



**Coimisiún na Scrúduithe Stáit**  
*State Examinations Commission*

**JUNIOR CERTIFICATE 2009**

**MARKING SCHEME**

**MATERIALS TECHNOLOGY**  
**WOOD**

**ORDINARY LEVEL**



**JUNIOR CERTIFICATE 2009**

**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.**

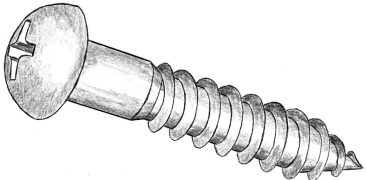
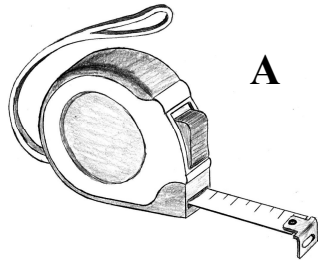
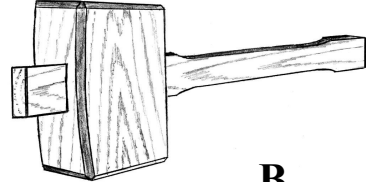
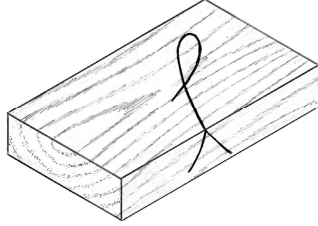
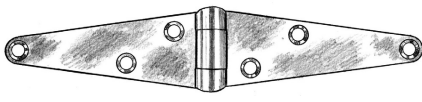
## SECTION A - Short Answers

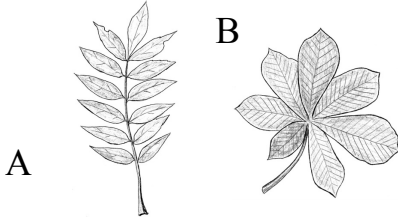
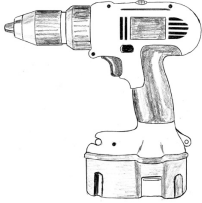
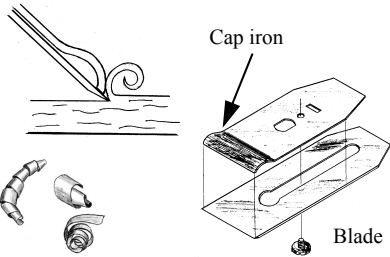
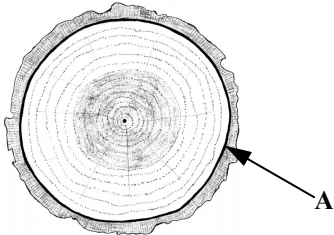
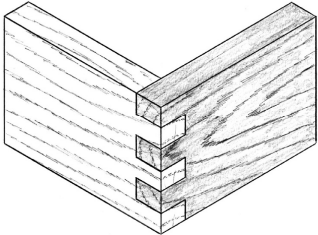
Mark all questions, select the best 16 questions

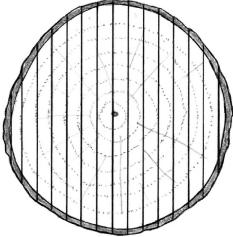
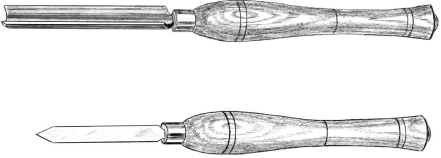

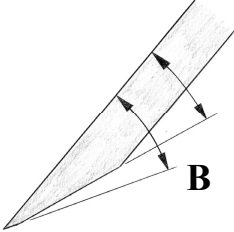
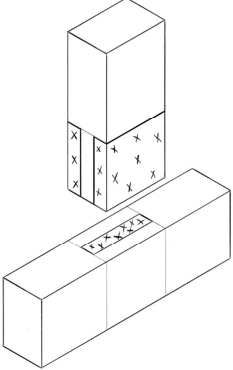
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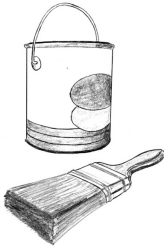
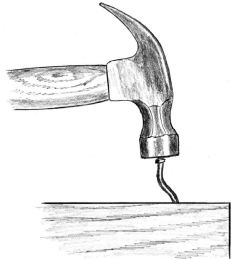

Divide the final mark by 2 on completion of marking.

