



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Junior Certificate 2013

Marking Scheme

Materials Technology Wood

Ordinary Level

Note to teachers and students on the use of published marking schemes

Marking schemes published by the State Examinations Commission are not intended to be standalone documents. They are an essential resource for examiners who receive training in the correct interpretation and application of the scheme. This training involves, among other things, marking samples of student work and discussing the marks awarded, so as to clarify the correct application of the scheme. The work of examiners is subsequently monitored by Advising Examiners to ensure consistent and accurate application of the marking scheme. This process is overseen by the Chief Examiner, usually assisted by a Chief Advising Examiner. The Chief Examiner is the final authority regarding whether or not the marking scheme has been correctly applied to any piece of candidate work.

Marking schemes are working documents. While a draft marking scheme is prepared in advance of the examination, the scheme is not finalised until examiners have applied it to candidates' work and the feedback from all examiners has been collated and considered in light of the full range of responses of candidates, the overall level of difficulty of the examination and the need to maintain consistency in standards from year to year. This published document contains the finalised scheme, as it was applied to all candidates' work.

In the case of marking schemes that include model solutions or answers, it should be noted that these are not intended to be exhaustive. Variations and alternatives may also be acceptable. Examiners must consider all answers on their merits, and will have consulted with their Advising Examiners when in doubt.

Future Marking Schemes

Assumptions about future marking schemes on the basis of past schemes should be avoided. While the underlying assessment principles remain the same, the details of the marking of a particular type of question may change in the context of the contribution of that question to the overall examination in a given year. The Chief Examiner in any given year has the responsibility to determine how best to ensure the fair and accurate assessment of candidates' work and to ensure consistency in the standard of the assessment from year to year. Accordingly, aspects of the structure, detail and application of the marking scheme for a particular examination are subject to change from one year to the next without notice.

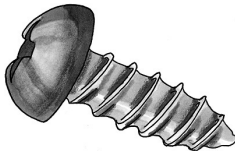
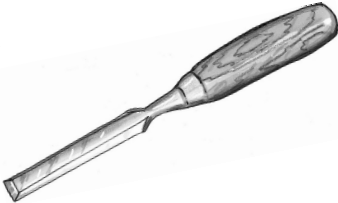
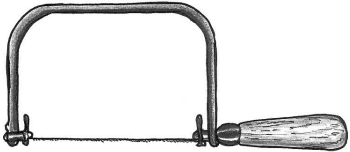
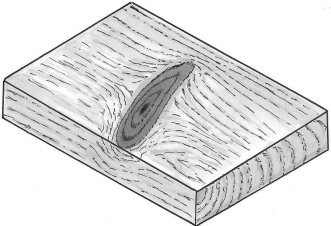
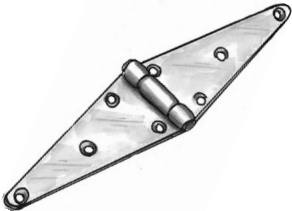
SECTION A - Short Answers

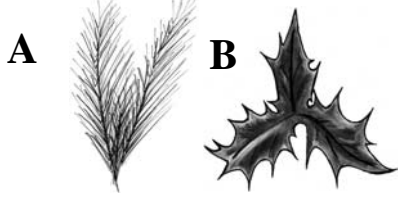



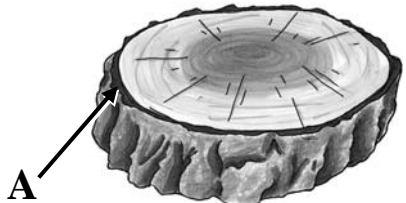
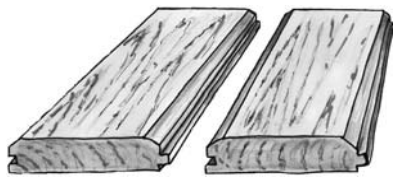
Mark all questions, select the best 16 questions

