



*Let the mind manage the body
Que l'esprit gère le corps*

**MAURITIUS
EXAMINATIONS
SYNDICATE**

**NATIONAL
CERTIFICATE
OF EDUCATION**

**TECHNOLOGY
STUDIES**

Specimen paper
for first assessment in October 2020

Acknowledgements

The MES would like to place on record its gratitude and appreciation to all those who contributed to the development of the specimen assessment materials - Educators (from the mainstream and extended stream), academics from the MIE , the University of Mauritius and the Open University, representatives of the Ministry of Education and HR, TE and SR and representatives of recognized unions - who, at different stages in the development of the assessment, have been members of technical committees, validation committees and Secondary School Examination Committees that were set up by the MES. We are also grateful to the Rectors, Educators and students who took part in the trialing process of the specimen papers. The contribution of all these stakeholders provided us with vital information and feedback which fed into the production of the specimen papers.

1. Background

At the end of the Nine-Year-Continuous-Basic-Education (NYCBE) cycle, all students from the Regular and Extended programmes take the National Certificate of Education (NCE) Assessment. This assessment is in line with the philosophy defined in the National Curriculum Framework (NCF) Grades 7, 8 and 9 (MIE, 2017) and the learning outcomes detailed in the Teaching and Learning Syllabus (MIE, 2017).

The assessment will be carried out in the following subjects:

- English
- Mathematics
- French
- Science
- Information and Communication Technology
- Technology Studies
- Business and Entrepreneurship Education (BEE)
- Social and Modern Studies (SMS)
- Art and Design
- An optional core subject (Asian Languages, Arabic and Kreol Morisien, if chosen by the candidate)

A 7-point Grading structure will be used in each subject, as illustrated below:

Numerical Grade	Marks
1	85 and above
2	75 and above but below 85
3	65 and above but below 75
4	55 and above but below 65
5	45 and above but below 55
6	35 and above but below 45
7	Less than 35

2. Purpose of the NCE Assessment

The main purpose of the NCE Assessment is to measure and certify learning that has taken place at the end of the NYCBE cycle. The information gathered from the assessment will be used for

- Certification

Meeting the minimum requirements on the NCE assessment (see the Award Rules in the Annual Programme) will lead to the candidate being conferred an NCE certificate which will be recognised at Level 2 on the National Qualifications Framework.

- Promotion to Grade 10

Assessment results from the NCE will guide schools in determining whether students get promoted to Grade 10.

- Orientation

The NCE assessment will provide information to guide students as to whether they want to continue in the general or in the technical/vocational stream. Within the general stream, it may guide students in their choice of subjects as from Grade 10.

- Admission to academies.

Performance in the NCE Assessment will determine whether candidates are admitted to academies. The following extract from the Education Act indicates the criteria for admission to academies:

- (1) For the purpose of the admission of an eligible pupil to Grade 10 in an Academy, the responsible party of that pupil shall fill in an application form, in such form as the Minister may approve, in which he shall indicate, in order of preference, one or more Academies to which he is seeking admission of the pupil.*
- (2) Priority of admission to Grade 10 in an Academy shall be determined on the basis of the grade aggregate and the relative performance of the eligible pupil in the best 8 core subjects, including English, French and Mathematics, at the NCE assessment and the choice of the responsible party specified in paragraph (1).*

3. Guiding principles in Assessment

A number of key principles of assessment guided the development of the NCE assessment.

1. Validity

Validity is a central concept in assessment. In simple terms, it refers to the extent to which an assessment measures what it is supposed to be measuring. Validity also refers to the extent to which the assessment is providing evidence of candidates' achievement levels. An assessment is considered valid if it meets its purposes (Edwards, M.C., Slagle, A., Rubright, J.D. and Wirth, R.J., 2018). *

2. Reliability

Reliability, another crucial concept in assessment, refers to producing reliable, stable and consistent results over time. Ensuring reliability requires clear and consistent processes for the setting, marking and grading of the NCE assessment.

3. Impact

The NCE Assessment aims at having positive effects on teaching and learning with positive washback into the curriculum and into the educational system. An important consideration during the development of this assessment was the potential impact that it would have on the life chances of candidates, allowing for maximum inclusion and retention of students in the system while maintaining standards.

4. Fairness

Needs and characteristics of learners were considered in the design of the NCE assessment so as not to disadvantage any group or individual. Care has been taken to minimise cultural and gender biases and to accommodate the different abilities and the social, cultural and linguistic backgrounds of candidates.

* Fit for purpose and modern validity theory in clinical outcomes assessment. *Quality of Life Research*, 27(7), pp.1711-1720

4. Design and Format

The Technology Studies (TS) specimen paper reflects the interest of students in the curriculum through the acquired experience in everyday life as they are engaged with technology constantly. The subject relates to pupils' experience, its originality/ creativity and the students' learning experience. When used properly in the field of education, TS can be a powerful tool that can help:

- engage and challenge learners
- provide students with practice
- include feedback can help students reflect on what they have learned.

Students like to be interactive as TS help them to learn better and they also acquire multi-tasking skills. They are also able to collaborate with their friends as they learn best being more interactive.

The purpose of the Technology Studies Assessment in the context of the nine-year Continuous Basic Education is to assess the understanding of a range of concepts and skills related to Design & Technology and Food & Textiles Studies.

5 Assessment Objectives

At the end of Grade 9, Candidates will be assessed on the following **three Assessment Objectives (AOs)**:

1. Knowledge and Understanding
2. Application Skills
3. Analysis & Evaluation

AO1 Knowledge and Understanding

- Demonstrate knowledge of concepts, principles and terminologies in TS
- Demonstrate basic knowledge and skills in TS
- Identify and use proper tools and equipment for specific task
- Read and interpret information related to TS
- Demonstrate an understanding of the interplay of culture, values and ethics within Technology

AO2 Application Skills

- Apply decision making and problem solving skills
- Demonstrate creative thinking in the design and making of artefacts
- Apply principles and conventions in communicating ideas and information in TS
- Develop and plan a course of action for the preparation/making of a product
- Adopt safe work practices.

