Enrollment No.

KADI SARVA VISHVAVIDHYALAYA

LDRP INSTITUTE OF TECHNOLOGY AND RESEARCH GANDHINAGAR

B. E. Semester- II Mid-semesterExamination-June-2022

Subject Name: Engineering Graphics (CC110-N)

Date: 04-06-2022 **Time: 12:00 pm to 1:30 pm**

Branch: All Branch **Max. Marks: 30**

Instructions:

1. **Attempt all questions. Figures to the right indicate full marks.**
2. **Make suitable assumption whenever necessary.**

Q.1(A) (1) Construct a plane scale of R.F. =1/100 to read meters and decimeters. Maximum measurement 10 meters. **(5)**

(2) Write application following AutoCAD commands in one sentence:
(i) MIRROR (ii) EXTEND

Q.1(B) (1) Draw the the projections of the following points on the same x-y line. **(5)**

i. Point A is 20 mm above HP and 20 mm in front of VP.
ii. Point B is 20 mm above HP and 20 mm behind VP
iii. Point C is 20 mm below HP and 20 mm in front of VP.

(2) Draw Acme Screw Thread and Buttress Screw Thread Profiles with help of freehand sketch.

Q.2(A) A semi circular thin plate, of 60 mm diameter, rests on the H. P. on its diameter, which is inclined at 45^0 to the V.P. & the surface is inclined at 30^0 to the H.P. Draw the projections of the plate. **(5)**

Q.2(B) A straight line AB is 70 mm long. It is inclined to H.P. and V.P. by an angle of 30^0 and 45^0 respectively. Point A is 30 mm above H.P. and 20 mm in front of V.P. Point B is in 1st Quadrant. Draw the projections of straight line AB. **(5)**

OR

Q.2(A) The front view of a line AB, 90 mm. long, measures 65-mm. Front view is inclined to XY line by 45°. Point A is on V.P. and 20 mm below H.P. point B is in third quadrant. Draw the projections and find inclinations of line with H.P. and H.P. **(5)**

Q.2(B) Draw the three projections of a circular lamina, of 50 mm diameter having one end of the diameter resting on H.P. and the other end of the diameter on V.P. The surface of the lamina inclined at 30° to the H.P. and at 60° to the V.P. **(5)**

P.T.O.

Q.3 Draw front view and L.H.S.V. by first angle method. Give necessary dimension to drawing by Unidirectional method.(See fig.-1) **(10)**

OR

Q.3 Draw the isometric view and show necessary dimensions.Figure-2 show the front view a side view of the object. **(10)**

