

THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATION COUNCIL
CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

074

CARPENTRY AND JOINERY
(For Both School and Private Candidate)

Time 3: Hours

Thursday, 18th October 2012 a.m.

Instructions

1. This paper consists of section A, B and C
2. Answer **all** questions in section A and B and **two (2)** questions from section C.
3. Calculators are **not** allowed in the examination room.
4. Cellular phones are **not** allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).

SECTION A (20 Marks)

Answer **all** questions in this section.

1. For each of the items (i) – (x) choose the correct answer among the given alternatives and write its letter besides the item number.
- (i) Centres can be set by using one of the following except
A loci B latter chords C radius rod
D trammel E triangular template.
- (ii) In shoring, the component that penetrates into the wall and locates the top of the raker is called
A cleat B needle C wall hook
D wall piece E wedge.
- (iii) When an opening for the doorway is constructed, the joint used between the door head and jambs is
A fish plated B housed C mitred
D splayed dovetail E tongue and groove.
- (iv) The type of roof that has the fewest number of different-size members is called
A gable B gambrel C hip
D mansard E shed.
- (v) The minimum size of going in a private stair is
A 120 mm B 220 mm C 230 mm
D 240 mm E 330 mm.
- (vi) The standard height for a dining table is
A 71 cm to 74 cm B 71 cm to 76 cm C 76 cm to 80 cm
D 90 cm to 96 cm E 95 cm to 100 cm.
- (vii) Varnishes are applied to wood structures by
A brushes and spray guns B pieces of cloth and brushes
C rollers and pieces of sponge D rollers and spray guns
E spray compressor and air guns.
- (viii) Which of the following type of soil does not need timbering to trenches?
A Firm soil B Hard soil C Organic soil
D Peat soil E Water logged soil.
- (ix) _____ refers to strong pieces of timber bolted round the column formwork to keep the panels in position whilst concrete is poured.
A Ledges B Props C Struts
D Wedges E Yokes.

(x) In timber partition the vertical members are known as

- A jambs B poles C post
D stiles E studs.

2. Match the items in **List A** with the responses in **List B** by writing a letter of the correct response beside the item number.

| List A | List B |
|--|-----------------|
| (i) Cuts angles of various degrees on finish lumber. | A Bow saw |
| (ii) Cuts large curves in fairly heavy timber. | B Circular saw |
| (iii) Cuts large diameter curves in thin wood. | C Coping saw |
| (iv) Cuts large joints, especially in softwood. | D Dovetail saw |
| (v) Cuts perpendicular to the grain of lumber. | E Fret saw |
| (vi) Cuts sharp curves in a thin board near to the edge. | F Hacksaw |
| (vii) Cuts along the grain of lumber. | G Miter box saw |
| (viii) Cuts small diameter holes and similar cuts started from a hole. | H Pad saw |
| (ix) Cuts metal. | I Panel saw |
| (x) Useful for cutting hardwood joints. | J Pull saw |
| | K Rip saw |
| | L Tenon saw |
| | M Hole saw |
| | N Steel saw |
| | O Curved saw |

SECTION B (40 Marks)

Answer **all** questions in this section.

3. Name any four standard attachments that are supplied with the portable power drill and state the function of each.
4. Make a neat pictorial drawing of a tree trunk and label its parts.
5. Explain the following glue terms
- | | |
|-------------------|-------------------|
| (a) Pot life | (b) Shelf life |
| (c) Cramping time | (d) Setting time. |
6. (a) With an example, name two types of abrasives used while finishing wood.
- (b) Explain why would you wish to apply wood filler to a piece of furniture you are making?
7. Explain in brief the following terms in connection to form-work;
- | | |
|---------------|-------------------------|
| (a) Decking | (b) Distance piece |
| (c) Form tape | (d) Double-headed nail. |

8. (a) What is the maximum and minimum height of hand rail from the line of nosing?
(b) What is the maximum and minimum pitch of a stair?
(c) Distinguish between newel post and baluster.
9. (a) What are the basic operations that a woodworker should be competent?
(b) Explain briefly the method of squaring up a stock.
10. Name four forms of mortise and tenon joints and give one example where each is used.
11. (a) What is the difference between a king post truss and a queen post truss?
(b) State four functions of a roof.
12. (a) State four reasons of providing ceiling in a building.
(b) List down four materials used in ceiling finishes.

SECTION C (40 Marks)

Answer **two (2)** questions from this section.

13. (a) Briefly describe the process of fixing steel casement window frame in position. (06 marks)
(b) Figure 1 shows a sketch of window frame made up of Mninga timber. Prepare a cutting list for 13 window frames. (12.5 marks)

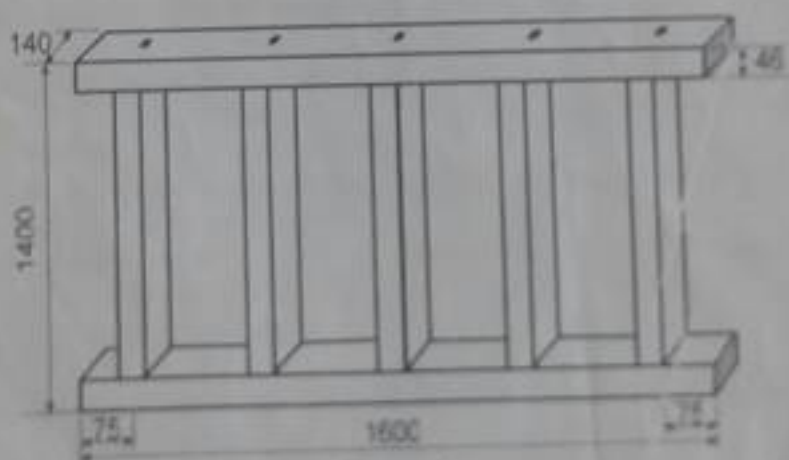


Figure 1

All dimensions are in mm.

- (c) If the cost of Mninga timber used in (b) is 4300/= per meter run, calculate the total cost of the timber required for making 13 window frames. (01.5 marks)

14. (a) Explain the sequences of operations involved in shaping a straight work piece using a spindle moulder machine. (08 marks)
- (b) Name any seven parts of spindle moulder machine and explain the function of each. (07 marks)
- (c) Draw a skew edge chisel and label its parts. (05 marks)
15. (a) Enumerate the procedures for assembling a metal putlog scaffold. (07 marks)
- (b) With the aid of a sketch explain six points that should be kept in mind while erecting flying shores. (13 marks)