

MARKING SCHEME – MID TERM 2, 2025

BIOLOGY FORM 3

1. Main characteristics of kingdom protista:

- Unicellular or simple multicellular organisms
- Eukaryotic cells
- Some are autotrophs, others are heterotrophs

2. Spore-producing structures:

- (a) Bryophyte – Sporangium
- (b) Pteridophyta – Sori
- (c) Fungi – Sporangia

3. (a) Amoeba

(b) Protista

(c) Unicellular organisms, Live in aquatic environments

4. Differences between Monocotyledonae and Dicotyledonae:

Monocotyledonae:

- One cotyledon
- Parallel venation
- Scattered vascular bundles
- Fibrous root system

Dicotyledonae:

- Two cotyledons
- Reticulate venation
- Vascular bundles in a ring
- Taproot system

5. Binary fission

6. Microscopic algae → mosquito larvae → small fish → large fish

7. Kidney diseases: Nephritis, Kidney stones

8. Because waste products are non-toxic or stored in vacuoles or special tissues

9. Methods of excretion in plants:

- Diffusion through stomata
- Exudation
- Leaf fall (abscission)

10. (i) High water intake or diabetes insipidus
(ii) Low sodium ion concentration in blood
(iii) Low blood sugar levels

11. Insecta

12. Characteristics of fungi:

- Cell walls made of chitin
- Reproduce by spores

13. Test: Benedict's test for glucose

Procedure: Add Benedict's solution to urine and heat

Positive result: Color change to orange/red indicates presence of glucose

14. Classification of a housefly:

Kingdom – Animalia

Phylum – Arthropoda

Class – Insecta

15. Vasodilation in hot conditions, vasoconstriction in cold conditions

16. Bean plant – Dicotyledonae

Reason – Has two cotyledons

Bat – Mammalia

Reason – Has mammary glands and gives birth to live young

17. Colchicine is used to induce polyploidy in plants

18. Dichotomous key based on margin, venation, shape etc. Steps: Observe → Compare → Identify

19. Pyramid of numbers (Green plants → Insects → Mongoose → Snakes)