

TECHNOLOGY

ORDINARY LEVEL
160 Marks

Wednesday 20 June, Morning, 9.30 to 11.30

Centre Number

Examination Number

INSTRUCTIONS

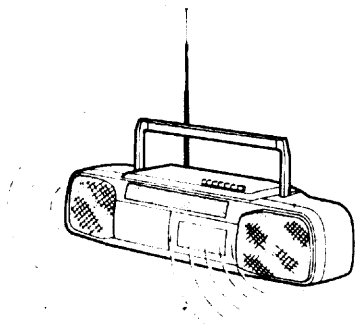
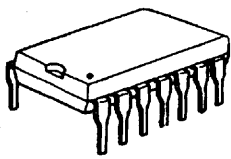
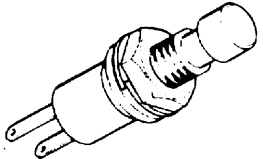

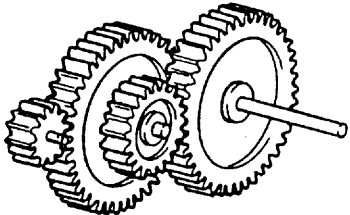
1. Answer Section A and any two questions from Section B.
2. Write your answers in the spaces provided or tick the appropriate box.
3. Hand up this paper at the end of the examination.

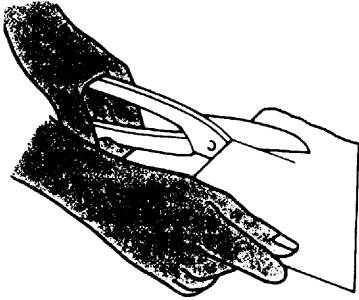
1.	Total of end of page totals	
2.	Aggregate total of all disallowed question(s)	
3.	Total mark awarded (1 minus 2)	
4.	Bonus mark for answering through Irish (if applicable)	
5.	Total mark awarded if Irish Bonus (3+4)	
	Note: The mark in row 3 (or row 5 if an Irish bonus is awarded) must equal the mark in the Mór-Iomlán box on the script	

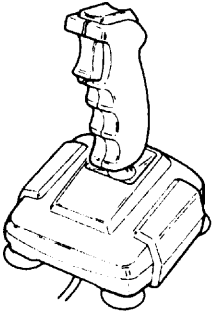
For Examiner	
Total Mark	<input type="text"/>
Question	Mark
Section A	
Section B Q1	
Section B Q2	
Section B Q3	
Section B Q4	
Total	
Grade	

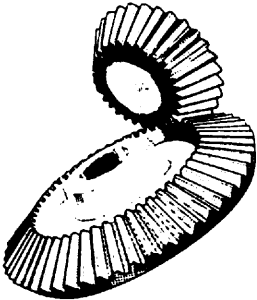
MAKE SURE TO WRITE YOUR EXAMINATION NUMBER IN THE
BOX PROVIDED ON THIS PAGE

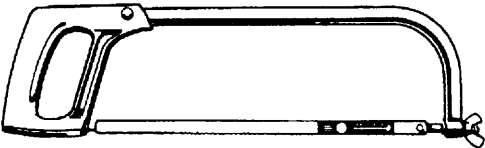
SECTION A – 80 MARKS ANSWER ANY SIXTEEN QUESTIONS FROM THIS SECTION

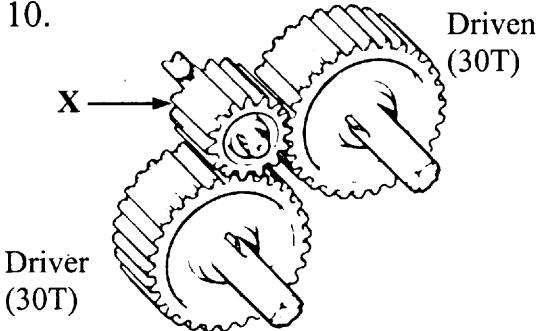
<p>1.</p> 	<p>This ghetto blaster is shown in:</p>	<p>Elevation</p>	
		<p>Plan view</p>	
		<p>Pictorial view</p>	
<p>2.</p> 	<p>This electronic component is a(n):</p>	<p>Resistor</p>	
		<p>Transistor</p>	
		<p>Integrated Circuit</p>	
<p>3.</p> 	<p>This switch is a:</p>	<p>Push switch</p>	
		<p>Toggle switch</p>	
		<p>Slide switch</p>	
<p>4.</p> 	<p>Marconi invented the:</p>	<p>Television</p>	
		<p>Radio</p>	
		<p>Electric light bulb</p>	
<p>5.</p> 	<p>This mechanism is a:</p>	<p>Pulley drive</p>	
		<p>Chain and sprocket</p>	
		<p>Compound gear train</p>	

