

MID TERM 111 2019 EXAMS

S. 2 BIOLOGY

PAPER ONE

DURATION: 2 HOURS: 30 MINUTES

Instructions

1. Attempt all questions in section A, B and three from section C
2. Circle the most correct alternative in section A. Answers for section B **MUST** be answered in the spaces provided.
3. Answers for Section C must be written in the provided answer sheets.
4. Poor handwriting leads to loss of marks. So write well.

SECTION A

1. Arachnids can easily be identified by;
 - A. 3 pairs of legs
 - B. 2 body parts
 - C. 2 main body parts
 - D. A pair of antennae
2. What is the possible reason for the fall in the volume of oxygen gas released during photosynthesis after 40°C?
 - A. There was no oxygen in the atmosphere
 - B. There was no more carbondioxide
 - C. There was too much light intensity
 - D. Enzymes were denatured
3. Leguminous plants are characterized by;
 - A. Production of seeds in a capsule pod
 - B. Production of seeds in a follicle pod
 - C. Presence of nodes in shoots
 - D. Presence of nodules in roots
4. A student performed an experiment to determine the percentage of humus in a soil sample. The following results were obtained.
 - Mass empty dish = 50g
 - Mass of dish + soil = 200g
 - Mass of dish + soil after heating = 170g

- What is the percentage of humus in the soil?
A. 15% B. 30% C. 20% D. 90%
5. Mostly an enzyme is a _____ in mature
A. Protein B. Carbohydrate C. Lipid D. Vitamin.
6. Blood rich in the products of digestion enters the liver through
A. Hepatic vein
B. Hepatic portal vein
C. Hepatic artery
D. Renal portal vein
7. Which of the following represents the correct order of taxonomic ranks starting with the largest?
A. Kingdom, phylum, class, order, family, genus, and species
B. Kingdom, phylum, class, family, order, genus, and species
C. Species, genus, family, order, class, phylum, kingdom
D. Species, genus, order, family, class, phylum, kingdom.
8. The basic unit of chlorophyll is?
A. Nitrogen B. Magnesium C. Iron D. Potassium
9. Biological control is preferred to use instead of insecticides in pest control management. This is because insecticides;
A. Are quite expensive
B. Are indiscriminate in their action
C. Require skill to use
D. Make the soil fertile
10. Which one of the following fruits represents a capsule?
A. Bean pod B. Cassia C. Dutch man's fruit D. Coconut
11. By which process does oxygen move from the leaf cells to the air spaces?
A. Diffusion
B. Active transport
C. Osmosis
D. Capillarity
12. Which one of the following parts is most important in promoting insect pollination?

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

13. Which one of the following processes is involved in the absorption of minerals by sea plants

- A. Photosynthesis
- B. Active transport
- C. Osmosis
- D. Diffusion

14. Which one of the following is not a function of soil air?

- A. Provides oxygen for root respiration
- B. Provides nitrogen for nitrogen fixing bacteria
- C. Used by soil-micro-organisms
- D. Used in flocculation of clay

15. A student used a hand lens to observe an ant. The actual length of the ant is 0.6cm. On observing the ant through the hand lens, it was 6.8cm long. What was the magnification of the image?

- A. X7.2 B. X6.2 C. X11.33 D. X 0.09

16. Clean saliva was collected in a clean test-tube. Sodium hydroxide solution was added to it followed by copper II sulphate solution. Which of the following is likely to be observed?

The mixture turns to;

- A. White precipitate
- B. Blue solution
- C. Purple solution
- D. Blue – black solution

17. Which one of the following processes does not occur in the liver of an adult mammal.

- A. Production of red blood cells
- B. Conversion of glucose to glycogen
- C. Production of bile salts
- D. Deamination

18. Plant cells differ from animal cells by possession of;

- A. Cell membrane B. Nucleus C. Vacuoles D. Chloroplasts

19. Which one of the following adaptations facilitate the diffusion of carbon dioxide in a leaf?

- A. Numerous chloroplasts in palisade cells and net work veins
- B. Blood lamina and presence of air spaces in the spongy mesophyll layer

- C. Net work of veins and water tight cuticle
- D. Elongated palisade cells and a waxy cuticle

20. Which one of the following organs has a double blood supply?
- A. Pancrease B. Liver C. Kidney D. Spleen
21. In the flowering plants translocation of photosynthetic products is by the
- A. Xylem vessels C. Sclerenchyma
- B. Sieve tube D. Companion cells
22. Which one of the following organisms improves drainage of the soil
- A. Fungi B. Bacteria C. Snails D. Termites
23. The tissue responsible for conducting water to the leaves from the root.
- A. Parenchyma B. Cortex C. Phloem D. Xylem
24. Which of the following s characteristic of sol with low capillarity.
- A. Poor drainage C. Poor aeration
- B. Poor water retention D. Small particles.
25. Which one of the following occurs if a potato strip was placed in distilled water?
- A. Increase in length C. Decrease in length
- B. Strip would soften D. Remain unchanged
26. Lack of iodine n the human diet causes
- A. Anaemia C. Goitre
- B. Scurvy D. Rickets
27. Which one of the following parts of a tooth contains living tissue?
- A. Cement C. Enamel
- B. Pulp cavity D. Dentin
28. Which one of the following parts of the Irish potato is used in vegetative propagation?
- A. Stem C. Leaf
- B. Root D. Flower
29. Which one of the following plant organs has a scattered arrangement of vascular bundles?
- A. A root of a monocotyledonous plant
- B. A stem of a monocotyledonous plant
- C. A stem of a dicotyledonous plant
- D. A root of a dicotyledonous
30. The part of the microscope used to make the image clear is the
- A. Objective lens B. Eye piece
- C. Coarse adjustment D. Fine adjustment

SECTION B

31. Draw a well labeled structure of a plant cell giving functions of each part.

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32. (a) Define enzymes.

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v. Dioecius plant

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vi. Monoecius plant

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vii. Cleistogamy

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viii. Self-pollination

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ix. Cross pollination

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SECTION C

34. (a) Draw a well labeled structure of a molar tooth and outline the functions of each part labeled.
- (b) Explain the causes of tooth decay.
 - (c) Mention the teeth diseases you know
 - (d) How do we care for our teeth?

35. (a) Define enzyme.
(b) How do enzymes work?
(c) Mention the properties of enzymes.
(d) Describe the factors affecting enzyme activity.
36. (a) Define transport in living things.
(b) Define the six forms of transport across cells.
(c) Explain the factors affecting the rate of diffusion.
37. (a) Define the types of transpiration.
(b) Describe an experiment to show that plants transpire.
(c) Explain the environmental factors affecting the rate of transpiration.

END