



Junior Certificate Examination, 2018

Materials Technology (Wood)

Ordinary Level

Section A (40 marks)

Monday, 18 June

Afternoon, 2:00 - 4:00

Instructions

- (a) Write your **examination number** in the box provided and on all other pages used.
- (b) This booklet **must** be handed up at the end of the examination.
- (c) Answer any **sixteen** questions.
- (d) All questions carry equal marks.
- (e) Answer the questions in the spaces provided.

Examination Number



--

Centre Number

--

1.	Total of end of page totals	
2.	Aggregate total of all disallowed question(s)	
3.	Total mark awarded (1 minus 2)	
4.	Bonus mark for answering through Irish (if applicable)	
5.	Total mark awarded if Irish Bonus (3+4)	

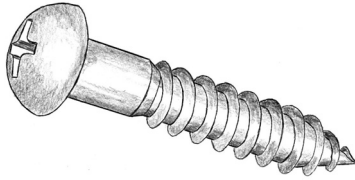
Note: The mark in row 3 (or row 5 if an Irish bonus is awarded) must equal the mark in the **Grand Total** box on the script.

Question	Marks	
Section A		
1		
2		
3		
4		
5A or 5B		
Total		
Irish Bonus		
Grand Total		

SECTION A - 40 MARKS

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

1. Identify the screw type shown using a tick (✓).



Round Head Screw

Raised Head Screw

Countersunk Head Screw

2. Name the tool labelled **A** and give one use for it.

NAME

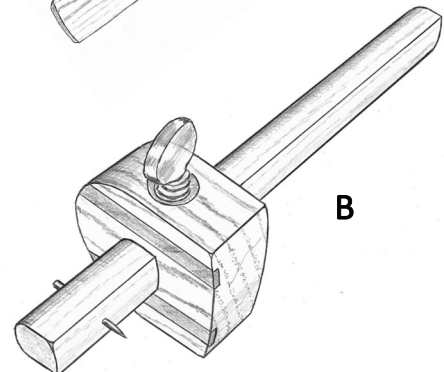
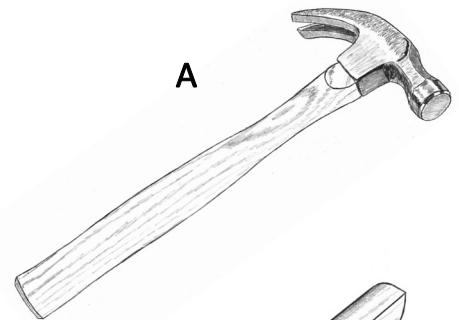
USE

OR

Name the tool labelled **B** and give one use for it.

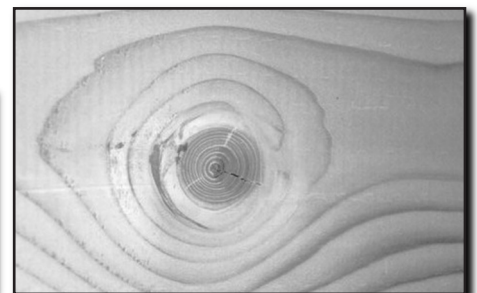
NAME

USE



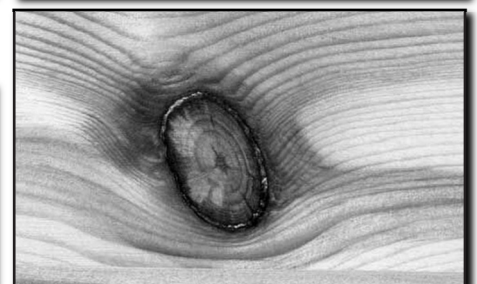
3. The diagrams show two types of knot commonly found in wood.

Live Knot



Describe **EACH** type.

