THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF DEFENCE AND NATIONAL SERVICE

MILITARY SCHOOLS ASSOCIATION

FORM TWO PRE NATIONAL ASSESSMENT

033 **BIOLOGY**

TIME: 2:30 Hours **04th AUGUST 2026**

INSTRUCTIONS

1. This paper consists of sections A, B and C with a total of Ten (10) questions
2. Answer all questions in each sections
3. All writings must be in blue or black ink except drawings which must be in pencil
4. Communication devices and any unauthorized materials are not allowed in the examination room
5. Write your number at the top right cornet of every page.

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FOR EXAMINER'S ONLY

Question Number	Score	Initials of Examiner
1		
2		
3		
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6		
7		
8		
9		
10		
TOTAL		

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MILITARY SCHOOLS ASSOCIATION

FORM TWO PRE-NATIONAL EXAMINATION

BIOLOGY

MARKING SCHEME

1

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

@1 =10marks

2

i	ii	iii	iv	v
H	I	A	F	D

@ 1 = 5marks

3. (i) Biology relates with agriculture in production of pesticides, insecticides and fertilizers.

(ii) Biology relates with medicine, its knowledge is important in the formulation of vaccines and drugs that are able to prevent and treat diseases.

(iii) Biology relates with nutrition; its knowledge is important in understanding the composition and value of different groups of foods. It is used by dieticians to determine the kind of diets that are suitable for people with different health needs.

(iv) In forestry biology is used to identify types of trees, their growth, tolerance to diseases through genetics.

(v) Knowledge of biology is used in veterinary science to understand various animal diseases, their drugs and their vaccines

=1= (2 marks @.)

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Student's Assessment Number: _____

TANZANIA HEADS OF ISLAMIC SCHOOLS COUNCIL

FORM TWO INTER ISLAMIC MOCK ASSESSMENT

BIOLOGY

033

TIME: 2:30 Hours **Thursday, 30th July 2026 p.m.**

Instructions

1. This paper consists of sections A, B and C with a total of ten (10) questions.
2. Answer **all** questions in each section.
3. Section A carries fifteen (15) marks, Section B carries seventy (70) marks, and Section C carries fifteen (15) marks.
4. All writings must be in blue or black ink, except for drawings, which must be in pencil.
5. Communication devices and any unauthorised materials are not allowed in the assessment room.
6. Write your Assessment Number at the top right corner of every page of this paper.

FOR ASSESSOR'S USE ONLY		
QUESTION NUMBER	**SCORE**	**ASSESSOR'S INITIALS**
1		
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10		
TOTAL		
CHECKER'S INITIALS		

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TANZANIA HEADS OF ISLAMIC SCHOOLS COUNCIL

FORM TWO INTER ISLAMIC MOCK ASSESSMENT

BIOLOGY

033 MARKING SCHEME JULY/AUGUST, 2026

1. Multiple choices:

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
C	D	D	C	C	No answer	D	B	A	B

01 MARK @ = 10 MARKS

2. Matching items

(i)	(ii)	(iii)	(iv)	(v)
E	D	A	No answer	B

01 MARK @ = 05 MARKS

3. Relationship between Biology and other scientific fields

(i) Medicine and pharmacy

This is shown whether sick person is given prescribed medicine. Biology helps is shown pharmacists understand diseases, identify their caused and develop drugs that treat illness, control symptoms and support recovery.

(ii) Agriculture

This is reflected in the production and availability of food used to feed the sick person. Agriculture provides crops and animals products that are grown and managed using biological knowledge of soil, plants and animals to ensure food supply.

(iii) Nutrition

This is shown when the family provides nutritious foods. Biology helps in understanding the type of nutrients need's by the body to repair tissues, boost immunity and restore health during illness.

(iv) Forestry

This is shown when family uses knowledge of medicinal plants from nearby trees, forestry involves the study and management of trees and forests, many of which

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provide herbal medicines used in treating diseases, showing the link between plants and health care.

