

CHRISTIAN SOCIAL SERVICES COMMISSION (CSSC)

NORTHERN ZONE JOINT EXAMINATIONS SYNDICATE (NZ-JES)



FORM SIX PRE-NATIONAL EXAMINATIONS 2023

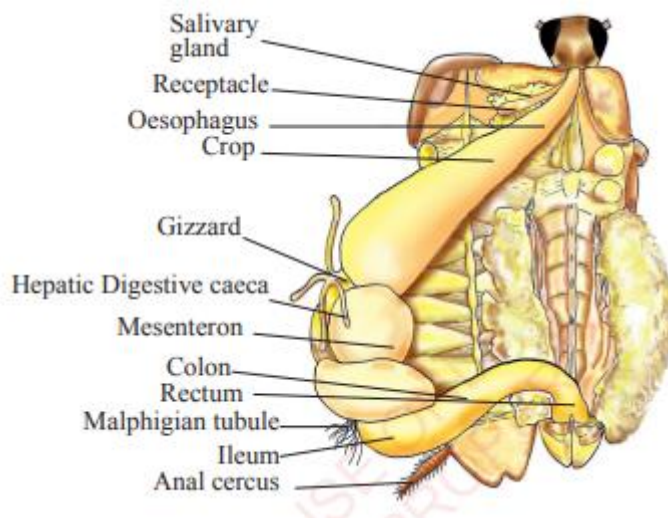
133/3A

BIOLOGY 3A FORM SIX

MARKING SCHEME

1. (a) Dissection

A DIAGRAM OF SPECIMEN K TO SHOW DIGESTIVE SYSTEM



Mag x 1.5

Caption 1mark

Diagram 3 marks

Magnification 1 mark.

Any 7 labels @ 0.5 mark = 03.5 marks

(b) Parts of the fore gut are: Buccal chamber, pharynx, oesophagus, crop, and gizzard.

(02.5 marks '0.5)

(c) The central placement of the gizzard helps the specimen in grinding and crushing of food substances to increase surface area for easy digestion by enzymes. (02 marks)

(d) Crop stores food temporarily while digestive caeca increase surface area for absorption of food substances. (02 marks)

2.

(a)

| Test Tube | Result of Iodine test | Result of Benedict's test |
|-----------|--|--|
| 1 | Retain the reddish-brown colour of Iodine solution | Changed from blue, green, yellow orange and finally to brick red precipitate |
| 2 | Changed to blue black colour | Retain the blue colour of Benedict's solution |
| 3 | Changed to blue black colour | Retain the blue colour of Benedict's solution |

(06 marks@ 01)

b) Test tube 2 contained starch **1marks**

Reason: Due to the formation of polyiodide complex which forms as a blue-black precipitate **1marks**

c) Saliva contains amylase enzyme which convert starch into reducing sugar maltose

1mark

d) The enzymes will be denatured, hence metabolic activities of the body will be impaired. (02 marks)

e) Warmth is important to our body as it provide with a suitable temperature for the best working of enzyme **(2marks)**

f) It shows the effect of temperature on enzyme-controlled reactions **2marks**

3. (a) i) Classification to phylum/division

| | KINGDOM | PHYLUM/DIVISION |
|----|---------|------------------|
| S1 | Plantae | Angiospermophyta |
| S2 | Fungi | Basidiomycota |
| S3 | Plantae | Angiospermophyta |

(03 marks @ 0.5)

ii) Economic importance

- Source of food
- source of income
- Make the soil more fertile (03 marks @ 01)

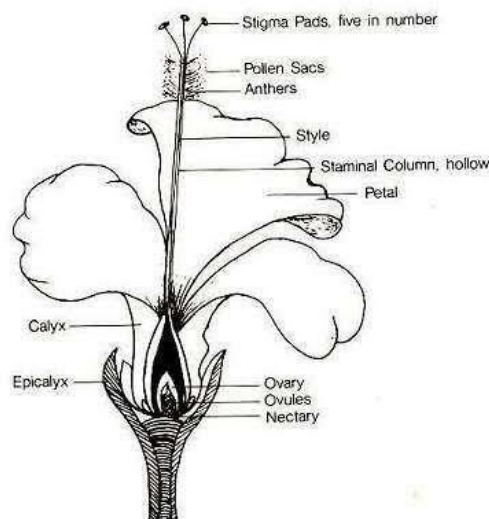
iii) Possible habitat for specimen S3 is Desert regions (01 marks)

iv)- Have spine leaves to reduce surface area for transpiration

- Thick waxy cuticle to prevent excessive transpiration
- Extensive root system for maximum absorption of water from the soil.

(03 marks @ 01)

b) diagram of specimen s1



(04 marks)

ii) floral formular of specimen s1

Br., Br1 ⊕, ♀, K(5), C5, A(=), G(5)

(01 mark)