



**YEKA SUBCITY DEJAZMACH WENDIRAD CLUSTER CENTER ADDIS ABABA
ADMINISTRATION EDUCATION BUREAU**

TIME ALLOWED: 2 HOURS

GENERAL DIRECTIONS

THIS EXAM PAPER CONTAINS **BIOLOGY EXAMINATION**.

IN THIS EXAMINATION, THERE ARE A TOTAL OF **100 MULTIPLE CHOICE QUESTIONS**. CAREFULLY SELECT THE BEST ANSWER AND BLACKEN ONLY THE LETTER OF YOUR CHOICE ON THE SEPARATE ANSWER SHEET PROVIDED. FOLLOW THE INSTRUCTIONS ON THE ANSWER SHEET AND THE EXAMINATION PAPER CAREFULLY. USE ONLY **PENCIL** TO MARK YOUR ANSWERS; YOUR ANSWER MARK SHOULD BE **HEAVY** AND **DARK**, COVERING THE ANSWER SPACE COMPLETELY. PLEASE ERASE ALL UNNECESSARY MARKS COMPLETELY FROM YOUR ANSWER SHEET.

YOU ARE ALLOWED TO WORK ON THE EXAM FOR **2 HOURS**. WHEN TIME IS CALLED, YOU MUST IMMEDIATELY STOP WORKING, PUT YOUR PENCIL DOWN, AND WAIT FOR FURTHER INSTRUCTIONS.

ANY FORM OF CHEATING OR AN ATTEMPT TO CHEAT WILL CANCEL YOU IN THE EXAMINATION HALL AND CANCELLATION OF YOUR SCORE(S).

PLEASE MAKE SURE THAT YOU HAVE WRITTEN ALL THE REQUIRED INFORMATION ON THE ANSWER SHEET BEFORE YOU START TO WORK ON THE EXAMINATION.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.



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1. A renowned Ethiopian biomedical scientist and a long serving professor at **AAU** is:
A. Prof. Gebisa Ejeta
B. Prof. Sebsebe Demissew
C. Prof. Yalemtehay Mekonnen
D. Prof. Beyene Petros
2. An indigenous plant that is used to produce a molluscicide to eradicate snail which is the intermediate host of bilharzias is:
A. *Phytolacca dodecandra*
B. *Rosa abyssinica*
C. *Juniperus procera*
D. *Juniperus abyssinica*
3. A grade 12 student demonstrated the effect of osmosis on plant cells using onion epidermal cells. He/she put the onion epidermal cells in distilled water for **30 minutes** and then observed it under the microscope. The cells he/she observed became:
A. Burst
B. Turgid
C. Plasmolysed
D. Unchanged
4. Suppose you are observing a specimen under the microscope which is magnified 800X the actual size of the specimen. If the magnification power of the eye piece lens is 20X, what is the magnification of the objective lens?
A. 40X
B. 8000X
C. 80X
D. 100X

Question number 5 is based on the following list:

- 1, Oxygen enters in to the cells where it is needed
 - 2, Haemoglobin picks up oxygen and forms oxyhaemoglobin
 - 3, Oxyhaemoglobin splits to give purple- red haemoglobin and oxygen
 - 4, Oxygen enters in to mitochondria for aerobic respiration
5. Which of the following sequence of events is correct about transport of oxygen in to the cell?
A. 2 → 3 → 1 → 4
B. 1 → 2 → 3 → 4
C. 2 → 3 → 4 → 1
D. 4 → 3 → 2 → 1
 6. On a clean glass slide a nurse mixed donor's "**AB**" blood group with recipient's "**B**" blood group. What result could she observed after mixing the two blood groups?
A. There was no change in appearance
B. The mixture becomes agglutinated
C. The RBCs increased in size
D. The color of the mixture changed to blue
 7. Blood is carried towards the heart by _____
A. Arteries
B. Capillaries
C. Veins
D. Arteries and Capillaries