@ point 02 ½ marks = 10 marks

4. Movement of Red blood cell

(a) Route to the lungs: The red blood cell first enters the blood stream from the bone marrow into nearby blood vessels. It travels through veins to the venacava, then enters the right atrium of the heart. It moves to the right ventricle, which pumps it through the pulmonary artery to the lungs. **04 marks**

(b) What happens in the lungs: In the lungs, the red blood cell passes through the lung capillaries around the alveoli. Oxygen from the air in the alveoli diffuses into the blood and combines with haemoglobin to form oxyhaemoglobin. At the sometime, carbon dioxide leaves the blood and enters the alveoli to be exhaled. **03marks**

(c) Return to the heart and body: After delivering oxygen, this red blood cell returns to the heart through the vena cava then enters the right atrium of the heart. It moves to the right ventricle, which pumps it through the pulmonary artery to the lungs.

03 marks

5. Cell structure

(a) Types of cells

(i) Plant cell **01 mark**

(ii) Animal cell **01 mark**

(b) (i) Mitochondria **02 marks**

(ii) DIAGRAM SHOWING THE STRUCTURE OF MITOCHONDRIA**01mark**

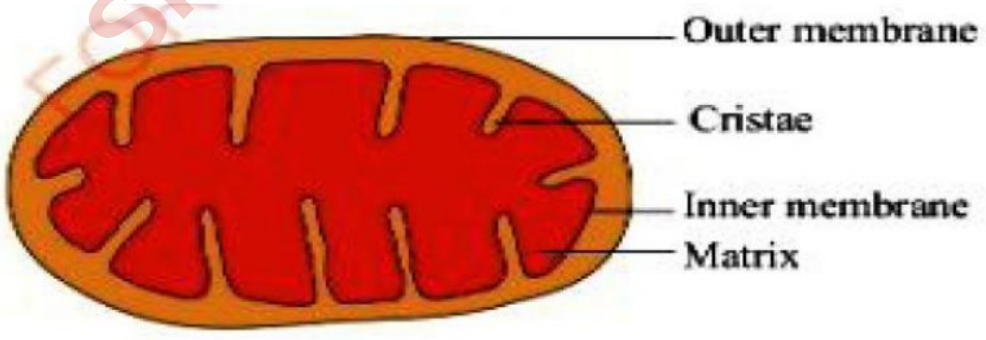

Diagram = 01 mark

Labeling (4 points) @ 01 mark = 04 marks

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Student's Assessment Number……

THE PRESIDENT'S OFFICE
REGIONALA ADMINISTRATION AND LOCAL GOVERNMENT
KILIMANJARO REGIONAL COMMISSIONER'S OFFICE
FORM TWO POST MOCK ASSESMENT
033 BIOLOGY

Time: 2:30Hours **Thursday 13rd August 2026am**

INSTRUCTIONS

1. This paper consists of sections A, B and C with total of 10 questions
2. Answer all questions in section A, B and C
3. All drawings must be done using a pencil
4. Write your assessment number on every page of your examination
5. Unauthorized materials are not allowed in examination room

FOR ASSESSORS' USE ONLY.		
QUESTION NUMBER	SCORE	ASSESSOR'S INITIALS
1		
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TOTAL		
CHECKER'S INITIALS		

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viii. Biologically, the blood is accompanied by formed cells, which are red blood cells, white blood cells and platelets. Which one is the correct alternative name for a white blood cell?

A. Leucocyte
C. Thrombocyte
B. Erythrocyte
D. Hemoglobin

ix. The Form One students had little knowledge about respiration. One day they heard their class teacher saying that during respiration, the food is oxidized completely and large amount of energy is released. Which type of respiration was the teacher talking about?

