RASHTREEYA SIKSHANA SAMITHI TRUST

RV COLLEGE OF ENGINEERING®

(AUTONOMOUS INSTITUTE AFFILIATED TO VTU, BELAGAVI)

I Semester B.E. Degree Examination, Feb 2024

COMPUTER AIDED ENGINEERING GRAPHICS – ME112GL

(COMMON TO ALL BRANCHES)

Time: 03 Hours **Maximum Marks: 50**

Instructions to candidates:

1. Answer **ANY TWO** questions from **Part A-Manual drawing.**
2. Answer **ANY TWO** questions from **Part B-Computer drafting.**
3. Answer **ANY ONE** question from **Part C- Computer drafting.**

Q.No.	PART-A (Manual Drawing)	Marks
1	Point D is 30mm in front of VP, 20mm below HP and 25mm infront of RPP. Draw the projections.	5
2	A line AB 75mm long has one end 15mm in front of VP and 20mm above HP. The line is inclined at 30° to HP and 40° to VP. Draw the front view and the top view of the line.	5
3	A square ABCD of 40mm sides has its diagonal AC inclined at 40° to HP. Draw its front view and top view.	5
	PART-B (Computer Drafting)	
4	A square pyramid of base sides 30mm and 60mm axis length rests on HP on one of its base edges which is inclined at 30° to VP. Draw its projections when the axis is inclined at 40° to HP.	15
5	Create a 3D model of the given part as shown in Figure 1. Generate its front view, top view, profile view and isometric shaded view.	15

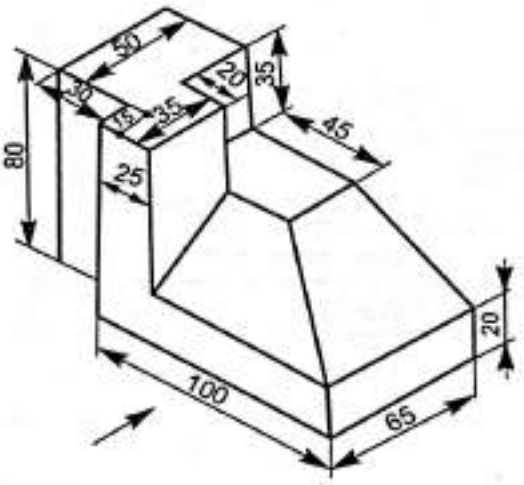


Figure 1

6	A pentagonal pyramid of 30mm base edges and 60mm axis length rests on HP with two of its base edges are equally inclined to VP and nearer to it. A section plane perpendicular to VP and inclined at 40° to HP bisects the axis of the pyramid. Draw the development of lateral surface of retained portion of the solid.	15
	PART-C (Computer Drafting)	
7	Create a 3D assembly of Hexagonal headed bolt and nut with washer and generate the following views. Part drawings are shown in Figure2. i. Front view ii. Top view iii. Right side view iv. Isometric shaded model view.	10

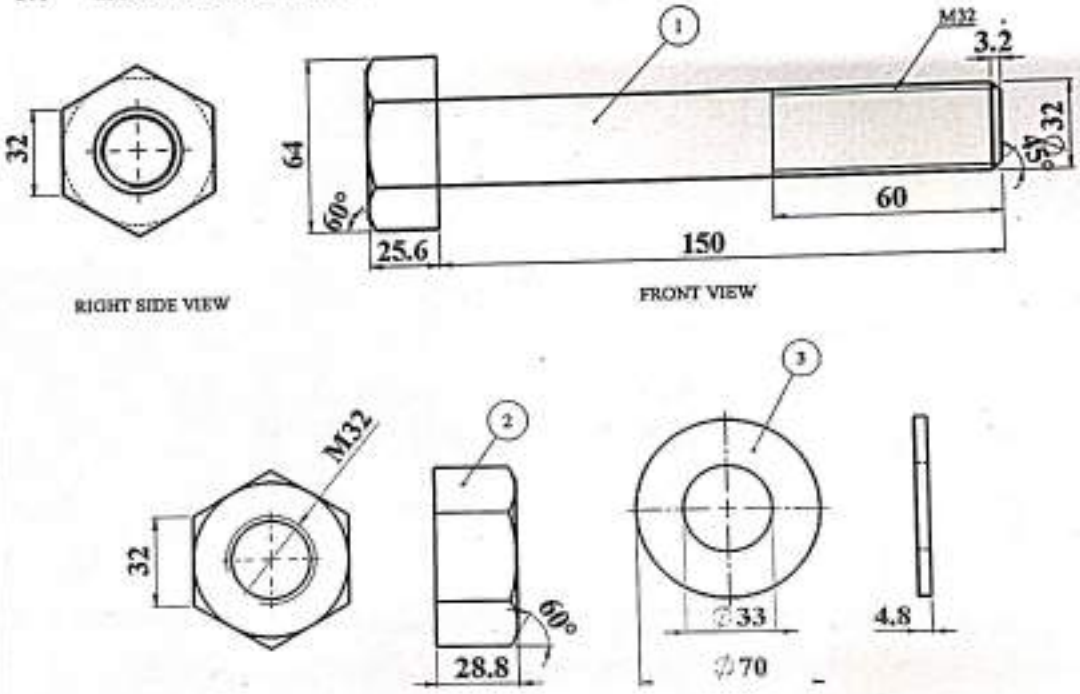
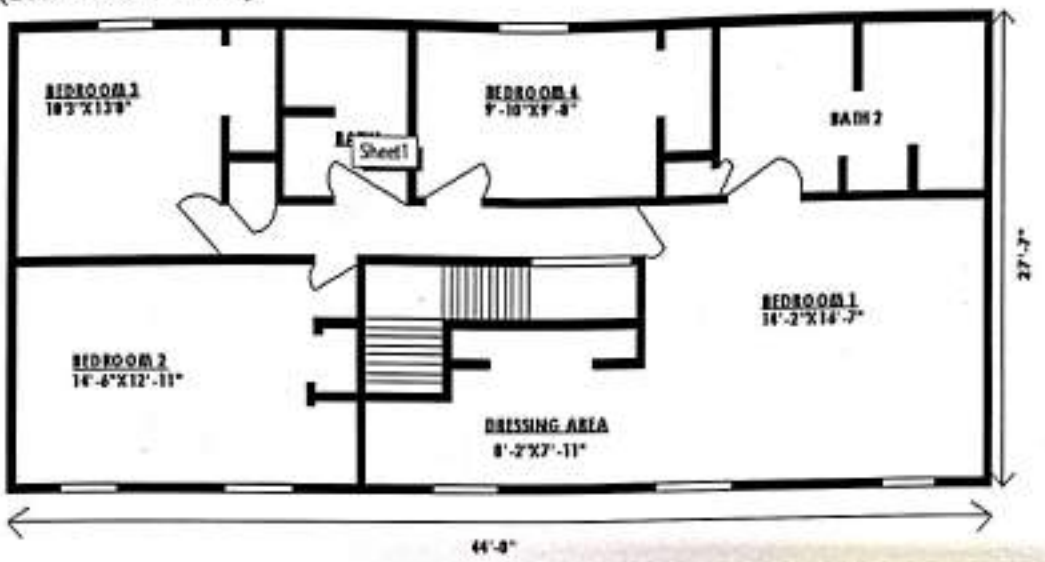
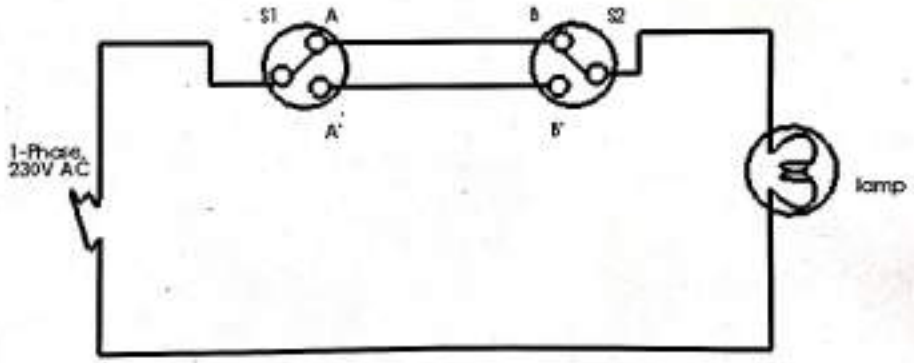
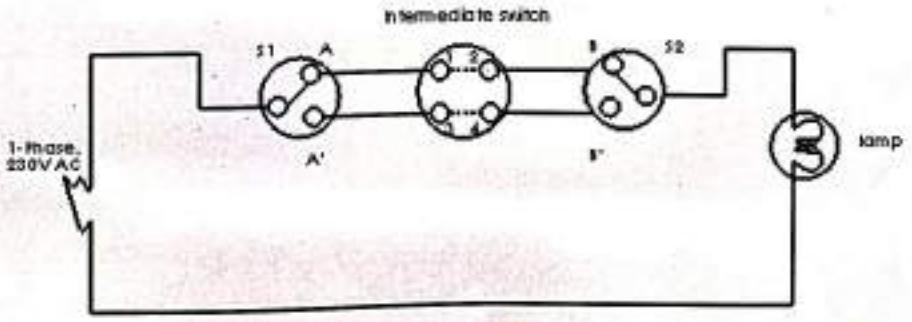


Figure 2

Part No.	Description	Quantity
1	Hexagonal headed bolt	1
2	Hexagonal nut	1
3	Washer	1

OR

8	Draw the second-floor plan of the two-storey building as shown in Figure 3. (Scale 1feet = 5mm)  **Figure 3**	**10**
	OR	
9	Draw the electrical circuit diagram of a two-way and three-way control of lamp as shownin Figure 4a and 4b respectively.  **Figure 4a**  **Figure 4b**	**10**
	OR	