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

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
1.	Round Head Screw	<b>5 marks.</b>	
2a.	<p><i>Name:</i> Measuring Tape</p> <p><i>Use:</i> Used to measure long distances.</p>	<p>Either one, <b>3 marks.</b></p> <p>Both <b>5 marks.</b></p>	 <p style="text-align: right;"><b>A</b></p>
<u>OR</u> 2b.	<p><i>Name:</i> Mallet</p> <p><i>Use:</i> Hitting the handle of the chisel when morticing. Assembly of joints etc.</p>	<p style="text-align: center;"><u>OR</u></p> <p>Either one, <b>3 marks.</b></p> <p>Both <b>5 marks.</b></p>	 <p style="text-align: right;"><b>B</b></p>
3.	Face side mark.	<b>5 marks.</b>	
4.	<p><i>Name:</i> Strap hinge</p> <p><i>Use:</i> Used to hinge very heavy doors, wooden gates, etc.</p>	<p>Either one, <b>3 marks.</b></p> <p>Both <b>5 marks.</b></p>	

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
5.	A: Ash B: Horse Chestnut	Either one, <b>3 marks.</b>  Both <b>5 marks.</b>	
6.	Cordless Drill/Screwdriver	<b>5 Marks</b>	
7.	Keep both hands behind the cutting edge. Hold with both hands. Keep work area tidy. Hold the sharp edge when carrying. Etc.	Any one, <b>3 marks.</b>  Two rules, <b>5 marks.</b>	
8.	The cap iron. The bump in the cap iron. The shaving hitting the bump on the cap iron.	<b>5 marks</b>	
9.	Cambium Layer	<b>5 marks</b>	
10.	Beech ————— Deciduous Ash ————— Deciduous Lime ————— Deciduous Pine ————— Coniferous Sitka Spruce ——— Coniferous	<b>1 mark</b> per correct answer.	
11.	Finger Joint	<b>5 marks.</b>	

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
12.	Through and through sawing. Slash sawing.	<b>5 marks.</b>	
13.	A— Roughing gouge B— Parting tool	Either one, <b>3 marks.</b>  Both <b>5 marks.</b>	
14.	Photosynthesis	<b>5 marks.</b>	
15.	Chipboard Hardboard M.D.F. Blockboard Pegboard Etc.	Any one, <b>3 marks.</b>  Both correct <b>5 marks.</b>	
16.	Honing angle. Sharpening angle	<b>5 marks</b>	
17.	Two lines to be added. Waste to be marked.	Either one, <b>3 marks.</b>  Both <b>5 marks.</b>	

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
18.	White spirits. Turpentine. Brush cleaner	<b>5 marks.</b>	
19.	Nail hits a knot. Hitting the nail too hard. Grease/dirt on hammer head. Not hitting nail straight. Work not supported properly etc.	Any one, <b>3 marks.</b>  Two reasons <b>5 marks.</b>	
20.	Loads and saves files faster than a floppy disk. Smaller and easier to carry. Can store a lot more information than a floppy disk. Not as easily damaged. Etc.	<b>5 marks.</b>	