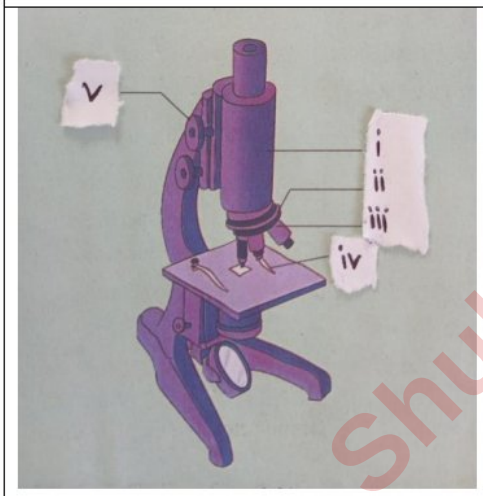
A. Anaerobic respiration
C. Fermentation
B. Glycolysis
D. Aerobic respiration

x. A microscope has an eyepiece magnification of 10× and if the total magnification used to observe a red blood cell is 200×. Determine the objective lens magnification.

A. 190×
C. 20×
B. 210×
D. 200×

i	ii	iii	iv	v	vi	vii	viii	ix	x

2. Match the parts of microscope in List A with the corresponding function in List B writing the letter of the correct answer in the box provided.

LIST A	**LIST B**	**Answers**
	A. Provide firm support for the microscope B. Magnify object under observation C. Supports the objective lenses surface on which specimen is placed D. Supports the eyepiece and rotating nosepiece E. Rises or lowers the body tube in order to bring the image into focus F. Regulates the amount of light passing from the mirror to the condenser G. Holds the slide containing the specimen in place H. Reflects and directs light to specimen under observation	i ii iii iv v

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THE PRESIDENT'S OFFICE
REGIONALA ADMINISTRATION AND LOCAL GOVERNMENT
KILIMANJARO REGIONAL COMMISSIONER'S OFFICE
FORM TWO POST MOCK ASSESMENT MARKING SCHEME
CODE: 033 BIOLOGY

Thursday 13rd August 2026am

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

(1 mark @ each = 10 marks)

1. Matching Items

LIST A	i	ii	iii	iv	v
LIST B	D	C	B	G	E

2. (i) Biology is the branch of science which deals with the study of life.
(ii) Botany is the branch of biology that deals with the study of plants (flora) only.
(iii) A microbiologist is a person who studies microorganisms.

(2 marks @ each = 6 marks total)

3(b)i. The study of parasites
ii. Taxonomy
iii. The study of insects
iv. Genetics

(1 mark @ each = 4 marks total)

3. (i) Because the ventricles pump blood to a longer distance than the atria.
(ii) Because the left ventricle pumps oxygenated blood under high pressure from the heart to the rest of the body, while the right ventricle pumps blood to the lungs which are closer to the heart.
(iii) The pulmonary artery transports deoxygenated blood to the lungs.
(iv) The pulmonary vein transports oxygenated blood from the lungs to the heart.
(v) The septum prevents mixing of oxygenated and deoxygenated blood.

(2 marks @ each = 10 marks total)

4. i. Eye
ii. Skin
iii. Tongue
iv. Nose
v. Ear

(2 marks @ each = 10 marks total)

5. Difference Between Photosynthesis and Respiration

Criteria	Photosynthesis	Respiration
Definition	The process by which green plants, some bacteria and protists make their own food using carbon dioxide and water in	The process by which food substances are broken down to release energy.

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THE PRIME MINISTER'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
FORM TWO EXAMINATION

043 **BIOLOGY**

TIME 2:30 HRS **Year 2026**

INSTRUCTIONS:

1. This paper consists of **THREE** sections: **A**, **B**, and **C**.
2. Answer **ALL** questions in sections A and B, and **ONE** question from section C.
3. Read each question carefully before writing your answer.
4. All answers must be written in clear, concise English.
5. **No calculations or drawings are required.**

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SECTION A (15 Marks)

*Answer **ALL** questions in this section.*

1. Choose the correct option (A, B, C, or D) for items (i) to (x).

(i) A local community in Lushoto experienced an outbreak of an unidentifiable illness causing high fever and fatigue. To investigate the cause, a team of medical researchers collected blood samples and formed a testable statement predicting that a specific bacterium caused the condition. Which step of the scientific process does this prediction represent?

