

# FUTA Post UTME Past Questions and Answers



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# THE FEDERAL UNIVERSITY OF TECHNOLOGY, AKURE

Technology for Self Reliance

## Biology Questions

1. The ability of organisms to maintain a constant internal environment is known as -----  
A. diuresis    B. endosmosis    C. plasmolysis    D. homeostasis
2. The relationship between a herbivore and the bacteria which live in their caecum is known as ...  
A. Parasitism    B. Symbiosis    C. Commensalism    D. Ssaprophytism
3. Loam is the best type of soil for crop production because -----  
A. it has a high percentage of clay which prevents leaching  
B. it has high humus content  
C. it is porous and has good water retention capacity  
D. gravels which obstructs implements are absent from it
4. Which of the following can be considered as a direct evidence of evolution? ----  
A. Comparative embryology    B. Classification    C. Comparative anatomy  
D. Fossil record
5. An organism which operates at the cellular level of organisation carries out its physiological activities by using its .....  
A. cell membrane    B. small size    C. cytoplasm    D. organelles
6. A typical plant cell is mainly distinguished from an animal cell by the possession of .....  
A. chloroplast and nucleus    B. cell wall and cytoplasm    C. chloroplast and cell wall  
D. cell wall and mitochondrion
7. Excretion in *Paramecium* sp. is by diffusion because .....  
A. its habitat is water and moist places    B. it has simple, small and few internal organs  
C. it has a large surface area to volume ratio    D. it has a large efficient meganucleus
8. A pulse is best described as .....  
A. contraction of arteries to let out blood    B contraction of veins to allow blood into them  
C. dilation of arteries to accommodate blood rushing through  
C. pumping action of the heart to move blood round the body
9. The relationship between the retina and the brain is similar to that between the .....  
A. cochlea and auditory nerve    B. cochlea and brain    C. cochlea and semi circular canal  
D. eardrum and brain
10. Transportation of water in the xylem tissue involves the following except .....  
A. root pressure    B. transpiration pull    C. capillary action    D. translocation
11. The distribution of organisms in a fresh water habitat like a stream or pond is determined by the following factors except .....  
A. pH of the soil    B. light penetration    C. rainfall    D. temperature





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12. Renewable natural resources of the environment that can be conserved include the following except .....  
A. soil      B. wildlife      C. water      D. petroleum
13. The following are greenhouse gases except .....  
A. carbon dioxide      B. chlorofluorocarbon      C. methane      D. oxygen
14. Rural-urban migration in developing countries can be prevented by .....  
A. increasing the number of years in schools      B. putting up more factories in urban areas  
C. having boarding schools in rural areas      D. even distribution of facilities in both regions
15. The parameters of size, height, weight and colour in a population of living things are examples of .....  
A. environmental variations      B. non-heritable variations      C. continuous variations  
D. discontinuous variations
16. Fingerprints are useful in crime detection because .....  
A. the police have sophisticated fingerprint machines  
B. thieves may leave their prints at the scene of a crime  
C. no two people have the same finger prints  
D. fingerprints are easy to make
17. A man heterozygous for albino gene marries a woman who is also heterozygous for the gene. Both have normal skin colour. The probability that they will have an albino child is .....  
A.  $\frac{1}{3}$       B.  $\frac{1}{4}$       C.  $\frac{3}{4}$       D.  $\frac{1}{2}$
18. Which of the following statements reflects the mechanism of natural selection? ...  
A. There are variations within every species  
B. Individuals of every species are genetically identical  
C. No organism in a species dies before sexual maturity  
D. Organisms with selective advantages are less likely to survive
19. In evolution, analogous structures are significant because they show .....  
A. physiological diversity      B. functional diversity      C. genetic diversity  
D. structural diversity
20. The bicuspid valve is located between the .....  
A. left auricle and left ventricle  
B. aorta and left ventricle  
C. superior vena cava and inferior vena cava  
D. right auricle and right ventricle
21. The pigment in the malpighian layer responsible for skin colouration is known as .....  
A. haemoglobin      B. haemocyanin      C. haemoerythrin      D. melanin





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22. The brain and the spinal cord make up the .....
- A. autonomic nervous system
  - B. peripheral nervous system
  - C. central nervous system
  - D. sympathetic nervous system
23. Which of the following specialised structures are stimulated by touch, pressure, pain, heat and cold? .....
- A. relay neurones
  - B. receptors
  - C. synapse
  - D. myelin sheath
24. Which of the following does not occur during photosynthesis? .....
- A. Energy from sunlight is absorbed
  - B. Carbon dioxide is evolved
  - C. Water is split
  - D. Oxygen is given off
25. Even though some flowering plants contain accessory pigments which give them colours, they still contain the pigment .....
- A. melanin
  - B. chlorophyll
  - C. xanthophylls
  - D. carotene
26. In a water cultured experiment, a plant showed poor growth and yellowing of the leaves. These symptoms were probably due to the absence of .....
- A. calcium
  - B. phosphorus
  - C. iron
  - D. zinc
27. Terrestrial organisms which are capable of maintaining their body temperatures constant within fairly close limits are referred to as .....
- A. thermoclines
  - B. eurytherms
  - C. poikilotherms
  - D. homotherms
28. During blood transfusion, agglutination may occur as a result of the reaction between ....
- A. similar antigens and antibodies
  - B. two different antigens
  - C. two different antibodies
  - D. contrasting antigens and antibodies
29. Which of the following is not a constituent of DNA? .....
- A. Phosphate
  - B. Cytosine
  - C. Deoxyribose
  - D. Uracil
30. Species can be defined as the group of organisms that .....
- A. resemble each other and live in the same habitat
  - B. are of common origin and always found together
  - C. resemble each other and can interbreed freely
  - D. resemble each other and found in the same niche
31. Which of the following has the most primitive respiratory system? .....
- A. Fish
  - B. Rat
  - C. Toad
  - D. Lizard
32. Which of the following constitutes the main internal tissue of a leaf? .....
- A. Cuticle
  - B. Mesophyll
  - C. Vascular tissue
  - D. Lower epidermis





