

MARKING SCHEME

WOOD TECHNOLOGY (GRADE 10) -

SECTION A (30 MARKS)

1. Overview and Careers (5 Marks)

(a) Careers:

- ✓ Maina: **Furniture Designer / Cabinet Maker**
- ✓ Cherono: **Forester / Silviculturist**
- ✓ Mutua: **Architect / Structural Drafter**
- ✓ Wambui: **Hardware Entrepreneur / Wood Finishes Specialist**

(b) **Economy:** Provides employment, contributes to the construction industry, or generates revenue through timber exports.

2. Workshop Layout and Safety (5 Marks)

(a) Feature X: **Workbench.**

(b) **Safety:**

(i) To prevent accidents and injuries.

(ii) To protect tools and equipment from damage.

(c) **True/False: False** (It must be easily accessible).

(d) **Safety Equipment: Safety Goggles / Eye Protection.**

3. Hand Tools Identification (5 Marks)

(a) **Tools: A: Try Square, B: Marking Gauge, C: Jack Plane.**

(b) **Classification: Planing tool.**

(c) **Holding tool: Bench Vice / G-Clamp.**

4. Growth and Parts of a Tree (5 Marks)

- (a) **Parts:** P: **Bark**, Q: **Annual Rings**, R: **Pith / Heartwood**.
- (b) **Distinguish:** **Softwoods** usually have needle-like leaves (conifers); **Hardwoods** have broad leaves (deciduous).

5. Timber Conversion and Seasoning (5 Marks)

- (a) **Methods:** Method X: **Through and Through (Plain Sawing)** | Method Y: **Quarter Sawing**.
- (b) **Reason:** To reduce moisture content, preventing warping, shrinking, or rot in the finished product.
- (c) **Method:** Air seasoning or Kiln seasoning.

6. Adhesives and Bonding (5 Marks)

- (a) **Adhesive:** **Waterproof glue (e.g., Resorcinol or Polyurethane glue)**.
- (b) **Precaution:** Work in a well-ventilated area or wear gloves to avoid skin irritation.
- (c) **Tool:** **G-Clamp**.

SECTION B (50 MARKS)

7. Wood Preparation and Processes (15 Marks)

- (a) **Procedure:** 1. Prepare Face Side. 2. Prepare Face Edge. 3. Gauge to Width. 4. Gauge to Thickness. 5. Cut to Length.
- (b) **Identify:** [Based on diagrams: e.g., Chamfering, Rebating, Boring].
- (c) **Bench Hook:** It holds small pieces of wood steady and protects the workbench surface during sawing or chiseling.
- (d) **Sharpening:** Oilstone (Whetstone) and a Honing guide.
- (e) **Difference:** A **Chamfer** removes an edge at a 45° angle but does not meet the other side; a **Bevel** slopes the entire edge from one face to the other.

8. Woodworking Joints and Fasteners (15 Marks)

(a) Joints:

P- Mortise and Tenon,

Q -Bridle Joint,

R -Dovetail,

S-Mitre Joint.

(b) **Classification:** [e.g., Framing (Mortise/Tenon) vs Widening (Tongue and Groove)].

(c) Fasteners:

M-Wood Screw,

N-Wire Nail,

O-Dowel

(d) **Pilot Hole:** It prevents the wood from splitting and guides the screw for easier insertion.

(e) **Advantages:** Greater strength, more aesthetic (hidden fasteners), and allows for wood expansion/contraction.

9. Surface Preparation and Finishing (10 Marks)

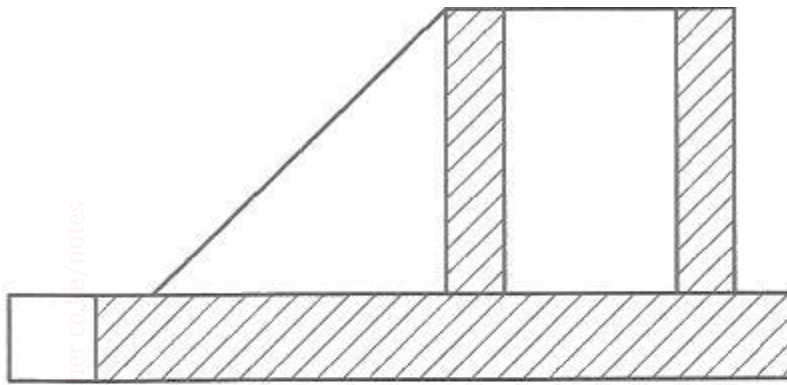
(a) **Materials:** Scraper, Sandpaper (various grits), Steel wool, or Dusting brush.

(b) **Raising the Grain:** Wetting the wood slightly to make loose fibers stand up, then sanding them off once dry to ensure a perfectly smooth finish.

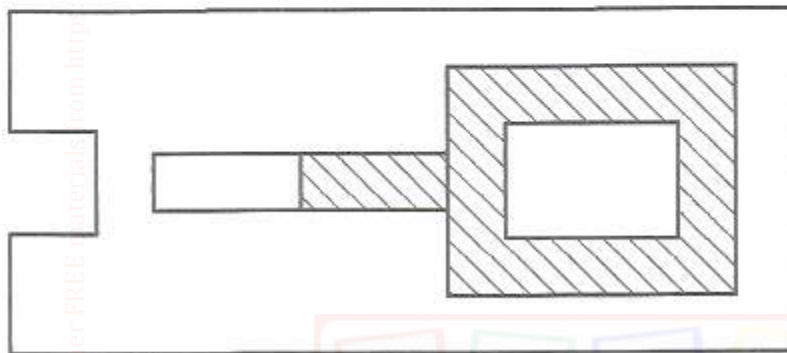
(c) **Sandpaper: Fine grade.**

(d) **Varnish:** To protect the wood from moisture/stains and to enhance the natural beauty (grain) of the wood.

10. Related Drawing (10 Marks)



SECTION X-X



SECTION Y-Y

SECTION Y-Y

Correct scale used = 1

Section x-x

- Correct section = 1
- Hatching = 1

Section y-y

- Correct section (2 parts x1)=2

Hatching (2 parts x1) = 2

Accuracy = 1

Line work = 1

Neatness = 1