



The Institute Of Carpenters

ADVANCED CRAFT EXAMINATION

(Formerly Membership Examination)

June 10th 2003

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.

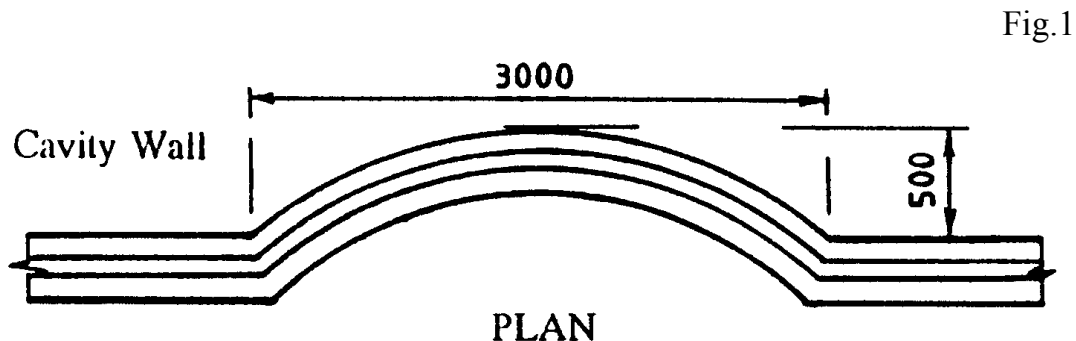
Member Examination

Associated Vocational Technology (Section B)

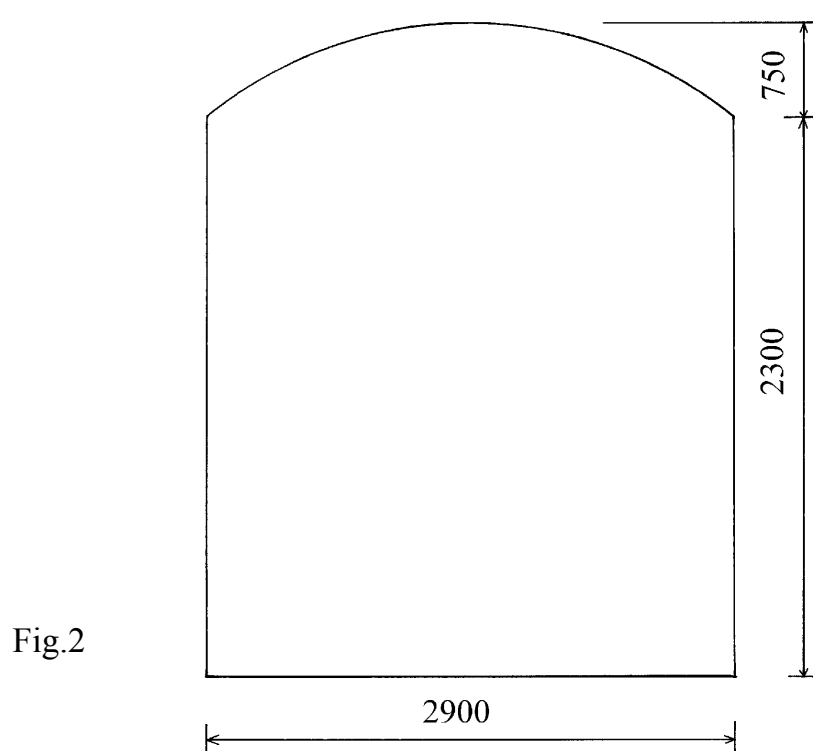
(Answer FOUR questions only)

1. A straight flight of stairs incorporating a bullnose step is to be fitted and fixed between the solid concrete ground floor and timber upper floor in a domestic dwelling. The stair includes one wall string and an outer string with two newel posts into which a handrail is tenoned. The rise of each step is 180 with a going of 225. The trimmer is 75 x 200 and the skirting Ex 19 x 100.
 - (a) Explain with the aid of notes and sketches the sequence of operations when fitting and fixing the stair.
 - (b) Draw, to a scale of 1:5, a vertical section through the top two steps of the stair to show the junction at the landing, wall string and skirting board.

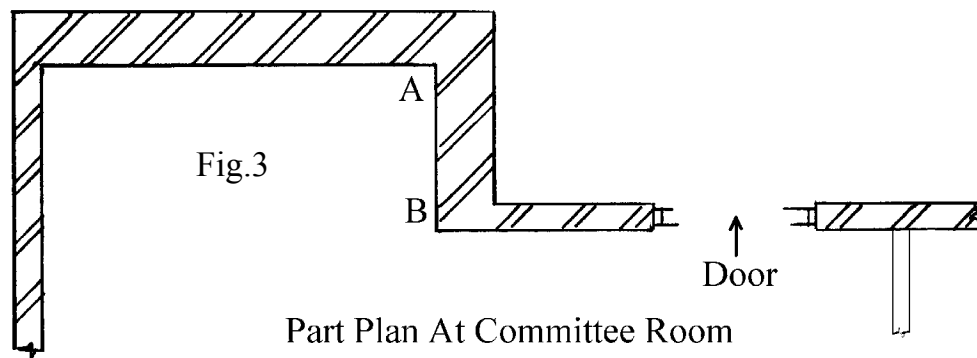
2. A number of segmental bow windows of stormproof design are required to be manufactured to suit the situation illustrated in figure 1.
 - (a) Describe with the aid of sketches the following :-
 - i) The measurement and other information required prior to manufacture;
 - ii) A practical method of drawing the curve which does not require the radius to be calculated.
 - (b) Draw full size sections through the head, mullion and cill of the window.