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33. Which of the following organisms is at the tissue level of organization? ....  
A. Euglena    B. Volvox    C. Hydra    D. Chlamydomonas
34. A dehiscent fruit formed from several fused carpels with many seeds is classified as ....  
A. an achene    B. a nut    C. a legume    D. a capsule
35. Pests can be controlled without the subsequent danger of polluting the ecosystem by .....  
A. introducing a population of species similar to that of the pest  
B. increasing the population of the natural enemies of the pest  
C. eliminating the natural enemies of the pest  
D. keeping the population of natural enemies of the pest constant
36. The term used in describing the effective management of natural resources by man is ....  
A. conservation    B. preservation    C. utilization    D. development
37. One of the methods of preventing measles is by .....  
A. attacking the secondary host  
B. vaccinating young children  
C. providing clean water supply  
D. attacking the vectors
38. Group instinct or social behaviour is not displayed in .....  
A. soldier ants    B. bees    C. chickens    D. weaver birds
39. The scientist who discovered the honey-comb structure of cell was .....  
A. Louis Pasteur    B. Mathias Schleiden    C. Theodore Schwann    D. Robert Hooke
40. Which of the following is not true about a bacterial colony growing on an agar plate?. ....  
A. Bacterial cells found in one colony often belong to one species  
B. They are visible without the aid of the microscope  
C. Different colonies have different colours  
D. Only one species of bacterial colony can grow on a culture at any time
41. Hydra is able to perform all the following functions except .....  
A. feeding    B. movement    C. photosynthesis    D. egestion
42. When a person's urine contains a high concentration of urea, it could be as a result of ....  
A. a drop in body temperature  
B. having *diabetes mellitus*  
C. eating a meal rich in proteins  
D. drinking a large amount of water
43. How many conjugants are involved in sexual reproduction of *Paramecium*?  
A. 1    B. 2    C. 4    D. 8





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44. Biosphere is best described as .....
- A. all parts of the earth where life exist
  - B. the non-living parts of an ecosystem
  - C. all components of an ecosystem
  - D. all the members of a single species in a habitat
45. An importance of food web is that living organisms ....
- A. use web to collect food
  - B. can live on their own
  - C. have to form a web
  - D. depend on one another for their existence
46. Which of the following features enables tapeworm to live successfully in the small intestine of human?
- A. Possession of flame cells for excretion
  - B. A long neck for forming young proglottids
  - C. Hooks and suckers for strong attachment
  - D. The absence of segmentation and appendages
47. If a piece of abandoned farmland went through a series of floral and faunal changes and become established with a permanent plant and animal population, it could be said to have undergone .....
- A. evolution
  - B. succession
  - C. transformation
  - D. competition
48. Which of these physiological variations is sex-linked? ..
- A. Albinism
  - B. Blood groups
  - C. Sickle –cell anaemia
  - D. Haemophilic condition
49. The ability of some individuals to taste phenylthiocarbamide (PTC) is a .....
- A. morphological adaptation
  - B. morphological variation
  - C. physiological adaptation
  - D. physiological variation
50. The theory of evolution by natural selection was first put forward by ....
- A. Aristotle
  - B. Darwin
  - C. Linnaeus
  - D. Boyle
51. Which of the following statements is correct about the chromosomes in the gametes? At the end of the second meiotic division ...
- A. each gamete contains only paternal hereditary information
  - B. chromosomes contain a random mixture of parental and maternal chromosomes
  - C. chromosomes in the four gamete cells are diploid in number
  - D. chromosomes contain only maternal hereditary information
52. Which of the following traits in humans can be affected by environmental factors?
- A. Skin colour
  - B. Eye colour
  - C. Baldness
  - D. Tongue-rolling



