

AN ROINN OIDEACHAIS AGUS EOLAÍOCHTA

*Leaving Certificate Applied 2001*

# Vocational Specialism — Technology

(240 marks)

Wednesday 13th June, 2001 – Afternoon 2.00 p.m. to 4.00 p.m.

<b>Marking Scheme</b>
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## *General Directions*

1. Write your EXAMINATION NUMBER in this space:
2. There are two sections in this paper.
 

Section 1 — Answer <u>all three</u> questions.	—	90 marks
Section 2 — Five questions, answer <u>any three</u> .	—	150 marks
3. When you have finished Section 1, you should proceed immediately to answer Section 2 (Page 11).

*For the Examiner only*

1. Suim na n-iomlán deireadh leathanaigh Total of end of page totals	
2. Mór-iomlán na gceisteanna/ceiste nár ceadaíodh Aggregate total of all disallowed Question(s)	
3. An T-ollmharc cruinn a bronnadh (1 lúide 2) Total mark awarded (1 minus 2)	
4. Breismharc do fheaghairt trí mheán na Gaeilge (más i gceist) Bonus mark for answering through Irish (if applicable)	
5. Marc iomlán má bronnadh breismharc do fhreagairt trí Ghaeilge (3+4) Total mark awarded if Irish Bonus (3+4)	
<p>Nóta: Caithfidh an marc i líne 3 (nó líne 5 má bronnadh breismharc do fhreagairt trí mheán na Gaeilge) a bheith cothrom leis an marc sa bhosca <b>Mór Iomlán</b> ar an script.</p> <p>Note: The mark in row 3 (or row 5 if an Irish Bonus is awarded) must equal the mark in the <b>Mór-Iomlán</b> box on the script.</p>	

# Section 1

# Compulsory

90 marks

## QUESTION 1.

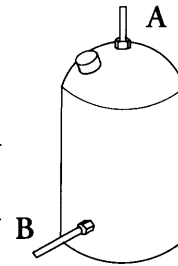
(40 marks)

NOTE: Answer Ten Questions from Question 1 — all questions carry equal marks.

1. A domestic hot water cylinder is shown.  
Name pipe 'A' and pipe 'B'.

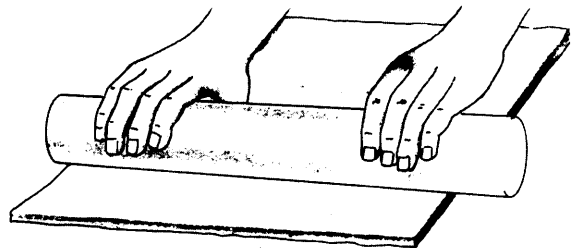
Pipe A Surge/Expansion/Hot Water **2 marks**

Pipe B Cold Supply **2 marks**



2. The diagram shows some clay being rolled flat to a uniform thickness. What is this type of pottery called?

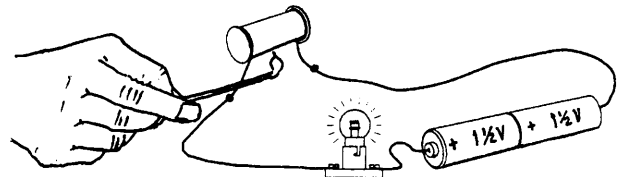
Type of pottery: Slab Pottery **4 marks**



3. Name the component being heated in the experiment and briefly describe its function in electronic circuits.

Component Thermistor **2 marks**

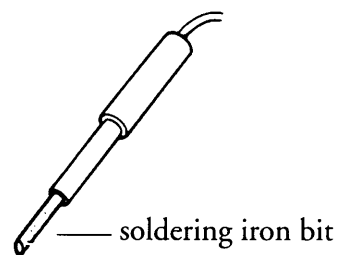
Function Resistance varies with temperature **2 marks**



4. What material is the bit of a soldering iron made from and why is this material used?

Material Copper **2 marks**

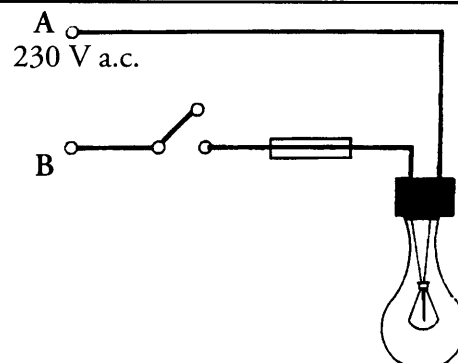
This material is used because Good conductor of heat **2 marks**