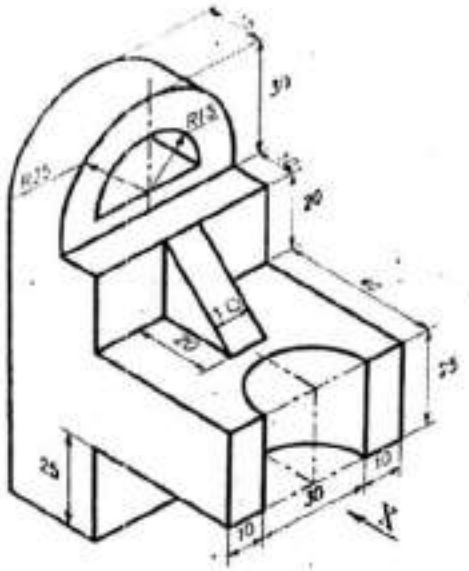


figure-1

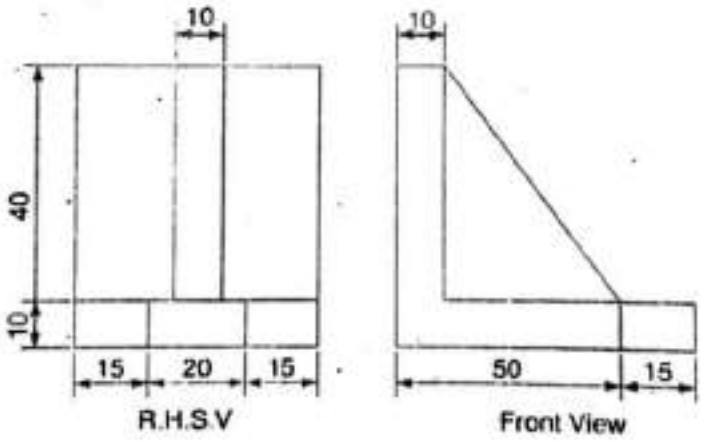


figure-2

ALL THE BEST

SEAT NO 27

KADI SARVA VISHWAVIDYALAYA
B.E. SEMESTER I/II (NEW) EXAMINATION JULY 2022

Sub: ENGINEERING GRAPHICS
Time: 10:30am-01:30pm
Maximum marks: 70

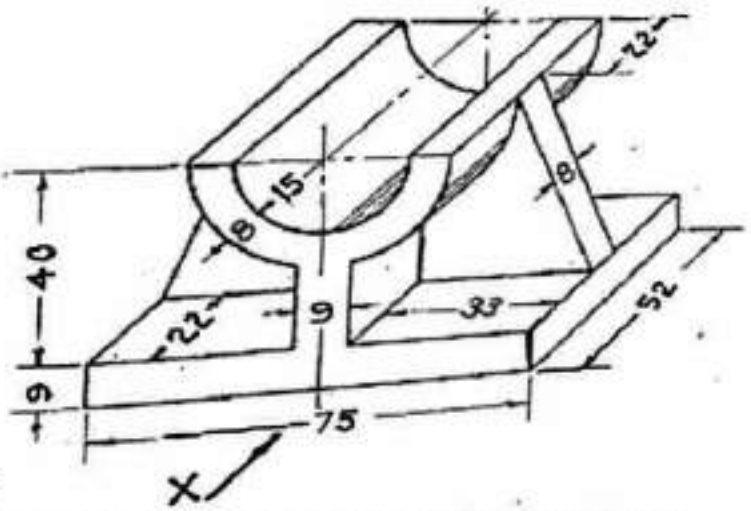
Sub Code: CC110-N
Date: 11/07/2022

Instructions:

1. Answers to both sections should be written separately.
2. All questions are compulsory.
3. Use of scientific calculator is permitted.
4. Assume suitable data if necessary clearly stating the same.
5. Symbols and notations carry usual meanings.
6. Figures to the right indicate full marks.

SECTION I

Q.1 A Draw the F.V, T.V and RHSV for the figure shown below: 10



B Define R.F. Divide a line of 110 mm into 9 equal parts. 05

OR

B Construct a diagonal scale with the scale 1 cm= 0.5 km, showing kilometers, hectometers and decameters. Scale should be long enough to measure upto 5 kms. Indicate 3.07 km 05

Q.2 A A straight line CD is 75 mm long. It is inclined to H.P by an angle of 60^{0} and to V.P by 30^{0}. Point C is 30 mm above H.P and 20 mm in front of V.P. Draw the projections of straight line CD. 05

B Explain aligned system and unidirectional system of dimensioning by using some drawing. 05

OR

Q.2 A *Differentiate between 1st angle and 3rd angle projection method.* 05

B *Draw the development of a regular hexagonal prism and hexagonal pyramid having side of 30 mm and height of 65mm.* 05

Q.3 A A square prism edge of base of 30 mm and height 50 mm is resting on H.P. on one of the edges of the base. The edge on which it rests makes an angle of 45° with the V.P. The axis of the prism makes an angle of 60° with the H.P. Draw the projections of the prism. 05

B Draw the projections of points, positions of which are given below. Also state the quadrants. 05

i. Point A on H.P. and 40 mm in front of V.P.

ii. Point B on H.P and on V.P.

iii. Point C 30 mm below H.P and 35 mm behind V.P.