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8. The types of cell that help in defense mechanism of the body from infection are:

- A. Erythrocytes B. Leukocytes C. Adipocytes D. Thrombocyte and Adipocytes

9. In human respiratory system, which of the following parts is nearest of the mouth?

- A. Trachea B. Bronchi C. Alveoli D. Pharynx

10. Why do we need a balanced diet? to:

- A. Prevent infection by HIV C. Support healthy growth
B. Gain excessive weight D. Become very tall

Item number 11 is based on the following table which shows the five kingdoms and their characteristics:

No	Kingdom	Characteristics
1.	Monera	Single celled and prokaryotes
2.	Protista	Unicellular, eukaryotic
3.	Fungi	Eukaryotic and usually multicellular
4.	Plantae	Eukaryotic and multicellular
5.	Animalia	Autotrophic and multicellular

11. Which kingdom is **INCORRECT** paired with its characteristics?

- A. 1,2 and 5 B. 4 C. 5 D. 3 and 5

12. In the five kingdom systems of classifications, which kingdom contains unicellular organisms?

- A. Eubacteria only C. Eubacteria and Protista only
B. Archaeobacteria only D. Eubacteria, Archaeobacteria, and Protista

13. Which animal phylum becomes characterized by the following statements?

They are simplest of all invertebrates, no more than tissue organization, they are multicellular animals with central body cavity and supportive structures called spicules. They are filter feeder; have little coordination system but not nervous system and they are evolutionary dead.

- A. Coelenterate B. Platyhelminthes C. Chordate D. Porifera

14. Which of the following alternative is an **INCORRECT** contrast between monocots (stated first) and dicots (stated second) plants?

- A. Vascular bundles is ring-----vascular bundles is scattered
B. Flower parts in threes-----flower parts in four or five
C. One cotyledon-----two cotyledons
D. Leaf veins parallel -----net veined



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15. What is the measure of variety of the species in a particular area including everything from the smallest microbes to the largest animals?
- A. Poly-culture B. Monoculture C. Conservation D. Biodiversity
16. Biotechnology studies with:
- A. Classification of organisms C. Diseases and their causes
B. Methods to improve crop yield and quality D. The structure of microorganisms
17. Organisms that contain genes from other organisms are called:
- A. Transgenic B. Mutagenic C. Donors D. Clones
18. Which of the following is **NOT** a characteristic of Linnaeus's system for naming organisms?
- A. Two-part name
B. Name that identifies the organisms' genus
C. Name that includes the organism's species identifier
D. Multipart name describing several traits
19. **Hailu** has three sisters and both of his parents have homozygous alleles for straight thumbs. How many of his sisters will inherit the allele for straight thumbs?
- A. one of his sisters inherits the allele for straight thumbs
B. All of his sisters inherit the allele for straight thumbs
C. None of his sisters inherits the allele for straight thumbs
D. Two of his sisters inherit the allele for straight thumbs
20. The main objective of **Gregor Mendel's** work was to prove how;
- A. Cell division works C. Breathing system works
B. Blood circulation works D. Inheritance works
21. Which of the following techniques is more appropriate to produce genetically modified organisms:
- A. Sexual hybridization C. Artificial insemination
B. Vegetative propagation D. Genetic engineering
22. What makes endocrine glands differ from exocrine glands? Endocrine glands:
- A. Do not have ducts whereas exocrine glands do have ducts
B. Have ducts while exocrine glands do not have ducts
C. Release their secretions through ducts to site of destination
D. Are more in number in our body than exocrine glands