A. Formulating a hypothesis
B. Data interpretation
C. Conducting an experiment
D. Drawing a conclusion

(ii) While visiting a national park, a student observed an organism growing on a decaying log. Laboratory tests confirmed that the organism lacks chlorophyll, has cell walls made of chitin, and absorbs nutrients directly from dead matter. To which kingdom does this organism belong?

A. Kingdom Plantae
B. Kingdom Fungi
C. Kingdom Monera
D. Kingdom Protoctista

(iii) A patient presented to a clinic with severe muscle weakness. Upon microscopic examination of tissue biopsies, doctors found that the patient's cells had significantly degraded organelles responsible for cellular respiration and energy production. Which organelle was affected?

A. Ribosome
B. Endoplasmic Reticulum
C. Mitochondrion
D. Golgi apparatus

(iv) During an outbreak of foot-and-mouth disease on a livestock farm, a veterinarian explained that antibiotics were ineffective against the pathogen because it lacks cellular structures such as a cytoplasm, cell wall, and metabolic enzymes. What type of pathogen was causing the outbreak?

A. Bacterium
B. Virus
C. Amoeba
D. Fungus

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FORM TWO BIOLOGY.
MARKING SCHEME & GUIDELINES

SECTION A (15 Marks)

1. *(1 mark for each correct answer; Total = 10 Marks)*

Item	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
Answer	A	B	C	B	C	C	B	B	B	B

2. *(1 mark for each correct matching pair; Total = 5 Marks)*

List A Item	(i)	(ii)	(iii)	(iv)	(v)
List B Answer	B	C	E	F	G

SECTION B (70 Marks)

3. (10 Marks)

(i) **Kingdom:** Kingdom Plantae *(1 mark)*
Characteristic: Multicellular organisms / possess chloroplasts for photosynthesis / cell walls made of cellulose. *(Any 1 valid point = 1 mark)*
(ii) Mosses lack vascular tissue (xylem/phloem) and true roots, so they rely on direct moisture for water absorption and reproduction (fertilization requires water). *(2 marks)*
(iii) Chloroplast. *(2 marks)*
(iv)

- Plant cells have a rigid cellulose cell wall; animal cells lack a cell wall. *(1 mark)*
- Plant cells have a large central vacuole; animal cells have small, temporary vacuoles or none. *(1 mark)*

(v) Improve room ventilation / reduce humidity / allow direct sunlight onto the walls. *(Any 1 reasonable practice = 2 marks)*

4. (10 Marks)

(i) Kwashiorkor. *(2 marks)*
(ii) Proteins. *(2 marks)*
(iii) Carbohydrates primarily provide energy; they lack the essential amino acids needed for cellular repair, growth, and tissue synthesis. *(2 marks)*
(iv) Beans, eggs, fish, milk, groundnuts, seeds, or legumes. *(Any 2 correct local sources = 1 mark each; Total = 2 marks)*

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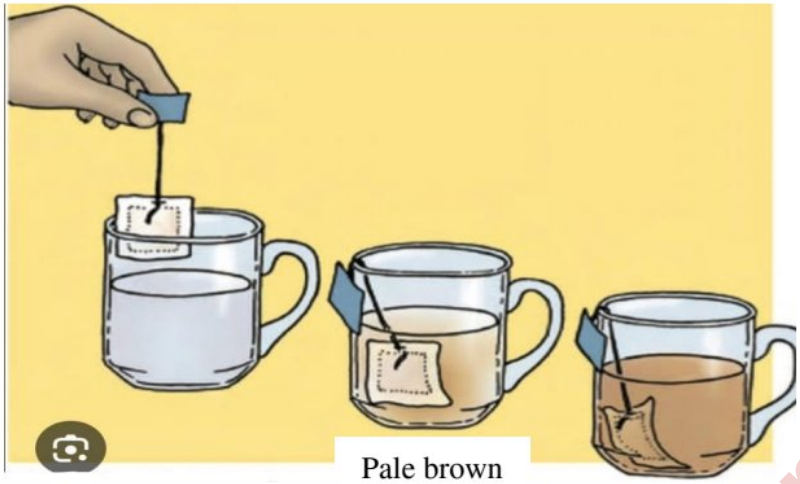
9. Your biology teacher dissolved ***a tea bag*** in distilled water contained in a beaker, when she left the tea bag in distilled water for 15 minutes, then a ***brown colour was evenly distributed in water***, as shown below.



