

CHRISTIAN SOCIAL SERVICES COMMISSION (CSSC)  
NORTHERN ZONE JOINT EXAMINATIONS SYNDICATE (NZ-JES)



FORM FOUR PRE- NATIONAL EXAMINATIONS AUGUST 2024  
**BIOLOGY 2B**  
**ACTUAL PRACTICAL -B**  
**MARKING SCHEME**

1. (a) The aim of the experiments is to determine the composition of exhaled air **02marks**  
 (b) Breathing over the mirror: moisture/water vapor was observed. **03marks**  
 (c) Breathing into solution R: Solution R changed from colorless to white precipitate  
 Or colorless to milky. **04marks**  
 (d) After breathing over the hand palm I felt hot/warm. **03marks**  
 (e) Conclusion from the experiments:  
 Experiment (i): Exhaled air contains water vapour/moisture.  
 Experiment (ii): Exhaled air contains carbon dioxide  
 Experiment (iii): Exhaled air is warm/hot. **01@=03marks**  
 (f) Lime water (Calcium hydroxide)  
 Reason: because of the formation of calcium carbonate precipitate which is milky or white in  
 colour. **2marks**  
 (g) Differences between inhaled air and exhaled air:

Inhaled air	Exhaled air
(i) It contains less water vapour	It contains more water vapour .
(ii) The temperature corresponds to environmental temperature.	The temperature corresponds to body temperature
(iii) It contains more oxygen	It contains less oxygen
(iv) It contains less carbon dioxide.	It contains more carbon dioxide.

**02@=08 marks**

2.(A)

Specimen	Common name
A	Bread mold / mucor
B	Moss plant
C	Spider
D	Grasshopper
E	Lizard

**00½@=2½ marks**

(B) habitat

B-damp and shady areas D- Dry land on grasses. **00½@ =1mark**

(C)

SPECIMEN	KINGDOM	PHYLUM/ DIVISION	CLASS
B	Plantae	Bryophyta	Musci
D	Animalia	Arthropoda	Insecta
E	Animalia	Chordata	Reptilia

**00½@=4½marks**

D.

Specimen	Class	Observable feature
C	Arachnida	(i)It has four pairs of walking legs attached to the cephalothorax (ii)The body is divided into two parts namely head and cephalothorax
D	Insecta	(i)Its body is divided into three distinct parts; the head, thorax and abdomen (ii)It has three pairs of walking legs.

**1½@=3marks**

E. harmful effect (any explained two points 1½@ =3 marks )

-cause disease

-food spoilage

F. (i) Gametophyte generation is dominant **1mark**

(ii) Liverwort and hornwort **00½@=1marks**

G. DIAGRAM OF SPECIMEN E



**(C=1mark , L=00½@=3marks, D=02marks) Total =6marks**

(H)Survival of specimen E in different weather conditions: **01½@=3marks**

(i)It is a poikilothermic hence its body temperature varies with that of the environment hence able to live in different environmental conditions.

(ii)It has a dry scaly skin which helps the organism to live in different habitats without injury.

- Sun baskin
- Hibernation
- Aestivation

**Total =25 marks**