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23. What enables poikilothermic organisms to adapt in cold weather? By:
- A. Licking their body B. Bathing in water C. Basking in the sun D. Bathing in mud
24. A grade 11 student wanted to prove the importance of CO_2 for photosynthesis. She prepared two bell jars, in the first jar (**jar “A”**) she kept plant “A” and **KOH** solution, and in the second jar (jar “B”) she kept plant “B” without **KOH**. Then she exposed both jars to the sun light for 12 hours. The student then tested for the presence of starch in leaves of plant ‘A’ and ‘B’ what would the result of the student’s experiment?
- A. Plant ‘A’ produced more starch than plant ‘B’ because KOH increased the CO_2 concentration.
- B. Plant ‘B’ produced more starch than plant ‘A’ because KOH decreased the CO_2 concentration.
- C. Both plants produced equal amounts of starch as KOH has no effect.
- D. Plant ‘A’ produced more starch as there was more KOH in the bell jar.
25. How the process photosynthesis does help to balance the concentration of O_2 and CO_2 ? It:
- A. Releases CO_2 and absorbs O_2 from the atmosphere
- B. Oxidizes and removes the CO_2 from the atmosphere
- C. Releases O_2 and absorbs CO_2 from the atmosphere
- D. Converts O_2 to ozone and CO_2 to carbonic acid
26. Which one of the following eye defects is correctly matched with its corrective measure?
- A. Long sight----- Convex lens C. Short sight-----irregular lens
- B. Long sight----- Diverging lens D. Astigmatism----- any eye glass
27. At which stages of meiosis homologous chromosome separated and move to opposite poles of a cell?
- A. Anaphase I B. Anaphase II C. Metaphase II D. Prophase I
28. What does mitosis means? It is:
- A. Copying of chromosomes C. Formation of sex cells
- B. Division of somatic cells D. Forming of zygote
29. The black eye allele (**T**) is dominant to the brown eye allele (**t**). What genotypic expression could correspond to the phenotype of black eyes?
- A. Tt and tt only B. TT only C. Tt only D. TT and Tt



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30. Which of the following is a physical method of contraception?
A. Condom B. pill C. Implant D. Injection
31. Based on the five steps listed below, Choose the alternative that shows the correct sequence of application in scientific study:
- | | | |
|--------------------------------|---|-------------------------|
| 1. Identify the problem | 3. Conclusion | 4. Hypothesizing |
| 2. Testing hypothesis | 5. Analyze and interpret the test result | |
- A. 1—2---3—4—5 C. 1—4----2—3—5
B. 1—2—4---3---5 D. 1---4—2---5---3
32. After dividing plant materials into two groups, an experimenter has applied a fertilizer to group “A” plant, but not to group “B” plant, what group “B” plants represented?
A. Experimental group B. Control group C. Test group D. Variable group
33. In scientific investigation, which of the following variables **CANNOT** be controlled by the experimenter?
A. Independent B. Dependent C. Confounded D. Experimental
34. Scientists who specialize in the study of fossils are called:
A. Biologists B. Paleontologists’ C. Zoologists’ D. Geologists
35. Which tool of the biologist is expected to be found in a standard dissecting kit?
A. Magnifying glass B. Insect net C. Pitfalls trap D. Centrifuge
36. When 400 amino acids joined together through condensation reaction, how many peptide bonds are formed and water molecules are released respectively?
A. 400, 200 B. 300, 200 C. 399, 200 D. 399, 399
37. How many carbon atoms are found in a single molecule of sucrose?
A. 6 B. 12 C. 24 D. 4
38. Which alternative correctly matches the polymer with its monomer?
A. Carbohydrate – amino acid C. Nucleic acid – nucleotide
B. Protein – monosaccharide D. Lipid – fat
39. One of the following molecules is the building unit of enzyme molecules.
A. Amino acids B. Nucleotides C. Fatty acids D. Glucose



