

THE INSTITUTE OF CARPENTERS



Member Examination

16th June 1998

Associated Vocational Technology Paper Section B

TIME ALLOWED THREE HOURS

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

This paper comprises **TWO** sections, candidates are advised to spend **NOT more than ONE HOUR** on section A:

Section A: Consists of 18 questions **ALL** of which should be attempted. Answers must be submitted on the question paper in the spaces provided.

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) To a scale of 1:20 draw the first floor plan to the dimensions shown in fig.1 to include first floor joists at 400 centres and trimming, indicating names of members and timber sizes.
(b) Explain with the aid of sketches the function of **TWO** of the following relating to upper floors: -
(i) Strutting; (ii) Strapping; (iii) Hangers.

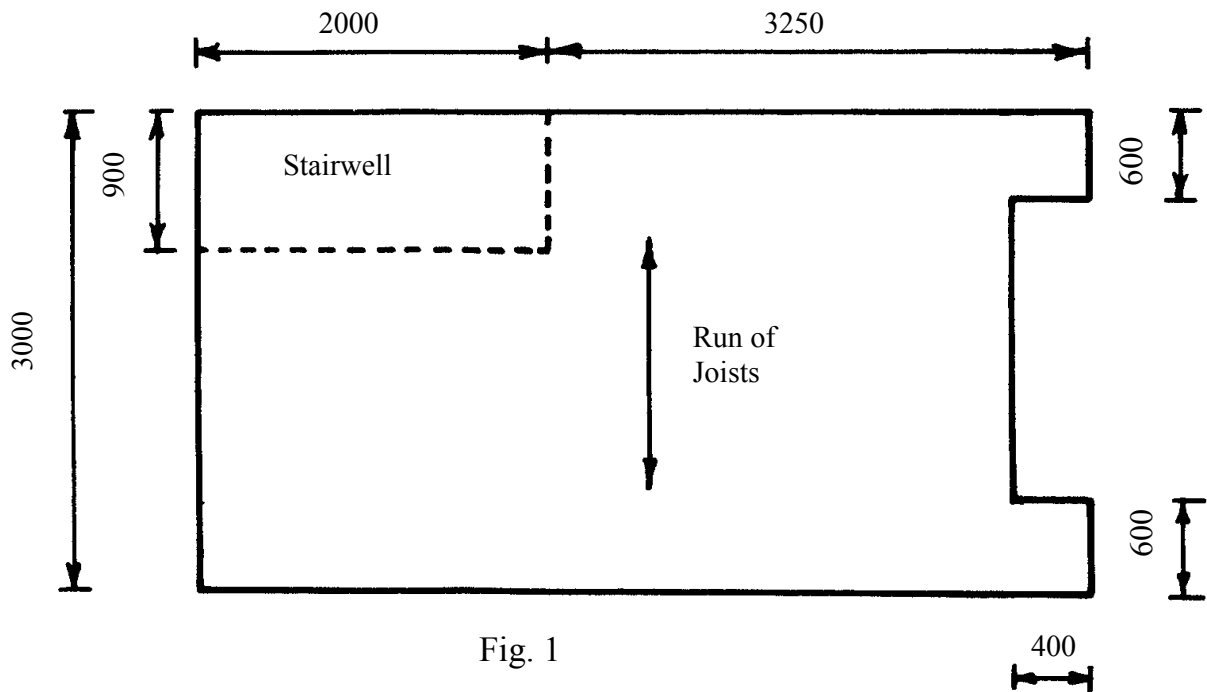


Fig. 1

2. An order to a timber merchant is as follows : -
25 pieces 2500 x 150 x 50
18 pieces 3700 x 100 x 50
8 pieces 4300 x 200 x 25
12 pieces 2700 x 75 x 75
Calculate : -
a) The total cost of the timber if 1 m³ 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.

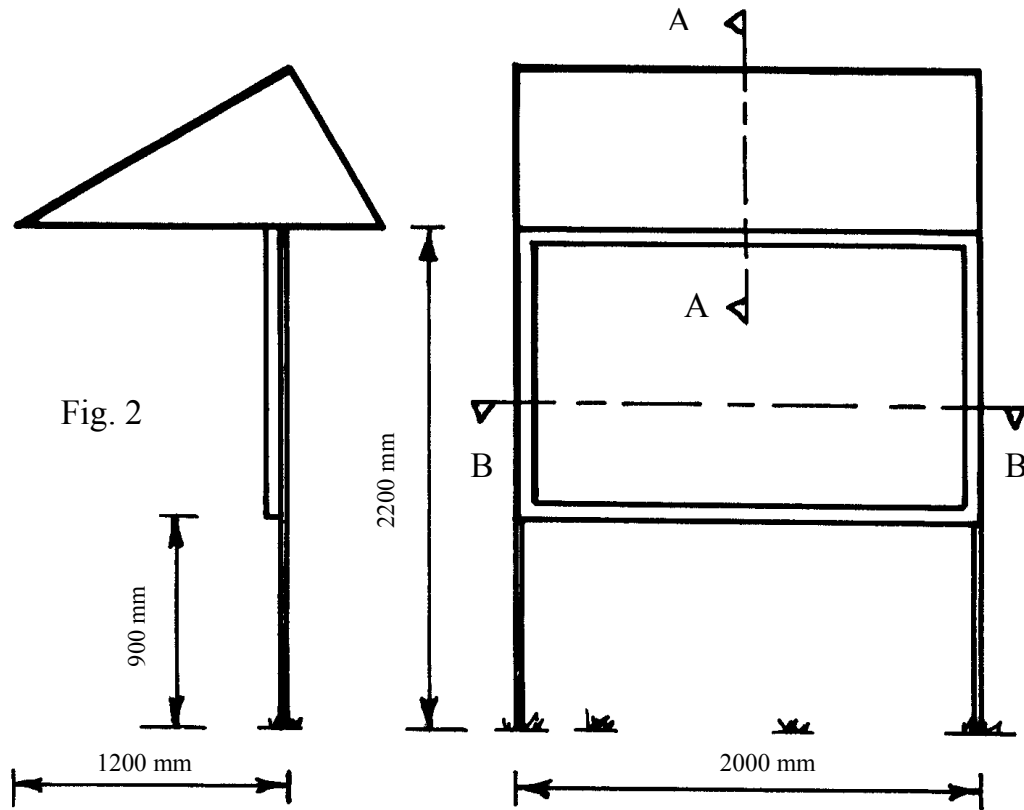
3. An Information Board as shown in the outline sketch Fig. 2 is to be located in an exposed position at a Country Park. To provide shelter for members of the public, a roof pitched at 30° and 60° to the horizontal is fitted as shown.

