

Name.....

Stream.....

## MBOGO MIXED SECONDARY SCHOOL

### S.4 – BIOLOGY TOPICAL TEST - 2020

CLASSIFICATION

TIME: 2HR

#### INSTRUCTIONS

- Attempt all questions in this paper
- Answers to be written on the space provided for section B.

#### SECTION A. Answer sheet

|    |  |    |  |    |  |
|----|--|----|--|----|--|
| 1  |  | 11 |  | 21 |  |
| 2  |  | 12 |  | 22 |  |
| 3  |  | 13 |  | 23 |  |
| 4  |  | 14 |  | 24 |  |
| 5  |  | 15 |  | 25 |  |
| 6  |  | 16 |  | 26 |  |
| 7  |  | 17 |  | 27 |  |
| 8  |  | 18 |  | 28 |  |
| 9  |  | 19 |  | 29 |  |
| 10 |  | 20 |  | 30 |  |

1. Select the organism that belongs to a different class from the others

- A. Flea                      B. mite                      C. scorpion                      D. tick

2. Which of the following is not a kingdom in the classification of living things

- A. Monera    B. fungi                      C. protista                      D. plantae

3. Which of the following can not be used to put plant specimens into different groups?

- A. shape of leaves

- B. size of leaves
- C. type of venation
- D. type of root system

4. A scientific name consists of two words. To which groups do they belong?

- A. genus and class
- B. genus and order
- C. genus and species
- D. genus and family

5. The following organisms are made up of cells except?

- A. amoeba   B. tape worm   C. virus   D. yeast

6. A student viewed a specimen on a slide using a microscope. He used a x10 eye piece and a x40 objective. The magnification of the image he saw was

- A. x4              B. x50              C. x400              D. x410

7. Which of the following features is not a characteristic of monocotyledonous plants?

- A. parallel venation              B. leaf sheath              C. soft stem              D. tap root

8. A number of organisms of different species living in a particular locality is called

- A. a community   B. a population   C. an ecosystem   D. a habitat

9. A group of cells that are co-coordinated to perform a particular function is called

- A. an organ              B. a system              C. a tissue              D. an organism

10. The following characteristics are found in arthropods. Which one is only found in some?

- A. exoskeleton    B. segmented bodies    C. compound eyes  
D. jointed limbs

11. Which one of the following structures is common to both Euglena and an orange tree?

- A. Flagella    B. Seeds    C. Contractile vacuole    D. Chloroplast

12. Which of the following reproductive methods is carried out by yeast under favourable conditions?

- A. Binary fission    B. Budding    C. Sporulation    D. Vegetative reproduction

13. Below is an example of a food chain.

Green grass → Grasshopper → Egret → Hawk

Which of the following would occur if a very large number of lizards were introduced in the ecosystem with this food chain?

- A. All the grass would be destroyed  
B. The grasshopper population would rise up  
C. The hawk population would decrease  
D. The egret population would decrease.

14. Which of the following bacteria is responsible for the break down of the proteins of dead organisms and their excretory matter into ammonium compounds.

- A. Nitrifying bacteria    B. denitrifying bacteria  
C. Nitrobacter    D. Putrefying bacteria

15. To which order of the class insecta does the body of louse belong?

- A. Anaphora    B. Hemiptera    C. Siphonoptera    D. Diptera

16. Which of the following vegetative plants would appear next in a rocky habitat after the lichens during the process of succession?

- A. A. Ferns    B. Algae    C. Moss    D. Spirogyra

17. Which one of the following plant food storage organ contains most food substances?

- A. stem tubers      B. roots tubers      C. fruits      D. seeds

17. Which one of the following is a modified tap root?

- A. carrot tuber      B. onion bulb      C. cassava tuber      D. sweet potato tuber

18. Which one of the following brings about secondary thickening in flowering plants?

- A. phloem cells      B. cambium cells      C. xylem cells      D. cortex cells

19. Which one of the following tissues has a protective function in plants?

- A. Xylem      B. phloem      C. cambium      D. epidermis

20. Which of the following flower parts is most important in promoting insect pollination?

- A. Calyx      B. Corolla      C. Stamens      D. Pistil

21. Which one of the following is characteristic of monocotyledons

- A. Leaf sheath      B. Net venation      C. Prominent tap root      D. Cork layer

