Candidate Name	Centre Number	Candidate Number

WELSH JOINT EDUCATION COMMITTEE

ENTRY LEVEL CERTIFICATE

WJEC CBAC

CYD-BWYLLGOR ADDYSG CYMRU

TYSTYSGRIF LEFEL MYNEDIAD

720/01

Entry Level Certificate

DESIGN AND TECHNOLOGY

P.M. WEDNESDAY, 21 March 2007

(1 Hour)

	Examiner only
Task 1 (Designing) (32)	
Task 2 (Making) (48)	
Total (80)	

ADDITIONAL MATERIALS

In addition to this examination paper, you will need:

– coloured pens/pencils.

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer TASK 1.

Answer only ONE (1) of the TASK 2 focus area questions.

If you have difficulty in reading a question, put up your hand and the teacher-in-charge will read it to you.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

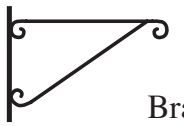
No certificate will be awarded to a candidate detected in any unfair practice during the examination.

TASK 1: DESIGNING

1. *(a)* Your school has planned to hold a summer fayre at the end of term to raise money for sports equipment. Your Design and Technology class has been asked to make the products shown below.

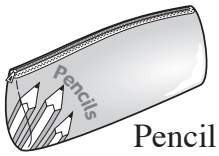
Look carefully at the products. **Match** them up with the best type of material from the list below.

Write each material in the correct box. [10]



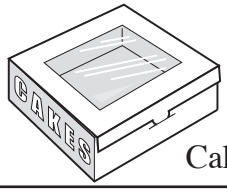
Bracket

1



Pencil case

2

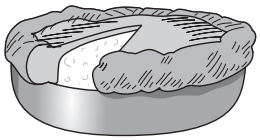


Cake box

3

Jewellery

4

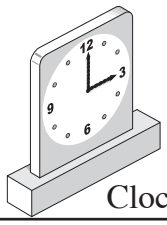


Fruit pie

5

DVD Case

6

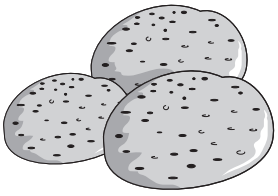


Clock

7

Leaflet

8



Currant buns

9

Tee shirt

10

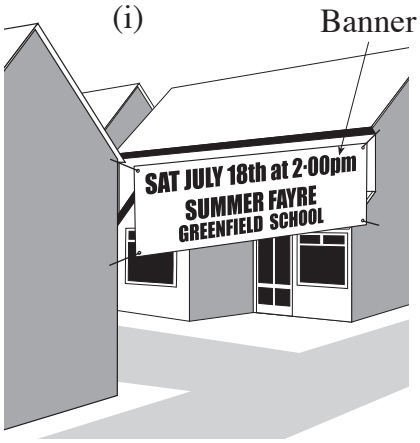
LIST OF MATERIALS

Mild Steel	Cardboard	Denim	Silver	Cotton
Pine wood	Acrylic	Bread dough	Paper	S.C. Pastry

(b) Two (2) products are shown below. The banner will hang in the street between **two** (2) rows of houses to advertise the fayre. The chairs will be used outside at the fayre.

Look at the products and **write** down **two** (2) reasons why these materials are suitable.

(i)



The banner could be made from P.V.C (plastic)

This is a suitable material because:

Reason 1: .....

.....

Reason 2: .....

.....

[2]

(ii)

The chair could be made from moulded A.B.S. (plastic).

This is a suitable material because:

Reason 1: .....

.....

Reason 2: .....

.....

[2]

(c) **Complete** the sentences below by selecting a word from the word bank.

