

Pre-Junior Certificate Examination, 2016

Materials Technology (Wood)
Higher Level
Section B (60 marks)

Time: 2 hours

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 may be done freehand or on graph paper.*
- (d) Write your name, your school's name and your teacher's name on the answerbook and on all other pages used.*
- (e) **Question 1** from this section must be answered on drawing paper. All other questions should be answered on your answerbook.*

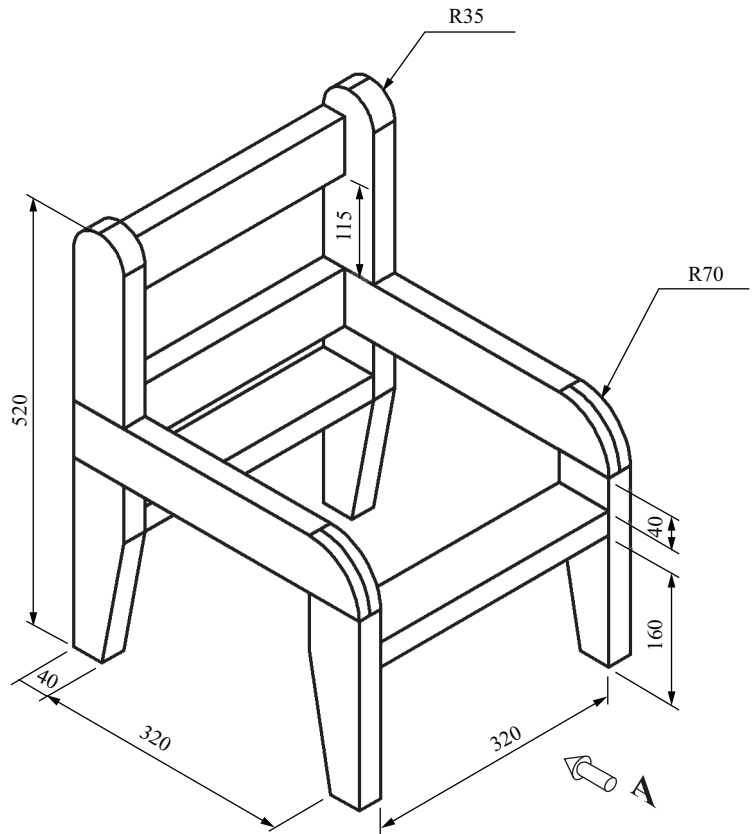
1. The diagram shows the wooden frame of a child's chair.

(i) To a scale of 1:2, draw a **front elevation** of the frame in the direction of arrow A.

(ii) Project a **plan** from the elevation.

(iii) Project an **end view**.

All material: 70mm × 30mm



2. (i) Two stages in a typical design process are **Investigation/Research** and **Evaluation**. Explain these **TWO** stages.

(ii) The image shows a selection of items found on the kitchen table during meal times.

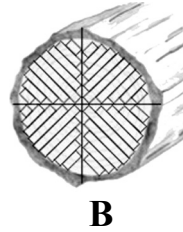
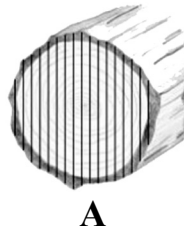
Using notes and *neat freehand sketches* to communicate your ideas, design a suitable portable wooden unit to store such items.



(iii) State **TWO** specific design requirements that must be considered in the design of the proposed unit.

(iv) Describe, using notes and *neat freehand sketches*, how you incorporated these **TWO** requirements into your final design solution.

3. The diagrams show two methods of timber conversion.



(i) Name the **TWO** methods of conversion.

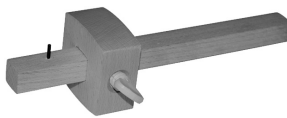
(ii) State **TWO** advantages and **TWO** disadvantages of **each** method.

(iii) The board shown on the right has cupped. State from which of the **TWO** methods above this defect is likely to occur and explain why this happens.



(iv) Using notes and *neat freehand sketches* identify **TWO** other artificial defects.

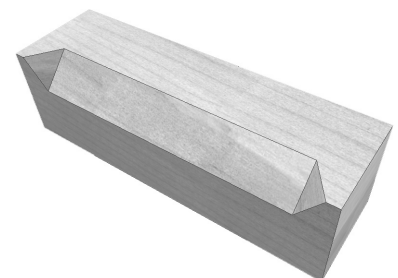
4. The image below shows four woodworking tools.



(i) Give the correct name for **each** of the tools labelled **W**, **X**, **Y** and **Z** and state what **each** tool would be used for.

(ii) The blade in tool **X** has become damaged during use. Describe, using notes and *neat freehand sketches*, the steps involved in re-sharpening the cutting edge of the blade.

(iii) Name the decorative edge moulding shown in the diagram.

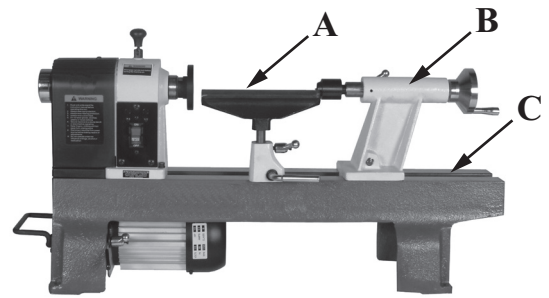


(iv) With the aid of notes and *neat freehand sketches*, describe **in detail**, the steps you would follow to mark out and cut the moulding shown in the diagram.

5. Answer 5A or 5B

5A. The diagram shows a woodturning lathe.

- (i) Name the parts labelled **A**, **B** and **C** and state the function of **each**.
- (ii) With the aid of notes and *neat freehand sketches*, describe how a square piece of wood should be **prepared** and **mounted** on a lathe for turning.
- (iii) The diagram shows some wooden skittles turned from wood. With the aid of notes and *neat freehand sketches*, describe **ONE** method that could be used to make the skittles identical.
- (iv) State **THREE** safety precautions that should be observed when using a lathe.



OR

5B. The diagrams show three different techniques used to embellish wood.



A



B



C

- (i) Name the techniques labelled **A**, **B** and **C**.
- (ii) Each of the techniques involves transferring a pattern from a piece of paper onto a piece of wood. With the aid of notes and *neat freehand sketches*, describe how this could be done.
- (iii) Name **THREE** solid woods suitable to be used in technique B and give **ONE** reason for **each** choice.
- (iv) Using notes and *neat freehand sketches*, briefly explain the steps involved in applying a clear finish to the piece of work shown at **A** above.