

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, 15th October 2010 a.m.

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. 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).



This paper consists of 6 printed pages.

SECTION A (20 Marks)

Answer all questions in this section.

1. For each of the items (i) – (x), choose the correct answer from among the given alternatives and write its letter beside the item number.
- (i) A continuous series of steps is known as
A stair
B balusters
C staircase
D flight
E nosing.
- (ii) The bench hook is equipment used to
A support the work piece on the bench
B support the work piece while cutting shoulders of the tenon
C hold glued pieces together
D hold narrow pieces while drilling
E determine the percentage of moisture content.
- (iii) The wood of hardwood trees is usually
A resinuous
B non-resinous
C a corn
D crown
E evergreen.
- (iv) The following are un-trussed roofs:
A Queen post roof
B Couple roof
C Mansard roof
D Triple roof
E Lean-to-roof.
- (v) In order for the door frame to remain rigid during building operations, it should be
A fixed into the ground
B pinned with iron bars
C braced with squaring strip
D nailed
E bulged.

- (vi) Mitre joints is popular in
- A right framing
 - B cabinet work
 - C flooring jointing
 - D roof framing joint
 - E fireplace.
- (vii) The conspicuous irregularities in the direction of the fibres usually produce
- A very attractive figure
 - B blister figure
 - C burr figure
 - D ribbon figure
 - E bird's eye figure.
- (viii) Needle in a shoring structure means
- A a piece of timber or metal inserted into or through a wall which transfer the load from the wall to the system
 - B a load spread beam of timber or metal on the floor or ground
 - C a metal spike used initially to anchor wall plate to the wall
 - D a vertical member providing support anchorage for the strut in a flying
 - E a straining beam provided to support rafters.
- (ix) A framed, ledged, braced and battened doors are grouped under
- A flush doors
 - B paneled doors
 - C garage doors
 - D toilet doors
 - E match boarded doors.
- (x) A triangular part of gable end is called
- A verge
 - B valley
 - C gable
 - D pike
 - E burger.



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

List A	List B
(i) Glaring.	A Parquet flooring
(ii) Spraying.	B Heart shake
(iii) A member in one of the scaffolds.	C Lipping
(iv) Tool for smoothing curved surfaces.	D Sliding
(v) It is made from skins, bones and horns.	E Taper saw
(vi) The correction of hinge bound fault.	F King post
(vii) Centering.	G Jambs dowelled into floor, horns built in walls and nailed to jambs
(viii) Raking shore.	H A mitre gauge
(ix) Means of fixing door frames in position.	I An operation of cutting and fixing glass panels on windows
(x) Flooring of wood laid in alternating patterns to form various designs.	J Temporary structure made from timber used to support arch construction
	K A circular saw component
	L Animal glue
	M To pack up the housing with card thus throwing the hinge into the correct position
	N Seasoning
	O Spoke shave
	P Inclined timber member placed against an unstable wall, top ends rest on walls, lower ends on ground
	Q Halving
	R A putlog
	S A method of applying wood finishes
	T Fixing the hinge in a reverse way

SECTION B (40 Marks)

Answer all questions in this section.

3. ✕ Outline four (4) importance of costing in both carpentry and joinery.
4. (a) Name three (3) types of hammers used by a carpenter.
(b) ✓ What type of bit tang (shank) is held by a ratchet brace?
5. (a) Which type of a screw is suitable for fixing a thin metal plate to wood?
(b) Mention suitable hinge for garage doors.
(c) Explain briefly the function of a scraper.

6. Mention four (4) types of windows commonly used for roof lighting.
7. Sketch a tree trunk and show the following parts:
 - (a) Scotch
 - (b) Trunk
 - (c) Burr
 - (d) Stamp or butt
8. List three (3) areas where trimmers are used.
9. With the aid of a neat sketch, show timbering to trench for loose soils.
10.
 - (a) Explain briefly the function of a form work.
 - (b)
 - (i) Determine the span of a roof truss from the given data below:
 - Rise = 1.5 m.
 - Pitch = $\frac{1}{8}$
 - (ii) Outline the stages involved in reconditioning a saw.
11.
 - (a) Define the term "striking".
 - (b) Explain briefly the term "stud".
12. State the methods used to preserve timber.

SECTION C (40 Marks)

Answer two (2) questions from this section.

13.
 - (a)
 - (i) State three (3) primary functions of a window.
 - (ii) Explain the essential requirements of windows.
 - (iii) State three (3) major methods used to secure windows.
 - (b) Explain briefly the parameters to be observed when designing furniture.
14.
 - (a) Define a stair.
 - (b) List four (4) requirements of stairs.
 - (c) Sketch the following types of steps:
 - (i) Splayed
 - (ii) Commode
 - (iii) Winders
 - (d) A residential building 4.5 m long by 3 m has a height of 3.6 m between floors. If the entrance to the stair and its landing are 0.9 m apart and the step riser is to be 160mm;

Calculate:

 - (i) The number of steps in one flight.
 - (ii) The number of treads in the flight.
 - (iii) The size of a tread.

15. (a) Categorize three (3) types of arches as applied in carpentry and joinery.
(b) With the aid of sketches, define and describe fully the types of flush doors.

