

FORM FOUR MID-TERM EXAMINATION MARCH, 2024

NEWALA DISTRICT COUNCIL

BIOLOGY 2A

(ACTUAL PRACTICAL A)

MARKING SCHEME

1. (a) The purple colour spread throughout the water after 5 minutes **(5marks)**
(b) The conclusion is that, solid sample C has high concentration compared to distilled water hence the particles of sample C diffuse to water throughout the beaker/conical flask **(5marks)**
(c) Diffusion **(2marks)**
(d) Diffusion is the passive movement of particles from an area of high concentration to an area of low concentration **(3marks)**
(e) i. Significance of osmosis in animals
 - movement of oxygen gas from the alveoli to the blood capillaries
 - movement of oxygen gas from the tissue fluid to the cell**(2.5marks @=05)**

ii. significance of osmosis in plants
 - movement of water vapour from the leaves to the atmosphere
 - movement of air from the atmosphere to the leaves**(2.5 marks@=05)**

(f) lungs, ileum and kidney (any 2 @ 2.5 marks =05)

2. (a) (i) Presence of wings or presence of legs **(1 mark)**

(ii) - It is less accurate because it uses only few observable features

- Similar organisms may be placed in different groups due to the use of only few observable features eg bats and rats.

- Some organisms that are unrelated in internal make up can be grouped together because of the resemblances of their few external features example bats and birds

(any two points @ 01 marks =02)

(b) (i)

Specimen	Kingdom	Phylum	Class
B(Bird/chicken)	Animalia	Chordata	Aves
G(grasshopper)	Animalia	Arthropoda	Insecta

(1 mark @ = 06)

(li) cockroach, housefly, butterfly, beetle, bee, mosquito etc. (Any 4 @ 1/2 mark =02)

(iii) - They are sources of food for example mushrooms and toadstools.

- Yeasts are used in manufacturing industries such as in bakeries.
- Yeast is also used in brewing beer by fermenting sugar to produce alcohol.
- Some are used in production of drugs for example penicillium app. that is used to produce penicillin.
- Most species of fungi are important in decomposition of dead organisms and waste materials. **(Any 2 points @ 2 marks =04)**

(iv) A good diagram of a grasshopper labelled the following parts: wings, legs and compound eyes

Marks distribution:

Caption=01 mark Labelling=03 Marks Neatness=02 marks (Total= 06 Marks)

(c) (i) - Because they lack vascular tissues to transport water and nutrients from one part of the plant to another. **(2 marks)**

(li) - Specimen O lacks true roots, stem and leaves while specimen F have true roots, stem and leaves.

- Specimen O lacks vascular tissues while specimen F have vascular tissues.
- The dominant part of plant body for specimen O is gametophyte generation while for specimen F is sporophyte generation.

(Any 2 points @ 1 mark= 02)