10	Draw electronic circuit diagram of a positive clipper and an inverting amplifier as shown in Figure 5a and 5b	10

Positive Series Clipper

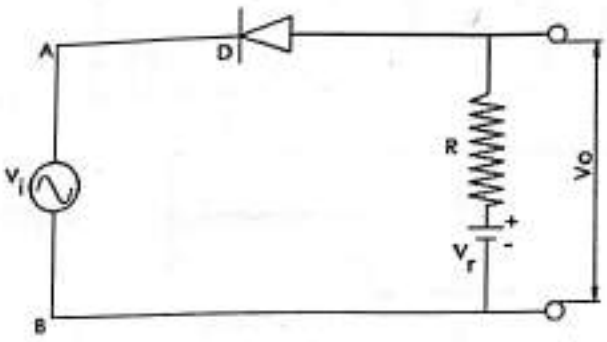


Figure 5a

Inverting Amplifier

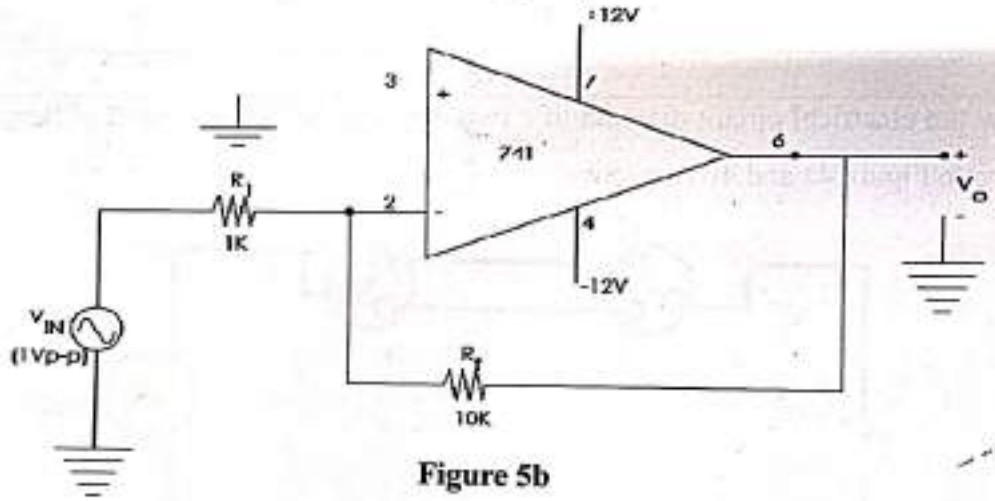


Figure 5b

13.02.2024 - 02:30 to 05:30 - 1324

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(COMMON TO ALL BRANCHES)

Time: 03 Hours **Maximum Marks: 50**

Instructions to candidates:

1. Answer **ANY TWO** questions from **Part A-Manual drawing.**
2. Answer **ANY TWO** questions from **Part B-Computer drafting.**
3. Answer **ANY ONE** question from **Part C- Computer drafting.**

Q.No.	PART-A (Manual Drawing)	Marks
1	A point 30mm below XY line is the top view of three points A, B and C. A is 30mm above HP, B is 20mm below HP and C on HP. Draw the projections of the three points and state their positions with reference planes and the quadrants in which they lie.	5
2	The top view ab of a straight line is 60mm and makes an angle of 50° to XY line. End A is 25 mm in front of VP and 20mm above HP. The difference between the distances of A and B above HP is 35mm. Draw the projections and determine the true length and true inclinations with HP and VP.	5
3	The pentagonal lamina of 30mm sides resting on one of its corners on HP. The lamina makes 45° with HP. Draw its front view and top view.	5
	PART-B (Computer Drafting)	
4	A square prism 30mm base edge and 60mm axis length rests on HP on one of its base corners such that the two base edges containing the corner on which it rests make equal inclinations with HP. Draw the projections when the axis is inclined at 35° HP and top view of the axis makes 40° to XY line.	15
5	Draw the isometric projection of a square prism of side of base 40mm and height 60mm with a right circular cone of base 40mm diameter and height 60mm, resting on its top such that the axes are collinear.	15
6	Draw the development of the lateral surface of a truncated cylinder, 40mm diameter of base and height 60mm, if the truncated flat surface of the cylinder bisects the axis at 50° to it.	15

PART-C (Computer Drafting)

7	Create a 3D assembly of double riveted butt joint with double cover plate chain riveting as shown in Figure 1. Show three rivets in each row.	10

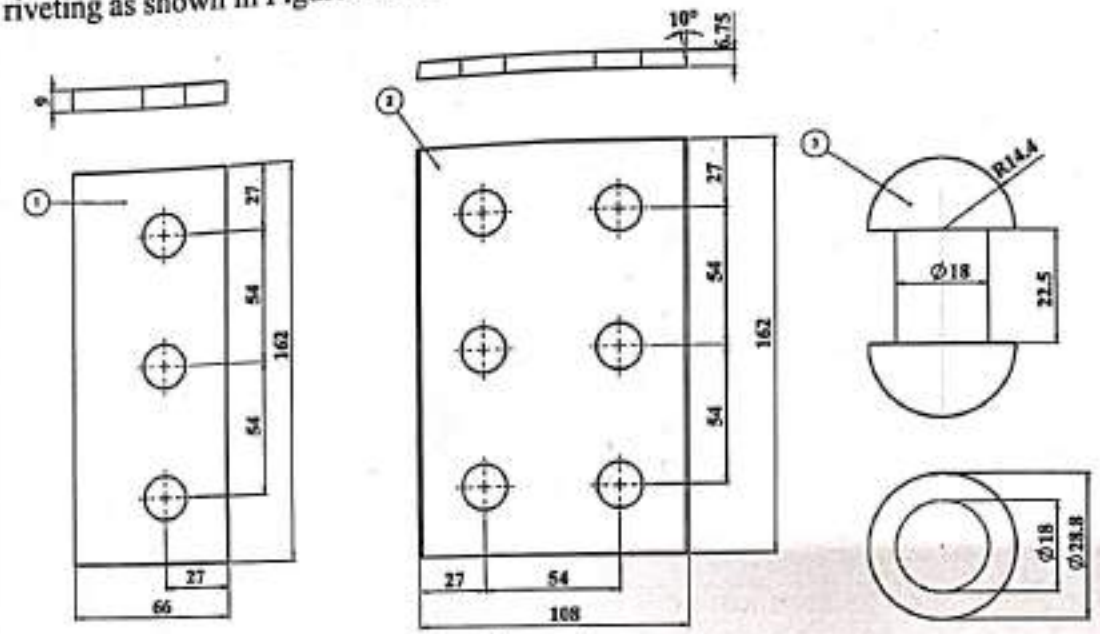

Figure 1

Part No.	Description	Quantity
1	Butt plate	2
2	Cover plate	2
3	Rivet	6

OR

8	Draw the first-floor plan of a two-storey building as shown in Figure 2. (Scale 1feet = 5mm)	10

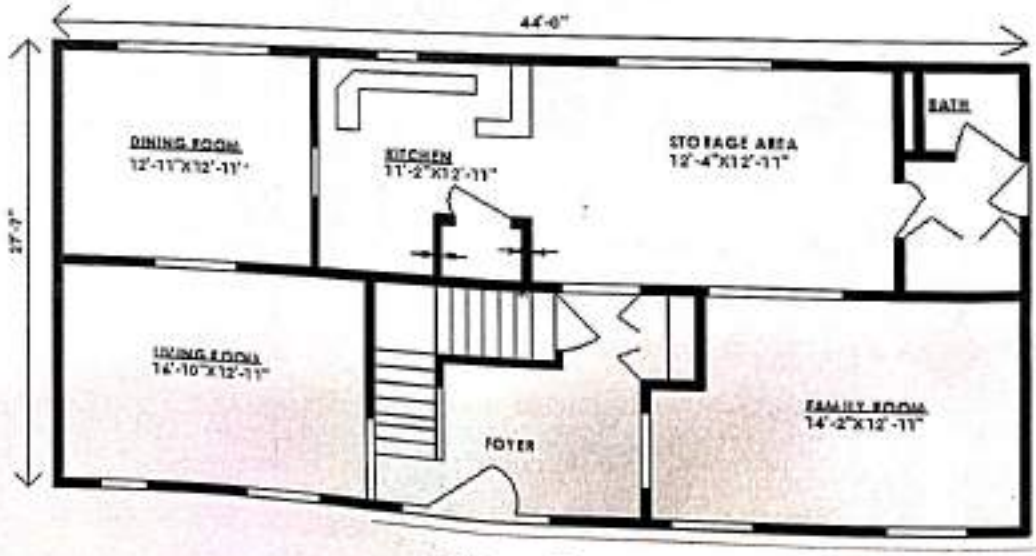

Figure 2

OR

9	Draw the electrical circuit diagram of Single Phase wiring diagram as shown in Figure3.	**10**

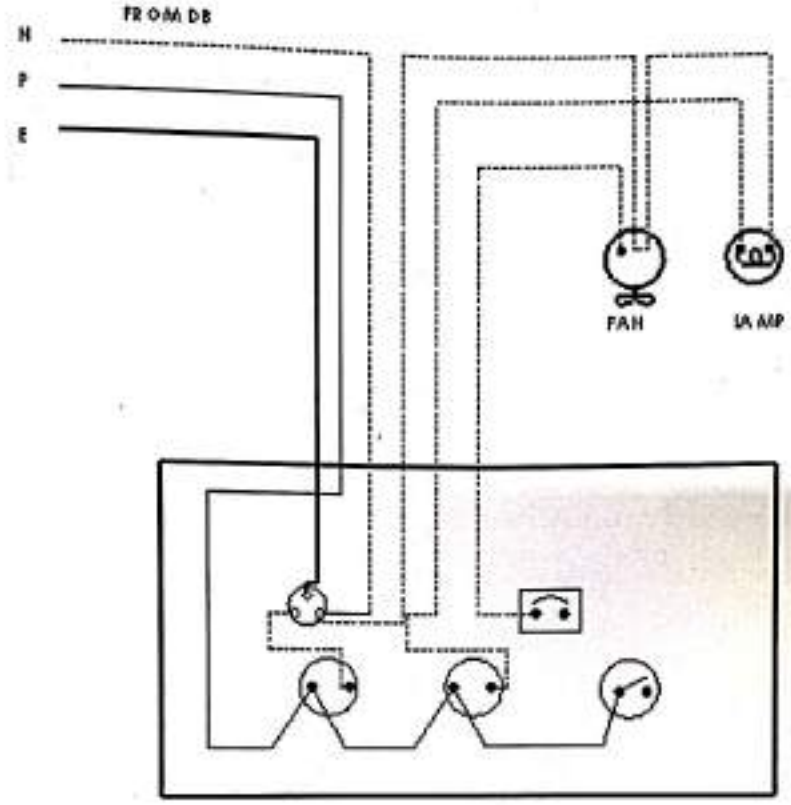

Figure 3

OR

10	Draw electronic circuit diagram of a Full Wave Bridge Rectifier and Center Tapped Full-Wave Rectifier as shown in Figure 4a and 4b.	**10**