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40. The following compounds are polymers of carbohydrates. In which alternatives both members of the pair are naturally occur in plants only?
- A. Starch and chitin
 - B. Glycogen and cellulose
 - C. Starch and cellulose
 - D. Glycogen and chitin
41. In many eukaryotic cells, DNA stored in the nucleus is transcribed into messenger RNA. The mRNA is then transported into the cytoplasm where ribosomes assist in their translation into proteins. Finally, these proteins are packaged and sorted in the Golgi apparatus for use in other parts of the cell or in preparation for secretion into other cells. Which of the following statements is supported by this description?
- A. Various organelles interact with each other to carry out life processes.
 - B. Organelles within a cell act independently of each other at all times.
 - C. Some organelles are not important within a cell.
 - D. Only up to three organelles may interact with each other at any given moment in time
42. Biological knowledge is relevant in Ethiopia to address all of the following issues **EXCEPT**?
- A. Development of microbial insecticides
 - B. Conservation of biodiversity
 - C. To minimize security problems
 - D. production of enzymes
43. Anti HIV/AIDS club are today common in school and collages. What is their main contribution in the fight against the pandemic?
- A. Provide medication for AIDS patients
 - B. Raise awareness about the problems among students
 - C. Encourage the boy to have girl friends
 - D. Encourage the girls to have boy friends
44. All of the following are found in both plant and animal cells, **EXCEPT**
- A. Cell wall.
 - B. Mitochondria
 - C. A plasma membrane
 - D. Endoplasmic reticulum
45. Which of the following is **NOT** true about cells:
- A. All cells have a plasma membrane
 - B. Animal cells are on average smaller in size than plant cells
 - C. All living things are composed of cells
 - D. Plant cells usually have a cell wall just inside the plasma membrane.

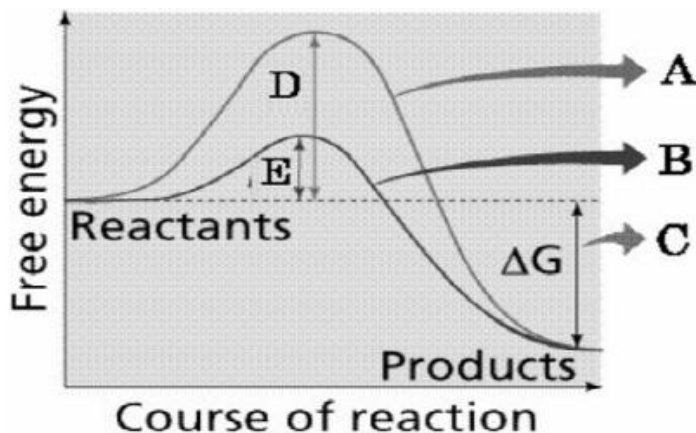
46. Name the organelle that contains high levels of Hydrolases and is responsible for digestion of proteins, sugars, nucleic acids and lipids.

- A. Ribosome B. Mitochondria C. Lysosome D. Golgi body

47. Which of the following substances has a shape which is similar to the substrate of an enzyme?

- A. Competitive inhibitor B. The reaction C. Cofactor D. An allosteric inhibitor

Based on the following graph of the energy flow of a chemical reaction shown below:



48. Which of the following letters **A**, **B** and **D** represents the correct interpretation of the graph respectively:

- A. Energy path of an un-catalyzed reaction, Activation energy of a catalyzed reaction and Energy path of a catalyzed reaction.
B. Energy path of an un-catalyzed reaction, Energy path of a catalyzed reaction and Activation energy of an un-catalyzed reaction
C. Energy released from this reaction, Activation energy of an un-catalyzed reaction and Energy path of an un-catalyzed reaction
D. Energy path of an un-catalyzed reaction, Energy released from this reaction and Activation energy of a catalyzed reaction

49. The best performance of enzymes is observed at:

- A. Work at any PH and temperature C. Increased PH and Temperature
B. Decreased PH and Temperature D. Optimum PH and Temperature

50. Which of the following properties of enzymes makes it possible that a single enzyme molecule can act on many substrate molecules?

