

- Q.6 Attempt any two:
- Write the advantages and disadvantages of a CAD system in design and drafting. **5**
 - Explain following draw command with example: **5**
 - Line
 - Polygon
 - Circle
 - Point
 - Polyline
 - Explain following modify command with example: **5**
 - Offset
 - Mirror
 - Chamfer
 - Fillet
 - Move

Total No. of Questions: 6

Total No. of Printed Pages:4

Enrollment No.....



Faculty of Engineering / Science

End Sem Examination May-2023

EN3ES19 / BC3ES02 / SC3ES05 Engineering Graphics

Programme: B.Tech./ B.Sc.

Branch/Specialisation: All /

Computer Science

Duration: 3 Hrs.**Maximum Marks: 60**

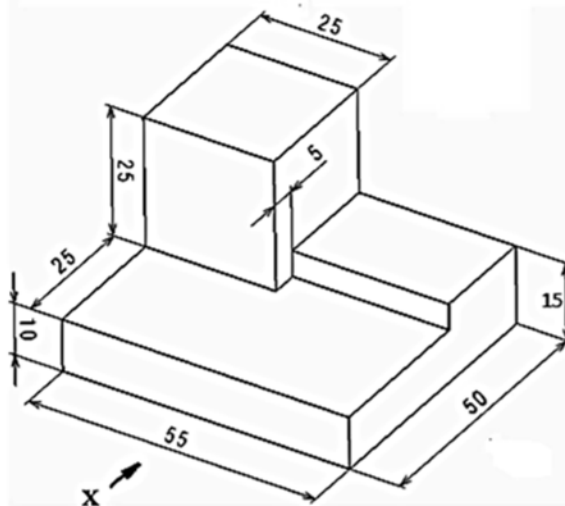
Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- Q.1
- Parallel lines can be drawn with the help of- **1**
 - Mini drafter
 - T-square
 - Pair of set-squares
 - All of these
 - How many units can be measured by diagonal scale? **1**
 - 1
 - 2
 - 3
 - 4
 - A point lying in the H.P., has its top view above xy. Its front view is- **1**
 - On xy
 - Above xy
 - Below xy
 - None of these
 - A point whose elevation is above the reference line, is probably situated in the- **1**
 - First angle
 - Second angle
 - Vertical plane
 - All of these
 - The front view of an elliptical plane may be- **1**
 - Ellipse
 - Circle
 - Straight line
 - All of these
 - A solid having minimum number of faces is- **1**
 - Tetrahedron
 - Triangular prism
 - Square pyramid
 - Cube
 - Among the following solids, a regular polyhedron is- **1**
 - Square prism
 - Square pyramid
 - Cube
 - Sphere
 - Which of the following views provide clarity and reveal internal features of a part? **1**
 - Section views
 - Oblique views
 - Auxiliary views
 - Pictorial views

P.T.O.

[2]

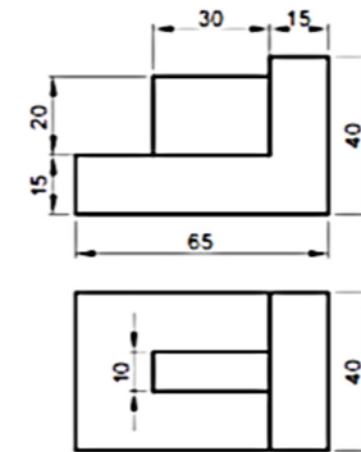
- ix. What should you pay attention to when learning AutoCAD? **1**
 (a) Command line (b) Status bar
 (c) Title bar (d) Floating toolbars
- x. Polar coordinates are used mostly for drawing- **1**
 (a) Circles (b) Arcs (c) Vertical lines (d) Angled lines
- Q.2 i. What is the difference between first angle and third angle projection? **2**
 ii. Draw scale of chord and represent 40° angles. **3**
 iii. A rectangular field of 0.54 hectares is represented on a map by a rectangle of 3 cm x 2 cm. Calculate the R.F. Draw a diagonal scale to read up to a single metre and long enough to measure up to 500 metres. Show a distance 354 metre on it. **5**
- OR iv. Using first angle projection, draw the (a) Front view from the X-direction, (b) Top view and (c) Right-hand side view of given pictorial view. **5**



