

Student's Assessment Number.....

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

074

WOODWORK AND PAINTING ENGINEERING

Time: 2:30 Hours

Year: 2023

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** and **C** carry **fifteen (15)** marks each and section **B** carries **seventy (70)** marks.
4. Cellular phones and any unauthorized materials are **not** allowed in the assessment room.
5. Write your **Assessment Number** at the top right hand corner of every page.

FOR ASSESSOR'S USE ONLY		
QUESTION NUMBER	SCORE	ASSESSOR'S INITIALS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
TOTAL		
CHECKER'S INITIALS		



SECTION A (15 MARKS)

Answer **all** questions in this section

1. Choose the correct answer from the given alternatives by writing its letter in the box provided:

(i) Select the proper type of paint to be used as a floor finish material:

A. Oil paint

B. Water paint

C. Epoxy paint

D. Bituminous paint

(ii) The equipment used to check if the wallpaper run horizontally after hanging is called?

A. Plumb bob

B. Ruler

C. Square

D. Spirit level.

(iii) Which one of the following is the unsafe action during operating the spindle machine?

A. Tightening the spindle nut

B. Checking that all attachment and guards are firmly secured

C. Feeding the work into the cutter in the opposite direction to the cutter rotation

D. Feeding the work into the cutter in the same direction to the cutter rotation.

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(iv) You are given a task to paint a school, which category of painting would you use?

- A. Water paint and Oil paint
- B. Oil paint and Aluminium paint
- C. Oil paint and Bituminous paint
- D. Oil paint and Silicate paint

(v) Which set of colour would be appropriate for painting the building with the natural colour?

- A. Blue and green
- B. Black and white
- C. Red and white
- D. Yellow and purple

(vi) The official finishing material that is used on the surface of the wood to enhance the beauty of the grain markings is called

- A. polish
- B. sealer
- C. shellac
- D. stain

(vii) Which substance would you add to the water aniline dyes to fix the colour into a proper design making batik?

- A. Turpentine
- B. Sprit
- C. Vinegar
- D. Water

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(viii) Which one is the most useful binder used for temporary painting works?

- A. Turk oil
- B. Nut oil
- C. Poppy oil
- D. Linseed oil.

(ix) Form two students were painting a surface of classroom using a roller. What will happen if they apply too much pressure to the roller?

- A. It will stick to the surface
- B. It will slide along the surface
- C. It will roll over a surface
- D. It will form roller marks.

(x) A woodwork teacher assigned a form two student to order medium abrasive material at the nearest hardware for varnish finish work. Recommend the most probable range of mesh size which is suitable to be ordered.

- A. 50-80
- B. 20 – 30
- C. 38 - 40
- D. 100 – 150

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2. Match function of the component of water-based paint in **List A** described with their corresponding responses in **List B** by writing the letter of the correct response below the corresponding item number in the table provided.

LIST A	LIST B
(i) Makes up the colour of a coating and helps the film former to protect the substrate. Primer	A. Acrylic B. Binder
(ii) Converts the liquid coating to a solid dry film, binds the pigment particles together and helps the coating to adhere to the surface.	C. Drier D. Extender E. Pigment
(iii) Allows certain coatings to be applied with ease and give greater adhesive properties to undercoats.	F. Sealer G. Stain
(iv) Added to the paint in order to make it more fluid and bring it to a workable consistency.	H. Thinner
(v) Added to prevent the coat to freeze and control mould growth and pigment stability.	

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

SECTION B (70 MARKS)

Answer **all** questions from this section

3. (a) What is your first six favorite type of paint?

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

(b) Identify the type of paint which has the following characteristics:

(i) Available in powder form.

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(ii) Should not be applied during humid and damp weather.

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(iii) Applied on the surfaces which are exposed to the acidic gases and steam

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(iv) Possess high covering capacity.

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(v) Possess excellent alkali resistance.

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(vi) Consisting of oil and a strong drier.

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4. Recommend four types of blade that can be used in the workshop and give brief description on how to use each of them.

(i)