(a) To a scale of 1:10, Draw : -

- (i) a vertical section on A-A indicating a method of keeping the roof watertight;
- (ii) a broken horizontal section at B-B.

(b) Specify, stating reasons for your choice, the following items used in construction of the Information Board : -

- (i) timber;
- (ii) nails;
- (iii) preservatives.



4.
 - a) Name **FOUR** portable powered hand tools that may be used by a carpenter on site.
 - b) State for each tool listed;
 - i) a practical application;
 - ii) **TWO** safety precautions to be observed which will ensure its safe operation.
 - c) Describe with the aid of sketches a sequence of safe operational procedures for using a portable electrically powered saw on-site to cut lengths of 350 wide boards from a 2440 x 1220 x 25 blockboard/MDF sheet.
5. 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 should be stored on site;
 - (b) how the trusses should be erected and fixed in place;
 - (c) the provision required to support a water storage tank in each roof.
6. The mid terrace of a four storey block is to be demolished and the 225 mm party walls of the adjoining premises made secure. The frontage of each property is 6000 mm and the storey height is 3000 mm.
 - a) Draw to a scale of 1:50 a vertical section through the 225 mm wall of each property of the adjoining building indicating the method of temporary support to these two walls. Name and dimension all members.
 - b) List the sequence of operations when erecting the temporary support during the demolition.

7. A straight flight of stairs incorporating a bullnose step is to be fitted & 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.
- Explain with the aid of notes & sketches the sequence of operations when fitting and fixing the stair.
 - 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 & skirting board.
8. Fig. 3 represents the roof plan of a splayed bay window covered with plywood. The roof surfaces are inclined at an angle of 45 degrees. Determine, to a scale of 1:20
- the length and bevels of one hip rafter;
 - the true shape of the surfaces A and B.
 - To a scale 1:5 draw a broken vertical section C - C through the roof showing all construction.

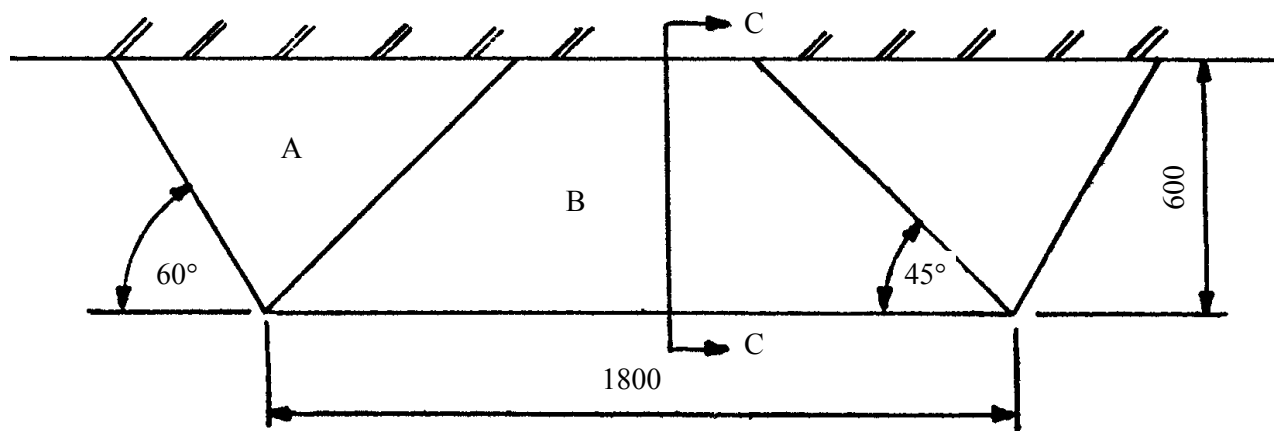


Fig. 3

PLAN

MEMBER Membership

Member membership of the Institute of Carpenters is available to candidates achieving success in the Institute's Member 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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