



JUNIOR CERTIFICATE 2004

**MATERIALS TECHNOLOGY
(WOOD)**

MARKING SCHEME

ORDINARY LEVEL

SECTION A

NOTE

Please ensure that totals for each question are divided by two before entering marks on marking sheets.

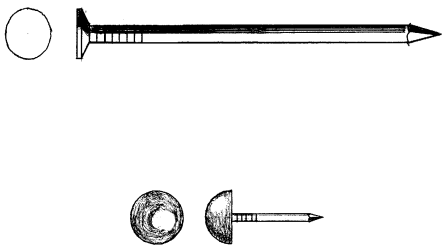
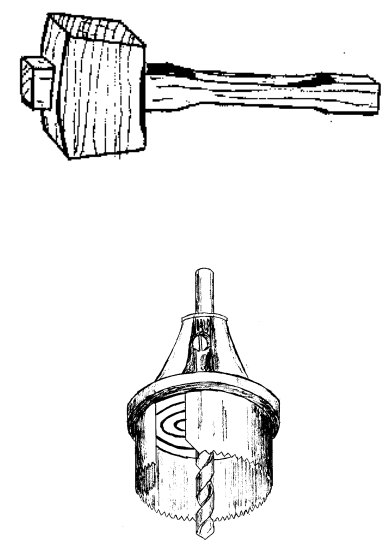
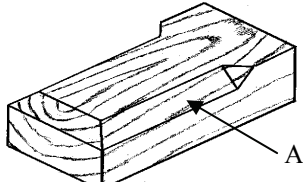
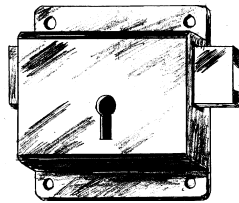
SECTION A - Short Answers

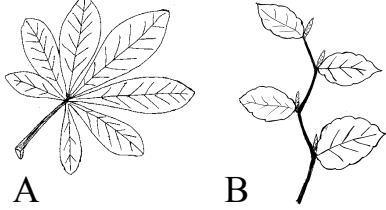
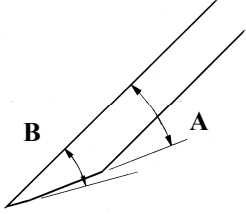
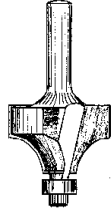
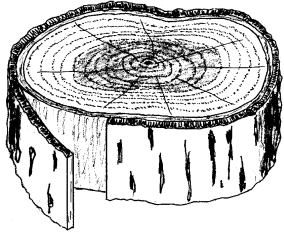
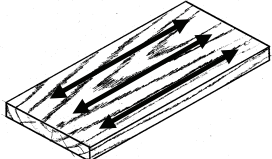
Mark all questions, select the best 16 questions

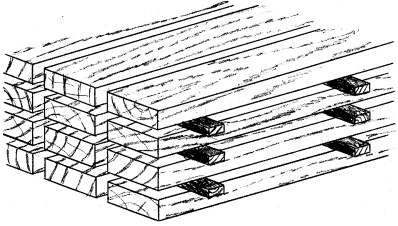


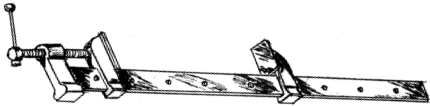
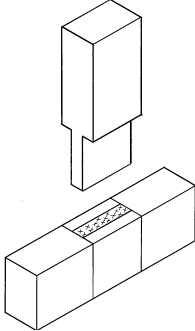
This section is marked out of 80 marks.

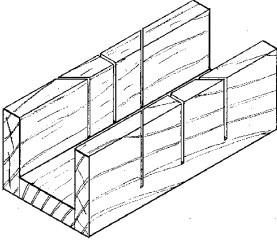
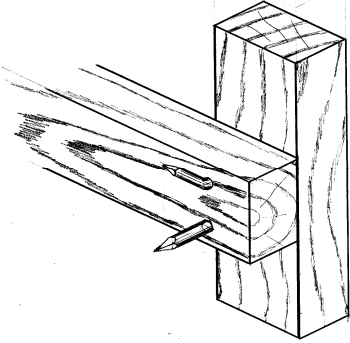
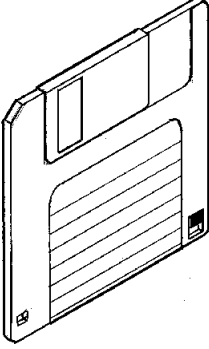
Divide the final mark by 2 on completion of marking.

