

BIOLOGY
PAPER 3
MARKING SCHEME

Test	Procedure	Observation	Conclusion
Biurette	To 2ml of soln Q, in the test-tube, and 2ml of NaoH soln. followed by drops of 1% CuSO ₄ (1mk)	No observable colour changes (1mk)	Protein absent (1mk)
DCPIP test	To 2ml of DCPIP in the test-tube add solution Q drop wise(1mk)	Blue –colour of DCPIP is decolorized(1mk)	Ascorbic acid/vitamin C present (1mk)
Benedict's test	2ml of solution Q, add 2ml of Benedict soln and heat to boil.(2mks)	The colour changes from blue-green-yellow-orange/brown (1mk)	Reducing sugars present (1mk)

NB; If candidate errors in procedure; don't award for observation and conclusion.

The sequence of reagents .i.e. NaoH followed by CuSO₄ must be followed

b) Marasmus/kwashiorkor

c)

i. Organic evolution

ii. Identify:

- humerus
- Ulna/radius
- Carpals
- Metacarpals
- Phalanges

(Indicate in all diagrams) (2mks)

iii. Homologous

- All the structures have pentadactyl (5 digit) plans pointing to one origin but evolved to perform different functions due to demands of different environments in which they live (diversity)

2. a) Mitosis/mitotic cell division (1mk)

b) V -Anaphase/late metaphase (1mk)

X -prophase (1mk)

Y -telophase (1mk)

Z -Metaphase (1mk)

c. Somatic/body cells (1mk)

d.

- Growth and development;
- Forms the basis of asexual reproduction
- Ensures chromosome numbers and genetic constitution of the daughter cell is the same as that of the parent; (2mks)

e. Plants

Reason: Formation of middle lamella separating two daughter cells

Accept: lack of centrioles.

f. -Replications of chromosome

-Synthesis of new organelles

-Synthesis of energy/Building up of (ATP) energy.(1mk)

3. a) B-Arthropoda

Reason

- Has exoskeleton
- Jointed appendage
- Segmented body
- Has compound eye
- Has antennae

b. B-Insecta

E-Arachnida

c)

B	F
Has wings	Wings absent
3 body parts	2 body parts
Large compound eyes	Small compound eyes
Long antennae	Short antennae

d)

organism	Steps followed	Identity
A	1a,2b,5a	Arachnida
B	1a,2a,3a,4b	Hymenoptera
D	1a,2b,5b,6a	Chilopoda
E	1a,2a,3b	Anoplura