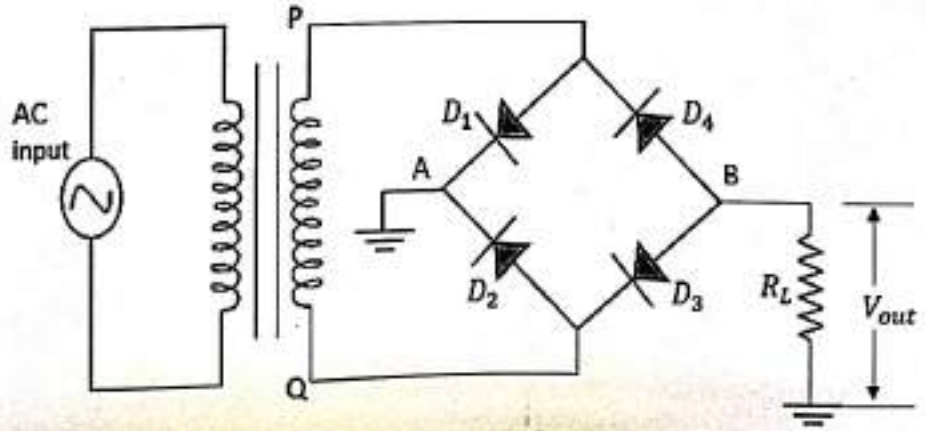

Figure 4a

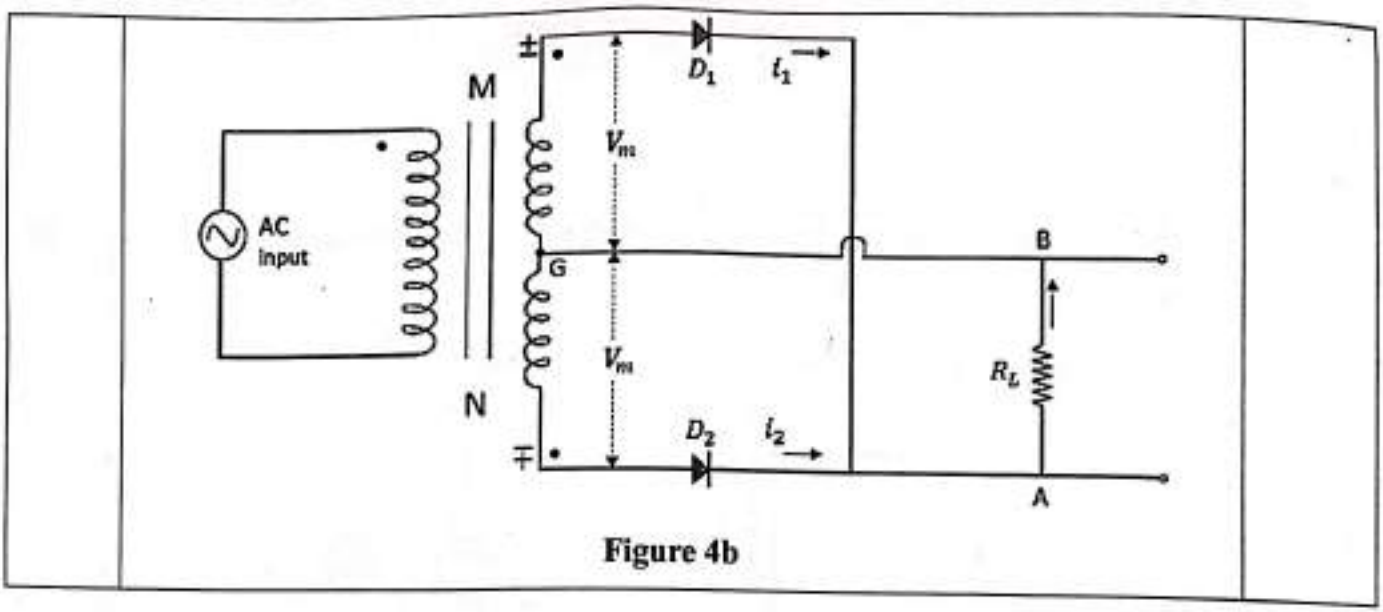

Figure 4b

13.02.2024 - 11.30 AM

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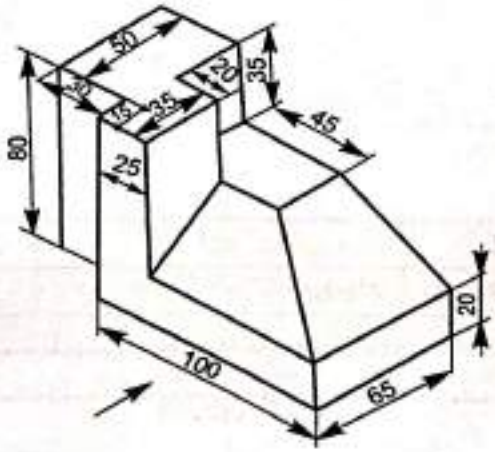
3. Answer **ANY ONE** question from **Part C- Computer drafting.**

Q.No.	PART-A (Manual Drawing)	Marks
1	Point D is 30mm in front of VP, 20mm below HP and 25mm infront of RPP. Draw the projections.	5
2	A line AB 75mm long has one end 15mm in front of VP and 20mm above HP. The line is inclined at 30° to HP and 40° to VP. Draw the front view and the top view of the line.	5
3	A square ABCD of 40mm sides has its diagonal AC inclined at 40° to HP. Draw its front view and top view.	5
	PART-B (Computer Drafting)	
4	A square pyramid of base sides 30mm and 60mm axis length rests on HP on one of its base edges which is inclined at 30° to VP. Draw its projections when the axis is inclined at 40° to HP.	15
5	Create a 3D model of the given part as shown in Figure 1. Generate its front view, top view, profile view and isometric shaded view.  **Figure 1**	15

6	A pentagonal pyramid of 30mm base edges and 60mm axis length rests on HP with two of its base edges are equally inclined to VP and nearer to it. A section plane perpendicular to VP and inclined at 40° to HP bisects the axis of the pyramid. Draw the development of lateral surface of retained portion of the solid.	**15**
	PART-C (Computer Drafting)	
7	Create a 3D assembly of Hexagonal headed bolt and nut with washer and generate the following views. Part drawings are shown in Figure2. i. Front view ii. Top view iii. Right side view iv. Isometric shaded model view.	**10**

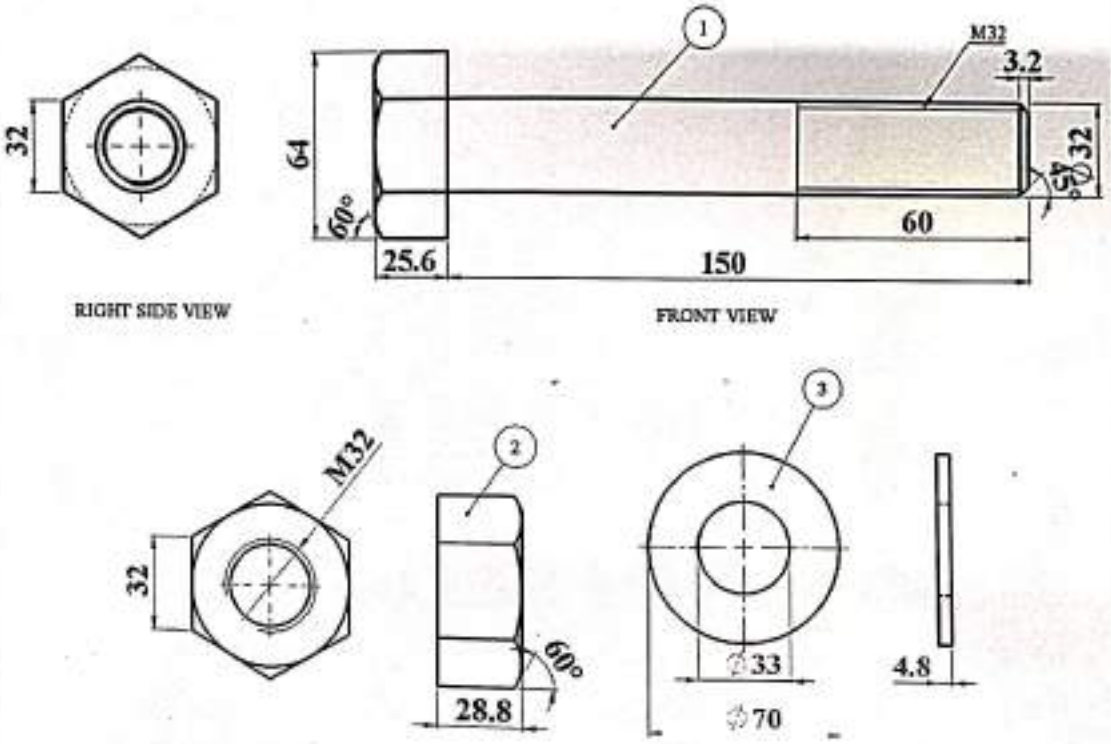
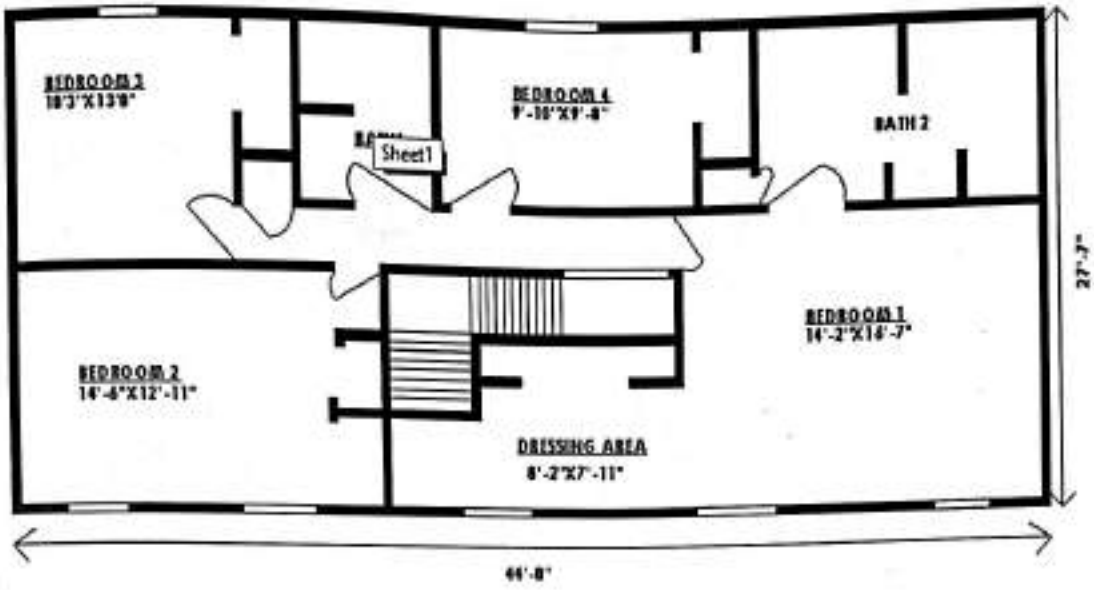
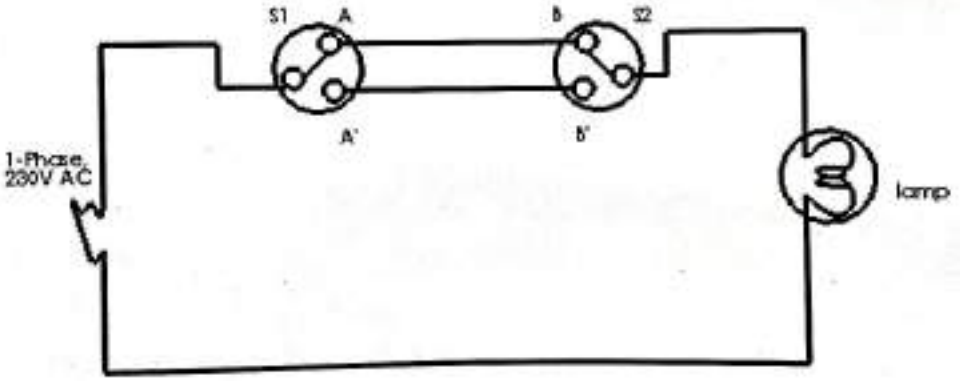
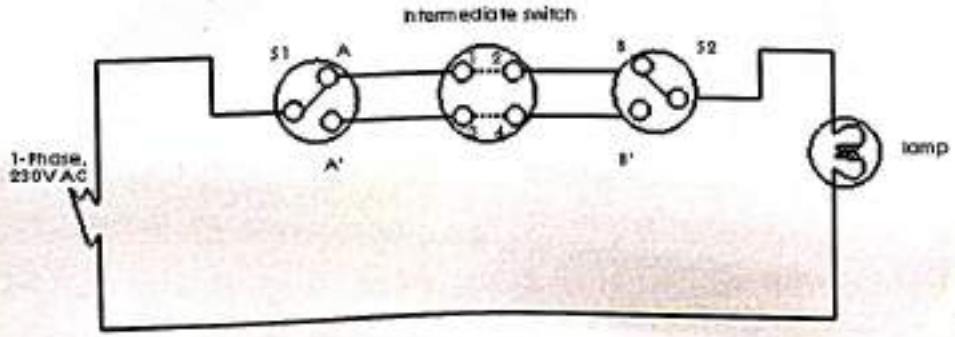