A mark must be shown under each heading, including zero.

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
1.	A Round wire nail B Upholstery nail	Either one, 3 marks. Both 5 marks.	
2a. <u>OR</u> 2b.	<i>Name:</i> Mallet <i>Use:</i> For striking the handle of a chisel. For assembling joints. <i>Name:</i> Hole saw <i>Use:</i> For cutting circular holes in thin material. For cutting discs out of thin material.	Either one, 3 marks. Both 5 marks. <u>OR</u> Either one, 3 marks. Both 5 marks.	
3.	Chamfer. Stopped chamfer.	5 marks	
4.	<i>Name:</i> Cupboard lock. <i>Use:</i> Locking presses. Light security.	Either one, 3 marks. Both 5 marks.	

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
5.	A: Horsechestnut B: Beech	Either one, 3 marks. Both 5 marks.	
6.	Sharpening angle. Honing angle. 30°.	5 Marks	
7.	<p>Advantages: Can be used away from electricity socket. No cable to get in your way. Etc.</p> <p>Disadvantages: Less powerful. Battery can die suddenly. Charging battery takes time. Etc.</p>	Any one, 3 marks. Two rules, 5 marks.	
8.	Router	5 marks	
9.	Protect the tree from: Weather Insect/animal attack Fungal attack	Any one reason 5 marks	
10.	Smoothing plane — Flat Compass plane — Curved Block plane — Flat Spokeshave — Curved Try plane — Flat	1 mark per correct answer.	
11.		5 marks.	

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
12.	Stickers	5 marks.	
13.	<p>A: Roughing gouge</p> <p>B: Skew chisel</p>	<p>Either one, 3 marks.</p> <p>Both 5 marks.</p>	<p>A </p> <p>B </p>
14.	Tightening frames and boards together when gluing.	5 marks.	
15.	<p>Chipboard</p> <p>Hardboard</p> <p>Plywood</p> <p>M.D.F.</p> <p>Blockboard</p> <p>Etc.</p>	Any one 5 marks	
16.	<p>Wire wool will not clog up with dust in the same way as sandpaper.</p> <p>Does not scratch the finish as much as sandpaper.</p>	5 marks	
17.		5 marks	

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
18.	The mitre box is used to guide the saw when cutting 45° and 90° angles. Picture framing.	5 marks.	
19.	Clinching	5 marks.	
20.	Keep out of direct sunlight. Keep away from dust. Keep away from wet and dampness. Do not bend. Keep away from extremes of temperature. Keep away from magnets. Keep away from electrical appliances.	Any one, 3 marks. Any two, 5 marks.	

SECTION A

Note

Divide final mark by 2 on completion of marking of this section



JUNIOR CERTIFICATE 2004
MATERIALS TECHNOLOGY
(WOOD)

MARKING SCHEME

ORDINARY LEVEL

SECTION B

NOTE

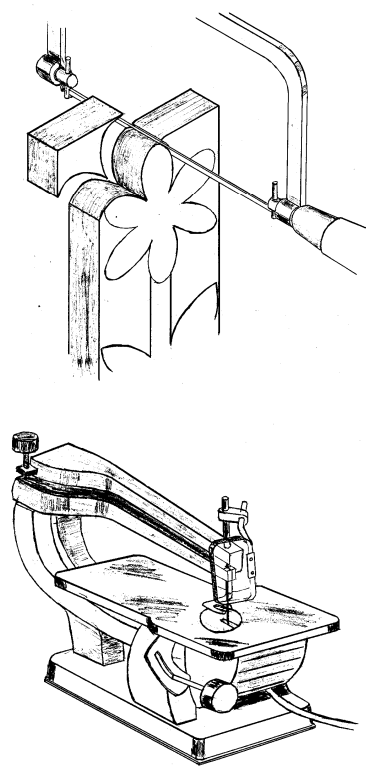
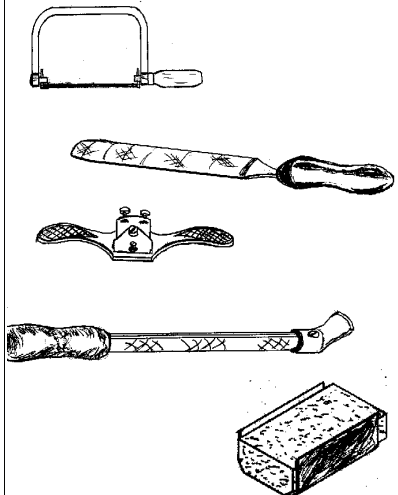
Please ensure that totals for each question are divided by TWO before entering marks on marking sheets.

