



*Junior Certificate Examination, 2016*

***Materials Technology (Wood)***

***Higher Level***

***Section A (40 marks)***

*Monday, 20 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	
<b>Section A</b>		
1		
2		
3		
4		
<b>5A or 5B</b>		
<b>Total</b>		
<b>Irish Bonus</b>		
<b>Grand Total</b>		

## SECTION A - 40 MARKS

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

1. (i) Using a tick (✓) identify the power tool shown.

Router     Orbital Sander     Jig Saw

- (ii) Give **ONE** specific use for this power tool.

USE



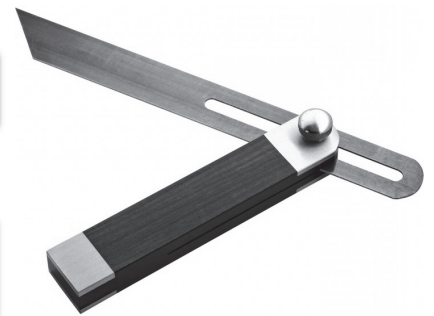

2. (i) Name the woodworking tool shown.

NAME

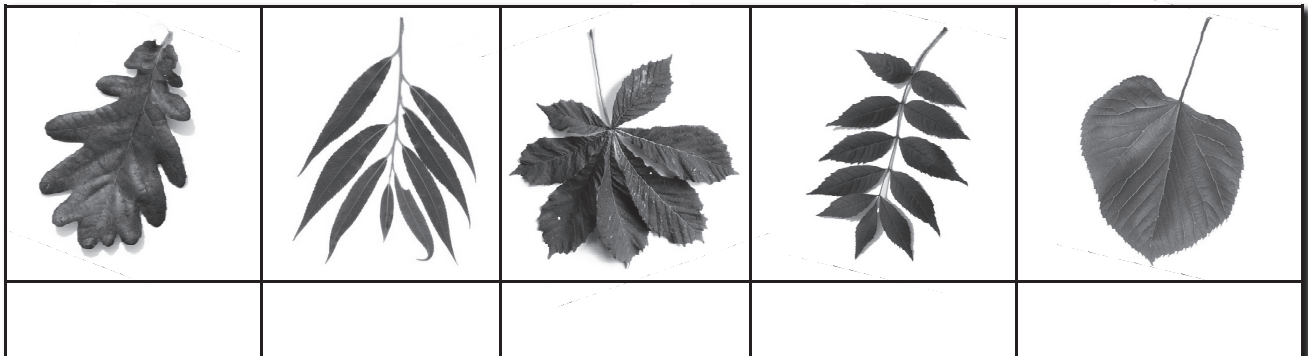
--

- (ii) State the correct use for this tool.

USE

3. The diagrams below show the leaves of five common Irish trees.  
From the following list, identify the correct name for each tree:  
*Horse Chestnut, Willow, Oak, Lime, Ash.*



4. 3D printers can be used by students studying technological subjects to produce prototypes/models of their projects using CAD/CAM software.

What does the term **CAM** stand for?

--

Give **ONE** advantage of using a 3D printer.

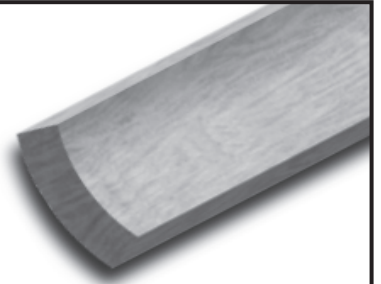
ADVANTAGE


5. (i) The diagram shows a board distorted across its width.  
What is this distortion called?

ANSWER

(ii) What causes a board to distort in this manner?

ANSWER

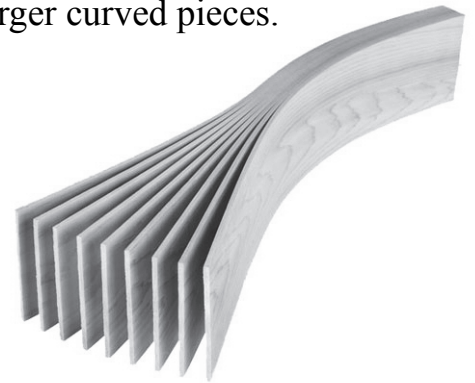
6. Thin strips of wood are often glued together to form larger curved pieces.

(i) What is the correct name for this technique?

TECHNIQUE

(ii) Give **ONE** specific advantage of using this technique.

