



Junior Certificate Examination, 2016

Materials Technology (Wood)

Ordinary Level

Section B (60 marks)

Monday, 20 June

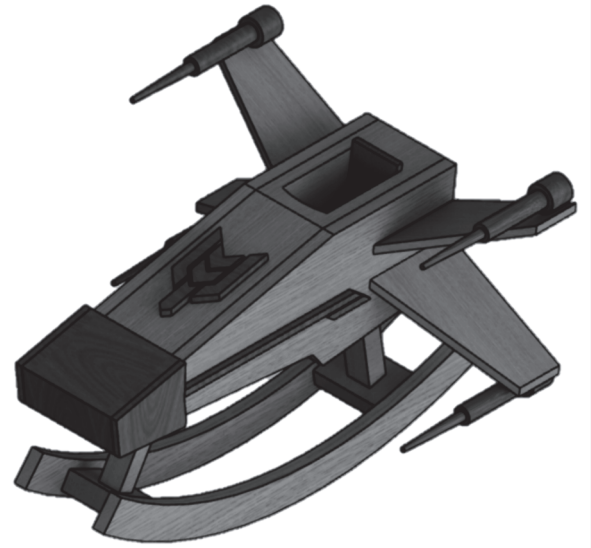
Afternoon, 2:00 - 4:00

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 wooden rocking horse which is based on a spaceship theme.

- (i) Describe, using notes and *neat freehand sketches*, how the curves on the two rocker base-pieces are marked out to ensure that they are identical.
- (ii) Describe, using notes and *neat freehand sketches*, how one of these base pieces could be cut out and shaped as shown.
- (iii) Suggest a suitable applied finish for the project. Give **two** reasons for your choice of finish.



2. The diagrams show a wooden crate for carrying dairy products.

The material for the base and inner dividing sections is **5mm** thick, the four outer sides are **10mm** thick and the dowel is **12mm** in diameter.

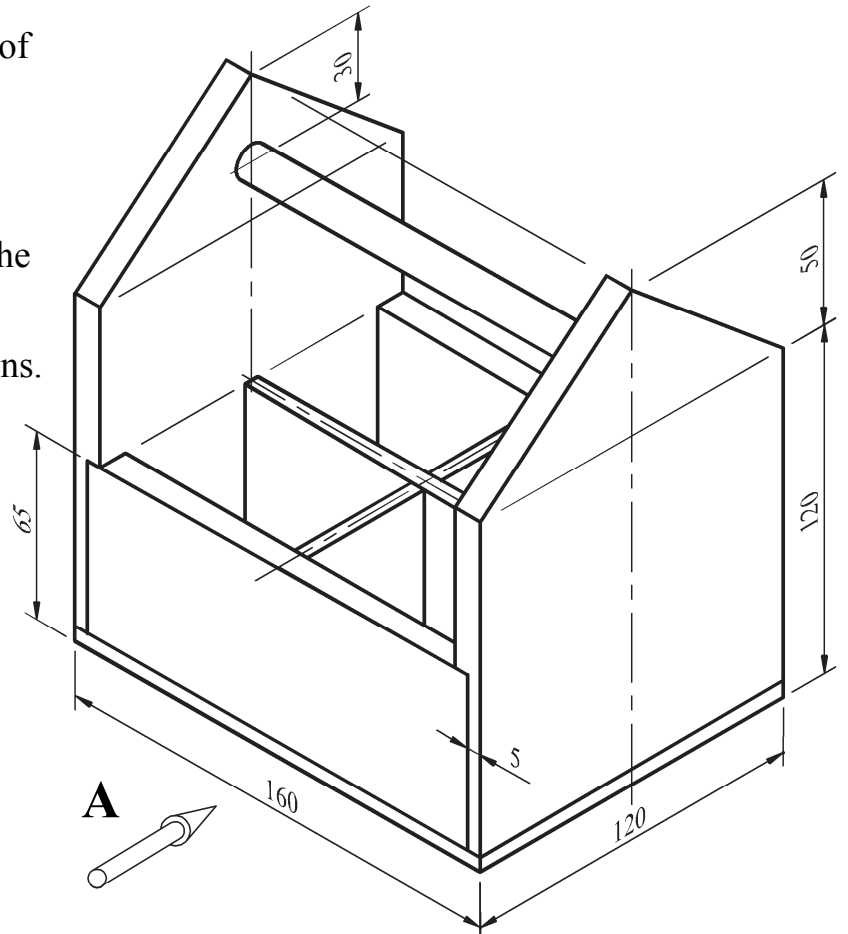
- (i) Draw, full size, a **Front Elevation** in the direction of arrow **A**.