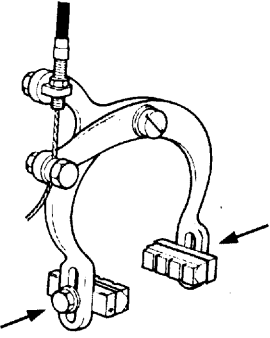

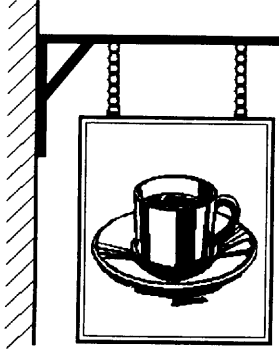
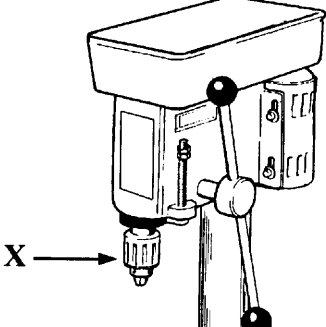
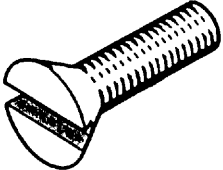
6. 	This tool is a:	Guillotine	
		Vice Grips	
		Tin snips	

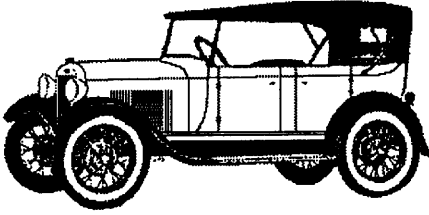
7. 	A joystick is a computer:	Output device	
		Input device	
		Storage device	

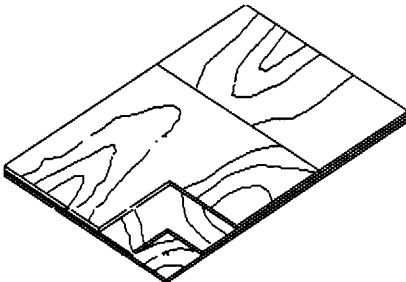
8. 	These gears are:	Spur gears	
		Bevel gears	
		Worm gears	

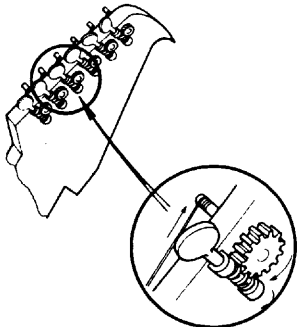
9. 	This tool is a:	Band saw	
		Tennon saw	
		Hacksaw	

10. 	Gear 'X':	Makes the driven go faster than the driver.	
		Makes the driven go slower than the driver.	
		Makes the driven and driver go in the same direction.	

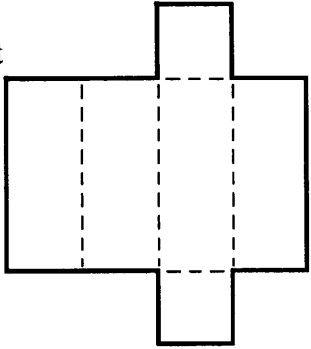
<p>11.</p> 	<p>When bicycle brakes are pulled the force between the brake blocks and the wheel is a:</p>	<p>Bending force</p>	
		<p>Friction force</p>	
		<p>Shear force</p>	
<p>12.</p> 	<p>This sign indicates :</p>	<p>An electrical hazard</p>	
		<p>A fire hazard</p>	
		<p>Recycling</p>	
<p>13.</p> 	<p>The chains on this sign act as:</p>	<p>Struts</p>	
		<p>Ties</p>	
		<p>Beams</p>	
<p>14.</p> 	<p>Part 'X' is a:</p>	<p>Drill bit</p>	
		<p>Chuck</p>	
		<p>Chuck key</p>	
<p>15.</p> 	<p>This screw is a:</p>	<p>Cheese head screw</p>	
		<p>Countersunk screw</p>	
		<p>Pan head screw</p>	