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64. The role of ATP include all the following activities except ...  
A. provision of energy to do work in living things  
B. transmission of nerve impulse  
C. keeping the body warm in homoiothermic animals  
D. producing water during aerobic respiration
65. Which of the following statement defines plasmolysis?  
A. Shrinking of a plant cell in solution  
B. Shrinking away of cytoplasm from an animal cell membrane  
C. Shrinking away of cytoplasm from the plant cell wall  
D. Shrinking of the vacuole and leaving the cytoplasm attached to the cell wall
66. Which of the following instruments is used to measure the speed of a stream?  
A. Simple float      B. Secchi disc      C. Quadrat frame      D. Rain guage
67. Which of the following factors is not associated with aquatic habitats?  
A. Salinity      B. Turbidity      C. Temperature      D. Edaphic
68. Which of the following juices contains the enzyme ptyalin?  
A. Gastric juice      B. Pancreatic juice      C. Succus      D. Saliva
69. A faster colour change of a dry cobalt chloride paper affixed to the lower surface of a leaf than the upper one indicate that ....  
A. sunlight slows down water loss from the upper surface  
B. the lower surface of the leaf has more stomata  
C. sunlight causes the stomata on the upper surface to close  
D. stomata are not present on the upper surface of a leaf
70. Which of the following describes an example of fertilization in higher organism?  
A. Fusion of sperm and egg nuclei  
B. Ejaculating of sperm into a female body  
C. Male gametes germinating in the pollen tube  
D. A pollen grain landing on a sticky stigma
71. Trees in savannah habitats usually have heavy thick bark which mainly .....  
A. reduces the rate of transpiration  
B. protect them from the scorching sun  
C. protect them from heavy winds  
D. resist bush fires
72. The epidermis of the mammalian skin is an example of a tissue because the cells .....  
A. prevent light from passing through them  
B. have similar structure and function  
C. prevent excessive loss of water  
D. are impregnated with keratin
73. During the process of osmosis, a semi-permeable membrane allows .....





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- A. only solute molecules to pass through it  
B. both solute and solvent molecules to pass through it  
C. only solvent molecules to pass through it  
D. only gaseous molecules to pass through it
74. Support in young herbaceous plants is provided by .....
- A. translocation      B. guttation      C. turgidity      D. osmosis
75. The ventricles of the mammalian heart have thicker muscular walls than the auricles because the
- A. ventricles are larger  
B. ventricles pump blood to longer distances  
C. ventricles receive more blood  
D. auricles have smaller capacity
76. Which of the following organisms is not considered as a parasitic plant?
- A. Cassytha      B. Rhizopus      C. Dodder      D. Mistletoe
77. Siphons and gills are structures in aquatic organisms used for ....
- A. gaseous exchange      B. buoyancy      C. excretion      D. movement
78. The first step in carrying out ecological studies in a terrestrial habitat is ...
- A. quadrat sampling  
B. mapping the area  
C. collection of organisms  
D. measuring abiotic factors
79. Which of the following substances is not an excretory product in mammals?
- A. Carbon dioxide      B. Water      C. Faeces      D. Urea
80. The long necks and legs of the present day giraffes were some of the basis of ....
- A. Darwin's theory of evolution  
B. Mendel's theory of inheritance  
C. Lamarck's theory of evolution  
D. De Vries theory of evolution
81. If a heterozygous red flowered plant (Rr) was self fertilized, the offspring would be expected to be ...
- A. all red flowered plants  
B. all white flowered plants  
C.  $\frac{3}{4}$  red flowered,  $\frac{1}{4}$  white flowered plants  
D.  $\frac{3}{4}$  white flowered,  $\frac{1}{4}$  red flowered
82. The blood group in humans referred to as a universal recipient is ....
- A. O      B. A      C. B      D. AB







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83. Which of the following diseases cannot be spread by an insect?  
A. Cholera                      B. Malaria                      C. Trypanosomiasis                      D. Measles
84. Variation is a factor which ....  
A. differentiates between individuals of the same species  
B. qualifies an organism to live with others  
C. enables organisms to adapt to the environment  
D. states the external features of an organism
85. If a pond contains water weed, tadpoles, Tap-minnows (fish) and is visited by Heron (bird), what would be the possible food chain?  
A. Water weed→Tap-minnow→Heron→Tadpole  
B. Water weed→Tadpole→Tap-minnow→Heron  
C. Water weed→Heron→Tap-minnow→Tadpole  
D. Water weed→Tadpole→Heron→Tap-minnow
86. Gaseous exchange occurs through the following structures in some organisms except ...  
A. spiracle and trachea    B. alveoli and lungs    C. stomata and lenticels    D. chloroplast and plastids
87. A change in the environment of an organism is termed .....  
A. Sensitivity                      B. Impulse                      C. Response                      D. Stimulus
88. Organisms that interbreed to produce fertile offspring belong to the same .....  
A. Class                      B. Family                      C. Species                      D. Order
89. Yeast is added to the dough during the preparation of bread because it produces .....  
A. Ethanol                      B. Carbon dioxide                      C. Heat                      D. Carbohydrate
90. The fine adjustment of the light microscope is used to .....  
A. focus the object under high power  
B. focus the object under low power  
C. admit more light into the microscope  
D. raise the stage upwards
91. Which of the following blood vessels have valves?  
A. Capillary    B. Artery                      C. Veins                      D. Arterioles
92. The main function of a queen in a termite colony is .....  
A. defence                      B. feeding                      C. foraging                      D. reproduction
93. The amount of energy passed from one trophic level to the next decreases because ...  
A. many organisms are present at the first trophic level  
B. many organisms occur at the higher trophic level  
C. more energy is conserved at lower trophic level  
D. parts of the organisms remain unutilized at each trophic level





