

**054/2 & 1 MOCK 2**  
**June 2023**  
**BASIC DESIGN AND TECHNOLOGY**  
**(PRE-TECH. SKILLS) 2 & 1**  
**Essay and Objective**  
1 hour 55 minutes

Name: .....

Index Number: .....

**UNIVERSITY JUNIOR HIGH SCHOOL**  
**UCC - CAPE COAST**

**MOCK 2 EXAMINATIONS**

**BASIC DESIGN AND TECHNOLOGY**  
**(PRE-TECH. SKILLS 2 & 1)**  
[100 marks]

1 hour 55 minutes

Do **not** open this booklet until you are told to do so. While you are waiting, read and observe the following instructions.

Write your **name** and **index number** in **ink** in the spaces provided above.

This booklet consists of two papers. Paper **2** is in two sections: **A** and **B**. Answer **three** questions only: Question **1** in section **A** and **two** questions from section **B**.

Answer Paper **2** which comes first on the A3 drawing sheet provided. Both sides of the A3 drawing sheet may be used. All diagrams or drawings should be in **pencil**. Any other answer should be written in ink.

All dimensions on the drawing are in millimetres. Credit will be given for clarity of expression and orderly presentation of material.

Paper **2** will last 1hour 15 minutes after which the drawing sheet(s) will be collected.

Answer Paper **1** on your objective Test answer sheet.

Do not start Paper 1 until you are told to do so. Paper 1 will last 40 minutes.

**SECTION A**  
**CORE SKILLS**  
[COMPULSORY]  
[20 marks]

1. (a) Define the following;
- (i) Stitch
  - (ii) Seam
  - (iii) State **one** characteristic of a good seam.
  - (iv) State one reason why a dressmaker would use a double stitch for securing stitches instead of tying a knot at the end of the thread.
- [6 marks]
- (b) (i) Name the two types of capital that are considered when setting up a small- scale enterprise.
- [2 marks]
- (ii) Give **one** reason why you will prefer sole proprietorship to partnership.
- [2 marks]
- (iii) Name the **four** major operations that are carried out by all enterprises.
- [2 marks]
- (iv) Who controls all the operations mentioned in (iii)
- [1 mark]
- (c) (i) List **two** materials needed to make a household furniture.
- (ii) Name **two** electrical gadgets
- (iii) Name **two** instruments used to record data during investigation.
- (iv) What is termed as corrective maintenance?
- [7 marks]

SECTION B

[50 marks]

Answer **two** questions **only** from this section

*All questions carry equal marks.*

2. (a) A brick wall of six blocks in length and five courses high is to be constructed at the school's practical shop.
- (i) *Re-arrange the following procedure for setting-out the given wall in their correct order*
- Complete the outline of the wall  
 Square line at one end of the wall  
 Draw the face line of the wall  
 Measure for the length and thickness of the wall.
- (ii) List **four** basic tools required to set-out the wall.
- (b) Calculate for:
- (i) The length of the wall,  
 (ii) The height of the wall.  
 (using brick sizes 215 mm x 102.5 mm x 65 mm and mortar joint 10 mm thick)
- (c) (i) Make a freehand pictorial sketch of try square.  
 (ii) Label any two parts of the try square in question 2 (c)(i) above.  
 (iii) State one use of the try square in wood workshop.

[25 marks]

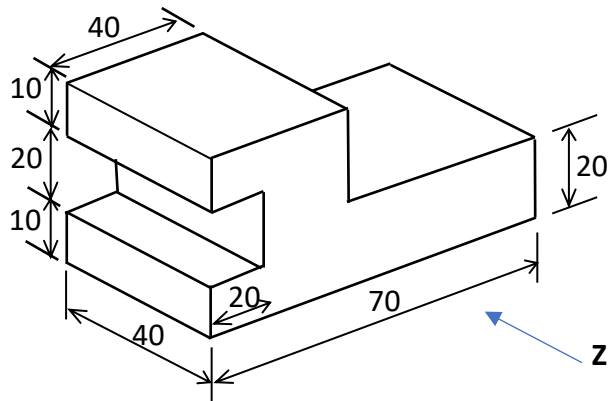
3. (a) Copy and complete the table below.

