

Candidate's Examination Number _____

**THE REVOLUTIONARY GOVERNMENT OF ZANZIBAR
ZANZIBAR EXAMINATIONS COUNCIL
FORM THREE ENTRANCE EXAMINATION**

217

BIOLOGY

TIME: 2:30 HOURS

WEDNESDAY 6TH DECEMBER, 2023 AM

INSTRUCTIONS TO THE CANDIDATE

- 1. This paper consists of THREE (3) sections A, B and C.**
- 2. Answer ALL questions in section A and B, and any TWO (2) questions in section C. Question NINE (9) is compulsory.**
- 3. Write your examination number on each page.**
- 4. Write your answers in the spaces provided.**
- 5. Use a blue or black pen in writing. Diagrams must be in pencil.**
- 6. Cellular phones and unauthorized materials are not allowed in the examination room.**

FOR EXAMINER'S USE ONLY		
QUESTION NUMBER	MARKS	SIGNATURE
1		
2		
3		
4		
5		
6		
7		
8		
9a		
9b		
10		
11		
TOTAL		
CHECKER'S SIGNATURE		



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This paper consists of 15 printed pages

SECTION A: (30 Marks)

Answer ALL questions in this section.

1. Choose the correct answer and write its letter in the table below.
 - i. The hardest part of the tooth deposited by calcium, phosphates and carbonates is referred as
 - A. Cement
 - B. Dentine
 - C. Enamel
 - D. Pulp cavity
 - ii. Suppose you have been given several types of safety symbols and you need to select one symbol is a corrosive. Which is the correct selection from the following meaning?
 - A. A dangerous and may cause death
 - B. Can damage the skin and other tissues
 - C. This emits radiations that are harmful
 - D. This substance can explode easily
 - iii. You have been given the assignment of locating the Bracket fungi. Where is the best place to look for these fungi?
 - A. On decaying wood
 - B. On the soil
 - C. On the decaying bread
 - D. Stagnant water
 - iv. A School laboratory technician was testing a reducing sugar from a ripen orange, and her observation was recorded. Which was the present coloration observed in her test?
 - A. Blue black
 - B. Orange
 - C. Purple
 - D. Red

- v. Which is a correct hierarchical order of grouping organism?
- A. Kingdom, Phylum, Family, Order, Genus, Class, Species,
 - B. Family, Class, Phylum, Class, Kingdom, Genus, Order
 - C. Kingdom, Phylum, Class, Order, Family, Genus, Species
 - D. Species, Genus, Order, Family, Phylum, Kingdom, Class
- vi. Which type of blood vessels carries deoxygenated blood from the rest of the body to the right auricle?
- A. Aorta
 - B. Hepatic artery
 - C. Pulmonary vein
 - D. Vena cava
- vii. Which storage organ does onion stores its food after photosynthesis?
- A. Leaves
 - B. Root tuber
 - C. Stem
 - D. Tap root
- viii. A man feels painful when urinating and discharge of foul smell from the penis. Which of the following sexual transmitted infection is responsible for these symptoms?
- A. Candidiasis
 - B. Genital herpes
 - C. Gonorrhea
 - D. Syphilis
- ix. The vascular system has tapering end, and lignified cell present in the xylem is called
- A. Companion cells
 - B. Phloem tissue
 - C. Sieve tubes
 - D. Tracheids elements
- x. Ali is a long distance runner, and during running, his body starts to sweat. Which sensory organ is responsible for releasing that waste?
- A. Ear
 - B. Nose
 - C. Skin
 - D. Tongue

ANSWERS

i	ii	iii	iv	v	vi	vii	viii	ix	x

2. Match the functions of mammalian respiratory system from **LIST A** with their parts from **LIST B** by writing the correct letter in the table below.

