

**Junior Certificate Examination, 2002.**

8436

**Materials Technology (Wood)**

**Monday 17 June - Morning 9.30 - 11.30**

**Section A - Ordinary Level.**  
**40 marks.**

Examination number

**INSTRUCTIONS**

- 1. Answer any 16 questions from this section. All questions carry equal marks.
- 2. Answer questions in the spaces provided.
- 3. Write your examination number in the box provided and on all other pages used.
- 4. This booklet must be handed up at the end of the examination.

FOR EXAMINERS USE	
SECTION A - TOTAL	
1.	
2.	
3.	
4(a) or 4(b).	
5.	
Overall Total	

Centre number.

**THIS BOOKLET MUST BE  
HANDED UP**

**SECTION A - 40 MARKS**

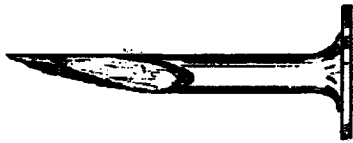
Answer any 16 questions from this section. All questions carry equal marks.

1. From the list given, identify the nails shown.

A



B



Cut tack

Upholstery nail

Staple

Panel pin

Oval wire nail

Round wire nail

NAME A

NAME B

2. Name **one** of the tools labelled A and B in the diagram and give its use.

A:- NAME

USE

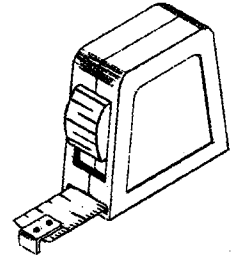
OR

B:- NAME

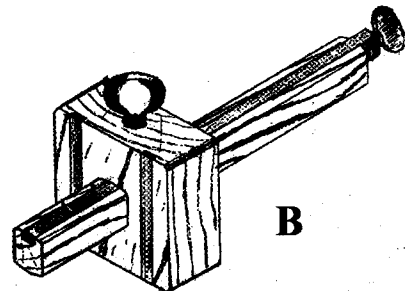
USE

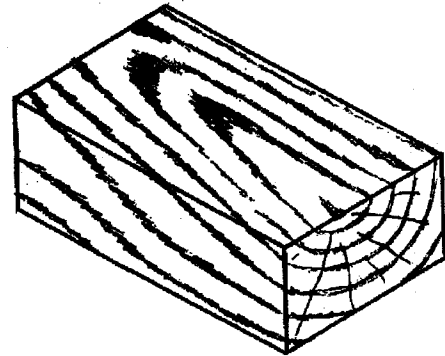
A



B



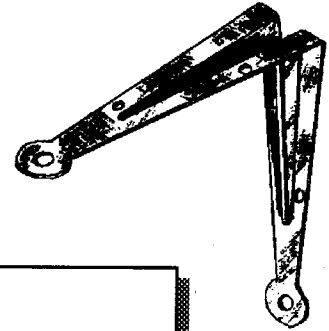
3. Show by means of an arrow which surface of the wood is **end grain**.



4. Name the fitting shown and give its correct use.

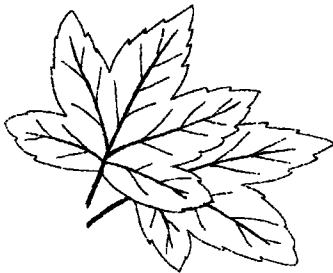
NAME

USE

5. State from which trees in the list these leaves come.

A



B

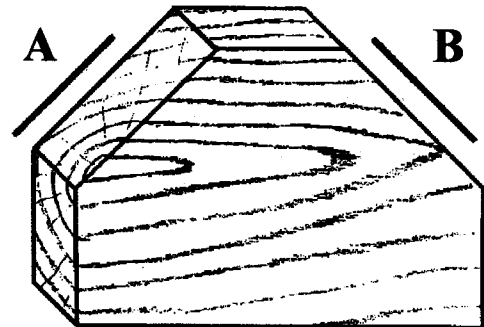


ASH  
HOLLY  
OAK  
LIME  
HORSECHESTNUT  
SYCAMORE

NAME A

NAME B

6. Complete the arrows at A and B to show the correct direction in which the wood should be planed to give a smooth finish.

