

## **WOODWORK**

### **SCHEME OF EXAMINATION**

There will be three papers, Papers 1, 2 and 3 all of which must be taken. Papers 1 and 2 will be a composite paper to be taken at one sitting.

**PAPER 1:** Will consist of forty multiple-choice objective questions all of which must be answered within 40 minutes for 40 marks.

**PAPER 2:** Will consist of theory and design paper of two sections, Sections A and B, to be taken within 2 hours, 20 minutes.

Section A: will be short structured questions put into three parts, Part I, II and III as follows:

- Part I will be for candidates in Ghana only.
- Part II will be for candidates in Nigeria, Sierra Leone and The Gambia.
- Part III will be for all candidates. It will comprise of two questions out of which all candidates will be required to answer one.

Section B: Will comprise design and drawing questions, all of which must be answered within 1 hour 40 minutes for 40 marks.

**PAPER 3:** Will be a practical test lasting 3 hours. Candidates will be required to make a test piece for which the appropriate drawings will be supplied. It will carry 100 marks.

### **SAMPLE QUESTIONS**

#### **PAPER 1** **[OBJECTIVE]**

1. Which of the following is a safety precaution to be taken when working on the lathe machine?
  - A. Wearing loose clothing
  - B. Wearing on a ring
  - C. Wearing rubber slippers
  - D. Wearing on goggles

2. Tools **not** in use are placed in the bench well in order to
  - A. prevent damage to them.
  - B. enable them to be oiled.
  - C. prevent them from being stolen.
  - D. prevent damage to the bench top.
  
3. Which of the following maintenance operations is recommended for tools?
  - A. Washing with kerosene
  - B. Washing with water
  - C. Cleaning with oil
  - D. Cleaning with coolant
  
4. The ferrule on a wooden chisel is for
  - A. measuring mortise depth.
  - B. keeping the chisel shoulder square.
  - C. protecting the cutting edge.
  - D. preventing the handle from splitting.
  
5. A power tool used for glasspapering is the
  - A. jig saw.
  - B. orbital sander.
  - C. portable router.
  - D. power plane.
  
6. A type of bit used for boring flat-bottomed holes is the
  - A. centre bit.
  - B. countersink bit.
  - C. expansion bit.
  - D. forstner bit.
  
7. Two operations that are carried out on the jointer are
  - A. boring and sawing.
  - B. surfacing and rebating.
  - C. planing and boring.
  - D. drilling and mortising.

8. Which of the following machines is used for boring, sanding and shaping?
- A. Band saw
  - B. Surface planer
  - C. Wood lathe
  - D. Drill press

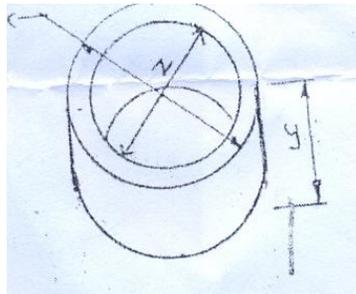
**PAPER 2**

**SECTION A**  
**[Short structured]**

Part I

*For candidates in Ghana only*

1. (a) Ash tray

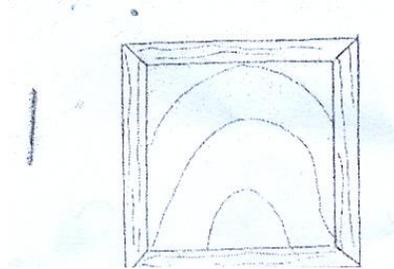


- (i) State the machines on which the artefact shown above is produced.
  - (ii) Name the tools to be used in measuring the dimensions **x**, **y** and **z**.
- (b) If a sheet of 18mm plywood 1200 x 2400 cost N6,800.00, calculate the cost of four stool tops shown above.
- (c) Explain the following mass production terms:
- (i) *prototype*;
  - (ii) *trial run*.

Part II

*For candidates in Nigeria, Sierra Leone and The Gambia*

1. (a) A woodworker intends to start a private woodwork business. List **four** sources from which funds could be raised to start the business.
- (b) Stool top 18mm plywood, 450mm square, 4 off



If a sheet of 18mm plywood 1200 x 2400 costs ~~N~~6,800.00, calculate the cost of four stool tops shown above.

- (c) Explain the following mass production terms:
  - (i) *prototype*
  - (ii) *trial run*.

Part III

*For all candidates*

*Answer only **one** question from this part.*

1. (a) (i) State **four** clothing safety rules to be observed in the workshop.  
(ii) State **two** causes of injury when using a chisel.
  - (b) (i) List **four** types of hand boring tools.  
(ii) Sketch **one** of the tools listed in (b) (i).  
(iii) Label **two** parts of the tool sketched in (b) (ii).
2. (a) Illustrate with sketches **two** types of widening joint.  
(b) List **three** stages involved in applying oil paint to a prepared wooden surface.

- (c) State the use of a jig in the workshop.
- (d) State in sequence, five steps in fixing a butt hinge to a box.
- (e) Name the tool used for measuring the outside diameter of a cylindrical object.

SECTION B  
[Design and Drawing]

*For all candidates  
Answer all the questions*

A bedside cabinet is to be designed to the following specifications:

Width -	350
Depth -	400
Height -	450 (including the plinth)

The cabinet has a drawer at the top and an open compartment below.

1. Make **two** preliminary freehand pictorial sketches **each** showing a different design of the cabinet.
2. Select **one** of the sketches in Question 1 and to a scale of 1:2, draw in the first angle orthographic projection the following:
  - (a) the front elevation;
  - (b) a sectional end elevation.
3. Name **three** joints suitable for joining the side to the top of the cabinet.

**PAPER 3**

**(PRACTICAL)**

1. Use the drawing below to make the test piece using the timber which has been planed to the following sizes (all dimensions are in millimetres).  

1 piece	-	300 x 22 x 22;
2 pieces	-	180 x 80 x 20;
2 pieces	-	210 x 80 x 15;

2 No. 25 x 6 countersink wood screws
2. You may use any of the ordinary hand tools but the use of glue, glasspaper, files, rasps and scrapers is **not** allowed.
3. Any dimensions which are omitted from the drawing are left to your own discretion.
4. If you make any mistakes, work as near to the drawing as possible. Additional materials will **not** be supplied.