- Q.3 i. Draw the projections of the following points on a common reference line keeping the distance between their projectors 25 mm apart. **4**
 (a) Point A is 40 mm above the H.P. and 25 mm in front of the V.P.
 (b) Point B is 40 mm above the H.P. and in the V.P.
 (c) Point C is 25 mm in front of the V.P. and in the H.P.
 (d) Point D is 25 mm above the H.P. and 30 mm behind the V.P.
- ii. A line AB 120 mm long is inclined at 30° to the H.P. & at 45° to the V.P. Its mid-point is in the V.P. & 20 mm above the H.P. Draw its projections, if its end A is in the third quadrant & B in the first quadrant. **6**

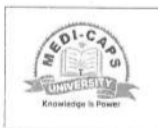
[3]

- OR iii. A line AB 90 mm long is inclined at 45° to the H.P. & top view makes an angle of 60° with the xy line. The end A is in the H.P. & 12 mm in front of the V.P. draw the front view & find the true inclination with the V.P. **6**
- Q.4 i. Write the classification of solid. **3**
 ii. Draw the projection of a pentagonal Prism, base 25 mm sides & axis 50 mm long, resting on one of its rectangular faces on the H.P. with the axis inclined at 45° to the V.P. **7**
- OR iii. Draw the projection of the pentagonal Pyramid, base 30 mm side & axis 60 mm long when it is resting in the V.P. through one of its corner & axis inclined at 45° to the V.P. **7**
- Q.5 i. A square pyramid of base side 40 mm and axis 60 mm is resting on its base on the H.P. with a side of base parallel to the V.P. It is cut by a section plane inclined at 45° to the H.P., perpendicular to the V.P. and bisecting the axis. Draw its Front view, sectional top view and true shape of the section. **3**
- ii. A pentagonal prism of base side 30 mm and axis 70 mm, is resting on its base on the H.P. such that one of the rectangular faces is parallel to the V.P. It is cut by an auxiliary inclined plane (A.I.P.) whose V.T. is inclined at 45° to the reference line and passes through the mid-point of the axis. Draw the development of the lateral surface of the truncated prism. **7**
- OR iii. The front and top views of an angle plate are shown in Fig. Draw its isometric view. **7**



P.T.O.

Scheme of Marking

	<p>Faculty of Engineering End Sem (Even) Examination May-2022 Engineering Graphics (T) - EN3ES19 (T)</p>	
	Programme: B.Tech.	Branch/Specialisation:

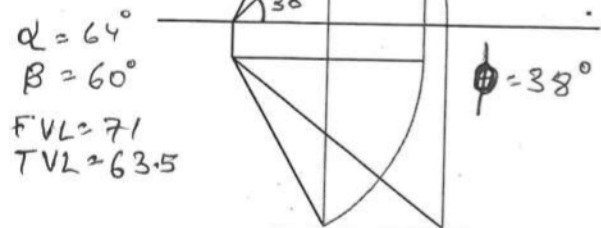
Note: The Paper Setter should provide the answer wise splitting of the marks in the scheme below.

Q.1	i)	(d) All of these	1
	ii)	(c) 3	1
	iii)	(a) on xy	1
	iv)	(d) Any of these	1
	v)	(d) Any of these	1
	vi)	(a) tetrahedron, (b) triangular prism	1
	vii)	(c) cube	1
	viii)	(a) Section views	1
	ix)	(a) Command line	1
	x)	(d) angled lines	1
Q.2	i.	Two differences of First angle and third angle projection (0.5 x 4 = 2) 01 Mark for one difference	2
	ii.	Drawing of scale of chord - 2 marks Representation of angle - 1 mark	3
	iii.	Calculation RF - 2 marks, drawing of scale - 2 marks, distance representation - 1 mark $RF = \frac{1}{\sqrt{2000}} \text{ or } 1:44.72$	5
OR	iv.	Front view - 2 marks, top view - 2, side view - 1 mark	5
Q.3	i.	Projection on point on xy scale - 4 x 1 = 4 marks	4
	ii.	Representation of line on xy - 1 marks, Proper line position - 2, projection of line - 2 marks, nomenclature - 1 marks	6
OR	iii.	Representation of line on xy - 1 marks, Proper line position - 2, projection of line - 2 marks, nomenclature - 1 marks	6
Q.4	i.	Solid classification (0.5 x 6 = 3) 01 x 03	3

