

DEPARTMENT OF
EDUCATION

LOWER
SECONDARY
SCHOOL
CERTIFICATE
EXAMINATION
(LSSCE)

DESIGN AND
TECHNOLOGY

Wednesday

12th October 2016

Time allowed:

1 hour and 30 minutes

12.30 pm – 2 pm

Candidates are advised to
fully use the time
allocated

D & T

INSTRUCTIONS TO CANDIDATES:

(To be read out by the external invigilator before the start of the examination)

There are **36** questions in this paper. Attempt **ALL** questions even if you are not so sure of some of the answers.

The Examination is divided into three parts:

PART A: Multiple Choice (Questions 1 to 20)

PART B: Short Answer (Questions 21 to 35)

PART C: Extended Response (Question 36)

The Answer Sheet is part of the Examination Booklet. Take out the middle pages and remove the Answer Sheet by tearing along the perforation. You may use the blank sheet for rough work.

Write your candidate number, name and school name in the space given on the **ANSWER SHEET**.

For each question in **PART A (Questions 1 to 20)**, choose the correct answer by writing the letter A, B, C or D in the space provided on the **ANSWER SHEET**.

For each question in **PART B (Questions 21 to 35)** and **PART C (Question 36)**, work out the answer and write the answer in the space provided on the **ANSWER SHEET**.

If you find a question very difficult, do not spend too much time thinking about it. Skip the question and go on with the rest of the paper. If you have time in the end, return to the difficult questions and think about them more carefully.

Write your answers in **BLUE** or **BLACK** ink (pen or biro).

If you decide to change an answer, make your correction as shown below so that it is clear to the markers what your final answer is. Do **NOT** use correction fluid on your answer sheet.

Example



Hand in **BOTH** the Answer Sheet and the papers used for rough work at the end of the examination.

Extra time will NOT be allowed to complete the examination under any circumstances.

Penalty for cheating or assisting to cheat in national examinations is non-certification.

**DO NOT TURN OVER THIS PAGE AND DO NOT
WRITE UNTIL YOU ARE TOLD TO START.**

PART A: MULTIPLE CHOICE QUESTIONS**(QUESTIONS 1 to 20)****20 MARKS**

For each question, choose the correct answer and write **A, B, C or D** in the space provided on the **ANSWER SHEET**.

QUESTION 1

Many families in PNG enjoy bread. It is baked in ovens and is either home made or manufactured. Bread is made in which part of the design process.

- A. Production B. Marketing C. Designing D. Testing

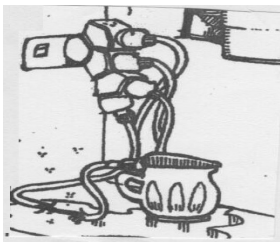
QUESTION 2

People are often injured as a result of carrying out unsafe practices of different life behaviours. Below is a diagram of an unsafe practice.



State how this person should behave to avoid being hurt or having accident. The person should be

- A. patient and sing while painting.
 B. calm and joyful while painting.
 C. patient, taking care and concentrate while painting.
 D. calm, danger cautious and taking precautions while painting.

QUESTION 3

This is an illustration of a safety situation that will cause a fire. What type of safety hazard is this?

- A. electrical B. mechanical C. industrial D. Occupational

QUESTION 4

What is the correct definition of a design brief? A design brief

- A. tells students the needs, problems and opportunities.
 B. outlines the task or project that students will be expected to do.
 C. identifies examples of good and bad design.
 D. engages students in producing and constructing.

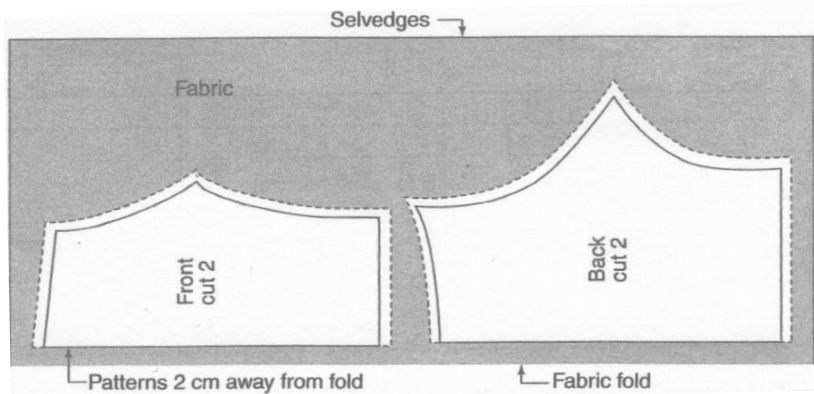
QUESTION 5

What are the three stages of site preparation?