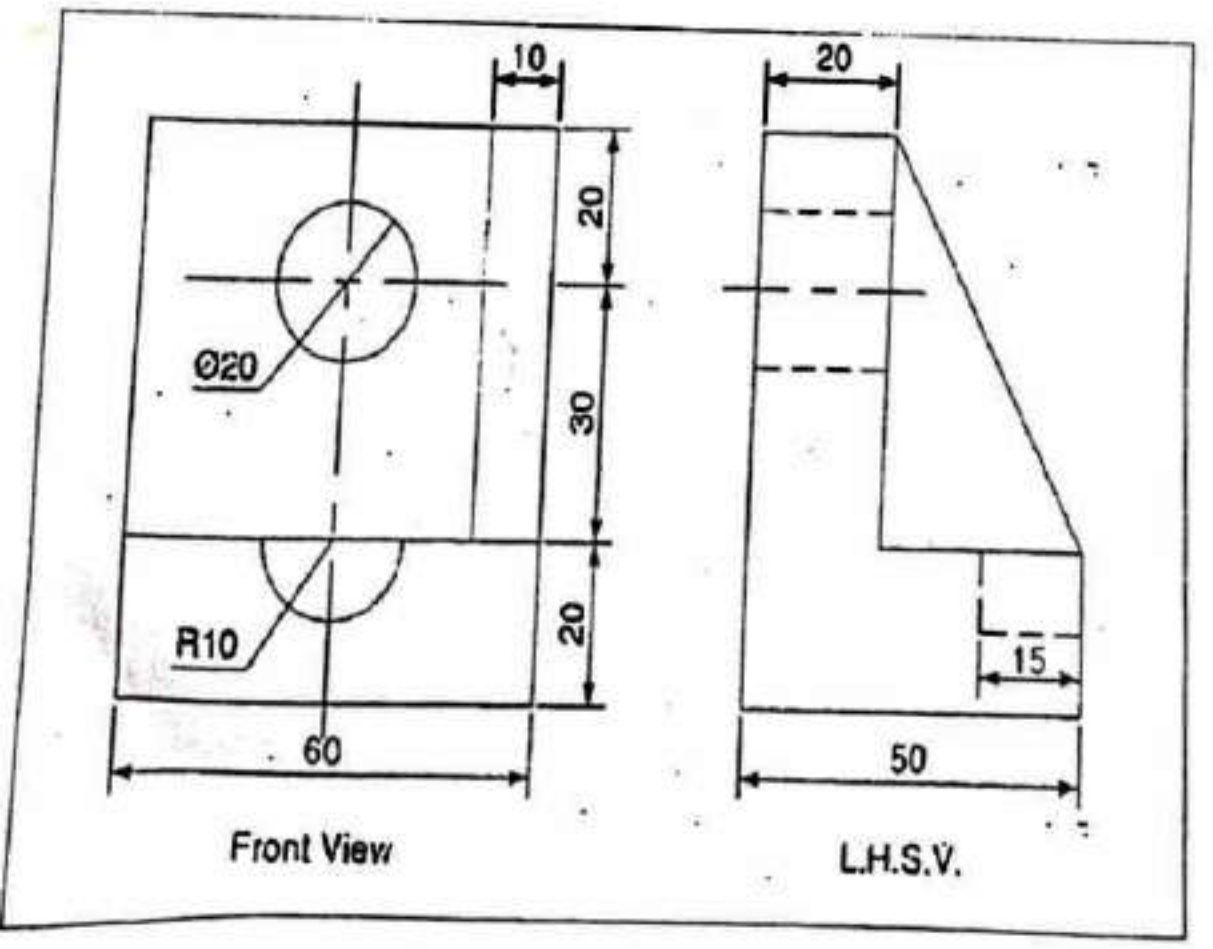
OR

A A regular hexagonal pyramid (30x70) is resting on H.P on its base with two edges of base parallel to V.P. It is cut by A.I.P making 60° with H.P and passing through one of the corners of the base. Draw the development of the truncated pyramid. 05

B Enlist the name of instruments used in engineering drawing. 05

SECTION II

A Draw isometric view of the orthographic views given in the figure 10



	B	Name five different types of lines stating applications.	
	B	Draw a cone and show apex, generator and axis.	05
		OR	
Q.5	A	A hexagonal pyramid, side of base 33 mm and height 66 mm, is resting on H.P. on its base with two sides of base perpendicular to V.P. It is cut by an A.I.P., inclined to H.P. by 45°, passing through a point 25 mm from the apex on the axis. Draw three projections with sections and also draw the true shape of the sections.	05
	B	i. If a line is parallel to H.P. then its _____view will show the true length. ii. When a pyramid rests with its base on H.P, then _____view should be drawn first. iii. If a cone is cut by a section plane parallel to the base, then the true shape of the section is _____ iv. Define truncated solid(show with figure)	05
		OR	
Q.5	A	A regular pentagonal plate of 50 mm sides has one of its corners on H.P. The plane is inclined at 30° to H.P. The side of the pentagon which is opposite to the corner which is on H.P is inclined at 45° to V.P. Draw the projections of the plate.	05
	B	Draw the following polygons (i) Square (ii) Hexagon (iii) Triangle. Take side of polygon to be 40 mm.	05
Q.6	A	OBA is a slider crank chain. OB is a crank of 30 mm length.BA is a connecting rod of 90 mm length. Slider is sliding on a straight path passing through point O. Draw the locus of the midpoint of the connecting rod AB for one complete revolution(clock wise) of the crank OB.	05
	B	Explain solid of revolution. Give example of three solid of revolution.	05
		OR	
Q.6	A	Explain the following AutoCAD commands in brief (i) MOVE (ii) COPY (iii) TRIM (iv) MIRROR (v) EXTEND	05
	B	Draw free hand sketches of square thread & acme thread.	05

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KADI SARVA VISHWAVIDYALAYA

B.E SEMESTER I/II Theory EXAMINATION (January/ 2023)

SUBJECT CODE: CC110-N SUBJECT NAME: ENGINEERING GRAPHICS
DATE: 31/01/2023 TIME: 10 am to 1 pm TOTAL MARKS: 70

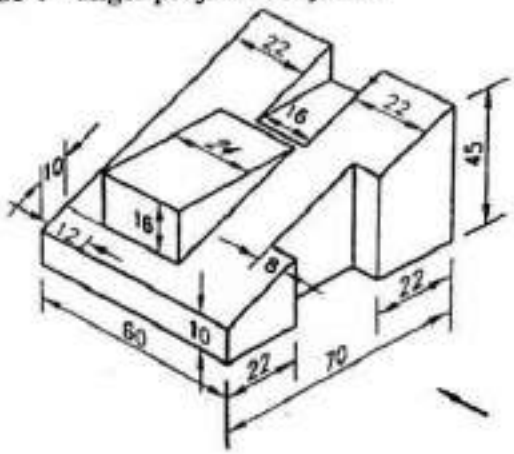
Instructions:

1. Answer each section in separate Answer Sheet.
2. All questions are compulsory.
3. Indicate clearly, the options you attempted along with its respective question number.