16. 	Mass production was developed by:	Rudolf Diesel	
		Karl Benz	
		Henry Ford	

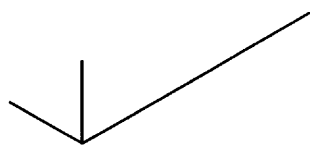
17. 	Which one of the following is a manufactured board?	Plywood	
		Balsa	
		Teak	

18. 	This gear mechanism is a:	Rack and Pinion	
		Ratchet and Pawl	
		Worm and Wheel	

19. A development of a closed container is shown.

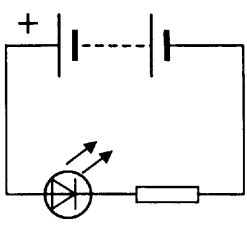


Complete the isometric sketch of this container.

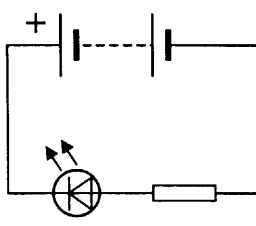


20. In which circuit (A, B or C) will the LED light?

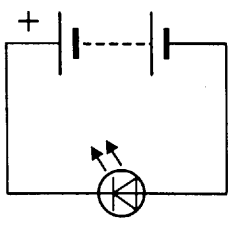
Answer: _____



A



B



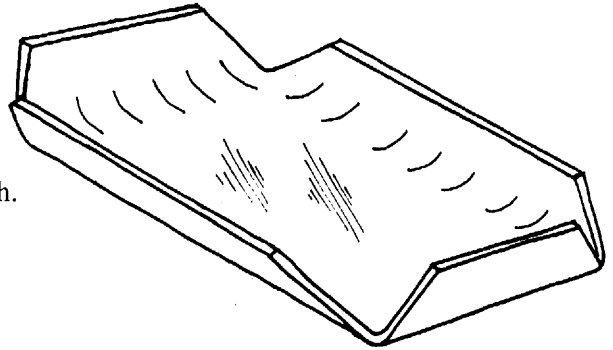
C

SECTION B – 80 MARKS
ANSWER ANY TWO QUESTIONS FROM THIS SECTION

40 Marks

1.

- (a) This sketch shows details of a plastic cheese dish.
The sides of the dish have been bent up using
a hot wire strip heater.