### SECTION A

*Note*

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



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(WOOD)**

**MARKING SCHEME**

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**SECTION B**

**NOTE**

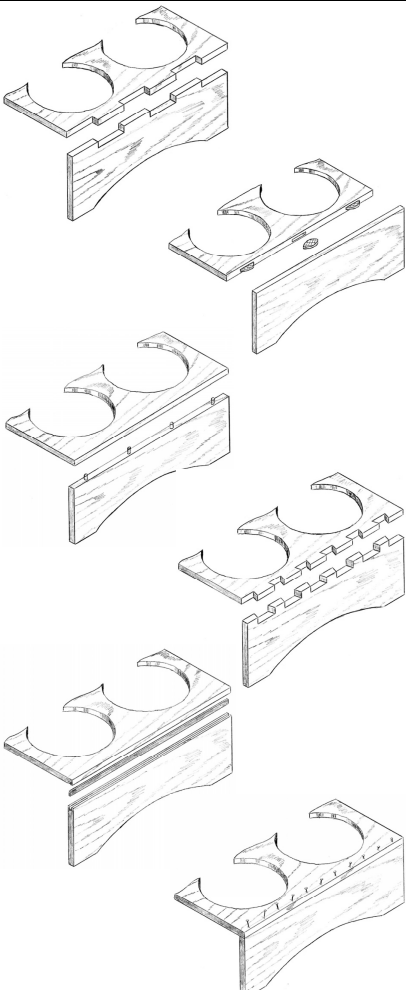
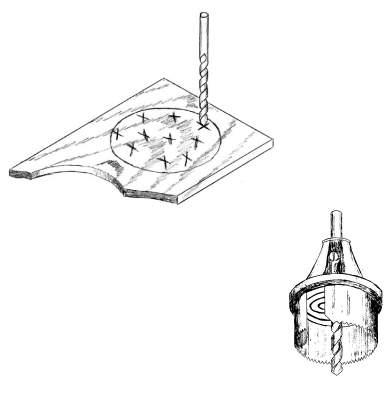
**Please ensure that totals for each question are divided by TWO before entering marks on marking sheets.**

# SECTION B

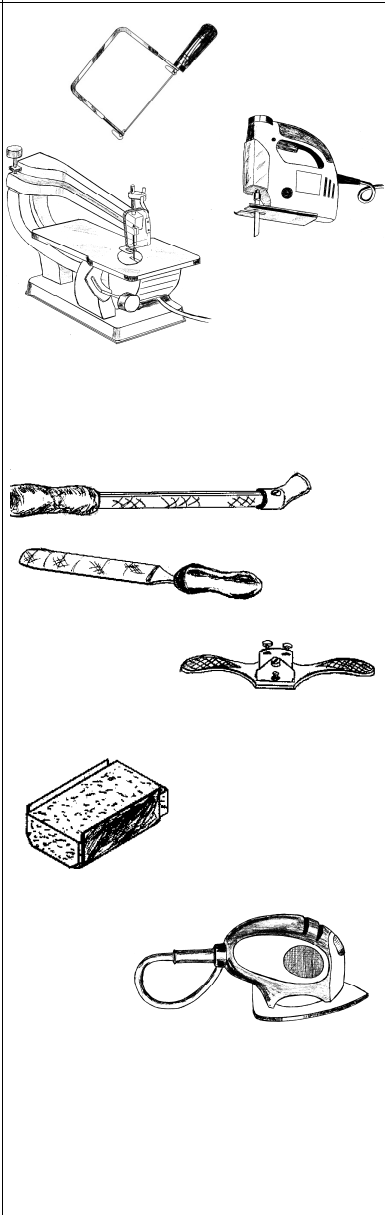
Mark for best three questions.

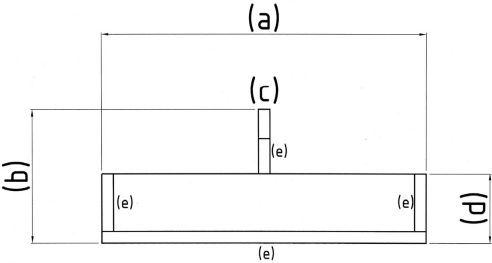
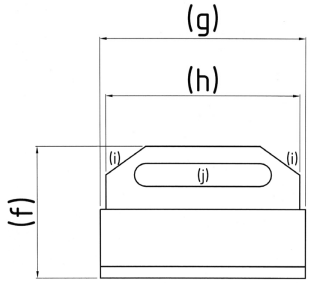
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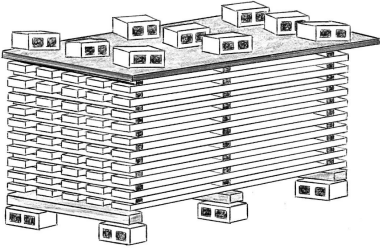
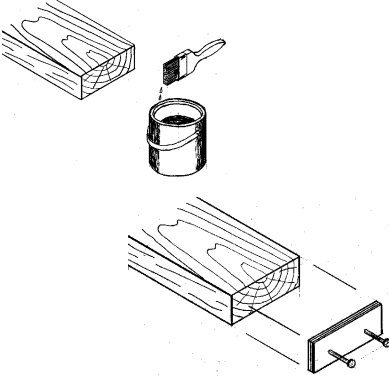
Divide the final mark by 2 on completion of marking