ADVANTAGE

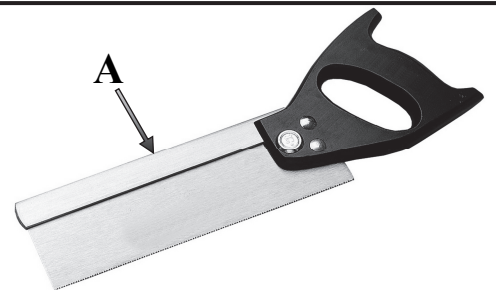
  


7. (i) The diagram shows a tenon saw.  
Name the part labelled **A** in the diagram.

NAME

(ii) What is the function of part **A**?

FUNCTION

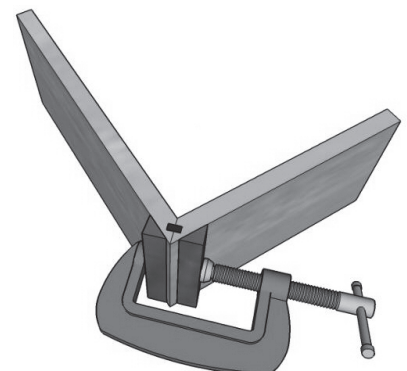
  


8. (i) The diagram shows a G-cramp holding a woodworking joint. Name the force being applied by the G-cramp.

FORCE

(ii) Name **ONE** other type of force.

NAME



9. **Angle chucks** are often used in compact drills to reach confined spaces. The diagram shows a set of bevel gears from an angle chuck.

- (i) If the smaller gear rotates clockwise as shown, use another arrow on the diagram to indicate the rotational direction of the larger gear.
- (ii) The small gear has 12 teeth and rotates at a speed of 60 RPM. If the large gear has 36 teeth, what is the rotational speed of the large gear?



**SPEED**  **RPM**

10. (i) Name the tool shown.

**NAME**

(ii) What is this tool generally used for?

**USE**



11. (i) What is the correct name for the woodwork fitting shown?

**NAME**

(ii) Where would this *specific* type of fitting be used?

**ANSWER**



12. (i) Name the woodworking machine shown.

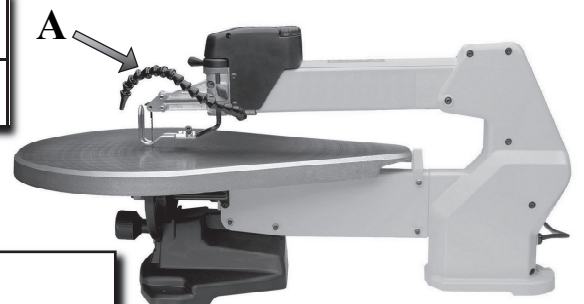
**NAME**

(ii) Give **ONE** advantage of using this machine in preference to a band saw.

**ADVANTAGE**

(iii) What is the function of the plastic tubing, labelled **A** in the diagram?

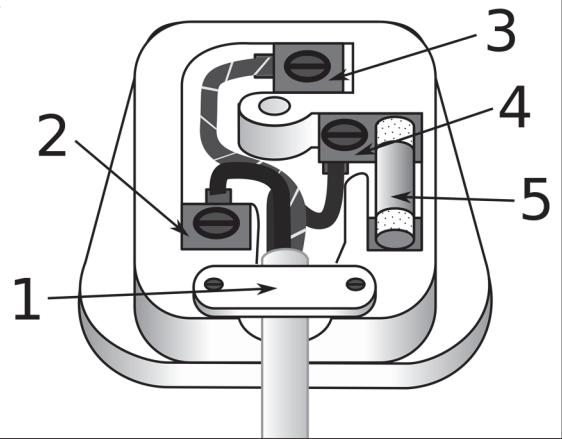
**FUNCTION**



13. The diagram shows the wiring of a three-pin plug.

Identify the terminals/parts labelled 1 to 5.

1.	
2.	
3.	
4.	
5.	



14. The diagram shows a wooden bird house which is to be painted.

Some steps involved in painting the house are given below.

Put the steps in the correct sequence.

*Undercoat, Filler, Finish coat, Sanding, Primer.*



15. Give **TWO** reasons why it is necessary to apply a surface finish to a wooden artefact.

REASON 1

REASON 2



16. (i) The diagram shows wooden boards which have been stacked for seasoning. What is the name for the item labelled A?

ITEM

(ii) Name **TWO** methods of seasoning timber.

METHOD 1

METHOD 2



17. (i) Plastics are divided into two main categories.

Name these categories.

CATEGORY 1

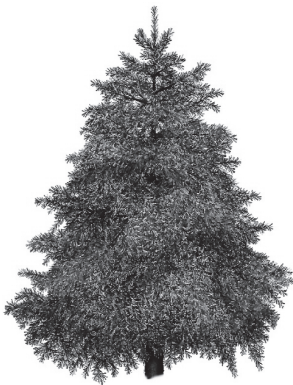
CATEGORY 2



(ii) Which category of plastic can be remoulded?

