

**THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATION COUNCIL OF TANZANIA
FORM TWO NATIONAL ASSESSMENT**

074

WOODWORK AND PAINTING ENGINEERING

Time: 2:30 Hours.

Year: 2024

Instructions

1. This paper consists of sections **A**, **B** and **C** with a total of **ten (10)** questions.
2. Answer **all** questions.
3. Section A carries **15** marks; section B carries **70** marks and section C carries **15** marks.
4. All writing must be in **black** or **blue** ink and drawings must be in **pencil**.
5. Cellular phones and unauthorized materials are **not allowed** in the examination room.
6. Write your **Assessment Number** at the top-right hand corner of every page.

FOR EXAMINER'S USE ONLY		
QUESTION NUMBER	SCORE	EXAMINER'S INITIALS
1		
2		
3		
4		
5		
6		
7		
TOTAL		
CHECKER'S INITIALS		

SECTION A (15 Marks)

Answer **all** questions from this section

1. For each of the items (i)-(x), choose the correct answer from among the given alternatives and write its letter in the box provided.

(i) Select the appropriate machines for cutting external curved shape in woodwork.

- A. Circular saw
- B. Cross cut saw
- C. Gig saw
- D. Band saw

(ii) Bandages should be applied firmly enough to keep efficient dressing. The following are considered as function of dressing **except**

- A. Ling bleeding
- B. Reducing blood circulation
- C. Avoid further bleeding
- D. Absorbing discharges

(iii) If 2.0 litres of short oil varnish estimated to paint 1.5 m² of indoor structure, recommend the amount of oil to be used if the total surface area of indoors structure to be painted is 300 m².

- A. 400 litres
- B 150 litres
- C 250 litres
- D 200 litres

- (iv) TAMESA workers are required to paint ten government vehicles. Identify the appropriate painting material that will be used for the required task.

A Aluminium paint
B Colloidal paint
C Cellulose paint
D Bituminous paint

- (v) Identify the finishes that can be used to emphasize wood grain and impart colour into the surface of the stock.

A Wood sealer
B Wood filler
C Wood stain
D Wood varnish

- (vi) A sign writer won a tender that required her to apply stencilling. She decided to use the stencil without removing the dirt. What type of defect the sign writer might cause due to her decision?

A Creep
B Lifting paint
C Smudging
D Bittiness

- (vii) Which warm colour will be produced when red, orange and yellow colours are mixed?

A Advance colour
B Monochromatic colour
C Achromatic colour
D Discordant colour

- (viii) Double boiled linseed oil is a binder which can increase alkali attack behaviour of oil paint. Suggest the painting surface in which oil paint can be used with such a binder.

A New iron steel surface
B Plastered surface
C Galvanized iron surface
D Repainting old surface

- (ix) It was reported that during painting the coating was applied but the undercoat or first coat is seen through the top coat. What might be the cause of such surface defect?

A Painting sections of a surface at different times
B Damaged by rain or condensation.
C Draughts, a damp surface or high humidity.
D Over-brushing, using thin paint and wrong colour undercoat.

- (x) Varnish is a resinous solution forming hard transparent coating when applied in a thin film. What is its main use?

A To enable timber furniture to be attractive to the customer
B To smooth timber furniture after being made in workshop
C To enable timber furniture dry quickly after being made
D To protect and improve the appearance of furniture

2. Match the description of painting purpose in **List A** with the corresponding painting term in **List B** by writing a letter of the correct response below the item number in the table provided. The responses from List B may be used more than once.

List A	List B
(i) To protect the material surface.	A. Sanitation
(ii) To make the material surface washable.	B. Decoration
(iii) To provide a pleasing appearance of the material surface.	C. Preservation
(iv) To prevent rusting of the material surface.	D. Levitation
(v) To denote the material surface.	E. Induction
	F. Insulation
	G. Identification
	H. Limitation

Answers

List A	(i)	(ii)	(iii)	(iv)	(v)	
List B						

SECTION B (70 Marks)

Answer **all** questions from this section

3. Suppose you are given a site to paint using various types of cement paint:
- (a) What would be the appropriate composition of the paint according to its nature?

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(b) How could you prepare the cement paint?

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(c) What will you do to get the quality of a painting work on the cement painted surface?

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4. Painters and decorators should be able to collect and select basic hand tools to enable surface preparation during minor repairs of computer laboratory. How would you use the following hand tools to repair computer laboratory?

(a) Claw hammer

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(b) Pincer

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(c) Nail punch

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(d) Wire brush

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(e) Screw driver

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5. A grinder can be dangerous tool if the user fails to follow safety rules of operating tools. Recommend five safety rules to be followed in order to minimize the risk of the grinder.

(a)
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(b)
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(c)
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(d)
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(e)
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6. Varnish and paint are two materials used in the finishes works applied on the different surface with the same procedure.

(a) What is the major difference between the two materials?

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(b) How do they differ in the process of application?

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7. Differentiate the following colour as used in painting works:

(a) Paste colour and retiring colours

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(b) Split complementary and complimentary colours.

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8. The school management planned to paint classrooms but they still have difficulties in making decision on the type of paint to be used.

(a) Convince them to use water paint instead of oil paint by providing five facts.

- (i)
- (ii)
- (iii)
- (iv)
- (v)

(b) Despite having convinced the school management to use water paint, remind them about five disadvantages of it.

- (i)
- (ii)
- (iii)
- (iv)
- (v)

9. Provide the uses of the following types of dyes:

(a) Direct dyes

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(b) Acidic dyes

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SECTION C (15 Marks)

Answer question number 10.

10. Suppose you have to supply painting materials at a computer laboratory owned by a government school having 20 m length, 6 m width, 8 m height with door and window opening being 4 m² and 15 m²;

(a) Which nine criteria would you consider when selecting the appropriate painting materials for your tender?

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- (ii)
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- (iii)
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- (iv)
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- (v)
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- (vi)
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- (vii)
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- (viii)
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- (ix)
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(b) How much will the project cost if 5 litres of painting materials which is sold at Tsh 8000 per litre was used to paint 35 m² of surface and 25% of this cost was used as labour charge?

[illegible]