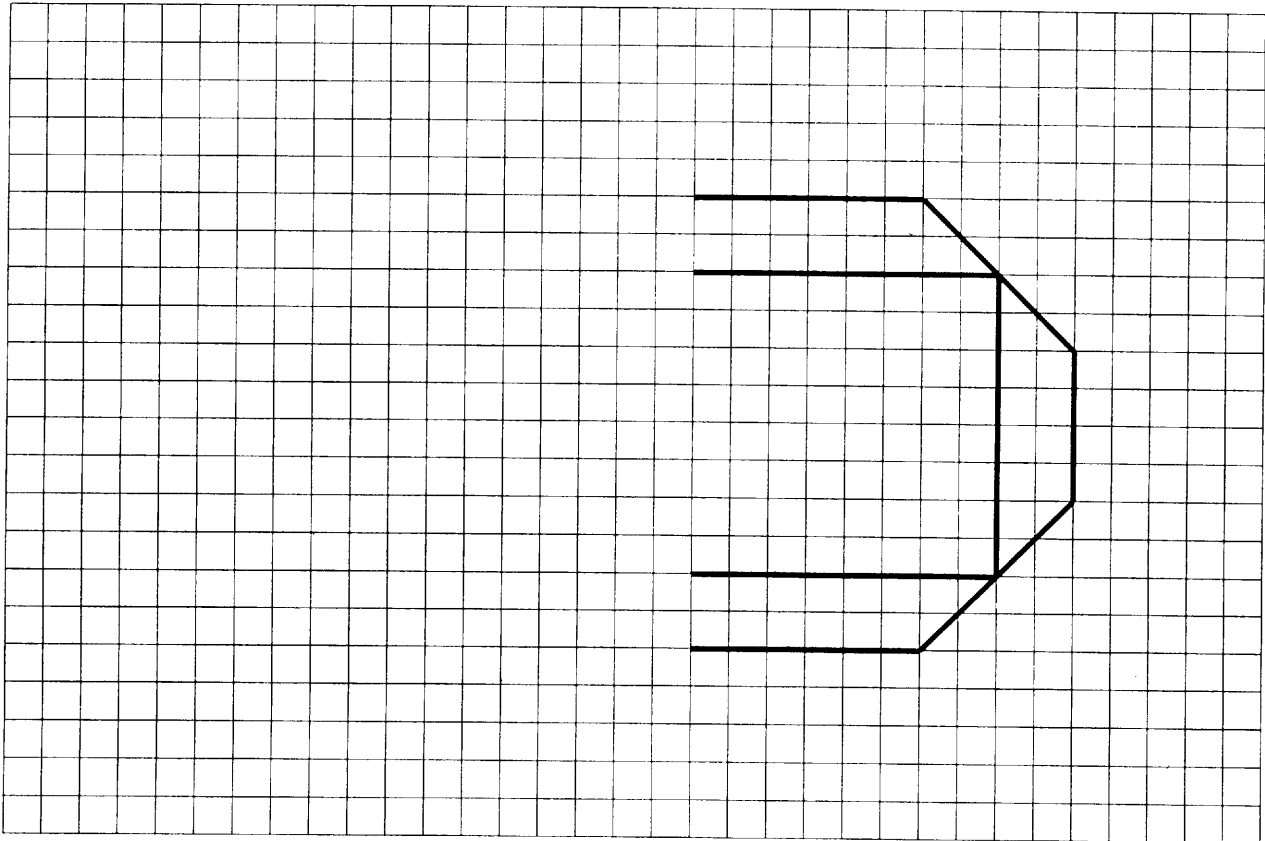


- (i) State **two** advantages of using plastic to make this dish.

1. _____
2. _____

- (ii) Name a plastic material that could be used to make the dish.

- (iii) Complete the development of the dish.



