



The Institute Of Carpenters

INTERMEDIATE EXAMINATION

Sample Theory Paper With Answers

Each question is worth 10 marks

TIME ALLOWED ONE AND A HALF HOURS

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

To obtain full marks Candidates must answer **ALL 20** questions

All questions 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:

Region

Age

1. Name **THREE** timbers classified as Softwoods

1. *Douglas fir*

2. *Cedar*

3. *Larch, or Spruce, or European Redwood*

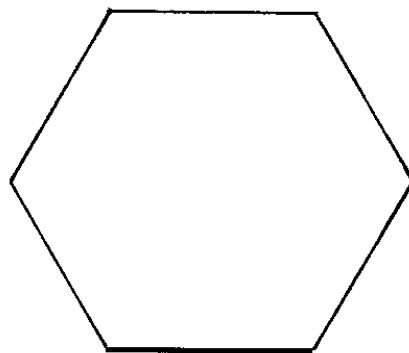
2. Describe a situation where dead shoring would be used.

On a building that is undergoing either structural repairs, i.e.

replacing the lintel over an opening. Or, when an opening is to be

formed in a wall and the shoring is to support the loading above.

3. Using drawing equipment and the given base line at Fig.1, construct a hexagon.



All angles are at 60°

Fig. 1

4. State the name of the guard which covers the top of the saw on a circular saw bench.

Crown Guard

5. Calculate the following materials order adding 17.5% for VAT.

3 No sheets of 2.440 x 1.220 x 18 mm ply @ £11 per sheet.

14 No boxes of 3" x 10 C/S steel screws @ £6.50 per box.

18 m run of 45 x 45 s/wood @ £1.50 per metre.

$$3 \times £11 + 14 \times £6.50 + 18 \times £1.50 = £151$$

$$\text{add } 17.5\% = 151 \times 1.175 =$$

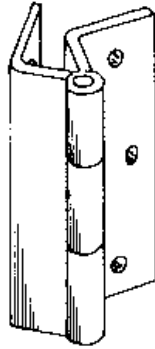
Total: **£177.42p**

6. State **ONE** method of seasoning timber.

Mark

Kiln, or Air, or Air and Kiln

7. Sketch the type of hinge that would be used on a stormproof casement window.

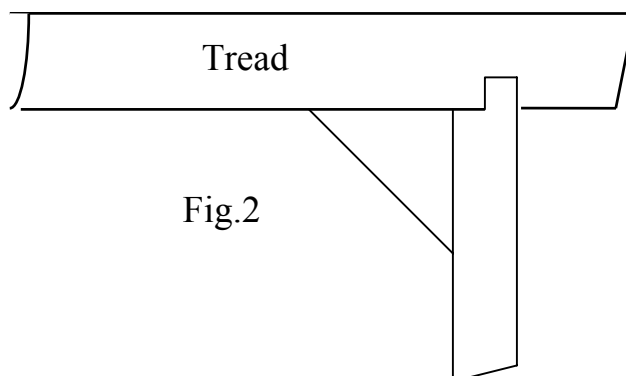


Stormproof hinge

8. A number of door frames are to be delivered to site by lorry. Describe how the frames will be protected during transport.

They must be protected from the elements by covering with a suitable material, for example “bubble-rap”, cardboard or water-proof sheet. Also the frames must be secure either by laying flat or upright and tied to the lorry.

9. Fig.2 shows a part section through a tread of a staircase. Complete the drawing to include the riser to show how it is secured to the tread.

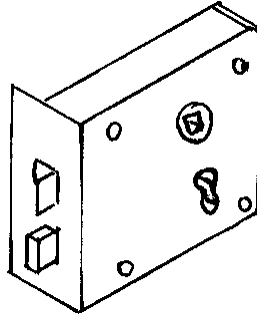


10. State a suitable moisture content for a solid timber shelf to be fixed above a radiator.

Mark

3 to 5%

11. Sketch and name a type of lock that would be used for a ledged and braced door.



Rimlock

12. Describe the sequence of operations when fitting architrave around a door frame.

Mark the margin around the edges of the frame. Hold the vertical architrave next to the intersection of the margin lines and mark the position of the mitre cut (usually 45°). Cut mitre and fix to frame and repeat with other piece.

Once both vertical architraves have been secured, place the horizontal (top) architrave on the ends of the vertical pieces and mark on the true length and cut mitres at both ends. Punch and fill nail holes.

