

THE INSTITUTE OF CARPENTERS



Fellowship Examination

14th - 18th June 1999

Paper 1: JOINERY PRACTICE

TIME ALLOWED: THREE HOURS

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

To obtain full marks Candidates must answer SIX questions. The answer to each question should be submitted on a separate sheet of paper.

The question number and your candidate number must be clearly written in the top right-hand corner of each answer sheet.

1. A refurbishment contract requires the supply of hardwood joinery. The joinery specification states clear instructions regarding quality control of the timber.
 - (a) Describe a method of conversion and drying to ensure that the following are maintained.
 - (i) Uniformity of colour;
 - (ii) Dimensional accuracy;
 - (iii) The specified moisture content during manufacture, transportation and installation.
 - (b) Write a buying specification to ensure that the above requirements are met.

2. An overseas contract requires home produced joinery to be air freighted to the Country of installation. The cutting list has been condensed to give the following timber quantities :-

123.700 m	run of	25 x 150	European Oak	(Density 700 kg/m)
131.600 m	" "	19 x 300	Parana Pine	(" 545 kg/m)
250.000 m	" "	100 x 100	Douglas Fir	(" 530 kg/m)
425.250 m	" "	65 x 125	Meranti	(" 545 kg/m)
365.750 m	" "	50 x 100	Iroko	(" 660 kg/m)

 - (a) Calculate the individual mass (kg) for each species and the total mass (tonnes) of all the timber.
 - (b) Describe the characteristics of each of the timbers and state it's probable country of origin.

3. The management of a workshop which produces purpose made joinery wishes to acquire a four cutter moulding machine.
Prepare a written justification for the purchase.

4. A recording studio is to be divided into TWO smaller studios with means of a sound-proof glazed screen with double access doors part of which is shown in figure 1. To a scale of 1:5 draw annotated broken horizontal sectional details to show all construction and sound proofing at A & B.

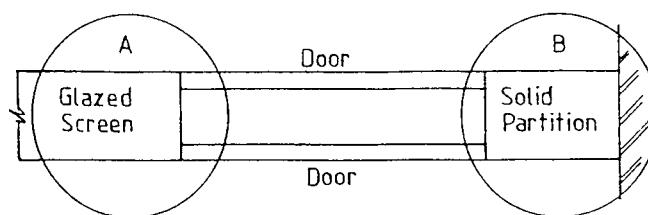


Fig.1

5. Sketch the following details for a hardwood spiral staircase :-
- (a) **THREE** alternative methods of constructing the treads.
 - (b) A method of strengthening and supporting the cantilevered steps.
 - (c) A method of constructing the central column.
 - (d) A finish at the end of the curved hand-rail, above the bottom step.
6. A customer is undecided on the type of windows to specify for a new development. Adjoining properties will not affect the choice. With the aid of sketches prepare alternative proposals for the use of sliding, hinged and pivoted windows.
7. A batch of hardwood panels is proving difficult to finish, due to surface chipping and tearing.
- List under the following headings the procedures that should be carried out to ensure a surface finish suitable for polishing.
- (i) Selection and Conversion;
 - (ii) Machining;
 - (iii) Hand finishing;
 - (iv) Protection.
8. Setting-out rods are an important factor in the production of joinery components. State :-
- (a) **FIVE** advantages of using setting-out rods.
 - (b) **THREE** examples where marking out could **NOT** be carried out without first setting out a rod.
 - (c) **THREE** examples where a setting out rod would not be needed.
 - (d) **TWO** examples where a visit to the site would be necessary, even though working drawings are available.