5. Name the wires labelled 'A' and 'B'.

A Neutral **2 marks**

B Live **2 marks**

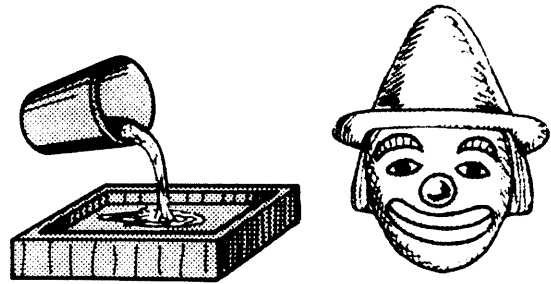


6. Name a suitable material from which this mask could be cast and state the advantage of using this material.

Material Clay/Plaster of Paris 2 marks

Advantage Easy to work 2 marks

\_\_\_\_\_  
\_\_\_\_\_

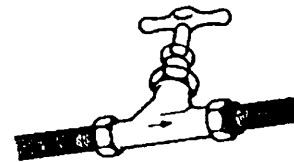


7. Name the plumbing component shown and state its use.

Component Stop Cock / Valve 2 marks

Use Stops the flow 2 marks

\_\_\_\_\_



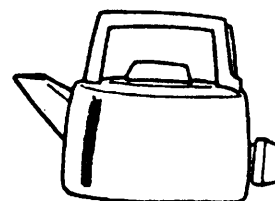
8. What does 'ergonomically designed' mean?

Designed for safe and effective use by people 4 marks

\_\_\_\_\_  
\_\_\_\_\_

9. What size fuse should be used in the plug of a 2.5kw electric kettle, the mains voltage being 230 volts?

Size of fuse 13 amp 4 marks



10. Name **two** materials whose state changes during manufacture.

1. Clay/Wax/etc...

**2 marks**

2. Concrete/etc...

**2 marks**

11. Coasters such as the one shown are placed under cups and glasses to protect table surfaces from damage.

Calculate the minimum size material needed to make 6 of these coasters.



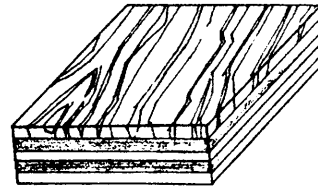
Answer 360 mm X 240 mm

**4 marks**

12. Name the manufactured board shown and give **one** example of its use.

Manufactured Board Plywood **2 marks**

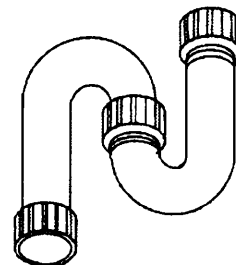
Use Any suitable use **2 marks**



13. Name the plumbing component shown and state its use.

Component S-Trap **2 marks**

Use Stops smells **2 marks**



14. When mixing concrete, why is it important to include the correct amount of water?

Reason Too much water weakens concrete. Too little water makes  
concrete hard to work with and does not dissolve all the  
cement **4 marks**