Pale brown

brown

(a) What is the name of a process being demonstrated by a biology teacher? ……..
……..

(b) Give at least four (4) roles of the process mentioned in 9(a) above in human being body.

i. ……
……
……

ii. ……
……
……

iii. ……
……
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iv. ……
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……
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pressure is required to pump blood ... oxygenated and deoxyg...
The right ventricle pumps blood to the

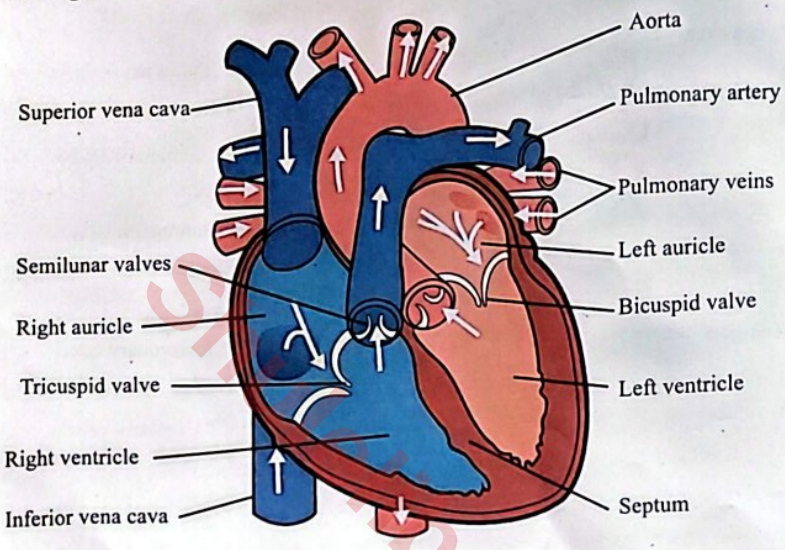

Figure 5.2: Internal structure of the mammalian heart

6.

Human being exhibit double circulation where blood passes through the heart twice for each complete circulation.

- Deoxygenated blood from the body enters the heart through the superior and inferior vena cava into the right auricle
- As right auricle fill up, the pressure within it rises and the tricuspid valve opens and allows the blood enter the right ventricle.
- When the right ventricle is full, the increased pressure causes the muscle to contract and the semi lunar valve into the pulmonary artery to opens
- The blood is then pumped through the semilunar valve into the pulmonary artery and carried to the lungs
- In the lungs, blood receives oxygen to become oxygenated blood and the bicuspid valve closes to prevent back flow of blood. This will call pulmonary circulation, circulation that involves heart and lungs.
- From the lungs, blood ... oxygen to ...
- From the lungs, the oxygenated blood returns to the heart again through pulmonary vein into the left auricle

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(iv) The ileum is very long about six metres

