

**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

16 November 2000

Instructions

1. This paper consists of SEVEN (7) questions.
2. Attempt question number 1 and any other FOUR (4) questions.
3. Question number 1 carries 32 marks and the others carry 17 marks each.
4. Write your Examination Number on every page of your answer booklet(s).



This paper consists of 3 printed pages.

1. (a) What is a joint?
 - (b) By means of sketches show how a mortise and tenon joint is reinforced by pinning.
 - (c) Name the methods used to plane the end grains of timber (diagrams can be included).
 - (d) Make a sketch of a square hunched M & T joint and show the relations between
 - (i) the length of hunch and the tenon thickness.
 - (ii) the depth of hunch and the width of tenon.
 - (iii) the thickness of tenon and the thickness of work piece.
2. (a) What is a centre as used in building construction?
 - (b) Name three areas in a building which need centring.
 - (c) Mention four types of centres.
 - (d) Make a sketch of a Gothic arch centre and show
 - (i) the upper tie
 - (ii) ribs
 - (iii) props
 - (iv) lower tie
 - (v) lagging.
3. (a) Define the term "roof coverings".
 - (b) Name five types of roof coverings.
 - (c) Give five roof covering requirements.
 - (d) A Gable roof's slopping edge is 4 m long and 10 m wide. Calculate the number of C.I.S. required to cover the roof. (Take length of sheets to be $2\frac{1}{2}$ m and a width of 1m).
4. (a) Define the term "conversion" as used in building construction.
 - (b) Name three methods of converting timber.
 - (c) Write short notes on the following:
 - (i) Bauks
 - (ii) Planks
 - (iii) Flitches
 - (iv) Battens
 - (v) Scantlings.
 - (d) What will happen if the conversion of fallen logs is delayed?

5. (a) Define the term "floor".
- (b) Mention all classes of timber floors.
- (c) What causes the difference in floor classes mentioned in (b) above?
- (d) What governs the selection of timber floor joist sizes?
- (e) What do you understand by the term "herring bone strutting"?
6. (a) What is a partition?
- (b) Mention two types of timber partitions.
- (c) Make a sketch of a STUD timber partition and show:
- (i) studs
 - (ii) staggered nogging pieces
 - (iii) puncheon
 - (iv) fillet.
- (d) By means of sketches show two methods of joining nogging pieces to studs.
- (e) Show or name the area where the task tenon joint is used.
7. (a) What are wood working machines?
- (b) Name four common wood working machines.
- (c) List four operations done on the circular saw machine.
- (d) Name all stages of sharpening a circular saw blade.