4.16 WOODWORK (444)

4.16.1 Woodwork Paper 1 (444/1)

1. (a) Levels of qualifications.

- Artisan
- Craftsman
- Technician
- Engineer

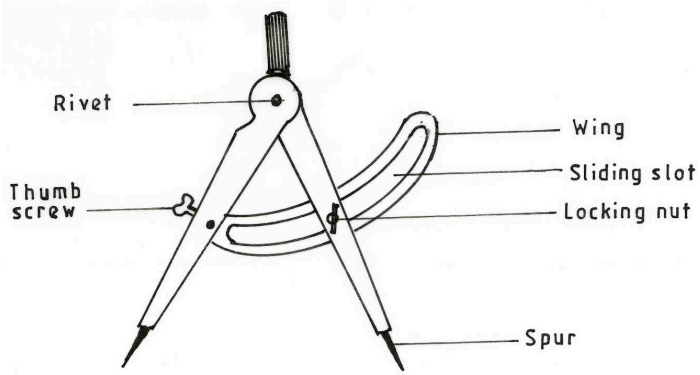
2 x 1 = (2 marks)

(b) Factors which determine the appearance of grains.

- Methods of cut.
- The location of the cut.
- The condition of wood.
- The arrangement of wood cells.
- Direction of cut.

4 x $\frac{1}{2}$ = (2 marks)

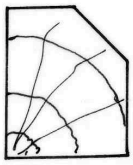
2. **Wing divider**



Sketch = 2
Labels, Any 4x1/2 = 2
= 4 mks

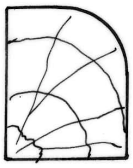
(4 marks)

3. **Difference between chamfering and round**



Chamfer end

Chamfering is the shaping of the aris end or edge of a piece of wood at an angle



Round end

Rounding is the shaping of the aris end or edges of a piece of wood at a given radius

Sketching 2x1 = 2
Expl. 2x1 = 2
= 4 mks

4. (a) Texture - is a surface $\frac{1}{2}$ condition resulting from the size $\frac{1}{2}$ and distribution $\frac{1}{2}$ of wood cells $\frac{1}{2}$.

(b) Figure - pattern $\frac{1}{2}$ or markings which are formed $\frac{1}{2}$ on the surface of processed $\frac{1}{2}$ timber as a result of wood tissue being cut $\frac{1}{2}$ through.

2 x 2 = (4 marks)

5. (a) **Functions of a jointer**

- Makes edges straight and square.
- Makes rebates, tongues and chamfers.

2 x 1 = (2 marks)

(b)

EXTINGUISHING AGENTS	**CLASS OF FIRE**
Water and sand	A (1)
Chemicals and foam	B (1)

2 x 1 = (2 marks)

6. (a) **Four characteristics of laquer**

- Crystal clear
- Fast drying
- Produce hazardous fumes during application
- Can be sprayed or brushed
- Do not form layers as thick as most varnishes.

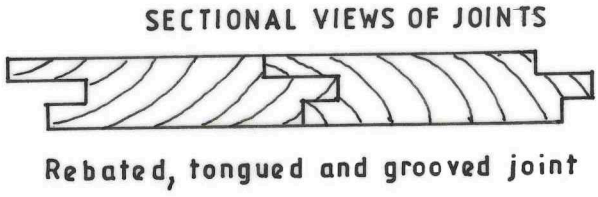
Any 4 x $\frac{1}{2}$ = (2 marks)

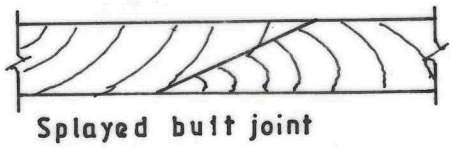
(b) **Classification of pencils**

Soft	**Medium**	**Hard**
3 B	B	4 H
2 B	HB	2 H

(3 marks)