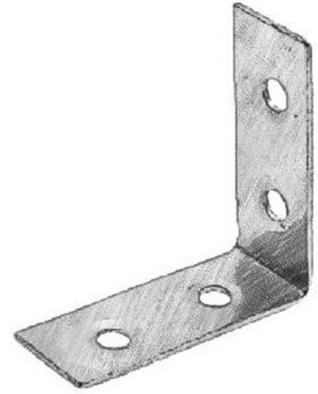
Dead Knot



4. Name the fitting shown and give one use for it.

NAME

USE



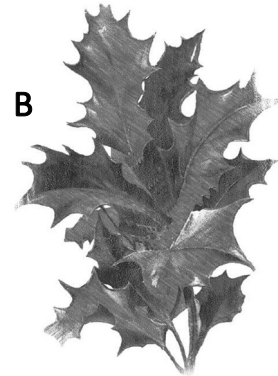
5. The diagrams A and B show the leaves of two common Irish trees. Select the correct name for each tree from the given list.

A



Ash
Holly
Oak
Lime
Sycamore
Horse Chestnut

B



TREE A

TREE B

6. Name the machine shown in the diagram.

NAME

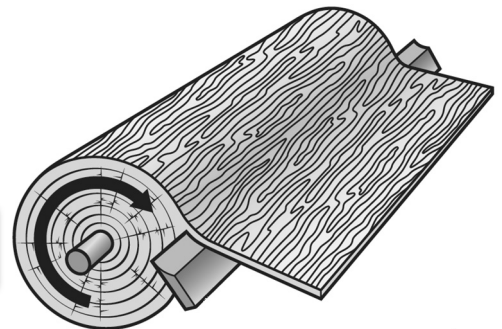


7. (i) What is the name given to the thin sheet of wood being removed from the log as shown?

NAME

(ii) What is this method of wood preparation called?

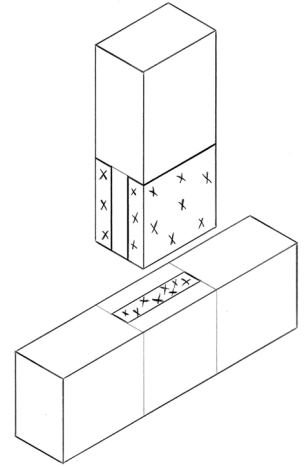
METHOD



8. The diagram shows the marking out of a common woodworking joint.

Name the joint.

NAME



9. The wood near the centre of a tree is often darker in colour.

Name this dark coloured wood shown in the cross-section.

NAME



10. Show by means of a tick (✓) what happens to the trees, listed on the left, in winter.

TREES

Keeps Leaves

Loses Leaves

Oak

Scots Pine

Holly

Ash

Douglas Fir

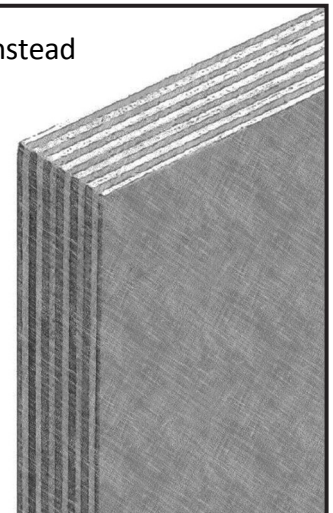
	Keeps Leaves	Loses Leaves
Oak		
Scots Pine		
Holly		
Ash		
Douglas Fir		



11. State **ONE advantage** and **ONE disadvantage** of using manufactured boards instead of solid wood.

ADVANTAGE

DISADVANTAGE

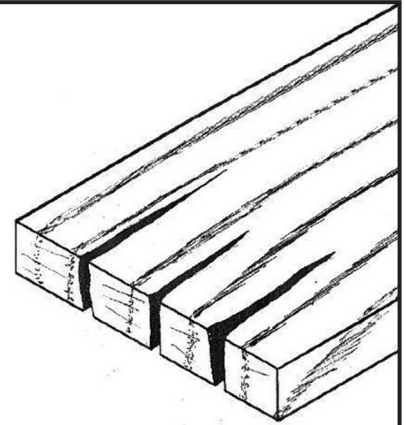


12. (i) Name the wood defect shown.