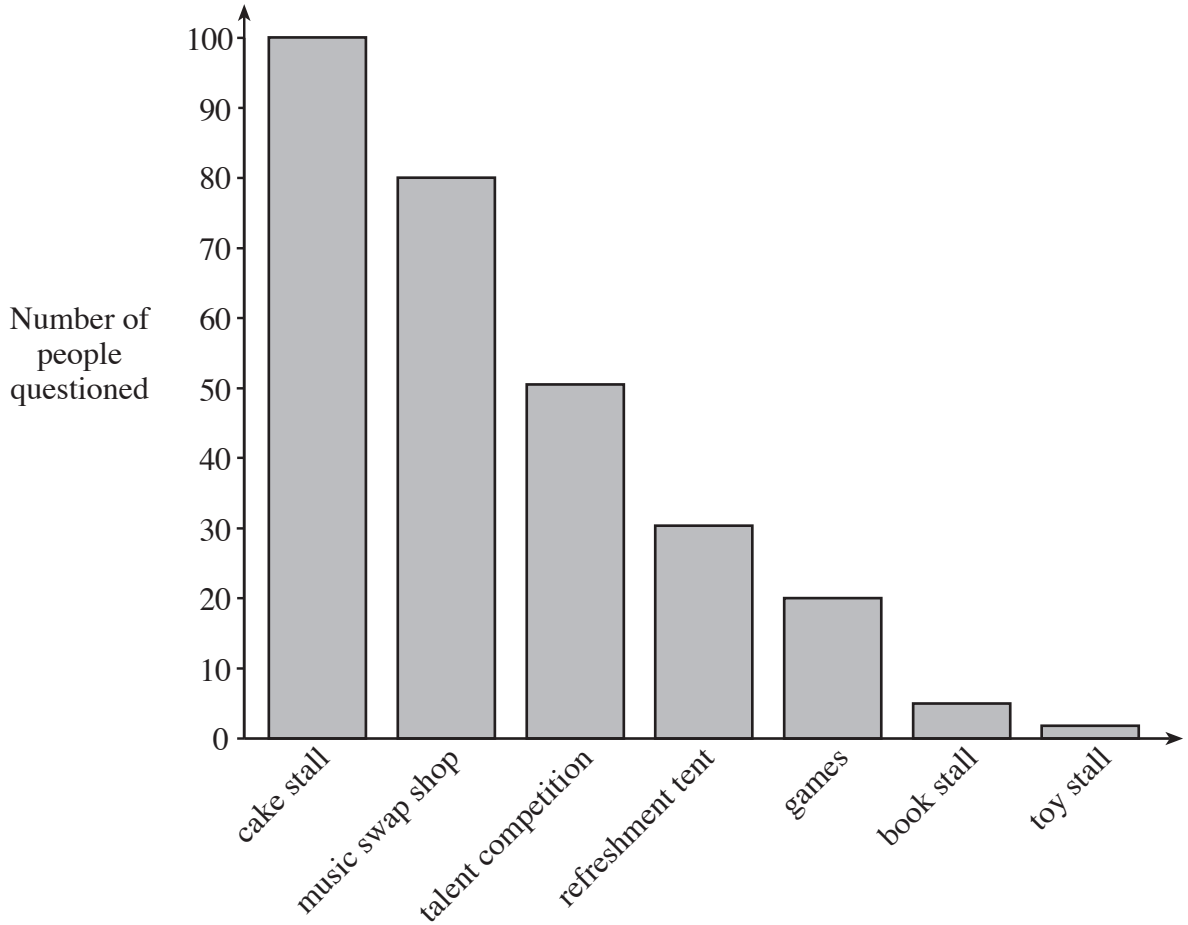
model **research** **design brief** **evaluation**

(i) Designers sometimes use a ..... to see if an idea works.

[1]

(ii) ..... is a way of finding out what people need. [1]

2. A survey was used to find out what kinds of stalls and activities people wanted at the fayre. The graph shows the results of the survey.



(a) **Underline** the correct name for this type of graph. [1]

Pie chart **Bar graph** **Line graph**

(b) (i) **Name** the most popular stall. [1]

.....

(ii) **Name** the least popular activity. [1]

.....

(iii) **State** how many people wanted a talent competition. [1]

.....

(iv) **State** how many people wanted to have a refreshment tent. [1]

.....

(c) **Name one** (1) other method of collecting information as part of research. [1]

.....

3. Posters are needed to advertise the summer fayre and to tell people what will be there. **Use** the outline below to design a colourful poster.

Your poster must show:

- the name of the school – **Greenfield School**;
- the date, the time and the place – July 18 at 2.00 p.m;
- some graphic images of a summer fayre;
- the entrance fee – £1.00;

Your poster must be colourful and eye catching.

[10]

Answer only ONE (1) of the TASK 2 focus area questions.

