INDIAN SCHOOL MUSCAT
HALF YEARLY EXAMINATION 2022
ENGINEERING GRAPHICS (SUB CODE:046)

CLASS : XI
DATE: 21-11-2022

TIME ALLOTED 3 HRS.
MAXIMUM MARKS: 70

GENERAL INSTRUCTIONS:

1. Attempt all questions.
2. Follow SP-46-1988 Codes. Use first angle method of projection.
3. Missing and mismatching dimensions should be assumed suitably.
4. All dimensions are in millimeters.
5. Use both sides of the drawing sheet.

1.	Construct a triangle given the altitude = 30 mm, median from vertex A = 36 mm, median from vertex B = 51 mm.	05
2.	Inscribe 6 equal semicircles in a hexagon of side 30 mm each semicircle touching two sides of the hexagon.	05
3.	a) Point 'B' in HP and 25 mm in front of VP. b) Point 'C' 25 mm above HP and 40 mm behind VP. c) Point 'E' 30 mm below HP and 50 mm behind VP. d) Point 'D' in VP and 40 mm above HP.	04
4.	Draw the projections of a regular pentagon of 40 mm side, having its surface inclined at 30° to the HP and a side parallel to the HP and inclined at an angle of 60° to the VP.	10
5.	A Hexagonal prism is resting on a corner of its base on the ground, with a longer edge containing that corner is inclined at 45° to the HP and the vertical plane containing that edge and the axis inclined at 30° to the VP. Draw the projections of the prism. Base of the prism = 45 mm and height = 65mm.	12
6.	A right regular pentagonal prism, side of base 25 mm and height 65 mm rests on an edge of its base on the HP, such that a rectangular face containing the base edge is inclined at 30° to the HP. A section plane perpendicular to the HP and inclined at 45° to the VP cuts the prism such that longer edge farthest away from the VP is bisected. Draw the following views of the prism a) Top view b) Sectional front view c) True shape of the section.	14

7.	The sizes from A0 to A5 increases. a) True b) False	1
8.	The increase in hardness is shown by the value of the figure put in front of the letter H, 2H, 3H, and 4H etc. a) True b) False	1
9.	According to the Indian Standard Institution (ISI), what is the size of the designation A3 in mm? a) 420 x 297 b) 841 x 594 c) 1189 x 841 d) 297 x 210	1
10.	Match the following. <table><tr><td>**Line type**</td><td>**Application**</td></tr><tr><td>A) Continuous thin line</td><td>i) Hidden Lines</td></tr><tr><td>B) Continuous thick line</td><td>ii) Projector Lines</td></tr><tr><td>C) Dashed thick line</td><td>iii) Visible edges and outer lines</td></tr></table> a) A–i,B-ii, C-iii. b) A-ii,B-iii, C-i. c) A-iii,B-i, C-ii.	1
11.	How many pairs of parallel lines are there in regular Hexagon? a) 2 b) 3 c) 6 d) 1	1
12.	The straight lines which are drawn from various points on the contour of an object to meet a plane are called as _____ a) connecting lines b) projectors	1

	c) perpendicular lines d) hidden lines.	
13.	When the projectors are parallel to each other and also perpendicular to the plane, the projection is called _____ a) Perspective projection b) Oblique projection c) Isometric projection d) Orthographic projection	1
14.	To represent the object on paper by orthographic projection the horizontal plane (H.P) should be placed in which way? a) The H.P is turned in a clockwise direction up to 90 degrees b) The H.P is turned in anti-clockwise direction up to 90 degrees c) H.P plane is placed to left side of vertical plane parallel to it d) H.P plane is placed to right side of vertical plane parallel to it	1
15.	The hidden parts inside or back side of object while represented in orthographic projection are represented by which line? a) Continuous thick line b) Continuous thin line c) Dashed thin line d) Long-break line	1
16.	The 3rd quadrant is in which position? a) Below H.P, behind V.P b) Above H.P, behind V.P c) Above H.P, in-front of V.P d) Below H.P, in-front of V.P	1
17.	The line formed by intersection of principal planes is called _____ a) projection line b) origin line c) line of intersection d) reference line	1
18.	In 3rd quadrant the _____ lies between _____ and _____ a) object, projection plane, observer b) projection plane, object, observer	1

	c) reference line, side view, front view d) reference line, left side view, right side view	
19.	An egg is placed vertical to horizontal plane the top view will be _____ a) ellipse b) circle c) oval d) sphere	1
20.	A pentagonal prism is placed the axis is perpendicular to horizontal plane, the top view and front view are _____ a) pentagon, rectangle b) rectangle, rectangle c) pentagon, triangle d) rectangle, triangle	1
21.	A point is in 2nd quadrant 15 units away from the vertical plane and 10 units away from the horizontal plane. Orthographic projection is drawn. What is the distance from point of front view to reference line, top view point to reference line? a) 15, 10 b) 10, 15 c) 0, 15 d) 10, 0	1
22.	A circle is placed perpendicular to vertical plane and inclined to horizontal which of the following is true? a) Front view-line, top view- circle b) Front view- circle, top view- circle c) Front view –line, top view-line d) Top view- ellipse, side view- ellipse	1
23.	Match the following	1

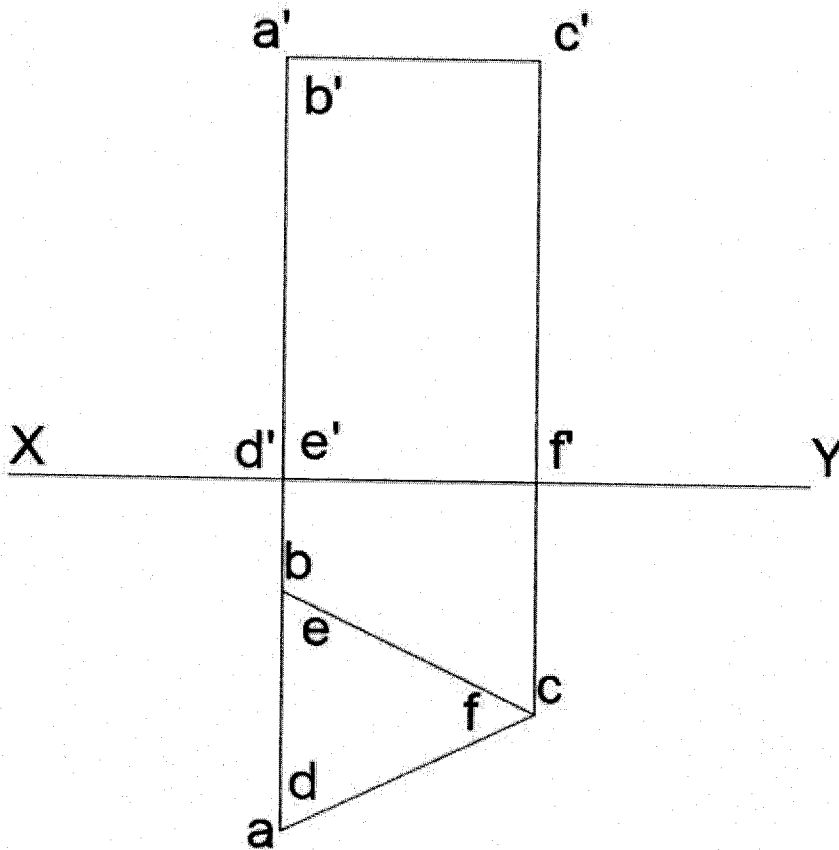|	Prisms		Number of edges
1.	Triangular	i.	18
2.	Square	ii.	15

3.	Pentagon	iii.	9
4.	Hexagonal	iv.	12

a) 1, i; 2, ii; 3, iii; 4, iv

b) 1, iii; 2, ii; 3, iv; 4, i1

c) 1, iii; 2, iv; 3, ii; 4, i

d) 1, iv; 2, iii; 3, ii; 4, i

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24. When the axis of solid is perpendicular to V.P, the _____view should be drawn first and _____ view then projected from it.

a) front , top

b) top, side

c) side, front

d) top, front

1

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25. Which of the following statements is true with respect to the following projection?

a) Cone with the base perpendicular to V.P and H.P

b) Pyramid with the base perpendicular to V.P

1

	c) Triangular prism with the base parallel to H.P	
	d) Cone with base inclined to H.P	
26.	To find the true shape of the section, it must be projected on a plane parallel to the _____ a) Profile plane b) Vertical plane c) Auxiliary plane d) Section plane	1
	****END OF THE QUESTION PAPER****	