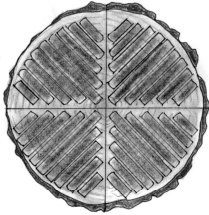
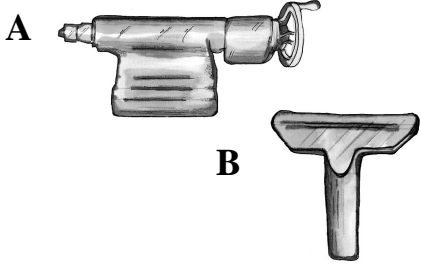
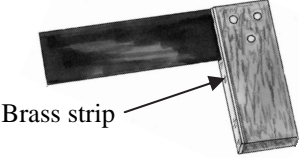
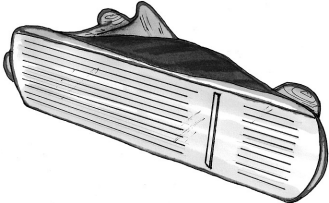
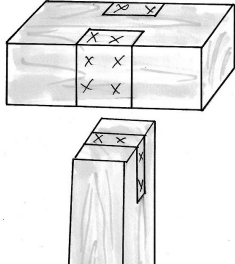
This section is marked out of 80 marks.


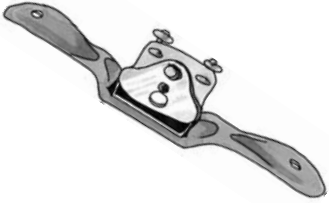
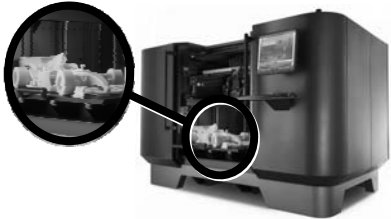
Divide the final mark by 2 on completion of marking.

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

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
1.	Round Head Screw	5 marks.	
2a.	<p><i>Name:</i> Chisel, bevel edged chisel</p>	<p>Either one, 3 marks.</p>	<p>A</p> 
<u>OR</u>	<p><i>Use:</i> Paring of joints, chamfers, etc.</p>	<p>Both 5 marks.</p>	
2b.	<p><i>Name:</i> Coping saw</p> <p><i>Use:</i> Used to cut along curved lines.</p>	<p><u>OR</u></p> <p>Either one, 3 marks.</p> <p>Both 5 marks.</p>	<p>B</p> 
3.	Knot, dead knot	5 marks.	
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, 3 marks.</p> <p>Both 5 marks.</p>	

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
5.	A: Pine B: Holly	Either one, 3 marks. Both 5 marks.	
6.	Electric router	5 Marks	
7.	Any two relevant activities	Any one, 3 marks. Two rules, 5 marks.	
8.	One relevant function e.g. Provide extra strength/ rigidity to the cutting plane, To curl and guide shavings To prevent tearing of the wood	5 marks	
9.	Bast/Inner Bark	5 marks	
10.	Scots Pine- SoftWood Oak - HardWood Horse Chestnut - HardWood Ash - HardWood Norway Spruce- SoftWood	1 mark per correct answer.	
11.	Tongue and Groove Joint	5 marks.	

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
12.	Quarter/Radial Sawing	5 marks.	
13.	A— Tailstock B— Toolrest	Either one, 3 marks. Both 5 marks.	
14.	Any two relevant advantages: Conservation Cost Large boards available Etc.	Any one, 3 marks. Both 5 marks.	
15.	Reduce wear of the wood from friction Protects the handle from damage	5 marks.	
16.	To avoid damage to the blade or bench	5 marks.	
17.	Lines for tenon	5 marks.	

Q.	SOLUTION	MARKS	DIAGRAM (IF ANY)
18.	To put less strain on the wood and avoid splits,	5 marks.	
19.	Planing curves on wood	5 marks.	
20.	<p>Any relevant use:</p> <p>Cost effective</p> <p>Less waste</p> <p>etc</p>	5 marks.	

SECTION A

Note

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



JUNIOR CERTIFICATE 2013
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.