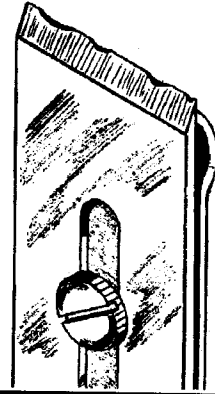


7. List two precautions that should be followed when varnishing a piece of furniture.

1.

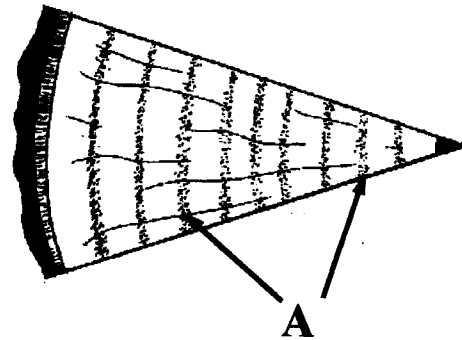
2.

8. How could a plane blade get damaged as shown in the sketch?



ANSWER

9. A tree adds a new annual ring every year. During what season of the year, **spring** or **autumn**, is the darker part shown at A, of each ring added?



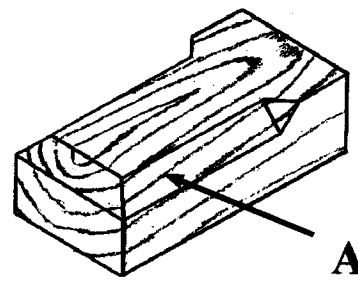
ANSWER

10. Show by means of an 'X' which of the following are **natural defects**, caused as a tree grows or are defects caused in **other** ways such as bad felling, conversion or seasoning.

- Knot
- End splits
- Warping
- Heart Rot
- Spiral grain

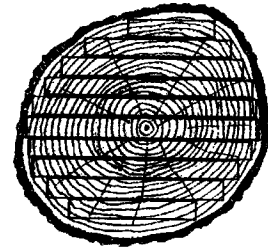
	Natural	Other
Knot		
End splits		
Warping		
Heart Rot		
Spiral grain		

11. Name the moulding shown at A in the diagram.



ANSWER

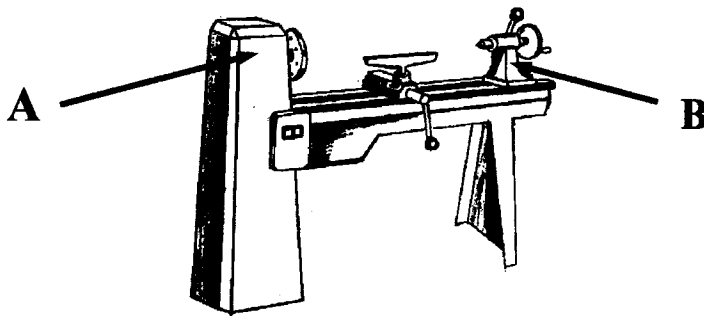
12. Logs are sawn into planks before the wood can be seasoned properly. Why is this necessary?