AO3 Analysis & Evaluation

- Analyse the impact of Technology in everyday life
- Show the ability to evaluate artefacts
- Make critical judgement about issues related to TS

Weightings of AOs

Assessment Objectives	Weighting %	
	Design and Technology (D&T)	Food and Textiles Studies (FTS)
Knowledge and Understanding	25	25
Application Skills	20	20
Analysis and Evaluation	5	5

6 Paper Description

Technology Studies paper will consist of **two** components, namely:

Component 1: Design and Technology

Component 2: Food and Textiles Studies.

The time duration for **each** component is 1 hour 15 minutes with a break of 15 minutes in between.

The format of the questions ranges from objective-type questions such as Multiple Choice, fill in the blanks, true and false, matching to short answers, open ended, case study, drawings and free hand sketching.

Questions are organised in a graded manner with low cognitive demands on the pupils are found at the beginning of the paper and questions which require more thinking are found towards the end.

Mark allocation

As per the Ministry's guidelines, to ensure that all candidates are given a fair chance of showing they have acquired the necessary knowledge skills and competencies, each component contains about 50% of marks allocated to items which are considered to be at basic level, 20% to items considered at intermediate level and 30% of items at proficient level.

The types of questions used to assess particular learning areas of the syllabus are varied and may take different forms in different years.

Paper	Weighting
Component 1 Design & Technology Eight to ten questions	50%
Component 2 Food and Textiles Studies Ten to twelve questions	50%

Component 1: Design and Technology

Assessment Objectives

1. Pictorial Projection
 - Use drafting aids to draw objects in oblique and isometric projections
 - Apply simple rendering techniques for the presentation of drawings
2. Orthographic Projection
 - Use drafting aids to draw in First Angle Orthographic Projection
 - Insert major dimensions on drawings as per conventions
3. Material Technology
 - Describe the types, properties and uses of common wood, metal and plastic materials in the design and realisation of artefacts
 - List basic hand tools used in the processing of wood, metal and plastic materials
4. Mechanisms
 - Identify the different mechanisms used in machines
 - Draw mechanisms using appropriate conventions
5. Electricity and Electronics
 - Identify and describe the functions of basic electrical and electronic components
 - Draw simple circuit diagrams using conventions
 - State safe working practices in the use and installation of electrical and electronic components
6. Pneumatics and Hydraulics
 - Describe the working principles of pneumatic and hydraulic systems
 - State the common applications of pneumatics and hydraulics
7. Green Design
 - Explain the concept of 'Green Design'
 - Describe the strategies for adopting 'Green Design' practices
8. Design Process
 - Describe and apply the stages of the design process to solve a design problem

Component 2: Food & Textiles Studies

Assessment Objectives

1. Nutrition and Health

- Discuss the functions, sources, deficiency and excess of vitamins, minerals and water in the body.
- Identify ways to prevent loss of vitamins and minerals during food preparation.
- Explain the importance of fruits and vegetables' consumption in the diet, as a dietary guideline for healthy lifestyle.
- Discuss factors influencing food habits and food choices.
- Relate the role of diet in the prevention of non-communicable diseases.
- Indicate how eating disorders are related to unhealthy food habits and food choices.

2. Food Technology

- Differentiate between sustainable and unsustainable food production and consumption practices.

3. Principles and Methods of Food Preparation

- Demonstrate the safe use of the oven, stove and microwave oven.
- Plan and prepare healthy meals.
- Make judicious use of convenience foods when planning and preparing healthy meals.

4. Self and Family awareness

- Explain ways to build and maintain strong family relationship.
- Discuss the influence of technology on family life.

5. Consumer Awareness

- Interpret information on food and care labels and manuals of household appliances and equipment.
- Explain the importance of caring for textiles and clothing

6. Textile Technology

- Relate fabric construction to performance characteristics and end-uses of textile fibres.
- Relate fabric finishes to performance characteristics and end-uses of textile fibres.
- Identify common uses of smart and modern fabrics.

7. Fashion Sense

- Demonstrate an understanding of basic elements of fashion design.
- Discuss the factors affecting fashion trends.

8. Design and creativity through textiles

- List the appropriate resources required to create textile items.
- Identify ways to recycle textile materials.
- Design and make textile items using selected fabric decoration and coloration techniques.
- Demonstrate safe practices when constructing a textile item.
- Create textile items by applying basic elements of fashion design.

The Specimen Assessment Booklet

The Technology Studies specimen assessment booklet has been designed to provide a meaningful and positive learning experience to the pupils and also to evaluate and improve teaching and learning.

Marks have been allotted to the different questions so as to reward every pupil's effort and achievement. A variety of items are specified to give students the opportunity to demonstrate understanding, reasoning and creativity in their answers.

The assessment objectives (AO) of each item/question in the specimen assessment booklet are indicated. They serve to illustrate what is being assessed.

The questions found in the specimen assessment booklet have also been mapped onto the learning outcomes (LO) found in the Teaching and Learning syllabus.

One-mark questions should not be perceived as being the easiest questions in the booklet. A one-mark question may require high order thinking. All the Objective type questions carry one mark.

Component 1 comprises 11 questions where the candidates have to choose either question 10 or question 11. Questions 8, 9, 10 and 11 are meant to assess students drawing skills and their knowledge of visually an object in either 2D or 3D. question 11 serves to test students thinking, creative and drawing skills and how they evaluate their ideas.

Component 2 comprises 8 compulsory questions. Questions 6, 7 and 8 are meant to assess students' understanding of concepts and their logical reasoning. It is also an example where students will need to explain and evaluate their ideas.

The Specimen Mark Scheme

The mark scheme enclosed at the end of the document serves to indicate how marks are allotted. It gives the reader an idea of the types of answers that are expected from pupils. The mark scheme presented in this document is not a finalised document.

