

JUNIOR LYCEUM AND SECONDARY SCHOOL
ANNUAL EXAMINATIONS 2006
Educational Assessment Unit – Education Division

FORMS 1 & 2

DESIGN AND TECHNOLOGY

Time: 1h 30min

Name: _____

Class: _____

Answer all questions of section A and all questions of two other sections of your choice.

SECTION A

DESIGN

(Total marks for this section: 50)

1. Write in order **the next four** stages of the design process.

▪ SITUATION

- _____
- _____
- _____
- _____

8 marks

2. Mention **four** sources from where you can collect pictures and written information for use in your research.

- | | |
|-----------|----------|
| i _____ | ii _____ |
| iii _____ | iv _____ |

8 marks

3. State **two** reasons why a model is sometimes needed during the design process.

i _____

ii _____

4 marks

4. Mention **two** materials that can be used to make a model for a Design and Technology project.

i _____

ii _____

4 marks

5. Give **two** methods how you can show your ideas for a project in a design folio?

i _____

ii _____

4 marks

6. Mention **two** points that should be considered before making a healthy snack to be sold in a school tuck shop.

i _____

ii _____

4 marks

7. Give **three** details that should be included in a working drawing.

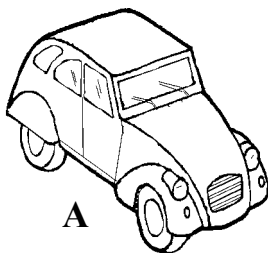
i _____

ii _____

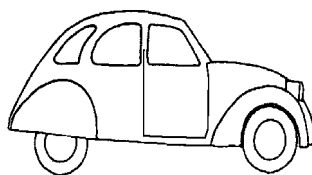
iii _____

6 marks

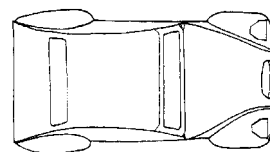
8. Below are sketches of a car as seen from different positions.



A



B



C

- a. Which sketch shows the plan of the car?
- b. Which sketch shows an elevation of the car?
- c. Which sketch shows the car in 3-D?

☐☐☐

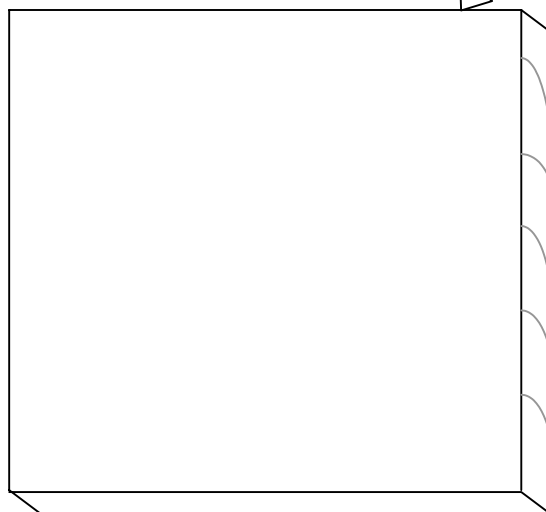
6 marks

9. A friend needs your help to mark out **HORIZONTAL** lines on this piece of wood before painting coloured stripes on it.

Mark out the lines for him according to the following measurements.

- 1st line: 1.5 cm from datum edge.
2nd line: 2.5 cm from datum edge.
3rd line: 5.0 cm from datum edge.

Datum edge



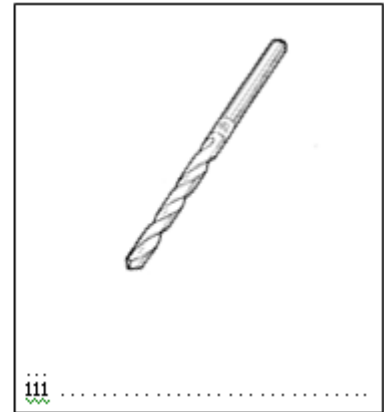
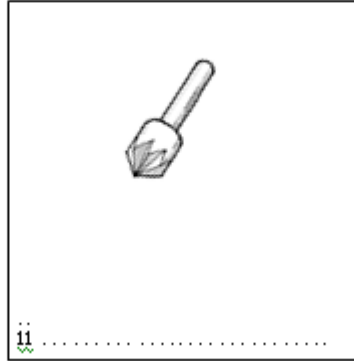
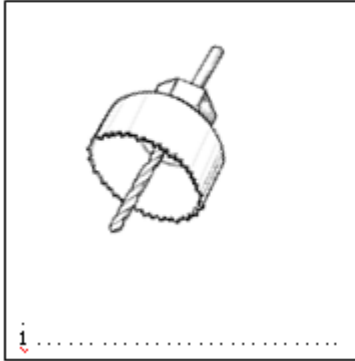
6 marks

END OF SECTION A

SECTION B

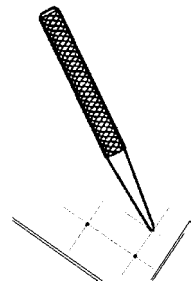
RESISTANT MATERIALS (Total marks for this section: 25)

1. Give the name of each of the following tools.



3 marks

2. a) Give the name of the tool shown here. _____
- b) Underline any of the following materials on which it can be used.
• Oak • Mild steel • Acrylic • MDF • PVC • Aluminium
- c) What is it used for? _____



4 marks

3. Below are the three main types of wood and a list of descriptions.
Match the type of wood to the correct description with an arrow.