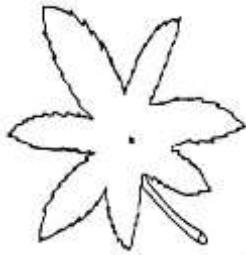
22. A runner is a

- A. stem which bends over and roots in the soil  
B. horizontal stem above the ground which gives roots and aerial shoots at the nodes  
C. horizontal stem beneath the ground which gives rise to roots and aerial shoots at the nodes  
D. short vertical stem which buds beneath the soil

23. Which one of the following is not a primary function of roots?

- A. conduct water and mineral salts      C. anchor the plant into the soil  
B. store food and water      D. absorb water and mineral salts

24. The figure below shows a leaf type



A. Bipinnate      B. compound trifoliate      C. pinnate      D. palmate lobed

25. Which one of the following is a modified root?

A. irish potato tuber      B. cassava tuber      C. rhizome      D. corn

26. Which part of Irish potato plant is used in its vegetative reproduction?

A. Stem      B. root      C. leaf      D. flower

27. Non-endospermic seeds store their food in

A. Endosperm      B. cotyledon      C. testa      D. embryo

28. The following are parts of gynoecium except

A. Ovary      B. filament      C. style      D. stigma

29. The following are types of underground stems except

A. Rhizome      B. stem tuber      C. pitcher      D. corms

30. Which of the following sets do not have roots?

- A. Mosses, ferns, fungi, conifers and liverwort.
- B. Liverworts, mushrooms, algae, bacteria and mosses.
- C. Ferns, horsetails liverworts algae and conifers.
- D. Mucor, corn, smut, spirogyra, maize and beans

## Section B

31. (a) List any structural differences between a stem and a root

| Stem       | Root       |
|------------|------------|
| i) .....   | i) .....   |
| ii) .....  | ii) .....  |
| iii) ..... | iii) ..... |

(b) Give 5 functions of stems

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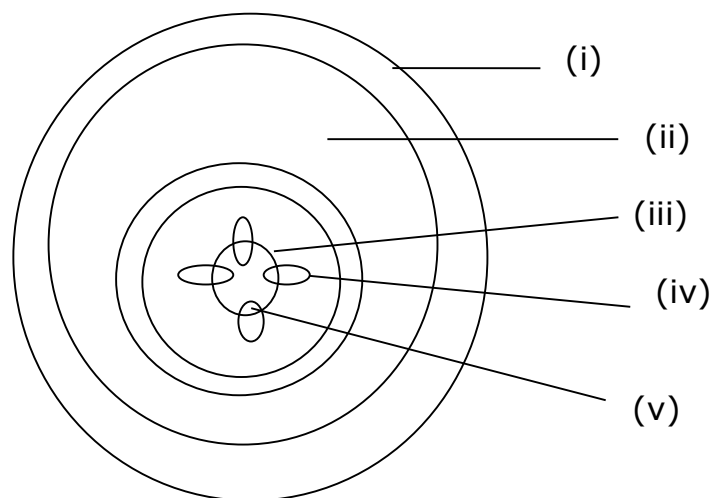
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32. Below is a cross section of the part of a plant.



a) Name the parts labelled (i) - (v)

b) Giving a reason, state the part of the plant from which the section was taken from.

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c) i) Give the function of part labelled IV and V.

IV.....

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V.....

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ii) What role does part labelled III play in the plant?

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33. (a) List any structural differences between a stem and a root

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(b) What are the main functions of a stem?

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(c) What adaptations of stems enable them to serve additional functions?4mks.

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34. (a) In what ways does the life cycle of a house fly differ from that of a cockroach?4mks

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(b) Giving examples, explain how insects can be useful to people.5mks

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(c) What adaptation of insects enables them to transmit diseases?3mks

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**END**