Section - 1

Marks

Q.1 **(A)** Draw orthographic view (i) Front View (ii) Top view (iii) Left Hand Side View of the following figure Use I[st] angle projection system **[10]**



(B) Divide a given line segment of 100 mm into 7 equal parts. **[5]**

OR

(B) To divide a circle of a given 25mm radius into12 equal parts. **[5]**

Q.2 **(A)** Construct a plain scale to show kilometers and hectometers when 2.5 cm is equal to 1 km and long enough to measure up to 6 km. Find R. F. and show a distance of 4 km and 5 hectometers on the scale. **[5]**

(B) Draw the projections of points, positions of which are given below **[5]**

i. A point A 35 mm above H.P and 20 mm behind V.P.
ii. A point B on H.P & V.P.'
iii. A point C on H.P. and 35 mm behind V.P.
iv. A point D 30 mm below H.P. and on V.P
v. A point E on H.P. and 30 mm in front of V.P.

OR

Q.2 **(A)** The distance between Ahmedabad and Bombay is 500 kms. It is represented on a railway map by 10cms. Construct a diagonal scale to measure kilometre. Show on scale the distance between Ahmedabad and Surat which is 237 kms. **[5]**

(B) Draw the symbol of 1st angle & 3rd angle projection system. **[5]**

Q.3 (A) A line PQR, 100 mm long is inclined to H.P. by 30° and V.P. by 45°. PQ: QR: 2:3. Point Q is in V.P. and 25 mm above H.P. Draw, the projections of the line PQR when point R is in the first quadrant. Find the position of point P. [5]

(B) A regular hexagonal plate, side 30 mm size, is resting on H.P. on one of its corners with opposite corner in V.P. the plate is inclined to H.P. by 30° and to V.P. by 60°. Draw all the three projections of plate neglecting the thickness of plate. [5]

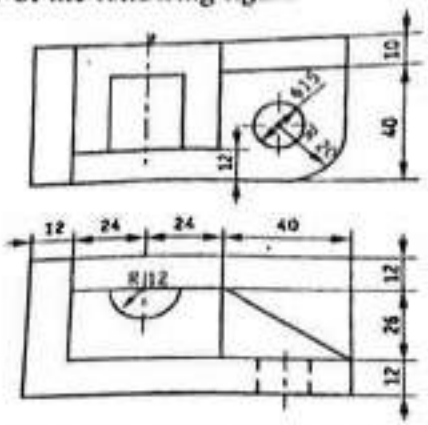
OR

Q.3 (A) The front view of a line AB, 90 mm long, measures 65mm. Front view is inclined to XY line by 45°. Point A is on V.P. and 20 mm below H.P. point B is in third quadrant. Draw the projections and find inclinations of line with H.P. and H.P. [5]

(B) A 30° – 60° set square has its shortest side 50 mm long and is in the H.P. The top view of the set square is an isosceles triangle and the hypotenuse of the set square is inclined at an angle of 40° with the V.P. Draw the projection of the set square and find its inclination with H.P. [5]

Section – 2

Q.4 (A) Draw the Isometric view of the following figure [10]



(B) Explain application of (i) Projection of Point (ii) Projection of Line [5]

OR

(B) Construct Isometric scale. [5]

Q.5 (A) A hexagonal pyramid of 30 mm side of base and 45 mm length of axis is resting on one of its triangular faces on H.P. draw the projections of the pyramid when its edge of base which is in H.P. is inclined at 60° to the V.P. [5]

(B) The body diagonal of a cube is 75 mm long. Draw the projections of the cube when a body diagonal is perpendicular to the H.P. and (i) plan of the other body diagonal is parallel to XY and (ii) plan of the other body diagonal is perpendicular to XY. [5]

OR

Q.5 (A) A vertical cone, diameter of base 80 mm, is resting on its base on the H.P. It is cut by an A.I.P so that the true shape of the section is an equilateral triangle with 70 mm side. Determine the length of the axis of the cone and draw the projections and the true shape of the section. [5]

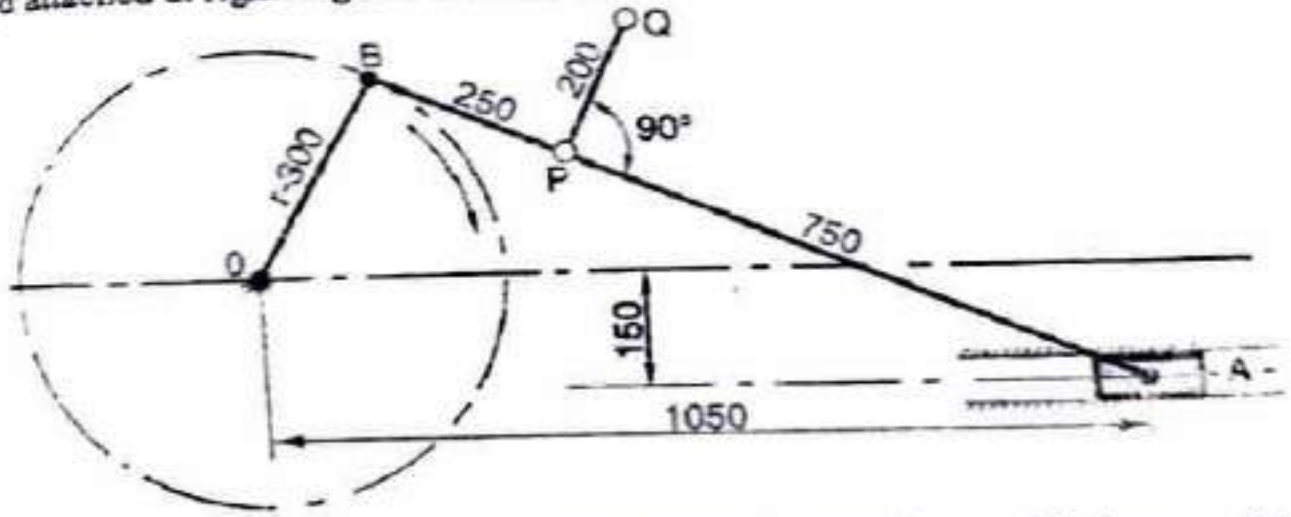
(B) PQRS is a tetrahedron of 60 mm long edges. The edge PQ is in the H.P. the edge RS is inclined at an angle 30° to the H.P. and 45° to the V.P. Draw the projections of the tetrahedron. [5]