TASK 2: MAKING

In this section of the paper, you should answer only one (1) of these questions:-

If you have been studying:-

* **Food Technology** go to pages 7 to 10. ☐

* **Graphic Products** go to pages 11 to 14. ☐

* **Resistant Materials Technology** go to pages 15 to 18. ☐

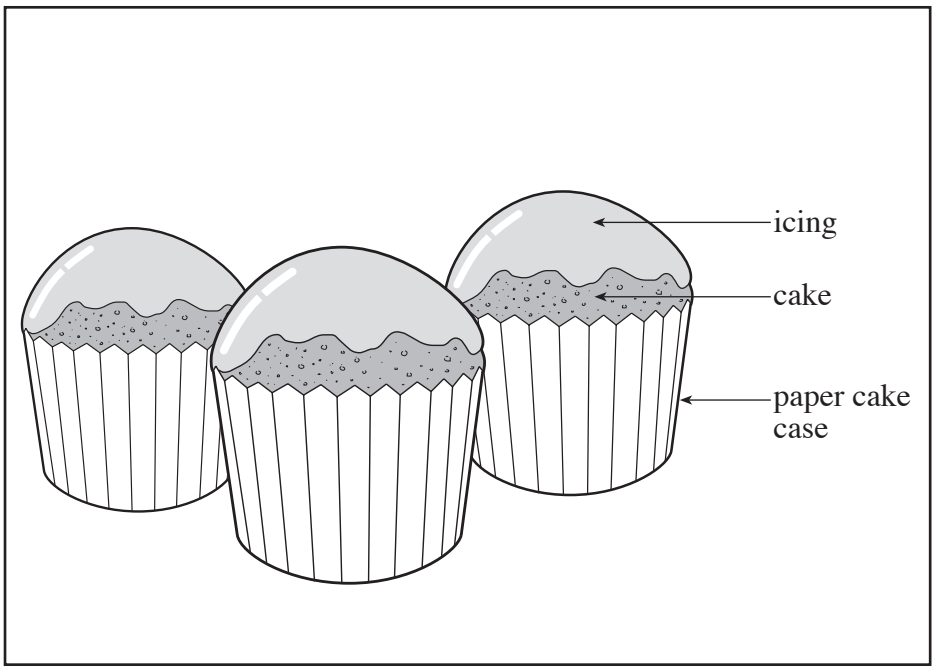
* **Systems and Control Technology** go to pages 19 to 22. ☐

* **Textiles Technology** go to pages 23 to 26. ☐

Put a tick (✓) in the box next to the ONE (1) area you are going to do.

FOOD TECHNOLOGY

4. *(a)* **Name** and **sketch/draw two** (2) pieces of equipment or tools that you would use to make the cakes shown below.



Name of tool/equipment	Name of tool/equipment .....
Sketch/drawing	Sketch/drawing

[6]

(b) The stages for making the **cakes** have been jumbled up in each section.

Put these sentences in the right order by writing a number in each box.

The **first** [1] stage of each section has been done for you.

Section 1: Preparation List	
• Put margarine and sugar into a mixing bowl.	
• Collect equipment, weigh ingredients, switch on oven 180°C gas 5.	1
• Beat eggs in a basin. Sieve flour onto a plate.	
• Put nine (9) paper cake cases into a patty tin.	

[6]

Section 2: Making List	
• Gradually beat in the eggs.	
• Divide the mixture equally between the cake cases and bake for 15 – 20 minutes.	
• Cream the margarine and sugar until light and fluffy.	1
• Fold in the flour.	

[6]

Section 3: Finishing / Presentation List	
• Allow to cool.	1
• Decorate the top of the cakes with the icing.	
• Sieve the icing sugar into a basin.	
• Add one (1) tablespoon of water to the icing sugar and mix to a stiff paste.	

[6]

(c) From your list on page 8, pick **one** (1) instruction from **Section 1: Preparation List** and **sketch/draw** it in the box below.

Do the same for **Section 2: Making List**.

Preparation stage number	**Making stage number** .....

Fill in the number of **each** stage you have sketched/drawn. [8]

Evaluation

(d) (i) **List two** (2) good things about the design of these cakes.

(I) .....

.....

