



ETHIO EXAMS CHANNEL

BIOLOGY Practical EXAM FOR GRADE 12

TIME ALLOWED: 2:00 HOURS

GENERAL DIRECTION

IN THIS practical EXAMINATION, THERE ARE A TOTAL OF 100 MULTIPLE CHOICE QUESTIONS. CAREFULLY SELECT THE CORRECT ANSWER AND BLACKEN ONLY THE LETTER OF YOUR CHOICE ON THE SEPARATE ANSWER SHEET PROVIDED. USE ONLY PENCIL TO MARK YOUR ANSWERS.

CHOOSE THE BEST ANSWER FROM THE FOLLOWING ALTERNATIVE AND WRITE ON THE SEPARATED ANSWER SHEET PAPER

1. Which one of the following movements does not necessarily require semi-permeable membrane?
A. Osmosis
B. Diffusion
C. Dialysis
D. Facilitated
2. Which one of the following cells has the greatest diffusion number of mitochondria?
A. Muscle cells
B. Nerve cells
C. Fat tissue
D. Skin cells
3. Cells are _____
A. Differ in shape
B. similar in function
C. All except B
D. Capable of carrying all the necessary like activities
4. A cell which is very active in the synthesis and secretion of proteins would be expected to have _____
A. Equal amounts of smooth ER and rough ER
B. More rough ER than smooth ER
C. More smooth ER than rough ER
D. Neither smooths ER nor rough ER
5. Plasmolysed plant cells become turgid, if placed in _____
A. Isotonic solution
B. hypotonic solution
C. Hypertonic solution
D. A solution whose solutes can diffuse freely in to it
6. Which one of the following statement is not true about phospho lipid
A. Phospholipid has a polar phosphate head
B. Phospholipid are formed by the association of lipids with carbohydrate
C. phospholipids have a non- polar tail made up of hydrocarbons of fatty acids.
D. phospholipids are lipids containing aphosphate group
7. Which one of the following statements is not true?
A. prosthetic groups are cofactors which are permanently bound to an enzyme
B. Inorganic like live iron are thought to increase the rate of reactions by moulding either the shape of the enzyme or substrate
C. ATP is an example of coenzyme

- D. Pepsin enzyme is an example of coenzyme
8. Which one of the following enzymes catalyses best in a neutral PH?
- A. Salivary amylase B. Catalase
C. Pancreatic lipase D. Pepsin
9. Which one of the following factors affects the secondary and tertiary structure of enzymes?
- A. High concentration of enzyme
B. High temperature usually above 40°C
C. low temperature near or below freezing point
D. High concentration of a substance
10. Which one of the following enzyme is used as a biological detergent?
- A. Trypsin B. Proteinase
C. Pancreatic trypsin D. Lipase
11. Which one of the following statements is true about de-nitrification?
- A. Denitrification process is enhanced when the soil is very acidic or water logged
B. The rate of denitrification can be reduced by aerating the soil
C. Denitrifying bacteria are an aerobic
D. Denitrifying bacteria breaks down nitrites and nitrates release nitrogen gas back in to the atmosphere
12. Which one of the following statement is not correct about colonization?
- A. pioneers are the first plants to colonize a bare ground
B. opportunistic organisms are those plants which have an efficient dispersal mechanisms to arrive at the site where they colonize
C. Forest is the climax community in a primary succession
D. The stages in succession are referred as xeroseres
13. Identify the wrong statement what makes lichen ideal early colonizer
- A. Lichens can with stand drought
B. Lichens can with stand extremer of temperature
C. Lichens are autotrophs
D. Lichens need very high level of nutrient
14. Which one of the following Biomes contains the greatest biodiversity?
- A. savanna B. Tropical rain forest
C. Temperate grass lands D. Boreal forest

15. Which one of the following substance is a green house gas?
A. CO_2 B. CH_4
C. N_2O D. O_2
16. Which one of the following factors is not the real for a climax forest community?
A. The danger of destruction by humans B. High wind
C. Attack by virulent parasite D. Radiation
17. Ammenifying bacteria converts _____
A. wastes in to ammonia B. Ammonia in to nitrite
C. nitrites to ammonia D. Nitrates to ammonia
18. All the living organisms of the earth consists of
A. biosphere B. community
C. biome D. ecosystem
19. An amino acid is essential because it is _____
A. used in the metabolic path way B. an enzyme
C. must be taken in food D. present in all plants
20. DNA & RNA differ in the following molecule _____.
A. Phosphate B. Sugar
C. Purine D. Kind of bonds
21. Which of the following monosaccharide's form maltose?
A. Glucose + glucose B. Glucose + galactose
C. Glucose + fructose D. Fructose + galactose
22. Glucose is commonly found in _____.
A. Germinating seed B. Sugar cane
C. Milk D. Starch
23. A sugar is known as a reducing sugar, because they
A. have a Free or Free aldehyde group
B. have a free ketone group
C. Can change Cu^{++} to C^+ form
D. Cannot be hydrolyzed
24. During kreb cycle 1 molecule of glucose gives anet yield of ____
A. 4 NADH_2 B. 6 NADH_2
C. 8 NADH_2 D. 10 NADH_2