ANSWER

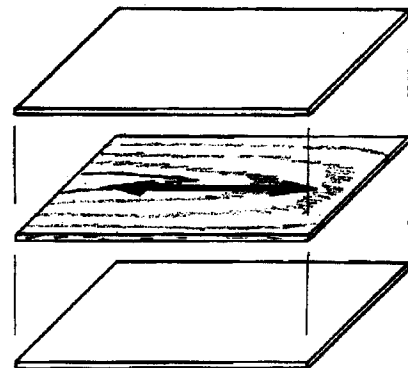

13. From the list given, name the parts of the lathe labelled A and B.



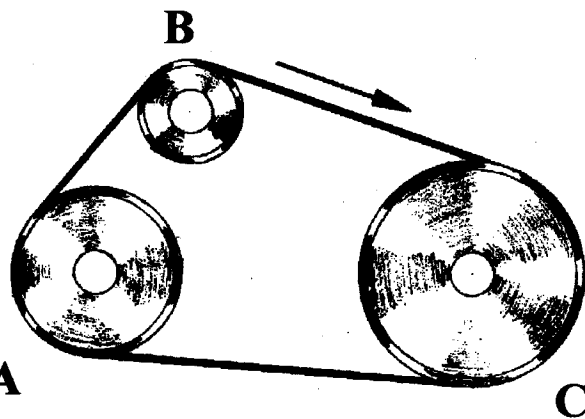
- Toolrest
- Headstock
- Faceplate
- Tailstock
- Spindle

A  B

14. The three layers of wood are to be glued together to form a sheet of plywood. Show by means of arrows the direction the grain should go in each veneer.

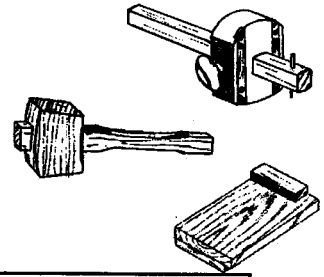


15. Pulley C is a drive pulley. Which of the other two rotates fastest, A or B?



ANSWER

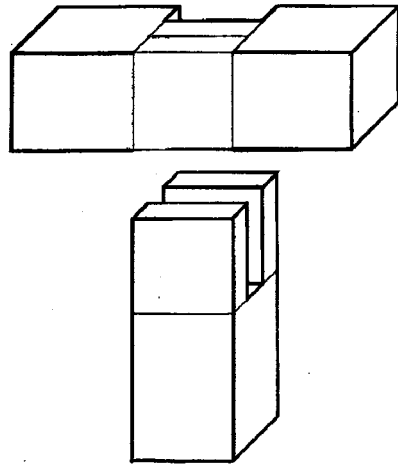
16. Woodworking tools such as a mallet, a bench hook or a marking gauge are often made from beech.  
Why is **beech** a good wood to use?



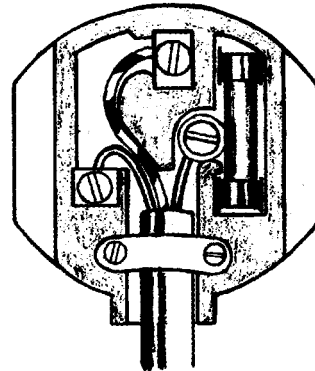
ANSWER

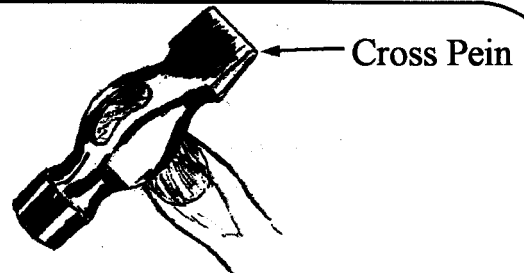
17. Complete the diagram of the **Bridle Joint** shown.



18. Using an arrow, indicate the **earth** terminal on the diagram.



19. What is the cross-pein at the top of the hammer used for?



ANSWER

20. Is the computer keyboard an **input** or an **output** device?



ANSWER

**This booklet must be handed up at the end of the examination.**

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**Junior Certificate Examination, 2002.**