[2]

(II) .....

.....

[2]

(ii) Think about the **ingredients** in the **recipe** and the **presentation** of the cakes.

Give two (2) ways you could **improve** the recipe or presentation (make them better).

(I) .....

.....

[2]

(II) .....

.....

[2]

(iii) **Sketch /draw one** (1) of your ideas for **improvement** in the box below.
Label your sketch/drawing.

[4]

(iv) Who or what would these cakes be suitable for? Why?

They would be suitable for .....

.....

[2]

Because .....

.....

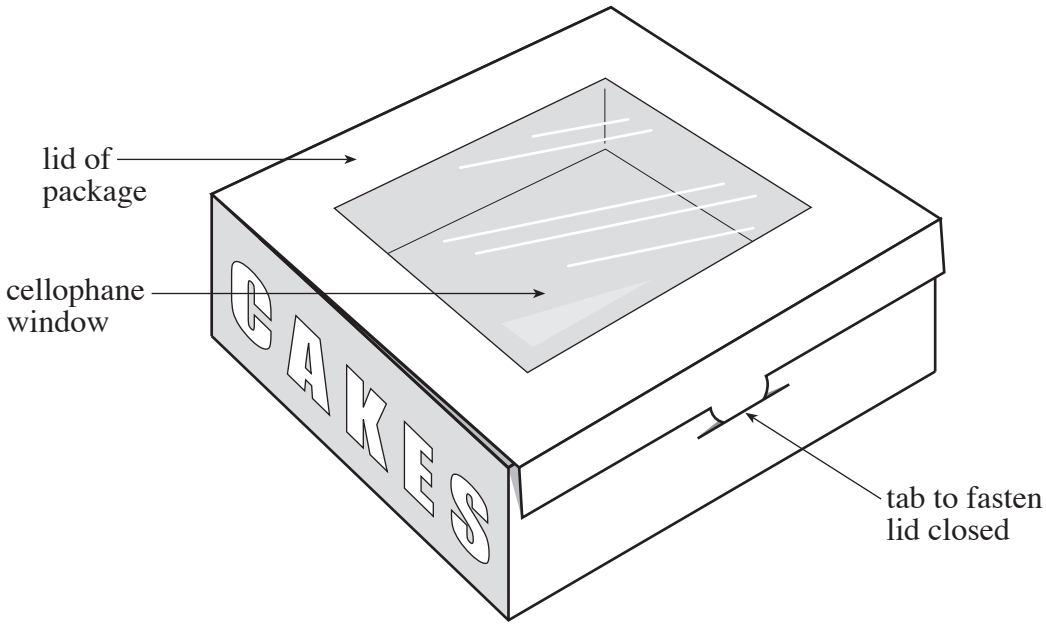
[2]

END OF FOOD TECHNOLOGY SECTION

GRAPHIC PRODUCTS

4. *(a)* The Graphic Products group has been asked to design and make a selection of card packages for the cake stall.

Name and sketch/draw two (2) pieces of equipment or tools that you would use to make this package from cardboard.



Name of tool/equipment	Name of tool/equipment .....
Sketch/drawing	Sketch/drawing

[6]

(b) The stages for making the **package** have been jumbled up in each section.

Put these sentences in the right order by writing a number in each box.

The **first** [1] stage in each section has been done for you.

Section 1: Preparation List	
• Design the graphic images for the package and the written information.	
• Design the package net on a computer.	1
• Collect materials, tools and equipment.	
• Scale the net drawing to the right size.	

[6]

Section 2: Making List	
• Set up a CAM machine to cut out the net from the printed card.	
• Glue the cellophane sheet to the inside of the lid.	
• Print the graphic images onto card.	1
• Cut out the cellophane sheet to make the window.	

[6]

Section 3: Finishing / Presentation List	
• Bend the net along each of the fold lines to make a 3D shape.	1
• Attach a price tag and fold lid to fasten closed.	
• Glue the tabs to the sides to secure the box shape.	
• Allow the glue to dry.	

[6]

(c) From your list on page 12, pick **one** (1) instruction from **Section 1: Preparation List** and **sketch/draw** it in the box below.

Do the same for **Section 2: Making List**.

Preparation stage number	**Making stage number** .....

