

The University of Bamenda

Academic Year 2012/2013; Second Cycle Biology

Paper 1(major) Animal Biology, Plant Biology, Biochemistry (Time 3hours)

Answer all questions. Write the letter corresponding to the correct answer booklet.

Nothing should be written on the question paper.

1. The phenomenon of apical dominance in plants means:
 - A. Growth inhibition of axillary buds.
 - B. The dominance of axillary buds.
 - C. The horizontal growth of modified stems like stolon.
 - D. The enlargement of the tips of some rhizomes to form tubers for food storage.
 - E. Modification of vertical underground shoots with leaves modified for food storage.
2. Plants grow mainly by:
 - A. Synthesizing organic molecule
 - B. Adding more Cytoplasm
 - C. Uptake of water by vacuole and cytoplasm.
 - D. Synthesizing cellulose fibers
 - E. Growth of microtubules.
3. In plant photosynthesis occur in the chloroplast of which kind of cell?
 - A. Parenchyma cells
 - B. Sclerenchyma cells
 - C. Collenchyma cells
 - D. Water conducting cell
 - E. Companion cells.
4. Which type of plant cell have the potential to divide and differentiate into other types of plant cells even at maturity.
 - A. Parenchyma cell
 - B) Sclerenchyma cell
 - C. Collenchyma cell
 - D. Water conducting cell
 - E. Companion cell.
5. Three types of cells that made up the primary meristem of a growing root or shoot are called.
 - A. Apical meristems, ground meristem, Prototem
 - B. Prototem, Procambiom and ground meristem.
 - C. Epidermis,
 - D. Procambiom, Apical meristem and Prototem.

E. Ground meristem, Apical meristem and Procambium.

6. Lands acquire their Nitrogen mainly in the form of _____ which is produced in the soil in the form of _____

A. Ammonia, Nitrogen fixing bacteria, Nitrogen gas B. Ammonium, Ammonifying bacteria, Ammonium C. Nitrate, Nitrifying bacteria, Ammonium. D. Nitrite, Denitrifying bacteria, Ammonium. E. Nitrate, Nitrifying bacteria, Ammonia

7. Mycorrhizae are;

A. Nodules containing Nitrogen fixing bacteria found in the roots of legumes
B. Cellular extension of parasitic plants that tap into the host vascular tissue.
C. plants that use other plants as substratum but do not take nutrients from the host.
D. Symbiotic association between roots and fungi

E. Root hairs resembling the hyphae of fungi

8. The oxygen release during plant photosynthesis comes from.

A. The splitting of water during the light reaction
B. The splitting of Carbon dioxide C. The en - cooperation carbon into organic material in the Calvin cycle D. The addition of water to carbon E. The reduction of NADP to NADPH

9. In the life cycle of mosses (Bryophytes) the _____ is the dominant germination while the _____ is the dominant generation in the life cycle of vascular plants.

A. Gametophyte, Sporophyte B. Sporophyte, Antheridia C. Archegonia, Antheridia
D. Protonema, Archegonium E. Sporophyte Gametophyte

10. Fibrils in plants cell walls are made up of _____ molecules in a chain held by hydrogen bonds.

A. Starch B. Glycogen C. Amylase D. Cellulose E. Amylopectin

11. Phospholipids are structurally related to fats and are made up of

A. Phosphate, sugar, fatty acids B. Phosphate, glycerol, fatty acids, C. Phosphate, amino acids, fatty acids D. Phosphate, sugar, amino acids.

12. All proteins are polymers constructed from _____ different types of monomers
A. 20 amino acids B. 12 nucleotides C. 12 amino acids D. 15 nitrogenous bases E. 15 steroids
13. In the DNA molecule the sugar is _____ and the pyrimidine bases are _____
A. Glucose, uracil and guanine B. Ribose, guanine and cytosine C. Deoxyribose, cytosine in thymine D. Ribose, adenine and cytosine E. Deoxyribose, thymine and uracil.
14. For a protein to have a quaternary structure it must.
A. Have four domains B. Consist of two or more polypeptides sub units C. Consist of four polypeptides sub units D. Have at least four E. Exist in several alternative configurationally states.
15. The phosphate bonds in ATP are referred to as “high energy bonds” because
A. Their bond energy is relatively high B. They are relatively strong bonds C. Their hydrolysis is exogenous D. Their formation releases a relatively large amount of energy E. Their hydrolysis has relatively high free energy of activation.
16. Most of the ATP made during cellular respiration is generated by
A. Glycolysis B. Oxidative phosphorylation C. Substrate – level phosphorylation D. Direct synthesis of ATP by the X – reb’s cycle E. Transfer of phosphate from glucose phosphate to ADP.
17. As a group acoelomates are characterized by.
A. Oastrovacular cavities B. A body cavity called hemocoel C. Deuterestone development D. Aceleoem that is not completely lined with mesoderm E. A solid body without a cavity surrounding internal organs.
18. A land snail, a clam and an octopus all share which of the characteristics?
A. A mantle B. A radula C. Gills D. Embryonic torsion E. Distinct cephalization.
19. Which of the following is not a general characteristics of the phylum chordate?

A. Dorsal hollow nerve cord B. Vertical column C. Notochord D. Pharyngeal slits E. Post anal tail.

20. The amniotes eggs first evolve in:

A. Bony fishes B. Amphibians C. Reptiles D. Birds E. Mammals

21. DNA replicates during A. G1 phase B. S phase C. G2 phase D. M phase E. Cytokinesis

22. Mammals and birds share all of the following characteristics except:

A. Endoderm B. Decent from reptile C. Four – chambered heart D. Teeth specialized for diverse diets E. The ability of some species to fly

23. Unlike placental mammals, both monotremes and marsupials

A. Lack nipples B. Have some embryonic development outside the mother's uterus C. Are found in Austria D. Lay eggs E. Include only insectivores and herbivores

24. The carrying capacity for a population is:

A. The number of individuals in that population B. Reached when mortality exceeds natality C. Inversely related D. The population size that can be supported by available resources for that species within the habitat E. Set at 8 billion for the human race.

Answers

1	A	9	A	17	E
2	A	10	D	18	E
3	A	11	B	19	B
4	E	12	A	20	C
5	B	13	C	21	B
6	A	14	B	22	D
7	D	15	E	23	B

8	A	16	B	24	D
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