



JUNIOR CERTIFICATE 2007

**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.

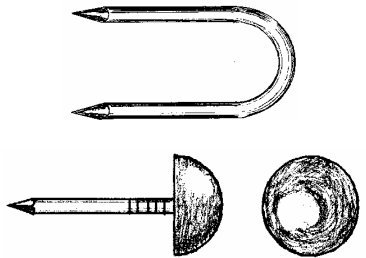
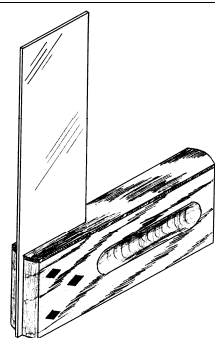
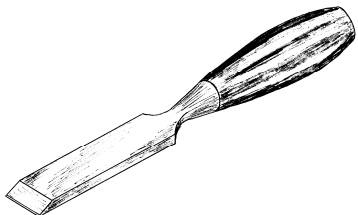
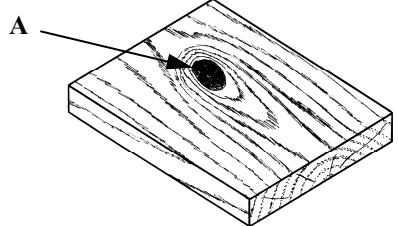
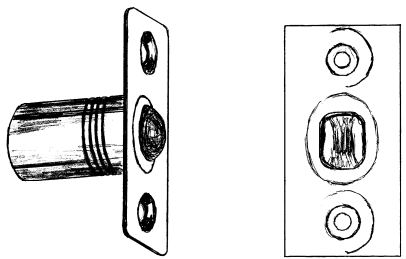
SECTION A - Short Answers

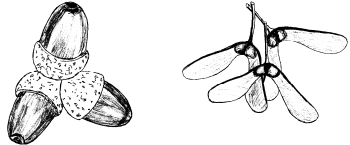

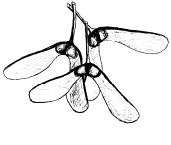
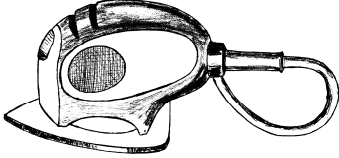
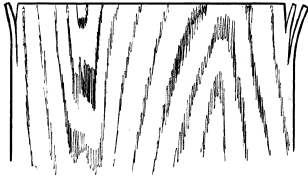
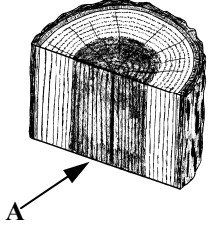

Mark all questions, select the best 16 questions


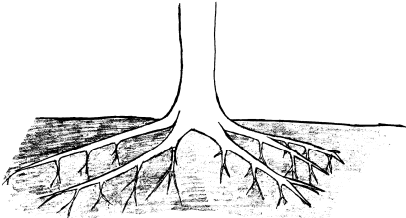
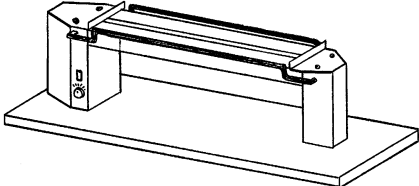
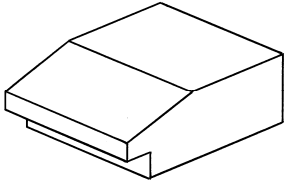
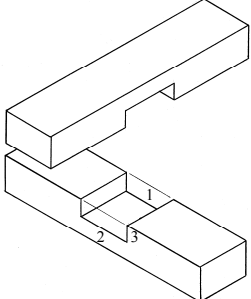
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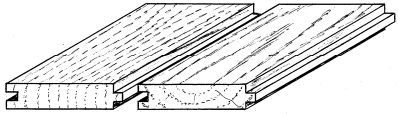
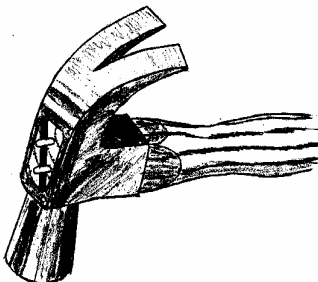
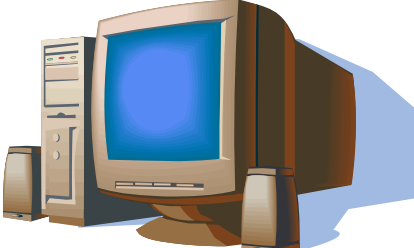
Divide the final mark by 2 on completion of marking.