25. Golgiapparatus is involved in the formation of
A. Protein
B. Zymogen granule
C. Spindle fibros
D. Carbohydrat
26. Which one of the following scientists tested the bio chemical hypothesis of the origin of life?
A. Oparin
B. Miller
C. Pasteur
D. Redi
27. Which one of the following suggested the importance of amino acids in the origin of life?
A. van helment
B. Oparin
C. Pasteur
D. Redi
28. Coacervates are cluster of
A. Protein
B. Sugars
C. fats
D. Sugar & fats
29. Which one of the following studies provides evidence about the gradual development in the evolution of the fore limb of a horse?
A. Comparative anatomy
B. Palaeontology
C. Biogeograph
D. Physiology
30. Homology of organs in two animals suggests that both animals
A. belong to the same geological time scale
B. are adapted to similar habitats at particular time in evolution
C. have evolved from a common ancestor
D. are a result of convergent evolution.
31. The sequence of amino acids in a polypeptide chain of protein molecule is called
A. Secondary structure
B. primary structure
C. tertiary structure
D. quaternary structure
32. Which one of the following statements is not true about the secondary structure of proteins?
A. Hydrogen bonds are responsible to maintain the α helix secondary structure of protein
B. The β pleated sheet proteins are joined together by hydrogen bonds between the C=O and NH groups of one chain and the NH and C=O groups of adjacent chains.
C. keratin is an example of β pleated sheet structure of protein
D. The hardness and stretch ability of α helical proteins is determined by the cross-linking disulphide bridge between neighboring chains.
33. Which one of the following proteins is an example of a quaternary structure?
A. keratin
B. Myoglobin
C. Haemoglobin
D. Fibroin
34. Which one of the following organelle is involved in

A. Ribosomes

B. Mitochondria

C. Centriole

D. Nucleus

35. Which type of learned behavior would better explain the action of a rat which has just received a small electric shock to its feet jumps in alarm to any new stimulus, example a flash light, which would normally cause little or no response?

A. Habituation

B. Associative learning

C. sensitization

D. Imprinting

36. Which one of the following statement is true about innate behavior?

A. Stereotyped

B. Complete

C. inherited

D. does not develop along with the developing nervous system

37. Which type of learning behavior is promoted when you give correct answers to the question raised in this exercise?

A. Conditioning

B. Insight learning

C. Perception

D. Trial and error learning

38. From among the following alternative select and indicate your own species.

A. Homo habilis

B. Australopithecus afarensis

C. Homo sapiens

D. Homo erectus

39. Assuming that "E" (gene for brown eye) is dominant over "e" (gene for blue-eye) and that the father and the mother have both genes in their sex-cells, what would be the proportion of homozygous children for eye color?

