



St. Nicholas College  
Boys Secondary Naxxar



Half-Yearly Examinations  
February 2014 - Form 3

Subject: Design and Technology      Levels: 5,6,7,8      Time: 1hr 30 mins

Name _____	Class _____
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For Teachers use only.

	Written Exam				Portfolio				Total	%
	Design	Materials	Food	Total	Materials	Food	Total	%		
Maximum Marks	40	30	30	100	100	100	200	100	200	100
Student's Mark										

You are required to answer all questions in the exam.

SECTION A: DESIGN PROCESS

(Total Marks:40)

1) Complete the missing stages of the Design Process using these words

( Initial Ideas, situation, Specifications, testing, design brief, development, planning, Evaluation)

i) \_\_\_\_\_

vii) \_\_\_\_\_

ii) \_\_\_\_\_

viii) \_\_\_\_\_

iii) Research and Investigation

ix) Making

iv) \_\_\_\_\_

x) \_\_\_\_\_ &

v) \_\_\_\_\_

vi) Choosing an Idea

(8 marks)

2. a) From **ONE** of the following situations write a Design Brief and continue the question on **THE CHOSEN SITUATION**.

I) When toddlers first start walking they should be encouraged to walk. Christmas is coming, and you have your younger brother.

Or

II) Your school canteen is thinking of producing a new healthy snack using short crust pastry. Design and make a one portion original food stuff that can be sold.

Design and make a \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ (3 marks)

b) Underline 3 (three) keywords in the above design brief. (3 marks)

c) Make a list of 4 specifications for the chosen situation.

i) \_\_\_\_\_

ii) \_\_\_\_\_

iii) \_\_\_\_\_

iV) \_\_\_\_\_ (4 marks)

d) Draw two ideas for the chosen situation.

	<p>(2 + 2 = 4 marks)</p>
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Name: \_\_\_\_\_ Class \_\_\_\_\_

e) Draw the chosen Idea and give one reason for choosing that idea. Include information such as material, dimensions, colour, ingredients, utensils needed etc.

6 Marks

Reason: \_\_\_\_\_ (2 marks)

3. Name four (4) sources from which one can get information during the Research and Investigation stage:

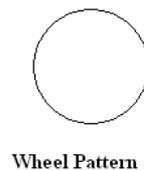
- i) \_\_\_\_\_ ii) \_\_\_\_\_  
iii) \_\_\_\_\_ iv) \_\_\_\_\_ (4 marks)

4. Give two (2) reasons why it is important to use models during the Design Process.

- a) \_\_\_\_\_  
b) \_\_\_\_\_ (4 marks)

5. Correct marking out saves material, money and reduces waste.

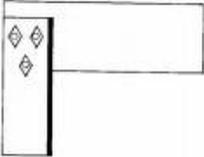
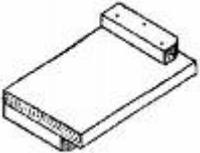
You need to cut out TWO wheels similar to the pattern shown here. Show by drawing how you would lay out the two wheels in such a way as to make efficient and economical use of the piece of Acrylic plastic whose size is shown in the adjacent diagram.



Acrylic Sheet

(2 marks)

1: Continue the following table on tools:

Picture	Name	Use:
		To check if the material is 90°
		
	Bench Hook	
		
		

8 Marks:

2. In the picture we can see that Joe is not very safe in this workshop. Identify four hazards to his safety. (4 marks)



3) What kind of material would you use for the following situations:

Name: \_\_\_\_\_ Class \_\_\_\_\_

Aluminium, Manufactured Wood, Thermosetting plastic, iron, Natural wood, thermoplastic

- i) A kettle made of plastic: \_\_\_\_\_
- ii) A box which is made by bending plastic. \_\_\_\_\_
- iii) A light metal to be used where there is a large amount of rain: \_\_\_\_\_
- iv) A long piece of wood to be varnished: \_\_\_\_\_.
- v) A Large sheet of wood: \_\_\_\_\_.
- vi) Material which should be brought up using a magnet: \_\_\_\_\_ (3 marks)

