

FREE VIRTUAL MOCK EXAMINATION (5)

MAY 2020

**BASIC DESIGN
AND
TECHNOLOGY**

2&1

(PRE -TECHNICAL SKILLS)

ESSAY and OBJECTIVE

1 hour 55 minutes

CANDIDATE'S NAME

INDEX NUMBER

DATE

SIGNATURE

CENTER NUMBER

GB ASSESSMENT TEST (GBAT)

FREE VIRTUAL MOCK EXAMINATION (5)

MAY 2020

**BASIC DESIGN AND TECHNOLOGY
(PRE-TECHNICAL SKILLS 2&1)**

1 hour 55 minutes

[70 marks]

DIRECTION TO CANDIDATES

1. All answers must be provided on clean sheet of papers (Answer booklet).
2. Write your name and index number on the sheets.
3. This booklet consists of only paper 2. Paper 2 is in two sections; I and II. Answer three questions only; Question 1 in part I and two questions from part II. Answer paper 2 & 1 in your booklets. Paper 2 will last for 1 hour 15 minutes.
4. Write the NUMBER OF QUESTIONS YOU HAVE ANSWERED in the order in which you have written them at the bottom of your answer sheets.

FOR EXAMINERS USE ONLY

Question Number

Marks

TOTAL

DESIST FROM REFERING TO BOOKS BEFORE PROVIDING ANSWERS

#COVID-19. STAY HOME. STAY EDUCATED.

NUMBER YOUR ANSWERS

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This paper consists of two parts, part I and II. Answer all questions in part I and any other two questions in questions in part II. Write your answers in the spaces provided after each question.

SECTION A-CORE SKILLS - [20 marks]

Answer Question 1

[COMPULSORY]

1. (a) i. Explain the term food commodities.
 - ii. Give **three (3)** reasons why overcooking of food should be avoided.
- (b) i. Sketch a square pyramid.
 - ii. List **four (4)** equipment used in technical drawing.
- (c) i. Draw a line to illustrate each of the following;
 - α. Concentric.
 - β. Spiral.
 - γ. Diverging.
 - ii. List **four (4)** principles of design.
 - iii. State **four (4)** methods of shading an object.
- (d) i. Name **four (4)** types of lines for design work.
 - ii. State **two (2)** types of colour and give one example under each.
- (e) i. Who is an entrepreneur?
 - ii. State **four (4)** factors to consider when locating an enterprise.

SECTION B - [50 marks]

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

All questions carry equal marks

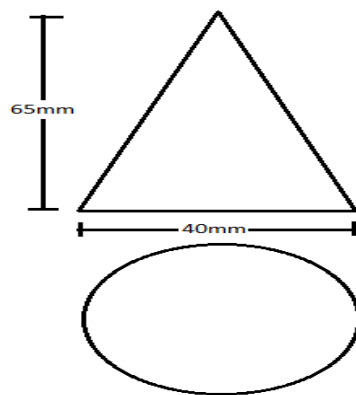
2. (a) i. Differentiate between fastening and fastener.
 - ii. List **two (2)** examples of fasteners.
 - iii. Explain the process “riveting”.
 - iv. Give **two (2)** factors to consider for the selection of a rivet for a particular job.
- (b) i. Explain sheet metalwork.
 - ii. List **four (4)** articles made from sheet metal.
 - iii. List **two (2)** soft soldering tools.
 - iv. State the **three (3)** common joints used in sheet metalwork.

- (c) i. Make a neat freehand pictorial sketch of a screw.
- ii. Label any **two** parts of a screw.
- (d) State **two (2)** importance of caring and maintaining tools.

- 3. (a) i. Explain the term aggregate.
- ii. State and explain the **two (2)** types of aggregates.
- iii. State **two (2)** sources each of the types of aggregate.
- (b) i. What are finishes?
- ii. List the **three (3)** groups of finishes.
- iii. State **two (2)** reasons for applying finishes.
- (c) i. Make a neat freehand pictorial sketch of an odd-leg calipers.
- ii. State **one (1)** use of an odd leg caliper.
- iii. State **one (1)** care and maintenance of an odd leg caliper.
- (d) Copy and complete the table below:

Tool	One use	One care and maintenance
Spoke shave		
Trowel		
Round file		

- 4. (a) The figure below shows the front elevation and plan of an object made from aluminum.



- α. Draw to full size the following:
 - i. Front elevation.
 - ii. Plan.
 - iii. Surface development.

β. State the name of the figure in (4 a) above.

(b) i. List **two (2)** properties of aluminium.

ii. State **three (3)** uses of aluminium.

(c) Copy and complete the table below:

Material	One property
Cement	
Cast iron	

END OF PAPER

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 1

1 HOUR

OBJECTIVE TEST

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

1. Use **2B** pencil throughout.

2. On the pre-printed answer sheet, check that the following details are correctly printed:

Your surname followed by your other names, the subject Name, your Index Number, Centre Number and the Paper Code.

3. In the boxes marked *Candidate Name*, *Centre Number* and *Paper code*, reshade each of the shaded Spaces.

4. An example is given below. This is for a candidate whose name is Jeffrey Opoku Twum, whose Index Number 0211040067. He is writing the examination at Centre Number 21104 and offering Integrated Science 1 and the Paper code is 2470.

GB ASSESSMENT TEST OBJECTIVE ANSWER SHEET

CANDIDATE NAME: JEFFREY OPOKU TWUM	SUBJECT NAME: PRE-TECH SKILLS 1
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INSTRUCTIONS TO CANDIDATES 1. Use grade HB pencil throughout. 2. Answer each question by choosing one letter and shading it like this (A) (B) (C) (D) (E) 3. Erase completely any answers you wish to change. 4. Leave extra spaces blank if the answer spaces provided are more than you need. 5. Do not make any markings across the heavy black marks at the right hand edge of your answer sheets.

