

CANDIDATE No.

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The Institute Of Carpenters

ADVANCED CRAFT EXAMINATION

Wednesday June 14th 2006

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

This question paper remains the property of the
Institute of Carpenters
and all USED AND UNUSED PAPERS **MUST** BE RETURNED after the examination

Name:

Date of Birth:

Occupation:

1. Show by means of sketches the following methods used in the conversion of timber from the log :-
 - (a) (i) Quarter sawn; (ii) Slab (through and through) cutting.
 - (b) Indicate on your sketches by dotted lines what effect shrinkage would have on the sections.

2. Showing all geometrical construction lines determine, in millimetres, the radius of the arc shown in Figure 2.

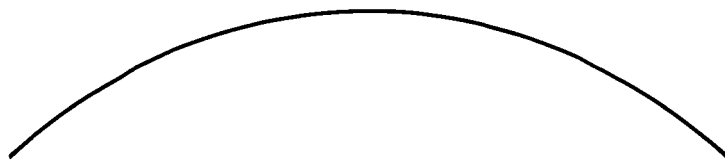


Fig. 2

3. List **FIVE** factors to be considered when choosing timber from stock to replace damaged ground floor joists.

1.
2.
3.
4.
5.

4. (a) State why it is necessary to provide ventilation to roof spaces where timber members are used.

- (b) Describe with the aid of sketches how this may be accomplished.

5. Describe with the aid of sketches **THREE** methods used on site for setting out a right angle.
6. In connection with timber framed buildings describe the following and the materials used :-
- (a) Breather membrane;
 - (b) Insulation ;
 - (c) Vapour control layer.

(a)

(b)

(c)

7. Sketch **TWO** of the following items used in formwork construction :-
- (a) An adjustable steel prop
 - (b) A telescopic floor centre
 - (c) A steel column cramp & wedges
 - (d) The components of a "left in" form tie system.

8. In the table provided, state the various types of hand tools and their uses.

Tool		Uses
	Chisels	
i)		
ii)		
iii)		
	Saws	
i)		
ii)		
iii)		
	Planes	
i)		
ii)		
iii)		

9. List the sequence of activities when erecting and striking a turning piece for a brick arch.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

10. A pair of double action doors fitted with helical springs are banging together when closing.

(a) Suggest a reason for this;

(b) Describe the necessary procedure to rectify this fault.

[illegible]

11. A cubic metre of softwood was purchased for £263.00.
Calculate the cost per linear metre of 25 x 100 boarding, adding 20% for secondary conversion.

Metre-run of boarding obtained =	
Cost per metre run =	
+ 20% =	
Final total cost =	

12. Sketch and describe **ONE** example of a jig which may be used in the workshop or on site to speed up production.

13. List in their correct order, the sequence of operations when fitting and fixing a mortise lock on an external door.

14. A window board and apron lining is to be fitted to a window opening in a domestic building constructed of a timber inner frame and brick outer skin. Describe, with the aid of a sketch if required, the procedure for carrying out the work.

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

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

16. (a) List **FIVE** essential items of information required when ordering wood screws.

1.
2.
3.
4.
5.

- (b) Illustrate by means of sketches the effective length of:-

- (i) Countersunk screw
- (ii) Raised head screw
- (iii) Round head screw.

17. Sketch a horizontal section (plan view) through a rebated jamb and part door, of a half-hour fire resisting door-set. Indicate on the drawing the materials used and all relevant dimensions.

18. (a) Illustrate using sketches, the following types of stair :-

- (i) Geometrical;
- (ii) Open newel;
- (iii) Dog leg.

(b) Define the terms :-

- (i) Headroom;
- (ii) Storey height.

(i)

(ii)