Q.6 (A) In a slider crank chain OBA, the crank OB is 35 mm long and the connecting rod BA is 105 mm long. Plot the loci of points P, ● and R where (I) Point P is on the connecting rod 35 mm from B, (II) Point R is on extension of C.R. BA and 25mm from A [5]

(B) A pentagonal prism , 30 mm base side & 50 mm axis is standing on Hp on it's base whose one side is perpendicular to Vp. It is cut by a section plane 450 inclined to Hp. through midpoint of axis. Draw Development of surface of remaining solid. [5]

OR

Q.6 (A) In an offset slider crank chain OBA, the crank OB is 300 mm long and the connecting rod BA is 1000 mm long. Slider 'A' slider in a horizontal guide 150 mm below the horizontal from O. Draw the loci of points P and Q where the point P is a point on the con-rod BA, 250 mm from B and the point Q is the end point of PQ, a rod attached at right angle to con-rod AB at P. [5]



(B) A cone, 50 mm base diameter and 70 mm axis is standing on it's base on Hp. It cut by a section plane 450 inclined to Hp through base end of end generator. Draw development of surfaces of remaining solid. [5]

En No. /Temp No. CE-F-320

KADI SARVA VISHWAVIDYALAYA
LDRP INSTITUTE OF TECHNOLOGY & RESEARCH, GANDHINAGAR

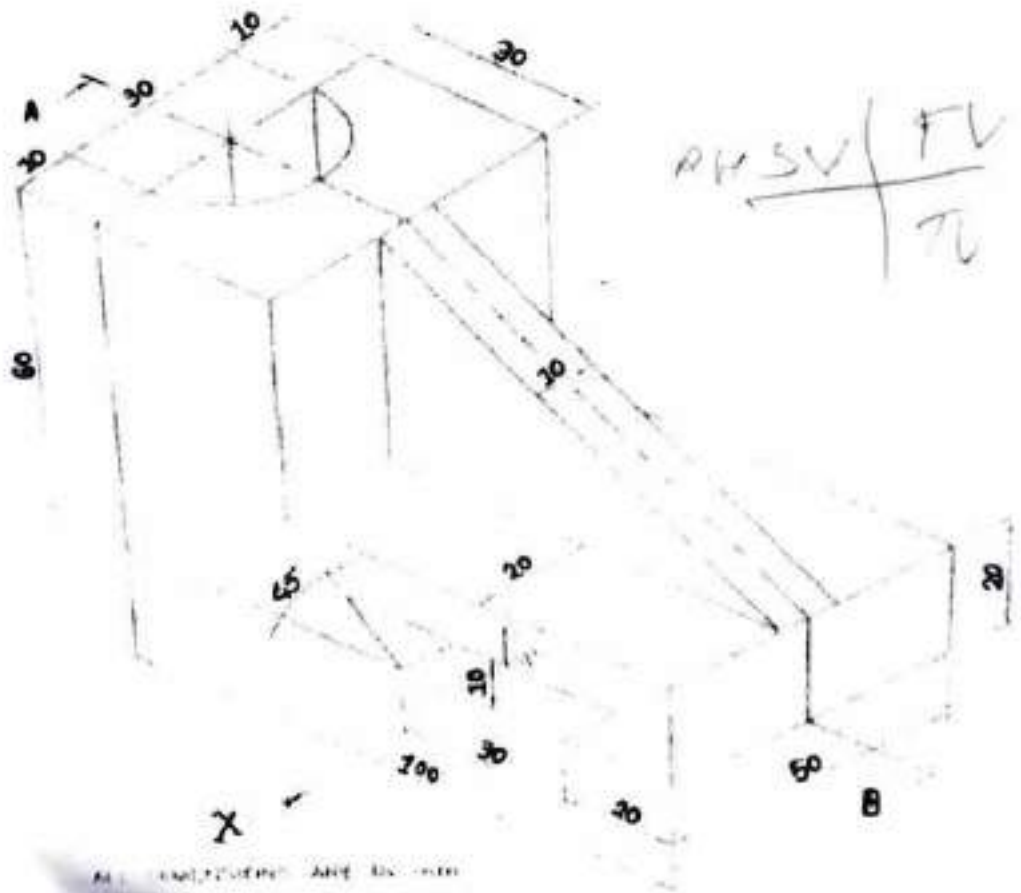
B.E. MID-SEMESTER EXAMINATION DECEMBER 2022