HARD WOODS

Made by gluing wood layers or wood fibres together

SOFT WOODS

Come from broad-leaved trees



**MANUFACTURED
BOARDS**

Parana-pine and white-deal wood are an example

3 marks

4. Give **two** reasons for using an undercoat before painting a wooden project?

4 marks

5. Certain plastics can have their shape changed over and over again.

a) What is this group of plastics called? _____

b) How can we change the shape of such plastics? _____

c) Give one example of a plastic in this group. _____

6 marks

6. Give **two** examples of NON-FERROUS metals.

i _____

ii _____

2 marks

7. Why is steel harder than iron?

2 marks

8. What is the meaning of this safety sign?



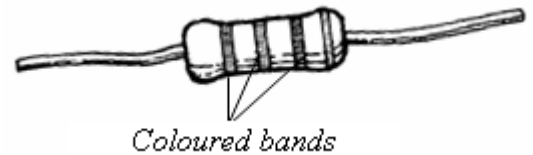
1 mark

END OF SECTION B

SECTION C
ELECTRONICS

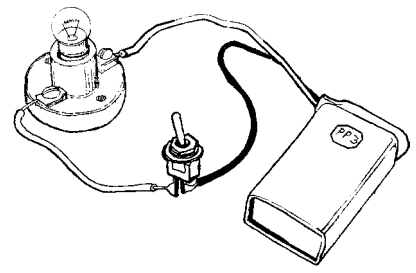
(Total marks for this section: 25)

1. Why do fixed resistors have coloured bands on them?



2 marks

2. What is the purpose of a switch connected between the battery and the bulb, as shown here?

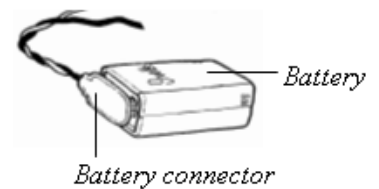


4 marks

3. Give **two** reasons why a battery connector is required for a 9V battery?

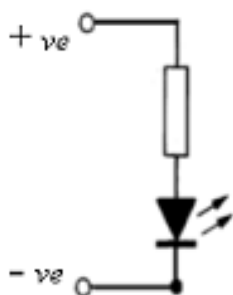
i _____

ii _____

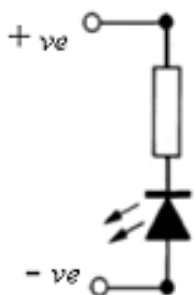


4 marks

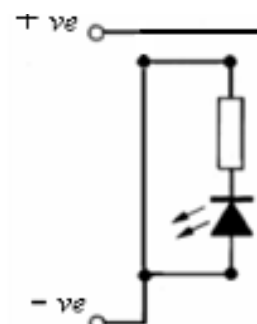
4. a) Mark with a ☒ which of the following diagrams show the correct connection of the LED.



	A
--	---



	B
--	---



	C
--	---

2 marks

- b) Give **one** reason for your decision.

3 marks

5. Draw the symbols of the following components used in electronics.

COMPONENT	SYMBOL
A single pole switch	
A capacitor	
A battery	
A bulb	

4 marks

6. Underline which of the following is the **best** conductor of electricity.

- IRON • WOOD • COPPER • ACRYLIC

2 marks

7. State **two** advantages of using electronics in everyday life.

i _____

ii _____

4 marks

END OF SECTION C

SECTION D

FOOD




(Total marks for this section: 25)

1. Match the following food products according to the type of nutrient each one contains.
The first one serves as an example.

	<u>Food</u>	<u>Nutrient</u>
Example:	Fish	<input type="checkbox"/> Fibre
	Oranges	<input type="checkbox"/> Calcium
	Milk	<input type="checkbox"/> Fat
	Brown break	<input checked="" type="checkbox"/> Protein
	Chocolate	<input type="checkbox"/> Vitamin C

4 marks

2. Name these **three** types of measuring equipment and say what food you would measure with each one of them.

Measuring Equipment	Name of Equipment	Kind of Food




6 marks

3. What type of food is made by 'one off production' and by 'mass production'? Give **one** example of each.

Food production

Type of Food

One off production:

Mass production:

4 marks

4. Mention **four** safety and hygiene rules that one should observe when working with food.

i. _____

ii. _____

iii. _____

iv. _____

4 marks

5. Food is classified under two main groups - Plant and Animal.
List the following food items under their proper group. An example is given to help you.

<u>List of food</u>		<u>Plant Group</u>	<u>Animal Group</u>
			<i>Example: bacon</i>
Beef	Cabbage		
Apples	Bacon		
Oranges	Banana		
Yoghurt	Tomatoes		

7 marks



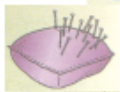

END OF SECTION D

SECTION E

TEXTILES

(Total marks for this section: 25)

1. What is the use of each of the following tools?

<u>Use of tools</u>	
	
	
	
	

8 marks

2. Which of these fibres come from an animal or a plant source?

wool, linen, cotton, real leather, silk.

ANIMAL	PLANT
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

5 marks

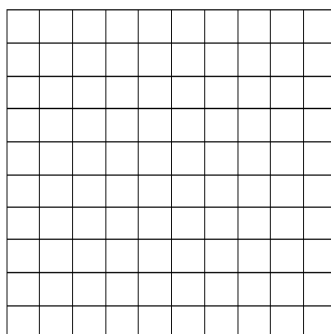
3. What safety measure should be taken when:

(a) handing a pair of scissors to your friend?

(b) sewing with the sewing machine?

4 marks

4. Mark the construction of a plain weave, using the checked diagram below.



5 marks

5. Suggest **one** method of each of the following tasks:

(a) joining two pieces of fabric: _____

(b) finishing edge of fabric: _____

(c) cutting fabric: _____

3 marks

END OF SECTION E