



Junior Certificate Examination 2013

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

Monday, 17 June
Afternoon, 2:00 - 4:00

Instructions

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

1. The diagram shows a wallet made from oak. The wallet, which is used to store money, bank cards, etc has a leather strap fixed to the top as shown. The body of the wallet is made from a single piece of solid oak which has been hollowed out.

(i) Using notes and *neat freehand sketches* describe **one** method of hollowing out the inside part of the wallet.

(ii) The outside corners of the wallet have been rounded and sanded.

Using notes and *neat freehand sketches* describe how this could be done.

(iii) Suggest a suitable applied finish for the wallet. Give **two** reasons for your choice of finish.



2. The drawings show a holder for a smart phone.

The material for the base is **15mm** thick, the sides are **20mm** thick and the four dowels are **10mm** in diameter.

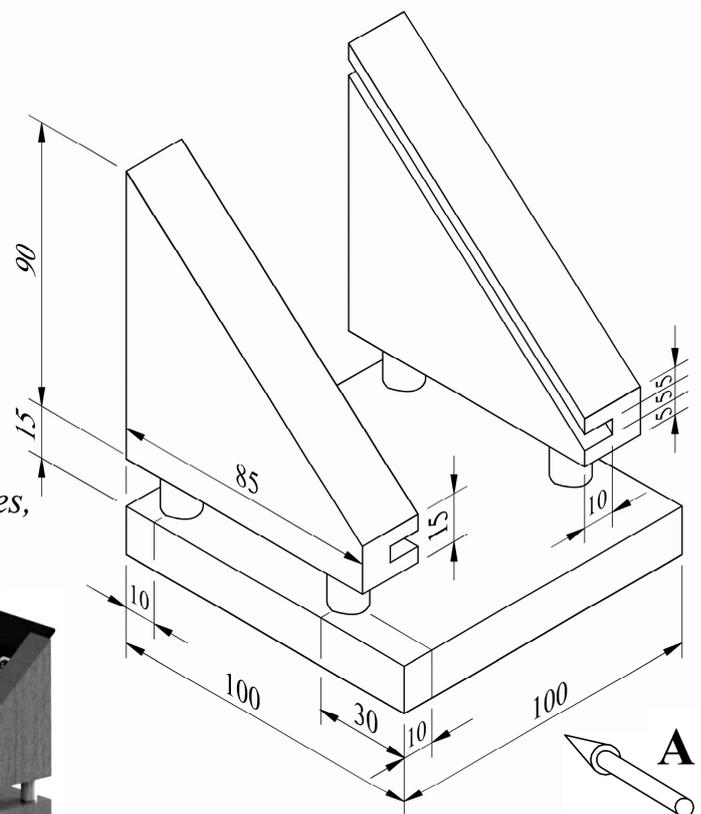
(i) Draw, full size, a **Front Elevation** looking in the direction of arrow **A**.

(Hidden detail is not required.)

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

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

Show clearly, the dimension lines, arrowheads, etc.



3. The diagram shows trees growing in a managed forest.

(i) Explain the main differences between a managed forest and a natural forest.

(ii) Describe what is meant by the **thinning** stage in managing a forest.

(iii) Give **two** reasons why thinning is an important process.

(iv) Give **two** common uses for forest thinnings.

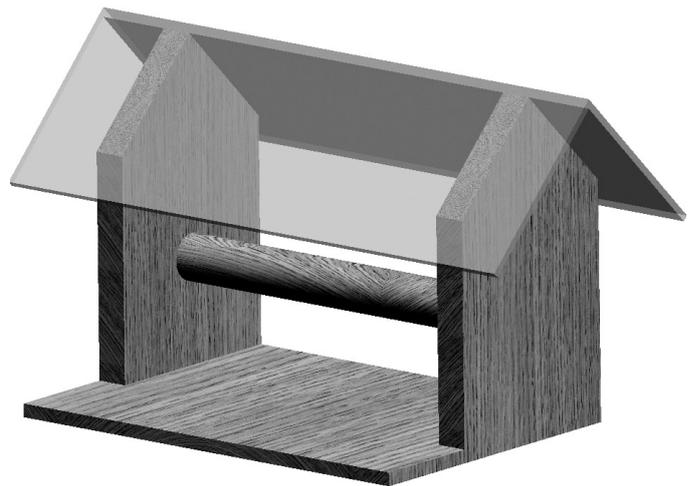


4. The diagram shows a wooden birdhouse with an acrylic (perspex) roof.

(i) Describe, using notes and *neat freehand sketches*, how the acrylic roof is bent to the required 90° angle as shown in the diagram.

(ii) Describe, using notes and *neat freehand sketches*, **two** changes you would make to the design of the birdhouse in order to improve its appearance and to provide a secure place to put food and water.

(iii) Suggest a suitable applied finish for the birdhouse. Give **two** reasons for your choice of finish.

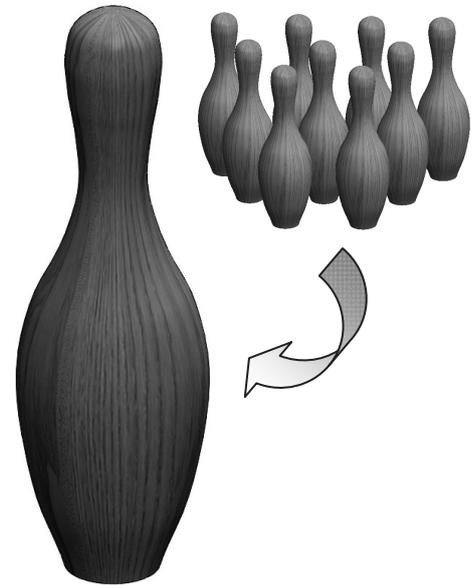


5. Answer 5A or 5B

5A. The diagram shows a number of wooden skittles that have been turned on a lathe.

(i) Describe, using notes and *neat freehand sketches*, the steps involved in preparing and shaping a square block of wood before it is mounted on a lathe.

(ii) Name **one** tool that could be used to measure the diameter of the skittles and make a *neat freehand sketch* of the tool.



(iii) List **three** specific safety precautions that should be followed when using a lathe. Give a reason for **each** precaution.

OR

5B. The diagram shows a wooden chopping board. The surface of the board has an incised carving of a slice of bread.

(i) Describe, using notes and *neat freehand sketches*, how the shape of the bread could be transferred from a sheet of paper to the wood.

(ii) Name **one** carving tool that could be used for this project and make a *neat freehand sketch* of the tool.



(iii) Name **one** other method of carving. Using notes and *neat freehand sketches*, describe this carving method.