15. Name any two types of electrical switch.

1. Toggle/Micro/etc. **2 marks**

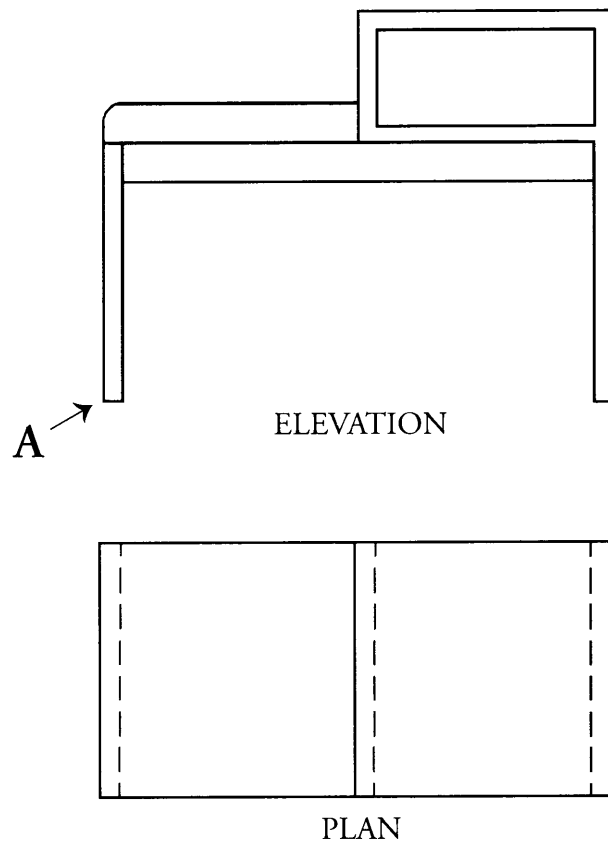
2. Slide/Push/etc. **2 marks**

## QUESTION 2.

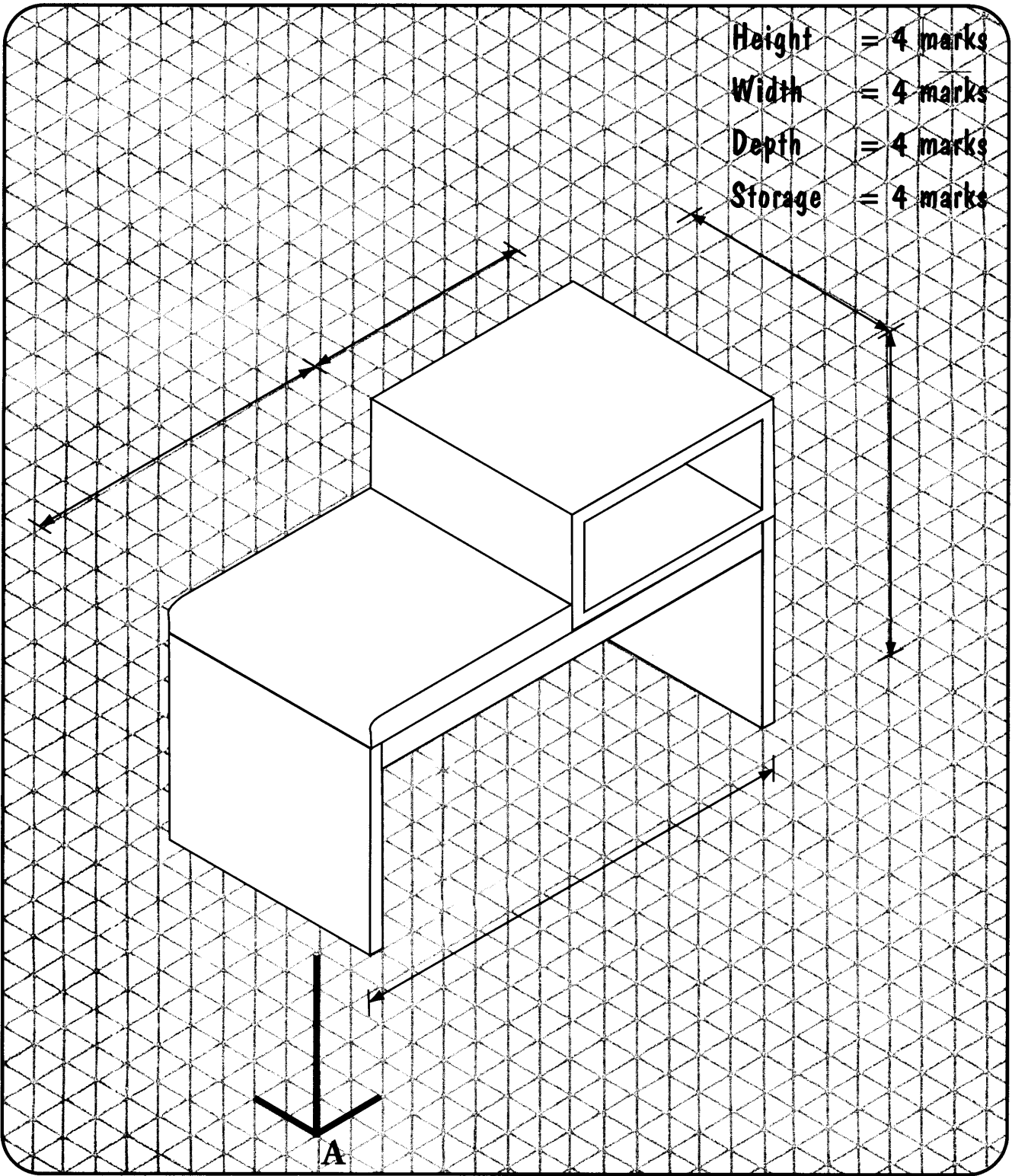
Answer **All** parts.

(30 marks)

The drawing shows orthographic views of a telephone table/seat.



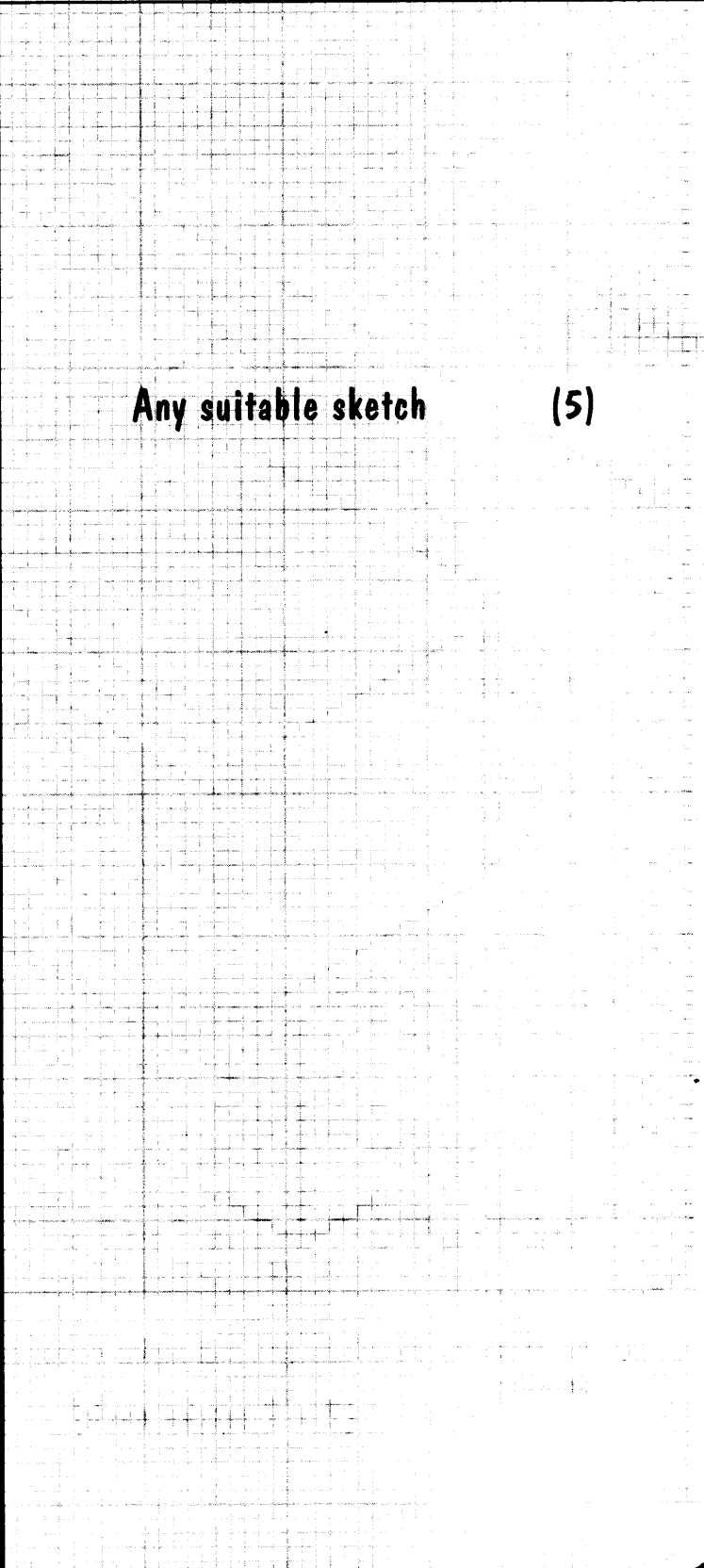
- (a) Draw in proportion an isometric view of the table/seat on the isometric grid on the next page. The position of corner A is given.