Date : 10/12/2022	**Branch : CE**
Subject Name & Code: Engineering Graphics(CC110-N)	**Semester : 1st (Regular), 1st/2nd (ATKT)**
Time : 9:30 AM-11:00 AM	**Max. Marks : 30**

Instructions:

1. All questions are compulsory.
2. Assume suitable data if necessary, clearly stating them.
3. Use suitable scale if necessary.
4. Figures to the right indicate full marks.
5. Indicate clearly, the options you attempt along with its respective question number.
6. Symbols & notations carry usual meaning.
7. Use both sides of answer sheet.
8. Retain all construction lines.
9. Figures/sketches are not to the scale.
10. Neatness is expected.

Q.1 Figure (1) shows pictorial view of an object. Draw the following views using first angle projection method. (1)Sectional FV (2) Top view (2) Right hand side view 10



Figure(1)

Q.2 A The distance between Delhi and Agra is 200 km. In a railway map it is represented by a line of 5 cm long. Find its R.F. Draw a diagonal scale to show km and maximum upto 600 km. Indicate on it following distances. 1) 1000m 2) 509km 3) 99km 4) 310km 5) 603km 05

B **Do as directed** 05

1. Draw the conventional symbols for First Angle and Third Angle projection.
2. Name the type of line (i) used for visible outlines (ii) used to indicate a cutting plane
3. When a line is inclined to V.P. and parallel to H.P., the front view will be _____ to XY. (Inclined /Parallel / Perpendicular)
4. When the drawings are drawn smaller than the actual size of object then the scale is known as _____

OR

Q.2 A 1. Draw the profile of square thread. 05

2. Draw a line of 121 mm and divide it into nine equal parts.
3. Draw pentagon and hexagon having one side common. Take side =40 mm

B Draw the projections of a regular hexagon of 25 mm side, having one of its sides in the H.P. and inclined at 60° to the V.P. and its surface making an angle of 45° with H.P. 05

Q.3 A A line AB is 80 mm long. It is inclined at 45° to the H.P. and 30° to the V.P. The end A is 20 mm above H.P and 30 mm in front of V.P. Draw the projections. 05

B A rectangle 30 mm and 50 mm sides is in the V.P. on one of its small side, which is inclined to 30^0 to H.P., while the surface of the plane makes 45^0 inclination with V.P. Draw its projections. 05

OR

Q.3 A The top view of a 75 mm long line CD measures 50 mm. Point C is 50 mm in front of the V.P. and 15 mm below the H.P. Point D is 15 mm in front of the V.P. and is above the H.P. Draw the front view of CD and find its inclinations with the H.P. and the V.P. 05

B Draw projection of following points on same XY line and also state the quadrant for the following conditions: 05

(i) Point A is 35 mm behind V.P. and 35 mm above H.P.

(ii) Point B is in V.P. and 25 mm below H.P.

(iii) Point C is on H.P and V.P.

(iv) Point D is 30 mm in front of V.P and 20 mm above H.P.

(v) Point E is 40 mm below H.P. and 20 mm in front of V.P.

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Enroll. /Temp Id No.

KADI SARVA VISHWAVIDYALAYA
LDRP INSTITUTE OF TECHNOLOGY & RESEARCH, GANDHINAGAR
B.E. REMEDIAL EXAMINATION JANUARY 2023

Date : 09/01/2023	Branch : [illegible]
Subject Name & Code: Engineering Graphics(CC 110-N)	Semester : 1P (Regular) 1st/2nd (ATKT)
Time : 9:30 AM-11:00 AM	Max. Marks : 30

Instructions:

1. All questions are compulsory.
2. Assume suitable data if necessary, clearly stating them.
3. Use suitable scale if necessary.
4. Figures to the right indicate full marks.
5. Indicate clearly, the options you attempt along with its respective question number.
6. Symbols & Notations carry usual meaning.
7. Use both sides of answer sheet.
8. Retain all construction lines.
9. Figures/sketches are not to the scale.
10. Neatness is expected.

Q.1 A Construct a plain scale to show kilometres and hectometres when 2.5 cm is equal to 1 km and long enough to measure upto 6 km. Find R. F. and show a distance of 4 km and 5 hectometres on the scale. 05

B Do as directed 05

i. Two systems of placing dimensions are _____ and _____.
ii. Dimensions of buildings are shown using _____ scale.
iii. A square plate with 25 mm side is perpendicular to H.P & V.P. Which view will give true shape of the plane?
iv. Why are 2nd angle and 4th angle system of projections not used?
v. Show the type of line used to indicate center line and hidden line.