7. **Sectional views of joints**





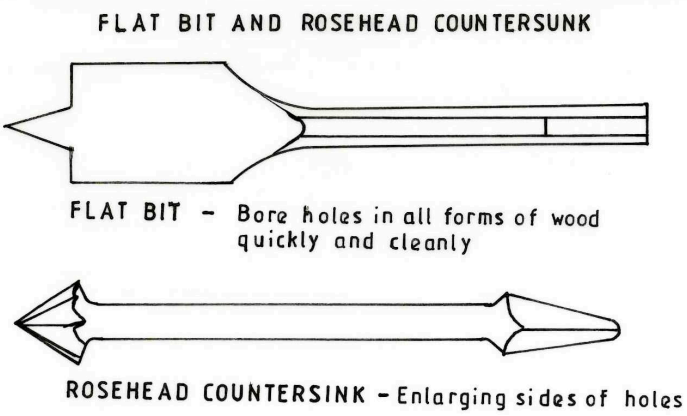
Sketches 2 × 2 = 4mks

8. **Precautions to be observed when using a saw**

- No nails/ metallic objects in the workpiece.
- No obstacles in front of the cutting line.
- Ensure that the saw is well maintained.
- Make/ apply uniform strokes to drive the saw.

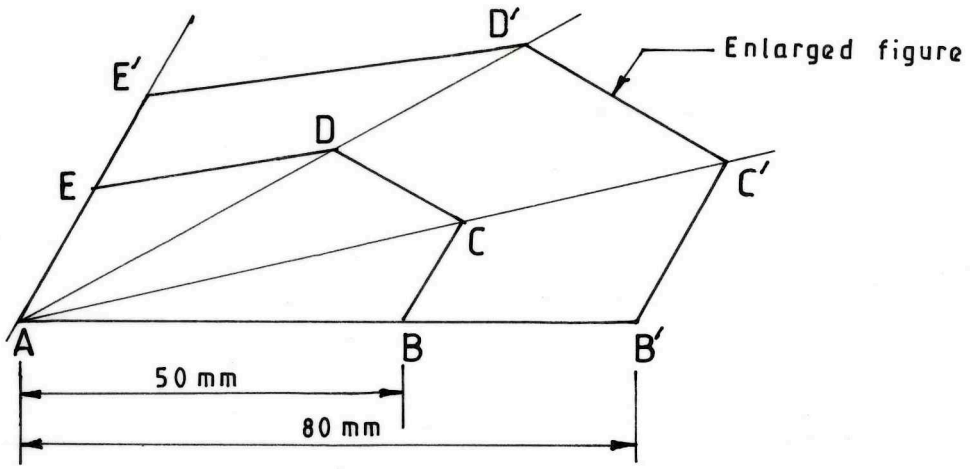
Any 3 x 1 = (3 marks)

9.