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

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
1.	<p>Staple</p> <p>Upholstery nail</p>	<p>Either one, 3 marks.</p> <p>Both 5 marks.</p>	
2a.	<p><i>Name:</i> Try Square</p> <p><i>Use:</i> Used to check angles are right angles. Used to square lines across wood.</p>	<p>Either one, 3 marks.</p> <p>Both 5 marks.</p>	
OR 2b.	<p><i>Name:</i> Firmer Chisel</p> <p><i>Use:</i> Trenching, making chamfers, chopping out, shaping etc.</p>	<p>OR</p> <p>Either one, 3 marks.</p> <p>Both 5 marks.</p>	
3.	<p>Knot</p> <p>Dead knot</p> <p>Live knot</p>	5 marks.	
4.	<p><i>Name:</i> Ball Catch</p> <p><i>Use:</i> Used to keep a door closed where a lock is not necessary.</p>	<p>Either one, 3 marks.</p> <p>Both 5 marks.</p>	

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
5.	A: Oak B: Sycamore	Either one, 3 marks. Both 5 marks.	 <p>A:  B: </p>
6.	Sander	5 Marks	
7.	Work in a dry environment. Wear protective eye equipment. Keep the cable well away from the work. Ensure the cable and plug are in good condition. Etc.	Any one, 3 marks. Two rules, 5 marks.	
8.	Plane from the edge inwards to about half way. Then plane in a similar manner from the other edge inwards. Use a shooting board and block.	5 marks	
9.	Heartwood Heart	5 marks	
10.	Fencing posts ——— Air Floorboards ——— Kiln Shelving ——— Kiln Dog kennel ——— Air Kitchen table ——— Kiln	1 mark per correct answer.	
11.	Tension.	5 marks.	

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
12.	Slows down the drying of the end grain. Reduces the risk of end splits.	5 marks.	
13.	Slow	5 marks.	
14.	Anchors the tree. Sucks up water. Sucks up minerals/food for the tree. Can store food for the tree.	5 marks.	
15.	Used to heat thermoplastics along a bend line.	5 marks.	
16.	Usually used to mark chamfers. Used to help draw a line parallel to the edge of a piece of wood.	5 marks	
17.	Three lines to be added	5 marks	

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
18.	Tongue and groove.	5 marks.	
19.	Used to pull nails.	5 marks.	
20.	Designing projects/CAD CNC work Research (Internet) Managing stock levels Writing reports.	5 marks.	

SECTION A

Note

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



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**MATERIALS TECHNOLOGY
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SECTION B

NOTE

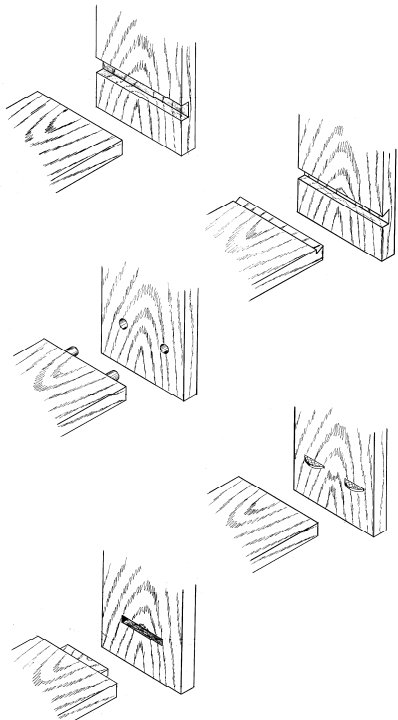
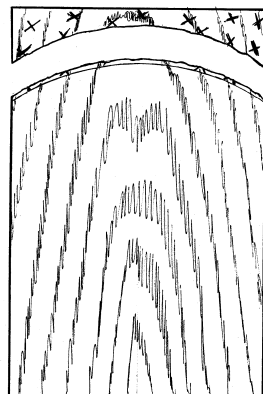
Please ensure that totals for each question are divided by TWO before entering marks on marking sheets.