NCE – Technology Studies (Design & Technology)

Topic	Question Number	Learning Outcomes	Page Number in Textbook Grade 9	Assessment Objectives										Total	
				AO1: Knowledge with Understanding					AO2: Application Skills						AO3: Analysis and Evaluation
				O	VSA	D	O	SA	D	SA	D				
Pictorial Projection	3 (v)	Use drafting aids to draw objects in oblique & isometric projections	48	1											5
	7	apply simple rendering techniques for the presentation of drawings	36							4					
Orthographic Projection	8	Use drafting aids to draw objects in First Angle Orthographic Projection	67								15				15
	1 (ii)	List basic hand tools used in the processing of wood, metal & plastic	90	1											
	1 (iv)	List basic hand tools used in the processing of wood, metal & plastic	89	1											
	2 (c)	Describe the types, properties & uses of common wood, metal & plastic materials in the design & realization of artefacts	77	1											
	2 (e)	Describe the types, properties & uses of common wood, metal & plastic materials in the design & realization of artefacts	82	1											
Material Technology	3 (ii)	List basic hand tools used in the processing of wood, metal & plastic	85	1											11
	4 (a)	List basic hand tools used in the processing of wood, metal & plastic	85	1											
	4 (d)	Describe the types, properties & uses of common wood, metal & plastic materials in the design & realization of artefacts	67	1											
	4 (e)	Describe the types, properties & uses of common wood, metal & plastic materials in the design & realization of artefacts	75	1											
	5 (b)	List basic hand tools used in the processing of wood, metal & plastic	87			3									
	2 (b)	Identify the different mechanisms used in machines	130	1											
	3 (i)	Identify the different mechanisms used in machines	137	1											
Electricity & Electronics	1(i)	Identify & describe the functions of basic electrical & electronic components	98	1											6
	2 (a)	Identify & describe the functions of basic electrical & electronic components	101	1											
	3 (iv)	Identify & describe the functions of basic electrical & electronic components	104	1											
	4 (c)	Identify & describe the functions of basic electrical & electronic components	99	1											
	5 (a)	State safe working practices in the use & installation of electrical & electronic components	107		2										
	1 (iii)	Describe the working principles of pneumatic & hydraulic systems	151	1											
	2 (e)	Describe the working principles of pneumatic & hydraulic systems	154	1											
Green Design	1 (v)	Describe the strategies of adopting 'Green Design' practices	12	1											2
	3 (iii)	Explain the concept of 'Green Design'	22	1											
Design Process	4 (b)	Describe & apply the stages of the design process to solve a design problem	163	1											7
	7 (a)	Describe & apply the stages of the design process to solve a design problem	166									2			
	7 (b)	Describe & apply the stages of the design process to solve a design problem	168									2		2	
Sub marks				20	2	3		2		19	2	2	4	50	
Total				25				21							

Basic: 25%

Intermediate:21%

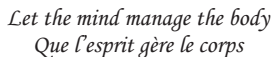
Proficient: 4%

NCE – Technology Studies (Food & Textiles)												
Topic	Question Number	Learning Outcomes (syllabus)	Page Number in Textbook Grade 9	Assessment Objectives								Total
				AO1: Knowledge with Understanding			AO2: Application Skills			AO3: Analysis and Evaluation		
				O	VSA	SA	O	VSA	SA			
Nutrition and Health	1.5	Discuss the functions, sources, deficiency & excess of vitamins, minerals & water in the body		1								
	2(b)	Discuss factors influencing food habits & food choices	217	1								
	2(c)	Discuss factors influencing food habits & food choices	217	1								
	2(d)	Discuss how eating disorders are related to unhealthy food habits & food choices	216	1								
	2(e)	Explain the importance of fruits & vegetables consumption in the diet, as a dietary guideline for healthy lifestyles	212	1								10
Food Technology	2(f)	Discuss how eating disorders are related to unhealthy food habits & food choices	219	1								
	10(i)	Discuss the functions, sources, deficiency & excess of vitamins, minerals & water in the body	201		2							
	10(ii)	Discuss the functions, sources, deficiency & excess of vitamins, minerals & water in the body	206		2							
	6(a)	Differentiate between sustainable & unsustainable food production & consumption practices	225				3					
	6(b)	Differentiate between sustainable & unsustainable food production & consumption practices	226				2					5
Principles and Methods of Food Preparation	1.4	Make judicious use of convenience foods when planning & preparing healthy meals	248	1								
	2(a)	Plan & prepare healthy food	245	1								
	5	Make judicious use of convenience foods when planning and preparing healthy meals	250				4					10
	9 (i)	Demonstrate the safe use of the oven, stove & microwave oven	235					2				
	9 (ii)	Demonstrate the safe use of the oven, stove & microwave oven	235									
Self and family awareness	4(a)	Explain ways to build & maintain strong family relationship	259	1								
	4(b)	Explain ways to build & maintain strong family relationship	259	1								
	4(c)	Explain ways to build & maintain strong family relationship	260	1								5
	4(d)	Discuss the influence of technology on family life	267	1								
	4(e)	Discuss the influence of technology on family life	267	1								
Consumer awareness	3(a)	Interpret information on food & care labels & manuals of household appliances & equipment	275	1								2
	3(e)	Interpret information on food & care labels & manuals of household appliances & equipment	275	1								
Textile Technology	1.1	Relate fabrics construction to performance characteristics & end-uses of textiles fibres	288				1					
	1.2	Identify common uses of smart & modern fabrics	293	1								
	2(b)	Identify common uses of smart & modern materials	293	1								8
	7(a)	Relate fabric construction to performance characteristics & end-uses of textile fibres	280					3				
	7(b)	Relate fabric construction to performance characteristics & end-uses of textile fibres	280					2				
Fashion Sense	1.3	Demonstrate an understanding of basic elements of fashion design	297	1								1
Design & Creativity through Textiles	3(c)	List the appropriate resources required to create textile items	313	1								
	3(d)	Design & make textile items using selected fabric decoration & coloration techniques	322	1								
	8(a)	Relate fabric construction to performance characteristics & end-uses of textile fibres	285	1								
	8(b)(i)	Relate fabric construction to performance characteristics & end-uses of textile fibres	316					1				9
	8 (b) (ii)	Relate fabric construction to performance characteristics & end-uses of textile fibres	316							1		
Sub marks	8(b) (iii)	Create textile items by applying basic elements of fashion design	317								4	
				21	4		1	17	3		4	50
Total				25			21				4	

Basic: 25%

Intermediate: 21%

Proficient: 4%

[illegible]

Index Number:

NATIONAL CERTIFICATE OF EDUCATION

Specimen paper for first assessment in October 2020

TECHNOLOGY STUDIES (N550)