- A. cleaning, levelling, filling B. levelling, filling, cutting
C. cleaning, cutting, filling D. levelling, cutting, cleaning

QUESTION 6

Below is an illustration of a pattern layout. Why are the pattern pieces placed 2 cm away from fold?



This is to

- A. allow 2cm for seeing.
B. allow 2cm to fold.
C. allow 2 cm to hold the scissors when cutting
D. cut away the 2 cm after seeing.

QUESTION 7

Care and maintenance of textile items will ensure they last longer and will still look attractive to wear. A way of making sure this is the case is by following correct laundry process.

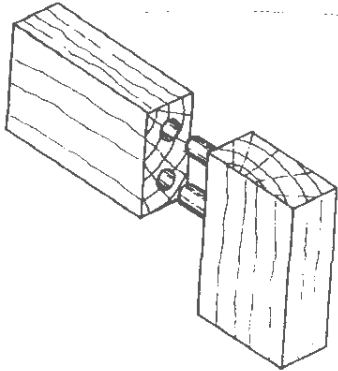
What is the laundry process to practise when one has a dark blue coloured shirt?

- A. scrub, squeeze, dry and hangout in the sun.
B. scrubs, drip dry and hang out in the sun
C. no scrubbing, squeeze and hang in a shade.
D. no scrubbing, drip dry and hang in a shade.

QUESTION 8

A food storage should be free from insects, well ventilated and be well lighted to prevent food spoilage. A village mother wants to store food for a week. Which of the listed food items can be stored in a basket for a week without going bad?

- A. a bruised yam, bananas, orange, cucumber
B. ripe bananas, orange, cabbage, pineapple,
C. yam, bananas, pineapple, taro
D. orange, scaped coconut, bananas, pineapple

QUESTION 9*Description of the joint*

This joint is not usually considered as a butt joint but technically it is not very different from the nailed joint. This joint is stronger than the nailed joint but requires clamping until the glue dries. The diagram on the left shows the typical joint.

Name the butt joint being described above.

- A. Rebate and Butt Joint B. Butt Joint (Nailed)
C. Dowel Joint D. Butt Joint (Corrugated Fasteners)

QUESTION 10

Treating timber before using it for building is also to protect the timber from being eaten away. What usually eats away the timber?

- A. bugs B. cockroaches C. termites D. ants

QUESTION 11

Weaving is part of a system in fabric and yarn production. Name the type of weave that is seen in the sides of the basket as shown in the diagram below.



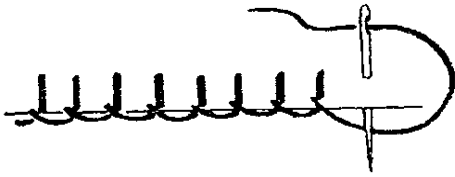
- A. Twill B. Basket C. plain D. satin

QUESTION 12

Different objects are designed for different purpose. So much can be learnt by studying the design solutions.

What is the purpose of designing a 500 ml bottle of coke with a larger base?

- A. To ensure it is firmly gripped when handling.
B. So it stands upright without falling over.
C. To make it look attractive and stylish.
D. So the weight of the bottle is left at the base.

QUESTION 13

The embroidery stitch above is called a _____stitch.

- A. button hole B. blanket C. lazy daizy D. stem

QUESTION 14

Food manufacturers are required by law to print ‘best before’ or ‘use by’ dates on their products.

Why is this important? This is to

- A. protect the food manufacturers from being poisoned.
 B. protect the consumers from being poisoned.
 C. make the food products attractive and sellable.
 D. preserve the food products to be eaten later.

QUESTION 15

Fabrics are made from different fibres of both plants and animals. Which list contains all animal fibre?

- A. sisal, hair, jute, wool B. linen, silk, wool, coir
 C. fur, hair, silk, wool D. wool, coir, sisal, fur

QUESTION 16

Nutrients dense foods provide substantial amount of

- A. vitamins, minerals and proteins. B. minerals, fat and water.
 C. carbohydrates, fats and water. D. sodium, chloride and water.

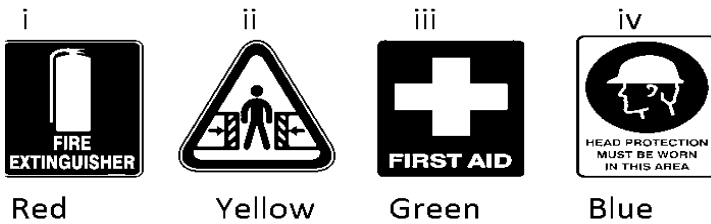
QUESTION 17

There are techniques involved in handling equipment, utensils and appliances while cooking. State the correct way of passing a kitchen knife to another person.

