

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

074

CARPENTRY AND JOINERY
(For Both School and Private Candidates)

TIME: 3 Hours

Friday afternoon 26/10/2007

Instructions

1. This paper consists of sections A, B and C.
2. Answer all questions in sections A and B, and **two (2)** questions from section C.
3. Electronic 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).

545

This paper consists of 6 printed pages.

SECTION A (20 marks)

Answer all questions in this section.

1. For each of the item (i) -(x) choose the correct answer from among the given alternatives and write its letter beside the item number.
- (i) The cut formed by a saw is called
A fillet B kerf C architrave D riber E cornice.
- (ii) Casein glue is manufactured from
A animal hoofs
B plant products
C artificial manufactured products
D cow skimmed milk
E combination of animal hoofs and plant products.
- (iii) An instrument used to measure moisture content in kiln plants is called
A barometer
B photometer
C electric moisture meter
D speed meter
E gallometer.
- (iv) An architrave is
A fixed between walls and ceilings
B fixed at the foot of the wall
C fixed to cover the joint between door frames, window casings and plaster around them
D fixed between muntin and panels
E fixed between finishing floor level and wall.
- (v) The suitable hinge for hanging match boarded doors is
A the butt hinge
B the back flap hinge
C the tee hinge
D the strap hinge
E the raised hinge.
- (vi) Texture, figure and grain signify
A the appearance of a cut surface of timber structure
B the arrangement of the grain
C sawn timber
D finger tests of a cut timber
E age of trees.

- (vii) A bay window with 45° or 60° return angle is the
- A square bay
 - B patent bay
 - C arched bay
 - D cant bay
 - E elliptical bay.
- (viii) Why must the trimming timbers of a floor be sound, straight-grained and free from large knots?
- A To maintain its appearance and attraction.
 - B To maintain its strength since it is load bearing timbers.
 - C To maintain its non-load bearing.
 - D Because they are usually soft woods.
 - E Because they are produced from very long pieces of timber.
- (ix) To cut the corner joints of a picture frame use
- A a try square
 - B sliding bevel
 - C mitre square
 - D T-square
 - E set square.
- (x) The following is the window lighting for a flat roof.
- A Dormer roof light.
 - B Sky lights.
 - C Lantern lights.
 - D Patent glazing.
 - E Casement.

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

List A

- (i) Scarf joint, dovetail joint and tongued and grooved joint
- (ii) An operation of lowering a centre
- (iii) A door for sheds
- (iv) Decorative mould around doors and windows to emphasize and decorate opening
- (v) Longitudinal curvature flat wise from end to end of a piece of timber
- (vi) It has a tapered side to set up a strong bursting pressure against resistance
- (vii) Refers to one of the factors used in calculating the percentage of moisture content of timber
- (viii) They are cone-bearing trees with needle like leaves whose seeds are produced naked
- (ix) It is used for preparing edge to edge joints for gluing
- (x) A machine for cutting logs into reasonable lengths

List B

- A Easing
- B Mahogany
- C Classes of joints used in woodworks
- D Bridle joint
- E A reciprocating cross cut saw
- F Panel door
- G Dry weight
- H Skirting
- I Match boarded door
- J Twisting
- K Trying plane
- L Honey comb
- M Architrave
- N Barometer
- O Conifers
- P Jack plane
- Q Wedge
- R Band saw
- S Bowing
- T Floor boards

SECTION B (40 marks)

Answer all questions in this section.

- 3. Name four (4) types of marking gauges.
- 4. List four (4) wood boring insects.
- 5. (a) Write down the formula for calculating the pitch and rise of a roof.
(b) Briefly explain the following terminologies as used in the field of carpentry and joinery.
 - (i) Run
 - (ii) Pike.

6. Analyse **four (4)** areas to be observed when considering safety precautions.
7. (a) State **three (3)** important reasons for timbering to trenches.
(b) Give the name of a bottom part of formwork.
8. Derive the formula for calculating the moisture content of timber and then determine the dry weight of a sample if the wet weight was found to be 40 grammes and moisture content is 50 %.
9. Define the following terms:
(a) Paint
(b) Varnish.
10. Differentiate a stair from staircase.
11. (a) List **four (4)** warping forms of timber.
(b) Differentiate straining beam from tie beam.
12. (a) Name **two (2)** types of timber partitions.
(b) Mention **two (2)** methods used in timber conversion.

SECTION C (40 marks)

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

13. (a) (i) Describe the saying "safety first", as applied to carpentry and joinery.
(ii) List **six (6)** workshop safety habits.
(iii) Analyse **two (2)** classes of safety on handtools.
(iv) Mention **three (3)** possible sources of accidents when using machines and portable power tools.
- (b) Briefly explain the following:
(i) Pitch of a roof
(ii) Dragon tie
(iii) Hip face
(iv) Fascia board.

14. (a) Define the term "floor".
- (b) Classify timber floors.
- (c) Explain the term "strutting" as used in timber floor construction.
- (d) Sketch a timber floor pattern and illustrate the following:
- (i) Floor boards
 - (ii) Floor joists
 - (iii) Girder
 - (iv) Binder
 - (v) Concrete base.
15. (a) Define the term "window".
- (b) Sketch a window frame and label the following parts:
- (i) Head
 - (ii) Jamb
 - (iii) Transom
 - (iv) Mullion
 - (v) Fanlight.
- (c) Enumerate **three (3)** methods used in hanging window shutters.
- (d) Distinguish between dormer window from bay window.