Fill in the number of **each** stage you have sketched/drawn. [8]

Evaluation

(d) (i) **List two** (2) good things about the design of this package.

(I) .....

.....

[2]

(II) .....

.....

[2]

(ii) Think about the **design** of the package.

Give two (2) ways you could **improve** the design (make it better).

(I) .....

.....

[2]

(II) .....

.....

[2]

(iii) **Sketch/draw one** (1) of your ideas for **improvement** in the box below.
Label your sketch/drawing.

[4]

(iv) What could the package be used for? Why?

It would be suitable for .....

.....

[2]

Because .....

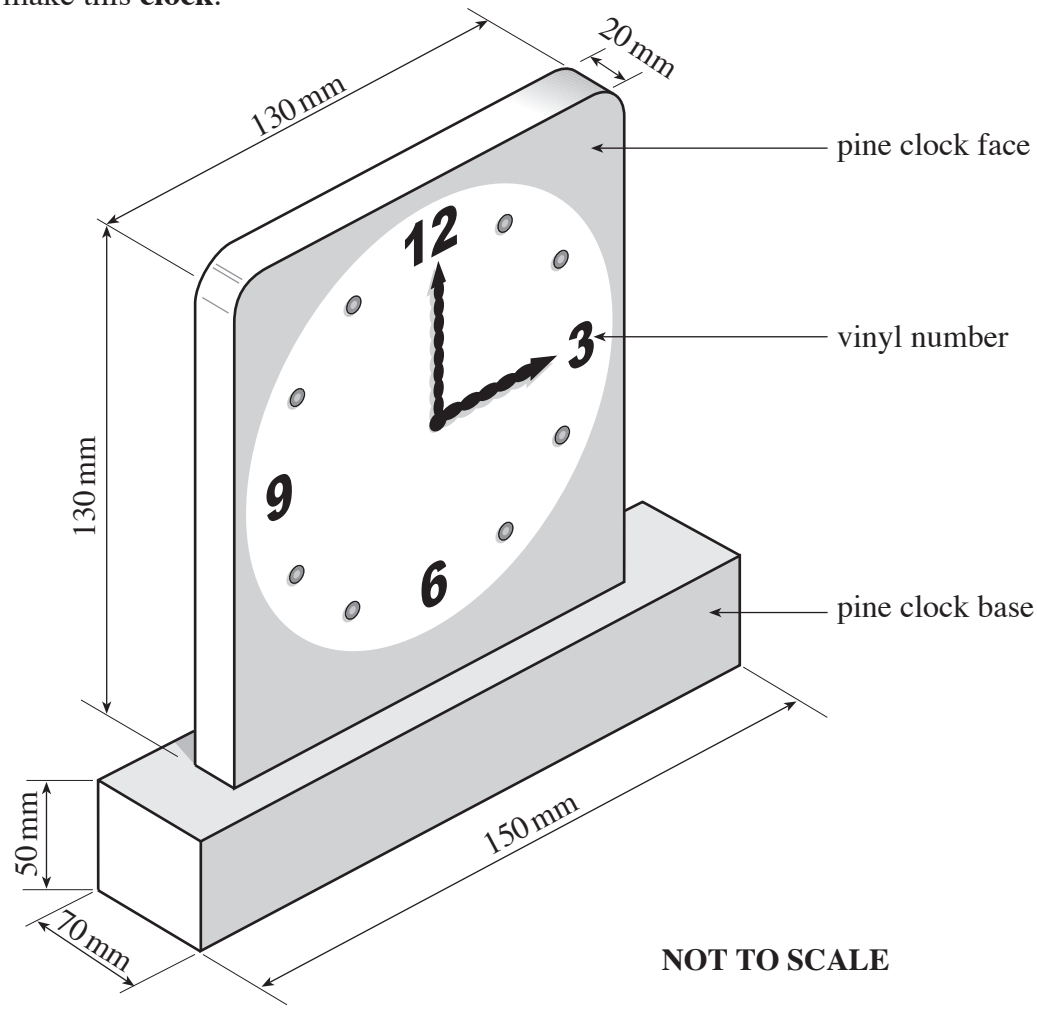
.....