COMPONENT 1

Additional materials: Standard drawing equipment

TIME: 1 HOUR 15 MINUTES

READ THESE INSTRUCTIONS FIRST

1. Answer all questions.
2. Write your index number in the space provided above and on A3 printed question sheet.
3. Use black or blue ink. HB pencils may be used for the diagrams/sketches only.
4. Read each question carefully. All answers must be written in the spaces provided.
5. Do not use correction fluid, staples, paper clips, highlighters and glue.
6. Check whether this assessment booklet consists of 8 questions:
Questions **1 - 7** printed on 8 pages from page **2** to page **9**;
Question 8 printed on a separate insert.
7. For Question 8:
All answers are to be drawn accurately, with instruments, unless otherwise stated.
All construction lines **MUST** be left on each solution to show the method used.
Drawing aids may be used.
All dimensions are in millimetres.
Marks will be awarded for accuracy, clarity and appropriateness of construction.
8. Answer all questions.
9. The total mark for component 1 is **50**.
10. The number of marks is given in brackets () at the end of each question or part question.
11. At the end of the assessment, fasten all your work securely together.

SECTION A

QUESTION 1

Circle the correct answer as shown in the example.

Example: Which one of the following is an alloy?

- | | | | |
|----------|-----------|----------|-----------------|
| A | Aluminium | B | Stainless steel |
| C | Copper | D | Zinc |

(i) One material which conducts electricity is_____.

- | | | | |
|----------|--------|----------|-------|
| A | glass | B | paper |
| C | copper | D | wood |

(ii) Which one of the following is a metalworking tool?

A



B



C



D



(iii) Pneumatic devices are operated using _____.

- A** air
- C** petrol

- B** oil
- D** water

(iv) The symbol shown in Figure 1 means you need to wear _____.



Figure 1

- A** gloves
- C** goggles

- B** an apron
- D** an ear muff

(v) Which one of the following is a renewable source of energy?

- A** coal
- C** oil

- B** gas
- D** water

(5 marks)

QUESTION 2

Put a tick (✓) in the appropriate column to indicate whether the statements in the table below are **True** or **False**. The first one has been done for you.

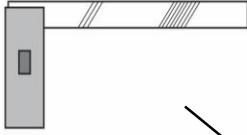



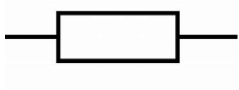
STATEMENT		TRUE	FALSE
Example: <i>Softwoods are cone bearing trees and have needle-like leaves.</i>		✓	
a	Electric current is measured in volts.		
b	A reciprocating motion is linear and repetitive.		
c	Thermoplastics can be re-melted and formed into another shape.		
d	Thermochromic ink changes colour when exposed to a light source.		
e	Hydraulic systems can start-up under heavy loads.		

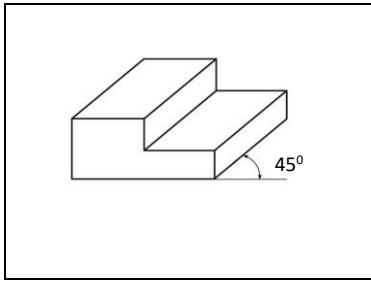
(5 marks)

QUESTION 3

Match the pictures shown in **Column A** to their corresponding descriptions in **Column B**.

An example has been done for you.

COLUMN A	COLUMN B
	Belt and pulley
	Oblique Projection
	Resistor
	Try square
	Measuring tape
	Recyclable
	Isometric Projection



Question 4

Fill in the blanks with the appropriate word from the list given below. The first one has been done for you.

(design brief, iron, bulb, switch, **sustainable**, scriber, insulator)

Example: The purpose of green design is to ensure a sustainable future for all.

- a) A _____ is used to mark on metals.
- b) A _____ is a short statement indicating what is to be designed.
- c) A _____ is a component used to open or close a circuit.
- d) Wood is used to make handles of cooking utensils as it is a good heat _____.
- e) Non-ferrous metals are metals which do not contain _____.

(5 marks)

QUESTION 5

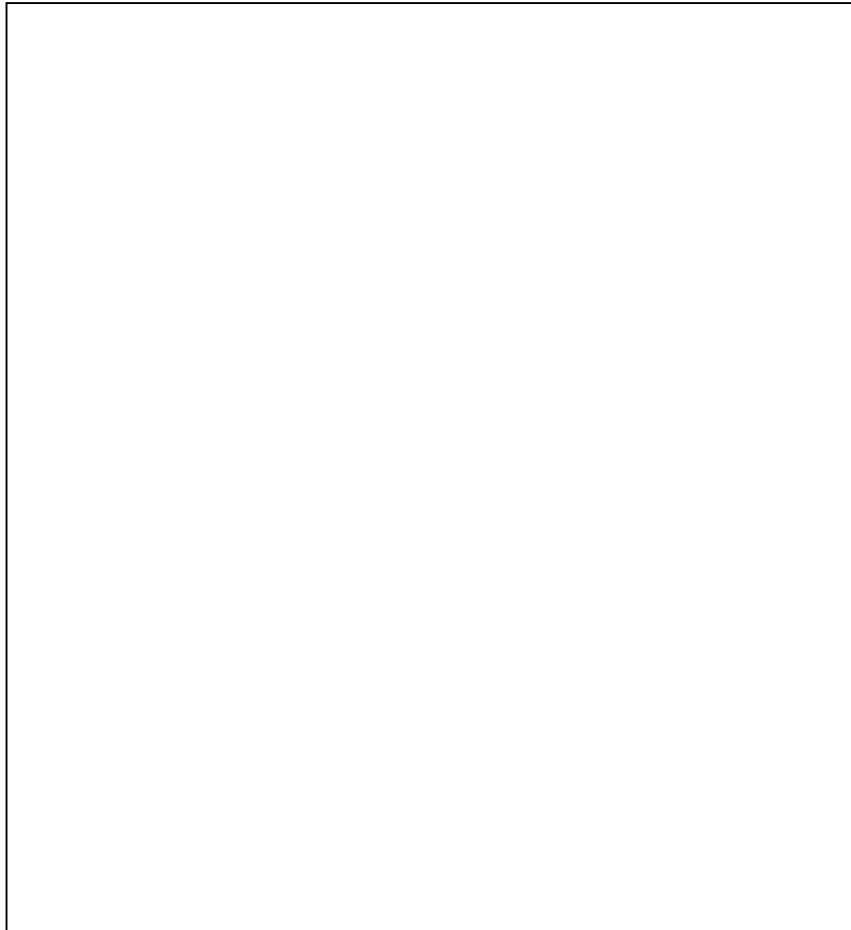
- (a) Give **two** safety precautions to be observed when working with electrical and electronic systems.