13. List **TWO** items of information that can be obtained from a setting-out rod

1. *Height and width.*
2. *Position of joints, or types of mouldings, or size of rebates/grooves.*

14. Give **ONE** example of a site operation and the safety equipment that must be used.

Operation	Safety Equipment
<i>Drilling concrete or Lifting materials or Using power tools</i>	<i>Goggles, Dust mask. Steel toe cap boots All guards, dust extraction etc</i>

15. Indicate with an arrow on the drawing in Fig.3 which direction the belt should rotate on an electric portable belt sander.

Mark

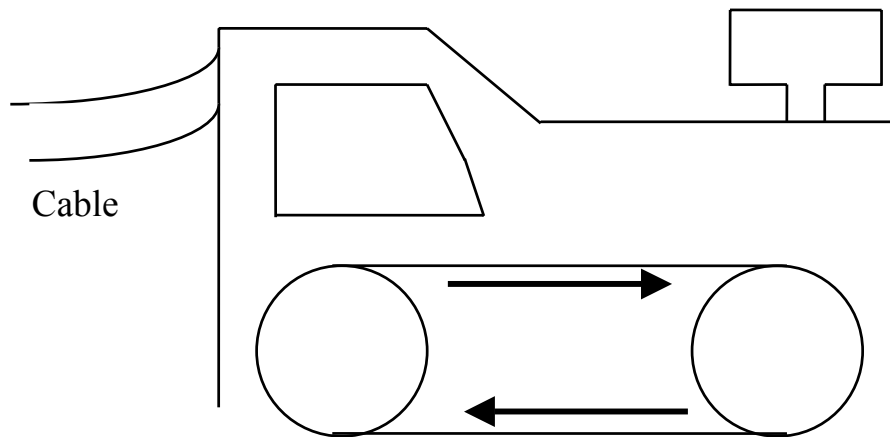


Fig.3

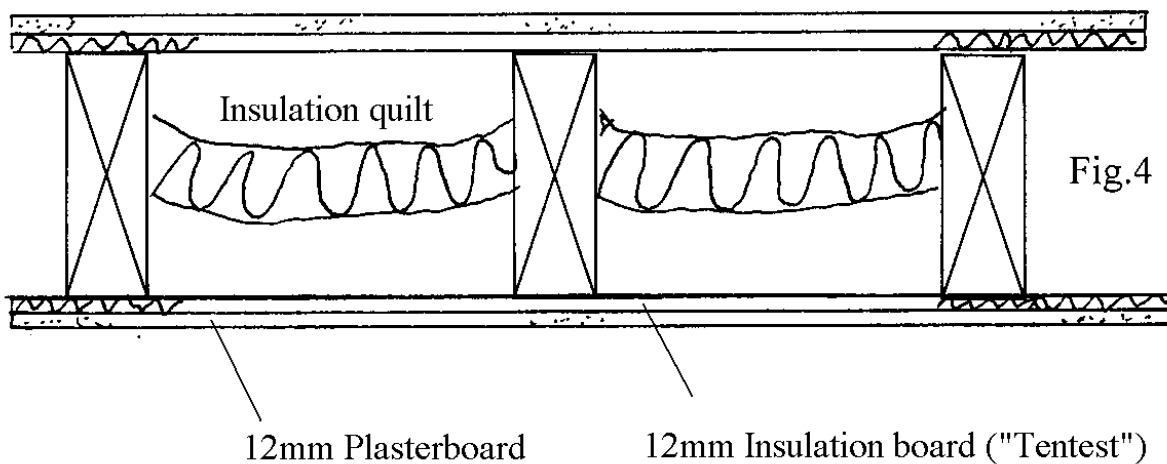
16. State **TWO** reasons why grounds are used when fitting dado wall panelling.

- | |
|--|
| 1. <i>Provides a flat level surface.</i> |
| 2. <i>Allows for fixing.</i> |

17. State **TWO** reasons why a haunch is used on the middle rail of a four panelled door.

- | |
|---|
| 1. <i>On wide rails the tenon may shrink in width and may loosen.</i> |
| 2. <i>Allows for extra wedges to be used.</i> |

18. Fig.4 shows a part horizontal section through the studwork of a timber partition. Complete the drawing to include a method of sound insulation.



19. State **TWO** reasons why wallplates are used in roof constructions.

Mark

- | |
|--|
| 1. <i>Provides a flat level surface for fixing the roof timbers.</i> |
| 2. <i>Spreads the weight of the roof.</i> |

20. Fig.5 shows the vertical section through an inverted concrete sill for an external door frame. Complete the drawing to illustrate a mould box suitable to pre-cast the item.