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94. Which of the following enzymes does not belong to proteases?  
A. Sucrase    B. Pepsin    C. Trypsin    D. Erepsin
95. The site of production of ATP in a cell is ....  
A. ribosome    B. cytoplasm    C. Golgi body    D. mitochondrion
96. In testing for starch in a leaf, the leaf is boiled in alcohol to ...  
A. kill the cells    B. soften the leaf    C. enable chemicals penetrate the leaf  
D. decolourise the leaf
97. Which of the following statements about white blood cells (WBC) is true? They ....  
A. aid clotting of blood  
B. carry oxygen round the body  
C. are the most numerous blood cells  
D. are large nucleated cells
98. A termite with a relatively large head and powerful jaws is likely to be a ....  
A. queen    B. soldier    C. king    D. termitarium
99. The character that is manifested in an organism in the presence of a contrasting character is known as ....  
A. recessive    B. genotype    C. dominant    D. phenotype
100. Which of the following protozoans feed parasitically?  
A. Plasmodium    B. Paramecium    C. Euglena    D. Chlamydomonas
101. The phenotype of an organism is a function of ....  
A. dominance    B. genotype and environment    C. homozygous and environment    D. heterozygosity
102. Which of the following inherited conditions usually shows incomplete dominance?  
A. Sickle cell anaemia    B. Haemophilia    C. Tongue rolling ability    D. Baldness
103. The effect of chlorofluorocarbon is .....  
A. reduction of oxygen concentration in the atmosphere  
B. depletion of the ozone layer  
C. screening of ultra violet rays  
D. increase of carbon dioxide concentration
104. The order of evolutionary trend in plants is .....  
A. Thallophyta, Bryophyta, Pteridophyta and Spermatophyta  
B. Bryophyta, Thallophyta, Pteridophyta and Spermatophyta  
C. Bryophyta, Pteridophyta, Spermatophyta and Thallophyta  
D. Spermatophyta, Bryophyta, Pteridophyta and Thallophyta
105. Which of the following cannot be taken as a direct observation of Natural Selection in recent times?  
A. Development of long necks in giraffes





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- B. Selective breeding in cattle  
C. Insecticide resistance of some mosquitoes  
D. Industrial melanism in moths
106. To avoid over-fishing in a lake the following measures may be helpful except ...  
A. limiting fishing periods  
B. regulating the size of nets  
C. fishing throughout the year  
D. fish breeding exercise
107. Filaments of *Spirogyra* placed in a beaker of tap water in a dark cupboard died because ....  
A. the filaments could not photosynthesize  
B. the plant was overloaded  
C. the temperature was too high  
D. conjugation could not take place
108. Shrubs do not survive on newly weathered soils because .....  
A. the top soil is shallow  
B. drainage on such soil is poor  
C. humus is absent from the soil  
D. the soil tends to be sandy
109. The passage of nerve impulse across a synapse is facilitated by the secretion of .....  
A. progesterone      B. thyroxine      C. insulin      D. acetylcholine
110. What is the correct hierarchy in the classification of organisms?  
A. Order, Family, Kingdom, Species, Class, Phylum, Genus  
B. Kingdom, Phylum, Class, Family, Order, Genus, Species  
C. Phylum, Kingdom, Class, Order, Family, Genus, Species  
D. Kingdom, Phylum, Class, Order, Family, Genus, Species
111. Which of the following parts of the skeleton does not have a protective function?  
A. Ribs      B. Carpals      C. Skull      D. Pelvis
112. Which of the following actions is not a function of adrenalin? It increases ....  
A. body blood sugar by conversion of liver glycogen into glucose  
B. the constriction of the pupil of the eye  
C. the rate of heart beat  
D. the dilation of the pupil of the eye
113. The presence of glucose in the urine of a patient is an indication of malfunctioning of the .....  
A. pancreas      B. liver      C. spleen      D. gall bladder
114. Which of the following structures is not a skeletal material?



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A. Chitin                      B. Cartilage                      C. Bone                      D. Muscle

115. The overall reaction in glycolysis can be summarized as .....
- A.  $C_6H_{12}O_6 \rightarrow C_3H_4O_3 + 4H + ATP$   
B.  $C_6H_{12}O_6 \rightarrow 2C_3H_4O_3 + 4H + 2ATP$   
C.  $C_6H_{12}O_6 \rightarrow 2C_3H_4O_3 + 4H + ADP$   
D.  $C_6H_{12}O_6 \rightarrow 2C_3H_4O_3 + 4H + 2ADP$
116. In plant cells the role of the membrane is played by the .....
- A. nucleolus                      B. cell wall                      C. cytoplasm                      D. mitochondrion
117. Evidence for evolution include the following except .....
- A. fossil records  
B. comparative anatomy  
C. mutation of genes  
D. geographical distribution of organisms
118. Which of the following is not a function of the liver in mammals?
- A. Storage of some vitamins  
B. Conversion of glycogen into glucose  
C. Deamination of excess nitrogenous substances  
D. Filtration of urea from the blood
119. A situation whereby some mammals remain inactive throughout dry and hot seasons is known as
- A. aestivation                      B. dormancy                      C. burrowing                      D. incubation
120. Root hairs absorb water from the soil by ....
- A. diffusion                      B. osmosis                      C. plasmolysis                      D. translocation
121. During prolonged exercises, glucose in the muscle is converted to .....
- A. pyruvic acid                      B. lactic acid                      C. hydrochloric acid                      D. acetic acid
122. Euglena moves by the action of -----
- A. whipping of its flagellum                      B. beating of its cilia                      C. rotating of the flagellum  
D. beating the pseudopodia and cilia simultaneously
123. In aerobic respiration oxidative phosphorylation takes place in the -----
- A. cytoplasm                      B. mitochondria                      C. lysosome                      D. ribosome
124. The ability of organisms to maintain a constant internal environment is known as -----
- A. diuresis                      B. endosmosis                      C. plasmolysis                      D. homeostasis
125. The relationship between an herbivore and the bacteria which live in their caecum is known as -----
- A. parasitism                      B. symbiosis                      C. commensalism                      D. saprophytism





