

BIOLOGY 2B (ACTUAL PRACTICAL)

033/2B

TIME: 2:30 HRS

1. MARKING SCHEME

S/N	QUESTIONS	SCORE
1.	1	25%
2.	2	25%
3.	TOTAL	50%

1a) Preparation of solution

- The outer layer of specimen Q was removed
- The specimen was cut into small pieces
- The pieces obtained were mixed with sand and then grinded
- Then 15cm³ of distilled water, were added to the mixture
- The mixture was sieved to obtain solution Q

(Any 4 points @ 01 marks = **04 marks**)

1b) FOOD TEST SIMPLE RPORT

FOOD TESTED	PROCEDURE	OBSERVATION	INFERENCE
Starch (00½)	To 2cm ³ of solution Q in the test tube, two drops of iodine solution were added then shaken. (01)	The mixture turned into brown colour of iodine solution (01)	Starch was absent in solution Q (00½)
Protein (00½)	To 2cm ³ of solution Q in a test tube, 2cm ³ of sodium hydroxide solution was added followed by two drops of 1% copper II sulphate solution, then shaken (01)	The tube colour of copper II sulphate solution was retained (01)	Protein was absent in solution Q (00½)
Lipids (fats and oil) (00½)	To 2cm ³ of solution Q in a test tube, three drops of Sudan III solution were added then shaken vigorously and left to settle for five minute (01)	The solution form a red homogeneous mixture with Sudan III solution (01)	Lipid was absent in solution Q (00½)
Reducing sugar (00½)	To 2cm ³ of solution Q, in a test tube, 2cm ³ of Benedict's solution was added then boiled (01)	The series of colour change from blue, green, yellow, orange finally to brick red observed (01)	Reducing sugar was present in solution Q (00½)
Non-reducing sugar (00½)	To 2cm ³ solution Q in a test tube, 1cm ³ of diluted hydrochloric acid was added then shaken and boiled for two minutes, then cooled, followed by addition of 1cm ³ of sodium hydroxide solution and 2cm ³ of Benedict's solution then boiled	The series of colour change observed from blue, green, yellow, orange finally to brick red (01)	Non-reducing sugar was present in solution Q (00½)

	(01)		
(15%)			

- 1c) – Reducing sugar
 - Non-reducing sugar. @ 0.5 mark = **01marks.**

- a) PH – Alkaline
 Product of digestion – glucose @ 0.5 mark = **01 marks.**

- b) Protein – Kwashiorkor
 Starch – Marasmus
 Lipids – Marasmus @ 01 mark = **03 marks**

- c) Glycogen **01 mark.**

(Total 25 Marks)

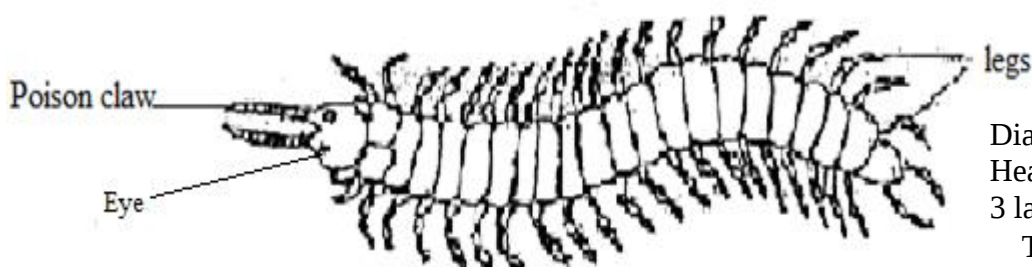
2. a) R – Hibiscus flower
 S – Irish potato
 T – Centipede
 U – Millipede @ 0.5 mark = **02 marks.**

- b) Classification

SPECIMEN	KINGDOM	PHYLUM/DIVISION	CLASS
R (Hibiscus flower)	Plantae	Angiosperm	Dicotyledone
T (Centipede)	Animalia	Arthropoda	Chilopoda
U (Millipede)	Animalia	Arthropoda	Diplopoda