(b) Estimate the overall height and width of the table/seat and show these dimensions on your drawing.

**(2 x 2 marks each)**

(c) Describe with the aid of sketches how the table/seat could be made stronger and more stable.

Description	Sketches
<b>Any suitable method i.e. back, rail etc.                      5 marks</b>	 <p><b>Any suitable sketch                      (5)</b></p>



### QUESTION 3.

#### Safety

(20 marks)

Answer All parts.

- (a) Complete the table below giving an explanation of the safety signs shown and an example of where each sign is used.

Sign	Explanation	Used
<p>Example</p> 	<p><b>4 x 1.5 marks each</b></p> <p>Safety Helmet must be worn</p>	<p><b>4 x 1.5 marks each</b></p> <p>Building Site</p>
	<p>_____</p> <p>_____</p>	<p>_____</p> <p>_____</p>
	<p>_____</p> <p>_____</p>	<p>_____</p> <p>_____</p>
	<p>_____</p> <p>_____</p>	<p>_____</p> <p>_____</p>
	<p>_____</p> <p>_____</p>	<p>_____</p> <p>_____</p>

(b) The workshop in the picture is unsafe and untidy. One example of a potential danger and the reason why it is dangerous is given below. List five other possible dangers that exist and give a reason why each one is dangerous.



Potential Danger	Reason
Example: Oil on floor.	Danger of slipping and injury
1. <b>5 x .5 marks each</b>	<b>5 x .5 marks each</b>
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

(c) List three steps that should be taken if a member of your class suffered an eye injury in the school workshop.

1. **Any 3 suitable steps** **3 x 1 mark each**
2. \_\_\_\_\_
3. \_\_\_\_\_

## Section 2

150 marks

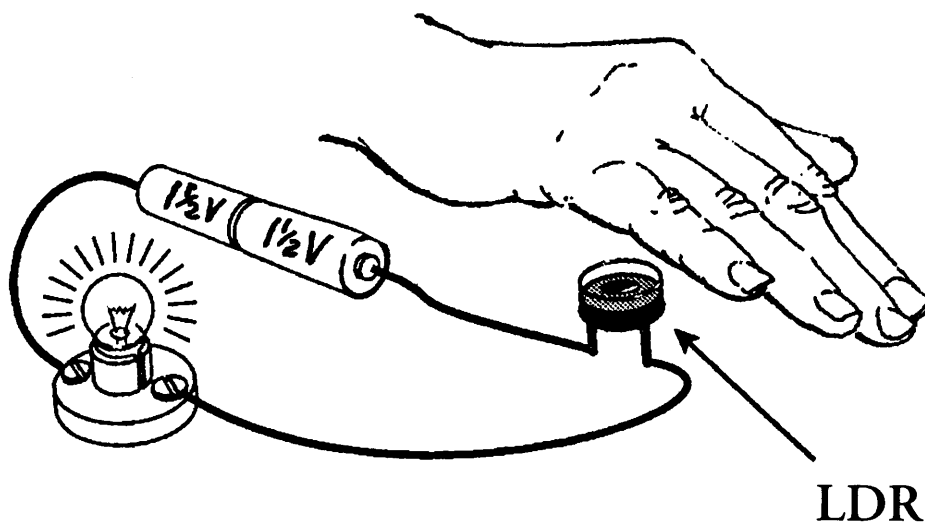
NOTE: Answer Any Three of the following five questions. All questions carry equal marks.