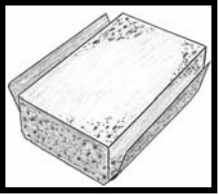

SECTION B

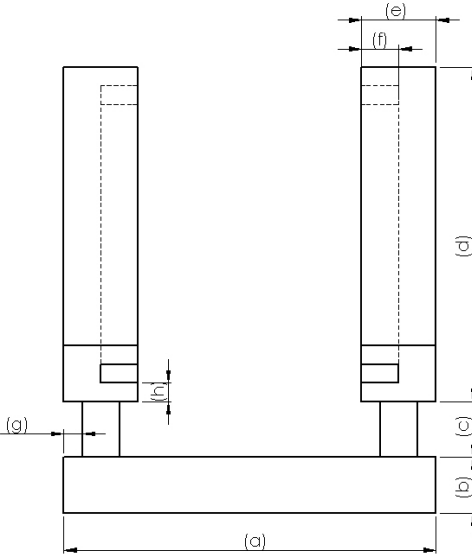
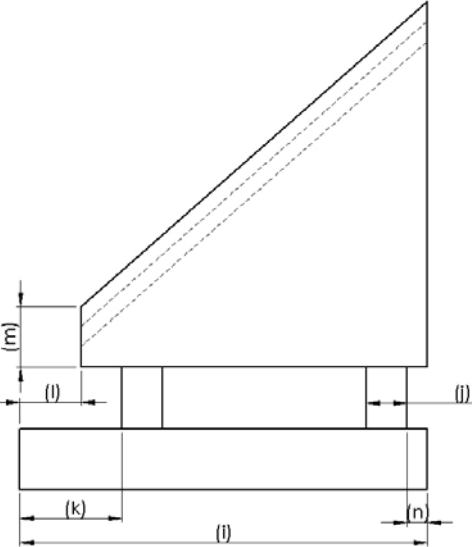
Mark for best three questions.



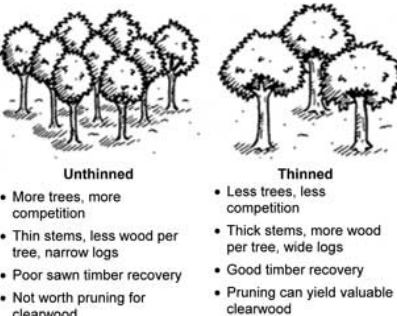

This section is marked out of 120 marks.

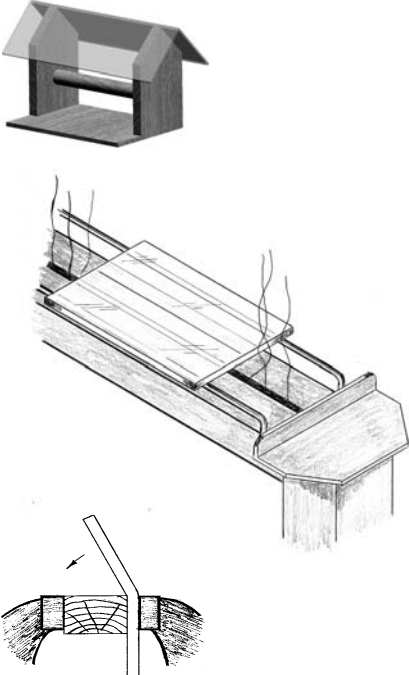
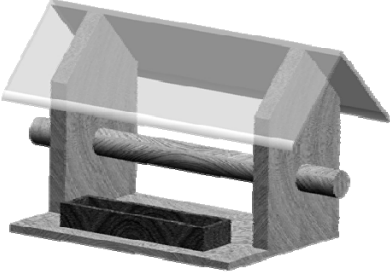

Divide the final mark by 2 on completion of marking

Q.	SKETCHES	NOTES	MARKS
1(i)	   	<p>One suitable method of hollowing out the inside of the wallet:</p> <p>Any relevant method with neat freehand sketches.</p> <p>E.g.</p> <p>Drilling Chiselling Mortising</p> <p>Etc.</p>	<p>Notes and sketches 18 marks.</p> <p>Notes only or sketches only 12 marks.</p>


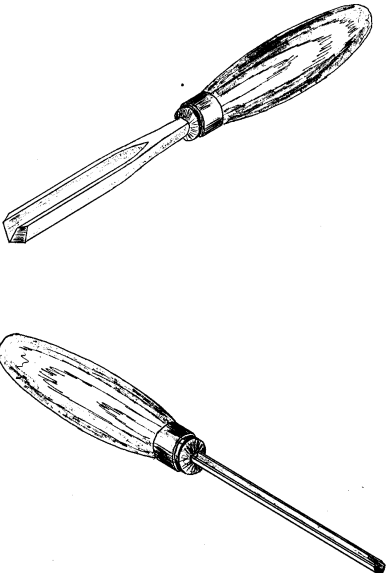
Q.	SKETCHES	NOTES	MARKS
1(ii)	  	<p>When rounding along the grain a plane would give a good finish. A rasp or surform could also be used but would give a poor finish.</p> <p>The edges across end-grain could be planed but care must be taken. It is very easy to chip the edges. Plane towards the end-grain of the piece. Again a rasp or surform could be used, working towards the end grain.</p> <p>Sanding should be done with the paper wrapped around a sanding block. Start with medium grade paper and work towards fine. Sand along the grain.</p>	<p>Notes and sketches 16 marks.</p> <p>Notes only or Sketches only 12 marks.</p>
1(iii)		<p>Finish: Non-toxic paint Oil Varnish</p> <p>Reasons for choice: Two reasons to support the choice of finish</p>	<p>2 marks for name.</p> <p>2 marks for each of two reasons.</p>