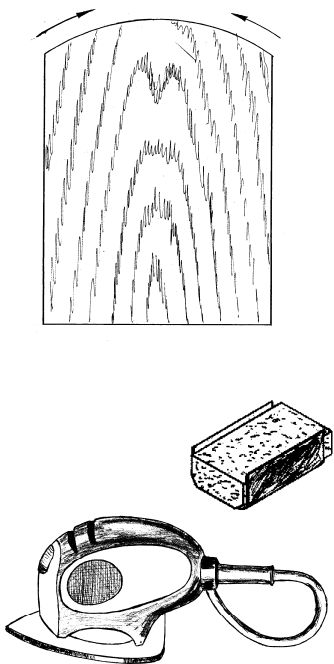
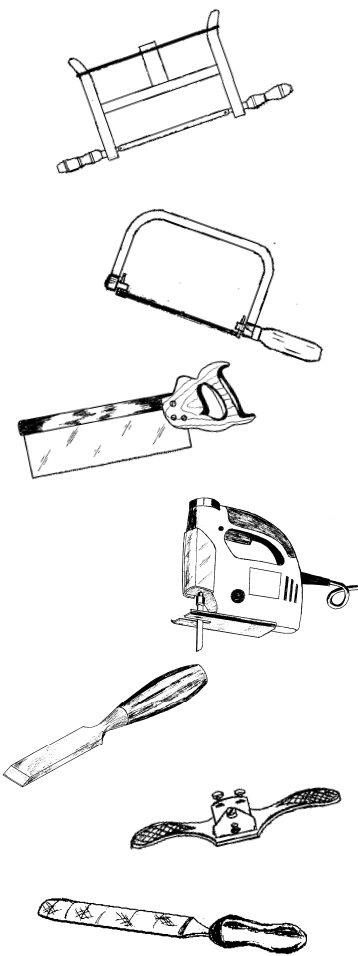
SECTION B

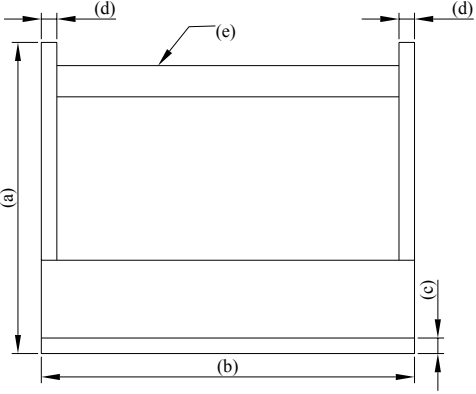
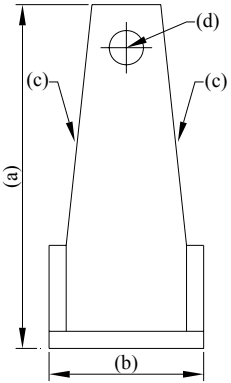
Mark for best three questions.

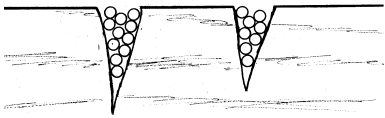
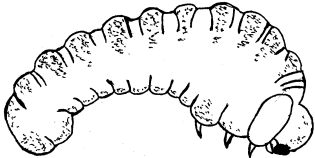

This section is marked out of 120 marks.

