

THE INSTITUTE OF CARPENTERS



Fellowship Examination

12th - 16th June 2000

Paper 1: CARPENTRY 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. Fig 1 shows the outline of a railway viaduct in which a semi-circular arch is to be rebuilt.

Show by sketches, the outline and details of the centering etc, which will allow continued use of the roadway.

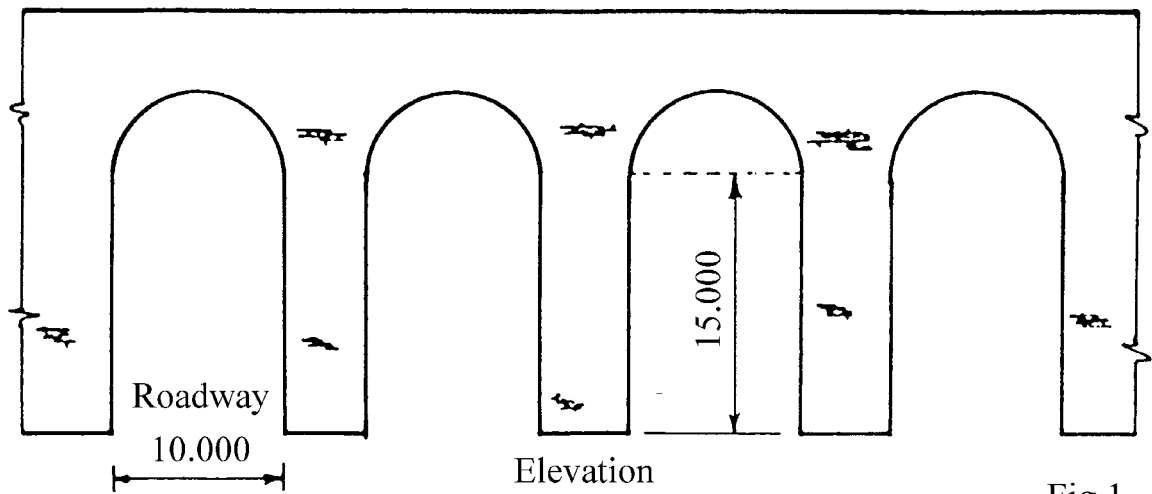


Fig.1

2. Fig 2 shows part of a reinforced concrete portal frame.

(a) Show details at A-A of the mould required to produce 40 frames.

(b) Prepare a schedule of the formwork required if five frames are to be produced every day.

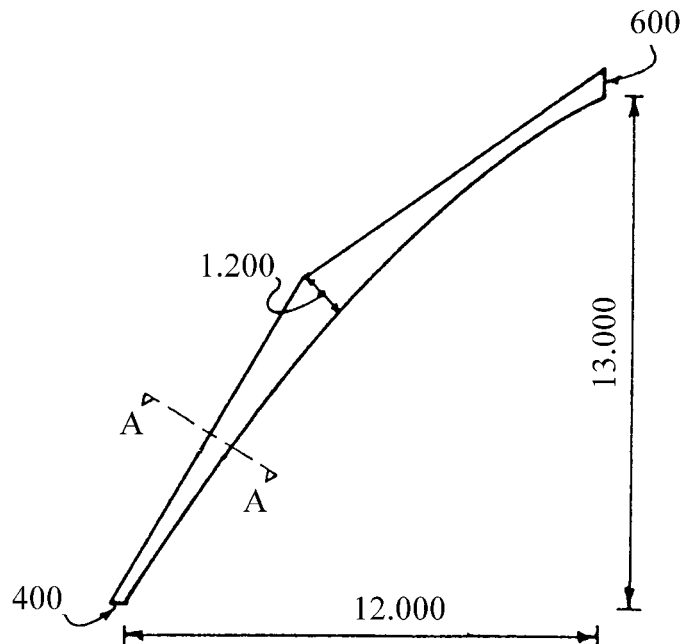


Fig.2

3. List the general rules which should be observed for the care, safe working and efficient use of the following portable power tools.
- (a) Portable circular saw
 - (b) Portable jig saw
 - (c) Portable planer
 - (d) Portable router
- 4.
- (a) Explain what is accepted and what is rejected when selecting softwoods and hardwoods for use in carpentry.
 - (b) How would the selected timber be stored?
 - (c) Describe the selection and storage of sheet materials.
- 5.
- (a) Outline the principal safety requirements in respect of scaffolding.
 - (b) Who is responsible for seeing these requirements are carried out and maintained throughout the contract.
 - (c) What action should be taken by the craft foreman when these requirements are not being met.
- 6.
- (a) Describe briefly four strength characteristics of structural softwoods.
 - (b) Explain how each characteristic may effect the utilisation of timber in structural work.
 - (c) Compare particle board, fibre board and plywood with reference to the following properties :-
 - (i) Strength;
 - (ii) Moisture content:
 - (iii) Fire resistance.

Please turn over.....

7. (a) A small estate of thirty semi-detached houses is to be constructed on a one year contract. State what provision should be made for the storage of materials on site to ensure :-
- (i) That double handling is avoided;
 - (ii) That the materials are available;
 - (iii) The security of stores.
- (b) Describe a method of measuring progress on this type of contract.

8. Fig 3 shows the elevation of an eyebrow window incorporating a pivot hung sash. The finish of the face is to be shiplap boarding. The main pitch of the roof is 40° and the pitch of the eyebrow roof is 22° .

Draw to a scale of 1: 20 a skeleton elevation and a vertical section to show the construction of eyebrow and the framing, from the apex of eyebrow to the floor immediately below.

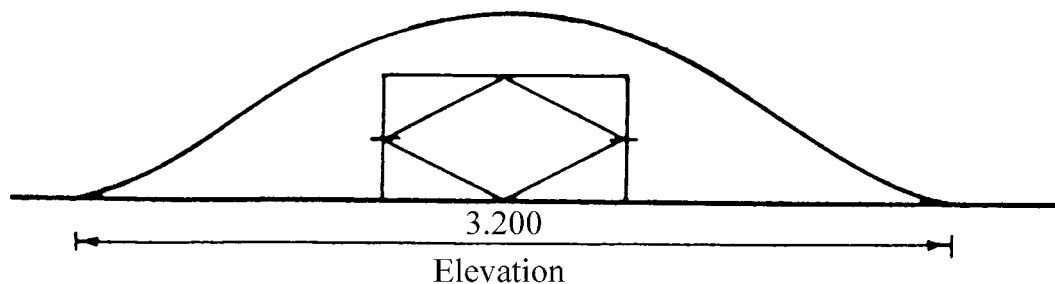


Fig.3