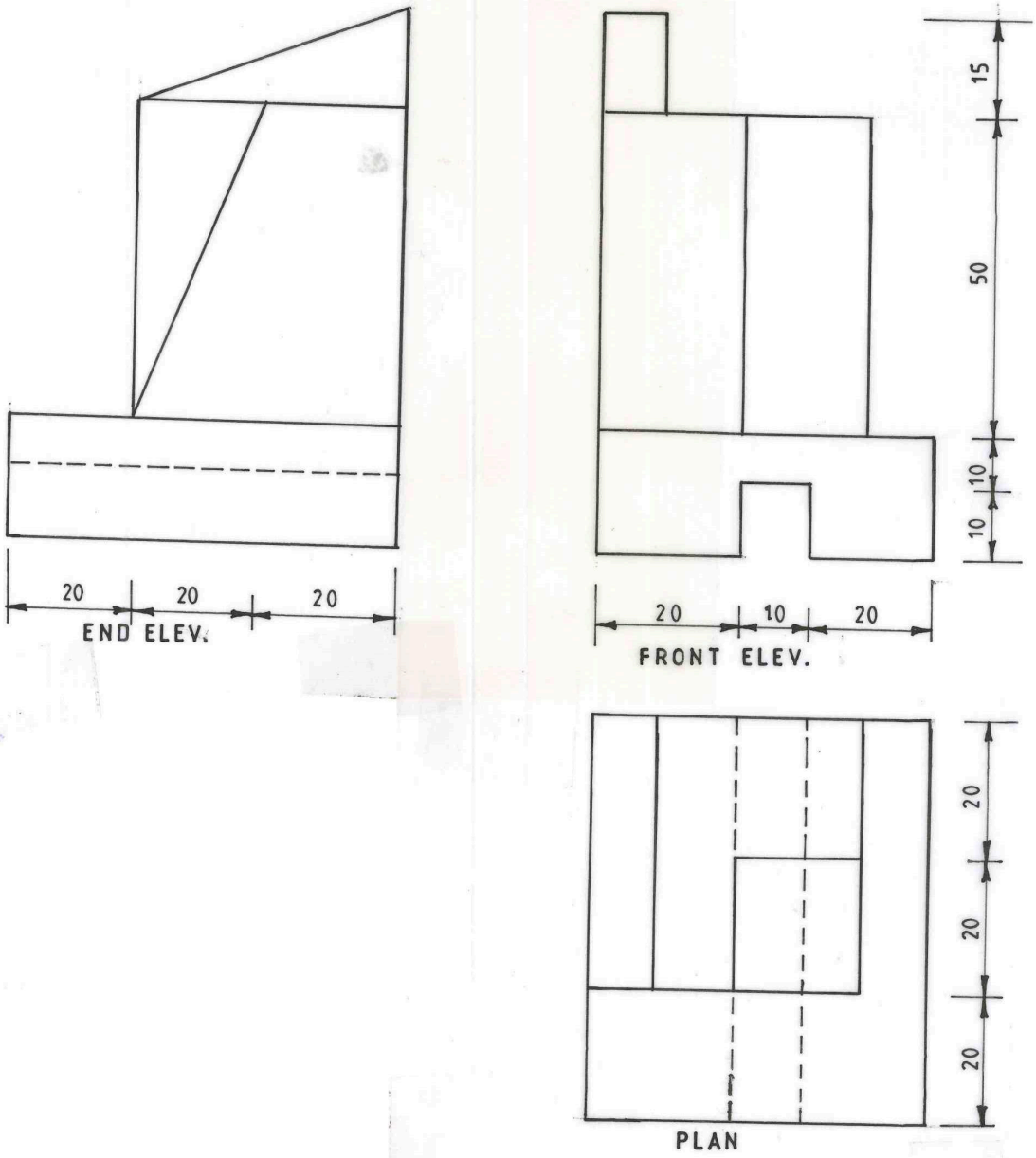
Sketch, 2 × 1 = 2
Function, 2 × 1 = 2
= 4mks

10. **Enlargement**



Length 80mm (AB′) = 1
Radiation lines = 1
Enlarged figure = 1
Original figure = 1
= 4 mks

11.



Correct interpretion		= 1
Dimensions,	$6 \times 1/2$	= 3
Faces,	$12 \times 1/2$	= 6
Hidden details		= 2
Correct scale		= 1
Construction lines		= 1
Neatness		= 1
		= 15 mks

