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 2006/10/26 a.m.

Instructions

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

This paper consists of 5 printed pages.

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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) Double glazing means

A two glasses fitted to casement as a single unit
B two casement hinged together and fitted into a frame as a single unit
C double glass glazed as a single unit fitted to sashes
D double sashes fitted to a frame as a single unit
E two different glass colours act as single unit fitted to a casement.

(ii) Safety governs the

A clothing and hand tools only
B workshop working benches only
C workshop, machines, hand tools and personal protective clothing
D workshop and hand tools only
E hand tools and machines only.

(iii) It is important to keep the oil stone in a wooden box because

A it simplifies the work of sharpening cutters
B the wooden box is cheap
C it retain the oil poured into it
D it breaks easily when dropped
E it prolong the life span of the stone

(iv) In woodworking the internal built-in fitting means all

A permanent fixtures in the building
B movable fixtures in the building
C wall partitions
D kitchen fixtures
E bathroom fixtures

(v) A burnisher is an abrading tool for sharpening

A scrapers
B chisels
C nail punches
D cutting knife
E saws.

(vi) Is one of the basic factors for formwork structure.

A To protect operatives while working in trenches
B To decorate the trenches
C To allow stones and soil fall in trenches
D To remove soil from the trenches
E To dismantle sheetings from the trenches

(vii) Is a wood structure used as temporary support for an arch during construction.

A Centring
B Segment
C Lintel
D Wedge
E Scaffold

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(viii) How are the grains in panels arranged in the frame?
- A They are arranged to match
- B They are arranged to cross
- C Randomly arranged
- D Diagonally arranged
- E Staggered arranged

(ix) Wall, screen and balustrade are all
- A parts made stairs
- B type of stairs
- C partition walls
- D steps of stair case
- E stair guider

(x) A structure liable to collapse can temporarily be propped using
- A retaining walls
- B scaffold
- C shoring
- D fender wall
- E underpining

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

List A		List B	
(i)	The simplest joint in woodwork	A	A trimmer
(ii)	A vertical member of a structure used to carry the load and transmit them to the foundation	B	Warping
(iii)	The defect that begins at the heart of the log due to over maturity of the tree	C	Lewis bolt
(iv)	Driving in and pulling out nails	D	Dogging
(v)	Seat of a rafter	E	Ball pein hammer
(vi)	A wooden piece provided to receive the trimmed joists	F	Pantiles
(vii)	An alternative method of cramping boards in timber floor construction	G	Stain
(viii)	A roofing material whose side overlaping is like that of corrugated iron sheets	H	Ring beam
(ix)	A finish which provides changes of colour to the worked surface	I	Collar tie
(x)	An iron mongery used for fixing machinery in workshops	J	Birds mouth
		K	Glazing
		L	Rebate joint
		M	Good polish
		N	Heart shakes
		O	Dowelling
		P	Butt joint
		Q	Coupling
		R	Claw hammer
		S	Horning
		T	Column

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SECTION B (40 marks)

Answer **all** questions in this section.

3. The wet weight of timber piece was 850 g before drying. After drying the piece was re-weighed and found to be 750 g
   (a) Calculate the percentage moisture content
   (b) From the results in (a) above, can the timber be suitable for furniture making?

4. Distinguish between putlog and independent scaffolds.

5. Explain the difference between an emery cloth and an emery wheel.

6. Give a brief description of cutting list as used in carpentry and joinery.

7. What is veneering?

8. (a) Define the term seasoning
   (b) Mention three methods of timber seasoning.

9. Explain the following:
   (a) Winding strips
   (b) Trenching

10. (a) What does the term "ceiling trimming" mean?
    (b) Why is it necessary to provide night lighting to pavement scaffolds?

11. (a) What does staggered nails or screws joint means?
    (b) Explain the uses of claw bar

12. Give two reasons for inclined louvers construction or sloping outwards.

SECTION C (40 marks)

Answer two (2) questions from this section

13. (a) Carefully study the diagram in fig. 1 and then answer the question that follows:

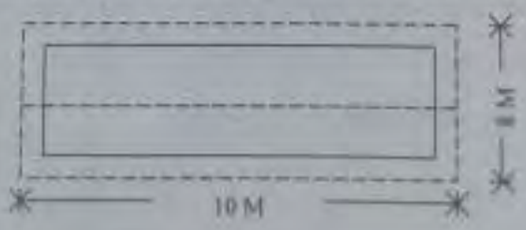

Fig. 1

Calculate the number of rafters spaced at 2m c/c

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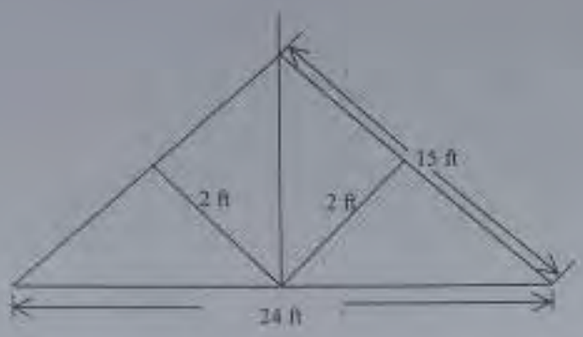

Fig. 2

(b) Find the cost of timber for all trusses to be used in 13 (a) if one truss is as shown in figure 2.
Assume 1 ft. run = 200/=

(c) Explain how "dry rot" affects the quality of timber.

14. (a) With the aid of sketches explain pivoted windows
(b) (i) Briefly explain glazing
(ii) State three methods used in glazing

15. (a) (i) Differentiate sash windows from casement windows
(ii) State three basic iron mongery used for sash windows

(b) Name two types of louver ventilators.

(c) (i) What is Adhesive?
(ii) Mention three types of Adhesives.

(d) (i) Briefly explain shrinkage in timber
(ii) Explain why timber is seasoned.

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