……

……

……

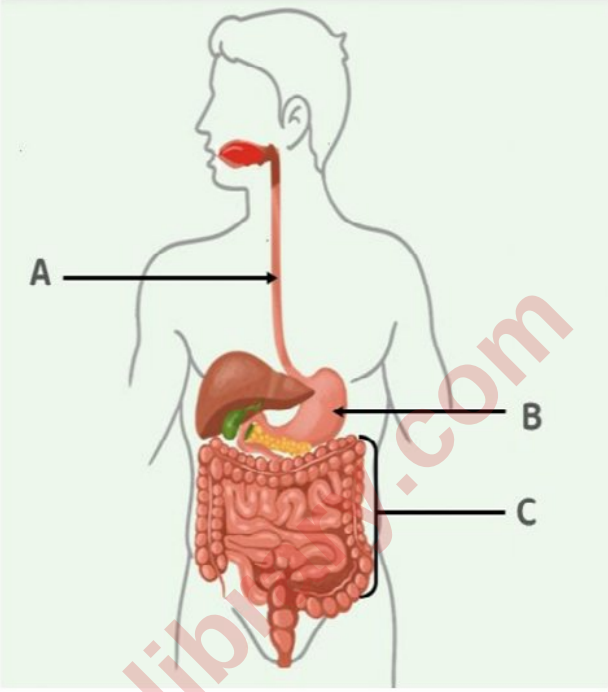
(b) (i) Briefly explain the term alimentary canal

……

……

……

(ii) Study the diagram below and give the function of parts A, B and C in digestion.



A ……

B……..

C……

5. (a). Amina is a mother living at Lutubiga village, she has been complaining of her baby stopping sucking milk from her breast. As a form two student from Mtakuja secondary school explain three factors contribute to the problem stated

i……..,.

ii.....

iii.....

(b) Lameck is a form two student at a certain school. He is an ignorant on how to differentiate between Micronutrients from Macronutrients. Suppose it is your friend assist him on how to differentiate these two terms with at least two examples per each term.

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THE PRIME MINISTER'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
FORM TWO EXAMINATION

043 BIOLOGY

TIME 2:30 HRS Year 2026

INSTRUCTIONS

1. This paper consists of sections A, B and C with the 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. **All** writing must be in **blue** or **black** ink
5. **All** writing must be written in the space provided
6. Cellular phones, calculators and any unauthorized materials are **not** allowed in assessment room
7. Write your **names** at the top of every page.

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FRIENDLY MARKING GUIDE.

1.

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

2.

i	ii	iii	iv	v
C	A	E	D	B

3 (a) Ensure the slide is properly placed on the stage - use stage clips to hold it steady (03marks)

(b) Adjust the focus carefully - start with the power objective lens, then switch to the higher power and fine tune using the focus knob. (04marks).

(c) Control the light - Adjust the diaphragm or mirror to reduce brightness so the cells details become visible. (03marks).

4 (a) • Division : Bryophyta. —— 01

• Representative member in Tanzania is Moss plant (funaria hygrometrica) —— 01

(b) Reason for small size of mosses.

• they Lack true Vascular tissues (xylem and phloem) so they can't transport food, water and over long distance —— 02

• They remain small so that they can absorb water and nutrients from the ground over short distance. (directly). —— 02

(c) Soil erosion control using Mosses.

(i) Yes I agree —— 01

(ii) • Mosses form a dense carpet-like mat that covers the soil surface

• their rhizoids anchor the soil, reducing displacement by rain or wind

• this helps prevent soil erosion and retain moisture contributing to environmental Conservation —— 03

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(iv) Carbon dioxide gas

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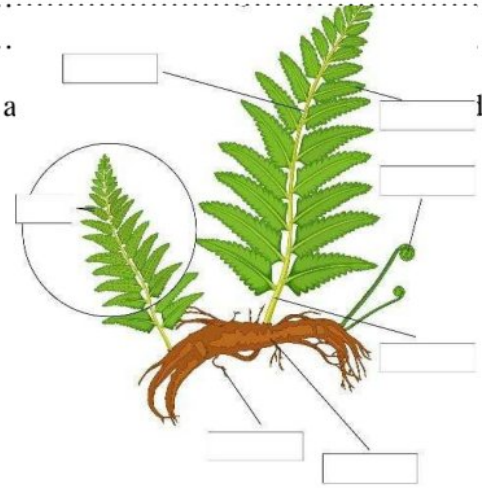
……
……

8. (a) You a  ly it carefully and answer the question that follows.

