DRAFT MARKING GUIDE

ASSHU ANKOLE MOCK 2023

BIOLOGY PRACTICAL

P530/3

Question	Marks
1	40
2	34
3	26
Total	100

1 (a)(i) Male ✓ / female ✓ of

male

(ii) - Has a projection of prepuce covering the Penis. ✓ 0.5

- Has the scrotal sacs protecting the testes ✓

- Dorso-posterior end is round too expanded testes on the ventral side.

OR

female

- Clitoris: elongated pointed and opening anterior to the vulva

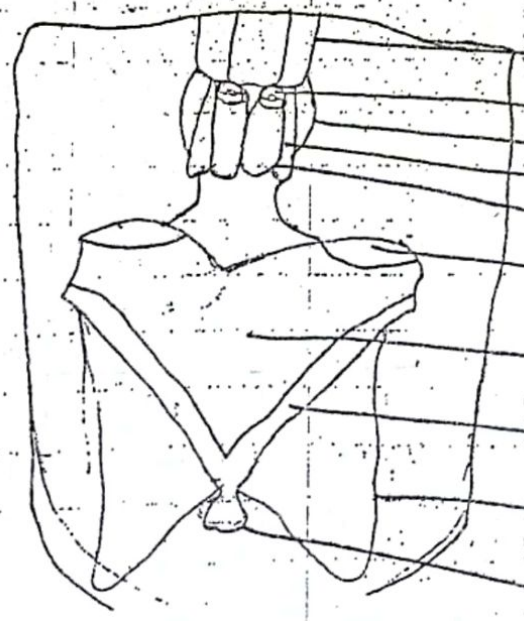
- Vulva: open, most cylindrical

- Nipples: pointed and cylindrical.

(b) Head tapers anteriorly to provide a streamlined shape to minimise air resistance for easy movement on land / easy burrowing in the ground

- Eyes are large to provide large field of view

(ii) Drawing of the muscles and structures in the thoracic region of specimen 2.



c) Drawing showing abdominal structures after displacing the duodenal loop to the right and the bulk of the ileum to the left side; colon and caecum displaced to the right of specimen T.

MA:
1/2 Stomach, liver and abdomen drawn & labelled
* 1/2 any other well labelled drawn & labelled

IR
1/2 entire specimen drawn & labelled

T - 01
Mg - 01
O - 01
N - 01
D - 0½
L - 0½
CD - 01

40 MAX

20

2.

Table I

Test	observation	Deduction
Benedicts test To 1 cm³ of solution add 1 cm³ of Benedicts solution and boil ✓	A. Milky solution ✓ turns to pale blue solution and persists ✓	Reducing sugar absent ✓
	B. Turbid solution ✓ turns to pale blue solution and persists on boiling ✓	Reducing sugar absent ✓ 07
Biuretts test To 1 cm³ of solution add 1 cm³ of sodium hydroxide solution followed by 3/4 drops of copper (II) sulphate solution.	A. Milky Turbid solution ✓ turns to pale blue solution ✓	Proteins absent ✓
	B. Turbid solution ✓ intense/deep turns to purple solution ✓	Much proteins present ✓ 03½
Iodine test To 1 cm³ of solution add 2 drops of iodine solution ✓	A. Milky solution ✓ turns to black solution.	Much starch present ✓
	B. Turbid solution ✓ turns to pale brown solution ✓	Starch absent ✓ 03½

14

table 3

Test tube	Observation	Deduction
1	Turbid solution turns to pale blue solution, green solution yellow/orange	Little reducing sugars present
2	Turbid solution turns to pale blue solution and persistent	Reducing sugars absent
3	Turbid solution turns to pale blue solution and persistent	Reducing sugars absent
4	Turbid solution turns to pale blue solution and persistent	Reducing sugars absent.

Table 4

Test	test tube	observations
starch/iodine test	1	Turbid solution turns to pale brown solution
	2	Turbid solution turns to blue solution
Benedict's test	3	Turbid solution turns to purple solution
	4	Turbid solution turns to pale blue solution

2 (c) (i) properties

- Active substance ✓ specific to substrate hydrolysed ✓ O2
- Active substance ✓ works in specific PH media
- Acts in specific temperature range

(ii) In test tube 2, proteins not ✓ hydrolysed due to absence of suitable ✓ media, PH

In test tube 4, proteins are ✓ hydrolysed due to suitable ✓ media ✓ provided by HCl. O2

34

23

You
hat you

nature

3.
(a)(i) Specimen X
Phylum: Filicinophyta / Pteridophyta 01
Reasons:
- Sporangia/sori on lower leaf surface
- well developed leaves/fronds
- leaflets alternately / oppositely arranged along the stem/rachis any 2

Specimen Y
~~Phylum~~ Class: Musci 01
Reasons:
- Small sized stem with spirally arranged leaves.
- Presence of thin rhizoids.
- A prominent spore bearing capsule. any 2

Specimen V
phylum Zygomycota / Thallophyta 01
Reason:
- large well developed branching mycelium 02
- aseptate hyphae ~~spores~~
- Sporangia bearing spores.

(ii) mode of nutrition
Heterotrophic nutrition / saprophytic 01
Reason
→ Lacks chlorophyll / not green in color
→ Rhizoids for penetrating substratum

(i) Specimen X
clusters of sporangia (sori) on the lower side of leaf
02

Specimen Y
sporangia at the tip of elongated seta
02

specimen U
sporangia at the top of long sporangiophore
02

(ii) Stem: thin, green
leaf: small, green
Rhizoids: short, many
03

(c) Specimen W
Many rhizoids for anchorage
Long seta to expose spores for easy dispersal
Large sporangium to accommodate many spores for easy dispersal

Specimen U
large sporangia bearing many spores for easy colonisation (sporulation)
02

d(i) Many sporangia, closely packed with sutures. 01/2

(ii) Many sporangia bearing many spores for easy sporulation.
- closely packed sporangia to be well supported.
- capsules with lines of weakness/suture to easily break open for steady spore dispersal. 03

26 MAX