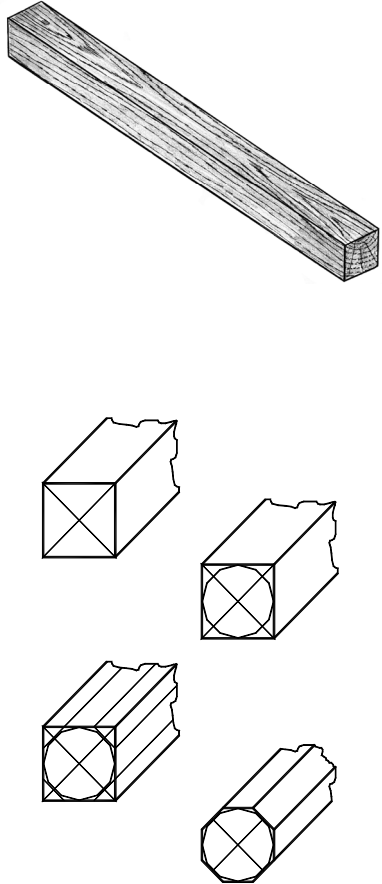
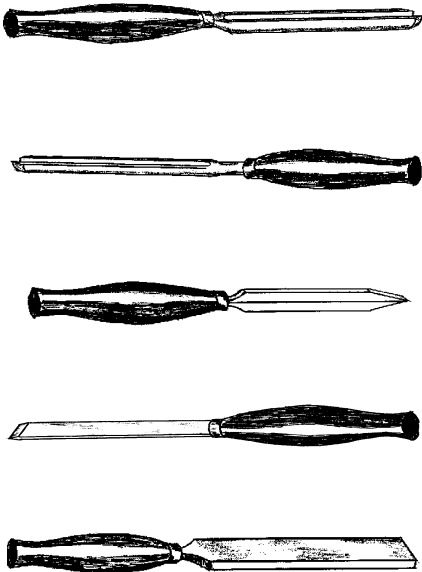
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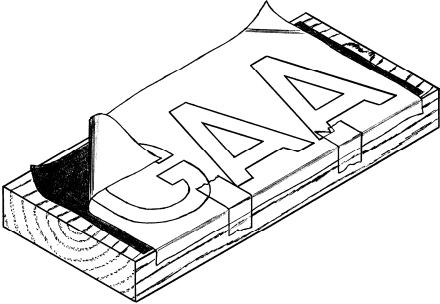
Q.	SKETCHES	NOTES	MARKS
1(i)		<p>Housing joint Dovetail housing Dowel joint Biscuit joint Stub tenon</p> <p>Nails and glue. Screws and glue.</p>	<p>Notes and sketches 16 marks. Notes only or sketches only 12 marks.</p> <p>Notes and sketches 12 marks. Notes only or sketches only 9 marks.</p>
1(ii)		<p>Cut on the waste side of the line using a saw suitable for curved work e.g. bandsaw, scroll saw, jigsaw, coping saw etc.</p> <p>Alternatively the waste could be taken off in stages using straight line cuts using the tenon saw.</p> <p>The roughness left by the saw can now be smoothed out using a spokeshave, rasp, surform or a small plane.</p> <p style="text-align: right;">(Cont.)</p>	<p>Notes and sketches 12 marks.</p> <p>Notes only or sketches only 9 marks.</p>