[2]

END OF GRAPHIC PRODUCTS SECTION

RESISTANT MATERIALS TECHNOLOGY

4. *(a)* **Name** and **sketch/draw two** (2) pieces of equipment or tools that you would use to make this **clock**.



NOT TO SCALE

Name of tool/equipment	Name of tool/equipment .....
Sketch/drawing	Sketch/drawing

[6]

(b) The stages for making the **clock** have been jumbled up in each section.

Put these sentences in the right order by writing a number in each box.

The **first** [1] stage of each section has been done for you.

Section 1: Preparation List	
• Cut out the clock base and face in pine.	
• Collect tools, equipment and materials.	1
• Mark centre of clock face and drill a hole through to attach clock hands.	
• Mark out **two** (2) rectangles 150 mm × 70 mm × 50 mm for the base and 130 mm × 130 mm × 20 mm for the clock face in pine.	

[6]

Section 2: Making List	
• Use glass paper to smooth all edges and sides of the base and face.	
• Leave the glue to set.	
• Cut a slot in the base to attach the clock face.	1
• Glue the clock face upright in the base.	

[6]

Section 3: Finishing / Presentation List	
• Make the clock numbers from self adhesive vinyl using CAD/CAM.	1
• Attach the clock hands through centre hole and set the time.	
• Attach the numbers to the clock face.	
• Attach the clock mechanism to the back of the clock face.	

[6]

(c) From your list on page 16, pick **one** (1) instruction from **Section 1: Preparation List** and **sketch/draw** it in the box below.

Do the same for **Section 2: Making List**.

Preparation stage number	**Making stage number** .....

Fill in the number of **each** stage you have sketched/drawn. [8]

Evaluation

(d) (i) **List two** (2) good things about the design of this clock.

(I) .....

.....

[2]

(II) .....

.....

[2]

(ii) Think about the **design** of the clock.

Give two (2) ways you could **improve** it (make it better).

(I) .....

.....

[2]

(II) .....

.....

[2]

(iii) **Sketch/draw one** (1) of your ideas for **improvement** in the box below.
Label your sketch/drawing.

[4]

(iv) Who would this clock be suitable for? Why?

It would be suitable for .....

.....

[2]

Because .....

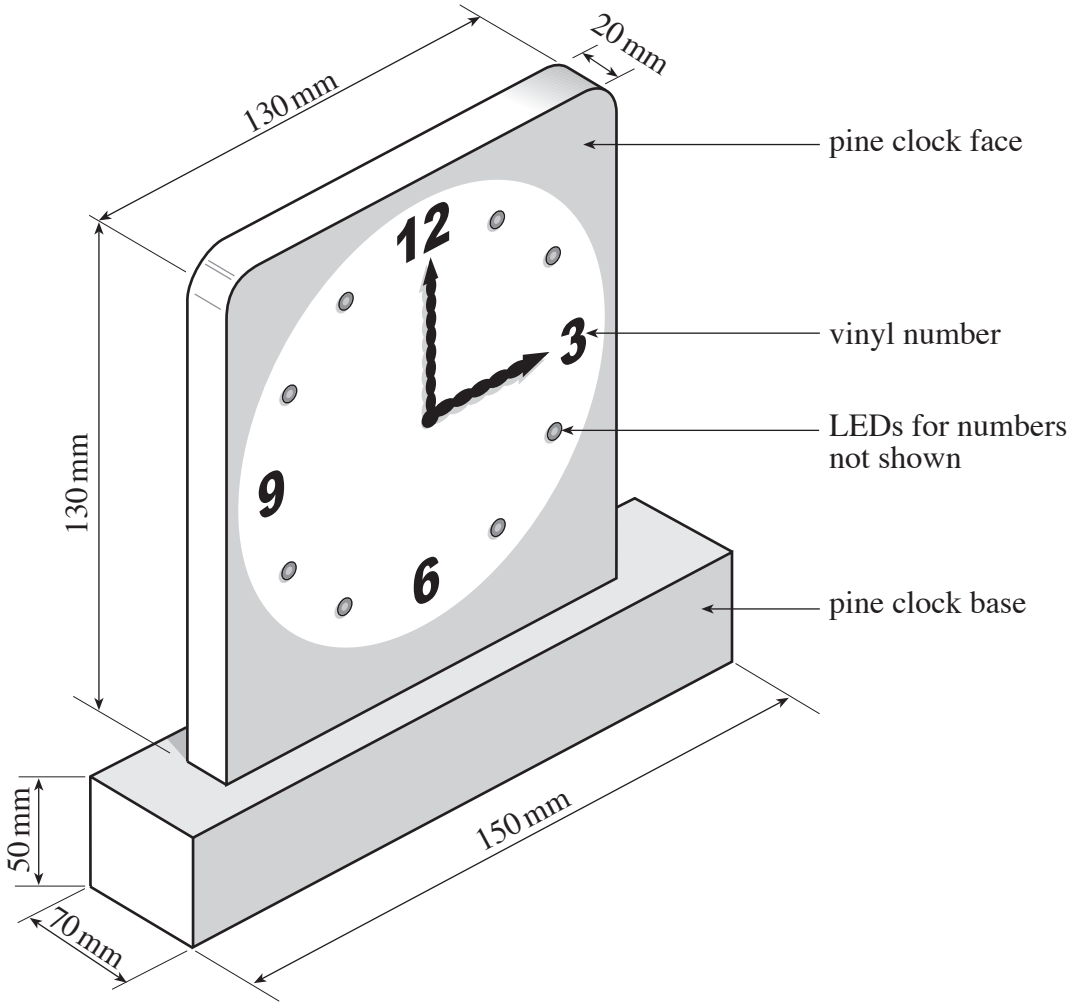
.....