- A. Enzymes are proteins C. Enzymes are re-used over and over again



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- B. Enzyme slower the energy of activation D. Enzymes are substrate specific
51. In which of the following is the pairing between enzyme type and enzyme function incorrect?
- A. Nucleases ----- hydrolysis of sugar-phosphate ester bonds in nucleic acids
 - B. Synthetase ----- formation of new bond between two substrates
 - C. Kinase ----- transfer of phosphate groups between substrates
 - D. Carboxylase ----- removal of carbon dioxide from substrate
52. Which of the following statements is true about mitochondria?
- A. The site of energy (ATP) production only in plant cells.
 - B. The site of energy (ATP) production only in animal cells.
 - C. It provide photosynthesis function in plants
 - D. The site of energy (ATP) production in both animal and plant cells
53. What is role of oxygen in the aerobic respiration?
- A. It combines with CO₂ to form citrate
 - B. Act as terminal electron acceptor in the electron transport chain
 - C. It combines with acetyl coenzyme -A to form oxalo-acetate
 - D. It combines with ADP in the formation of ATP
54. Which one of the following activities done by traditional applications of biotechnology?
- A. Medicinal drug B. Cloning C. Yoghurt making D. Genetic engineering
55. A sodium potassium pump within a cell membrane requires energy to move sodium and potassium ions into or out of a cell. The movement of glucose into or out of a cell does not require energy. Which statement best describes the movement of these materials across a cell membrane?
- A. Sodium and potassium ions move by active transport, and glucose moves by osmosis.
 - B. Sodium and potassium ions move by active transport, and glucose moves by facilitated diffusion.
 - C. Sodium and potassium ions move by facilitated diffusion, and glucose moves by osmosis.
 - D. Sodium and potassium ions move by facilitated diffusion, and glucose moves by active transport
56. Which one of the following statements is correct about anaerobic respiration? It
- A. Produce more ATP than aerobic respiration
 - B. Produces carbon dioxide and water as a by product
 - C. Breaks down food to release energy without oxygen



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- D. Is the main source of energy for warm blood animals
57. In which of the following pair's cellular respiration does substrate level phosphorylation occur?
- A. Glycolysis and Chemiosmosis C. Krebs cycle and Glycolysis
B. Electron transport chain and Chemiosmosis D. Krebs cycle and Chemiosmosis
58. How many ATP molecules are produced per complete oxidation of single glucose molecule during cellular respiration?
- A. 4ATP B. 24ATP C. 30ATP D. 36ATP
59. Among the following reaction in **C3, C4** and **CAM** Pathway, one similarly takes place in mesophyll cell:
- A. Fixation of carbon dioxide C. Generation of ATP and NADP
B. Calvin cycle D. Sugar production
60. Which of the following natural resources is different from others?
- A. Coal B. Wood C. Natural gas D. Gold
61. Which of the following statement is true about conservation? It
- A. Reduces exotic plants and animals C. reduces the number of species
B. Protects our environment D. protects our sanitation.
62. The rising up of dough due to release of gases in bread making is called:
- A. leavening B. kneading C. baking D. fermenting
63. Which one of the following is a correct step of tissue culturing for production of many uniform plants?
- A. Samples develop in to tiny → samples placed in agar → from parent plant
B. Sample scraped → develop in to tiny → planted in to compost → placed in agar
C. Sample placed in agar → develop in to tiny → scraped → plated
D. Scraped → placed in agar → plated develop in to tiny → planted in to compost
64. What has been designed with *Bacillus thuringiensis* strains (**Bt**)?
- A. Bio-fertilizers C. Biominerallurgical process
B. Bio-metallurgical technique D. Bio-insecticidal plants
65. Bioremediation is:
- A. Usage of microbes to create new organisms
B. Usage of anaerobic bacteria to create new antibiotics
C. Usage of microbes to destroy environmental pollutants