### QUESTION 1.

ELECTRICITY

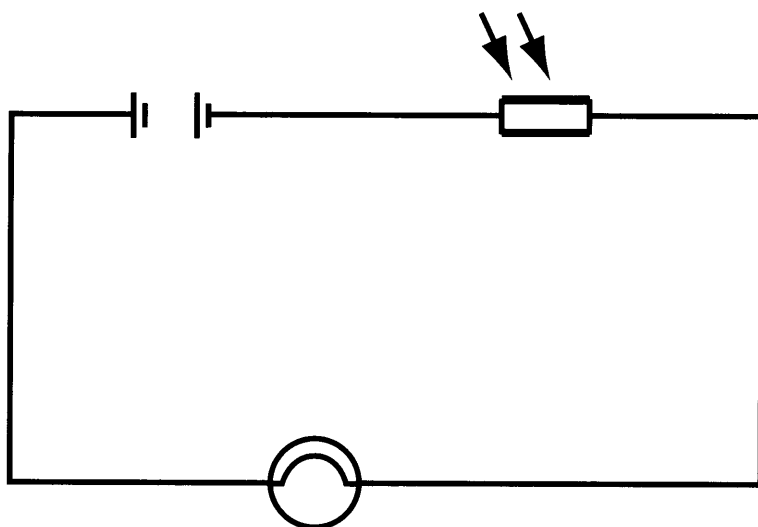
(50 marks)

(a) An electrical circuit using a light dependent resistor (LDR) is shown.



(i) Draw the circuit diagram using the *symbols* that represent the components shown.

Draw circuit diagram here



Correct symbols -  
3 x 4 marks each

Correct circuit -  
3 marks

(ii) What would happen in the circuit if the LDR was covered?

**Bulb lights - resistance decreases**

**10 marks**

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(iii) Give one use of such a circuit.

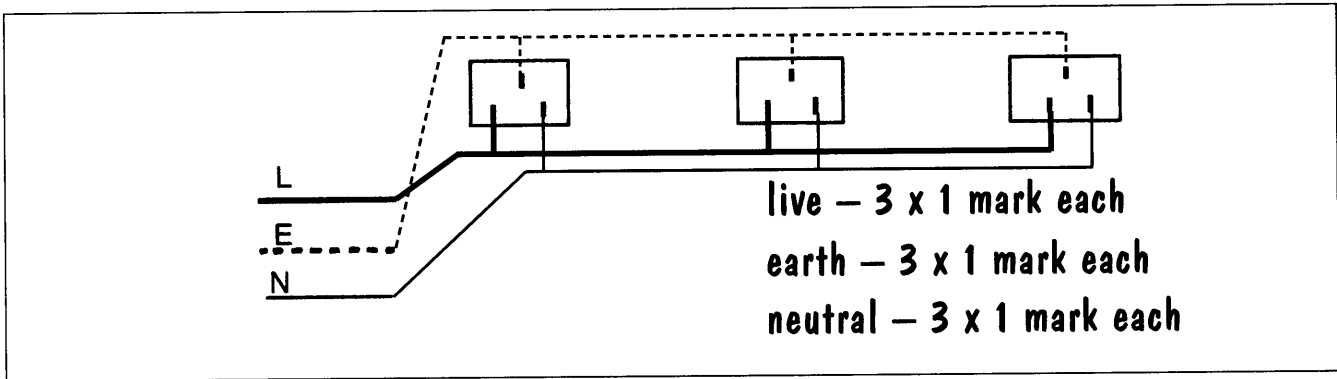
**Safety light, security light etc.**

**10 marks**

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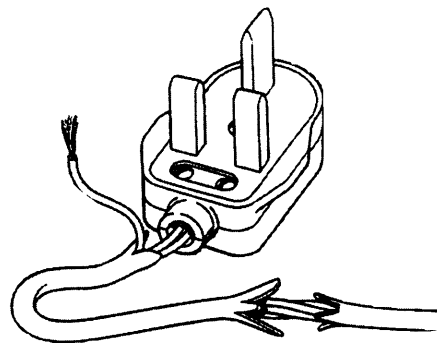
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(b) Three electrical sockets are shown. Wire the sockets by connecting the live, neutral and earth wires correctly.



(c) List two reasons why this lead is dangerous.