**Materials Technology (Wood)**

**Monday 17 June - Morning 9.30 - 11.30**

**Section B - Ordinary Level.**

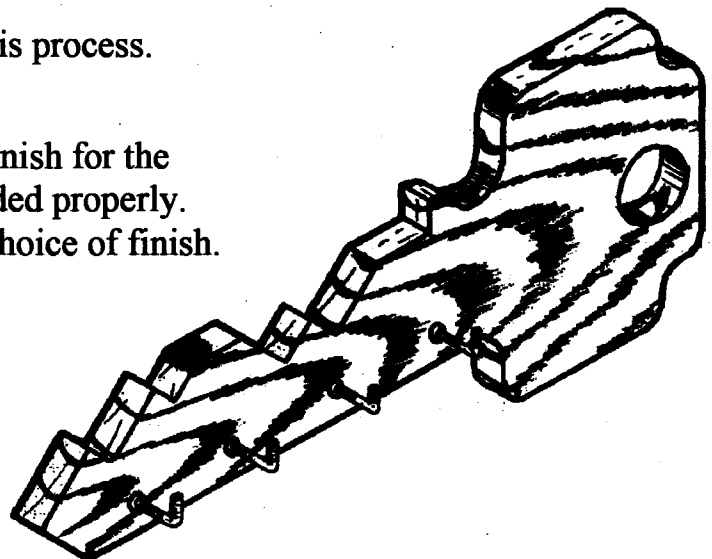
**60 marks.**

**INSTRUCTIONS**

1. Answer any **THREE** questions from this section. All questions carry equal marks.
2. Where sketches are required, they may be done freehand or on the graph paper provided.
3. Write your examination number on the answer book and on any other sheets used.

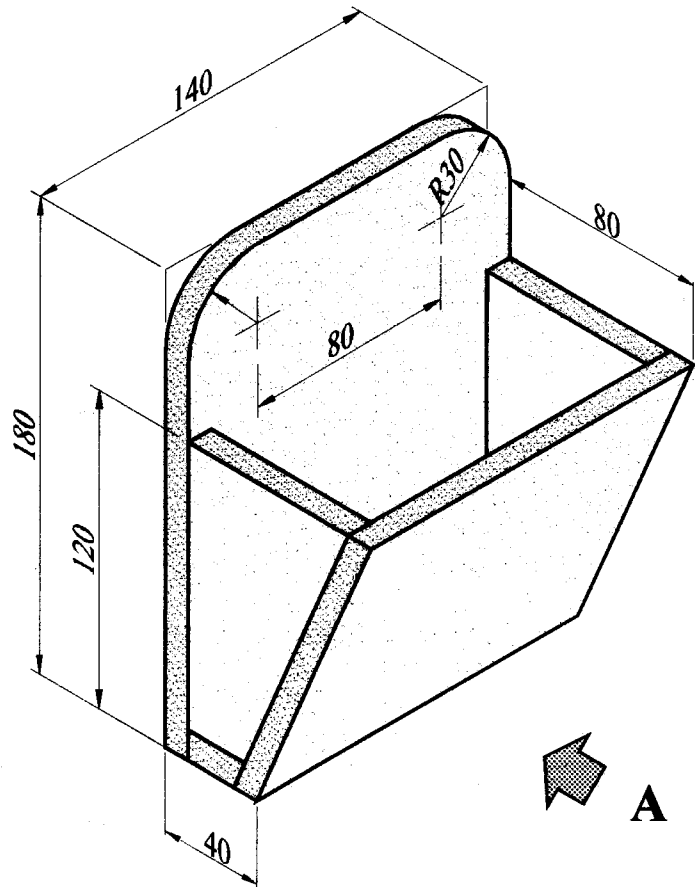
1. The diagram shows a wooden key rack.

- (i) The key shape is drawn full size on a piece of paper. Describe how the design could be transferred from the paper onto the wood.
- (ii) Describe, using notes and neat freehand sketches, how this key could be cut out and shaped.  
Name **three** tools used in this process.
- (iii) Suggest a suitable applied finish for the project after it has been sanded properly.  
Give **two** reasons for your choice of finish.