(Hidden detail is not required.)

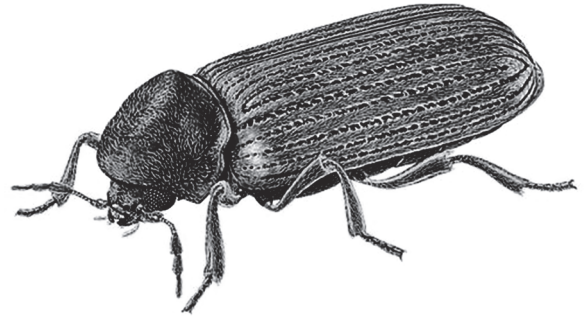
- (ii) Project an **End View** from the elevation.

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

Show clearly the dimension lines, arrowheads etc.



3. The diagram on the right shows a magnified image of the common furniture beetle.

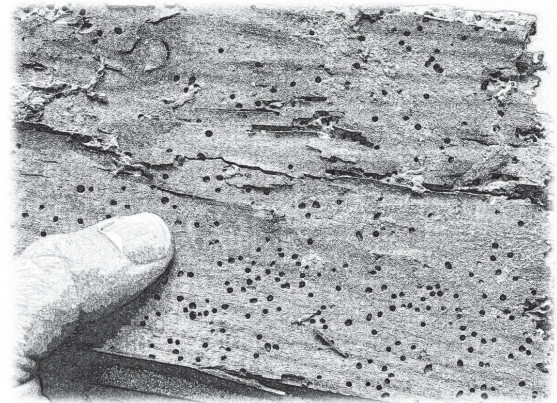


(i) Describe, using notes and *neat freehand sketches*, the life cycle of the common furniture beetle.

(ii) Wood that has been damaged by the presence of furniture beetles usually has numerous small holes on its surface, as shown in the diagram below.

Describe, using notes and *neat freehand sketches*, how this occurs.

(iii) Explain how to treat a piece of wood that has been attacked by woodworm.



4. The diagram shows a kennel for a small dog which is made from wood.

(i) Describe, using notes and *neat freehand sketches*, how the design of the kennel could be improved to include space for the storage of dog food and other small items.

(ii) Describe, using notes and *neat freehand sketches*, how you would improve the design of the kennel in order to make it more attractive in appearance.

(iii) Suggest a suitable wood for this kennel.

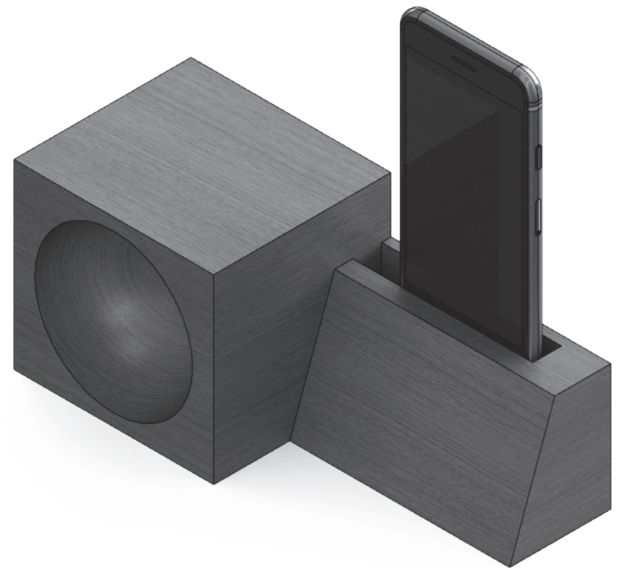
Give **two** reasons for your choice of wood.



5. Answer 5A or 5B

5A. The diagram shows a wooden speaker which increases the volume of a mobile phone when it is placed in the stand. The speaker is made by removing a hemisphere from a block of wood using a lathe.

- (i) Describe, using notes and *neat freehand sketches*, the steps involved in preparing the square block of wood before it is mounted on a lathe.
- (ii) Name **one** tool that could be used when turning wood and make a *neat freehand sketch* of the tool.
- (iii) List **two** specific safety precautions that should be followed when working on a lathe.
State a reason for **each** precaution.



OR

5B. The diagram shows a clock face that has been carved from wood.

- (i) Describe, using notes and *neat freehand sketches*, how the design of the clock face could be transferred from a sheet of paper to the wood.
- (ii) Describe, using notes and *neat freehand sketches*, any **one** of the carving methods listed below:
 - Chip carving
 - Relief carving
 - Carving in the round.
- (iii) Suggest a suitable wood for this clock face.
Give **two** reasons for your choice of wood.