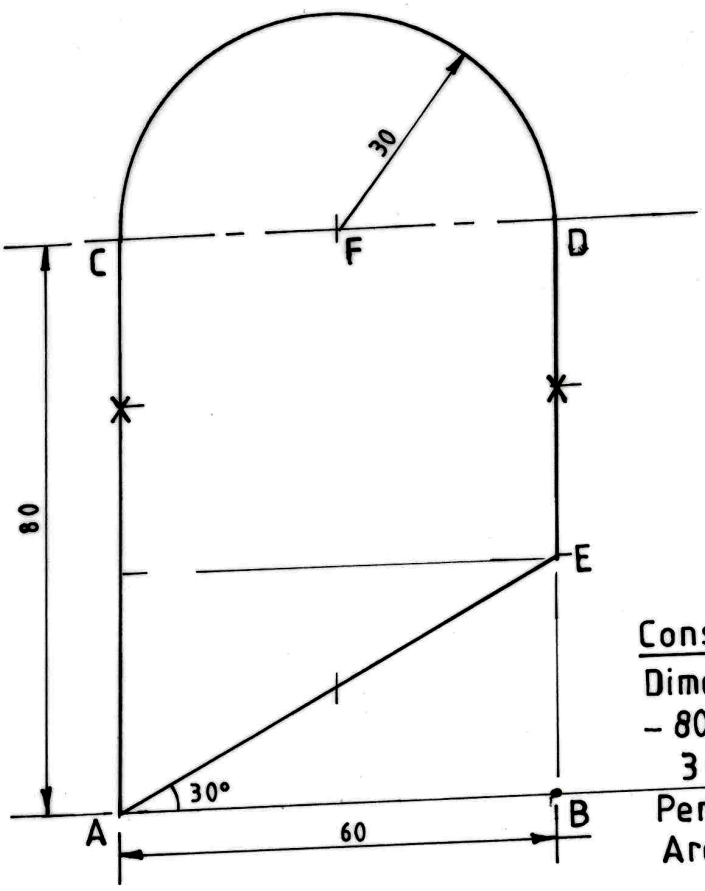
(15 marks)

12. (a) **Precautions to be observed when using a steel tape measure**.

- Do not pull or push the tape when the locking device is engaged.
- Check the accuracy with a vernier calliper to ensure the hook at the end is not bend.
- Do not extend the tape beyond its limits.
- Do not drop the tape.

3 x 1 = (3 marks)

(b) (i)



Constructions:
Dimensions – 80, 60, R30 $3 \times \frac{1}{2} = 1\frac{1}{2}$
30° Angle = 1
Perpendiculars $2 \times \frac{1}{2} = 1$
Arc constr (smooth) = $\frac{1}{2}$
= 5 mks

(ii) **Step of marking out the shape**

- Establish line AB = 60 mm
- At point A and B construct perpendicular lines.
- At point A and B and along the perpendicular line, mark 80 mm - C and D.
- At point A construct $\angle 30^0$ to cut at E.
- Measure 30 mm from point E to establish point F.
- At point F construct an arc 30 mm radius to meet at C and D.
- Join points A, C, D and E to produce the desired shape.

7 x 1 = (7 marks)

13. (a) **Factors to consider when grading timber**.

- Quality (½) - when judging the quality the grader considers the type (½), size (½) and number (½) of defects on the face (i.e) natural defect, sawing defect, seasoning e.t.c.
- Condition (½) - The grader should consider the condition of the surface (i.e) staining (½), discolouration (½) due to weathering, fungi attack (½) moisture content e.t.c.
- Strength (½) - The ability of the timber to withstand shearing stresses, (½) bending stresses and compression.

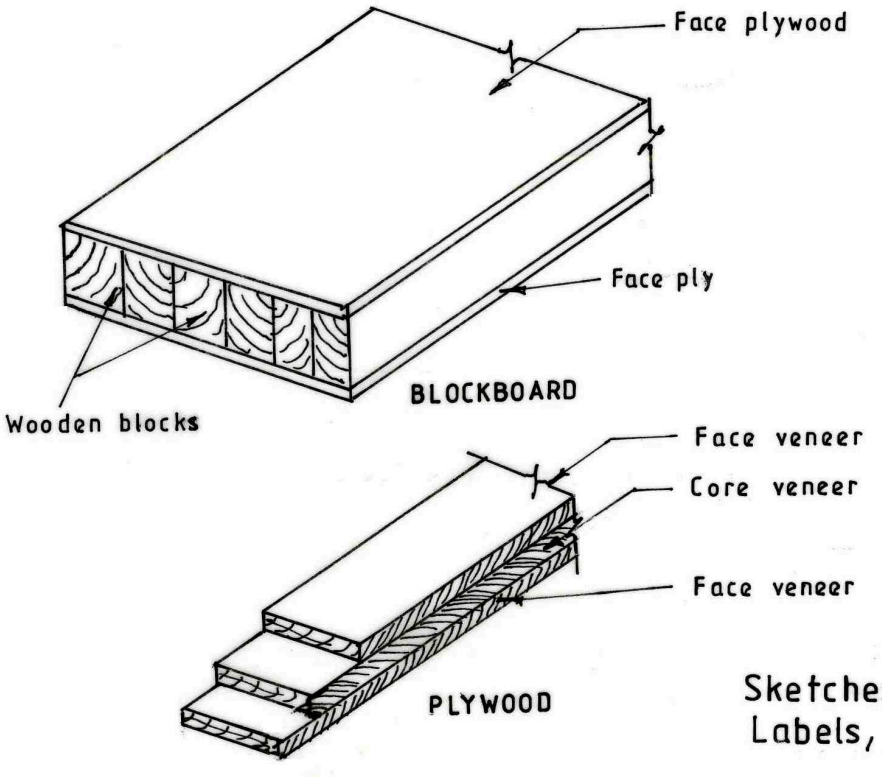
(5 marks)