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- D. Usage of aerobic bacteria to create new products.
66. The wise use of natural resources on a sustainable bases without serious effects to the natural environment is referred to as
- A. Conservation B. Extinction C. Biodiversity D. Utilization
67. What is the importance of protecting the natural environment? Because it:
- A. Increases the accumulation of CO₂ in the atmosphere
B. Increases the effect of global warming
C. Reduces the availability of decomposers of waste removal
D. Insures the presences of healthy weather and climate
68. Which one of the following is correct about “**Dolly sheep**”
- A. Dolly sheep is genetically identical with unfertilized egg cells were taken.
B. Dolly sheep is genetically identical to the sheep whose udder cells were used
C. Dolly sheep is genetically not identical to the sheep whose udder cells were used
D. Dolly sheep is genetically identical with unfertilized egg cells were taken and sheep the embryo were implanted become the surrogated mother.
69. Which of the following is the correct order of using the chemicals in gram’s staining?
- A. Safarnin → iodine → Ethanol → crystal violet
B. Safarnin → Ethanol → Crystal → violet → Iodine
C. Ethanol → Crystal violet → Iodine → Safarinin
D. Crystal violet → Iodine → Ethanol → Safarnin
70. Examples of non-renewable natural resources are
- A. Solar energy and water B. Natural gas and petroleum C. Water and wind D. Wind and soil
71. Biodiversity refers to:
- A. Identifying and scientifically describing species of living things
B. Sustainable use and protection of natural resources
C. The variety of living things on the planet earth
D. All the natural resources we have on the planet earth



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72. Which of the following is **INCORRECTLY** matched in application of biology for food processing and production?

Food processing	Microorganisms
A. Mycoprotein	<i>Fusarium venenatum</i>
B. Vitamin B12	<i>Propionic bacteria</i>
C. Mycoprotein	<i>Methylophilus methylotrophus</i>
D. Pruteen	<i>Methylophilus methylotrophus</i>

73. African sleeping sickness is caused by:

- A. Trypanosome B. Plasmodium C. Trichonympha D. Amoeba

74. A symbiotic relationship between a fungus and a cyanobacteria is known as:

- A. Mycorrhiza B. Lichen C. Fruiting body D. Mushroom

75. The suitable form of nitrogen that can be used by plants is:

- A. N_2 B. NO_2^- C. NO_3^- D. NH_3

76. Which part of the cell do Gram-positive and Gram-negative bacteria differ regarding their staining property with gram stain?

- A. Nucleus B. Cell membrane C. Cytoplasm D. Cell wall

77. Why Gram negative bacteria lose the crystal violet stain and take the color of the red counterstain? Because they:

- A. Have less peptidoglycan in their cell wall C. Have a very thick cell wall
B. Have much peptidoglycan in their cell wall D. Have teichoic acid

78. Based on the following table which shows a disease, and its causative agents correctly:

	Disease	Causative agents
A.	Syphilis	Salmonella typhi
B.	Leprosy	Neisseria gonorrhoeae
C.	Pertussis	Bordetella pertussis
D.	Tuberculosis	Mycobacterium leprae

79. What is the appropriate term that collectively refers to the fungi and bacteria that change the dead organic matter to the smallest units?