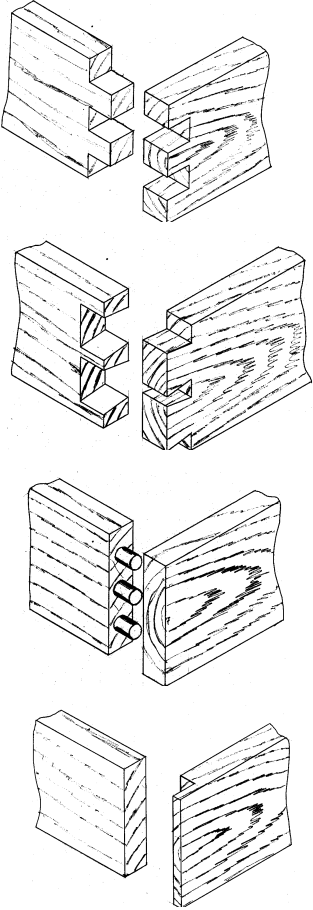
SECTION B

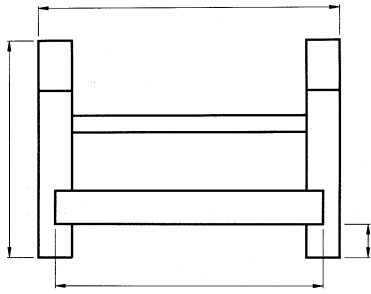
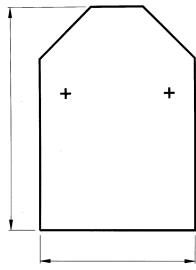
Mark for best three questions.

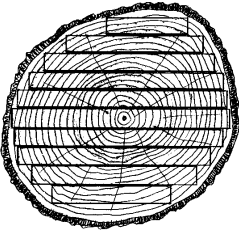
This section is marked out of 120 marks.

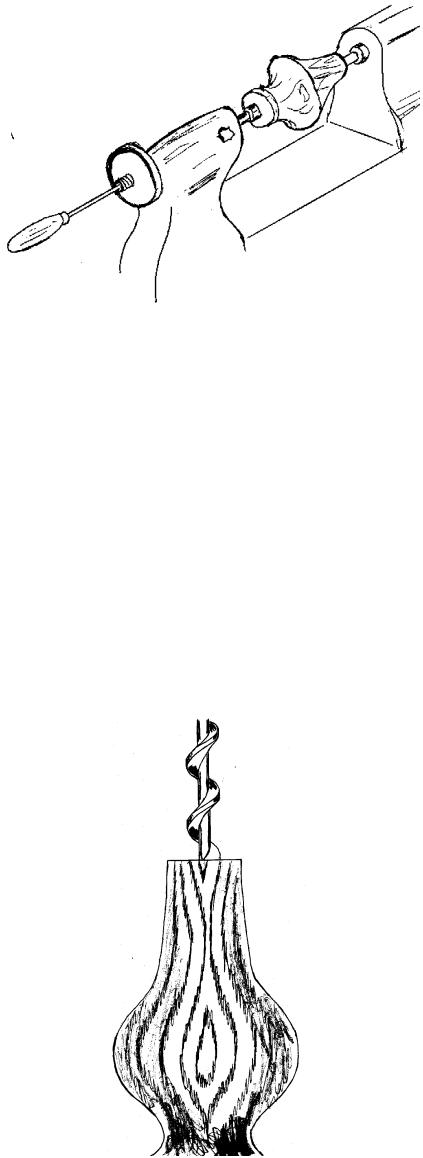
Divide the final mark by 2 on completion of marking

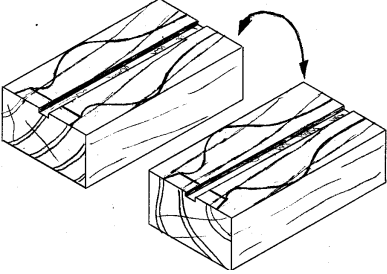
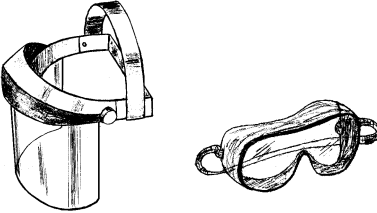
Q.	SKETCHES	NOTES	MARKS
1(i)		<p>The flower shaped pieces could be cut using a coping saw or a scroll-saw. Ensure to cut on the waste side of the line and cut carefully.</p> <p>The saw will leave the edges rough and these should then be smoothed using a surform, rasp or spokeshave.</p> <p>Sand in stages, first with rough sandpaper then medium then smooth.</p>	<p>Notes and sketches 16 marks.</p> <p>Notes only or sketches only 12 marks.</p>
1(ii)		<p>Diagram of two tools required.</p>	<p>4 marks each.</p>

