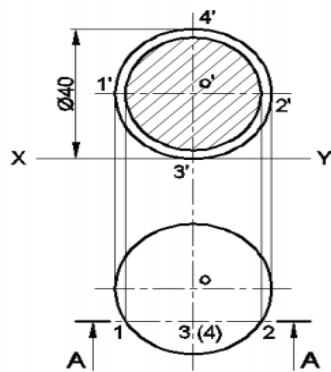


- a) Cone and axis perpendicular to HP
- b) Square prism and axis perpendicular to VP

c) Triangular prism and axis perpendicular to VP

d) Cylinder and axis perpendicular to HP

6. Which type of section plane is happening in this given figure?



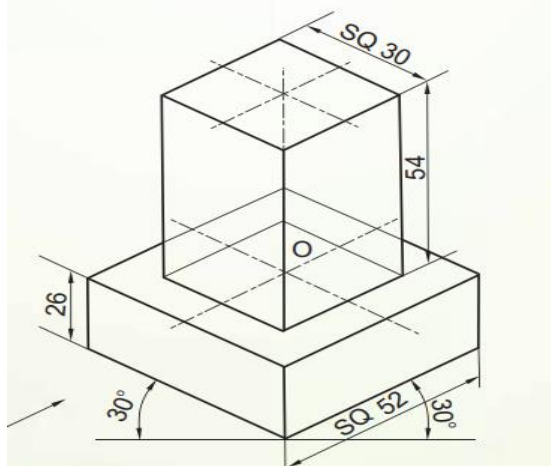
a) Vertical section plane

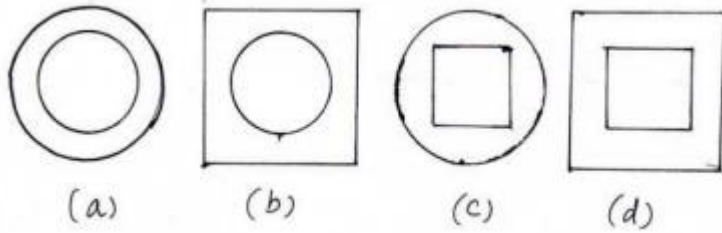
b) Horizontal section plane

c) Oblique section plane


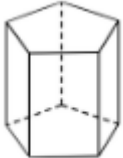
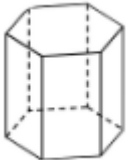
d) Inclined section plane

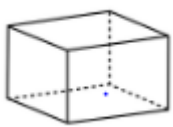
7. Select the top view of the combination of solids





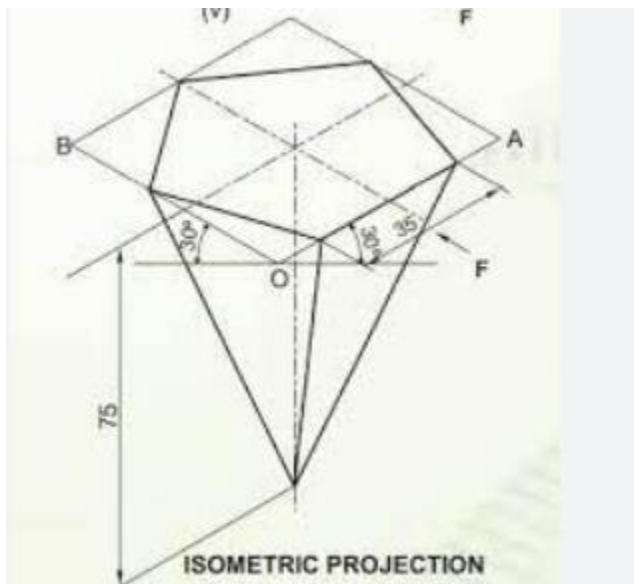
8. Match the LIST I with LIST II

LIST I: ORTHOGRAPHIC PROJECTIONS OF SOLIDS	LIST II: TOTAL NUMBER OF RECTANGULAR SURFACE(S)
<p>1.</p> 	<p>i. four</p>
<p>2.</p> 	<p>ii. six</p>
<p>3.</p> 	<p>iii. three</p>