- A. Autotrophs B. Decomposers C. Carnivores D. Producers



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80. Which group of microorganisms causes the diseases known as Leishmaniasis?
A. Fungi B. Virus C. Protozoa D. Bacteria
81. Which one of the following is False Statement on Virus?
A. Do not have cellular organization C. They can be grown on cell free media
B. They are not affected by antibiotics. D. They are obligate intracellular parasite
82. What is the difference between lytic and lysogenic cycle of bacteriophage cycle?
A. Lytic cycle DNA hydrolyzed but Lysogenic cycle not DNA hydrolyzed
B. Lysogenic cycle DNA hydrolyzed but Lytic cycle not DNA hydrolyzed
C. Lytic cycle presence of prophage stage but lysogenic cycle absence of prophage stage
D. lysogenic cycle absence of prophage stage but Lytic cycle presence of prophage stage
83. Which of the following features distinguished Archaea from other bacteria:
A. Archaea initial amino acid in their polypeptide chains, coded the **AUG** start codon called **methionine**.
B. Archaea initial amino acid in their polypeptide chain, coded the **AUG** start codon called **N-fomylmethionine**
C. Archaea have true peptidoglycan in their cell walls
D. Bactria cell membrane lipids have branched hydrocarbon chains.
84. Antibiotic attacks bacteria but do not damage human cells; other than producing some side effect like; allergic reaction why? Because:
A. The cell structures involved in protein production are the same
B. Animal cell have cell wall
C. The structure of ribosomes are different
D. Animal cells have rigid cell wall made up of Peptidoglycan
85. *Saccharomyces cerevisiae* strain has been engineering is able to ferment:
A. Xylose B. Mannose C. Glucose D. Galactose
86. Which one of the following shows the feeding method of decomposers?
A. Saprobiotic nutrition C. parasitic nutrition
B. Autotrophic nutrition D. Intracellular digestion
87. Which of the following is the best collective name for all bacteria with rod shaped?
A. Comma B. Spirochaetes C. Cocci D. Bacilli



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88. -----is the use of biological toxins or infectious agents such as bacteria, viruses and fungi with the intent to kill or incapacitate humans, animals or plants.
- A. Tissue culture B. Genetic engineering C. Herbicide D. Biological warfare
89. Bacteria have evolved many mechanisms to acquiring the energy and autotrophic are obtain their **carbon** from **CO₂**. Autotrophs that obtain their energy from sunlight are known as:
- A. Photo-heterotrophs C. Chemoautotrophs
B. Chemo-heterotrophs D. Photoautotrophs
90. Which groups of Archaea are generating methane?
- A. Halophiles C. Thermophiles
B. Methanogens D. Thermophilic extreme acidophiles
91. Which one of the following classification of fungi is correctly matched within examples?
- A. Ascomycota-----Zoospores C. Basidiomycota-----Saccharomyces
B. Chytridiomycota----Zoospores D. Zygomycota-----Mushroom
92. Among the following micro-organism which one is a fungus?
- A. Plasmodium B. Yeast C. Paramecium D. Amoeba
93. The fungi produce spores on supportive structure known as-----and these unstructured dusts like spores called----- respectively.
- A. Sporangium and conidiophores C. Conidiophores and Conidia
B. Conidia and Conidiophores D. Conidia and Arthrospores
94. Which of the following disease correctly matched within its pathogen's?
- A. Syphilis-----*Salmonella typhi* C. Chancroid----*Haemophilus ducreyi*
B. Tuberculosis ----*Treponema palladium* D. Chancroid ----*Mycobacterium tuberculosis*
95. Malaria is a disease caused by a protozoan called:
- A. *Salmonella typhi* B. *plasmodium* C. *Entamoeba histolytica* D. *Taenia saginata*
96. What is the impact of HIV and AIDS on the society? It:
- A. Leads to significant social cost C. increases the immune system through time
B. Makes people loyal to their parents D. reduces stigma and discrimination
97. What are the individual strands of a fungal mycelium called?
- A. Fungus B. Spores C. Hyphae D. Hydra



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98. Which of the following is true about protozoa?

- A. They are a group of bacteria
- B. They are unicellular, animal like eukaryotes
- C. They are one celled plants
- D. They represent both plants and animals

99. Which one of the following statements is **correct** about HIV? It is:

- A. Bacteriophage
- B. Retrovirus
- C. A DNA virus
- D. Infects plants and animals

100. Which one of the following is correct on the difference between DNA and RNA viruses?

- A. DNA virus are mostly single stranded while RNA viruses are double stranded
- B. DNA mutation rate is higher than the RNA mutation rate
- C. DNA viruses replicate in the nucleus while RNA viruses takes place in the cytoplasm
- D. RNA viruses takes place in the nucleus while DNA viruses takes place in the cytoplasm

The end!!