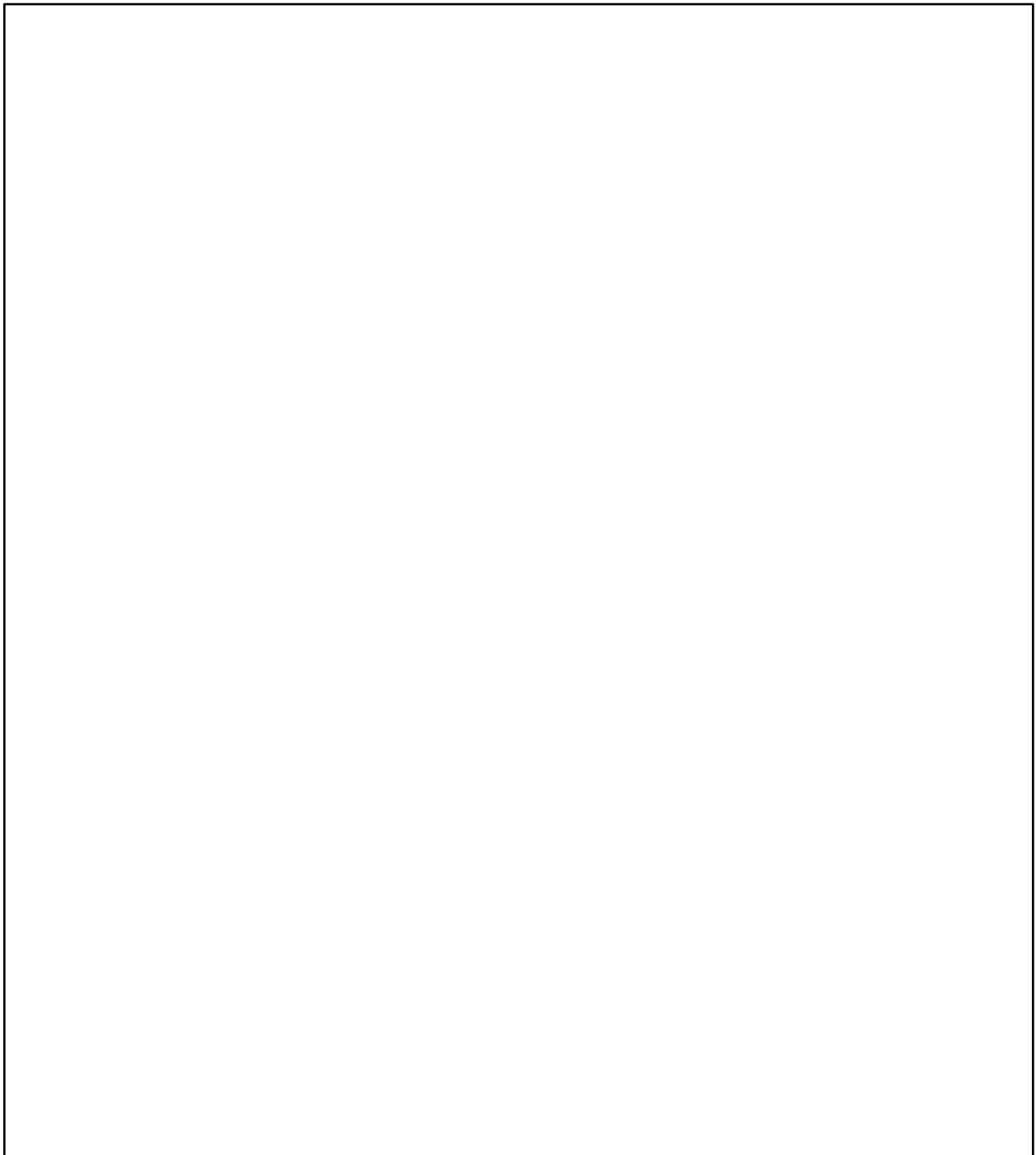
(ii)

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(iii)

(iv)

5. By using a well-labeled sketch, elaborate the way you would arrange the machines to comply with the safety regulations of the company.



6. Explain two functions of each of the given painting material ingredients:

a) Pigment

(i)

(ii)

b) Blinder

(i)

(ii)

c) Thinner

(i)

(ii)

d) Drier

(i)

(ii)

e) Base

(i)

(ii)

7. ORYX Gas Company advertised a tender of painting a new building established at Dodoma City? The requirement of the company is to use a type of paint which is less flammable and it's not cost fully,

(a) Propose the type of paint which will fit the company requirement.

.....
.....

(b)What are the four benefits of using it in such a situation?

(i).....

(ii).....

(iii).....

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(iv).....

8. Mahenge secondary school plan to change the colour of staff furniture. During implementation, the quality assurance officer found sprayed paint film is dried to a rough gritty finish.

(a) What could be the three causes of this problem?

(i)

(ii).....

(iii).....

(b) Recommend four control measures to avoid the problem before painting work is completed.

(i)

(ii)

(iii).....

(iv)

9. You have won a tender of painting a certain building owned by the government school having 18 m length, 5 m width, 7 m height with door and windows opening 2 m^2 and 7.5 m^2 respectively.

(i) What type of painting materials would you apply for skirting, internal wall finishes and ceiling beard finishes?

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(ii) Determine cost of materials to be used if 5 litres of painting materials which is sold at 8000/= Tshs per litre can be used to paint 35 m^2 of surface area.

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SECTION C (15 MARKS)

Answer **all** questions from this section

10. (a) Why varnishes are used on the surface of woodwork for the final coat as finishing material? Give four reasons.

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

(b) How can you identify a good varnish? Give four points.

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

(c) Identify three types of materials under each ingredient of varnish.

(i) Resins

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-
-

(ii) Solvents

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-
-

(iii) Driers

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