A. 100%

B. 90%

C. 75%

D. 50%

40. What is the best term used to refer to all of the genes present in a population

A. Bio-chemistry

B. Gene pool

C. Genome

D. DNA

41. The Resistance of mosquitoes to DDT is an example of

A. artificial selection

B. mutation

C. natural selection

D. adaptation

42. tRNA is found in ____

A. nucleus

B. Cytoplasm

C. membranes

D. mitochondria

43. the hydrogen bonds are found in between the

C. plasmodium

D. protozoa

63. Which one of the following molecule is not act as electron carriers in the ETC?

A. Reduced NAD dehydrogenas

B. ubiquinone

C. cytochromes

D. water

64. The protein coat of a viruss is known as a _____

A. capsid

B. cell wall

C. lysogenic particle

D. cell membrane

65. The production of a messenger RNA (mRNA) from a DNA template is called

A. translation

B. transcription

C. replication

D. polymerization

66. Most of the vitamins are

A. inorganic ions

B. Co-factors

C. apoenzymes

D. Carbohydrates

67. Which one of the following statements is not a common property of monosaccharide and disaccharides? Both

A. are sweet in taste

B. are readily souble

C. are non- crystalline

D. are crystalline in water

68. Which one of the following organelle is responsible for lipid synthesis?

A The carboxyl group

B. carbonyl group

C. hydroxyl group

D. carboxyl group

69. Which one of the following organelle is responsible for lipid synthesis?

A. Golgiapparatus

B. Smooth ER

C. Rough ER

D. Mitochondrion

70. Which one of the following statements is incorrect about the property of water?

A. high heat of vaporization has a cooling effect on animals and plants

B. water is the only substance whose solid form is less than its liquid form

C. water is an excellent solvent for non-polar and polar substance

D. waters high heat of vaporization is due to the presence of hydrogen bonding

71. A type of behavior which progressive loss of responsiveness to repeated stimulation is

A. tropism

B. imprinting

C. habituation

D. latent

72. Which one of the following chemical bonds interactions is stronger than the rest?

A. covalent bond

B. Hydrogen bond



C. Hydrophobic interaction

D. Van Der waals interaction

73. Which one of the following is the last step in scientific method?

A. Forming a hypothesis

B. Analysis & interpretation of data

C. Reporting and publishing the results

D. Evaluation

74. The transport of ions & polar molecule by channel proteins and carrier proteins is known as

A. Osmosis

B. active transport

C. facilitated diffusion

D. simple diffusion

75. A functional group formed when an oxygen atom is double bonded to a carbon atom that is also bonded to hydroxyl group is known as

A. The carbonyl group

B. The carboxyl group

C. the hydroxyl group

D. the amino group

76. What is natality?

A. Birth rate

B. Death rate

C. Net increase in number

D. Net decrease in number

77. The outward movement of members of a population is known as

A. immigration

B. emigration

C. migration

D. mortality

78. A geographically isolated group of individuals of the same kind represents.

A. A species

B. Aggregation of population

C. Aggregation of species

D. Aggregation of a speciaation

79. Which of the following are pioneer organisms of primary succession?

A. Mosses

B. Lichen

C. Shrubs

D. Trees

80. What are antibiotics?

A. Products of metabolism in bacteria

B. Collective name of useful bacteria

C. Toxins produced by bacteria

D. Drugs manufactured to kill viruses

81. The bivalents are attached at the spinal at

A. Centriole

B. Centromere

C. Chromosomes

D. Chromatids

82. The chromosomes get aligned at the equator during.

A. Prophase

B. Metaphase

C. Anaphase

D. Telophase

83. Virtually treeless, sparse vegetation is found in the following biome?
A. Taiga B. Tundra
C. Deciduous D. Tropical rain forest
84. Which of the following statement is correct about an ecological niche? It is an area occupied by
A. Community B. Species
C. Population D. related specie
85. During phosphorylation in glycolysis the molecule utilized are _____
A. 2NADPH₂ B. 1FADH₂
C. 2GTP D. 2ATP
86. An enzyme could be
A. Attached to a substrate B. A part of a substrate
C. A part of the product D. Neither part of substrate nor product
87. An enzyme sucrose is an example of
A. Oxido reductase B. Transferase
C. Hydrolase D. Isomeras
88. A co- enzyme can be
A. conjugated protein B. organic molecule
C. inorganic ion D. metal
89. B-pleated structure of a molecule can be seen in the following level of protein
A. primary B. secondary
C. tertiary D. quaternary
90. Which of the following proteins are associated with nucleic acids?
A. Histones B. Telomere
C. Centriol D. Collagen
91. If on one helix of DNA the base is cytosine the other helix could have
A. Adenine B. Guanine
C. Thymine D. Uracil
92. Which one of the following is a very important carrier protein?
A. Insulin B. Myoglobin
C. Myosin D. Fibrinogen
93. Which of the following techniques will be used to isolate ribosome from the cell?
A. Fractionation B. centrifugation
C. Autoradiograph D. X-ray diffraction

94. The cell theory was given by
 - A. Schwann
 - B. Schleiden
 - C. Robert hooke
 - D. schleider & schwa
95. The man appeared on this earth at about
 - A. 100 million years ago
 - B. 50 million years ago
 - C. 10-14 million years ago
 - D. 450 million years ago
96. Regarding the ABO blood group inheritance in which of the following mating a child of blood type O is produced?
 - A. AAxOO
 - B. BBxOO
 - C. AOxAB
 - D. AOxB0
97. Color blindness is due to an xx- linked recessive gene suppose a women he terozygous for color blindness marries a normal visioned man, what proportion of their children will be color blind.
 - A. All of the daughters
 - B. All of the sons
 - C. Half of the daughters
 - D. Half of the sons
98. In competitive inhibition of enzymes, the substrate and the inhibitor compete for
 - A. the allosteric site
 - B. the free amino group
 - C. the active site
 - D. All of the above
99. In humans any hereditary defect caused by genes on the y chromosome
 - A. would occur only in the male offspring
 - B. is found only in female offspring's
 - C. distributed equally in both sexes
 - D. the expression is determined by the hormones