

VICTORIOUS COLLEGE BUGEMA LUWEERO

END OF TERM II EXAMS 2019

S.3 BIOLOGY 1

Time: 2 ½ HOURS

SECTION A (30MKS)

1. Which one of the following digestive processes is catalyzed by salivary amylase?
A. maltose to glucose and fructose B. sucrose to glucose and fructose
C. starch to maltose D. lactose to glucose and galactose
2. Which one of the following classes has the highest number of species?
A. crustacea B. Arachnida C. myriapoda D. insect
3. Which of the following allows smooth movement of bones at a joint?
A. synovial fluid B. Tendon C. ligament D. synovial membrane
4. Clay soil has a highest water retention capacity because it
A. contains little amount of humus B. has small air spaces
C. it is sticky when wet D. has good capillary attraction
5. Which of the following are not respiratory surfaces in animals?
A. tracheoles B. alveoli C. gill filaments D. spiracles
6. Which one of the following plant organs can be used in vegetative reproduction?
A. stem tuber of irish potato B. root tuber of carrot
C. tap root of carrot D. leaves of onion
7. Which one of the following is a property of a fully turgid cell?
A. the vacuole has maximum volume B. there is no more absorption of water by the cell
C. the cell wall resists further expansion of cell vacuole
D. the cytoplasm is slightly separated from cell wall
8. Which one of the following diets would be recommended for an obese person?
A. low protein, low fat, high carbohydrate B. low carbohydrate, high protein, low fat
C. high carbohydrate, high protein, low fat D. low carbohydrate, low protein, high fat
9. Which one of the following can not be used in classification of plants?
A. structure of flowers B. leaf structures C. type of seeds D. leaf colour
10. Which one of the following compounds is a constituent of enzymes?
A. lipids B. polysaccharides C. proteins D. vitamins
11. Which of the following structures in the mammalian ear is concerned with balance?
A. Semi circular canal B. cochlea C. oval window D. ear drum
12. A male cockroach is different from female cockroach by having
A. cerci B. styles C. larger abdomen D. longer antennae
13. The type of soil with the largest air spaces and high water drainage is
A. sand B. clay C. slit D. loam
14. Which one of the following farming methods would cause pollution in an aquatic habitat?
A. mulching B. application of farm yard manure
C. crop rotation D. use of artificial fertilizers
15. Which one of the following takes place by the process of active transport in plants?
A. uptake of water B. uptake of mineral salts
C. intake of carbon dioxide D. Transpiration
16. Which one of the following structural adaptations of leaves is important for light absorption during photosynthesis?
A. Dense net work of veins B. large number of stomata on leaf surface
C. broad and flat shapes of leaves D. larger intercellular air spaces in spongy layer

17. Which one of the following tissues has protective function in plant?
 A. xylem B. phloem C. cambium D. epidermis
18. What disease would you be controlling by pouring molluscides in water?
 A. schistosomiasis B. Guinea worm infestation C. typhoid D. cholera
19. Which one of the following dental formulae represents that of a cow?
 A. $\begin{array}{cccc} I & C & PM & M \\ \underline{2} & \underline{1} & \underline{2} & \underline{3} \end{array}$ B. $\begin{array}{cccc} I & C & PM & M \\ \underline{2} & \underline{1} & \underline{2} & \underline{0} \end{array}$
 C. $\begin{array}{cccc} I & C & PM & M \\ \underline{0} & \underline{1} & \underline{2} & \underline{3} \end{array}$ D. $\begin{array}{cccc} I & C & PM & M \\ \underline{0} & \underline{0} & \underline{3} & \underline{3} \end{array}$
20. Which of the following vitamins is deficient in a person whose gums bleed?
 A. vitamin C B. vitamin E C. vitamin B₂ Vitamin K
21. Which one of the following characteristics is common to birds, fish and reptiles?
 A. regulation of body temperature B. bodies are covered with scales
 C. use of nostrils for breathing D. internal fertilization
22. Which one of the following is a characteristic of animal cells?
 A. presence of cell walls B. cells consist entirely of cytoplasm
 C. have regular shape D. have large centrally placed vacuole
23. Nerves, spinal cord and the brain make up
 A. tissue B. organ C. system D. an organism
24. Decrease in number of red blood cells could reduce the ability of blood to
 A. clot B. transport oxygen C. destroy harmful bacteria D. distribute heat
25. The similarity in feeding between amoeba and fungus rhizopus is that both
 A. feed on dead organic matter only B. ingest undigested food material
 C. digest their food with in vacuoles
 D. secrete enzymes onto food material from their cytoplasm
26. Which one of the following can be applied to reduce the acidity of the soil?
 A. Ammonium compound B. Nitrate C. phosphate D. lime
27. Which one of the following results of seed dispersal may not be an advantage to a plant?
 A. reduces over crowding B. minimizes spread of diseases
 C. stops competition for light and air D. results in colonization of new areas
28. Which of the following pairs of cells do not have nuclei when mature?
 A. sieve tube cells and companion cells B. erythrocytes and leucocytes
 C. sieve tube cells and erythrocytes D. companion cell and leucocytes
29. A bat is classified as a mammal because
 A. it does not possess feathers B. it has specialized teeth
 C. it has four limbs D. its digits have claws
30. Photosynthesis is said to have a pair of raw materials, a pair of conditions, and a pair of products which of these is the correct set?
 A. carbon dioxide and light; water and chlorophyll; oxygen and sugars
 B. water and light; carbon dioxide and chlorophyll; oxygen and sugars
 C. Light and chlorophyll; carbon dioxide and sugar; water and oxygen.
 D. carbon dioxide and water; light and chlorophyll; oxygen and sugars

SECTION B

31. The table below shows the effect of temperature on the activity of amylase on starch. Six test tubes, each containing a mixture of starch and amylase, were placed in water baths maintained at 0°C, 10°C, 20°C, 30°C, 40°C and 50°C and allowed to stand.

