WOOD WORK PAPER 1

ANSWERS

KCSE 2010

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30.16.1 Woodwork Paper 1

1. Basic first aid to a cut

- Apply steady and firm pressure directly over the wound.
- Elevate the arm to ease pain.
- When bleeding stops, apply a bandage over a pad using a piece of clean cotton material.

3 x ½=(1½ marks)

2. Process of production of food in trees

- Sunlight is absorbed through green leaves.
- Carbon dioxide and sap from the roots are mixed in the leave.
- The mixture is converted by the sunlight into sugars and starches.
- Oxygen is released.

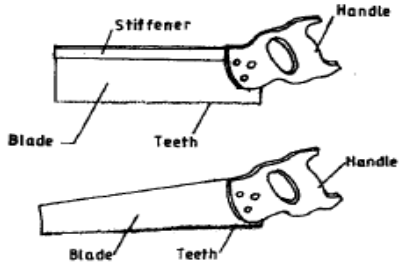
4 x 1 =(4 marks)

3. Names, parts and uses of tools

Name	Labels	Use
(a) Coping saw	• handle • frame • blade	- cutting curves in timber/manufactured boards
(b) Sliding level	• adjustable blade • wing nut • stock	- making and testing any angle - duplicating angles

Name 2 x ½=1
Labels 2 x 3 x½=3
Use 2 x 1 x ½=1
(5 marks)

- **Differences between back saw and hand saw:**
  - A back saw has a piece of steel attached to the back to stiffen the blade while a hand saw does not.
  - Teeth are finer in back saws
  - Back saw generally used for joint cutting and hand saw for ripping and cross cutting.



Difference – 1
Sketch – 2 x 1 = 2
Label 2 x2 x ½=2
(5 marks)

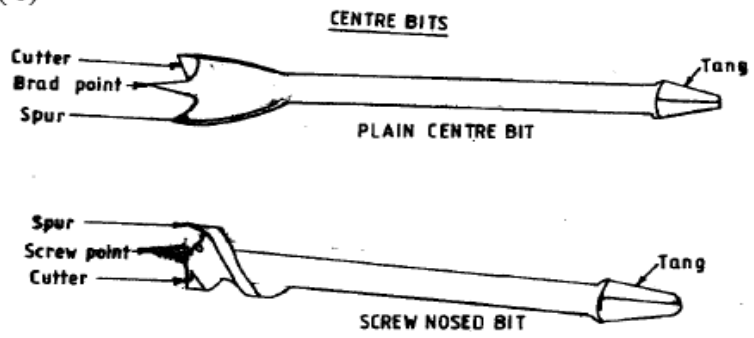
- (i) **Component** is Cap Iron - 1
  (ii) **Area labeled**
  A - Slot for Y adjustment lever- Latest adjustment - alignment - ½
  B -Slot for the cap iron screw- Hold in place - ½
  C -Slot for level cap screw – Hold in place the assembly - ½ (4 ½)
  (iii) Purpose
  - break shavings - 1
  - provide tension for the cutting edge - 1

12. (a) **Disadvantages of using wet timber**

- The wood is difficult to work
- Joints constructed with wet timber and glued fail because the glue does not set properly.
- The work piece may become warped or cracked while you work with it.
- Difficult to apply stain or varnish.
- As water evaporates the wood shrinks or distorts hence loosing dimensions and shape.
- Wet wood is structurally weak and can bend easily.

6 x ½=(3 marks)

(b)



Sketching 2 x 2 = 4
Labels 2
(6 marks)

- **Operational rules of hand drills**

- Ensure that the drill bit shank is centrally gripped by all three chuck jaws.
- The work is to be drilled should be held firmly
- For through holes the bench should be protected with a waste piece
- Make a pilot hole to prevent the drill point from wandering when starting a hole.
- When drilling, use sufficient pressure to keep the tool cutting. Excessive pressure overload the drill.
- For efficient drilling to be achieved, the drill should be sharp withdrawn regularly to stop clogging with waste materials. 6 x 1=(6 marks)

13. (a) **Why timber split while nailing**

- Nailing to near to the edge.
- The nail gauge is too large for the wood section
- Nailing one nail behind another in line with the grain.
- Using an oversize nail punch.
- Trying to straighten bent nails with a hammer.
- Using too much force to drive the nail.
- Deflection of the hammer when nailing.
- Nailing near the edge – knot on wood.

Any 6 x 1 = (6 marks)

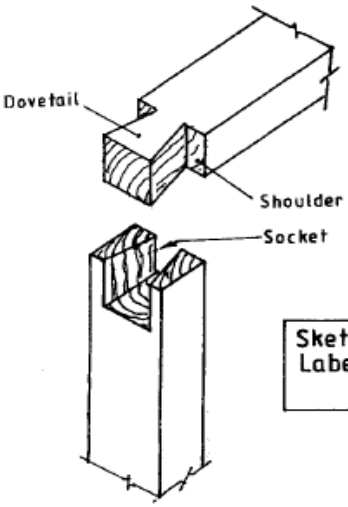
(b) **Procedure of fixing a veneer**

- Before the surface
- Apply glue to both table tap and veneer in thin even coat.
- Allow time for glue to set.
- Allow time for glue to set.
- Place edge/align edge of veneer take edge.

- Place spacers at interval between take top and veneer to avoid contact and trapping the air.
- Using a roller/wooden blunt piers veneer onto take top towards the spaces.
- Remove spacks as pressing continues towards the opposite end.
- Check for blisters and if any, allow the trapped air to escape by slitting along the grain with a sharp edge.
- Trim the edges

9 x 1=(9 marks)

14.



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

Exploded view of a single dovetail corner joint

Sketching 2 x 2=4
Labels 2
(6 marks)

(a) Procedure of construction of corner single Dovetail joint

- Prepare material of size
- Mark the position of socket on end of one piece equal to the thickness of other piece.
- Cut the socket.
- Cut the dovetail
- Make trial assembly
- Adjust as necessary
- Make dry assembly
- Test for squareness.
- Shoot ends
- Make final assembly

11 x 1=(11 marks)

15. (a) **Determination of moisture content**

Wet weight = 100g

Dry weight = $\frac{90}{100}$ x 100=90g

Moisture content = $\frac{h - h}{h} \times 100$

= $\frac{100-90}{90} \times 100$

= 11.1%

Dry weight 1
Correct formula 1
Moisture content 1
(2 marks)

(b) Distinguishing between primary and secondary colours

- Primary colours are basic colours e.g. yellow, blue, red, while
- Secondary colours are formed by pairing primary colours e.g. green, orange, purple.

Differentiation 2

Examples 2 x 2 x ½ = 2
(4 marks)

(c) Jointing

- Running a file along the tops of saw teeth when found to be uneven. The saw is held in a saw vice and a flat file held square to the blade is run from end to end to touch all the teeth.

Shaping

- The flattened teeth are shaped. Also done when the teeth are irregular after many sharpening.
- Place saw in saw vice with the gullet about 4 mm above the jaws. File straight across with file at right angles to the blade and ensuring all teeth are the same shape.

Setting

This is the process of bending the adjacent teeth to opposite sides so that the kerf of a saw only the top ⅓ of each tooth is bent. Irregularities in setting are corrected by side filling.

Sharpening

Fix saw in saw vice.

- Place file in the gullet to the left of the 1st tooth bent towards you and file at an angle of 20° with file parallel to the floor.
    - On the other side of the saw file the rest of the teeth. 4 x 2=8 marks