- (i) _____

- (ii) _____

(2 marks)

- (b) Sketch a **G-Clamp** in the space provided.



(3 marks)

SECTION B

QUESTION 6

Figure 2 shows an isometric view of a shaped block. Apply tone shading to the block using either a pencil or coloured pencil. Arrow **L** shows the direction of light.

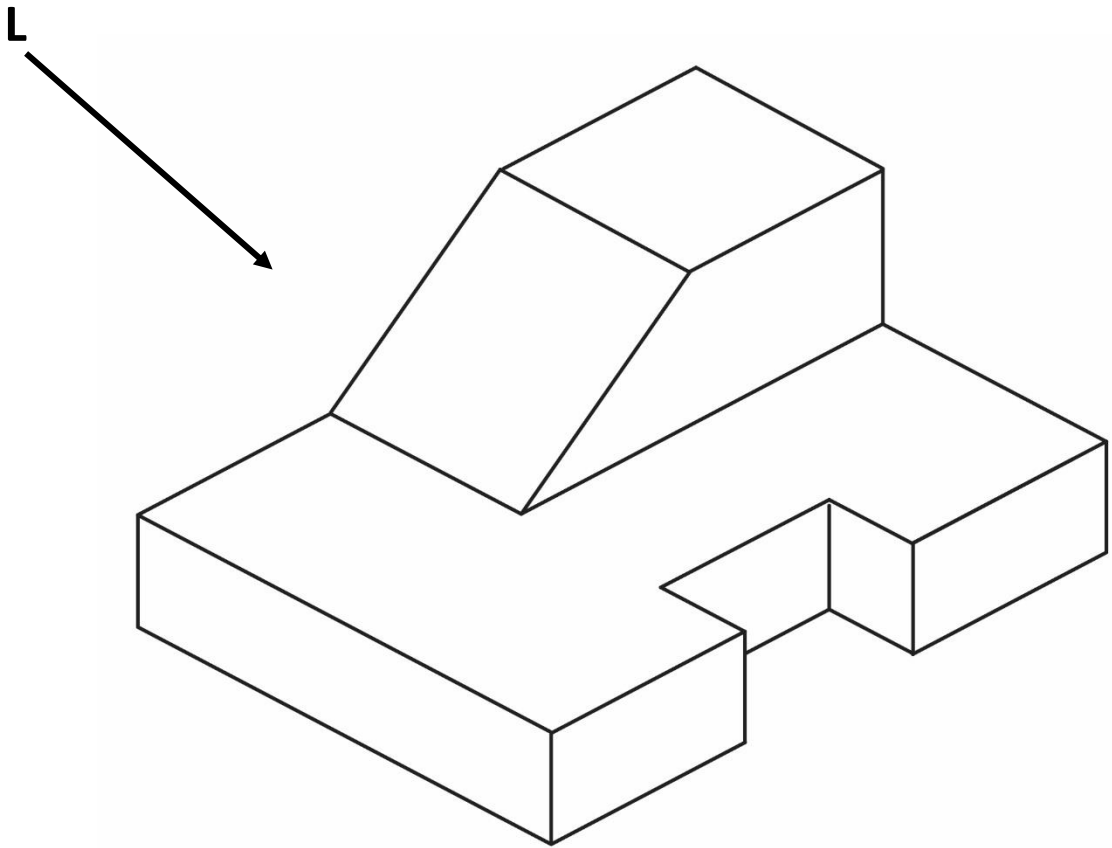


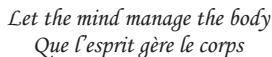
Figure 2

(4 marks)

QUESTION 7

Figure 3 shows a mobile phone. A holder is required for the mobile phone.

BLANK PAGE

[illegible]

Index Number:

NATIONAL CERTIFICATE OF EDUCATION

Specimen paper for first assessment in October 2020

TECHNOLOGY STUDIES (N550)

COMPONENT 2

No additional materials are required

TIME: 1 HOUR 15 MINUTES

READ THESE INSTRUCTIONS FIRST

1. Write your index number in the space provided above.
2. Use black or blue ink. HB pencils may be used for the diagrams/sketches only.
3. Read each question carefully. All answers must be written in the spaces provided.
4. Do not use correction fluid.
5. Check whether the assessment booklet consists of 10 questions printed on 8 pages from page 2 to page 9.
6. Answer all questions.
7. The total mark for component 2 is 50.
8. The number of marks is given in the brackets () at the end of each question or part question.

SECTION A

Question 1 (5 marks)

Circle the correct answer. An example has been provided.

Example: The material that not be used in a microwave oven is _____.

A glass

B plastic

C metal

D wood

1. A _____ finish is applied to flannel fabric to make it warmer.

A brushing

B starching

C flameproof

D waterproof

2. An example of a modern fabric which is used to make bulletproof vests is _____.

A felt

B canvas

C kevlar

D jersey

3. Vertical lines make the figure appear slimmer and _____.

A plumper

B taller

C wider

D shorter



4. One advantage of using convenience foods in family meals is that _____.

A it can be expensive

B it has small serving portions

C there is less wastage

D it is low in dietary fibre

5. An example of micronutrient is _____ .

A fat

B protein

C carbohydrate

D vitamin

(5 marks)

QUESTION 2 (6 marks)


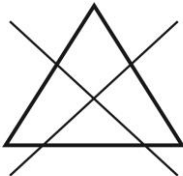
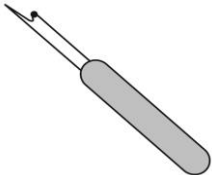



(a) Put a tick (✓) in the appropriate column to indicate whether the statement is **True** or **False**. The first one has been done for you.