CANDIDATE NUMBER									
2	1	1	0	4	0	0	6	7	
0	0	0	0	0	0	0	0	0	
1	+	+	1	1	1	1	1	1	
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3	3	3	3	3	3	3	3	3	
4	4	4	4	+	4	4	4	4	
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7	7	7	7	7	7	7	7	7	
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9	9	9	9	9	9	9	9	9	

CENTRE NUMBER				
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3	3	3	3	3
4	4	4	4	+
5	5	5	5	5
6	6	6	6	6
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9	9	9	9	9

PAPER CODE			
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3	3	3	3
4	+	4	4
5	5	5	5
6	6	6	6
7	7	+	7
8	8	8	8
9	9	9	9

For Supervisors only.

If Candidate is absent shade this space

Answer **all** the questions.

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.

1. Which of the following projections shows views in two – dimensions?
 - A. Isometric
 - B. Oblique
 - C. Orthographic
 - D. Perspective
2. A short statement which describes what a designer intends to design and make is termed as
 - A. analysis
 - B. brief
 - C. situation
 - D. specification
3. Which of the following serves as a source of energy for a torch light?
 - A. Bulb
 - B. Capacitor
 - C. Cell
 - D. Inductor

Use the sketch in figure 2 to answer questions 4 and 5

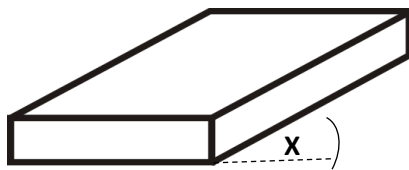


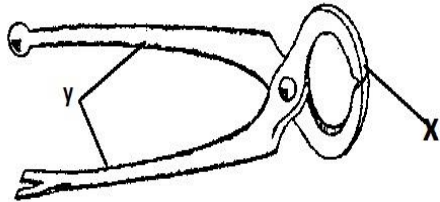
Fig. 2

4. The object is projected in
 - A. oblique
 - B. isometric
 - C. one -point perspective
 - D. two- point perspective
5. The angle marked x is
 - A. 15°
 - B. 30°
 - C. 45°

- D. 60°
6. The factor to consider when specifying for size of a unit is
 - A. appearance
 - B. construction
 - C. function
 - D. ergonomics
7. An advantage of electric sewing machine is that
 - A. it can be used everywhere
 - B. both hands are free to control the work
 - C. it is inexpensive
 - D. the top can be used as a cutting surface
8. A suitable fruit for making jam is
 - A. guava
 - B. grapefruit
 - C. watermelon
 - D. orange
9. The process of tearing or mending faults such as breaks and tears in clothing is referred to as
 - A. remodeling
 - B. patching
 - C. darning
 - D. renovation
10. The methods of cooking that are commonly used in Ghana are
 - A. steaming and boiling
 - B. boiling and frying
 - C. baking and boiling
 - D. boiling and roasting
11. Drawing and painting are grouped under
 - A. two- dimensional work
 - B. three- dimensional work
 - C. landscape
 - D. still life

12. Any two primary colours mixed together in equal proportions produce a
- complementary colour
 - secondary colour
 - tint colour
 - neutral colour
13. Identify a drawing tool from the following items
- crayon
 - paper
 - palette
 - ruler
14. Select a neutral colour from the options below.
- Blue
 - Orange
 - Red
 - White
15. A vertical line is associated with
- movement
 - rest
 - stability
 - uncertainty

Use the figure below to answer question 16 - 18



16. The tool above is a
- scriber
 - pincers
 - saw
 - plier
17. The part marked X is
- jaw
 - handle
 - frame
 - chuck

18. The part marked Y is
- jaws
 - screw
 - handle
 - rivet
19. Which of the following tools can be used to remove bent nails from wood?
- ballpein hammer
 - screw driver
 - club hammer
 - crow bar
20. All the following are methods of terminating a wall except.
- racking back
 - toothing end
 - block indent
 - french bond
21. The moisture content of timber is reduced by
- conversion
 - seasoning
 - felling
 - removing
22. Which of the following electronic component will break a connection in a circuit?
- Capacitor
 - Switch
 - Connecting wire
 - Diode

Use figure below to answer question 23 - 25



23. The tool above is called.....
- collector
 - bolster
 - flat chisel
 - hand chisel

24. The part marked g is

- A. handle
- B. shank
- C. blade
- D. body

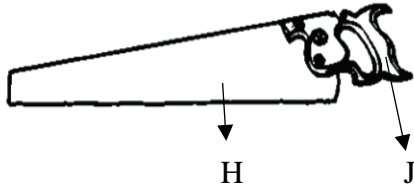
25. The tool above is used for

- A. accurate brick/block cutting
- B. cutting small sections metals
- C. removing nails
- D. collecting dust

26. Which of the following is not a finish?

- A. Lacquer
- B. Oil paint
- C. Polyvinyl acetate
- D. Emulsion paint

Use figure below to answer question 27 and 28



27. The part labeled J is called

- A. frame
- B. teeth
- C. blade
- D. handle

28. The tool above is used in the

- A. metal workshop
- B. plastic workshop
- C. wood workshop
- D. Block/brick word

29. All the following are laying tools except

- A. trowel
- B. gauge rod
- C. tamping rod
- D. float

30. The vertical mortar joint of a wall is called.....

- A. perpends
- B. bed joint
- C. course
- D. bonding