1. **Frayed Cable**  
\_\_\_\_\_ **3 marks**
2. **Exposed Wire**  
\_\_\_\_\_ **3 marks**

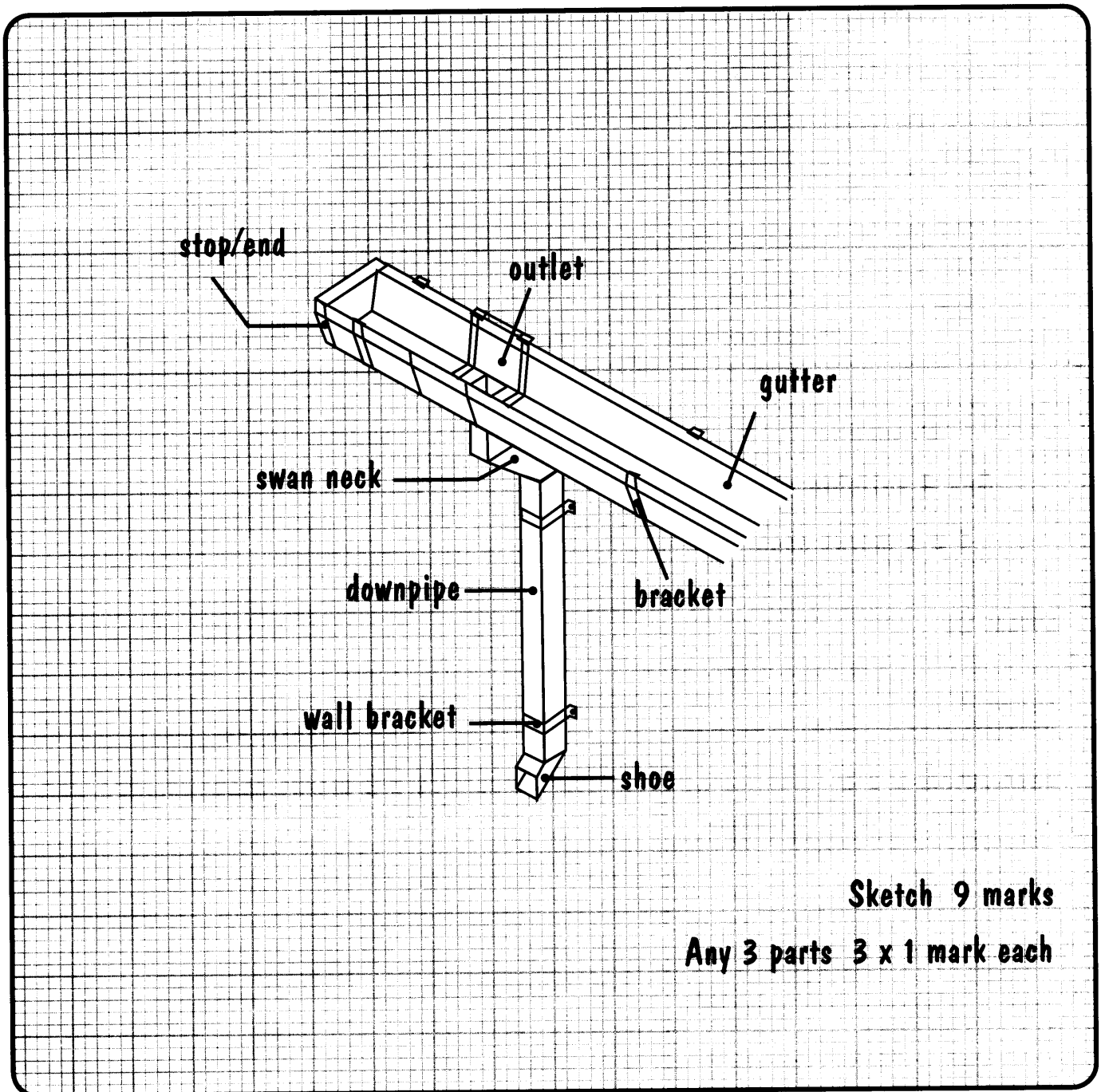


## QUESTION 2.

### WATER TECHNOLOGY

(50 marks)

- (a) (i) Sketch a simple rain water guttering system on the grid below, and label any three parts.



- (ii) Name two materials used to make such a guttering system.

Material 1 Aluminium etc.

3 marks

Material 2 P.V.C. etc.

3 marks

- (b) (i) Describe, with the aid of sketches, any four steps in the installation of a garden water feature such as the one shown.



Description	Sketches
1. <b>Any 4 suitable steps</b> <b>4 x 3 marks each</b>	<div style="text-align: center;"> <b>Any 4 sketches</b>  <b>4 x 3 marks each</b> </div>
2.	
3.	
4.	

- (ii) List any two safety precautions that should be taken when installing such a feature.

Precaution 1 **Circuit Breakers** **4 marks**

Precaution 2 **Transformer, water proof electrical components etc...**

**4 marks**

### QUESTION 3.

#### STORAGE

(50 marks)

You are to design a storage unit for five pairs of shoes.

(a) List three questions that should be considered at the start of the design process.

1. **Any 3 x 3 marks each**

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2.

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3.

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(b) Sketch your design on the grid and indicate approximate overall dimensions.