Q.	SKETCHES	NOTES	MARKS
1(iii)		<p>(a) Suggest a joint for the corners of the window box.</p> <p>Finger joint.</p> <p>Dovetail joint.</p> <p>Dowel joint.</p> <p>Butt joint.</p> <p>(b) Suggest a joint for joining the flowers to the back board.</p> <p>Dowel joint.</p> <p>Mortice and tenon.</p>	<p>Joint name 1 mark.</p> <p>Diagram 5 marks.</p> <p>Reason for choice of joint 2 marks.</p> <p>Joint name 1 mark.</p> <p>Diagram 5 marks.</p> <p>Reason for choice of joint 2 marks.</p>

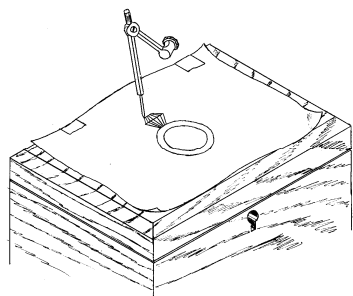
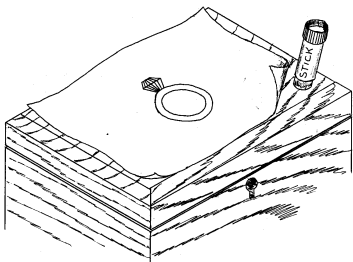
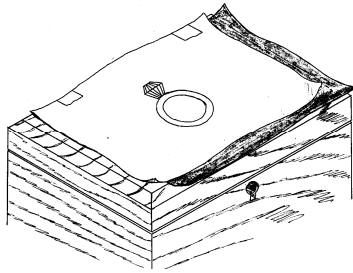
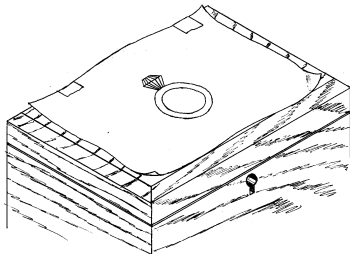
Q.	SKETCHES	NOTES	MARKS
2(i)	 <p style="text-align: center;">ELEVATION</p>	<p>(a) Overall height</p> <p>(b) Overall width</p> <p>(c) Width of shelf</p> <p>(d) Height of shelf</p> <p>(e) Lines for angled corners</p>	<p style="text-align: center;">4</p> <p style="text-align: center;">4</p> <p style="text-align: center;">4</p> <p style="text-align: center;">4</p> <p style="text-align: center;">4</p>
2(ii)	 <p style="text-align: center;">END VIEW</p>	<p>(a) Overall height</p> <p>(b) Overall width</p> <p>(c) Cut corners</p> <p>(d) Centres for holes</p>	<p style="text-align: center;">4</p> <p style="text-align: center;">4</p> <p style="text-align: center;">4</p> <p style="text-align: center;">2</p>
2(iii)	<p style="text-align: center;">DIMENSIONS</p> <p style="text-align: center;">ARROWHEADS</p>	<p>ONE mark for each correct dimension (1 mark×4)</p> <p>TWO marks for correct arrows</p>	<p style="text-align: center;">4</p> <p style="text-align: center;">2</p>

Q.	SKETCHES	NOTES	MARKS
3(i)		<p>Through and through sawing. Slash sawing.</p>	<p>10 marks.</p>
3(ii)		<p>Makes transporting the timber easier. Speeds up the seasoning process. Reduces the risk of the timber splitting / cracking while being seasoned. Produces different grain patterns depending on how the log was converted into planks. Produces rectangular sections which are easier to stack and store. Removes unwanted material eg. rotten sections of the log. Etc.</p>	<p>Two reasons 12 marks (2 x 6 marks)</p>
3(iii)		<p>Thin strips of wood Uses:- Firewood, rustic fencing, garden furniture, trellis etc.</p> <p>Bark Uses:- Garden mulch, burning.</p> <p>Sawdust Uses:- Burning, chipboard, for putting on the floors of a butchers etc.</p>	<p>6 marks.</p> <p>6 marks.</p> <p>6 marks.</p>