(i) What the diagram represent? ……

(ii) Fill the blanks given from the diagram.

(iii) Classify the diagram above up to the second rank

(b) If you were their teacher, how would you prove to them the following facts about bean plants?

(i) Bean plants are dicots

……
……

(ii) Bean plants are angiosperms

……
……
……

(iii) Bean plants are eukaryotic

……

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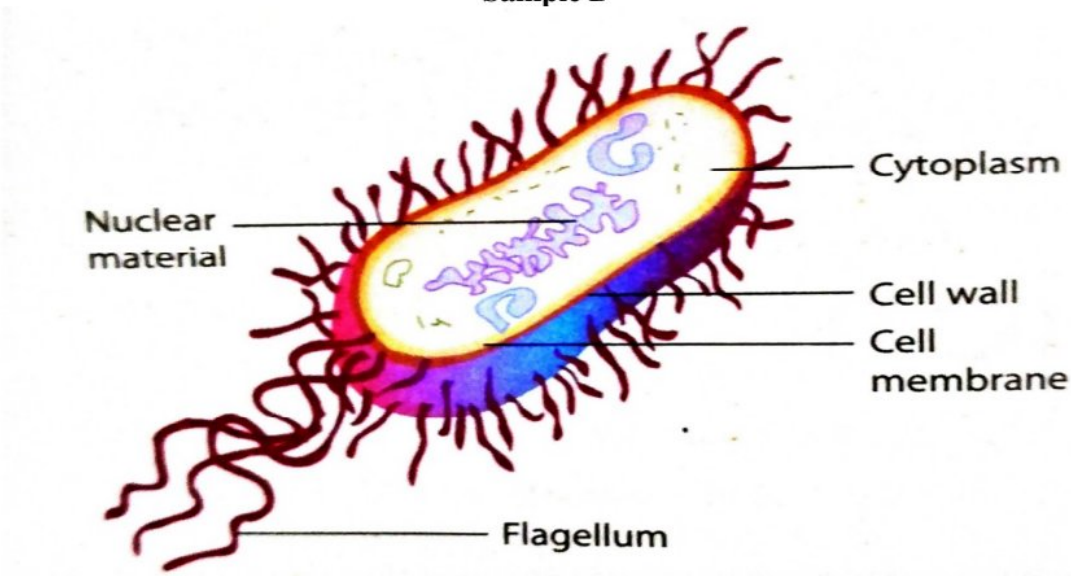
Sample B



Drawing 1 marks labeling 2 marks

4 (a) (i) Photosynthesis

(ii)chloroplast

(iii) six molecule of carbondioxide and twelve molecule of water combine to form one molecule of glucose, six molecule of water and six molecule of oxygen.

(iv)production of oxygen

Reduction of atmospheric carbondioxide

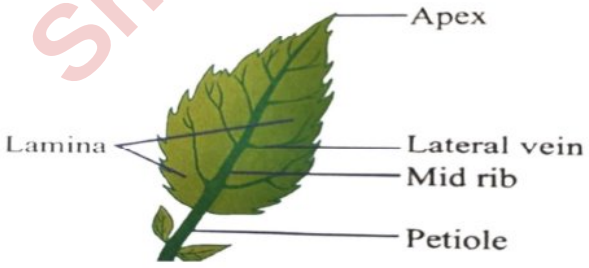
Conversion of solar energy to chemical energy

Production of food

@01 mark= (07 marks)

(v)good drawing

external structure of a leaf.



(03 marks)

5. (i) Helps to appreciate nature

(ii) helps to understand our bodies better

(iii) Helps to understand our environment clearly

(iv) Helps biologist to comeup with the ways to treat and cure diseases

(v) Helps to improve the living standard of human

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