Figure 2

Part No.	Description	Quantity
1	Hexagonal headed bolt	1
2	Hexagonal nut	1
3	Washer	1

OR

8	Draw the second-floor plan of the two-storey building as shown in Figure 3. (Scale 1feet = 5mm)  **Figure 3**	10
	OR	
9	Draw the electrical circuit diagram of a two-way and three-way control of lamp as shownin Figure 4a and 4b respectively.  **Figure 4a**  **Figure 4b**	10
	OR	

10	Draw electronic circuit diagram of a positive clipper and an inverting amplifier as shown in Figure 5a and 5b	10

Positive Series Clipper

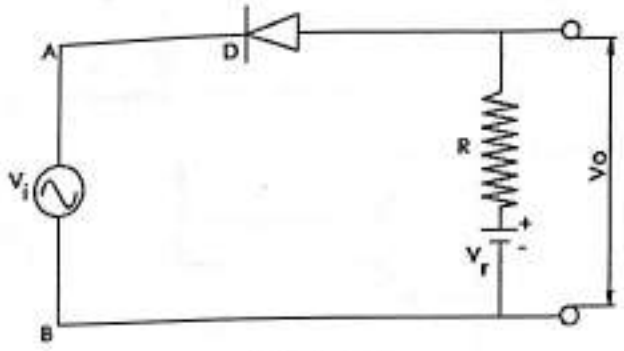


Figure 5a

Inverting Amplifier

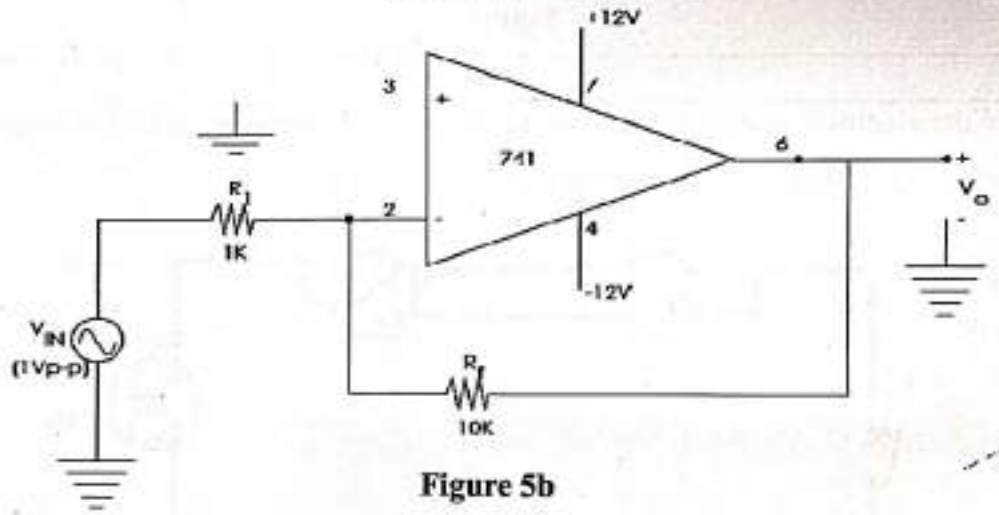


Figure 5b

8:30-11:30

B 25

13/2/24

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1. Answer **ANY TWO** questions from **Part A-Manual drawing.**
2. Answer **ANY TWO** questions from **Part B-Computer drafting.**
3. Answer **ANY ONE** question from **Part C- Computer drafting.**

Q.No.	PART-A (Manual Drawing)	Marks
1	Point A is 35mm infront of VP, 15mm above HP and 25mm infront of RPP. Draw the projections.	5
2	The top view pq of a straight line is 70mm and makes an angle of 50° to XY line. End P is 15 mm in front of VP and 20mm above HP. The difference between the distances of P and Q above HP is 45mm. Draw the projections and determine the true length and true inclinations with HP and VP.	5
3	A square lamina of 30mm sides rests on one of its corners on HP. The lamina makes 60° to HP. Draw its front view and top view.	5
	PART-B (Computer Drafting)	
4	A square pyramid of base sides 30mm and 60mm axis length rests on HP on one of its base edges which is inclined at 30° to VP. Draw its projections when the axis is inclined at 40° to HP.	15
5	A regular pentagonal pyramid of base edge 30mm and axis 60mm is mounted centrally over a cylindrical block of 80 mm diameter and 25mm thick. Draw isometric projection of the combined solids.	15
6	A square prism of base edge 30mm and height 50mm rests on HP with its axis vertical and two of its base edge parallel to VP. A section plane perpendicular to VP and inclined at 45° to HP bisects the axis of the prism. Draw the development of lateral surface of retained portion of the solid.	15

PART-C (Computer Drafting)

7	Create a 3D assembly of Hexagonal headed bolt and nut with washer and generate the following views. Part drawings are shown in Figure 1. i. Front view ii. Top view iii. Right side view iv. Isometric shaded model view.	10