Study the table below and answer the questions that follow

Test tube	Temperature (°C)	Time taken for starch break down (minutes)
1	0	Starch still present after 60 minutes
2	10	22
3	20	11
4	30	5
5	40	3.0
6	50	Starch still present after 60 minutes

(a) How does temperature affect action of amylase enzyme

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(b) Give one reasons in each case for the results obtained in the test tube kept at

(i) 0°C.....

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(ii) 50°C.....

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(c) Suggest the time it would take amylase to digest starch if the temperature is kept at 0°C

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(d) Describe the test you would carryout to determine the substance into which starch was broken to

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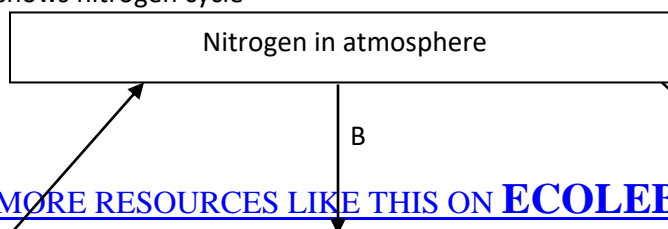
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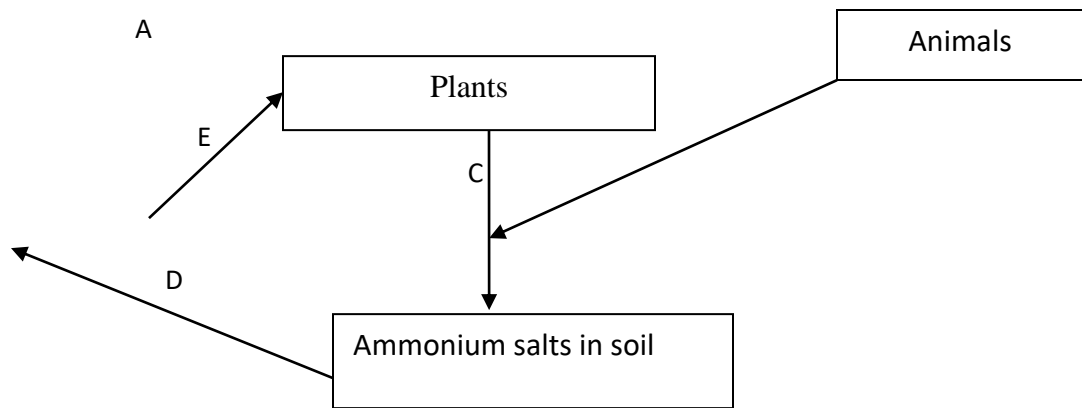
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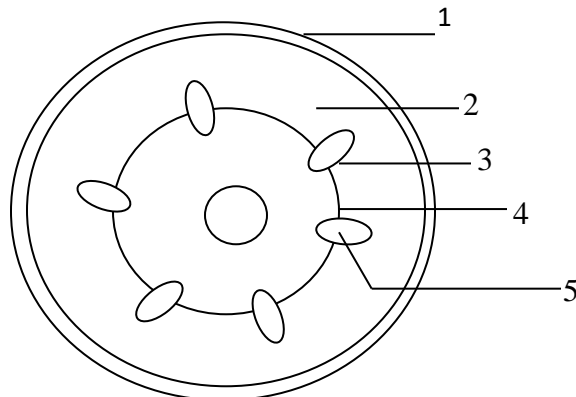
32. The figure below shows nitrogen cycle





- (a) Name the processes taking place at A,B,C, D and E
- A.....
- B.....
- C.....
- D.....
- E.....
- (b) (i) How is process B useful to plants?
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- (ii) Identify the organism responsible for process D
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- (c) State the importance of the process at A in the cycle
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33. The figure below shows a cross section of plant of the plant



- (a) Name parts labeled 1 to 5

- 1
- 2
- 3
- 4
- 5

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

(c) (i) State the functions of parts labeled 4 and 5
 4.....
 5.....

Outline any four tissues that make up this plant under study

SECTION C (30 MARKS)

Answer any two questions

- 34. Describe and experiment to show that carbon dioxide is necessary for photosynthesis to take place. (15mks)
- 35. (a) Define the term double fertilization in plants (2mks)
 (b) Describe the process of double fertilization in flowering plants (14mks)
- 36. (a) Define the following terms
 (i) Balanced diet (1mk)
 (ii) Malnutrition (1mk)
 (b) Outline the components of a balanced diet. (4mks)
 (c) Outline the causes of each type of malnutrition in man (9mks)
- 37. (a) Define the term Osmosis (1mk)
 (b) Describe an experiment to show that osmosis takes place only in a living plant tissue (14mks)

END