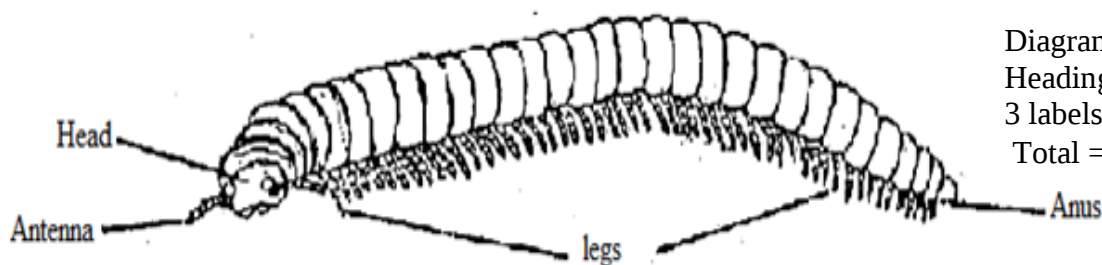
@ 0.5 mark = **04 marks**

- c) Structures of specimens T and U (centipede and millipede respectively)



A well lebaled diagram of specimen T

Diagram = 02 marks
 Heading = 0.5 msrk
 3 labels = 1.5 marks
Total = 04 marks



A diagram of specimen U

Diagram = 02 marks
 Heading = 0.5 msrk
 3 labels = 1.5 marks
Total = 04 marks

d) Structure of specimen R (hibiscus flower; i.e. in longitudinal section)

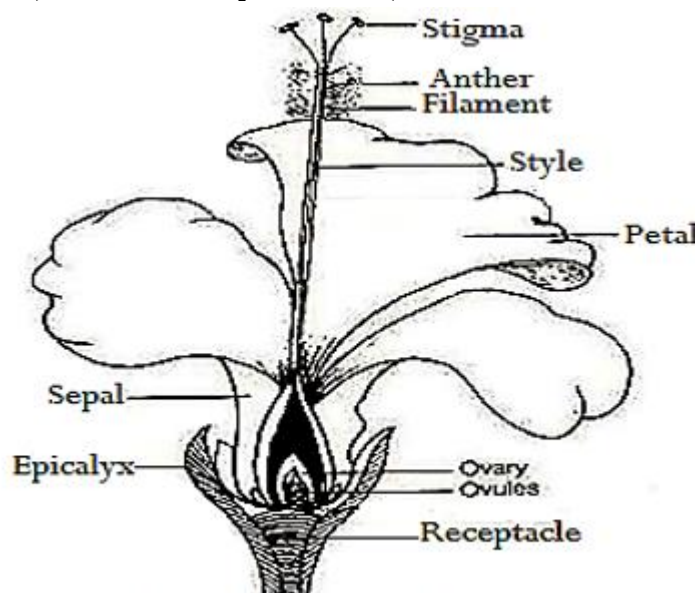


Diagram = 02.5 marks
 Heading = 0.5 msrk
 4 labels @ 0.5 = 03 marks
 Total = **06 marks**

A diagram of specimen R (L.S)

e) General characteristics of arthropods

- They have exoskeleton
- They have open circulation system
- They have jointed appendages
- They have segmented bodies
- Reproduction is mainly sexually
- The sexes are separated. i.e. some are male while others are female
- They include centipedes and millipedes.

Any 4 points @ 1 mark = **03 marks**.

f) The differences between specimens T and U

T (centipede)		U (millipede)	
i)	Has one pair of legs per segment	i)	Has two pairs of legs per segment
ii)	Has flat body	ii)	Has cylindrical body
iii)	Has poisonous claws	iii)	Has no poisonous claws
(Any 2 points each @00½ = 02 marks)			

Total mark = **50%**