Q.	SKETCHES	NOTES	MARKS
1(i)		Finger joint Biscuit joint Dowel joint Dovetail joint Loose tongue  Nails and glue. Screws and glue. Dovetail nailing.	Notes and sketches <b>16 marks.</b>  Notes only or sketches only <b>12 marks.</b>  Notes and sketches <b>12 marks.</b>  Notes only or sketches only <b>9 marks.</b>
1(ii)		Drill a large hole inside the circle. A large drill bit or a hole saw could be used. Drill near the edge. Drill completely through the wood.	Notes and sketches <b>16 marks.</b>  Notes only or sketches only <b>12 marks.</b>

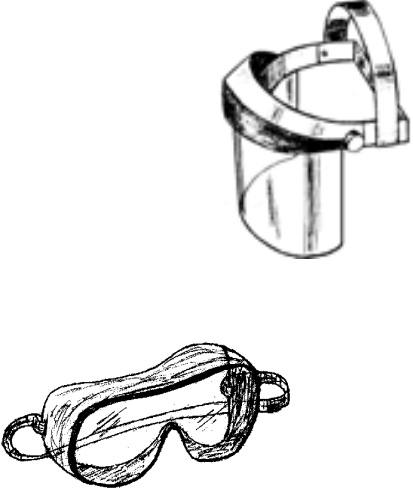



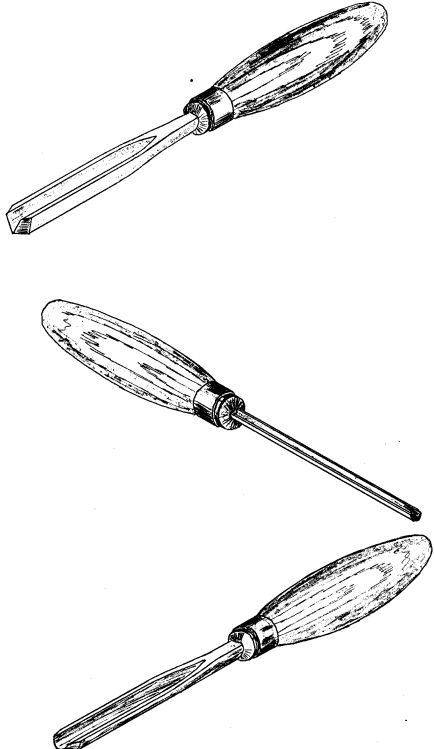

Q.	SKETCHES	NOTES	MARKS
1(ii)		<p>Use this hole to thread through a coping saw blade, a scroll saw blade or a jig-saw blade. A compass saw or a pad saw could also be used. Cut out the disc keeping inside the waste line.</p> <p>The roughness left by the saw can now be smoothed out using a surform, rasp or spokeshave.</p> <p>Finish with medium sandpaper and then fine sandpaper. Use a sanding block.</p> <p>A drum sander could be used or the nose of an electric sander.</p> <p>Repeat the whole process with the second hole.</p>	
1(iii)		<p>Name the tool used.</p> <p>Neat diagram of tool named</p>	<p><b>2 marks</b> for name.</p> <p><b>6 marks</b> sketch.</p>