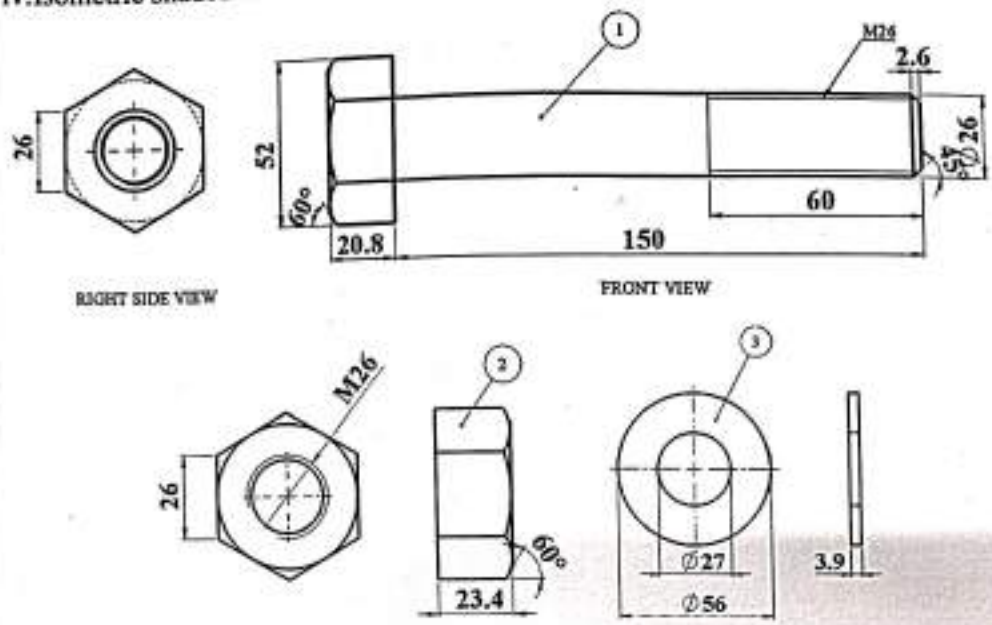

Figure 1

Part	Description	Quantity
1	Hexagonal headed bolt	1
2	Hexagonal nut	1
3	Washer	1

OR

8	Draw the second-floor plan of the two storey building as shown in Figure 2. (Scale 1feet = 5mm)	10

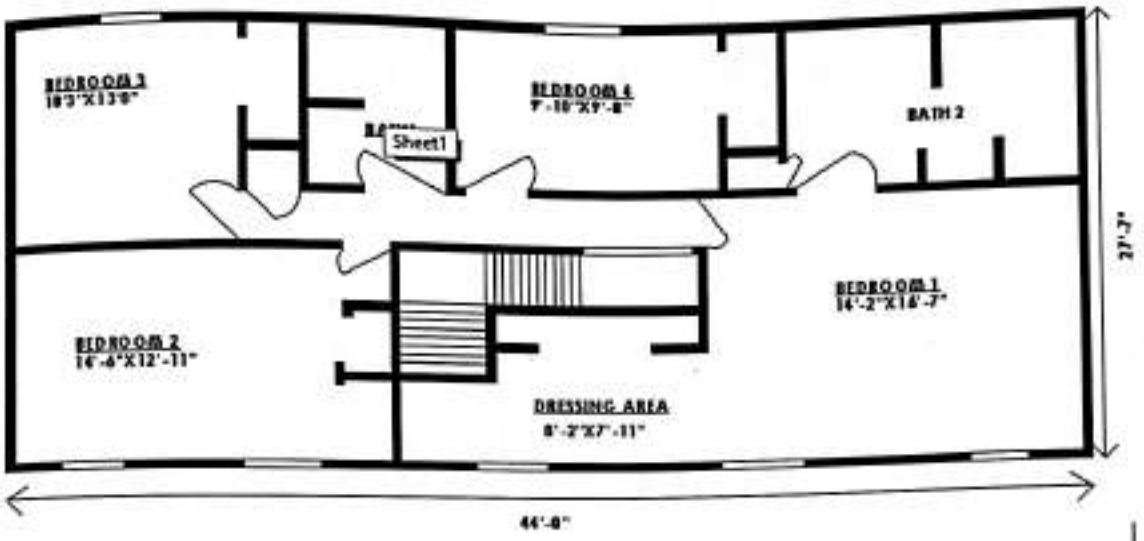

Figure 2

OR

9	Draw the electrical circuit diagram of a two-way and three-way control of lamp as shown in Figure 3a and 3b respectively.	10

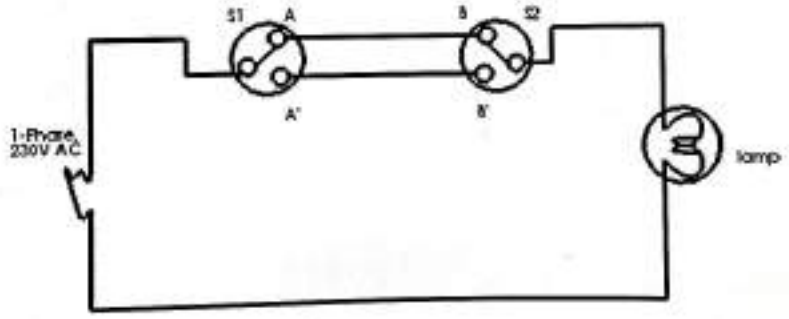

Figure 3a

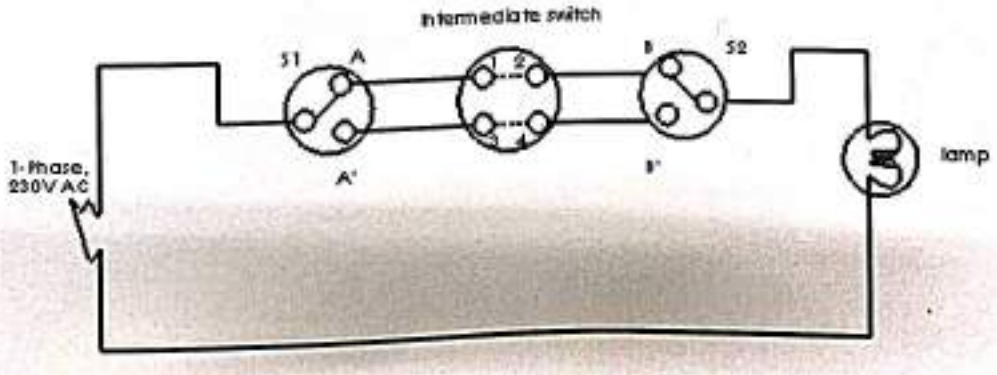

Figure 3b

OR

10	Draw electronic circuit diagram of a positive clipper and an inverting amplifier as shown in Figure 4a and 4b respectively.	10

Positive Series Clipper

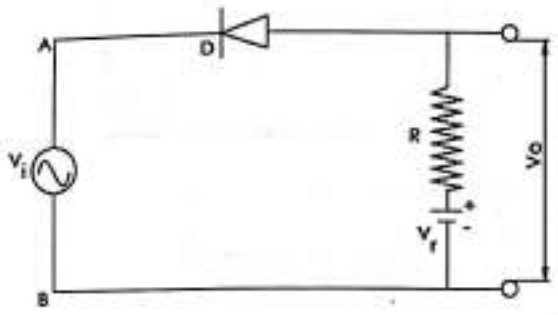

Figure 4a

Inverting Amplifier

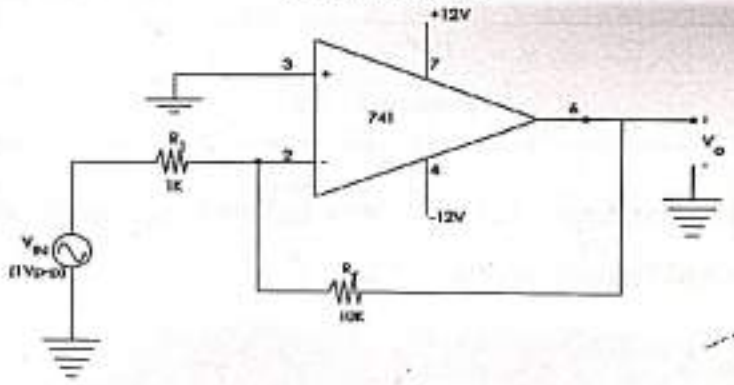

Figure 4b

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2. Answer **ANY TWO** questions from **Part B-Computer drafting.**
3. Answer **ANY ONE** question from **Part C- Computer drafting.**

Q.No.	PART-A (Manual Drawing)	Marks
1	Draw the projections of the following points on the same XY line. State their quadrants. a) A is in VP and 30 mm above HP. b) B is 30mm in front of VP and in HP. c) C is 20mm behind VP and 40mm below HP d) D is 30mm behind VP and 40mm above HP e) E is 20mm in front of VP and 30mm above HP.	5
2	A line AB 65mm long has one end 15mm in front of VP and 20mm above HP. The line is inclined at 30° to HP and 35° to VP. Draw the front view and the top view of the line.	5
3	An equilateral triangular lamina of 40mm sides resting on one of its corners on HP. The lamina makes 60° with HP. Draw its front view and top view.	5
	PART-B (Computer Drafting)	
4	A triangular pyramid 35mm base edges and 50mm axis length rests on HP on one of its slant edges. Draw the projection of the pyramid when the axis is inclined to VP at 40°.	15
5	A sphere of diameter 40mm is placed centrally on the top face of a pentagonal prism of side 50mm and height 50mm. Draw the isometric projection of the combination.	15
6	A square pyramid of base edge 30mm and height 50mm rests on HP with its axis vertical and two of its base edges equally inclined to VP. A section plane perpendicular to VP and inclined at 45° to HP bisects the axis of the pyramid. Draw the development of lateral surface of retained portion of the solid.	15

PART-C (Computer Drafting)

7	Create a 3D assembly of Hexagonal headed bolt and nut with washer and generate the following views. Part drawings are shown in Figure 1. i. Front view ii. Top view iii. Right side view iv. Isometric shaded model view.	10

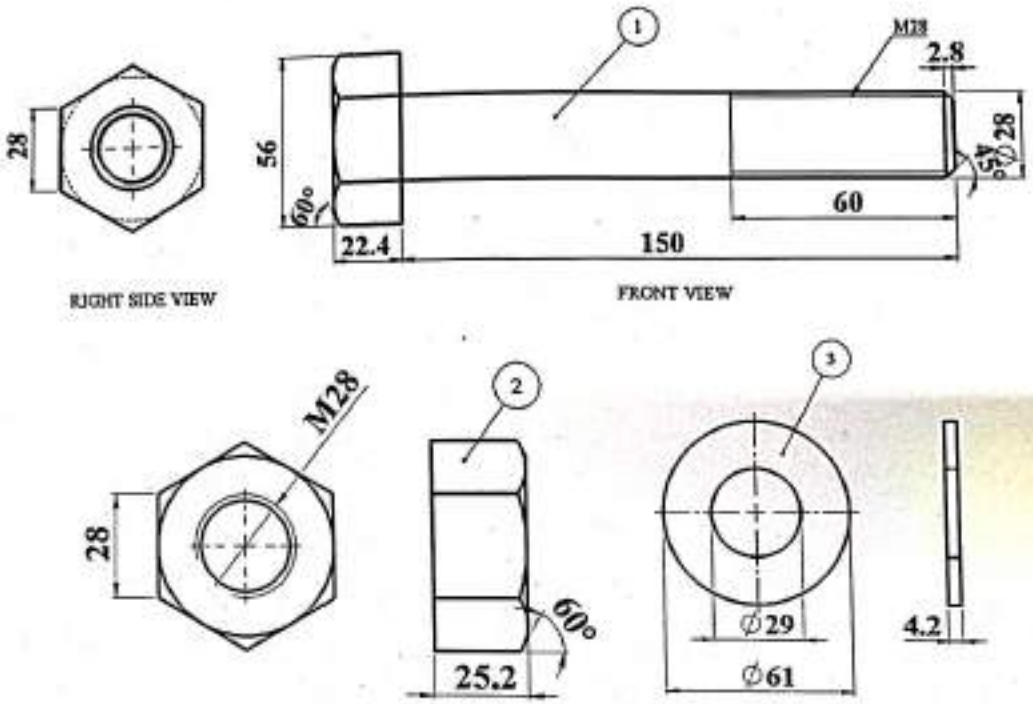

Figure 1

Part No.	Description	Quantity
1	Hexagonal headed bolt	1
2	Hexagonal nut	1
3	Washer	1