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126. Which of the following is not an evidence of evolution?  
A. fossil      B. anatomy      C. genetics      D. behaviour
127. Which of the following is not true of a fruit?  
A. may contain many seeds      B. is a mature ovary      C. is covered by the pericarp  
D. may develop from the receptacle
128. Which of the following are not causative organisms of plant diseases?  
A. fungi      B. viruses      C. nematodes      D. cercariae
129. The haploid number of chromosome in man is -----  
A. 23      B. 46      C. 24      D. 48
130. Species can be defined as the group of organisms that -----  
A. resemble each other and live in the same habitat      B. resemble each other and can interbreed freely  
C. resemble each other and occupy the same niche  
D. are of common origin and are always found together.
131. Which of the following is not true about gene mutation? It -----  
A. introduces new traits into a population      B. causes changes in the DNA  
C. may have unnoticeable effect on the phenotype      D. always affects the chromosome
132. Which of the following constitutes the main internal tissue of a leaf? -----  
A. cuticle      B. vascular tissue      C. lower epidermis      D. mesophyl
133. Which of the following is the function of the hormone secreted in the Islet of Langerhans? -----  
A. is used in protein metabolism      B. is involved in sugar synthesis  
C. controls the fluid content of the body      D. aids the rate at which glucose is converted to glycogen
134. Blood in mammals transport oxygen because it contains the pigment called-----  
A. haemoglobin      B. haemocyanin      C. haemoerythrin      D. melanin
135. Which of the following is not an adaptation of the small intestine for absorption of digested food? -----  
--  
A. villi are well supplied with blood and lymph vessels      B. small intestine leads into the large intestine  
C. villi are numerous and thin-walled      D. small intestine has large surface area





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136. The translocation of food materials in plants takes place in the -----  
A. xylem                      B. cambium                      C. phloem                      D. parenchyma
137. Pest can be controlled without the subsequent danger of polluting the ecosystem by-----  
A. introducing a population of species similar to that of the pest  
B. increasing the population of the natural enemies of the pest  
C. eliminating the natural enemies of the pest  
D. keeping the population of the natural enemies of the pest constant
138. The activities of an organism which affect the survival of another organism in a habitat can be described as --  
-  
A. abiotic factors              B. edaphic factors              C. climatic factors              D. biotic factors
139. All hereditary characters in a cell are passed on from parent-cell to daughter-cell through the process of -----  
-  
A. mitosis                      B. meiosis                      C. fertilization                      D. implantation
140. Which of the following fixes atmospheric nitrogen? -----  
A. Nitrosomonas              B. Rhizobium                      C. Nitrobacter                      D. putrefying bacteria
141. The spaces between neurons through which impulses cross by means of chemical reaction are called -----  
-  
A. ganglia                      B. dendrites                      C. synapses                      D. axons
142. The autonomic nervous system comprises -----  
A. brain and spinal cord              B. spinal cord and spinal nerves              C. brain and cranial nerves  
D. sympathetic and parasympathetic systems
143. The scientist who discovered the honey-comb structure of the cell was -----  
A. Louis Pasteur              B. Robert Hooke                      C. Mathias Schleiden                      D. Th Theodore Schwann
144. Which of the following processes will not introduce carbon dioxide into the atmosphere? -----  
-  
A. photosynthesis                      B. breathing                      C. respiration                      D. putrefaction
145. Which of the following is not true about a bacterial colony growing on an agar plate?  
A. they are visible without the aid of microscope  
B. bacterial cells found in one colony often belong to one species  
C. different colonies have different colours  
D. only one species of bacterial colony can grow on a culture at any time.





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146. Which of the following method of reproduction is common to Paramecium and Amoeba?  
A. conjugation      B. fragmentation      C. binary fission      D. budding
147. Which of the following is not a function of the mammalian skeleton? It -----  
A. gives the body its shape      B. provides a framework on which internal organs are suspended  
C. provides attachment for muscles      D. contracts and relaxes to bring about movement
148. The stems of young herbaceous plants are kept upright mainly by -----  
A. osmotic pressure      B. turgor pressure      C. root pressure      D. suction pressure
149. Different tissues in plants contribute to the support of the parts as a result of the following characteristics except -----  
A. malleability      B. rigidity      C. flexibility      D. resilience
150. Breathing movement in mammals is accompanied by regular movement of the diaphragm and the -----  
A. pleural cavity      B. vertebral column      C. clavicle      D. intercostals muscles
151. The increase in width of blood vessels in the mammalian skin at high temperatures is known as -----  
A. vasodilation      B. vasoconstriction      C. shivering      D. sweating
152. Which of the following reagents is used for the test for starch? -----  
A. Millon's reagent      B. Fehling's solution      C. iodine solution      D. Benedict's solution
153. Changes in energy flow between organisms in a habitat can be represented by a  
A. pyramid of numbers      B. pyramid of energy      C. pyramid of biomass      D. food chain
154. Thrombocytes are blood cells responsible for initiating -----  
A. phagocytosis of bacteria      B. immunity to certain infectious diseases      C. clotting of blood  
D. synthesis of ribosomes
155. The genetic make up of an organism is described as its -----  
A. phenotype      B. genotype      C. allele      D. character
156. A dry indehiscent fruit containing one seed and possessing a hairy pappus is described as -----  
A. a cypsela      B. a nut      C. a follicle      D. an achene
157. Which of the following statements is not associated with the theory of natural selection? -----  
A. There is a struggle for existence      B. There is competition among the offsprings  
C. Nature selects those that survive to reproduce their kind      D. Food and other needs are abundant