[2]

END OF RESISTANT MATERIALS TECHNOLOGY SECTION

SYSTEMS AND CONTROL TECHNOLOGY

4. *(a)* **Name** and **sketch/draw two** (2) pieces of equipment or tools that you would use to make this clock.



Name of tool/equipment	Name of tool/equipment .....
Sketch/drawing	Sketch/drawing

[6]

(b) The stages for making the **clock** have been jumbled up in each section.

Put these sentences in the right order by writing a number in each box.

The **first** [1] stage of each section has been done for you.

Section 1: Preparation List	
• Cut out the clock base and clock face in pine.	
• Collect tools, equipment, materials and components.	1
• Mark centre of clock face and positions for LEDs. Drill all the holes.	
• Mark out **two** (2) rectangles of 150 mm × 70 mm × 50 mm for the base and 130 mm × 130 mm × 20 mm for the clock face in pine.	

[6]

Section 2: Making List	
• Use glass paper to smooth all edges and sides of the clock face and clock base.	
• Leave the glue to set.	
• Cut a slot in the clock base to attach the clock face.	1
• Glue the clock face to stand upright in the base.	

[6]

Section 3: Finishing / Presentation List	
• Insert LEDs in front of clock face and secure to main system.	1
• Attach the clock hands through the centre hole and set the time.	
• Connect up the LEDs to the power supply and switch.	
• Attach clock mechanism to the back of the clock face.	

[6]

(c) From your list on page 20, pick **one** (1) instruction from **Section 1: Preparation List** and **sketch/draw** it in the box below.

Do the same for **Section 2: Making List**.

Preparation stage number	**Making stage number** .....

Fill in the number of **each** stage you have sketched/drawn. [8]

Evaluation

(d) (i) **List two** (2) good things about the design of this clock.

(I) .....

.....

[2]

(II) .....

.....

[2]

(ii) Think about the **design** of the clock.

Give two (2) ways you could **improve** it (make it better).

(I) .....

.....

[2]

(II) .....

.....

[2]

(iii) **Sketch/draw one** (1) of your ideas for **improvement** in the box below.
Label your sketch/drawing.

[4]

(iv) Who would the clock be suitable for? Why?

It would be suitable for .....

.....

[2]

Because .....