S/N	MATERIAL	SOURCE	TWO PROPERTIES	TWO USES
i	Sea sand			
ii	Acrylic			
iii	Copper			
iv	Mahogany			
v	Brass			

- (b) (i) State **two** differences between thermoplastics and thermosetting plastics.  
 (ii) Give **two** examples each of thermoplastics and thermosetting plastics.  
 (iii) State **two** reasons for maintaining and handling tools with care.
- (c) (i) Make a freehand pictorial sketch of a tenon saw.  
 (ii) Label any **two** parts of the tenon saw sketched in question 4(c)(i)  
 (iii) Differentiate between plastering and rendering.

[25 marks]

3. (a) (i) Make a freehand pictorial sketch of a hand trowel.  
(ii) Indicate and label any **two** parts of the hand trowel sketched in question 3(a)(i).  
(iii) State **one** use of the hand trowel.  
(iv) State one method of maintaining the hacksaw.
- (b) The figure below shows the isometric view of a wooden block.



Draw to full size in first angle projection:

- (i) the front elevation in the direction of arrow **Z**.  
(ii) the plan  
(iii) State the most suitable finish that can be applied on the work.
- (c) (i) State **two** causes of accident in the workshop.  
(ii) State **two** methods of sawing wood.  
(iii) Give **two** reasons for seasoning timber.  
(iv) Mention **two** types of adhesive materials used to bond wood to other material surfaces.

***END OF ESSAY PAPER***

**BLANK PAGE**

# DO NOT TURN OVER THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

***YOU WILL BE PENALIZED SEVERELY IF YOU  
ARE FOUND LOOKING AT THE NEXT PAGE BEFORE YOU  
ARE TOLD TO DO SO***

## PAPER I

June 2023

**PRE - TECHNICAL SKILLS 1  
OBJECTIVE TEST**

40 minutes

Answer all the questions on your Objective Test Answer Sheet.

1. Use 2B pencil throughout.
2. On the Objective Answer Sheet, write the following details all **correctly**;  
Your **surname** followed by **other names**, Subject Name, Index Number, Centre Number and Paper Code.
3. In the boxes marked Candidate Number, Centre Number and Paper Code, shade each of the numbers correspondingly.
4. An example is given below. This is for a candidate whose name is Samuel Leslie Nana Yaw **AFRIFA**.  
His index number is **0301019003** and he is writing the examination at Centre Number **30109**.  
He is offering **Pre - Technical Skills 1** and the Paper Code is **0541**.

### UNIVERSITY JUNIOR HIGH SCHOOL UNIVERSITY OF CAPE COAST OBJECTIVE ANSWER SHEET

<b>CANDIDATE NAME:</b> AFRIFA SAMUEL LESLIE NANA YAW					<b>SUBJECT:</b> PRE - TECH. SKILLS 1														
1. Use BB Pencil, Press firmly. 2. Answer each question by choosing one letter and then, shade through the letter chosen like this <input type="checkbox"/> A <input type="checkbox"/> B <input checked="" type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E					your first mark completely. 4. If only four alternative answers are given for each question, ignore the letter E. 5. Your question paper may have fewer than 60 questions.														
<b>CANDIDATE NUMBER</b>					<b>CENTRE NUMBER</b>					<b>PAPER CODE</b>					For Supervisors Only  If candidate is absent shade this space <input style="width: 20px; height: 15px;" type="text"/>				
0	3	0	1	0	1	9	0	0	3	3	0	1	1	0		0	5	4	1
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## OBJECTIVES

Each question is followed by four options lettered A to D. find the **correct** option for **each** question and shade in **pencil** on your answer sheet the space which bears the same letter as the option you have chosen. Give only **one** answer to **each** question.