**Any suitable design** **10 marks**

**Quality of sketch** **4 marks**

**Any 3 dimensions** **3 x 2 marks each**





**QUESTION 4.**

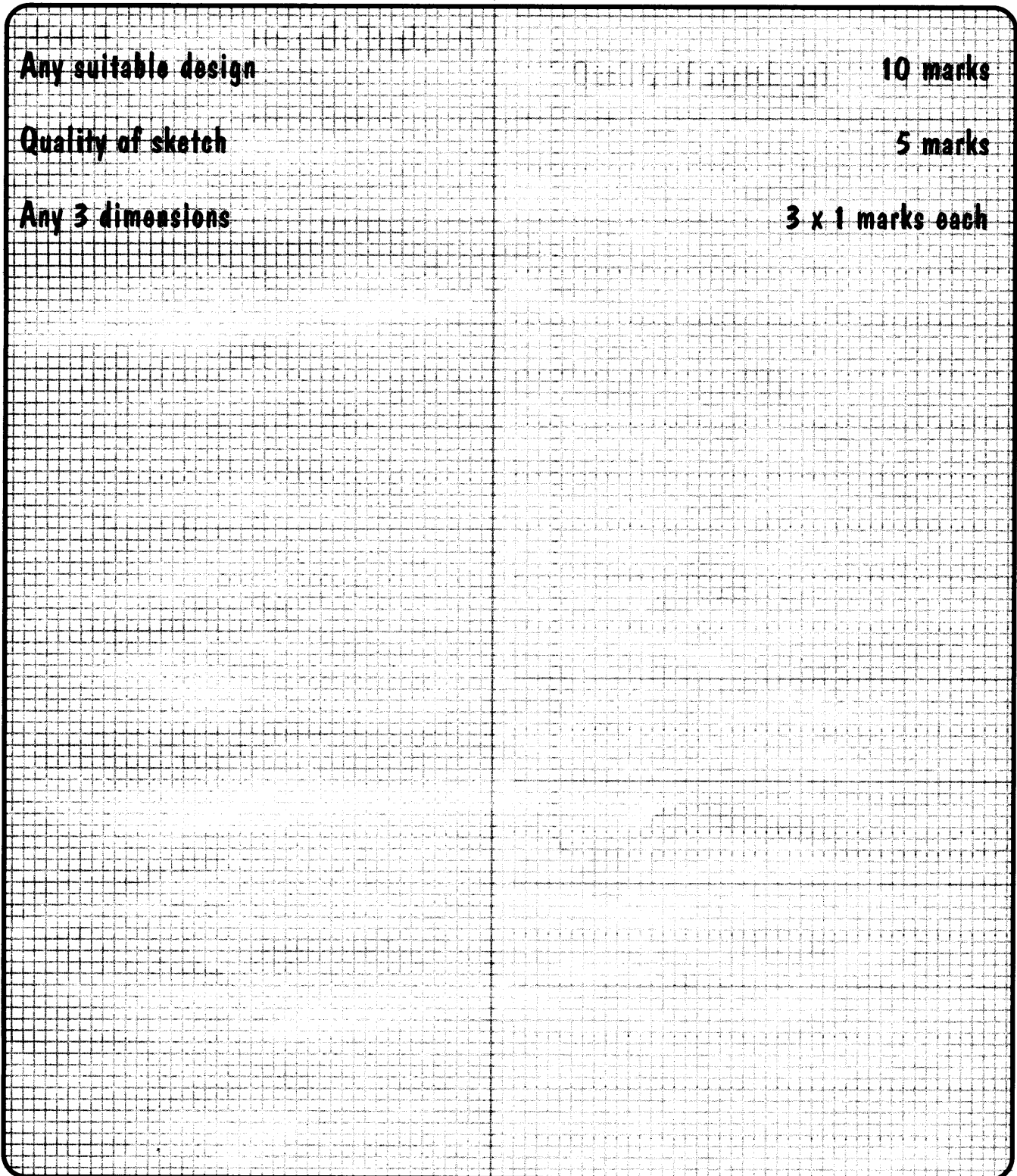
**CHANGE OF STATE TECHNOLOGY**

(50 marks)

Using a change of state material, design a garden ornament. The ornament may be part of a fountain.

(a) (i) Draw your design on the grid and indicate approximate overall dimensions.

<b>Any suitable design</b>	<b>10 marks</b>
<b>Quality of sketch</b>	<b>5 marks</b>
<b>Any 3 dimensions</b>	<b>3 x 1 marks each</b>



(ii) What material would you use to make this ornament?