STATEMENT		TRUE	FALSE
<i>Example: Food habits refer to why and how people eat.</i>		✓	
a	A garnish is used to complete a sweet dish.		
b	High consumption of fats leads to obesity.		
c	A decrease in your salt and sugar intake will help you stay in good health.		
d	People affected by Anorexia Nervosa are afraid of losing weight.		
e	White coloured fruits and vegetables help boost memory.		
f	When eating out, cleanliness of the place should be considered as hygiene practice.		

(6 marks)

QUESTION 3 (5 marks)

- (b) Match each picture shown in column **A** with the corresponding statement in column **B**.
An example has been provided.

Column A	Column B
	An equipment used to remove wrinkles and creases from garments
	Care symbol for Handwash
	An equipment used to undo stitches
	Tie and dye decoration technique
	Reflective textile
	Do not bleach
	Dry in the shade

QUESTION 4 (5 marks)

Fill in the blanks with the correct word from the list given below. One example has been done for you.

communication, energy, isolation, goals, teamwork, blocks, strong

Example: Dealing with problems positively helps to build**strong**..... family ties.

- a) Families are considered as the building of the society.
- b) Families with strong relationship share common
- c) Problem-solving and are two ways to cope with the challenges of building strong family relationships.
- d) Long hours spent on computer games can result in.....
- e) The use of technological devices in the kitchen helps save time and

(5 marks)

QUESTION 5 (4 marks)

Complete the table below by giving one example of a dish that can be made using each of the following methods. An example has been provided.

Methods	Example of a dish
All in one / one stage method	Chocolate muffin
Creaming method	
Melting method	
Whisking method	
Rubbing in method	

(4 marks)

SECTION B

Question 6 (5 marks)

(a) During sustainable food production, the **3Rs** are applied. List down the **3Rs**.

(i) _____

(ii) _____

(iii) _____

(3 marks)

(b) Give two examples of sustainable food consumption practices.

Example 1: _____

Example 2: _____

(2 marks)

Question 7 (5 marks)

(a) **Figure 1** shows a woven fabric. Label parts A, B and C.

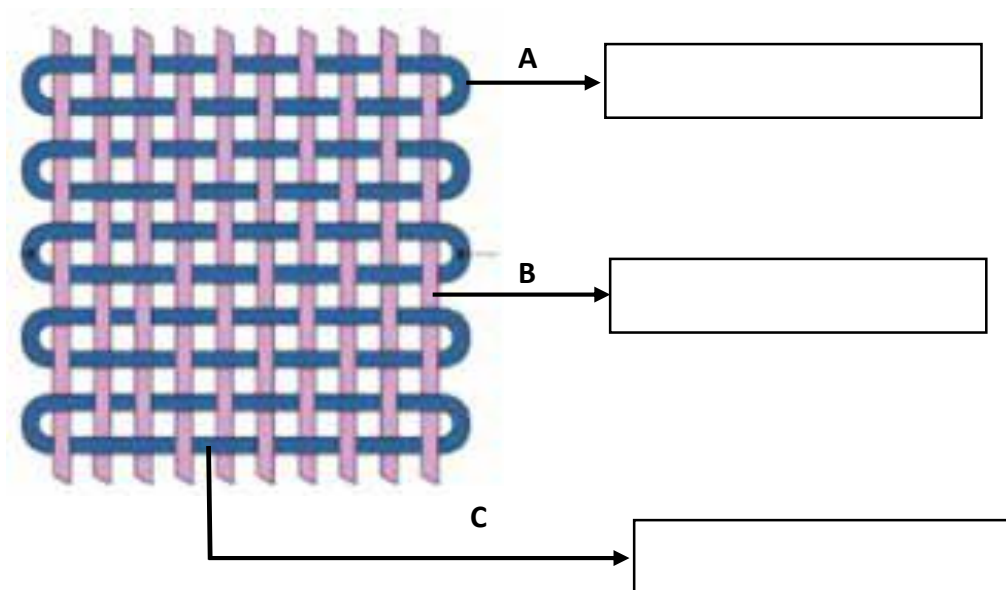


Figure 1 - Woven fabric

(3 marks)

(b) Give two examples of woven fabrics.

Example 1: _____

Example 2: _____

(2 marks)

QUESTION 8 (7 marks)

There are various techniques that are used to decorate and add colour to textiles.

Figure 2 shows a drawstring pouch.



Figure 2 - Drawstring pouch

- (a) Name the decorative technique used on the drawstring pouch.

_____ (1 mark)

- (b) A woven fabric has been used to make the drawstring pouch.

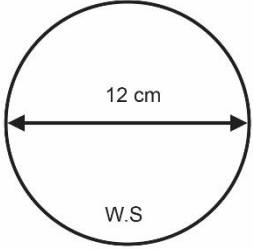
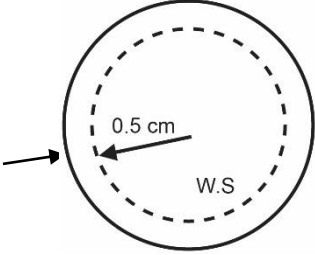
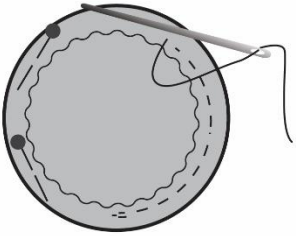
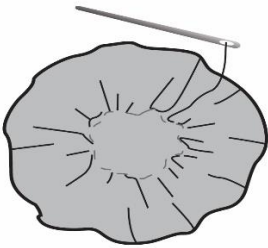
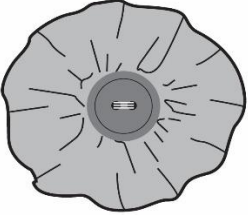
- (i) Give **one** performance characteristic of woven fabric.

(1 mark)

- (ii) Explain how this performance characteristic makes it suitable for a drawstring pouch.

(1 mark)

- (iii) Write down the steps required to work the decorative technique. The first step has been provided.

Step 1		Cut round shapes of diameter 12 cm from a suitable material.
Step 2		
Step 3		
Step 4		
Step 5		

(4 marks)

QUESTION 9 (4 marks)

Boiling is one method of cooking food.

- (i) Define the term **boiling**.