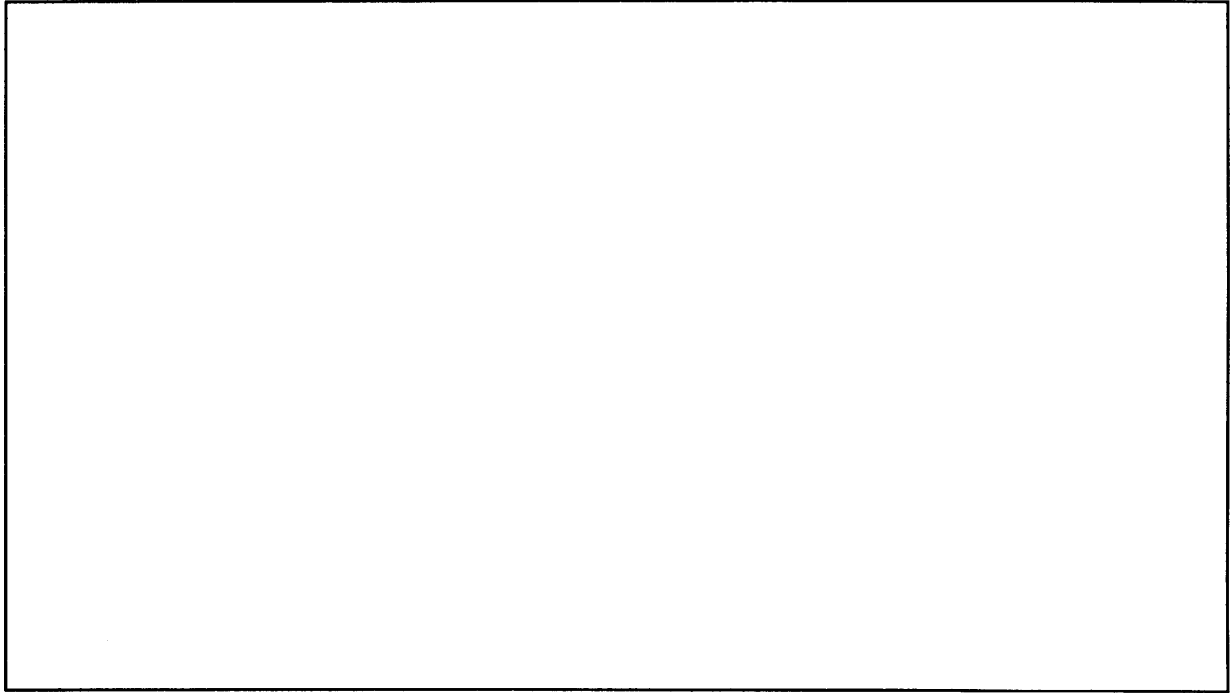
12 Marks

- (b) Name **two** other household items that are made from plastic.

1. _____
2. _____

4 Marks

(c) (i) Using sketches, design a suitable cover for the cheese dish.



(ii) List **two** processes involved in the manufacture of this cover.

1. _____ 2. _____

12 Marks

(d) (i) On the supermarket shelf cheese is usually wrapped in plastic. State **two** advantages of plastic wrapping.

1. _____

2. _____

(ii) Suggest **two** ways to reduce the amount of plastic shopping bags we use.

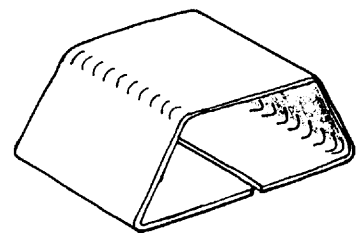
1. _____

2. _____

8 Marks

(e) This brass stand is to be glued to the underside of the cheese dish.




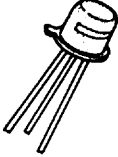

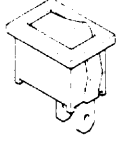

Give a reason why screws are unsuitable for this purpose.



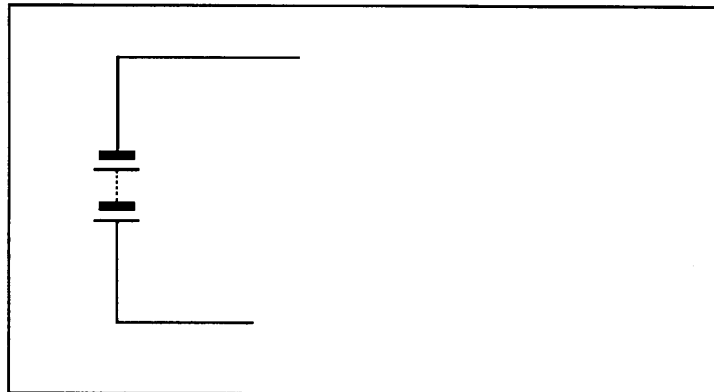
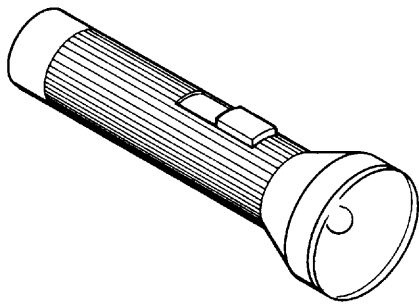
Brass Stand

4 Marks

(a) (i) Complete this chart by inserting the correct name and symbol for any **three** components shown.

Component						
Component Symbol						
Component Name	<i>Bulb</i>					

(ii) Complete the electrical circuit diagram for this torch.



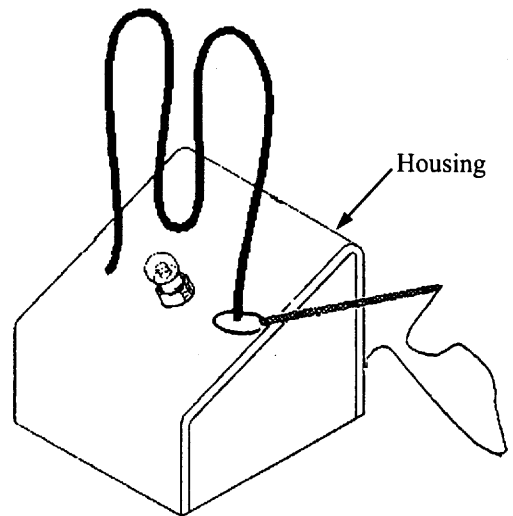
10 Marks

(b) This drawing shows a housing for a 'steady-hand game'.