3. Figure 2 shows the outline of a segmented arch which is to be erected in a 1 and a half brick thick Wall.
- (a) Draw, to a scale of 1;20, an outline of the curve for the center positioned to enable erection of the arch and include :-
- i) Details of the geometry involved in the setting out;
 - ii) At least half the elevation of a suitable center indicating a method of construction.
- (b) Describe, with the aid of sketches, a method of supporting the center during erection of the arch to include provision for levelling, easing and subsequent striking.



4. Figure 3 shows the plan of part of a committee room with a ceiling height of 3.300m. The Internal walls of the room are to be panelled to a height of 2.400m using 18mm hardwood faced blockboard sheets fixed to 22mm x 45mm wrot grounds secured to the brickwork walls. Wall faces above the panelling are to be finished with a textured plaster. To a scale of 1:1
- (a) Draw, to include sizes, vertical sections to illustrate the constructional details at the :-
- Top of the panelling;
 - Bottom of the panelling, including a skirting.
- (b) Draw, to include sizes, horizontal sections to illustrate the constructional details at the :-
- Internal corner "A";
 - External corner "B";
 - Door opening;
 - Intersection of sheets.
- (c) State a suitable moisture content for the panelling to prevent minimal movement of the timbers



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

6. The following information is extracted from a contract specification related to the manufacture of 50 hardwood doors, each of which is to have 10 panes of safety glass as shown in figure 4.

The door size is 1980 x 840 x 44 mm thick with the height to the top of the lock rail 900 mm. Stiles and Top rail are Ex 100 wide, Lock and Bottom rails are Ex 200 wide, and the Vertical glazing bars are Ex 38 wide.

50 mm is to be allowed at each end of the stiles for horns and at each end of the vertical glazing bars for stopped tenons. Also 10 mm is allowed at each end of the rails.

(a) Prepare a cutting list for the **50 doors**.

(b) Calculate :-

- i) The total volume of timber listed;
- ii) The cost of the timber at £366 per cubic metre allowing 7.5 % for cutting and waste and adding 17.5% VAT.

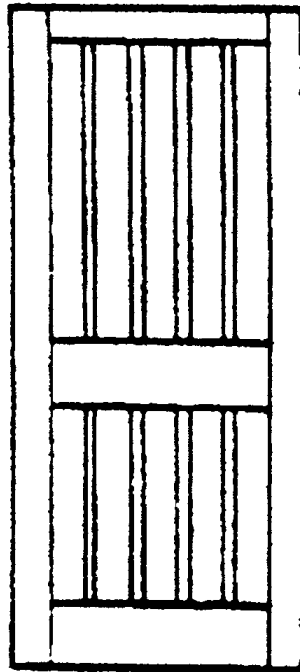


Fig.4

7. (a) A joinery workshop contains a selection of woodworking machinery.
- State **TWO** statutory notices that must be displayed in the joiners shop.
 - Briefly describe the contents of **ONE** notice.
- (b) State **TWO** advantages and **TWO** disadvantages of using :-
- Full size rod drawings;
 - Broken line rod drawings.
- (c) List **FOUR** items of information that can be obtained from a rod drawing.
8. Figure 5 shows **TWO** elevations of a pre-cast concrete plinth to be used in a shopping precinct to support ornamental display trays for flowers.
- To a scale of 1:10, draw the plan and vertical sectional details through suitable formwork which may be used to produce **ten** castings of the plinths. Name and dimension all members.
 - State **THREE** factors which should be considered to ensure that an excellent surface finish is achieved from each casting.

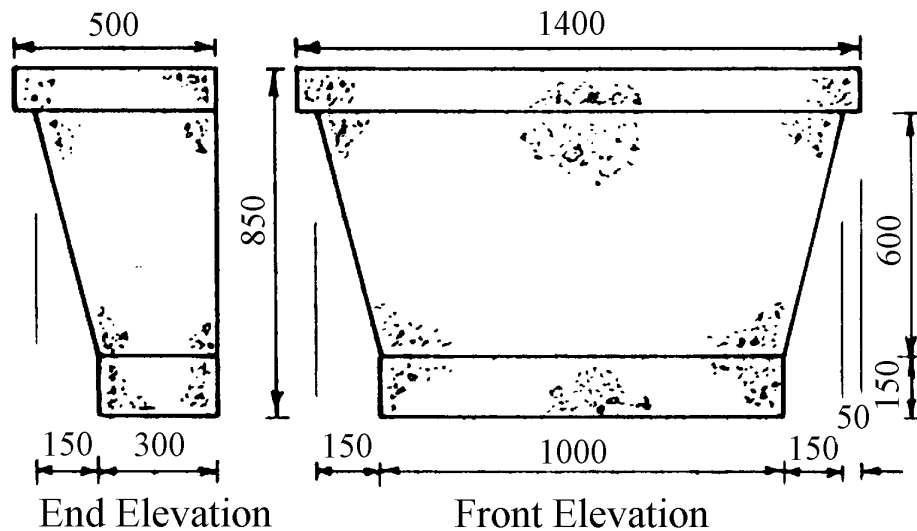


Fig.5

Institute Membership

Member membership of the Institute of Carpenters is available to candidates achieving success in the Institute's Advanced Craft Examination, also to Teachers/Lectures/Instructors of Woodcrafts possessing a trade background.

Further information and application forms may be obtained from

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