(b) **Purpose of a primer**

- Prevent previous applied finishes from bleeding into the paint.
- Seals wood pores and stick to surfaces better than paint does.
- As they seal the pores, they make the surface smooth, hence the surface is easier to paint and less absorbent.
- Help to preserve the wood and reduce blistering, peeling and ratting.
- Forms a surface for finishing coat.

Any 4 x 1 (4 marks)

(c) **Blockboard and plywood**



Sketches 2 × 2 = 4
Labels, Any 2 × 2 × ½ = 2
= 6 mks

14. (a) **Benefits of small business start up**

- Creates employment to the local community.
- Control the rural urban migration
- Generates revenue to the local authority by paying levies.
- Takes services closure to the people.
- Improves the living standards of the local community.
- Makes use of the locally available materials.
- Creates taxable revenue to the Government.

Any 6 x 1 = (6 marks)

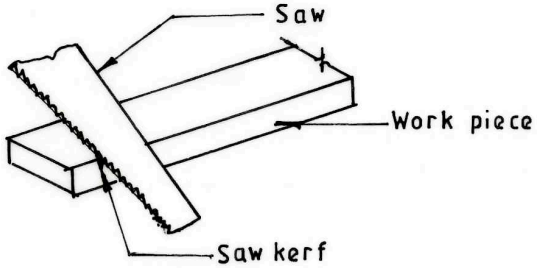
(b) **Cutting list**

Item No.	Description	Size (mm)	No. Off	Marks
1	Top	25 x 150 x 900	1	= 2
2	Bottom	25 x 200 x 900	1	= 2
3	Sides	25 x 200 x 600	2	= 2
4	Partition	25 x 200 x 600	1	= 2

Format = 1

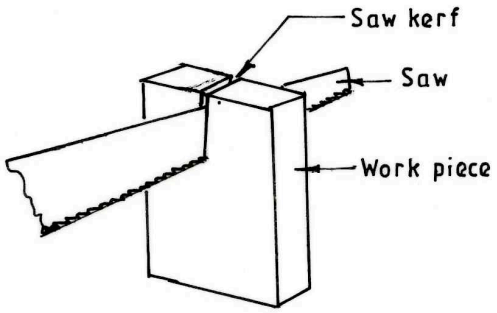
= 9 marks

15. (a)



CROSS-CUTTING

Cross-cutting is the act of cutting wood across the grains using a cross-cut saw



RIPPING

Ripping is the act of cutting timber along the grains using a rip saw

Sketches 2 x 2 = 4
Labels, Any 2 x 2 x ½ = 2
Description 2 x 1 = 2
= 8 mks

(b) **Advantages of quarter sawing**

- retains the shape upon drying.
- Produces decorative radial face.
- Produces timber appropriate for joists.

Any 2 x 1 = (2 marks)

Disadvantages

- Expensive form of conversion.
- Creates a lot of waste.
- Ideal for large logs.

Any 2 x 1 = (2 marks)

Total = 4 marks

(c) **Precautions to avoid splitting**.

- Ensure the workpiece is clamped firmly on the bench.
- Select an appropriate chisel.
- Apply light blows to start with.
- Turn the piece and finish from the other side.

Any 3 x 1 = (3 marks)