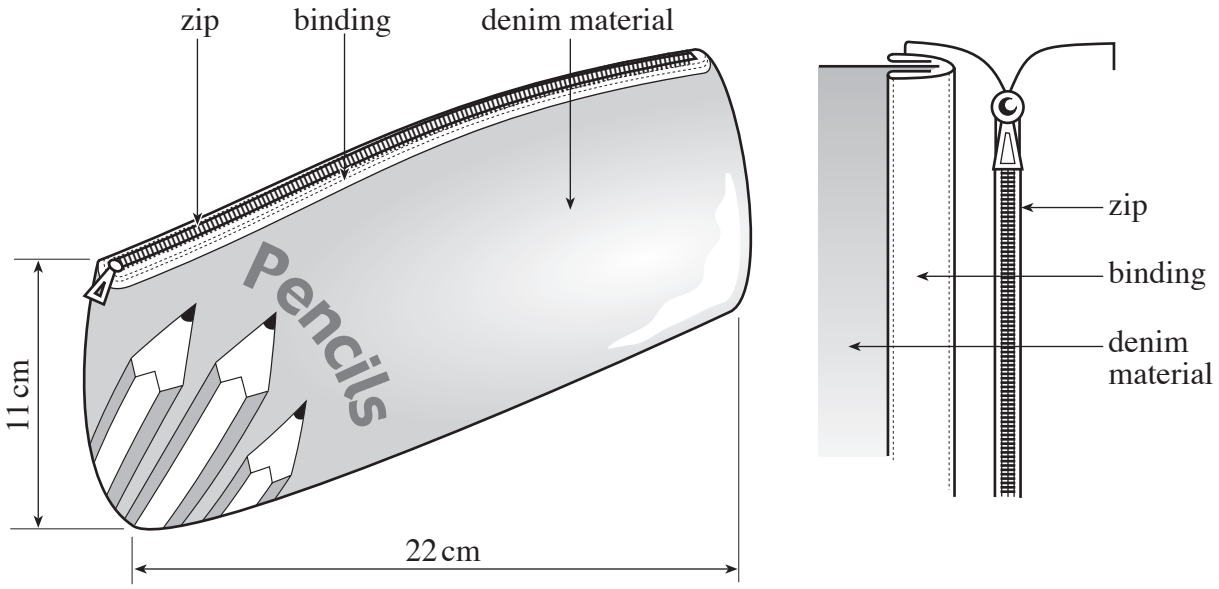
.....

[2]

END OF SYSTEMS AND CONTROL TECHNOLOGY SECTION

TEXTILES TECHNOLOGY

4. *(a)* **Name** and **sketch/draw two** (2) pieces of equipment or tools that you would use to make this pencil case.



Name of tool/equipment	Name of tool/equipment .....
Sketch/drawing	Sketch/drawing

[6]

(b) The stages for making the **pencil case** have been jumbled up in each section.

Put these sentences in the right order by writing a number in each box.

The **first** [1] stage of each section has been done for you.

Section 1: Preparation List	
• Cut out **two** (2) pieces of binding 24 cm × 3 cm.	
• Collect materials and tools. Set up a sewing machine.	1
• Press under **two** (2) folds of 5 mm on both long edges of the bindings.	
• Mark out and cut out **two** (2) pieces of denim 24 cm × 13 cm.	

[6]

Section 2: Making List	
• Sew the zip in place on both sides.	
• Put the **two** (2) right sides of the pencil case together, pin and tack them. Machine stitch around the **three** (3) sides.	
• Bind **two** (2) long edges of the denim panels.	1
• Embroider the decorative feature onto one panel.	

[6]

Section 3: Finishing / Presentation List	
• Trim the seam turnings down to 5 mm.	1
• Turn the pencil case the right way out.	
• Remove all the tacking.	
• Over lock the edges of the seams to stop fraying.	

[6]

(c) From your list on page 24, pick **one** (1) instruction from **Section 1: Preparation List** and **sketch/draw** it in the box below.

Do the same for **Section 2: Making List**.

Preparation stage number	**Making stage number** .....

Fill in the number of **each** stage you have sketched/drawn. [8]

Evaluation

(d) (i) **List two** (2) good things about the design of this pencil case.

(I) .....

.....

[2]

(II) .....

.....

[2]

(ii) Think about the **design** of the pencil case.

Give two (2) ways you could **improve** it (make it better).

(I) .....

.....

[2]

(II) .....

.....

[2]

(iii) **Sketch/draw one** (1) of your ideas for **improvement** in the box below.
Label your sketch/drawing.

[4]

(iv) Who would this pencil case be suitable for? Why?

It would be suitable for .....

.....

[2]

Because .....

.....

[2]

END OF TEXTILES TECHNOLOGY SECTION