<p>4.</p> 	<p>iv.five</p>
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- a) 1-iii, 2-iv, 3-ii, 4-i
- b) 1-i, 2-iii, 3-ii, 4-iv
- c) 1-iv, 2-ii, 3-iii, 4-i
- d) 1-ii, 2-iv, 3-i, 4-iii

9. Choose the incorrect statement/s for the given figure.



- i) The figure shows an image of pentagonal prism
- ii) The figure shows an image of inverted pentagonal pyramid
- iii) The front view of the figure will be an inverted triangle
- iv) The axis of the figure is perpendicular to HP

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

10. Match the LIST I with LIST II

LIST I: QUADRANTS	LIST II: RULES
1. Second quadrant	i. Above HP and in front of VP
2. Fourth quadrant	ii. Below HP and behind VP
3. First quadrant	iii. Below HP and in front of VP
4. Third quadrant	iv. Above HP and behind VP

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

11. Which one of these cannot be obtained by sectioning a cone?

- a) Parabola
- b) Ellipse
- c) Circle
- d) Square

12. View of an object is called -----

- a) Station point
- b) Projection
- c) Ground line
- d) Reference line

13. To show the interior parts of a machine blocks, engineers adopted a new technique and it is called as -----

- a) Sectioning
- b) Patching
- c) Dimensioning
- d) Fastening

14. A plan of an object is -----

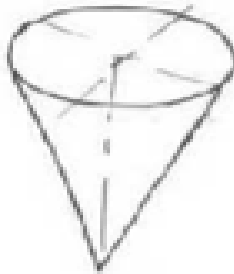
- a) Front view
- b) Left side view
- c) Top view
- d) Right side view

15. The interior angles of a regular pentagon is -----

- a) 120 degree
- b) 135 degree
- c) 108 degree
- d) 105 degree

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

Amit is an engineering graphics student of grade XI. He is very passionate with the subject EG. He tries to relate all daily life examples with the subject EG. One day he bought one cone ice-cream and suddenly he had an idea of sketching the different sectional views and orthographic views of the cone in his drawing book. Analyse the figure given below and answer the following questions.



16. The axis of the cone is -----

- a) Perpendicular to VP
- b) Parallel to HP
- c) Parallel to both HP and VP
- d) Perpendicular to HP

17. What will be top view of the given solid?

- a) Triangle
- b) Rectangle
- c) Circle
- d) Square

18.If Amit cuts the solid by a horizontal section plane, where he has to draw the cutting plane?

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

19.The sectional view of the solid will be shown using -----

- a) Hidden lines
- b) Hatching lines
- c) Cutting lines
- d) Double chain thin lines

20.The cutting plane is denoted by -----

- a) Long chain thin line and thick at the ends
- b) Long chain thick line and thin at the ends
- c) One thick and one dotted
- d) Long chain thin line and dotted at the ends

SECTION B

2 x 3 = 6

21. Construct a Trapezion ABCD, having AE the difference of its diagonals, equal to 20mm.

22. Circumscribe a circle about a regular pentagon ABCDE.

2 x 5 = 10

23. Draw the projections of a circular lamina of 30 mm diameter. The lamina is inclined at an angle of 45° to V.P. The centre of the circle is 25 mm from HP and 15 mm from VP.

24. Project the front view and sectional top view of a square pyramid of 50 mm base edges and 60 mm high axis, resting vertically on HP on its base, with two edges of its base parallel to VP, sectioned by a plane perpendicular to VP inclined to HP at 60 degrees and intersecting the axis at a point 35 mm above its base.

2 x 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 H.P. Draw the Front View and sectional Top View.

26. A line AB, 75mm 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 and also find its true angle of inclination with VP.

2 x 10 = 20

27. Project the Front View and Top View of a pentagonal pyramid of 30 mm base edges and 70 mm long horizontal axis, parallel to V.P., when it is resting on one corner of its base with one edge of its base on top, parallel to H.P.

28. A hexagonal pyramid of 25 mm base edges and 60 mm long horizontal axis, is resting one corner of its base, on HP with two opposite base edges parallel to VP. It is sectioned by a vertical plane parallel to VP and 10 mm from its axis. Project its top view and sectional front view.

ANSWER KEY

SECTION – A

Q.NO	ANSWERS
1	a) Millimeters
2	d) Pentagonal prism

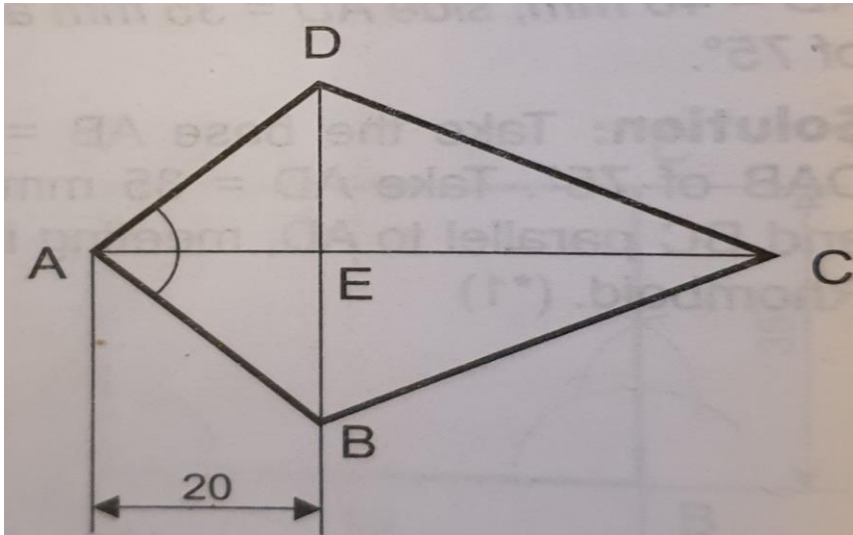
3	a) On XY line
4	b)
5	d) Cylinder and axis perpendicular to HP
6	a) Vertical section plane
7	d)
8	a) 1-iii, 2-iv, 3-ii, 4-i
9	c) (i) only
10	c) 1-iv, 2-iii, 3-i, 4-ii
11	d) Square
12	b) Projection
13	a) Sectioning
14	c) Top view

15	c) 108 degree
16	d) Perpendicular to HP
17	c) Circle
18	b) Front view
19	b) Hatching lines
20	e) Long chain thin line and thick at the ends

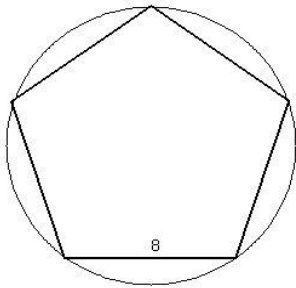
SECTION B

3 x 2 = 6

21. Construct a Trapezion ABCD, having AE the difference of its diagonals, equal to 20mm.

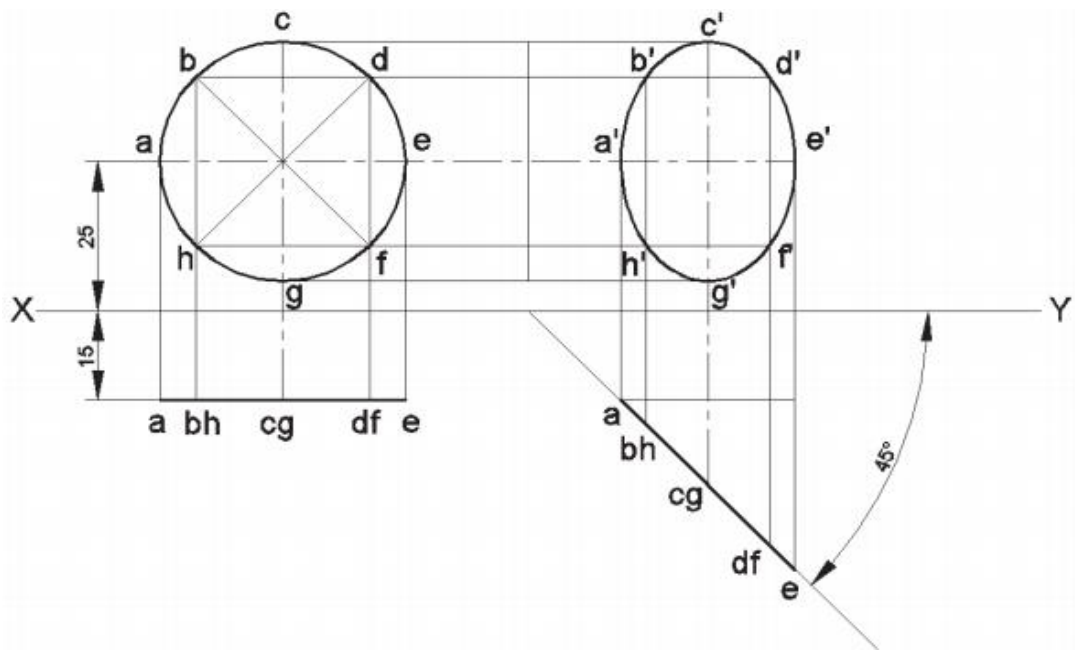


22. Circumscribe a circle about a regular pentagon ABCDE.

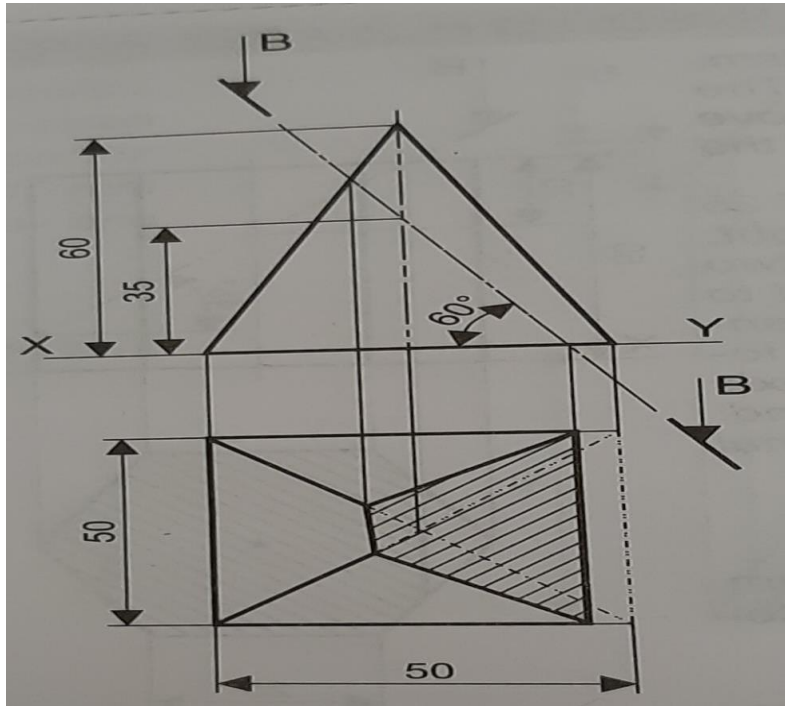


