

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



FORM FOURPRE – NATIONAL EXAMINATION AUGUST 2025

033/2A

**BIOLOGY 2A
(ALTERNATIVE A PRACTICAL)**

MARKING SCHEME

1. a)- M and O were peeled to remove the outer layer
- M and O were cut into small pieces using a scalpel
 - Those small pieces were grinded using mortar and pestle
 - Some water (20 ML TO 30ML) was added to make a solution
 - The mixture was sieved to obtain a clear solution MO (5 points @1=5 marks)

b) FOOD TEST FOR SOLUTION MO

FOOD TESTED	PROCEDURE	OBSERVATION	INFERENCE
Starch (¹ / ₂ marks)	To 2cc of solution MO in the test tube, 2 drops of iodine solution were added (¹ / ₂ marks)	The solution turned to blue-black colour (¹ / ₂ marks)	Starch was present (¹ / ₂ marks)
Reducing sugar (¹ / ₂ marks)	To 2 cc of solution MO in the test tube, 2 cc of Benedict's solution was added then the mixture was boiled (¹ / ₂ marks)	A series of colour change was observed from blue to green to yellow to orange and finally brick red precipitate (¹ / ₂ marks)	Reducing sugar was present (¹ / ₂ marks)

Protein ($\frac{1}{2}$ marks)	To 2cc of solution MO in the test tube, 1 cc of Sodium hydroxide solution (NaOH) was add. The mixture was shaken to mix well then 1% CuSO ₄ Solution was added drop_wise while shaking ($1\frac{1}{2}$ marks)	The solution retained the blue colour of CuSO ₄ Solution ($\frac{1}{2}$ marks)	Protein was absent ($\frac{1}{2}$ marks)
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c) (i) Starch is digested first

(ii)

Site	Enzyme responsible	End product
Mouth (1 mark)	Salivary amylase (1 mark)	Maltose (1 mark)

(iii) Natural sources of starch are: Maize, Rice, Cassava, Yarms, Potato, Wheat

(3points@1=3marks)

d) (i) An individual will develop Obesity (overweight) (1 mark)

(ii) symptoms of obesity – Overweight

- difficulty with physical activity
- Breathlessness
- Increased sweating
- Joint pain (3points@1=3marks)

(TOTAL=25 MARKS)

QUESTION NO 2

i) each = 3 marks

Specimen	Common name
D	Bread mould
E	Pine branch / PINE LEAF
F	Earthworm

ii. Importance of classification

- It makes easy to classify all known organisms and predict the placement of the yet to be discovered based on already known features.
- Classification simplifies communication among taxonomists worldwide.
- It helps to show evolutionary relationship between organisms.
- Organisms grouped in the same taxon, such as at genus level, normally have many common features.
- It paves a way towards understanding other disciplines, such as ecology, medicine and pharmacy

Any two = 4 marks

C)

i. SPECIMEN D, FEATURES OF ZYGOMYCOTA

- They have aseptate hyphae which lack cross walls between adjacent cells. They are therefore coenocytic in structure.
- Their cytoplasm is continuous and multinucleate.
- They undergo sexual reproduction involving two gametangia to produce a resting spore known as zygospore

Any two = 2 marks

ii Features of Annelida (specimen F)

- They have cylindrical body made of series of similar segments like rings.
- Some are free-living and some are parasites .
- They use nephridia for excretion and osmoregulation
- Some are free-living and some are parasites
- They possess bristles called chaetae for locomotion
- They have bilateral symmetry

Any two = 2 marks

D)

- Provide soft woods for construction
- Used in making drugs
- Prevent soil erosion
- Production of turpentine and resin from pines

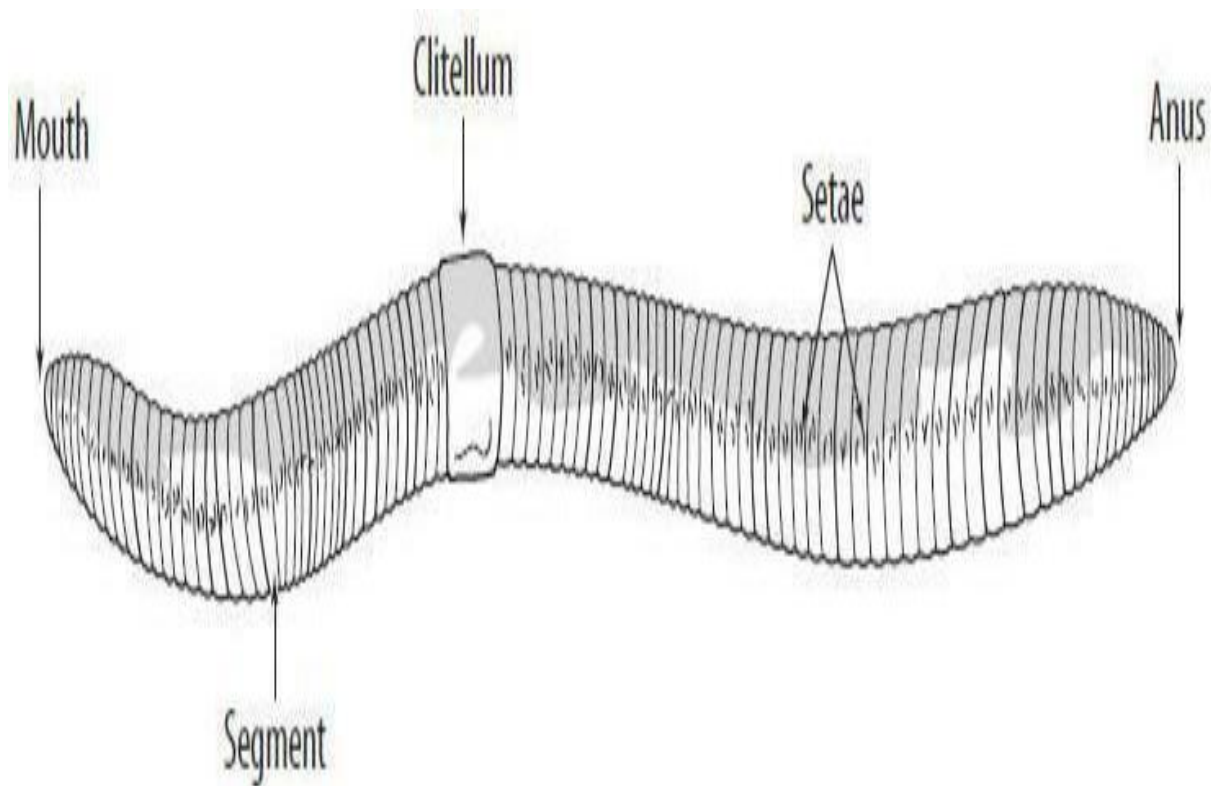
Any three =3 marks

e. i.

drawing 1

label 4

caption 1



ii. The specimen F is found in **moist soil**..... **1 mark**

iii.

Increase soil fertility
Improves soil aeration
Used as bait in fishing

Any two = 4 marks

(TOTAL=25 MARKS)