(i) Name a material suitable for making the housing:

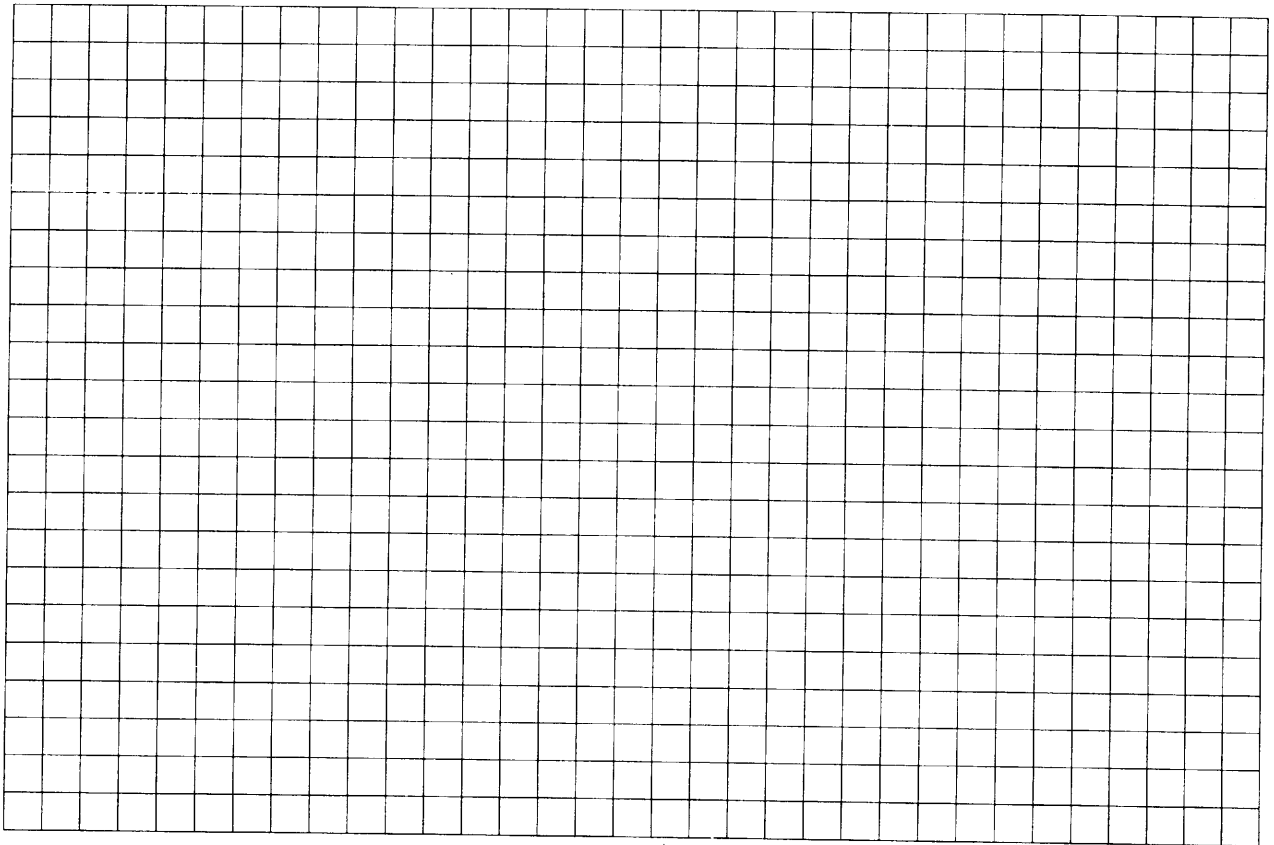
(ii) How would you attach the bent wire to the housing?

(iii) Briefly describe how the housing could be made.



8 Marks

- (c) Draw an elevation and an end view of the housing for the 'steady-hand game' in the grid below.
(Do not include the wire)



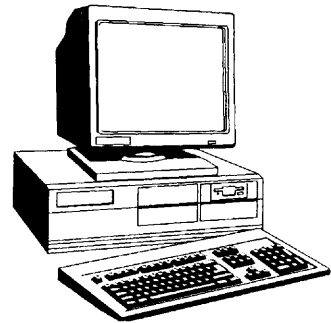
10 Marks

- (d) (i) A computer is a device that uses digital electronics.
List **two** other devices that use digital electronics.