(2 marks)

- (ii) State **one** advantage and **one** disadvantage of boiling food.

Advantage:

(1 mark)

Disadvantage:

(1 mark)

QUESTION 10 (4 marks)

It is important to include vitamins and minerals in our daily diet for the proper functioning of the body.

State **one** source and **one** deficiency of:

- (i) **Vitamin A**

Source: _____

Deficiency: _____

- (ii) **Iron**

Source: _____

Deficiency: _____

(4 marks)

BLANK PAGE



MINISTRY OF EDUCATION, TERTIARY EDUCATION,

SCIENCE AND TECHNOLOGY

MAURITIUS EXAMINATIONS SYNDICATE

NATIONAL ASSESSMENT GRADE 9

TECHNOLOGY STUDIES

**Specimen Paper Design & Technology 2019
For first examination in 2020**

Component 1

MARK SCHEME
Maximum mark: 50






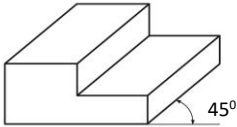
Generic Marking Principles

1. Marks must be awarded in line with:
 - i. the specific content of the mark scheme;
 - ii. the specific skills defined in the mark scheme.
2. Marks awarded are always **whole marks** (do not award half marks).
3. Marks must be awarded positively:
 - i. marks are awarded for correct/valid answers, as defined in the marks scheme;
 - ii. marks are awarded when candidates clearly demonstrate what they know and can do;
 - iii. marks are not deducted for errors and omissions.
4. Marks awarded are based solely on the requirements as defined in the mark scheme.

Question 1	Answer	Marks
	B	Example provided
i.	C	1
ii.	A	1
iii.	B	1
iv.	C	1
v.	D	1

Question 2	Answer	Marks
	TRUE	Example provided
a.	FALSE	1
b.	TRUE	1
c.	TRUE	1
d.	FALSE	1
e.	TRUE	1

Question 3

COLUMN A	COLUMN B
	Belt and pulley
	Oblique Projection
	Resistor
	Try square
	Measuring tape
	Recyclable
	Isometric Projection

Question 4	Answer	Marks
	sustainable	Example provided
a)	scriber	1
b)	design brief	1
c)	switch	1
d)	insulator	1
e)	iron	1

Question 5	Answer	Marks	Guidance
(a)	<ul style="list-style-type: none"> • Turn off power & unplug equipment when checking or replacing parts • Use proper tools & equipment with no conducting handles when working on electrical devices • Make sure that you have dry hands when handling a plugged in electrical equipment • Do not touch live wires with bare hands • Avoid damaged insulation, equipment, or tools which can expose you to live electrical parts • Avoid putting fingers in the socket. • Wear proper shoes when working with electricity • Overloading a socket with too many devices must be avoided to prevent overheating 	2	Award 1 mark for each correct answer or any other relevant answer acceptable

Question 5	Answer	Marks	Guidance
(b)		3	<p>Award 3 marks for accuracy of sketch with proper details such as body, screw and tommy bar</p> <p>Award 2 marks for accuracy of sketch with some details of bolt, screw and tommy bar</p> <p>Award 1 mark for basic outline of G-clamp</p>

Question	Answer	Marks
6	<p>1 mark for lighter tone (all horizontal surfaces)</p> <p>1 mark for medium tone (all vertical surfaces)</p> <p>1 mark for darker tone</p> <p>1 mark for overall quality of rendered shape</p>	4

Question 7	Answer	Marks	guidance
(a)	<p>Function: use to hold mobile phone</p> <p>Appearance: has simple shape, dark brown colour as suggested by the client</p> <p>Material: easy to bend and work with</p> <p>User comfort: easy to remove the mobile phone</p> <p>Stability: it can support the mobile phone</p>	2	<p>Any other relevant answer acceptable</p> <p>1 mark awarded for only main specification stated (A one-word answer is acceptable)</p>
(b)	Simple drawing displaying low standard or limited range of techniques 0 - 1	4	
	Clear drawing displaying a good standard and a range of techniques – annotation 2		
	High quality drawing using a wide range of techniques – annotation and detail 3 - 4		

Question 8	Answer	Marks
(i)	Front view Outline of block completely drawn correct to overlay (1) Circle drawn correct to overlay (1) Hidden details shown by dashed lines correct to overlay (1)	3
(ii)	Top view Outline of top view drawn (rectangular shape) correct to overlay (1) Interior visible lines drawn correctly and in position correct to overlay (1) Hidden details shown by dashed lines correct to overlay (1)	3
(iii)	Side view Outline of side view drawn (rectangular shape) correct to overlay (1) Interior visible lines drawn correctly and in position correct to overlay (1) Hidden details shown by dashed lines correct to overlay (1)	3
	Quality of line work (1) Accurate positioning of side view with respect to front view (1) Accurate positioning of top view with respect to front view (1)	3
(iv)	Correct positioning of arrows and dimensioning	3

BLANK PAGE



MINISTRY OF EDUCATION, TERTIARY EDUCATION,
SCIENCE AND TECHNOLOGY
MAURITIUS EXAMINATIONS SYNDICATE

NATIONAL ASSESSMENT GRADE 9

TECHNOLOGY STUDIES

Specimen Paper Design & Technology 2019
For First examination in 2020

Component 2

MARK SCHEME

1 h 15 minutes

Maximum mark: 50


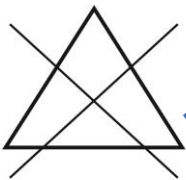
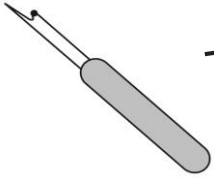



Generic Marking Principles

1. Marks must be awarded in line with:
 - i. the specific content of the mark scheme;
 - ii. the specific skills defined in the mark scheme.
2. Marks awarded are always **whole marks** (do not award half marks).
3. Marks must be awarded positively:
 - i. marks are awarded for correct/valid answers, as defined in the marks scheme;
 - ii. Marks are awarded when candidates clearly demonstrate what they know and can do;
 - iii. Marks are not deducted for errors and omissions.
4. Marks awarded are based solely on the requirements as defined in the mark scheme.