OR

8	Draw the first-floor plan of a two-storey building as shown in Figure 2. (Scale 1feet = 5mm)	10

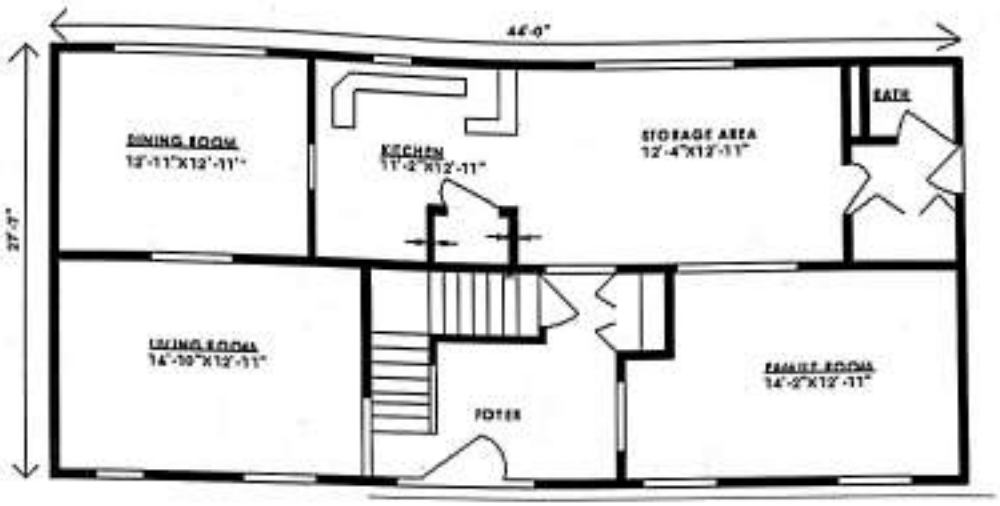

Figure 2

OR

9	Draw the electrical circuit of a two-way and three-way control of lamp as shown in Figure 3a and 3b	10

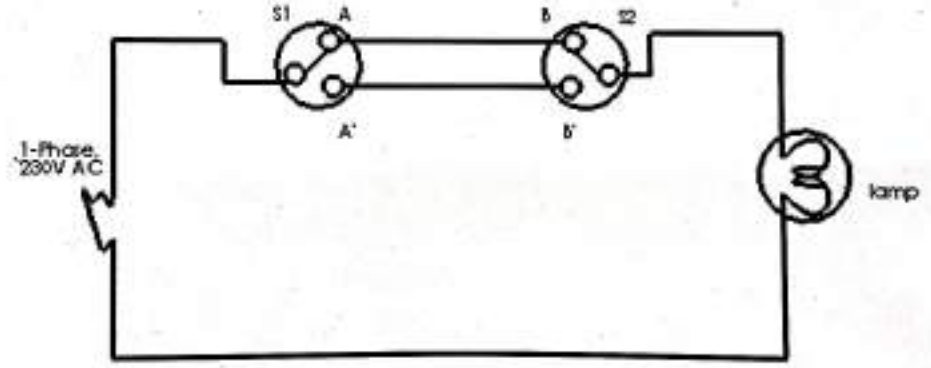

Figure 3a

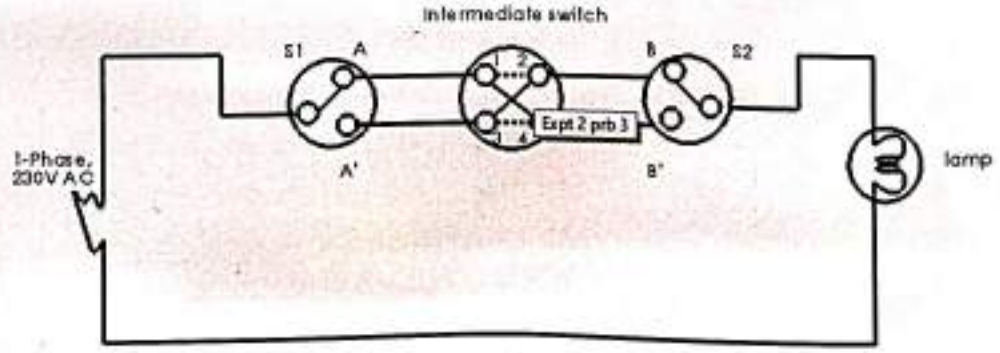

Figure 3b

OR

10	Draw electronic circuit diagram of a positive clipper and an inverting amplifier as shown in Figure 4a and 4b	**10**

Positive Clamper Circuit

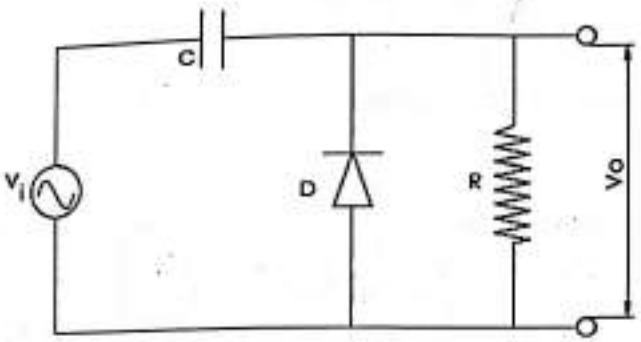

Figure 4a

Inverting Amplifier

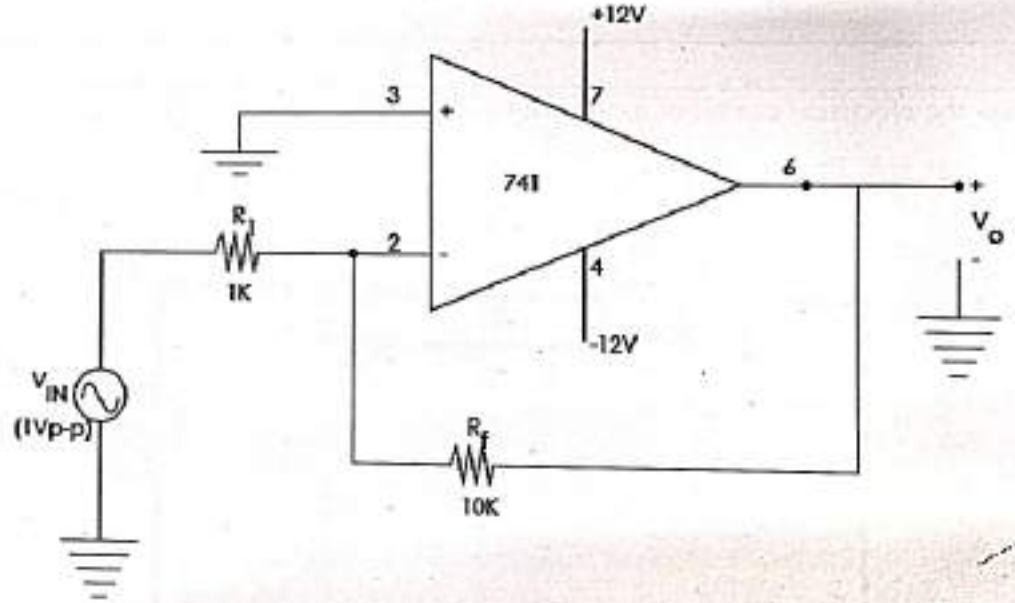

Figure 4b

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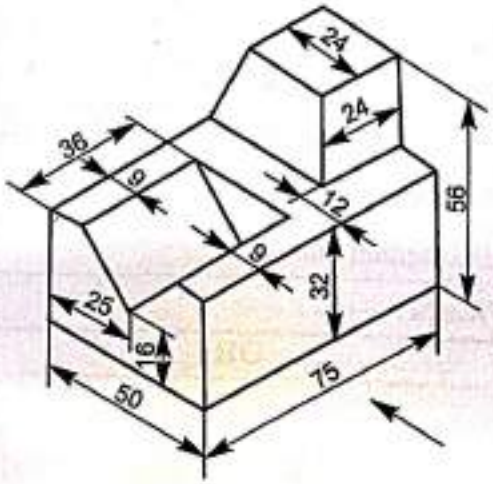
(COMMON TO ALL BRANCHES)

Time: 03 Hours **Maximum Marks: 50**

Instructions to candidates:

1. Answer **ANY TWO** questions from **Part A-Manual drawing.**
2. Answer **ANY TWO** questions from **Part B-Computer drafting.**
3. Answer **ANY ONE** question from **Part C- Computer drafting.**

Q.No.	PART-A (Manual Drawing)	Marks
1	A point 25mm above XY line is the front view of two points P and Q. P is 40mm behind VP and Q is 30mm infront of VP. Draw the projections of the two points and state their positions with reference planes and the quadrants in which they lie.	**5**
2	The top view of a line AB, 80 mm long measures 65 mm and the length of the front view is 50 mm. The end A is on HP and 15 mm infront of VP. Draw the projections	**5**
3	The pentagonal lamina of 30mm sides resting on one of its corners on HP. The lamina makes 35° with HP. Draw its front view and top view.	**5**
	PART-B (Computer Drafting)	
4	A triangular prism 35mm base edges and 50mm axis length rests on HP on one of its base edges. Draw the projection of the prism when the axis is inclined to VP at 40° and 25° to HP.	**15**
5	Create a 3D model of the given part as shown in Figure 1. Generate its front view, top view, profile view and isometric shaded view.  **Figure 1**	**15**

6	Draw the development of the lateral surface of a truncated cylinder, 45mm diameter of base and height 55mm, if the truncated flat surface of the cylinder bisects the axis at 50° to it.	15
	PART-C (Computer Drafting)	
7	Create a 3D assembly of Hexagonal headed bolt and nut with washer and generate the following views. Part drawings are shown in Figure 2. i. Front view ii. Top view iii. Right side view iv. Isometric shaded model view.	10