- A. Give the knife by its handle.
 B. Throw the knife by its handle.
 C. Give the knife by facing the handle towards the person.
 D. Give the knife calmly and facing the person.

QUESTION 18

Which of these safety symbols promote safety in a building?



- A. i, iv B. ii, iii C. iii, iv D. i, iii

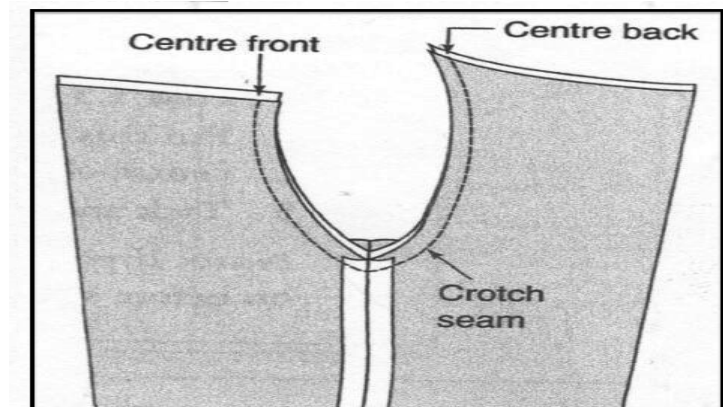
QUESTION 19

There are three types of monosaccharides or simple sugars and they are common base units from which other carbohydrates are built and they are chemical sugars. The three main monosaccharides are

- A. fructose, glucose and galactose B. glucose, galactose and lactose
C. fructose, glucose and sucrose D. glucose, lactose and sucrose

QUESTION 20**Put shorts Pieces Together:**

- Pin, tack and stitch the right front center piece with left center piece, the left back center piece with the right back center piece.
- Make sure that the crotch seams match.
- Neaten all raw edges



Stitching the crotch

The steps above show ways to construct a crotch of a pair of leisure shorts. Use the information and the diagram to answer the question below.

What is the meaning of the dotted lines that join the center front to the center back?

- A. Extra fabric that will be cut out B. The path that will be sewed along
C. Area to insert elastics D. They are pins and tacks

PART B: SHORT ANSWERS

(QUESTIONS 21 to 35)

20 MARKS

For each question, work out the answer and write the answer in the space provided on the ANSWER SHEET.

QUESTION 21

Hardwoods, because of the cost of the logging are nearly always stacked undercover to allow the boards to be air dried. Heavy demand from consumers is now causing more artificial drying to take place. What is the term given to artificial drying?

QUESTION 22

Care of equipment is very important. Paint brushes must be thoroughly and correctly cleaned after a painting job. Name the solvent used to clean paint brushes.

QUESTION 23

Food is eaten and enjoyed by families all over the world. Food goes through different process to be made edible. Food must be preserved for future use. Traditionally, state the process of preserving food.

QUESTION 24

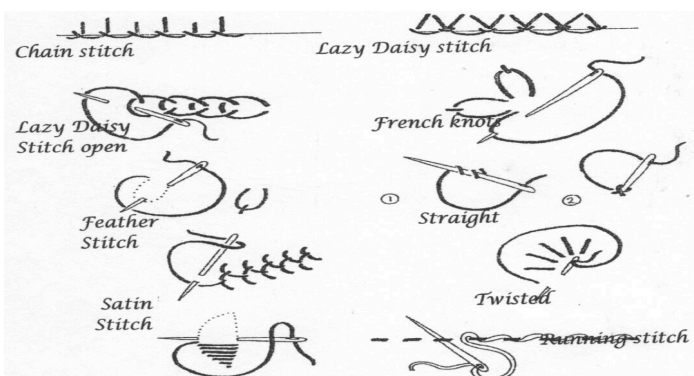
Complete this statement with the correct word. Keeping frozen goods at room temperature is important to prevent the growth of _____ that will spoil the food.

QUESTION 25



The delicious fish stew seen in the pictogram is designed and cooked from a set of instructions called _____.

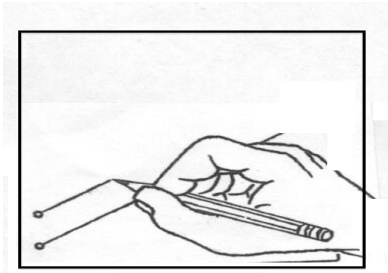
QUESTION 26



All of the stitches shown in the diagram are classified as _____ stitches.