4. Write two safety precautions that should be taken when using the pillar drill

- i) \_\_\_\_\_
- ii) \_\_\_\_\_

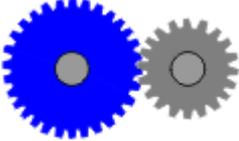
(2 marks)

5. What is the proper type of adhesive (glue) to use for the following applications.

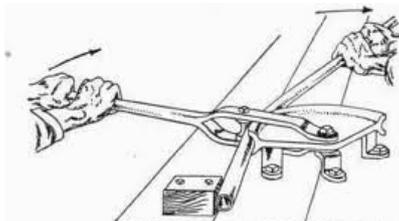
- i) Gluing wood for indoor use \_\_\_\_\_
- ii) Gluing PVC pipes together \_\_\_\_\_
- iii) Gluing two pieces of wood for use on a boat \_\_\_\_\_
- iv) Gluing an Acrylic (Perspex) sign \_\_\_\_\_
- v) Multipurpose glue \_\_\_\_\_

(5 marks)

6. Continue the following table on mechanisms by writing the name and where this mechanism is used:

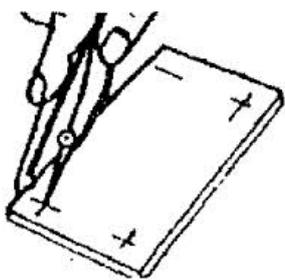
Picture	Name	Use:
	Lever	
		Cars
		(4 Marks)

7. What kind of manufacturing process is the following and give an example of product which uses this process.



Process: Bending

Used in: Bicycles



Process: \_\_\_\_\_

Used in: \_\_\_\_\_



Process: \_\_\_\_\_

Used in: \_\_\_\_\_ (4 marks)

1. Mark the correct answer with a (✓).

a. This type of production involves the use of large machines:

*Mass Production*  *Batch Production*  *One-off Production*

b. Foods produced in one off production are:

*Commonly found*  *Unique*  *Produced in a short time*

c. Production involves 3 main steps (choose their correct order):

*Input – output - process*  *Output – input - process*  *Input – process - output*

d. When the raw material is passed from a primary processing, the resulting food is:

*Primary food*  *First food*  *First Production Food*

(4 marks)

2. Complete the following questions about biotechnology

a. Define the term 'biotechnology': \_\_\_\_\_  
 \_\_\_\_\_(2marks)

b. Name 2 food stuffs that are created through biotechnology

\_\_\_\_\_ and \_\_\_\_\_(1 mark)

c. Why is a 'starter culture' used in a biotechnological process?

\_\_\_\_\_  
 \_\_\_\_\_(2marks)

3. Complete the following questions on the nutrients:

a. How many nutrients are there? \_\_\_\_\_ (1mark)

b. Name the nutrients:  
\_\_\_\_\_  
\_\_\_\_\_ (2 ½marks)

c. Choose any 3 of the nutrients and complete the table:

Name of Nutrient Chosen	1 function	2 food sources
_____	•	• •
_____	•	• •
_____	•	• •

(7 ½ marks)

4. The following are basic steps used in the making of the Short Crust Pastry. Match the terminology used with the correct definition. (The first one has been done as an example)

Sieving	The opening up of the pastry through the use of a rolling pin
Rubbing in	The process of passing dry ingredients through a sieve to make sure there are no foreign objects
Rolling	When a pastry or dough is worked out using the hands
Kneading	When a pastry is left to settle for some time, often in the fridge.
Resting	The process of combining fat with flour

(4 marks)

5a. What does the term HACCP stand for?

H\_\_\_\_\_ A\_\_\_\_\_ C\_\_\_\_\_ C\_\_\_\_\_ P\_\_\_\_\_

(1mark)

b. Give one reason why the HACCP process is important.

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(1mark)

c. Look at the pictures below. Name **2 safety rules** that each person is breaking.



1.

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2.

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1.

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2.

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(4 marks)

End of Paper