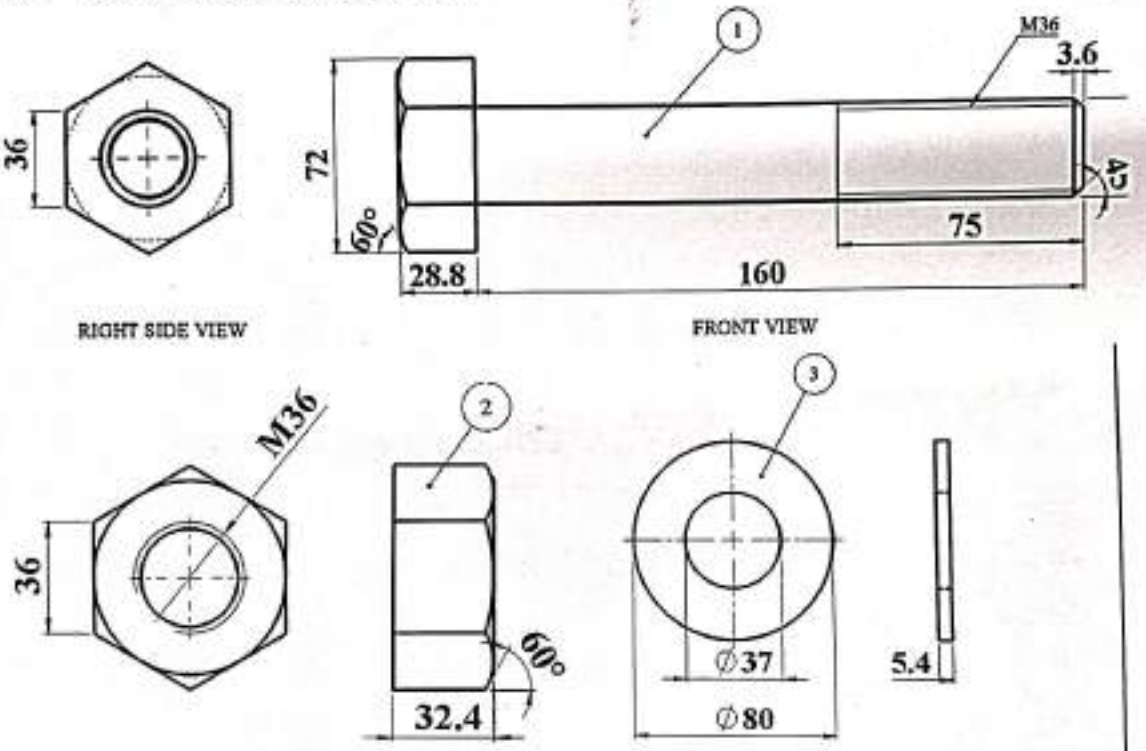


Figure 2

Part No.	Description	Quantity
1	Hexagonal headed bolt	1
2	Hexagonal nut	1
3	Washer	1

OR

8	Draw single room plan of the building as shown in Figure 3. (Scale 1feet = 5mm)	10

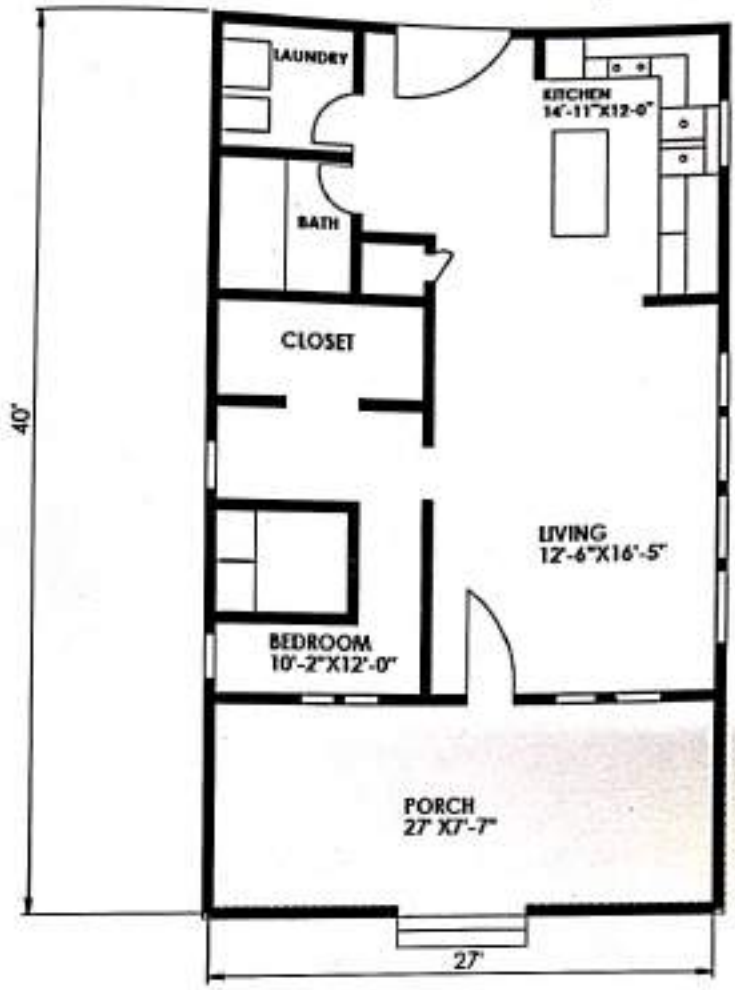


Figure 3

OR

9	Draw single phase wiring circuit diagram as shown in Figure 4	10

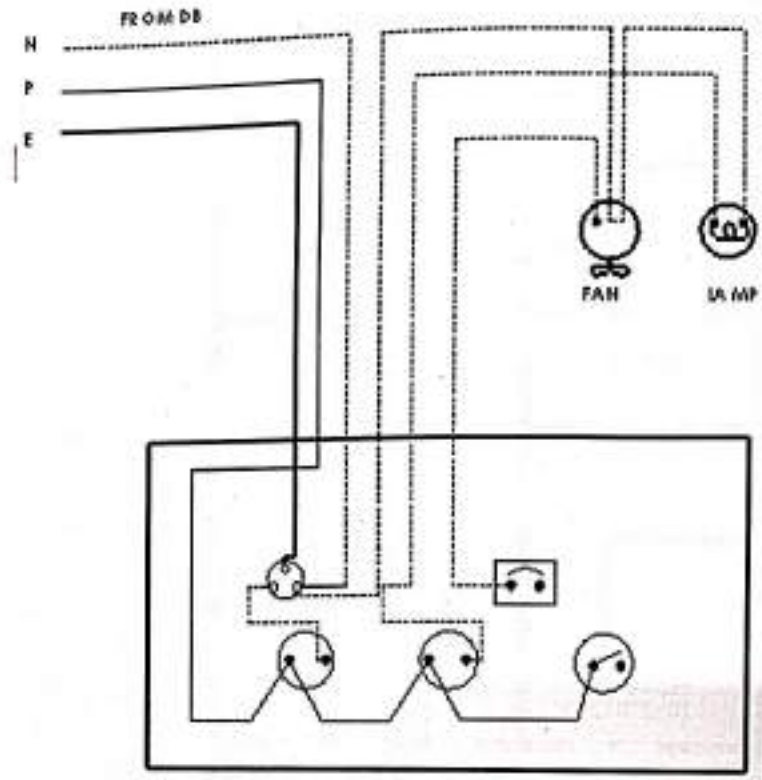


Figure 4

OR

10	Draw electronic circuit diagram of RC Coupled Amplifier as shown in Figure 5	10

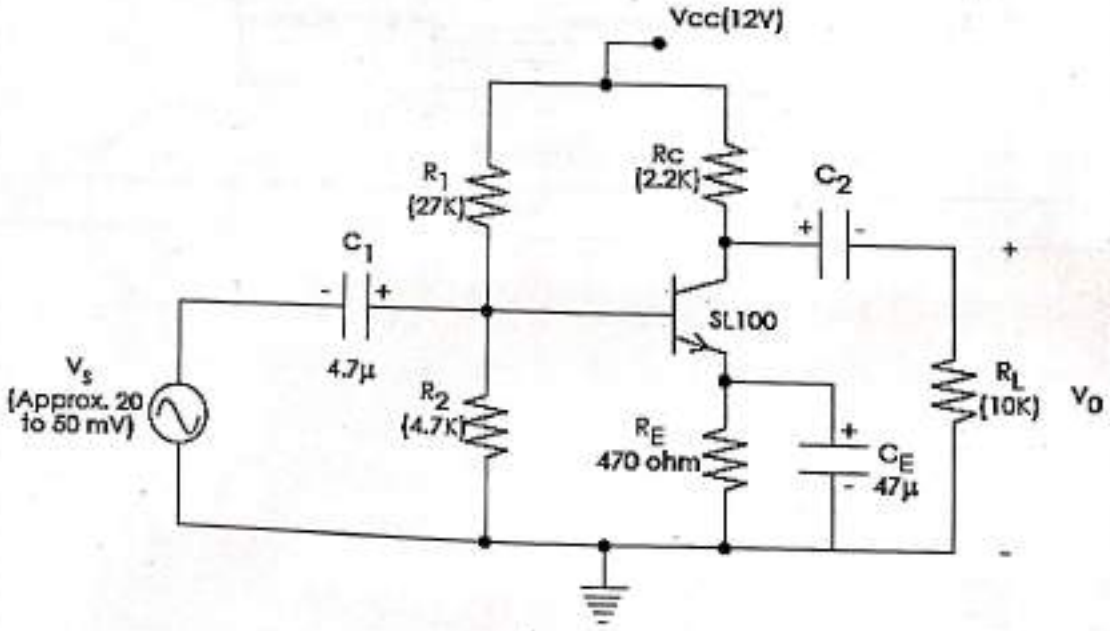


Figure 5

RASHTREEYA SIKSHANA SAMITHI TRUST

RV COLLEGE OF ENGINEERING®

(AUTONOMOUS INSTITUTE AFFILIATED TO VTU, BELAGAVI)

I Semester B.E. Degree Examination, Feb 2024

COMPUTER AIDED ENGINEERING GRAPHICS – ME112GL

(COMMON TO ALL BRANCHES)

Time: 03 Hours **Maximum Marks: 50**

Instructions to candidates:

1. Answer **ANY TWO** questions from **Part A-Manual drawing.**
2. Answer **ANY TWO** questions from **Part B-Computer drafting.**
3. Answer **ANY ONE** question from **Part C- Computer drafting.**

Q.No.	PART-A (Manual Drawing)	Marks
1	Point B is 20mm behind VP, 40mm below HP and 25mm behind RPP. Draw its projections.	5
2	The line AB measuring 70mm has its end A 20mm infront of VP and 15mm above HP, the other end B is 50mm infront of VP and 60mm above HP. Draw the projections of the line and find the inclinations of the line with both the reference planes of projection.	5
3	A rectangular lamina of sides 30mm X 50mm rests on HP on one of its longer edges. The lamina is tilted about the edge on which it rests till its plane surface is inclined to HP at 45°. Draw its front view and top view.	5
	PART-B (Computer Drafting)	
4	A square prism of base sides 30mm and 60mm axis length rests on HP on one of its base corners in such a way that the axis is inclined at 40° to HP and appears to be inclined at 30° to VP. Draw its projections.	15
5	A cylinder of base diameter 40mm and height 50mm rests centrally over a frustrum of a square pyramid of base side 60mm, top side 30mm and height 55mm. Draw isometric projections of the combination of solids.	15
6	A square prism of 30mm base edges and 55mm axis length rests on HP with its axis vertical and two of its lateral surfaces are equally inclined to VP. A section plane perpendicular to VP and inclined at 35° to HP bisects the axis of the prism. Draw the development of lateral surface of retained portion of thesolid.	15