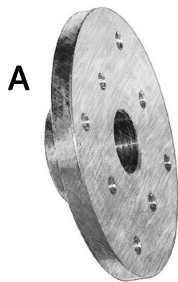
DEFECT

(ii) Describe **ONE** method of preventing this defect when wood is being seasoned.

METHOD



13. From the list given on the right, select the correct name for the lathe parts A and B shown.



- Parting Tool
- Toolrest
- Tailstock
- Faceplate
- Spindle

Part A

Part B

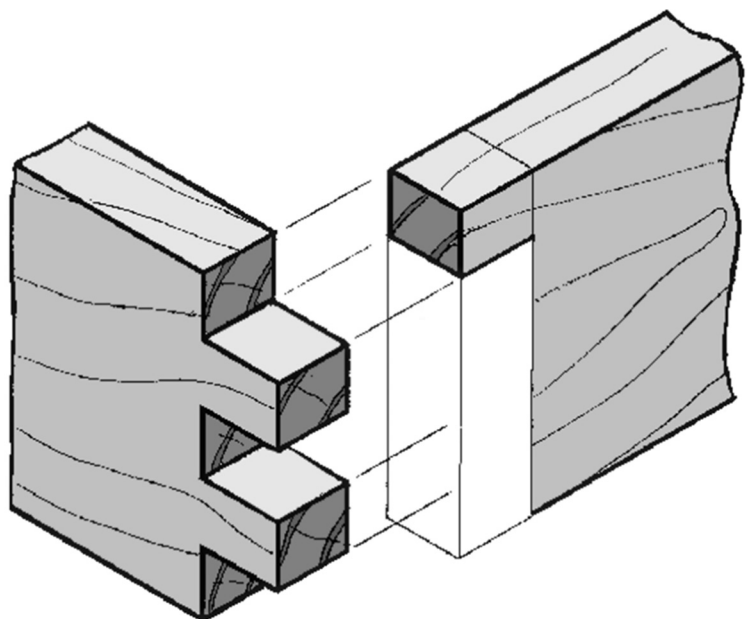
14. List **TWO** safety rules that must be followed when carrying a chisel in the workshop.

1.

2.



15. Complete the sketch of the **Finger Joint** shown. Shade your completed sketch.



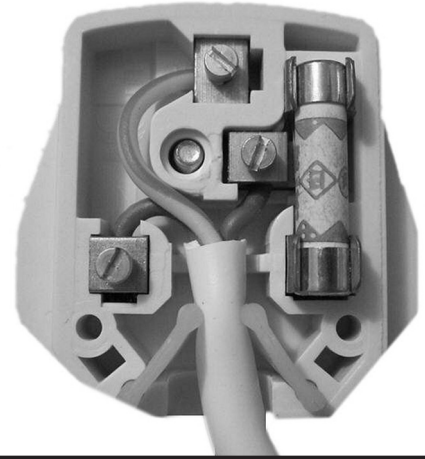
16. The diagram shows a three-pin plug.

State the correct colour coding for each of the wires.

LIVE

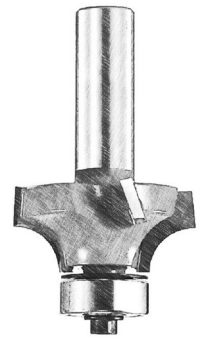
EARTH

NEUTRAL



17. Name the electric power tool with which you would use the bit shown in the diagram.

NAME



18. The graphic on the right shows a designer ladies watch made from wood.

List **ONE** property of wood which makes it suitable for this use.

PROPERTY



19. The item shown in the diagram has two functions. Identify **EACH** function.

FUNCTION 1

FUNCTION 2



20. The diagram shows a 'Fidget Spinner' made from wood.

(i) Select a suitable applied surface finish for the artefact.