**Now answer the following questions.**

1. A business unit, that is established to render services and produce goods for customers and the general public is a/an
  - A. company
  - B. corporation
  - C. enterprise
  - D. organizations
2. The distribution of raw materials and manufactured products is usually done by;
  - A. businessmen
  - B. enterprises
  - C. small-scale enterprises
  - D. retailers
3. What is the main purpose of three Sole Proprietors who have come together to run a single business entity?
  - A. Employ more people
  - B. Expand the business
  - C. Share ideas
  - D. Share profit
4. Under which step of the management process is the leadership style of a company adopted?
  - A. Directing
  - B. Controlling
  - C. Organizing
  - D. Planning
5. In business, the possibility of being exposed to danger or loss from a known source is referred to as;
  - A. business risk
  - B. direct risk
  - C. indirect risk
  - D. known risk
6. In designing, which of the following is **not** considered for specification?
  - A. construction
  - B. Design brief
  - C. Economics
  - D. Materials
7. Which of the following is **not** a household furniture?
  - A. Wardrobe
  - B. Television
  - C. Shoe rack
  - D. Cupboard
8. To access the worth of design product is termed as
  - A. Analysis
  - B. Evaluation
  - C. Making
  - D. Specification
9. Which of the following is used to insulate electrical wires?
  - A. wood
  - B. plastic
  - C. metal
  - D. cement
10. Which of the figures below is a prism?
  - A. cone
  - B. cube
  - C. sphere
  - D. square
11. Which of the following sets are temporary stitches?
  - A. basting and tailor's tacking
  - B. chain stitches and tacking
  - C. hemming and basting
  - D. uneven tacking and running stitches
12. Which of the following can be used to neaten the raw edges of an apron?
  - A. back stitch
  - B. hemming stitch
  - C. herringbone stitch
  - D. loop stitch
13. Which of the following is **not** a function of permanent stitches?
  - A. decorating articles
  - B. joining seams
  - C. marking designs
  - D. neatening raw edges

14. When working temporary stitches, colour of thread must be
- black colour
  - contrasting colour from fabric
  - same colour as fabric
  - white colour

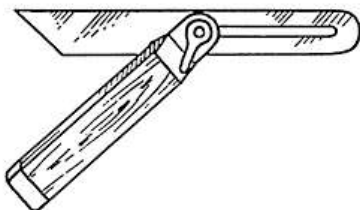
15. A thimble is worn on the .....
- index finger
  - middle finger
  - ring finger
  - thumb

16. What is the reason for using joints in sheet metal products?
- to make it stable
  - to make it strong
  - to prevent crumpling
  - to prevent leakage

17. Plastics are obtained from
- Clay
  - Crude oil
  - Limestone
  - Quicklime

18. The development of a cylindrical cup without a handle is a
- parallelogram
  - Rectangle
  - Rhombus
  - Triangle

19. The sketch below shows a . . . . .



- cutting edge
  - marking knife
  - sliding bevel
  - try square
20. In orthographic projection, the front and the end elevations are aligned
- diagonally
  - Horizontally
  - Perpendicularly
  - Vertically

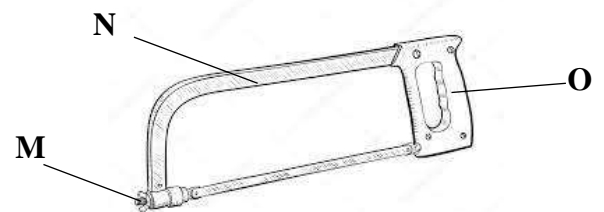
21. An example of a ferrous metal is
- Tin
  - Copper
  - Cast iron
  - Aluminium

22. Which of the following is **not** a fastener?
- Bolt and nuts
  - Rivet
  - Screws
  - Soldering bit

23. Which of the following is used to protect against handling of dangerous chemicals
- Helmet
  - Goggles
  - Gloves
  - Apron

24. Which of the following tools is used for batching?
- Gauge box
  - Gauge rod
  - Spirit level
  - Wooden float

Use the sketch below to answer questions 25 – 27.



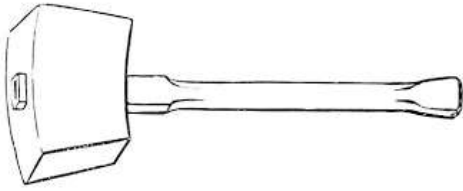
25. The tool shown above is
- Chain saw
  - Hacksaw
  - Rip saw
  - Tenon saw

26. The part labelled N is the
- Wing nut
  - Teeth
  - Handle
  - Frame

27. The part arrowed O is called
- Blade
  - Handle
  - Holding pin
  - Wing nut



28. The sketch below shows



- A. Ball pain hammer
- B. Flat chisel
- C. Try square
- D. Wooden mallet

29. Files are named according to the

- A. metal used to produce them
- B. shape of cross-section
- C. trye of cut
- D. type of work they do

30. Cast iron posses the following qualities, **except**

- A. cannot be bent without breaking
- B. cannot be forged to shape
- C. low carbon content
- D. shocks and wear

**END OF PAPER**