Q.	SKETCHES	NOTES	MARKS
4A (i)		New design for turned lamp base.	10 marks.
4A (ii)		<p>Method 1 The hole could be drilled using the lathe and a special long shafted gouge. A hollow centre is used in the tailstock which allows the gouge pass up through it and into the workpiece. With the machine switched on, the gouge is pushed through slowly but must be withdrawn frequently to remove the shavings / sawdust.</p> <p>Method 2 With the lamp removed from the lathe a hole could be bored, using a bit and brace, from each end of the piece to meet at the centre. A pillar drill or a hand held electric drill could be used also. Great care would need to be taken to ensure that the holes were being drilled along the axis.</p>	<p>Notes and sketches 15 marks.</p> <p>Notes only or sketches only 12 marks.</p> <p>Notes and sketches 15 marks.</p> <p>Notes only or sketches only 12 marks.</p>

Q.	SKETCHES	NOTES	MARKS
<p>4A (ii) cont.</p>		<p>Method 3 Make the lamp out of two pieces of wood glued together. Before they are glued, cut a groove in one or both of these to form a channel for the cable. When glued this channel must form the central axis of the workpiece. Lathe work can then begin.</p>	<p>Notes and sketches 15 marks.</p> <p>Notes only or sketches only 12 marks.</p>
<p>4A (iii)</p>		<p>Salad bowls, wooden plates, wooden egg cups, candlesticks, handles, legs of tables and chairs etc.</p>	<p>Any three 3 marks each</p>
<p>4A (iv)</p>		<p>Eye protection such as goggles or a visor will stop shavings or sawdust from getting into your eyes. Some woods may act as an irritant to the eyes. Sawdust and shavings can scratch the eye surface.</p>	<p>6 marks</p>

4B
(i)



Method 1

The paper with the drawing on it should be carefully taped onto the wood with two pieces of tape. A sheet of carbon paper may now be placed between the wood and the drawing. You now trace over the original drawing with a pen or pencil ensuring that no line is missed. Once the sheets are removed a print of the ring will have been left.

Method 2

The piece of paper with the drawing could be fixed down to the wood using a light adhesive. In order to carve the ring shape you can now carve through the paper into the wood beneath.

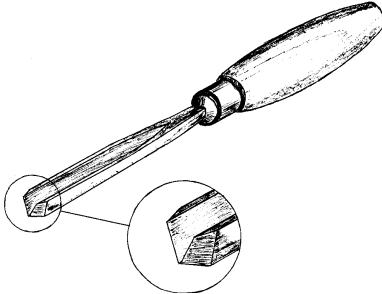
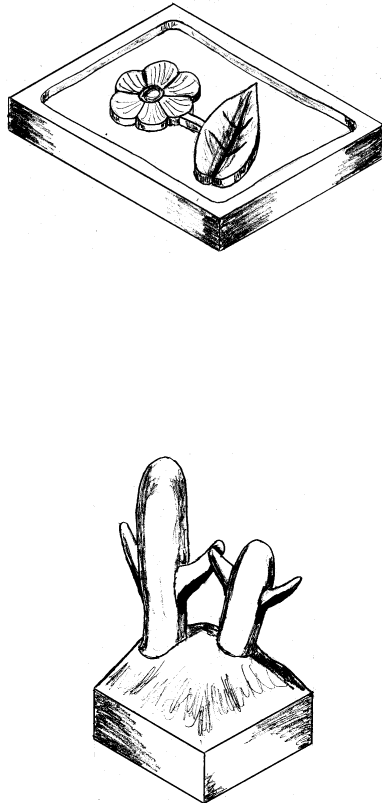
Method 3