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158. Which of the following statements about the modifications of pentadactyl fore-limb is not correct? -----  
A. Wings are modified for flying in birds                      B. Flippers are modified for grasping in sharks  
C. Arms are adapted for grasping and holding in human beings  
D. Flippers are modified for swimming in whales
159. The organelle which eliminates water from the body of protozoa is -----  
A. plasma membrane              B. contractile vacuole              C. cell wall              D. nucleus
160. Spirogyra is regarded as a multicellular plant because -----  
A. Its cells are linked together by cytoplasmic strands              B. Its cells are joined to form organs  
C. The cylindrical cells are linked end to end              D. It is an alga containing large vacuoles
161. Muscle are attached to bones by means of -----  
A. ligaments              B. cartilage              C. connective tissue              D. tendons
162. The pulmonary vein carries -----  
A. oxygenated blood from right ventricle to the lungs  
B. oxygenated blood from the lungs to the left auricle  
C. deoxygenated blood from the lungs to the right auricle  
D. oxygenated blood from the lungs to the right auricle
163. The upper part of the trachea in mammals is called -----  
A. palate              B. epiglottis              D. larynx              D. bronchus
164. Growing radicles of seedlings are -----  
A. negatively phototropic              B. positively phototropic              C. negatively geotropic  
D. negatively hydrotropic
165. Over-secretion of thyroxin is likely to lead to -----  
A. thinness of body              B. sluggishness              C. dwarfism              C. cretinism in infants
166. The part of the brain responsible for the control of voluntary movement and interpretation of sensations is the -----  
A. cerebrum              B. cerebellum              C. medulla oblongata              D. optic lobe
167. Which of the following is not seen in the transverse section of a young monocotyledonous stem? -----  
A. parenchyma              B. phloem              C. xylem              D. cambium







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168. In testing for a reducing sugar, the food substance is usually warmed with ----  
A. sulphuric acid    B. Millon's reagent    C. Sudan 111    D. Benedict's solution
169. The phenomenon whereby some organisms with certain features get established in an environment is known as -----  
A. mutation    B. colonization    C. natural selection    D. artificial selection
170. The part of the alimentary system of a bird where grinding of maize occurs is the?  
A. Crop    B. Stomach    C. Gizzard    D. Rectum
171. Fewer number of trees is characteristics of the savannah zones of Nigeria because  
A. There is too much sunlight    B. There is limited amount of rainfall  
B. They are usually exposed to grazing animals    D. The farmers always engage in bush burning
172. Which of the following is not true of the nucleus of a living cell? It contains ----  
A. Nucleoplasm    B. Ribosomes    C. Chromosomes    D. Nucleolus
173. The theory of use and disuse of organs was propounded by -----  
A. Gregor Mendel    B. Jean Lamarck    C. Robert Hooke    D. Charles Darwin
174. Which of the following is not likely to be found in the cell of a ripe tomato fruit?  
A. Plastids    B. Chlorophyll    C. Cellulose cell wall    D. Mitochondrion
175. Which of the following is the function of bright coloration of petals in flowers? –  
A. Beautifying the environment    B. Providing warning coloration for insects  
C. Production of chloroplasts for photosynthesis    D. Attracting pollinating insects
176. Which of the following is the most sensitive spot of the retina?  
A. Conjunctiva    B. Cornea    C. Blind spot    D. Yellow spot
177. Predation is an example of a factor in an ecological system referred to as -----  
A. Edaphic    B. Abiotic    C. Topographic    D. Biotic
178. Which of the following is not an example of a heterotrophic mode of nutrition?  
A. Holophytism    B. Symbiosis    C. Parasitism    D. Saprophytism
179. Which of the following is not a structural adaptation of desert plants for water conservation?  
A. Tiny leaves    B. Sunken stomata in leaves    C. Scale leaves  
D. Broad leaves with numerous stomata
180. The burning of farmlands should be discouraged because it -----





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- A. makes bush clearing more difficult      B. destroys the organic part of the soil  
C. destroys some plant pests      C. reduces the dormancy period of some weeds
181. Blood groups and tongue-rolling are examples of -----  
A. continuous variation      B. discontinuous variation      C. adaptive variation  
D. environmental variation
182. How many chromosomes are found in the human ovum?  
A. 46      B. 23      C. 24      D. 48
183. Which of the following is the precise location of the gene?  
A. Centriole      B. Centrosome      C. Chromosome      D. Ribosome
184. Which of the following is not a type of finger prints?  
A. Whorl      B. Compound      C. Arch      D. Simple
185. The organ which is sensitive to light in Euglena is the -----  
A. Gullet      B. Chloroplast      C. Eye spot      D. Flagellum
186. Which of the following disease is caused by deficiency of insulin in the body?  
A. Malaria      B. Diabetes mellitus      C. Hepatitis      D. Cholera
187. Which of the following organs is associated with deamination of proteins?  
A. Lung      B. Stomach      C. Kidney      D. Liver
188. Ultrafiltration in the kidney takes place in the -----  
A. Bowman's capsule      B. Loop of Henle      C. Pelvis      D. Pyramid
189. The following agencies are responsible for conservation in Nigeria except ----  
A. Forestry departments      B. Nigerian Conservation Society      C. Ministry of Agricultural and  
Natural Resources  
D. Nigerian Red Cross Society
190. In which of the following processes is carbon dioxide not given out?  
A. During photosynthesis      B. Respiration in plants      C. Burning of fuels      D. Decay of organisms
191. The property of clay soil that prevents it from supporting thick vegetation is its—  
A. possession of chemically weathered granite rocks      B. inability to retain much water