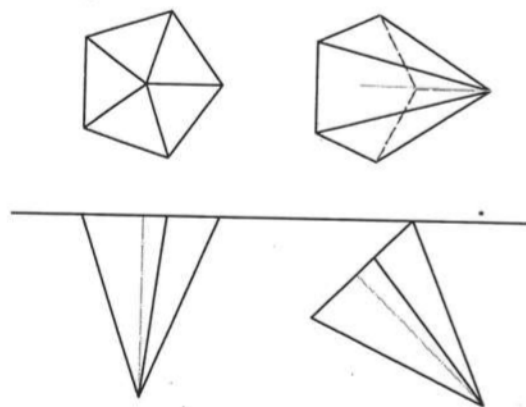
Q.2 (ii) 01 for mid point, 01 for naming
or Q.2 (iii) 02 for T.L. (0.5 x 4) & 02 for Fr & Tv (0.5 x 8)
Q.3 (ii) 01 for mid point, 02 for Fr & Tv, 01 for Fr & Tv

	ii.	Initial position -2 marks, Stage two -2, Final projection -2 marks, nomenclature- 1 marks	7
OR	iii.	Initial position -2 marks, Stage two -2, Final projection -2 marks, nomenclature- 1 marks	7
Q.5	i.	Front view- 1marks, sectional top view- 1 marks, true shape of the section- 1 marks	3
	ii.	Initial position -1 marks, Stage two -2, Final projection -2 marks, nomenclature -1 marks, sectional views 03	7
OR	iii.	Initial Isometric angle representation -1 marks, isometric projection (with Front, side, top) - 3 x 2 =6, dimensioning - 1 mark	7
Q.6		Attempt any two:	
	i.	Advantages (0.5 x 5 = 2.5 marks), Disadvantages (0.5 x 5 = 2.5 marks).	5
	ii.	5 command (1 x 5 = 5 marks)	5
	iii.	5 command (1 x 5 = 5 marks)	5

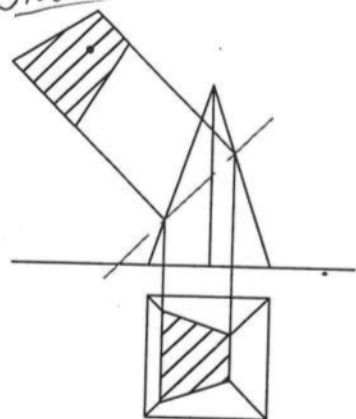
Q 2(ii)
6 marks.



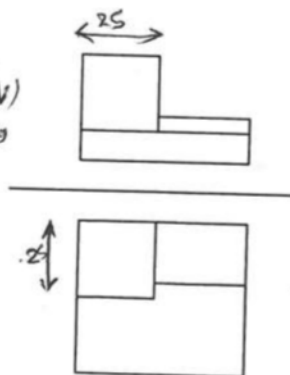
Q 4(ii) 7 marks



Q 5(i) 3 marks



Q 2(iv)
5 marks

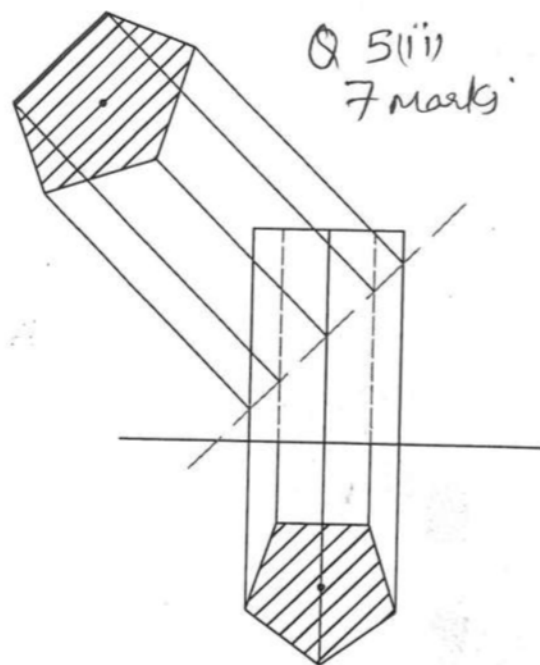


Q 2(iii)

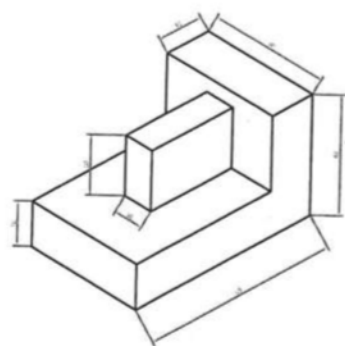
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Q 5(ii)
7 marks



Q 5(ii)
7 marks



(5 marks)