OR

B. In a slider crank chain OBA, the crank OB is 350 mm long and the connecting rod BA is 1050 mm long. Plot the loci of points P,Q and R where (I) Point P is on the connecting rod 350mm from B, (II) Point R is on extension of C.R. BA and 250mm from A (III) Point Q is on extension of C.R. AB and 500mm from B. 05

Q.2 A A semi circular thin plate, of 60 mm diameter, rests on the H. P. on its diameter, which is inclined at 450 to the V. P. & the surface is inclined at 300 to the H. P. Draw the projections of the plate. 05

B Draw projection of following points on same XY line and also state the quadrant for the following conditions: 05

(i) Point R is 20 mm in front of V.P. & 20 mm above H.P.
(ii) Point S is in H.P. & 22 mm behind V.P.
(iii) Point T is 15 mm in behind V.P & 25 mm below H.P.

OR

Q.2 A A cylinder, diameter of base 43mm and height 53mm is resting on H.P. on its base. It is cut 05

by A.I.P. in such a way that the true shape of section is an ellipse with major axis 60 mm and minor axis 43mm. Find the inclination of A.I.P. with H.P. and draw three projections. 06

B A hexagonal pyramid of 30 mm side of base and 45 mm length of axis is resting on one of its triangular faces on H.P. draw the projections of the pyramid when its edge of base which is in H.P. is inclined at 600 to the V.P. 05

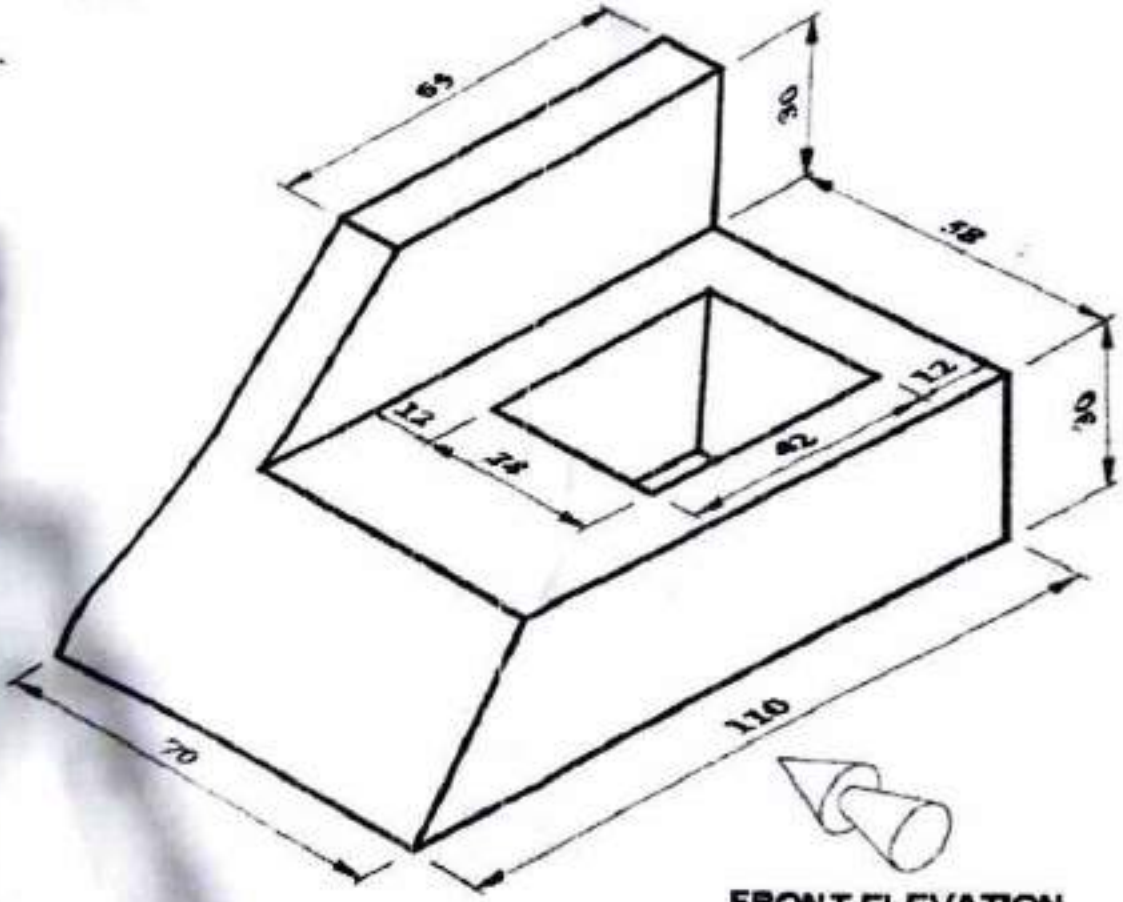
Q.3 A The distance between the end projectors of a straight line AB is 60 mm. Point A is 5 mm above H.P. and 30 mm in front of V.P. point B, is 40 mm above and 50 mm behind V.P. Draw the projections and find the inclination of straight line AB with H.P. and V.P. and the true length of the line. 05

B Draw the isometric scale of 100 mm 03

OR

Q.3 A Draw a line of 107 mm and divide it into eight equal parts. 07

B For the figure shown below draw FV and TV. Use 3rd angle projection. All dimensions are in mm.