1. _____
2. _____

- (ii) A computer can store information on a floppy disk.
List **two** other computer storage devices.

1. _____
2. _____

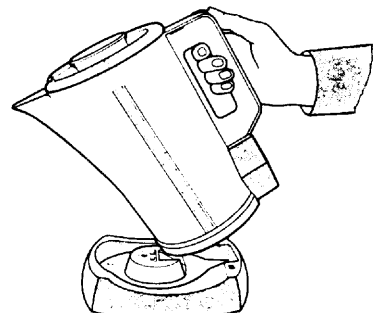


8 Marks

- (e) Many modern kettles have a separate base. State **two** advantages of this design feature.

1. _____

2. _____



4 Marks

3.

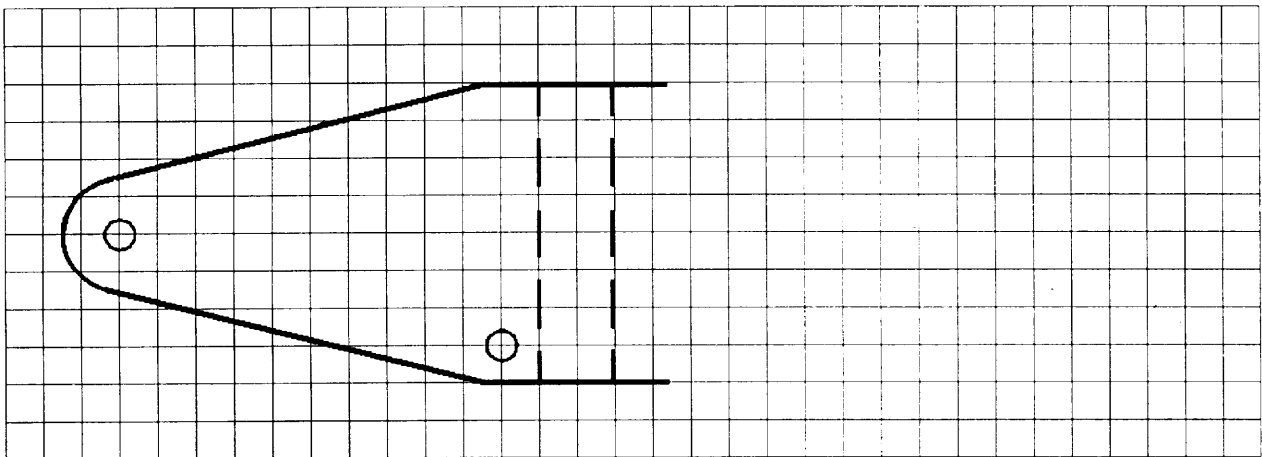
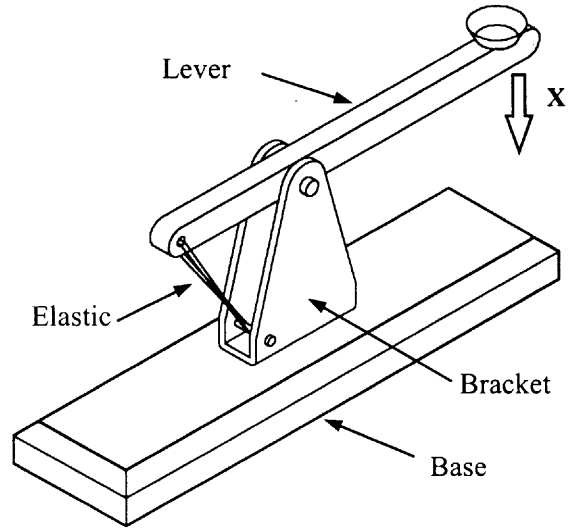
40 Marks

(a) This sketch shows a toy used to throw small objects.

(i) Name the force in the elastic when the lever is pressed down in the direction shown by arrow 'X'.

(ii) Indicate on the drawing the position of the Effort and the Fulcrum.

(iii) Complete the development of the bracket in the grid below.