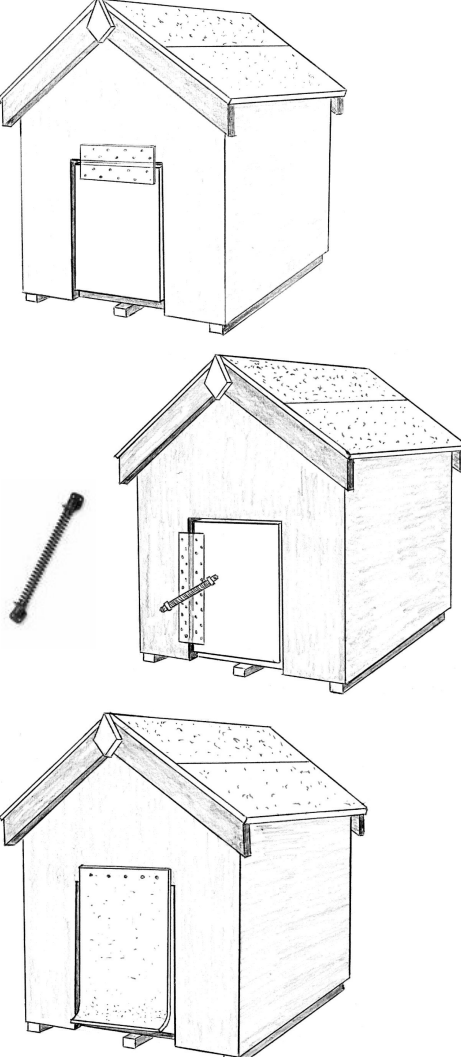
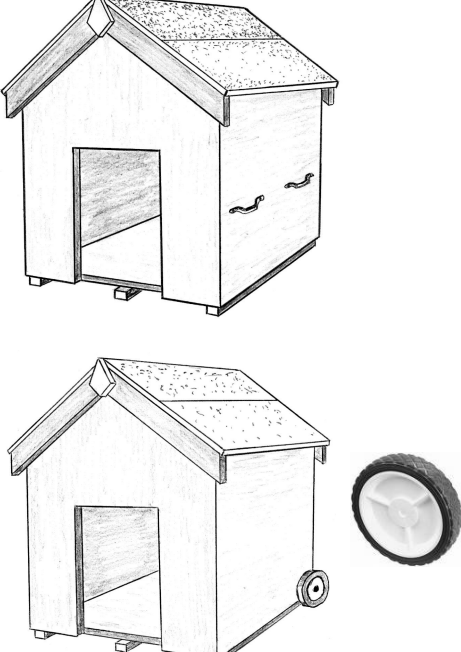
Q.	SKETCHES	NOTES	MARKS
2(i)	 <p style="text-align: center;"><b>ELEVATION</b></p>	<p>(a) Overall width</p> <p>(b) Overall height</p> <p>(c) Handle in centre</p> <p>(d) Height of tray</p> <p>(e) Material thickness at sides, base and handle.</p>	<p>4</p> <p>4</p> <p>2</p> <p>2</p> <p>4</p>
2(ii)	 <p style="text-align: center;"><b>END VIEW</b></p>	<p>(f) Overall height</p> <p>(g) Overall width</p> <p>(h) Width of handle</p> <p>(i) Corners of handle cut</p> <p>(j) Slot in handle</p>	<p>4</p> <p>4</p> <p>2</p> <p>4</p> <p>4</p>
2(iii)	<p style="text-align: center;"><b>DIMENSIONS</b></p> <p style="text-align: center;"><b>ARROWHEADS</b></p>	<p><b>ONE</b> mark for each correct dimension (<b>1 mark</b>×4)</p> <p><b>TWO</b> marks for correct arrows</p>	<p>4</p> <p>2</p>

Q.	SKETCHES	NOTES	MARKS
3(i)		<p>Raise the stack up off the ground by using blocks to let air circulate underneath the stack.</p> <p>Support the stack well.</p> <p>Level surface.</p> <p>Stickers of equal size.</p> <p>Stickers placed above each other.</p> <p>Not too large a gap between each set of stickers.</p> <p>Open to the air.</p> <p>Some sort of roof to keep most of the rain off.</p> <p>End treatment of the planks.</p> <p>Weight down the top planks to reduce warping.</p>	<p>Any three important steps.</p> <p><b>6 marks per step.</b></p>
3(ii)		<p>Seasoned timber is lighter.</p> <p>Seasoned timber is stronger.</p> <p>It is easier to saw, plane sand and finish.</p> <p>It will not shrink or warp.</p> <p>Seasoned timber can be painted, varnished or stained and also can be glued.</p> <p>It can be treated with preservative.</p> <p>Fungi will not attack timber with a M.C. below 20%.</p> <p>Etc.</p>	<p>Three advantages</p> <p><b>5 marks each.</b></p>
3(iii)		<p>The evaporation from the end grain can be slowed by painting the ends with a bituminous paint.</p> <p>Small pieces of wood can be nailed over the end grain.</p>	<p>One method</p> <p><b>7 marks.</b></p>