FINISH

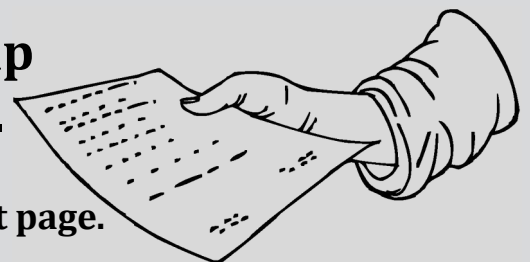
(ii) Give one reason for your choice of finish.

REASON



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

Ensure your Examination Number is on the front page.



There is no examination material on this page



Junior Certificate Examination, 2018

Materials Technology (Wood)

Ordinary Level

Section B (60 marks)

Monday, 18 June

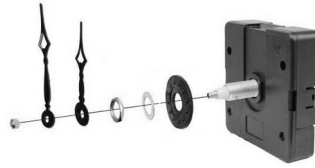
Afternoon, 2:00 - 4:00

Instructions

- (a) Answer **three** questions. All questions carry equal marks.*
- (b) You may answer either question 5A **or** question 5B but **not both** questions.*
- (c) Where sketches are required they should be done freehand.*
- (d) Write your examination number on the answerbook and on all other pages used.*
- (e) **Question 2** from this section must be answered on drawing paper.
All other questions should be answered on the answerbook supplied.*

1. The diagram shows a decorative wooden clock project. The artefact is made from contrasting solid woods. A clock movement is also shown.

- (i) Describe, using notes and *neat freehand sketches*, the steps involved in fitting the clock movement into the project.



- (ii) Describe, using notes and *neat freehand sketches*, a suitable method of joining the upright side pieces to the base.

- (iii) The tool shown on the right is used to make the twelve circular insert plugs for the clock face. Name the tool and, using notes and *neat freehand sketches*, explain the steps involved in making and fitting the wooden plugs.



2. The image below shows a design for a wooden *Napkin Holder*.

A dimensioned drawing of a similar napkin holder is given on the right. The design includes a small removable wooden chopping board underneath.

All material is **10mm** unless otherwise stated.

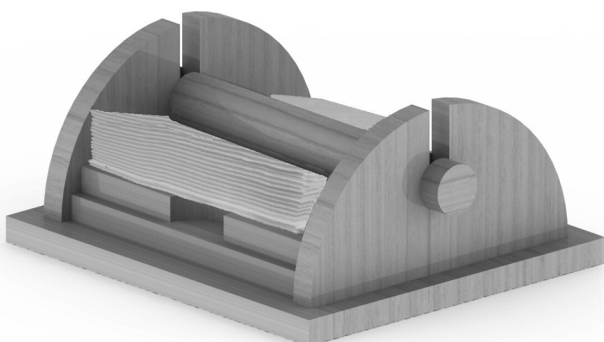
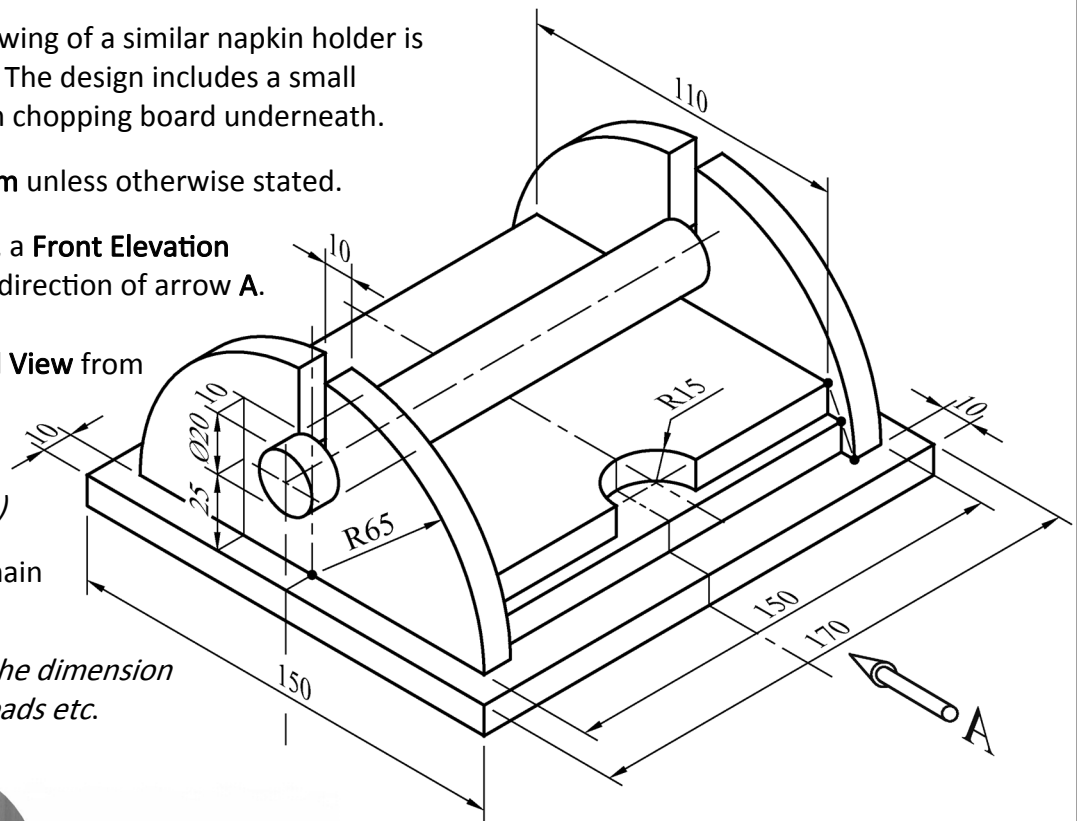
- (i) Draw, full size, a **Front Elevation** looking in the direction of arrow **A**.