CATEGORY

18. Using a tick (✓) in the table below, identify whether the trees are **Softwood** or **Hardwood**.



Softwood	Trees	Hardwood
	Oak	
	Sitka Spruce	
	Beech	
	Douglas Fir	
	Maple	



19. The diagrams show three methods of wood carving.

In the spaces provided, name **EACH** method.



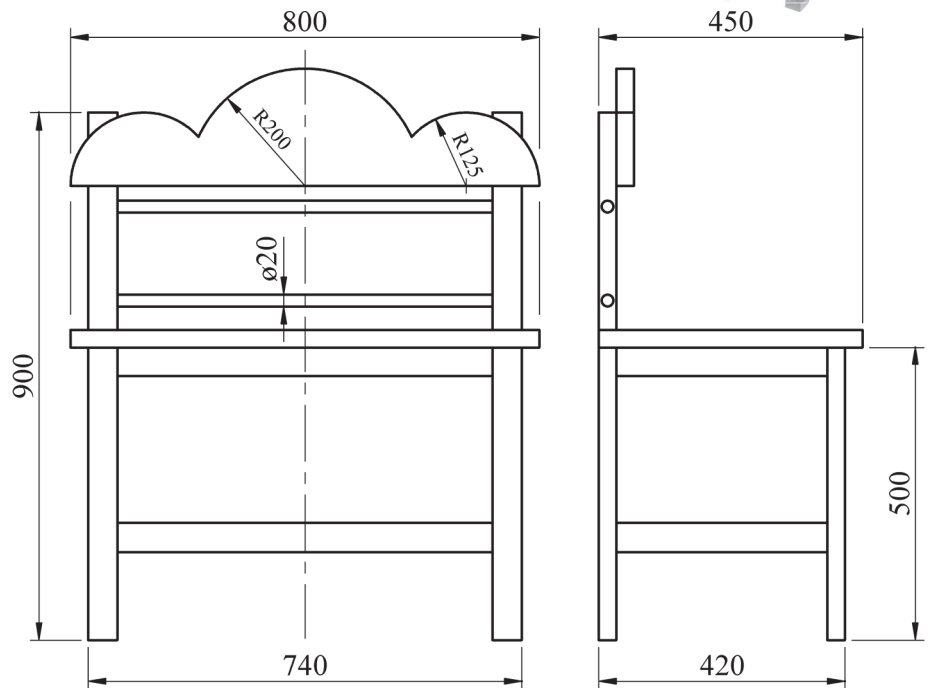
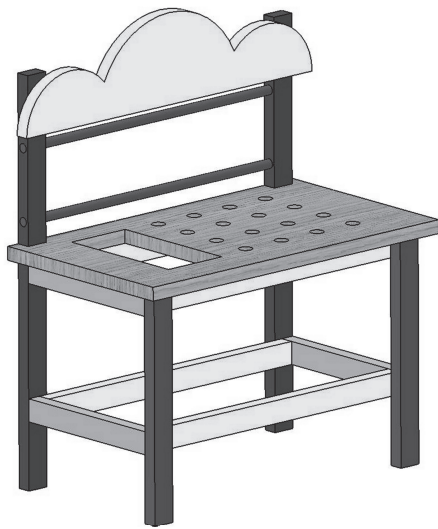




20. The image on the right shows a child's Workbench. A 3D graphic, together with a dimensioned Elevation and End View of a similar Workbench is shown below.

*All frame material is 50mm × 30mm and all other material is 30mm thick. All joints are butt joints.*

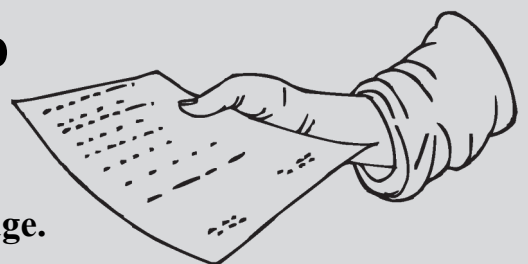
Complete the given cutting list.



Description	Quantity	Length	Width	Thickness
Front Legs		500	50	30
Back Legs	2	900	50	30
Cross Rails (front and back)	4	680		30
Side Rails (left and right)	4		50	30
Workbench Top	2	1	800	450
Curved Back Piece	1	800		30
	2	740		Ø20

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

**Ensure your Examination Number is on the front page.**



**Blank  
Page**