Q.	SKETCHES	NOTES	MARKS
4A (i)		<p>When turning a long, thin piece of wood on the lathe it will tend to wobble and vibrate. This in turn will cause the gouge or chisel to chatter and produce a rough finish. This can be more dangerous. You need a lathe with a longer bed to turn the cue in one length.</p>	8 marks.
4A (ii)		<p><b><u>Finish</u></b>  Varnish  Lacquer  Danish Oil</p> <p><b><u>Reasons for choice</u></b>  The finish is transparent so you can see the lovely wood grain.  Easy to keep the cue clean.  The cue will slide more freely.  Easy to apply.</p> <p><b><u>Application of finish</u></b>  Good sanding using medium then smooth sandpaper.  Wipe away all dust.  Sand between coats or use wire wool.  Light coats.</p>	<p>Any one 2 marks.</p> <p>Two reasons 5 marks each.</p> <p>8 marks</p>

Q.	SKETCHES	NOTES	MARKS
4A (iii)		<p>Ensure the tool rest is set at the correct level.  Check the wood for loose knots and cracks.  Keep long hair tied back.  Loose or long sleeves should be rolled up.  Tuck a tie or scarf inside your shirt / blouse.  Wear eye protection.  etc.</p>	<p>Any three  <b>4 marks each.</b></p>
4B (i)		<p><b><u>Method 1</u></b>  Tape the drawing to the wood . 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.</p> <p><b><u>Method 2</u></b>  The piece of paper with the drawing could be fixed down to the wood using a light adhesive. You can now carve through the paper into the wood beneath.</p> <p><b><u>Method 3</u></b>  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.</p>	<p>Notes and sketches  <b>16 marks.</b></p> <p>Notes only  or  sketches only  <b>12 marks.</b></p>

<p><b>4B (ii)</b></p>		<p>V-tool Veiner Small gouge</p>	<p>Name <b>2 marks.</b></p> <p>Diagram <b>10 marks.</b></p>
<p><b>4B (iii)</b></p>		<p><b><u>Chip carving</u></b> One of the simplest forms of carving. Based on geometric shapes, usually triangles. Patterns are repeated again and again. Usually used to decorate plates etc.</p> <p><b><u>Relief Carving</u></b> The background is cut away to raise the picture or design. This gives a three dimensional effect to the picture. The background can be given a texture using punches.</p> <p><b><u>Carving in the round</u></b> This is carving to form a three-dimensional shape. It is making a sculpture in wood. It is the most difficult form of carving.</p>	<p>Any one type of carving.</p> <p>Notes and sketches <b>12 marks.</b></p> <p>Notes only or sketches only <b>9 marks.</b></p>

Q.	SKETCHES	NOTES	MARKS
5(i)		<p>Some type of door hinged at the top to allow gravity close it. It would have to swing in and swing out.</p> <p>A door hinged at the side would have to be closed with a spring mechanism. Again it would have to open inwards and outwards.</p> <p>A heavy curtain material or piece of carpet could be fixed to the top to hang down over the opening.</p>	<p>Notes and sketches <b>16 marks</b></p> <p>Notes only or sketches only <b>12 marks</b></p>
5(ii)		<p>Fixing handles to the sides would make it easier to carry. Two on each side.</p> <p>Hand grips could be cut in to the sides as an alternative to using screw on handles.</p> <p>Two wheels attached at the back would mean it could be rolled along like a wheelbarrow.</p>	<p>Notes and sketches <b>14 marks.</b></p> <p>Notes only or sketches only <b>10 marks.</b></p>

Q.	SKETCHES	NOTES	MARKS
5(iii)		<p><b><u>Reasons</u></b>            It comes in large sheets.            It is very strong.            It has good weather resistance.            It takes nails and screws well.            It takes a finish well.            Etc.</p>	<p>Any two reasons  <b>5 marks each.</b></p>

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