Question 1	Answer	Marks
example	C	
1.	A	1
2.	C	1
3.	B	1
4.	C	1
5.	D	1

Question 2	Answer	Marks
example	TRUE	
1.	FALSE	1
2.	TRUE	1
3.	TRUE	1
4.	FALSE	1
5.	FALSE	1
6.	TRUE	1

Question 3 (1 mark for each correct match)

Column A	Column B
	An equipment used to remove wrinkles and creases from garments
	Care symbol for Hand wash
	An equipment use to undo stitches
	Tie and Die decoration technique
	Reflective textile
	Do not bleach
	Dry in the shade

Question 4	Answer	Marks
example	strong	
1.	blocks	1
2.	goals	1
3.	communication	1
4.	isolation	1
5.	energy	1

Question 5

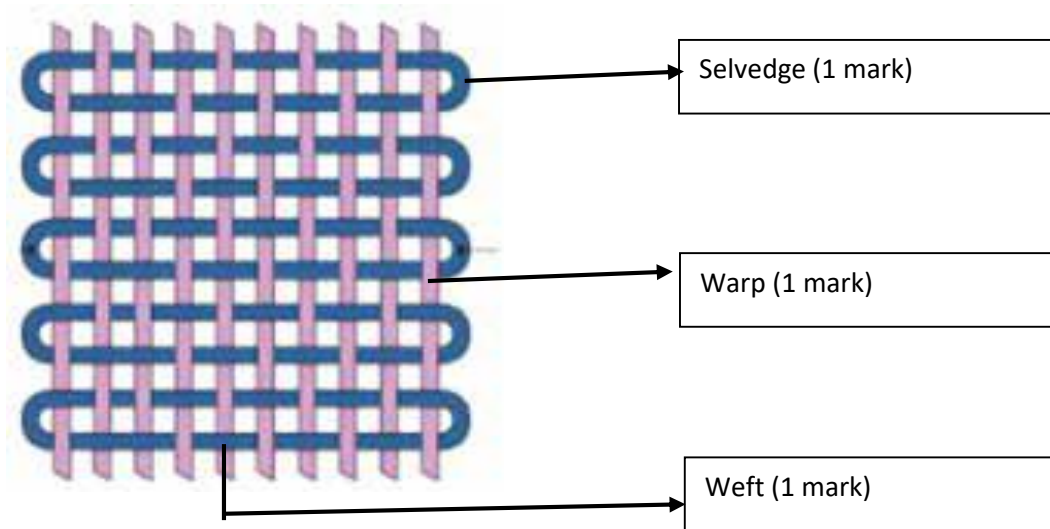
Method of cake making	Example of a cake	Marks	Guidance
<i>All in one/one stage method</i>	<i>Chocolate muffin (example provided)</i>		
Creaming method	Victoria sandwich, Carrot cake, Vanilla cake	1	Or any other suitable answer
Melting method	Ginger bread, chocolate cake	1	
Whisking method	Swiss roll, Genoese, sponge cakes	1	
Rubbing in method	Fruit loaf, rock buns, scones	1	

SECTION B

Question 6	Answer	Marks	guidance
(a)	(i) Reuse	1	
	(ii) Reduce	1	
	(iii) Recycle	1	
(b)	<p>Make use of local ingredients</p> <p>Make smart use of left-over foods</p> <p>Use kitchen appliances efficiently</p> <p>Soak rice and pulses to reduce cooking time</p> <p>Boil pulses in bulk and freeze in small containers for later use</p> <p>Use eco-friendly bags when shopping</p> <p>Buy less processed food</p> <p>Use products with less packaging</p> <p>Prepare shopping list [buy less = less wastage]</p> <p>Check expiry dates</p> <p>Choose foods raised and slaughtered in environment friendly conditions</p> <p>Eat local foods in season</p> <p>Preserve different types of foods</p> <p>Use FIFO [First In First Out] as a kitchen rule</p>	2	1 mark for each correct answer suggested or any other suitable answer

Question 7

(a) Woven fabric



Question 7	Answer	Marks	Guidance
(b)	Denim	1	1 mark for each correct answer suggested or any other suitable answer.
	Calico	1	

Question 8	Answer	Marks	Guidance
(a)	Fabric Yoyo	1	No other alternative answer
(b)	(i) Strength, It is a strong fabric, it is strong and durable, easy to care	1	or any other suitable answer.
	(ii) Woven fabric are stable which make them strong/ durable/ enable frequent washing	1	
(c)	Cut round shapes of diameter 12 cm in a suitable material.	Example provided	1 mark for the correct order
	Measure 0.5cm from the raw edge and make a fold line. Pin in position.	1	
	Starting with a double backstitch, work running stitches close to the folded edge.	1	
	Gently pull the running stitches to gather the fabric and fasten with a double stitch. Fasten with a double backstitch.	1	
	Attach a button to secure and decorate the fabric Yoyo.	1	

Question 9	Answer	Marks	Guidance
(a) (i)	Boiling is cooking food in liquid usually water at 100° C	2	2 marks for correct answer suggested or any other suitable answer.
	Boiling is cooking food in liquid	1	
(a) (ii)	Advantage: Boiled food is easy to digest Cheap method of cooking	1	1 mark for each correct answer suggested or any other suitable answer.
	Disadvantage: Water-soluble vitamins are lost in the cooking water.	1	
	Deficiency: fatigue, pale skin, increased heartbeat, anemia, abnormally heavy and continuous bleeding	1	

Question 10	Answer	Marks	Guidance
(i)	Source: Liver, Fish Liver Oil, Sardines, Egg Yolk, Milk, Cheddar Cheese, Butter Cream, Ghee Any named example of Red, Orange and Yellow fruits and vegetables Green Leafy Vegetables or any named example	1	1 mark for each correct answer suggested or any other suitable answer.
	Deficiency: loss of sight, night blindness, dry eyes and skin, poor vision in dim light	1	
(ii)	Source: liver, red meat, whole grain cereals, pulses, potatoes, egg yolk, dark green leafy vegetables, pulses, dried fruits	1	1 mark for each correct answer suggested or any other suitable answer.
	Deficiency: fatigue, pale skin, increased heartbeat, anemia, abnormally heavy and continuous bleeding	1	

BLANK PAGE