12 Marks

(b) (i) List **four** stages in the manufacture of the acrylic bracket:

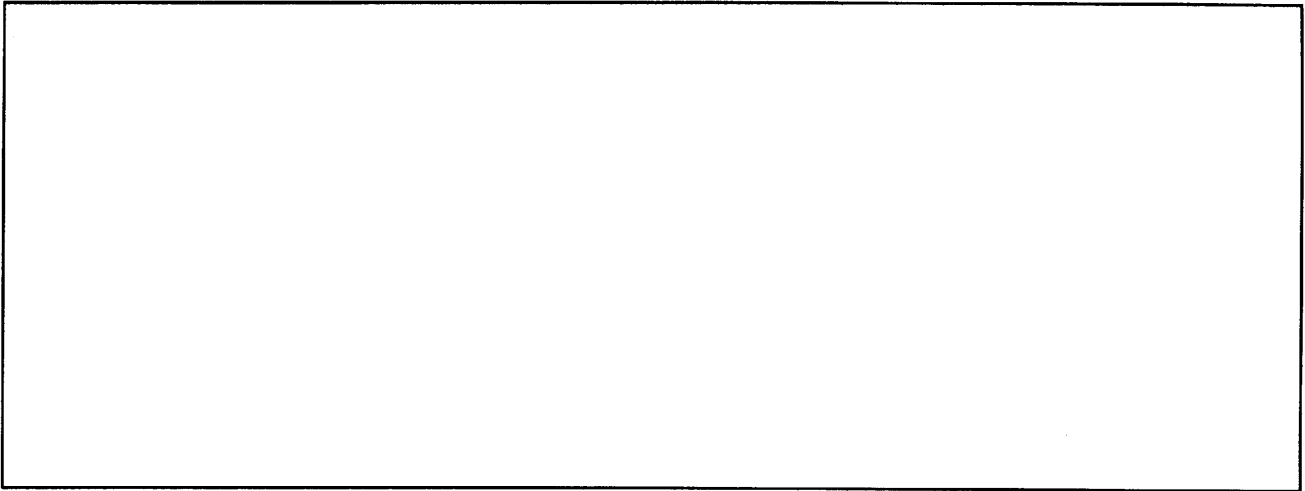
- | | |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

(ii) Name a suitable material for making the lever and briefly explain how to curve the ends.

1. Material: _____
2. Curving the ends: _____

8 Marks

- (c) Sketch a design for a container into which the small objects from the toy can be thrown. Also, give details of how the container is to be made.



8 Marks

- (d) (i) A design folder for a Technology task should contain information about the investigation and the evaluation. Write a brief note about what should be included in each of these sections.

1. Investigation:

2. Evaluation:

- (ii) Why is it sometimes necessary to make a model of a task before making the final product?

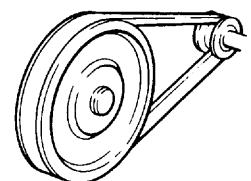
8 Marks

- (e) Name this mechanism and state two advantages of this type of mechanism.

Name: _____

Advantages: 1 _____

2 _____



4 Marks

4.

40 Marks

- (a) (i) Wind is a renewable source of energy.
Name one other renewable source of energy. _____
- (ii) Name **two** non-renewable sources of energy.
1. _____ 2. _____
- (iii) Give **two** reasons why wind turbines are always placed high on tall masts.
1. _____
2. _____

10 Marks

- (b) Wind turbines convert wind energy into mechanical energy and finally to electrical energy.
Complete this chart by matching the type of energy conversion with the device.

DEVICE	ENERGY CONVERSION
Motor	<i>Electrical</i> → <i>Mechanical</i>
Bulb	
Battery	
Microphone	
Speaker	

SELECT ANSWERS FROM HERE		
Electrical	→	Mechanical
Sound	→	Electrical
Chemical	→	Electrical
Electrical	→	Sound
Electrical	→	Light

8 Marks

- (c) Heat loss is a big problem in our homes. List **two** ways in which this heat loss can be reduced.

1. _____
2. _____

8 Marks

- (d) Fabrics are used in the sails of boats. List **two** important properties of the fabric used in sail making.

1. _____ 2. _____

6 Marks

- (e) Complete the names of the following mechanisms:

1. Ratchet
2. Cam and
3. Chain and
4. and pinion.
5. and slider.

8 Marks