**Any suitable Material**

**6 marks**



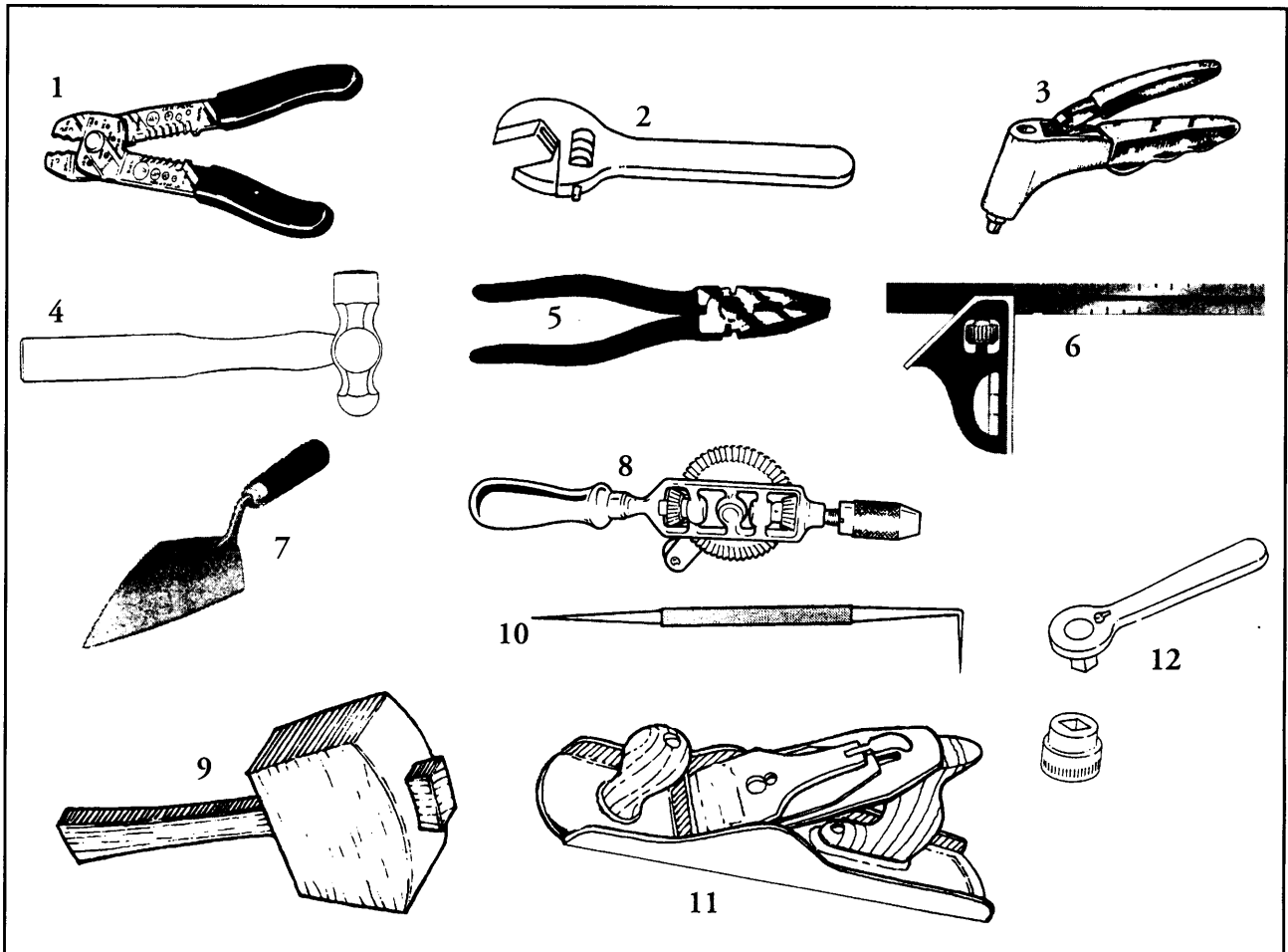


# QUESTION 5.

## TOOLS

(50 marks)

(a) (i) A variety of workshop tools are shown. Complete the table naming any **eight** tools and give a use for each one named.



Tool Number	Name	Use
	<b>8 x 1 mark each</b>	<b>8 x 1 mark each</b>

- (ii) Select any **four** of the tools named and describe how they should be correctly stored when not in use.

Name of Tool	Correct Storage
1. _____	<b>Any 4 suitable methods</b> _____ <b>4 x 2 marks each</b> _____ _____
2. _____	_____ _____ _____
3. _____	_____ _____ _____
4. _____	_____ _____ _____

- (b) (i) Make a freehand sketch of an *electrical tool or machine* you have used in Technology. On the sketch label any **three** parts of the tool/machine. Don't forget to name the tool/machine.

Name of Tool/Machine: \_\_\_\_\_ **Name** (2 marks)

**Suitable sketch** 8 marks

**Parts** 3 x 2 marks each

- (ii) List two safety checks that should be carried out before using this tool/machine.

1. **Any 2 suitable checks** 2 x 5 marks each
2. \_\_\_\_\_

# Leaving Certificate Applied Vocational Specialism - Technology

## Practical Assignment 2001 - Marking Scheme.

Marking Criteria		Marks
Design Brief:	- Statement of aim/s - clear relevant	5
Analysis & Investigation:	- Background research, information gathering, Sources of information, costing, checklist of resources	10
Solutions:	- Possible - sketches/description of possible solution.	5
	- Chosen - reasons for chosen solution.	5
Model/Prototype:	- Scaled model of chosen solution.	5
Working Drawings:	- Dimensions - Drawing to facilitate the manufacture of practical assignment.	10
Manufacture:	- Application of skills	20
	- Suitability for Purpose	20
Evaluation:	- Critical evaluation of finished assignment	10
Communication:	- Written and oral communication skills	10

### Credit Table

<b>KEY:</b>	
Excellent	10
Very Good	8 - 9
Good	6 - 7
Fair	4 - 5
Poor	2 - 3
Unacceptable	0 - 1

%	Credit
80 - 100	5
60 - 79	4
40 - 59	3
20 - 39	2
10 - 19	1
1 - 9	0