

SEROMA CHRISTIAN HIGH SCHOOL

S.2 2021

BIOLOGY DEPARTMENT

TIME: 2 HOURS

NAME: STREAM:

INSTRUCTIONS:

Do all numbers in spaces provided in sections A and B, and any two from section C

SECTION A

1. Which one of the following is a characteristic of animal cells?

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|---------------------------|-------------------------|
| A. presence of cell walls | B. have a regular shape |
| C. have irregular shape | D. have large vacuoles |

2. Which one of the following is the main function of the apical meristem in a root?

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|-------------------------------|--------------------------------------|
| A. formation of lateral roots | B. secondary thickening of the roots |
| C. formation of new cells | D. protection of the root tip |

3. The modified organ for food storage in Irish potatoes is

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|---------|--------|---------|---------|
| A. Root | B. bud | C. leaf | D. stem |
|---------|--------|---------|---------|

4. The following are primary functions of a root except

- A. conduction of water and mineral salts
- B. storage of food and water
- C. absorption of water and mineral salts
- D. Anchor in the plant into soil

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

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|--------------|----------|-----------|------------|
| A. epidermis | B. xylem | C. phloem | D. cambium |
|--------------|----------|-----------|------------|

6. Which one of the following is not a means of movement in protozoa?

- A. Cilia B. Flagella C. Pseudopodia D. Coelom

7. Cambium cells are responsible for secondary thickening of stems. This is because they

- A. have actively dividing cells
B. are found between the xylem and phloem
C. form rings
D. are at the apex of the root and shoot in any plant

8. Which of the following features differentiate a housefly from a spider?

- A. Segmented Body
B. Jointed limbs
C. Number of body parts
D. Possession of exoskeleton

9. The 'eye' of an Irish potato is made up of

- A. a bud and a root B. a vein and a scale leaf
C. a root and scale leaf D. a bud and scale leaf

10. Which one of the following parts of a plant cell is used to manufacture food for the plant?

- A. starch grains B. cell wall C. chloroplast D. protoplasm

11. The following belong to the same group except

- A. Trypanosoma B. Penicillium C. Plasmodium D. Entamoeba histolytica

12. Which one of the following regions in a root apex would you find root hairs?

- A. Root cap B. region of cell division
C. Region of elongation D. Region of maturation

13. Which of the following is true of fungi, algae, mosses, and ferns? They can

- A. thrive well in dry conditions
- B. possess chlorophyll in their tissues
- C. produce spores which are dispersed
- D. reproduce sexually by conjugation

14. Which of these functions is not associated with a stem?

- A. reproduction
- B. photosynthesis
- C. food storage
- D. water absorption

15. The housefly may NOT transmit

- A. sleeping sickness
- B. dysentery
- C. Cholera
- D. typhoid

16. Which of the following combinations about Amoeba are related?

- A. Pseudopodia, reproduction
- B. Nucleus, movement
- C. Contractile vacuole, water
- D. Ectoplasm, digestion

17. At which of the following levels of classification can organisms interbreed and produce fertile off springs?

- A. species
- B. class
- C. Phylum
- D. Kingdom

18. A grasshopper belongs to the phylum Arthropoda as the earthworm belongs to the phylum

- A. mollusca
- B. orthoptera
- C. oligochaetae
- D. annelida

19. Which of the following organisms has flagella?

- A. sperm cell
- B. Amoeba
- C. Paramecium
- D. Spirogyra

20. Which one of the following characteristics may be used to determine whether leaves are compound?

- A. nature of margin
- B. number of leaf leaflets
- C. type of venation
- D. presence of leaflets

21. Plants with naked seeds fall under

- A. gymnosperms B. bryophytes C. ferns D. algae

22. Which of the following is a characteristic of monocotyledons?

- A. leaf sheath B. prominent tap root
C. net venation D. cork layer

23. Which of the following is a modified root?

- A. sweet potato tuber B. Rhizomes
C. Irish potato tuber D. Corn

24. Which of these are characteristics of all insects?

- A. complete metamorphosis and 3 pairs of jointed legs
B. 3 pairs of jointed legs and 3 main body parts
C. One or two pairs of wings and 3 pairs of jointed legs
D. Complete metamorphosis and 3 main body parts

25. Which of the following features belong to both an Arachnida and an insect?

- A. cuticle and 2 pairs of wings B. six legs and 2 pairs of wings
C. Six legs and antennae D. jointed legs and cuticle

26. Which of the following is the best advantage of crop rotation?

- A. It reduces soil erosion
B. The growth of weeds is brought under control
C. It prevents exhaustion of particular mineral salts from the soil
D. It improves soil conditions

27. One of the following lists places the organisms correctly in descending order of size. It is

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|--------------|-----------|-----------|
| A. Amoeba | virus | bacterium |
| B. Bacterium | virus | amoeba |
| C. Amoeba | bacterium | virus |
| D. Bacterium | amoeba | virus |

28. Which of the following is not a plant organ?

- A. Xylem vessel B. tap root. C. flower D. foliage leaf.