FRONT ELEVATION

Enroll. /Temp Id No. 236E1730104

KADI SARVA VISHWAVIDYALAYA
LDRP INSTITUTE OF TECHNOLOGY & RESEARCH, GANDHINAGAR

B.E. MID SEMESTER EXAMINATION MAY 2023

Date : 20/05/2023	**Branch : CI/EE/ME/AE/EC/IT**
Subject Name & Code: Engineering Graphics(CC110-N)	**Semester : 2nd**
Time : 9:30 AM-11:00 AM	**Max. Marks : 30**

Instructions:

1. All questions are compulsory.
2. Assume suitable data if necessary, clearly stating them.
3. Use suitable scale if necessary.
4. Figures to the right indicate full marks.
5. Indicate clearly, the options you attempt along with its respective question number.
6. Symbols & notations carry usual meaning.
7. Use both sides of answer sheet.
8. Retain all construction lines.
9. Figures/sketches are not to the scale.
10. Neatness is expected.

Q.1 A On a building plan, a line 20 cm long represents a distance of 10 m. Construct a diagonal scale for the plan to read upto 12 m, showing metres, decimetres and centimetres. Show on your scale the lengths (i) 6.48 m (ii) 11.04 m. (iii) 2.09m (iv) Minimum distance that can be shown on this scale. 05

B Draw the projections of the following points on the same line 05

1. A, in the H.P. and 20 mm behind the V.P.
2. B, 40 mm above the H.P. and 25 mm in front of the V.P.
3. C, in the V.P. and 40 mm above the H.P.
4. D, 25 mm below the H.P. and 25 mm behind the V.P.
5. E, 15 mm above the H.P. and 50 mm behind the V.P.

Q.2 A (i) State the differences between unidirectional and aligned system of dimensioning method 03+02

(ii) Divide the line of 123 mm into 8 equal parts.

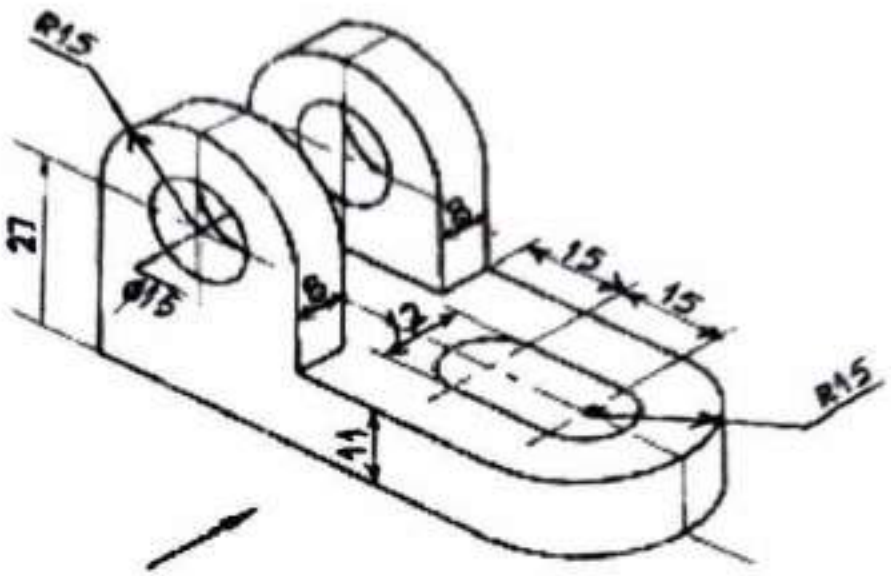
B A square prism, base 40 mm side and height 65 mm, has its axis inclined at 45° to the H.P and has an edge of its base, on the H.P and inclined at 30° to the V.P. Draw its projections. 05

OR

Q.2 A Draw the projections of a circle of 50 mm diameter resting in the H.P. on a point A on the circumference, its surface inclined at 45° to the H.P. and the top view of the diameter AB making 30° angle with the V.P. 05

B A line AB, 90 mm long, is inclined at 45° to the H.P. and its top view makes an angle of 60° with the V.P. The end A is in the H.P. and 12 mm in front of the V.P. Draw the projections. 05

Q.3 Using First Angle Projection Method draw – (a) Front View (b) Top View for the following object. 10



OR

Q.3 A Fill in the blanks :(Write whole sentences) 05

(i) Lines for hidden edges are drawn as _____.

(ii) 1 metre = _____ decimetres.

(iii) If a line is parallel to H.P. then its _____ view will show the true length.

(iv) When a pyramid rests with its base on H.P, then _____ view should be drawn first.

(v) When a plane is perpendicular to both H.P & V.P, then the true shape of the plane will be seen in _____.

B (i) Draw the isometric scale of an 87 mm long line and show 66 mm isometric length on it. 03+

(ii) Define truncated solid(show with figure) 01+

(iii) Draw the symbol of 1st angle & 3rd angle projection. 01

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