- (ii) Project an **End View** from the elevation.

(Include Hidden detail.)

- (iii) Include **four** main dimensions.

Show clearly the dimension lines, arrowheads etc.



3. The diagram shows a section through a wood seasoning kiln. A close-up view of a stack of wooden boards in the kiln is also shown.

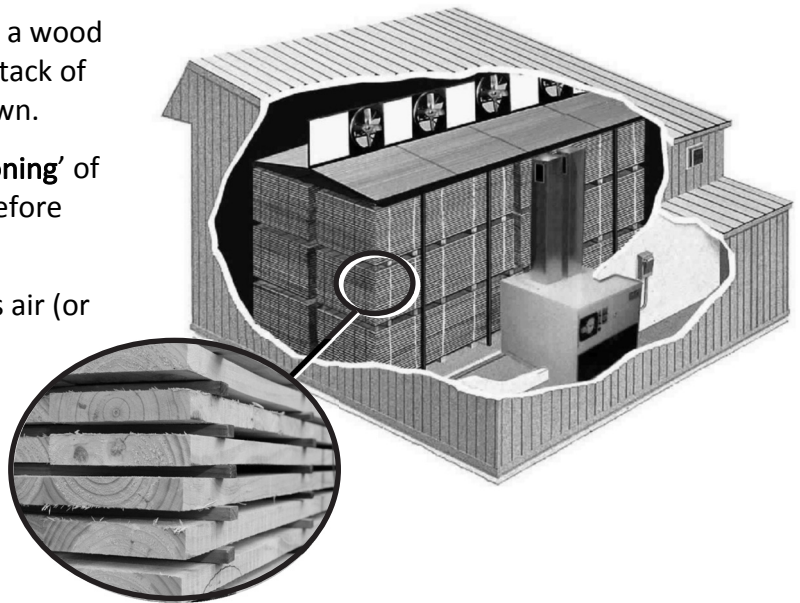
(i) Explain what is meant by 'seasoning' of wood and why it is necessary before using wood in an MTW project.

(ii) Another method of seasoning is air (or natural) seasoning. Compare **both** methods of seasoning under the following headings:

- (a) Time
- (b) Cost
- (c) Moisture content.