QUESTION 27

Below is an illustration of one of the sketching lines.



Name the sketching line.

QUESTION 28

Milk products are part of a nutritious breakfast meal. Babies need milk to grow strong and healthy. What type of mineral is found in dairy product like milk?

QUESTION 29

There are three types of wood screw. These are countersink head, round head and _____.

QUESTION 30

What is the name of a short piece of timber set between two stubs, joists, rafters or purlins to keep them rigid?

QUESTION 31

Communication and information technology have changed over the decades with western life influence. A design mobile phone is a medium of communication in this present age. State at which design process step mobile phones are trialled and tested.

QUESTION 32

A complete building comes about as a result of sketching and drawing in structure or frame like figure. Structures can be classified as frame structure and _____ structure.

QUESTION 33

In building construction safety is paramount importance.

Safety is prevention of _____

QUESTION 34

Nutrients are substances found in food. The function of these nutrients is to provide heat and energy, prevent constipation and for healthy bowel through consumption of fibrous food. Name this nutrient.

QUESTION 35

The diagrams show a tool being used.



State the word that describes the actions seen in these diagrams?

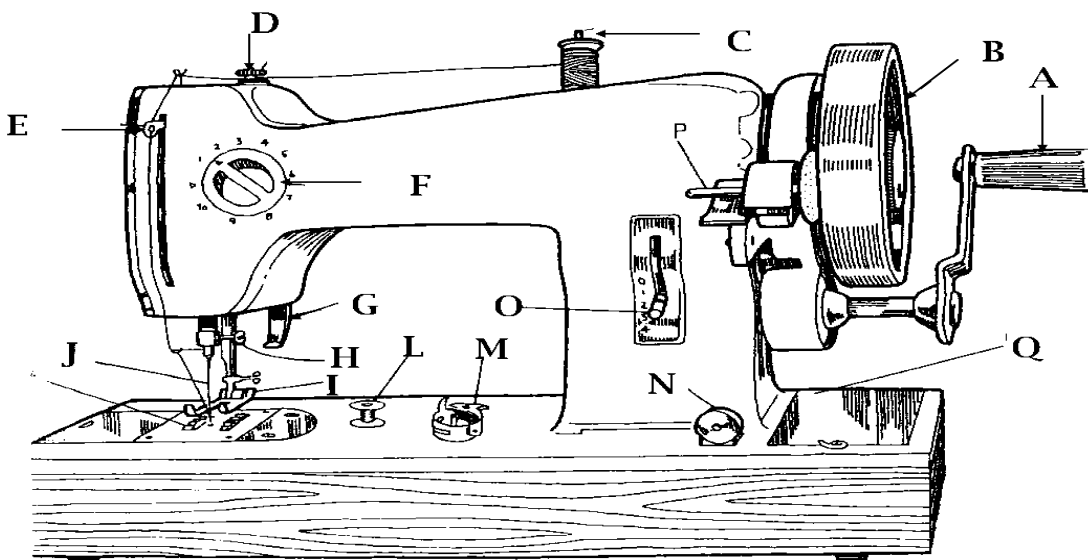
PART C: EXTENDED RESPONSE

5 MARKS

For Question 36, write the answer in the spaces provided on the Answer Sheet.

QUESTION 36

Below is a diagram of a sewing machine.



Study the diagram above and name the parts labeled by the letters.

- i. A _____
- ii. C _____
- iii. O _____
- iv. M _____
- v. G _____

END OF EXAMINATION

**LOWER SECONDARY SCHOOL CERTIFICATE
EXAMINATION – 2016**

DESIGN & TECHNOLOGY – ANSWER SHEET



MARKER 1

YEAR		PROV.		SCHOOL			CAND No.		
1	6								
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SCHOOL									

PART A: (QUESTION 1 TO 20)

Write the letter of your answer next to each question number below.

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PART B (QUESTION 21 TO 35)

Write your answer next to each question number below.

21	
22	
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PART C (QUESTION 36)

Write your answer next to each question number below.

36	i	
	ii	
	iii	
	iv	
	v	



MARKER 2

DO NOT WRITE ON THIS PAGE

YOU MAY DO YOUR ROUGH WORK ON THIS PAGE

CAREFULLY TEAR ALONG THIS PERFORATION

YOU MAY DO YOUR ROUGH WORK ON THIS PAGE