PART-C (Computer Drafting)

7	Create a 3D assembly of double riveted butt joint with double cover plate chain riveting as shown in Figure 1. Show three rivets in each row.	10

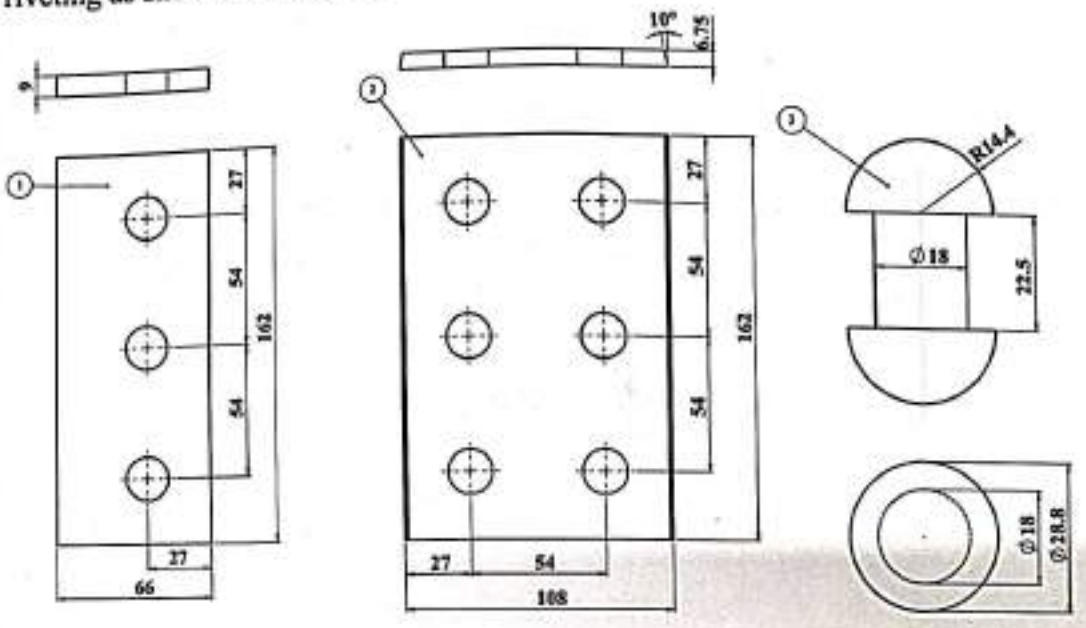


Figure1

OR

8	Draw the second-floor plan of the two storey building as shown in Figure 2. (Scale 1feet = 5mm)	10

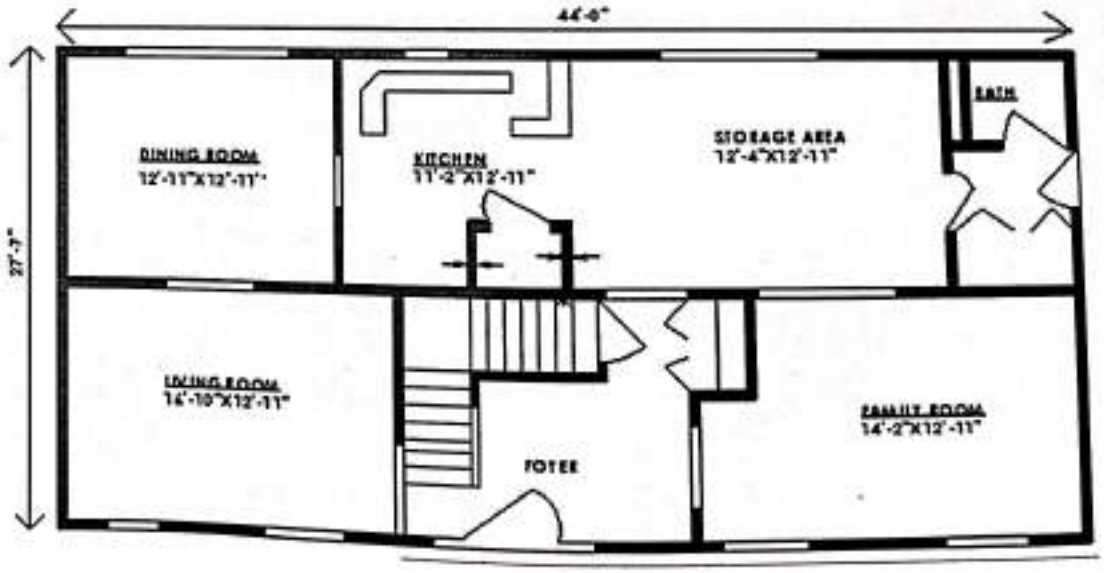


Figure 2

OR

9	Draw the electrical circuit diagram of Single-Phase wiring diagram as shown in Figure3.	**10**

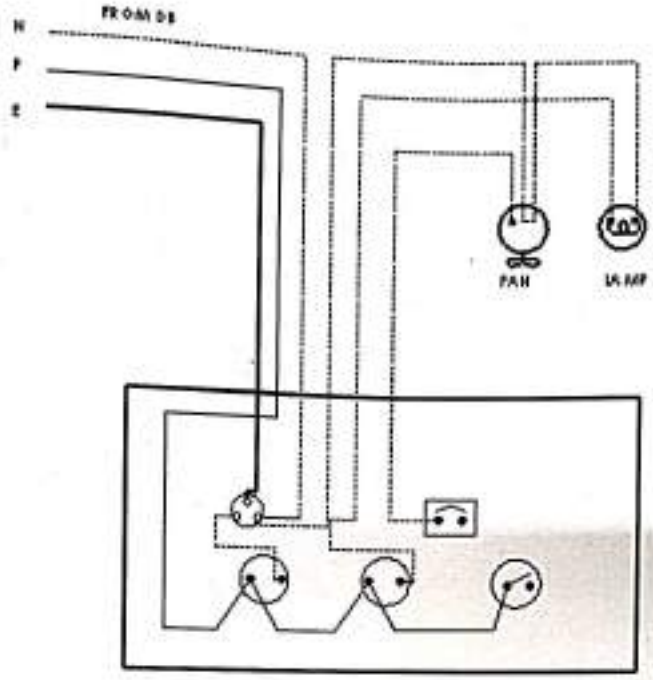


Figure 3

OR

10	Draw electronic circuit diagram of a Full Wave Bridge Rectifier and Center Tapped Full-Wave Rectifieras shown in Figure 4a and 4b.	**10**

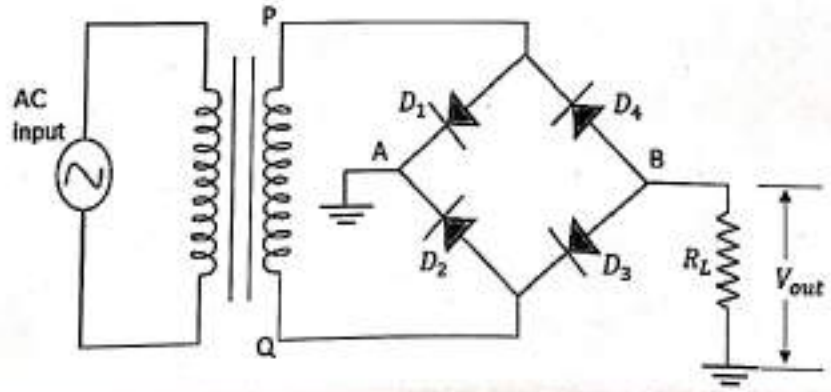


Figure 4a

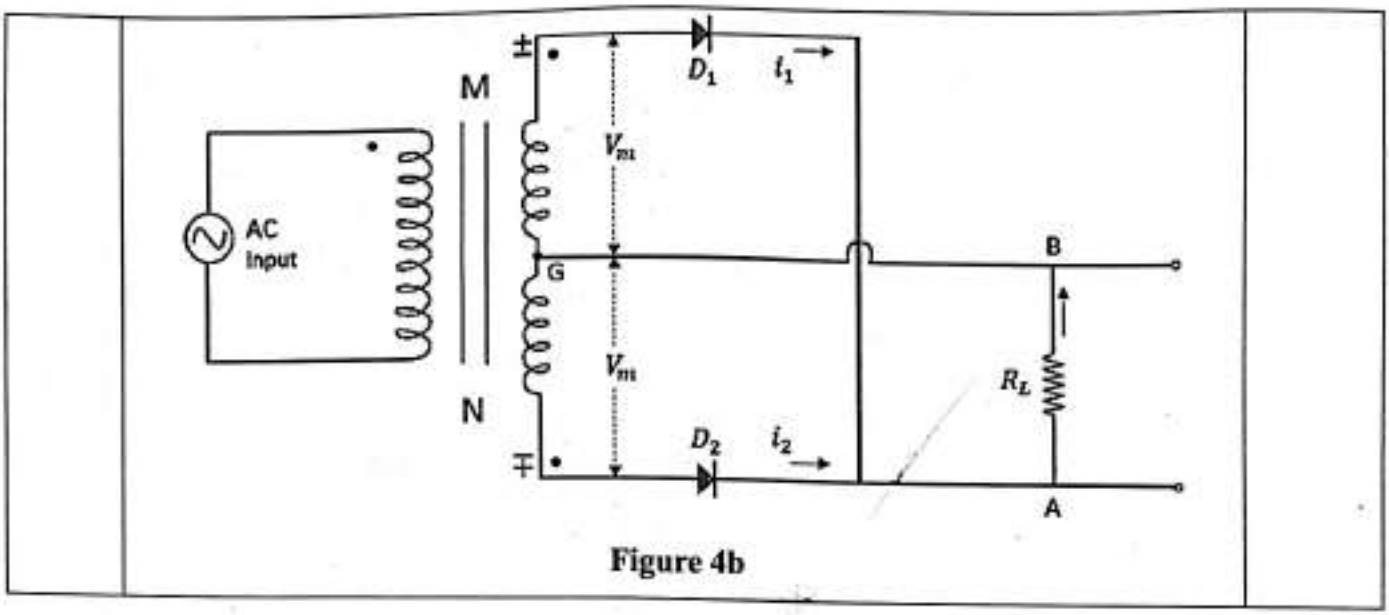


Figure 4b