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- C. tendency of becoming water logged      D. high capillary spaces between the soil particles
192. The offspring produced when pure strains interbreed is described as -----  
A. hybrid    B. genotype      C. allele      D. phenotype
193. One of the factors that must be considered for safe blood transfusion is -----  
A. Social class of the donor      B. Age of the recipient      C. Nationality of the recipient  
D. Rhesus factors of the donor and recipient
194. Identical twins inherit their genes from -----  
A. the same ovum and different sperms      B. the same sperm and different ova  
C. different sperms and many ova      D. the same ovum and the same sperm
195. The order of evolutionary trend in plants is -----  
A. Thallophyta, Bryophyta, Pteridophyta and Spermatophyta  
B. Bryophyta, Thallophyta, Pteridophyta and Spermatophyta  
C. Spermatophyta, Pteridophyta, Bryophyta and Thallophyta  
D. Bryophyta, Pteridophyta, Spermatophyta and Thallophyta
196. Which of the following occurrences cannot be taken as a direct observation of Natural Selection in recent times? -----  
A. Industrial melanism in moths      B. Selective breeding in cattle  
C. Insecticide resistance of some mosquitoes      D. Development of long necks in giraffes
197. Which of the following is not true of termite workers? They -----  
A. build and repair the nest      B. produce enzymes to digest cellulose  
C. search for food to feed the colony      D. look after the nymph
198. In the binomial system of naming organisms the second name is known as -----  
A. Scientific name      B. Common name      C. Generic name      D. Specific name
199. Which of the following features does not necessarily place Paramecium at a higher level of organisation over Amoeba?  
A. Presence of cilia      B. Absence of pseudopodia      C. Presence of micro and meganuclei  
D. Presence of more than one food vacuole
200. Primary growth in plants is brought about by the activity of the -----  
A. Meristem      B. Epidermis      C. Mesophyll      D. Endodermis
201. The passage of nerve impulse across a synapse is facilitated by the secretion of --





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- A. Thyroxine      B. Acetylcholine      C. Insulin      D. Progesterone
202. Which of the following parts of the skeleton does not have a protective function?  
A. Ribs      B. Carpals      C. Skull      D. Pelvis
203. Analysis of the gut content of an animal showed that it contained small pieces of bone, seeds, roughage and insects. The animal is likely to be a/an -----  
A. Carnivore      B. Herbivore      C. Insectivore      D. Omnivore
204. Filaments of Spirogyra placed in a beaker of tap water in a dark cupboard died because -----  
A. Conjugation could not take place      B. The temperature was too high  
C. The filaments could not photosynthesize      D. The plant was overflooded
205. Which of the following physical factors is likely to affect the distribution of plants in a pond?  
A. Light      B. Humidity      C. Wind      D. Temperature
206. The effects of environmental degradation caused by human activities can be controlled by the following except -----  
A. Reclaiming the land      B. converting mining pits into fish ponds  
C. Resettling indigenous inhabitants      D. Educating people
207. A vaccine is introduced into a person's body to -----  
A. destroy all disease-causing organisms in the body      B. stimulate the body to produce antibodies  
C. enhance the production of red blood cells      D. isolate disease-causing pathogens
208. Biuret's test is carried out on a food substance to indicate the presence of -----  
A. Vitamins      B. Fats      C. Proteins      D. Starch
209. The dominant stage in the life cycle of a fern is the -----  
A. Antheridium      B. Gametophyte      C. Prothallus      D. Sporophyte
210. The smallest branches on the cell body of a neurone are called -----  
A. Dendrites      B. Dendrons      C. Ganglia      D. Schwann cell
211. Which of the following features of the tadpole indicates that the animal is herbivorous? Possession of -----  
A. Operculum      B. Muscular tail      C. Long coiled intestine      D. Internal gills
212. What is the probability of producing a child of blood group O by a woman of blood group O and a man of