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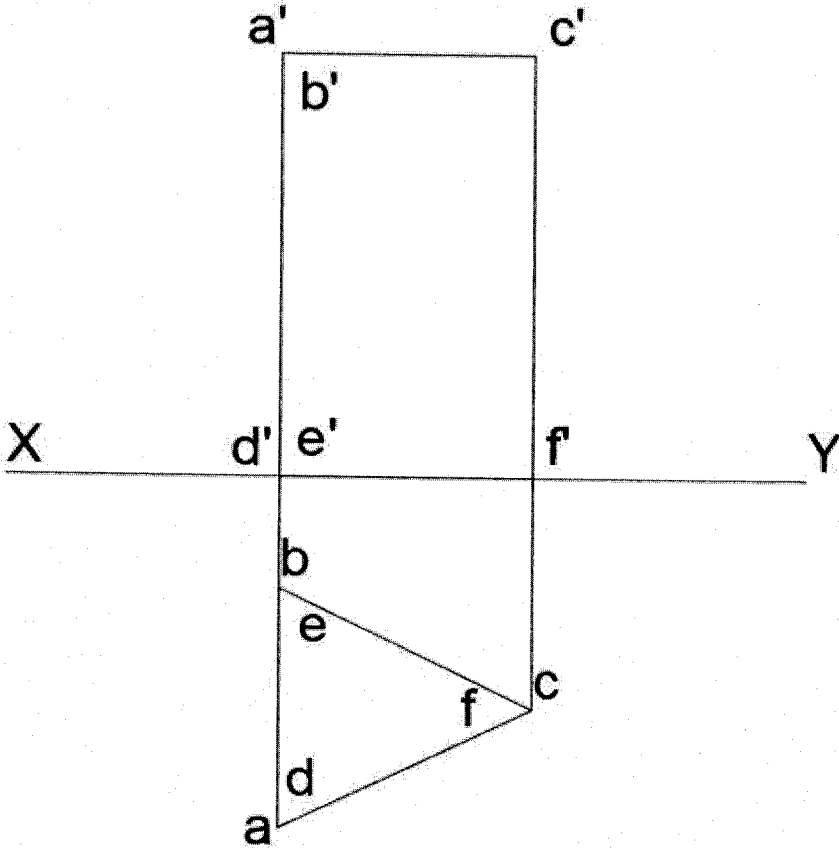
GENERAL INSTRUCTIONS:

1. Attempt all questions.
2. Follow SP-46-1988 Codes. Use first angle method of projection.
3. Missing and mismatching dimensions should be assumed suitably.
4. All dimensions are in millimeters.
5. Use both sides of the drawing sheet.

1.	Construct a triangle given the perimeter = 70 mm and the base angles are 60° and 45°	05
2.	Inscribe 5 equal semicircles in a pentagon of side 30 mm, each semicircle touching two sides of the pentagon.	05
3.	a) Point 'F' in HP and 40 mm behind VP. b) Point 'G' 40 mm below HP and 25 mm in front of VP. c) Point 'H' in VP and 40 mm below HP. d) Point 'J' in both HP and VP.	04
4.	A hexagonal plane with 25 mm side has one of its sides on the HP and that side is inclined at 60° to VP. Draw its projections if this plane is also inclined to HP at 45°.	10
5.	A pentagonal prism, base 40 mm side and height 65 mm is resting on HP on one of its base edges. The rectangular face containing the base edge on which the prism resting is inclined at 45° to HP. The same base edge is inclined at 30° to VP. Draw the projections of the prism.	12
6.	A hexagonal prism has a rectangular face on the HP and the axis is parallel to the VP. It is cut by a vertical sectional plane, the HT of which makes an angle of 45° with XY and which cuts the axis at a point 20 mm from the right end point of the axis. Draw its sectional front view and true shape of the section. Side of base 25 mm long, height 65 mm.	14
7.	The sizes from A0 to A5 increases. a) True b) False	1

8.	The increase in hardness is shown by the value of the figure put in front of the letter H, 2H, 3H, and 4H etc. a) True b) False	1
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c) 1, iii; 2, iv; 3, ii; 4, i

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