LIST A	LIST B
i. A hollow space filled fluid used to lubricate the lungs during breathing	A. Trachea
ii. Allow expansion and contraction of the thoracic cavity	B. Ribs
iii. A windpipe connecting the throat and lungs	C. Bronchus
iv. Closes the trachea during swallowing to prevent food from entering the respiratory system	D. Lungs
v. It secret lubricating fluid allowing the lungs to move freely	E. Pleural membranes
vi. Main organ of mammalian gaseous exchange	F. Diaphragm
vii. Protect the lungs from injury	G. Nasal cavity
viii. Provide large surface area for gaseous exchange	H. Intercostal muscles
ix. Separates the thorax from the abdomen	I. Alveoli
x. Trap and filter dust and microorganisms	J. Pleural cavity
	K. Glottis
	L. Pleural fluid

ANSWERS

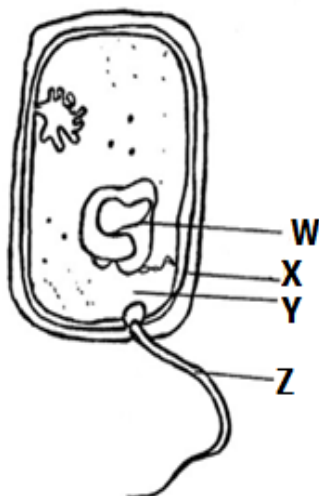
LIST A	i	ii	iii	iv	v	vi	vii	viii	ix	x
LIST B										

3. Read the sentences below very carefully, and fill the correct answers in blank spaces.
- i. In which part of elementary canal does digestion of protein start _____.
 - ii. The immediate care given to a person who suddenly becomes injured is known as _____.
 - iii. The term _____ is a relationship between two organisms one benefits while the other is harmed.
 - iv. In blood transfusions, the person giving the blood is called the _____.
 - v. A long whip-like flagellum used by _____ as a locomotory organ.
 - vi. The Vitamin C deficiency disease is called _____.
 - vii. Petri dish is a glass or plastic container used for _____ micro organisms.
 - viii. Urine and water from bathrooms are examples of _____ waste.
 - ix. Expectant mothers need to get enough nutrients to support the growth of the _____.
 - x. A painful sensation which occurs in the oesophagus is called _____.

SECTION B: (50 Marks)

Answer ALL questions in this section.

4. a. Study figure 1 below carefully and answer the questions that follow.



i. What is the name of an organism represented in Figure 1?

ii. In which kingdom does the organism in Figure 1 belong?

iii. Identify structures labeled **W** to **Z**.

W _____

X _____

Y _____

Z _____

b. Name the bacteria found in the guts of human beings and can cause cramping, diarrhea and urinary infection.

c. What is the scientific study of organism represented in figure1?

5. a. The biologist placed a too-small specimen in a cavity slide on the stage for magnification and observed it under instrument **A** in the Biology laboratory. She observed that the specimen was large.

Answer the following questions

i. What is the name of instrument **A** used by Biologist to magnify small specimen.

ii. Outline four (4) precautions that are necessary when handling instrument **A** identified in question (5a i) above.

- b. The eyepiece magnification is x 5 and the objective lens magnification is x 40. Calculate total magnification.

- c. The size of the drawing is 12cm and the actual length of the object is 3cm. Calculate the magnification of drawing.

6. a. i. State the meaning of the term "Tissue" as used in the biology.

- ii. List three (3) examples of animal tissue.

- b. You have been given the following terms "tissue, Organism, organ, cell and system". Arrange them in a sequential order from simple to complex as they are used in the cell differentiation.

- c. The Botanist scientists observed an oval organelle that contains green pigment located inside the plant cell.

- i. Identify that organelle.

- ii. Draw and label the oval organelle identified in question (6c i) above.

- 7 a. A girl who is eleven years old in primary school does not understand her biological changes during puberty. Help her by listing four (4) changes that will occur to her at that age.

- b. A young boy has improper good manners when eating, which leads to the wasting of food. Inform him by identifying three (3) proper principles of good manners while eating.

- c. List three (3) principles of personal hygiene.