Q.	SKETCHES	NOTES	MARKS
2(i)	 <p style="text-align: center;">ELEVATION</p>	<p>(a) Overall length</p> <p>(b) Height of base</p> <p>(c) Height of dowel</p> <p>(d) Height of stand</p> <p>(e) Width of sides</p> <p>(f) Width of groove</p> <p>(g) Width of spacing</p> <p>(h) Height of groove</p>	<p>4</p> <p>4</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p>
2(ii)		<p>(i) Width of stand</p> <p>(j) Width of dowel</p> <p>(k) Width to dowel</p> <p>(l) Width to top</p> <p>(m) Height of front</p> <p>(n) Space at back</p>	<p>4</p> <p>2</p> <p>2</p> <p>2</p> <p>2</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>Trees of mainly same age as opposed to different ages Trees of mainly same type as opposed to variety of indigenous trees Spacing, replanting and management of trees in managed forests Etc.</p>	<p>Any two 4 marks each.</p>
3(ii)		<p>Thinning After about fifteen years the trees are thinned out to give the trees that are left more space to grow. Trees with poor growth, bent trunks are chosen for thinning</p>	<p>10 marks</p>
3(iii)	 <p>Unthinned</p> <ul style="list-style-type: none"> • More trees, more competition • Thin stems, less wood per tree, narrow logs • Poor sawn timber recovery • Not worth pruning for clearwood <p>Thinned</p> <ul style="list-style-type: none"> • Less trees, less competition • Thick stems, more wood per tree, wide logs • Good timber recovery • Pruning can yield valuable clearwood 	<p>Thinning creates more space for remaining trees to grow, enables remaining trees to increase in height and width. Thinnings are sold and increase the revenue of the forest owner</p>	<p>2 reasons 5 marks each.</p>
3(iv)		<p>Pulpwood to make chipboard and M.D.F. Fencing posts Pallets Paper Etc.</p>	<p>Any two 6 marks each</p>

Q.	SKETCHES	NOTES	MARKS
4 (i)		<p>1. Draw a line on the sheet of acrylic, showing clearly where the bend should be.</p> <p>2. Place the sheet on a strip heater, ensuring that the bend line is being heated.</p> <p>3. When it is hot enough, place a piece of waste wood with a 90° angle against the acrylic and hold them both in the vice.</p> <p>4. Bend the sheet around the wood.</p>	<p>Notes and sketches 16 marks.</p> <p>Notes only or Sketches only 12 marks.</p>
4 (ii)		<p>Any two relevant changes with neat freehand sketches</p> <p>Inclusion of secure place to put food and water E.g. fixed container Hooks to hang food cages from etc.</p>	<p>Notes and sketches 16 marks.</p> <p>Notes only or Sketches only 12 marks.</p>
4 (iii)		<p>Suitable applied finish such as Oil finish, Shellac, Water based finish</p> <p>2 reasons: Safe for birds, protection of environment, appearance etc.</p>	<p>2 marks for name.</p> <p>3 marks for each of two reasons.</p>

Q.	SKETCHES	NOTES	MARKS
5A(i)		<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>Notes and sketches 16 marks.</p> <p>Notes only or sketches only 12 marks.</p>
5A(ii)		<p>Name and sketch of one tool used to determine the diameter of the skittles</p>	<p>Name tool 4 marks.</p> <p>Sketch 8 marks.</p>
5A (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 with reason given 4 marks each.</p>

Q.	SKETCHES	NOTES	MARKS
5B (i)		<p>Method 1 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>Method 2 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>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.</p>	<p>Notes and sketches 16 marks.</p> <p>Notes only or Sketches only 12 marks.</p>
5B (ii)		<p>Name and neat freehand sketch of one carving tool</p>	<p>4 marks for name.</p> <p>6 marks for sketch.</p>

5B (iii)



Chip carving

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.

Relief Carving

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.

Carving in the round

This is carving to form a three-dimensional shape. It is making a sculpture in wood. It is the most difficult form of carving.

Notes and sketches
14 marks.

Notes only
or
sketches
only
10 marks.

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

