

NAME: ADM NO: CLASS:

FORM THREE BIOLOGY

TIME:

Answer all the questions in the spaces provided.

1. What are the main characteristics of kingdom protista. (3 mks)

2. Name the spore producing structures in (3 mks)

- (a) Bryophyte – Capsule
- (b) Pteridophyta – Sorus
- (c) Fungi – Sporangium

3. Study the figure below.

(a) Identify the organism. (1 mk)

Euglena

(b) Give the name of the kingdom to which the organisms belongs. (1 mk)

Kingdom protista

(c) State two characteristics of the members of organisms in the kingdom you have mentioned in (b) above. (2 mks)

- (i) Eukaryotic
- (ii) Reproduce asexually by binary fission
- (iii) Have many organelles enclosed by a membrane.

4. Write four differences of plants in the class monocotyledonae and class dicotyledonae

Monocotyledonae	Dicotyledonae
One cotyledone in the seed	Two cotyledons in the seed
Fibrous root system	Tap root system
Have parallel veined leaves	Have network veined leaves

Vascular bundles scattered in the stem	Vascular bundles radially arranged in the stem
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5. Name the main method of reproction among bacteria. (1 mk)
Asexual through Binary fision

6. Given the following organisms in a dam, construct a possible food chain for the dam.

Small fish	Microscopic algae		
Crocodiles	Large fish		
Mosquito larvae.			

Microscopic algae	mosquito larvae	small fish	large fish
crocodiles			

7. Name two kidney diseases. (2 mks)
 (i) Kidney stones
 (ii) Glomerular Nephritis
 (iii) Diabetes insipidus

8. Why are plants able to accumulate most of the waste products for long? (1 mk)
 Most of the waste products are non toxic while some like oxygen are re-used within the plant.

9. Name three methods used by plants to excrete their waste productions. (3 mks)
 (i) Guttation
 (ii) Exudation
 (iii) Depositon

10. State the conditions in human beings that results to the following:-
 (i) Production of large quantities of dilute urine. (1 mk)
 When pituitary gland is unable to produce antidiuretic hormone or produces it in inadequate amont, kidney tubules are unable to reabsorb water from the glomerulae filtrate.

 (ii) Release of aldosterone hormone (1 mk)
 When there is higher concentration of sodium salts in the body.

 (iii) Release of glucagon hormone. (k1 mk)

 When the glucose concentration is lower than normal.

11. Name the class in the phylu m arthropoda which has the largest number of individuals. (1 mk)
 Class insecta

12. State two characteristics of fungi. (2 mks)
 (i) Basic unit is the hypha

- (ii) Cell wall contains chitin
- (iii) Eukaryotic

13. Give a sample of urine, name one test you would carry out to determine if it was obtained from a person suffering from diabetes mellitus. (3 mks)

Take a portion of the solution, add an equal amount of Benedict's solution. Heat the mixture to boil. If the solution turns orange, it indicates presence of reducing sugars.

14. Give a classification of a housefly by filling the table below. (3 mks)

Kingdom	Animalia
Phylum	Arthropoda
Class	Insecta

15. State the changes that occur in arterioles in the human skin during thermoregulation. (2 mks)

When it's hot the arteries vasodilate

When it's cold the arteries vasoconstrict

16. Giving a reason in each case, name the class to which each of the following organisms belong.

Bean plant – Class dicotyledonae

Reason – Two cotyledons in the seed

Tap root system

Bat – Class mammalia

Reason – Has mammary glands

Body covered with fur.

17. State the use of Colchicine (1 mk)

Treatment of gout.

18. Study the plant leaves then answer the questions that follow.

(a) Construct a possible dichotomous key to identify the leaf specimens. (3 mks)

(b) States the steps followed to identify the leaf specimens. (7 mks)

Steps followed	Identity
R 1b, 3b, 6a	Mexican marigold
S 1a, 2a, 4a	Napier grass
T 1b, 3a	Bean
V 1b, 3b, 6b	Jacaranda
W 1a, 2b, 5a	Mango
X 1a, 2b, 5b	Hibiscus
Y 1a, 2a, 4b	Trandescantia

18. (a) 1 (a) Simple leaf go to 2
 (b) Compound leaf go to 3
2. (a) Leaf parallel veined go to 4
 (b) Leaf network veined go to 5
3. (a) Three leaflets, leaf stalk Bean
 (b) More than three leaflets on leafstalk Go to 6.
4. (a) Leaf long and narrow Nappier grass
 (b) Leaf broad and short Trandescantia
5. (a) Leaf with smooth margin mango
 (b) Leaf with serrated margin Hibiscus
6. (a) Pinnate leaf arrangement Mexican marigold.
 (b) Bipinnate leaf arrangementJacaranda