8. a. A container **XX** of boiled milk was covered, and a container **YY** of unboiled milk was also covered. Two days later, the unboiled milk had been spoiled, while the boiled one had not.

i. Give a reason why the milk of container **XX** was not spoiled?

ii. Name the method of food preservation used in container **XX**.

iii. List three (3) advantages of method named in (ii) above.

b. Explain briefly the following methods of food preservation:

i. Pasteurization

ii. Additives

SECTION C: (20 Marks)

Answer TWO (2) questions in this section.

Question 9 is compulsory. Answer either 9a or 9b.

- 9 a. A potted plant was kept in a dark place for 12 hours, after which it was set up in an experiment as shown in Figure 2. The plant was then left in the sun for 6 hours. A leaf from each of the flasks was tested for starch.

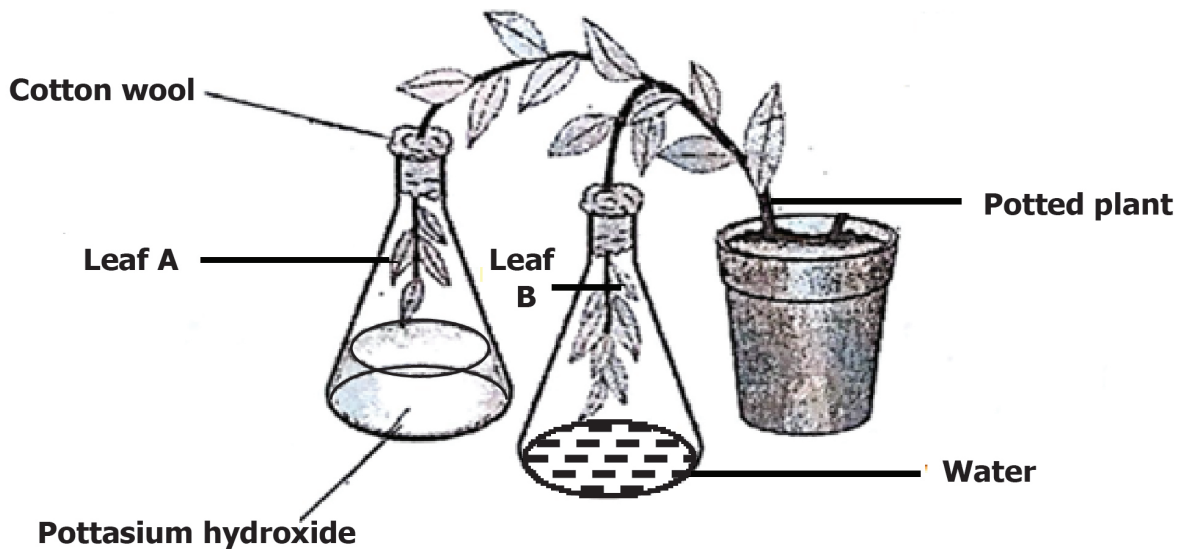


Figure 2

- i. What was the aim of the experiment?

- ii. Explain what was the purpose of using pottasium hydroxide?

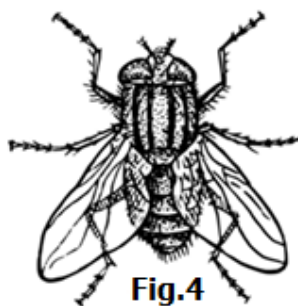
- iii. Why was the potted plant kept in a dark place?

iv. What was the role of the cotton wool plugged at the mouth of flask?

v. Which of the two leaves **A** and **B** responded positively to the starch test?

vi. What can you conclude from the results of question (v) above?

9. b. The figure 3 and 4 below represents different organisms. Observe carefully and answer the questions that follow:



i. Write the common names of organisms represented in figure 3 and 4.

ii. Classify the organism represented in figure 3 to phylum level.

iii. Name the habitat of organism represented in figure 3.

iv. List three (3) advantages of organism represented in figure 3.

v. How many jointed legs are there in organism represented in figure 4?

vi. Name two (2) diseases which are commonly spread by organism represented in figure 4.

10. Explain five (5) factors that affect immunity.

11. Write a short essay on Constipation. Use the following guide lines.

- a. Meaning
- b. Causes
- c. Signs and symptoms
- d. Prevention and control.

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