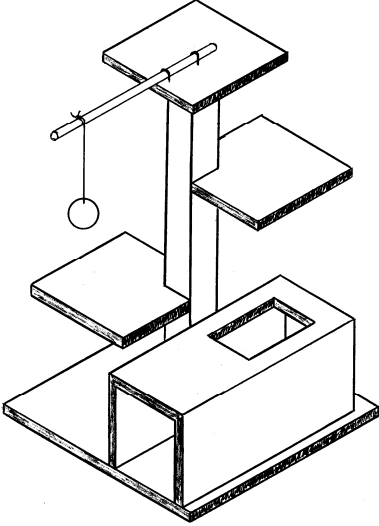
Q.	SKETCHES	NOTES	MARKS
1(ii)		<p>(Cont.) Work from the edges inwards to avoid chipping the sides. Note that the curve is across the end grain. Finish with medium sandpaper and then fine sandpaper. Use a sanding block. An electric sander could also be used.</p>	<p>Notes and sketches 12 marks.</p> <p>Notes only or sketches only 9 marks.</p>
1(iii)		<p><u>Sawing</u> Coping saw Bandsaw Scroll saw Fret saw Jigsaw Tenon saw</p> <p><u>Shaping</u> Spokeshave Rasp Surform Block Plane Chisel</p>	<p>2 marks for each name.</p> <p>4 marks for diagram</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) Base thickness</p> <p>(d) Thickness of sides</p> <p>(e) Dowel</p>	<p>4</p> <p>4</p> <p>4</p> <p>4</p> <p>4</p>
2(ii)	 <p style="text-align: center;">END VIEW</p>	<p>(a) Overall height</p> <p>(b) Overall width</p> <p>(c) Sloping of sides</p> <p>(d) Dowel centre</p>	<p>4</p> <p>4</p> <p>4</p> <p>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>4</p> <p>2</p>

Q.	SKETCHES	NOTES	MARKS
3(i)	  	<p><u>Eggs</u> The female lays eggs in cracks and crevices on the wood surface. She will not lay eggs on very smooth surfaces.</p> <p><u>Larva</u> The eggs hatch into little grubs. These grubs bore into the wood, eating their way through it forming tunnels. They grow over the next 2-3 years.</p> <p><u>Pupa</u> The grub changes into a pupa or chrysalis near the wood surface. During this stage the grub changes into a beetle.</p> <p><u>Adult</u> The beetle eats its way to the surface forming the circular exit hole. The adult searches for a mate to begin the cycle again.</p>	<p>Notes and sketches 6 marks per heading</p> <p>Notes only or sketches only 4 marks per heading.</p>
3(ii)		<p><u>Treatment</u> If the wood is badly effected it could be cut out and replaced with new. Infected wood should be liberally treated with insecticide making sure that all the surfaces are treated both inside and outside. Try to inject insecticide into the exit holes. Apply also to adjoining furniture in case it is infected.</p>	16 marks.

Q.	SKETCHES	NOTES	MARKS
<p>4A (i)</p>		<p>Join the corners / diagonals to find the centre of the wood. Draw a circle on the ends with a compass. Mark out the corners that will be removed. When these are removed it will reduce the knocking and vibration when turning initially. Plane the corners off to form a roughly octagonal shape. The piece is now ready for mounting on the lathe.</p>	<p>3 steps 6 marks each.</p>
<p>4A (ii)</p>		<p>Roughing gouge Spindle gouge Parting tool Skew chisel Square end scrapper Curved scrapper Etc.</p> <p>Diagrams of turning tool.</p>	<p>Tool name 3 marks.</p> <p>Diagram 9 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 two at 5 marks each.</p>
4B (i)		<p>The design which has been drawn out on a piece of paper is being transferred to a piece of wood using carbon paper. The design is secured in position using tape to stop it from moving during the process. By drawing over the original design a copy is produced on the timber.</p>	<p>15 marks.</p>

Q.	SKETCHES	NOTES	MARKS
5(i)		<p>Material for platforms.</p> <p>Reason for choice.</p> <p>Material for central post.</p> <p>Reason for choice.</p>	<p>4 marks.</p> <p>Reason 5 marks.</p> <p>4 marks.</p> <p>Reason 5 marks.</p>
5(ii)		<p><u>Design change.</u></p> <p>Using a round pole. Curved shape to platforms. Carving designs on the surface of the platforms. Using a piece of pipe for the tunnel or bending a piece of perspex. Use of colour to enhance design. Use of fabric on the platforms.</p> <p>Etc.</p>	<p>Notes and sketches 15 marks.</p> <p>Notes only or sketches only 12 marks.</p>

Q.	SKETCHES	NOTES	MARKS
5(iii)		<p>Finish Non-toxic paint Oil Varnish Fabric</p> <p>Reasons for choice Two reasons to support the choice of finish.</p>	<p>Finish 3 marks.</p> <p>Two reasons for choice of finish 2 marks each.</p>

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