



The Institute Of Carpenters

ADVANCED CRAFT EXAMINATION

Wednesday June 15th 2005

THEORY PAPER B

TIME ALLOWED THREE HOURS

Total Time Allowed For Papers A and B

THREE HOURS

The following instructions should be read by ALL CANDIDATES before they commence work

Section B: Consists of **8** questions only **FOUR** of which are to be answered.
All questions carry equal marks.

Each answer **MUST** be submitted on a separate sheet of paper, and your candidate number **MUST** be written in the top right hand corner of **EACH** answer sheet in the box provided.

Advanced Craft Examination

Associated Vocational Technology (Section B)

(Answer FOUR questions only)

1. (a) Describe with the aid of sketches how a portable powered router and suitable jig may be used to form tread housings in the strings of an **open riser staircase**.
(b) List the safety precautions necessary for this operation.
2. Figure 1 shows the outline of a dormer window which is to be constructed in an existing roof of 45° pitch.
(a) To a scale of 1:5, draw full constructional details at A and B.
(b) Explain with the aid of sketches how the rafters at the sides of the dormer may be strengthened.

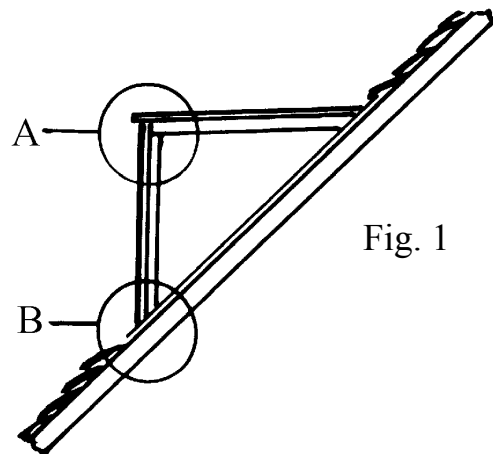


Fig. 1

3. An order to a timber merchant is as follows :-

25 pieces 2500 x 225 x 50

18 pieces 3700 x 100 x 38

8 pieces 4300 x 200 x 25

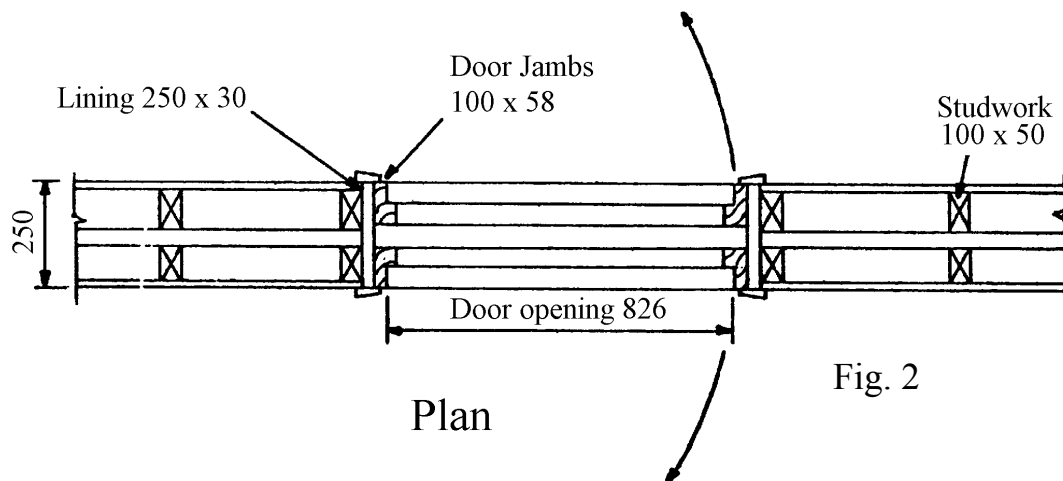
12 pieces 2700 x 75 x 75

Calculate :-

- (a) The total cost of the timber if one cm³ costs £270.00
- (b) The final cost of the order when 2.5% is deducted for prompt payment and 17.5 % added for V.A.T.

4. When bolting together large sectioned timbers, metal connectors are often used to increase the efficiency of the joint.
 - (a) Explain how the metal connectors increase joint efficiency.
 - (b) Sketch **TWO** types of timber connector used in conjunction with bolts stating where and how each may be employed.
 - (c) Using notes and sketches explain how one type of connector is set into the abutting timber faces of a joint.

5. Figure 2 shows a plan of an opening that provides access to a recording studio.
 - (a) Draw to a scale of 1:1, a part vertical section through one door indicating a method of construction that would reduce sound transmission.
 - (b) Draw to a scale 1:2, a horizontal section through one door jamb, including part of the stud partition, and all finishings and insulation.
 - (c) Specify ironmongery required for the doors.



6. Roofs to detached houses are to be erected using twelve trussed rafters to each house. With the aid of sketches describe :-
 - (a) How the trusses would be stored on site;
 - (b) How the trusses would be erected and fixed in place;
 - (c) The provision required to support a water storage tank in each roof.

7. A bay window frame with sides at 60° cant is to be manufactured with built-up angle posts, prepared to receive traditional wooden casements.
- (a) To a scale 1:2 draw sections through the sill, transom, and built-up angle post.
 - (b) Sketch the preparation of the sill to receive the angle post and show how the sill is to be jointed at the angle.
8. The front wall of a four-storey house is to be temporarily supported by a system of raking shores. The suspended ground floor is 275 mm above ground level and the storey height of the rooms is 2.800 m.
- (a) Sketch in line diagram form, a side elevation to show the shoring required.
 - (b) Draw to a scale of 1:5, an isometric projection of the detail at the head of one of the shores.
 - (c) Indicate with the aid of sketches a method of obtaining the position of the rakers when the joists are :-
 - (i) Supported by the wall;
 - (ii) Parallel to the wall.