CANDIDATE No.

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The Institute Of Carpenters

ADVANCED CRAFT EXAMINATION

(Formerly Membership Examination)

June 18th 2002

THEORY PAPER A

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

Candidates are advised **NOT** to spend not more than **1 HOUR** on this section.
Total time allowed for both papers A and B is **THREE HOURS**

To obtain full marks Candidates must answer **ALL** questions which carry equal marks

Answers **MUST** be submitted on the question paper immediately below the question
Your candidate number **MUST** be written clearly in the top right hand corner of this sheet

Name:
Date of Birth: **Region**
Occupation: **Age**

Marks

1. List **FOUR** factors that would influence the quality of the bond when using adhesives in the manufacture of Laminated Structures.

1.

2.

3.

4.

2. Make sketches to show the construction of :-

(a) Open sprocket eaves; (b) Closed eaves.

3. (a) State **TWO** reasons for producing window or door schedules.

1.

2.

(b) State the scales used for drawings associated with these schedules.

Marks

4. (a) State the main constructional difference between a single floor and a double floor.

b) Indicate on Figure 1 the recommended positions :-

i) For notching joists to receive copper pipes.

ii) To drill holes to receive electrical cable.

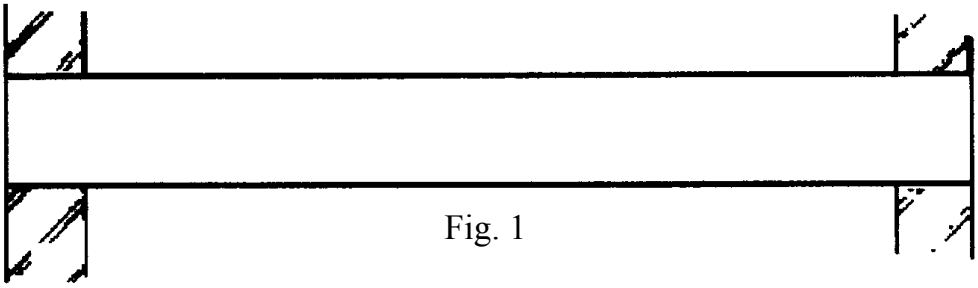

Fig. 1

5. List in their correct order, the sequence of operations when fitting to a 44mm thick entrance door, **ONE** of the following :-

(a) Postal letter plate; (b) Cylinder night latch.

Marks

6. Sketch a suitable joint for each of the following situations :-

(a) A structural tension joint in a modern roof truss;

(b) Jointing a hardwood cill at the angle of a bay window.

7. Describe a method of storage and protection on site, both before and after fixing, for the following :-

(a) Materials used for first fixing operations;

(b) Items of second fixing, e.g. doorframes, staircases, flooring.

(a)

(b)

Marks

8. Geometrically construct:-

(a) An EQUILATERAL arch shape on lines A-B at Figure 2;

(b) A SEGMENTAL arch shape on points C-D-E at Figure 3.

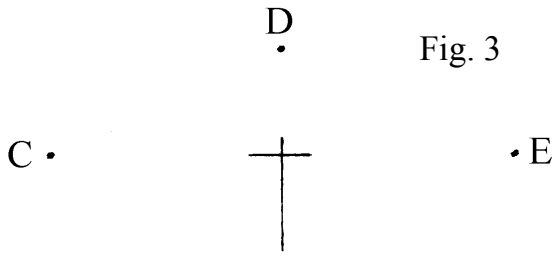

Fig. 3

Fig. 2

9. After isolating the machine, briefly describe **FOUR** points for setting up the chisel and auger on a morticing machine.

1. _____

2. _____

3. _____

4. _____

Marks

10. With regards to temporary support of a building, describe with the aid of sketches **ONE** type of shoring.

11. (a) Name **THREE** groups of timber preservative and give **TWO** characteristics of each group which decide their application.

Preservative	Characteristics

(b) Briefly describe pressure impregnation of timber by the empty or full method.

Marks

12. (a) Sketch an "Aqua" or water level and state the principle on which it relies for its operation.

(b) List in their correct order, the sequence of operations when using this level to check the horizontal alignment of the cills to two windows that are situated in adjacent walls.

13. Sketch and state the purpose of **TWO** of the following items:

(a) Turning Piece; (b) Scarf Joint; (c) A Plumb rule;

(d) Draw-bored mortice and tenon.

Marks

14. List in their correct order, the sequence of operations for the assembly of a traditional six panelled door.

15. (a) Indicate on Figure 4, the following terms associated with stair construction.

i) Rise of step; ii) Going of step; iii) Margin; iv) Nosing;

v) Tread.

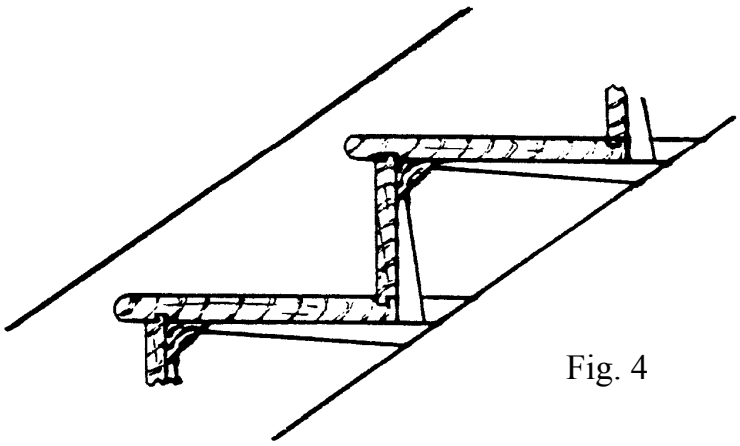

Fig. 4

(b) With reference to an **institutional/assembly stair <u>step,</u>** complete the table below.

Maximum Rise of Step	Minimum Going of Step

Marks

16. A number of semi-circular heads for windows are to be cut to shape on the narrow bandsaw and "dressed" or cleaned up on the spindle moulding machine. Sketch a suitable jig or template for this purpose and illustrate its use on the spindle moulding machine.

17. A room is square in plan and has a total area of $49m^2$

(a) Calculate the amount of skirting required, without making adjustment for openings and waste.

Total Run of Skirting

(b) Using your answer above, make an allowance of 22% for cutting and waste to find the total cost of the Ex 25 x 100 skirting at £264 per m^3

Cost of Skirting	
22% Waste	
Total m^3 of timber required	
Total cost at £264 per m^3	

Marks

18. A kitchen cabinet is to have 6mm thick glass sliding doors. Explain, with the aid of sketches, a type of track and fittings that may be used.