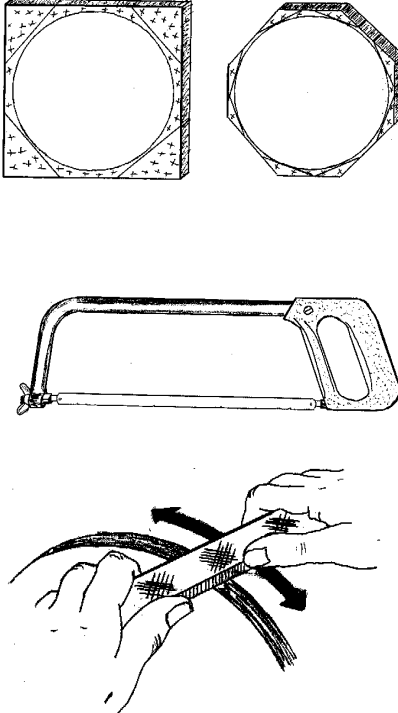
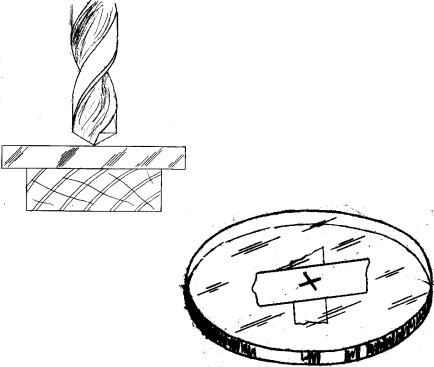
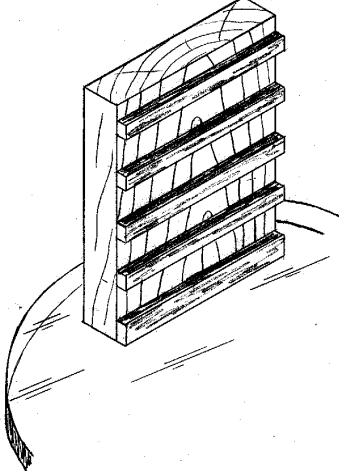
The paper with the drawing is fixed to the wood using tape. By tracing over the drawing and leaning heavily on the pen/pencil an imprint will be made on the wood beneath. This imprint can be traced over once the sheet is removed. As an alternative a compass could be used to mark the wood through the paper. When the paper is removed the dots can be joined to form the picture.

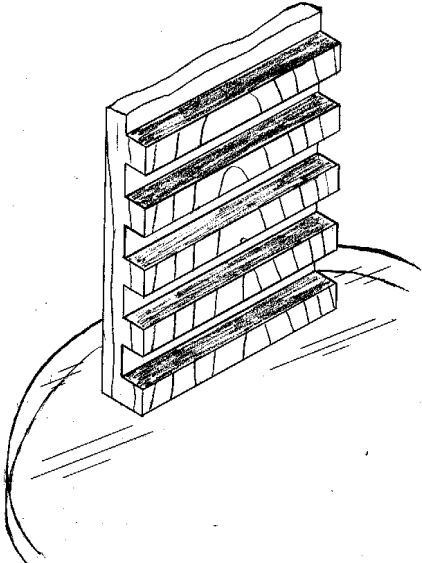
Notes and sketches
18 marks.
Notes only
or
sketches
only
12 marks.

Notes and sketches
18 marks.
Notes only
or
sketches
only
12 marks.

Notes and sketches
18 marks.
Notes only
or
sketches
only
12 marks.

Q.	SKETCHES	NOTES	MARKS
4B (ii)		<p>Name V-tool Veiner Small gouge</p> <p>Diagram</p>	<p>2 marks.</p> <p>10 marks.</p>
4B (iii)		<p>Relief carving. Relief carving is when the background is cut away to raise the design. The design can then itself be shaped and carved to give the carving depth.</p> <p style="text-align: center;">OR</p> <p>Carving in the round. Carving in the round is the forming of three-dimensional carvings. The object can be viewed from any angle and is a sculpture made from wood.</p>	<p>10 marks.</p> <p>10 marks.</p>

Q.	SKETCHES	NOTES	MARKS
5(i)		<p>The circular base would be marked out on a suitable sized piece of perspex. Holding the work in the vice the corners would be removed using a hacksaw, giving a roughly octagonal shape. More corners could be cut off in this way producing a more circular shape. By carefully cross filing, a perfect circle can be made. The edges of the finished disc could then be draw filed or sanded. The circular shape could also be cut out using a bandsaw.</p>	<p>Notes and sketches 15 marks. Notes only or sketches only 12 marks.</p>
5(ii)		<p>Drill a pilot hole. Provide good support underneath the acrylic while drilling. Apply tape on the top and bottom of where the hole is to be drilled. Apply very little pressure while drilling.</p>	<p>Notes and sketches 10 marks. Notes only or sketches only 8 marks.</p>
5(iii)		<p>Small spacers.</p>	<p>Notes and sketches 15 marks. Notes only or sketches only 12 marks.</p>

Q.	SKETCHES	NOTES	MARKS
5(iii) cont.		Trenches.	Notes and sketches 15 marks. Notes only or sketches only 12 marks.

Please ensure that totals are divided by two before entering marks on marking sheets