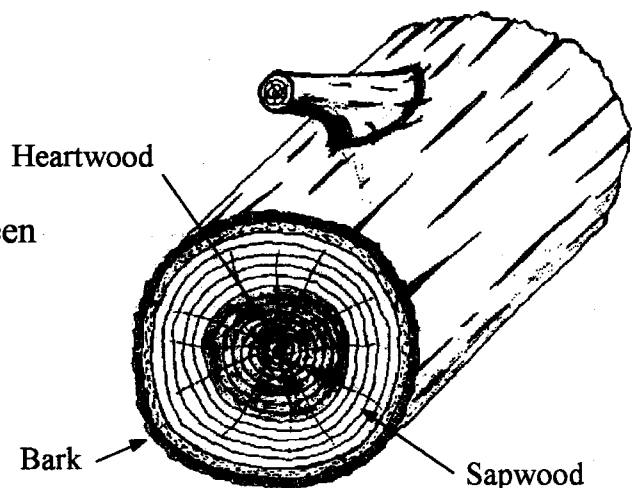
2. The diagram shows a pictorial drawing of a letter rack.  
All material is **10mm** thick.

- (i) Draw full size, a **Front Elevation** looking in the direction of arrow A.
- (ii) Project an **End Elevation** from this view.
- (iii) Include **four** main dimensions on the drawing, showing clearly dimension lines and arrowheads.



3. A diagram of the cross-section of a tree trunk is shown with some of its parts labelled.

- (i) Describe **two** functions of the bark of a tree.
- (ii) Describe **two** differences between heartwood and sapwood.
- (iii) Name and describe **one** other part of a tree cross-section.



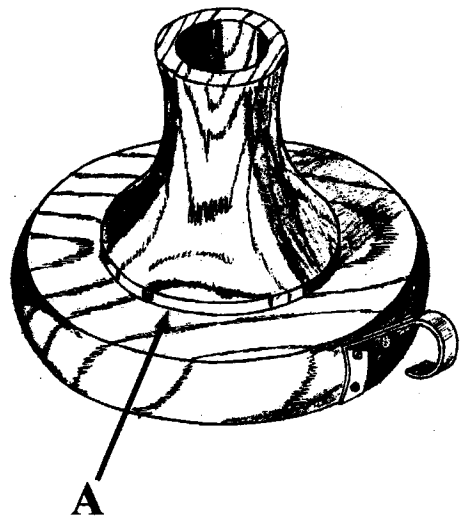
- (iv) A tree consists of three main parts, the roots, the trunk and the crown. Give **one** function of each part.

4. Answer either A or B

A.

The diagram shows a candle holder which has been turned on a lathe. It is made from two pieces of wood and is joined at A.

- (i) Make a neat diagram of each piece to show clearly how they could be joined.
- (ii) The hole for the candle must be drilled vertically and to a depth of 30mm. Explain how this could be done.
- (iii) List **two** safety rules that should be followed when using the lathe.

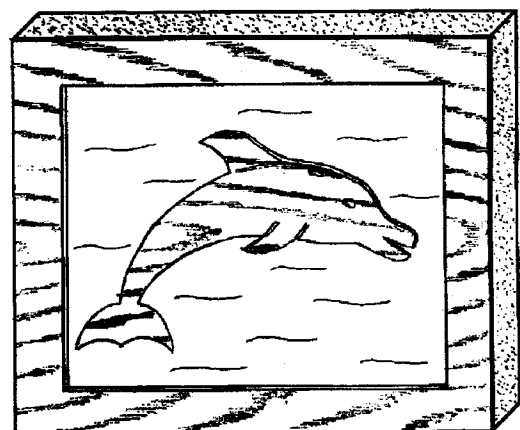


OR

B.

The diagram shows a carving project. It is made from veneered M.D.F.

- (i) Give **three** reasons why veneered M.D.F. was a good choice of material for this carving.
- (ii) Make a neat sketch of a suitable carving tool for making this project.
- (iii) The background is to be rippled to give a water effect. Describe using notes and neat freehand sketches how you could produce this effect.



5. The diagram shows a rack designed to hold video cassette cases. It is made from **two** acrylic (perspex) sheets on a solid wood base.

(i) Show by means of notes and sketches how the acrylic sheet is bent to a  $90^\circ$  angle as shown at A.

(ii) The acrylic sheets are to be screwed to the base. Explain using notes and neat freehand sketches how to drill holes for these screws without cracking the acrylic.

(iii) Using notes and neat freehand sketches, suggest **one** improvement that could be made to the design to keep the video cases upright.

