Class: XII	Department: SCIENCE	
MARKS: 35	**SAMPLE PAPER - 3** **ENGINEERING GRAPHICS (046)**	**DURATION :90 mins**

SECTION – A

MULTIPLE CHOICE QUESTIONS

S.NO	QUESTIONS	MARKS ALLOTED
1.	----------------is a modified form of square thread a. Square thread b. BSW thread c. Metric thread d. Knuckle thread	1
2.	The projection mostly used by artists, professional designers and architects a. Perspective projection b. Axonometric projection c. Orthographic projection d. Oblique projection	1
3.	Which type of projection has only two angles between three principal axes are equal and over 90 degree a. Orthographic projection b. Isometric projection c. Diametric projection d. Trimetric projection	1
4.	A continuous helical groove cut along the outer circumference of a cylindrical surface is called ------- a. Screw thread b. Pitch c. Lead d. Crest	1
5.	------------------ is used to measure the foreshortened length of dimensions of any object to draw the isometric projection.	1

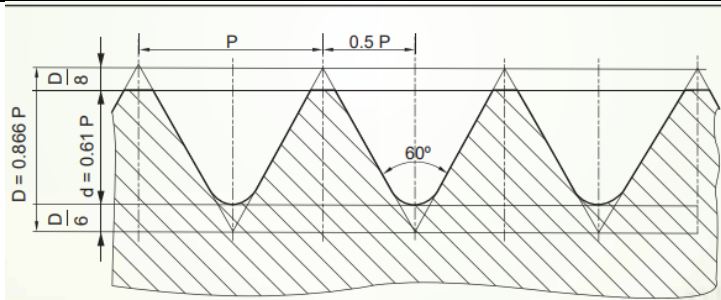|		
	a. True scale b Vernier scale c. Isometric scale d. T scale	

6.	The isometric projection of a circle is ------
	    a. Square
	    b. Ellipse
	    c. Circle
	    d. Sphere
		1

7.	The thread which is formed on the surface of cone is called as?
	
	    a. Parallel thread
	    b. Taper thread
	    c. Internal thread
	    d. Square thread
		1

8.	In isometric projection three principal axes appear to be inclined to each other at an angle of ------ a. 30 degree b. 45 degree c. 15 degree d. 120 degree	1
9.	The solids with single base and triangular faces are called as ------- a. Prisms b Pyramids c. Triangles d. Circles	1
10.	Three principal axes in isometric projection to the horizontal base line will appear to be like a. 90,30,90 b. 30,90,30 c. 30,120,30 d.30,90,120	1

11.	Why chamfering is done in nuts and bolts?
	
	    a. Ensure safety of users
	    b. Provide bearing surface
	    c. For stability
	    d. For sharpness
		1

12.	Formula for calculating the minor diameter 'd' in metric thread internal is? a. d = 0.54P b. d = 0.61P c. d= 0.64P d. d = 0.86P	1
13.	The angle between the flanks of metric thread is ------------ a. 45 degree b. 60 degree c. 30 degree d. 55 degree	1

14.	An external thread is represented by
	    a. Continuous minor diameter circle
	    b. Discontinuous minor diameter circle
	    c. Continuous major diameter circle
	    d. Discontinuous major diameter circle
		1

15.	In which type of threads, both crests and roots are round?
	
	    a. Metric thread external
	    b. Metric thread internal
	    c. BSW thread
	    d. Square thread
		1

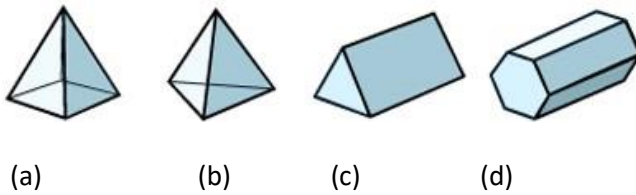## SECTION – B

DIAGRAM BASED QUESTIONS

16.	Identify the type of thread from the given figure?	1

a. BSW thread
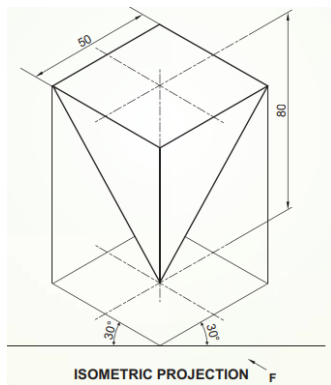b. Metric thread external
c. Metric thread internal
d. Square thread

17	A horizontal triangular prism (a)　　　(b)　　(c)　　(d)	1

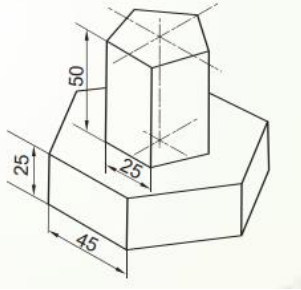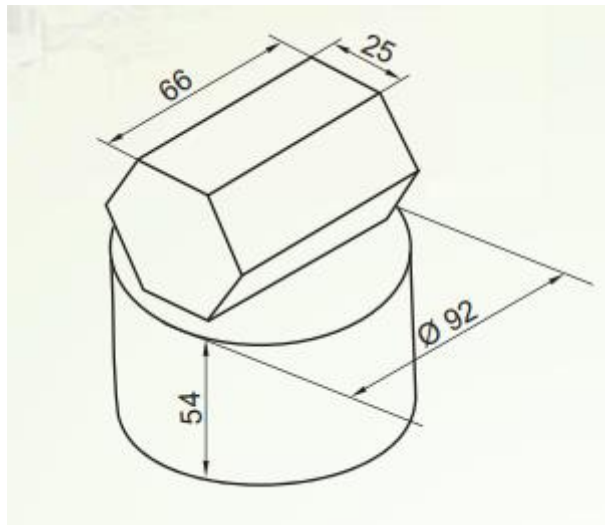| 18	a) The axis is inclined to H.P. b) The axis is inclined to V.P. c) The axis is perpendicular to H.P. and parallel to V.P. d) The axis is perpendicular to V.P. and parallel to H.P	1
19		1

a) The top solid is square prism and the bottom solid is triangular prism.
b) The top solid is pentagonal prism and the bottom solid is hexagonal slab
c) Both the solids are hexagonal prisms.
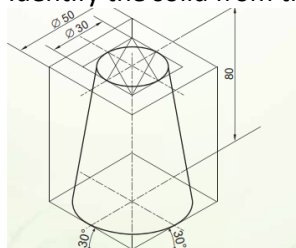d) Both the solids are pentagonal prisms.

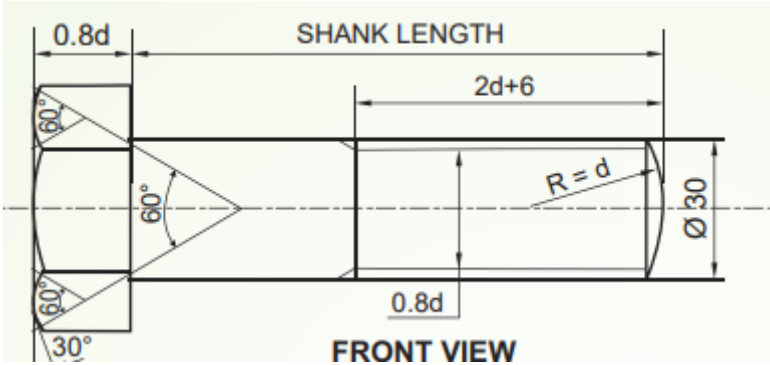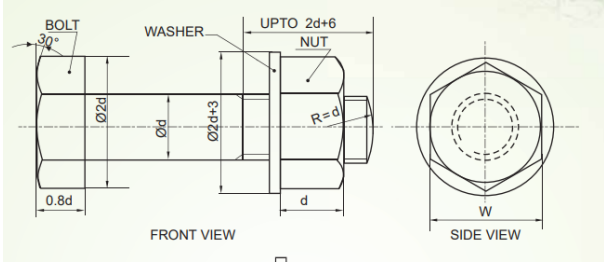| 20 | | 1 |
	a) A pentagonal prism is kept centrally on the top surface of a cylinder with rectangular faces on it.	
	b) A hexagonal prism is kept centrally on the top circular surface of a cylinder with its rectangular faces on it.	
	c) A hexagonal pyramid is kept centrally on the top rectangular face of a hexagonal prism with its triangular faces on it.	
	d) A hexagonal prism is kept centrally on the top of a cylinder with its hexagonal face on it.	
21	Identify the solid from the given figure?	1

	a. Frustum of cylinder b. Frustum of cone c. Frustum of square prism d. Frustum of square pyramid	
22	Identify the type of bolt from the given figure a. Hexagonal headed bolt b. Tee headed bolt c. Hook bolt d. Square headed bolt	1
23	 The above figure represents: a. Combination of hexagonal nut bolt and washer b. Combination of square nut bolt and washer c. Combination of hexagonal nut and bolt only d. Combination of square nut and bolt only	1

ASSERTION & REASONING TYPE QUESTIONS

TWO STATEMENTS ARE GIVEN – ONE LABELLED ASSERTION (A) AND THE OTHER LABELLED REASON (R). SELECT THE CORRECT ANSWER TO THE FOLLOWING QUESTIONS FROM THE CODES (a), (b), (c) AND (d) AS GIVEN BELOW:

a) Both A and R are true and R is the correct explanation of A.

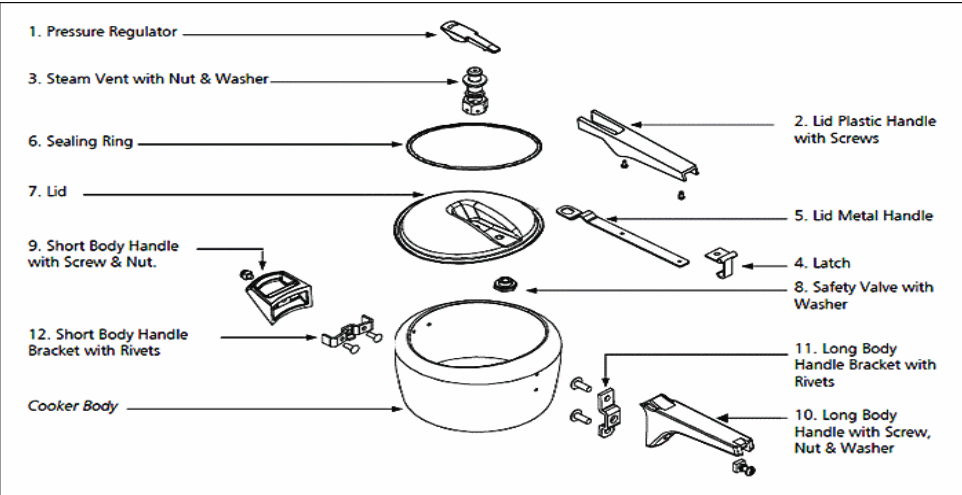b) Both A and R are true and R is not the correct explanation of A.

c) A is true but R is false.

d) A is false and R is also false

24	A: Visible edges are represented with thick continuous lines. R: For drawing visible edges 2H pencils are used.	1
25	A: Mechanisms of machine tools, valves, spindles, vice screws etc. are generally provided with square threads. R: Knuckle thread is a modified form of square thread	1
26	A: A bolt consists of a cylindrical body with one end threaded and the other end converted into a head. R: Bolt has external threads	1
27	A: The machine parts which are used to connect two pieces together are called as fasteners. R: Welding is an example for temporary fastening.	1
28	A: The isometric scale is used to measure the foreshortened length of dimensions of any object to draw the isometric projection. R: Isometric length is measured at an angle of 30 degree	1
29	A: A square nut is also one of the main forms of nuts. R: Square nut is a square prism provided with a threaded hole.	1
30	A: Chamfering on a nut is the process of removing sharp corners by rounding off the corners. R: The angle of chamfer is usually 30 degree with the base of nut.	1

SECTION C

ANSWER THE FOLLOWING QUESTIONS AFTER READING THE GIVEN PASSAGE:

31.	John's mother bought a new pressure cooker through online shopping, and when it got delivered, all the parts were separated. Being an engineering graphics student John started joining all the parts of pressure cooker using screw drivers. Analyse the figure and answer the following questions.	1
	The process of joining different machine parts is called as a) Fastening b) Screw threads c) Crest d) Pitch	

32	In this figure which machine part is a permanent fastener
	
	    a) Screw
	    b) Rivets
	    c) Washer
	    d) Nut
		1

33	If John went wrong in joining the cooker parts he can separate all the parts at any time and reconnect it, and this type of process is called
	
	    a) Permanent fastening
	    b) Temporary fastening
	    c) Welding
	    d) Riveting
		1

34	For providing a smooth bearing surface what is provided with the nut in this figure?
	
	    a) Screw
	    b) Washer
		1

c) Rivet		
d) Lid		

35	Nuts will be having which type of threads? a) Internal threads b) External threads c) Taper threads d) Parallel threads	1

ANSWER KEY

1	2	3	4	5
d	a	c	a	c
6	7	8	9	10
b	b	d	b	b
11	12	13	14	15
a	a	b	b	c
16	17	18	19	20
c	c	c	b	b
21	22	23	24	25
b	a	a	c	b
26	27	28	29	30
b	c	b	a	b
31	32	33	34	35
a	b	b	b	a