29. The following are some features of lower plants

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|----------------------------|----------------------------------|
| (i) Reproduce by spores | (ii) lack vascular tissues |
| (iii) Grown in damp places | (iv) have simple stem and leaves |

Which of the features belong to both mosses and ferns?

- A. (i) and (iv) B. (ii) and (iii) C. (ii) and (iii) D. (iii) and (iv)

30. Bacteria and blue-green algae are examples of

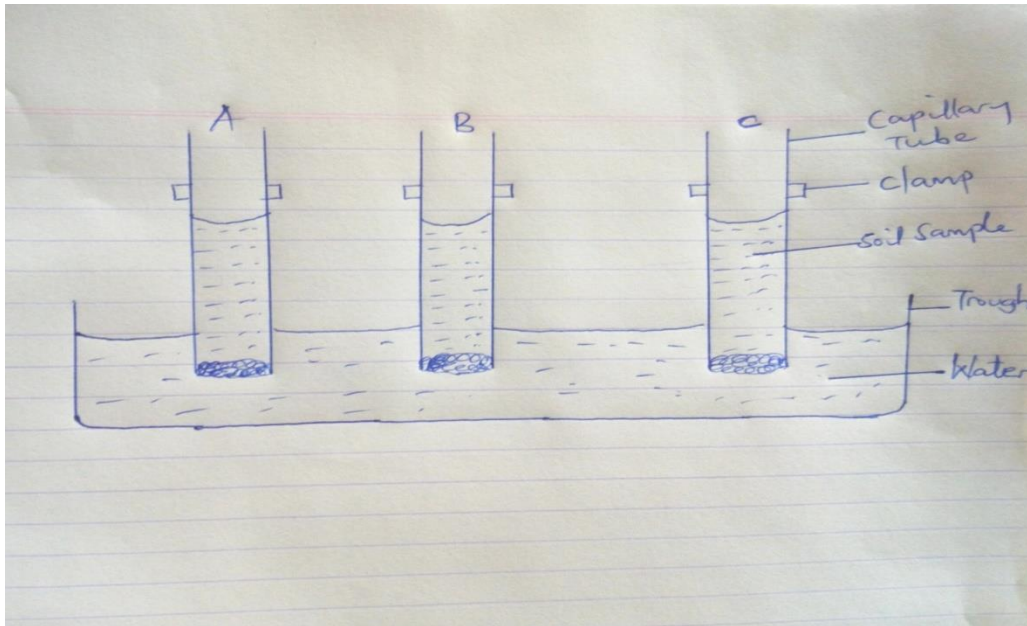
- | | |
|----------------------|---------------------|
| A. Prokaryotic cells | B. Eukaryotic cells |
| C. Defense cells | D. water plants |

ANSWER SHEET FOR SECTION A

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

SECTION B.

31. Senior two students carried out an experiment on soil to determine the behavior (property) of 3 different types of soil samples A, B, and C when immersed in water. The set up of the experiment was as shown in the figure below.



In this experiment, equal amount of different types of soil A, B, and C was placed in different capillary tubes fitted with cotton wool at the bottom and allowed to stand in water for some time as shown in the set up above.

The rise in water level in each of the soil sample in the capillary tube was recorded after every 10 minutes interval as shown in the table below.

Time in minutes	Rise of the water level in each of the soil sample in cm ³		
	Soil A	Soil B	Soil C
00	00	00	00
10	05	02	10
20	10	04	20
30	15	06	30
40	20	08	40
50	25	10	50
60	30	12	60

(a) Represent this information on a graph.

(b) Compare the rate of rise in the water level for the three soil samples with time.

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(c) Explain the difference in the rise of the water level in the three soil samples shown above.

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(d) Which soil property is being investigated in the experiment above

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(e) Basing on the results of the experiment, suggest the type of soil samples A, B, and C giving reasons for your answer

Type of Soil sample	Reason
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A.....	
	
B.....	
	
C.....	
	

(f) Using the graph, determine, the level of RISE of water in soil sample A at ;

i. 15 minutes

ii. 25 minutes

32. A student wrote the scientific name of the house fly as musca Domestica.

(a) Which rules were not obeyed in writing the name?

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(b) Which taxonomic group does the name musca refer to?.....

(c) Write down the 7 taxonomic levels or groups from the largest to the smallest.

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33. (a) Explain how each of the following affect the quality of soil, giving the meaning of each.

i. Leaching.....

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ii. Soil exhaustion.....

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iii. Erosion.....
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b.) mention any two ways of controlling soil erosion

i).....
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ii).....
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SECTION C.

34 (a) what is soil?

(b) State the functions for each of the following in a fertile soil.

i. inorganic matter.

ii. Soil water

iii. Living Organisms.

35. Describe an experiment to show that soil contains living organisms.

36. Taxonomy divides chordates into five different classes.

(a) What is taxonomy?

(b) Give 4 main characteristics of chordates

(c) Name the five classes of phylum chordata giving an example in each.

(d) How is fish adapted to live in water?

END