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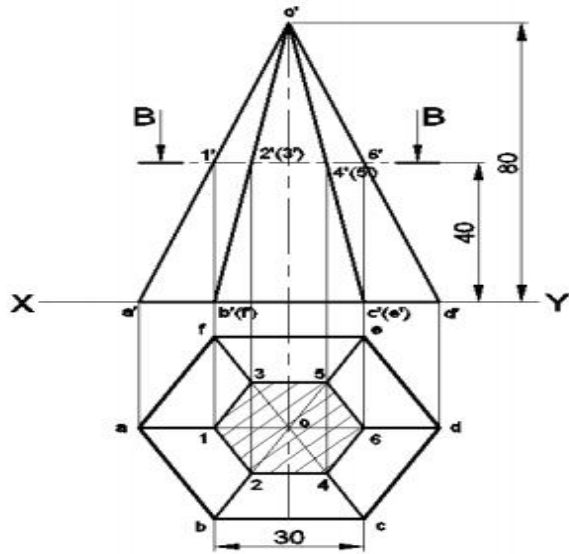


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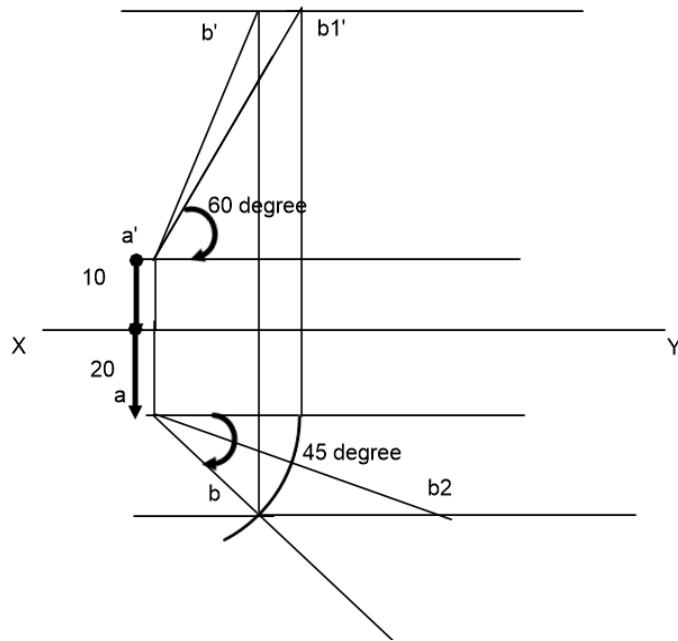


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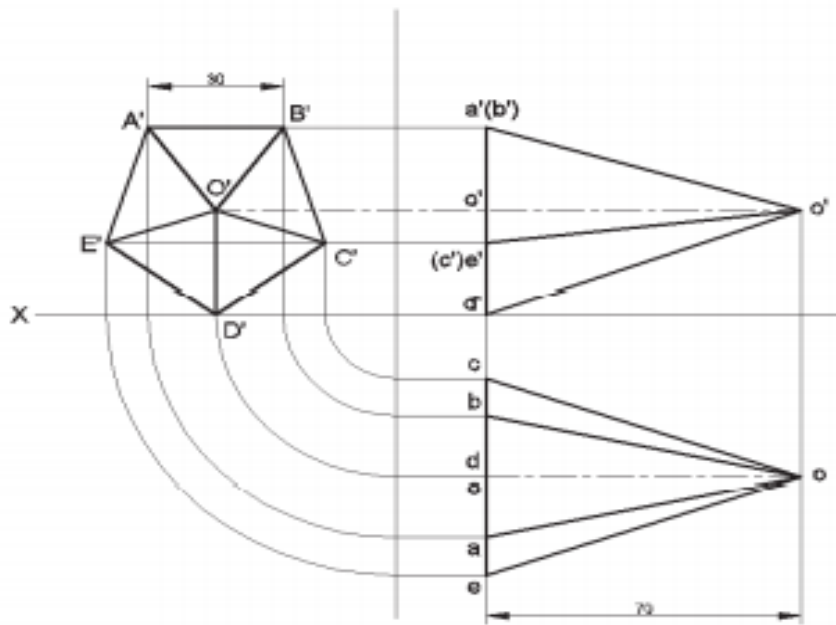


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