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- blood group A?  
A. 25%                      B. 50%                      C. 75%                      D. 100%
213. A population which exceeds the carrying capacity and then collapses is represented graphically as a -----  
A. Bell-shaped curve                      B. Skewed curve                      C. S-shaped curve                      D. Linear curve
214. The folded portion of mitochondrion is called -----  
A. Partition                      B. Cell membrane                      C. Nucleolus                      D. Cristae
215. Support in young herbaceous plants is provided by -----  
A. Turgidity                      B. Osmosis                      C. Guttation                      D. Translocation
216. Gaseous exchange occurs through the following structures in some organisms except -----  
A. Spiracles and tracheae                      B. Alveoli and lungs                      C. Stomata and lenticels  
D. Chloroplasts and plastids
217. Which of the following organisms is not considered a parasitic plant?  
A. Cassytha                      B. Rhizopus                      C. Dodder                      D. Mistletoe
218. Which of these factors are common to both aquatic and terrestrial habitats?  
A. Light, rainfall and turbidity                      B. Light, temperature and tide  
C. Light, rainfall and temperature                      D. Rainfall, turbidity and salinity
219. Variation is a factor in which -----  
A. differentiates between individuals of the same species  
B. qualifies an organism to live with others  
C. enables organisms to adapt to the environment  
D. state the external features of an organism
220. Which of the following organisms feed both autotrophically and heterotrophically?  
A. Hydra                      B. Paramecium                      C. Mucor                      D. Euglena
221. The part of the ear in mammals responsible for the detection of sound is the ----  
A. Utriculus                      B. Tympanum                      C. Cochlea                      D. Semi-circular canal
222. Which of the following group embraces the rest?  
A. Class                      B. Kingdom                      C. Phylum                      D. Species
223. When both ovaries of the human female ovulate simultaneously and both ova are fertilized, then -----  
A. fraternal twins are produced                      B. identical twins are produced







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235. Which of the following structures of the human body provides the best surface for diffusion?  
A. Skin      B. Stomach      C. Alveolus      D. Oesophagus
236. Viruses are pathogen of the following diseases except -----  
A. Measles      B. Smallpox      C. Poliomyelitis      D. Tuberculosis
237. Which of the following organisms exhibits extracellular digestion?  
A. Moulds      B. Green plants      C. Algae      D. Bryophytes
238. Which of the following is an example of continuous variation?  
A. Human blood groups      B. Sex differences in humans      C. Haemoglobin types  
D. Height in humans
239. Which of the following pairs of scientists discovered the Rhesus factor in human blood?  
A. Hooke and Lavine      B. Landsteiner and Lavine      C. Darwin and Landsteiner  
D. Hooke and Darwin
240. A sudden loss of black pigment from the skin of an African can be attributed to--  
A. a blending of black and white gene      B. a recombination of genes      C. loss of the epidermis  
D. mutation in the skin
241. The glomerular filtrate contains the following substances except -----  
A. Water      B. Urea      C. Blood corpuscles      D. Glucose
242. Sickle cell anaemia has persisted in the human race due to -----  
A. Lack of proper medical care for sicklers      B. Carriers being more resistance to malaria  
C. Mosquito vectors      D. Wildlife intermediate host
243. Amoeba obtains all its oxygen requirements -----  
A. from oxidising food substances      B. through diffusion of air into its body  
C. from air trapped in vacuoles      D. through an air cavity in the ectoplasm
244. Which of the following organisms has the largest area-to-volume ratio?  
A. Man      B. Earthworm      C. Amoeba      D. Spirogyra
245. The organs constantly in touch with the liver are -----  
A. Pancreas, colon and caecum      B. Duodenum and stomach      C. Ileum, stomach and colon  
D. Stomach and gall bladder
246. The first stable product of photosynthesis is -----





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- A. Starch                      B. Glucose                      C. Oxygen                      D. Water
247. All the available places on earth which support life constitute the -----  
A. Lithosphere                      B. Atmosphere                      C. Biosphere                      D. Hydrosphere
248. Which of the following best describes the adaptation of the earthworm to its habitat?  
A. Possession of a few bristles for defence                      B. Living in burrow during the day to prevent desiccation  
C. Burrowing into soft soil to store food                      D. Possession of segmented body to reduce movement
249. During blood transfusion, agglutination could be prevented if a patient having blood group O is given blood from group -----  
A. AB                      B. A                      C. O                      D. B
250. Terrestrial plants exchange gases through the following except -----  
A. chloroplast                      B. stomata                      C. lenticels                      D. root-cells
251. The secchi disc is used to measure -----  
A. speed of flow of water                      B. specific gravity of water                      C. turbidity of water  
D. depth of water
252. Soil factors in an ecosystem are referred to as -----  
A. topographic                      B. climatic                      C. biotic                      D. edaphic
253. Which of the following habitat cannot be used for the study of succession?  
A. Savanna grassland                      B. Abandoned farmland                      C. A pond                      D. Well cultivated land
254. In fishes, the brooders return to their parents' mouth for -----  
A. feeding                      B. respiration                      C. protection                      D. breeding
255. During prolonged exercise glucose in the muscle is converted to -----  
A. pyruvic acid                      B. lactic acid                      C. ethanol                      D. co-enzyme
256. In animals, the main protective covering is found in the -----  
A. adipose tissues                      B. epithelial tissues                      C. bone tissues                      D. connective tissues
257. Which of the following behavioural patterns describes adaptive coloration?  
A. Counter shading                      B. Hibernation                      C. Aestivation                      D. Aggregation
258. Which of the following organisms will have the highest biomass?  
A. Small fish                      B. Planktons                      C. Hawk                      D. Big fish
259. Which of the following is found in meiosis but not in mitosis?







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- A. Chromatids      B. Prophase      C. Spindle fibres      D. Crossing over
260. Which of the following structures transport water from the roots to the leaves?  
A. Phloem    B. Xylem    C. Cambium    D. Cortex
261. Which of the following is an example of a reflex action?  
A. Sneezing      B. Biting      C. Talking      D. Dancing
262. Which of the following is a product of brewing when yeast is used as a fermenting agent?  
A. Sucrose and glucose    B. