

CHRISTIAN SOCIAL SERVICES COMMISSION (CSSC)

NORTHERN ZONE JOINT EXAMINATIONS SYNDICATE (NZ-JES)



FORM TWO PRE-NATIONAL ASSESSMENT AUGUST, 2026

BIOLOGY

MARKING SCHEME

1.

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

1 mark@ = 10 marks

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

1 mark @ = 5 marks

- Helps to understand and care for the environment properly
 - Helps to identify and group living things which makes it easier to learn more about them
 - Helps to appreciate nature and many fascinating things about different organisms and how their functions are learnt in Biology
 - Helps to understand our bodies
 - Helps to acquire research skills that are useful when carrying out scientific investigations
 - Helps to improve food production
 - Helps to improve the standard of living in human, and care for animals and plants
 - Helps to answer important questions such as when and where life originate
 - Enables scientists to come up with ways to prevent, treat and cure diseases
 - Lays foundation for specialising in careers
 - Encourages international cooperation through biological research
- any five(05) @2marks**

4. Qualities of a good laboratory

- Large door which open outwards
 - Adequate space for carrying out experiments
 - Proper lighting
 - Good ventilation
 - A source of water
 - A source of heating
 - Adequate space for storing apparatti, chemicals, models and specimens
- any five(05) @2marks**

5. a. Respiration is the process by which food substances are broken down to release energy
- b. Inhalation is the process of breathing in air.
- c. Exhalation is the process of breathing out air.
- d. Aerobic respiration is a type of respiration, whereby oxygen is used to break down glucose to release energy, carbon dioxide and water
- e. Anaerobic respiration is a type of respiration which takes place in absence of oxygen

any five (05) @2marks=10 marks

6. a. Water

Carbon dioxide

Sunlight

Chlorophyll **any 3 points@1 marks = 3 marks**

- b. oxygen

glucose

water **1 marks@= 3 marks**

- c. It produces oxygen

Helps in the reduction of atmospheric carbon dioxide

It converts solar energy into chemical energy

Helps in the production of food **1marks@ = 4 marks**

7. a. i. pepsin, trypsin and rennin (*any 1 point= 1 mark*)

ii. cooked starch **1 mark**

iii. lipase **1 mark**

- b. Movement/locomotion

Growth

Nutrition

Excretion

Reproduction

Sensitivity/irritability

Respiration **@1 marks = 7 marks**

8. Adaptation of heart to its function

- It consists of muscular walls which contract to pump blood
- It consists of cardiac muscles which contract and relax continuously without getting fatigue to ensure continuous pumping of the blood
- It consists of valves which ensure blood flows in one direction
- It consists of septum which separates the left and right sides of the heart to prevent mixing of oxygenated and deoxygenated blood
- It consists of sinoatrial node which sets time and rate of contraction of cardiac muscles
- It consists of coronary artery which nourishes the heart and supplies it with oxygen. It consists of coronary vein which removes waste that would harm the heart if left to accumulate
- It is connected with pulmonary artery and pulmonary vein that enable pumping of blood to the lungs and receives blood from the lungs
- It consists of pericardial fluid which prevents friction as the heart beats
- It is connected with vena cava and aorta which enables the heart to receive deoxygenated blood and pumps out oxygenated blood

Any five (5) points@2 marks

9. a. i. green vegetables, fruits, sunlight

ii. cooking oil, fish, nuts, avocado, seeds such as sunflower and sesame.

iii. Beans, egg, fish, milk ***any 2 points, @ 1 marks=6 marks***

b. i. Moss plant

Kingdom plantae, division bryophyte ***2 marks***

ii. Yeast

Kingdom fungi, phylum Ascomycota ***2 marks***

10. Advantages of bacteria.

- Some non-pathogenic bacteria feed on substances that are harmful to the environment, and in the process of neutralize them
- Bacteria in the stomach of ruminant animals secrete cellulose enzyme which help digestion of cellulose.
- Nitrogen-fixing bacteria live in the root nodules of leguminous plants help in converting free nitrogen in the air to nitrate
- Many bacteria are decomposers, they break down the dead bodies of plants and animals to release important elements
- Some bacteria produce lactic acid as a result of fermentation of carbohydrates
- Some bacteria are used to produce antibodies, which are used to treat bacterial infections
- Bacteria are used in genetic engineering to produce hormones, such as insulin and human growth hormone
- Bacteria such as Escherichia coli in the human gut synthesize vitamins K and B_{12}

Introduction = 2 marks

Main body; any 6 points@2 marks;

points = 1mark, explanation =1mark

Conclusion = 1 mark