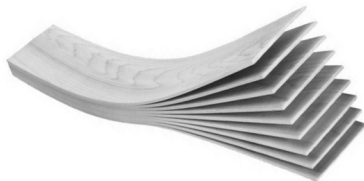
(iii) In the close-up view, the boards are shown separated by smaller pieces of wood. Name these pieces and explain why **and** how they are used.

(iv) Planks that are seasoned too quickly can develop several types of defect. Using notes and sketches describe any **TWO** of these defects.



4. The diagram on the right shows a modern wooden stand for a set of headphones.

(i) The curved parts of the artefact are to be made by gluing together several thin strips of wood as shown. Name this process.



(ii) Using notes and *neat freehand sketches*, explain the steps involved in producing the final curved shape, as shown.

(iii) With the aid of notes and *neat freehand sketches*, suggest a modification to the design that would allow the electric lead for the headphones to be incorporated in an appropriate and attractive manner.

(iv) Suggest a suitable applied finish for the artefact and give a reason for your choice.

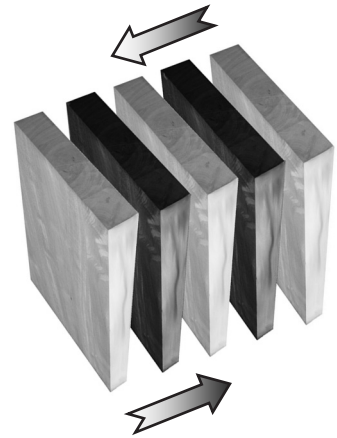


5. Answer 5A or 5B

5A. The diagram shows a wooden Tea-Light holder, which has been turned on a lathe. Prior to turning, several pieces of wood of different shades were glued together, as shown below, to form a larger block revealing an attractive grain pattern when turned.

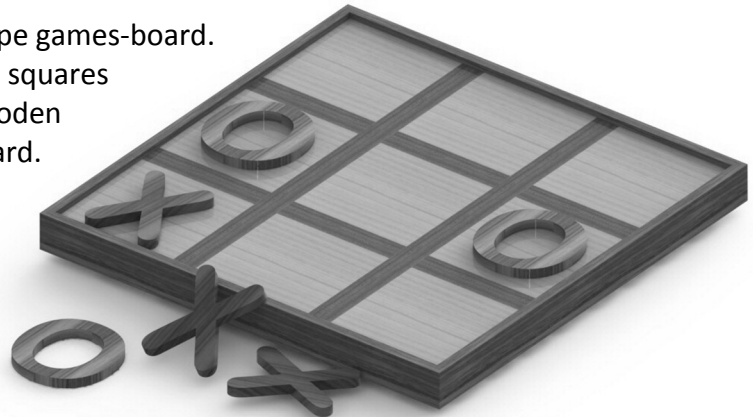


- (i) With the aid of notes and *neat freehand sketches* describe, in detail, how the large block would be formed from the individual pieces.
- (ii) Describe, using notes and *neat freehand sketches*, the steps involved in preparing the large 'square' block of wood for mounting on a lathe.
- (iii) List **THREE** other items that could be made on a woodturning lathe.
- (iv) List **TWO** specific safety precautions that should be observed when working on a lathe.
Give a reason for **EACH** safety precaution.



OR

5B. The diagram shows a wooden 'X & O' type games-board. In the manufacture of the games-board, squares and strips of light and dark coloured wooden veneers are glued to a wooden base board.



- (i) Suggest a suitable material for:
 - (a) The base board
 - (b) The nine squares
 - (c) The dark strips.
- (ii) Suggest a suitable adhesive for gluing the veneers to the base board. Give **TWO** reasons for your choice.
- (iii) Explain why veneering helps to conserve rare hardwoods.
- (iv) The edge of the games-board is finished with a wooden frame which is '*mitered*' at the four corners. With the aid of notes and *neat freehand sketches*, explain what is meant by a '*mitre*' joint.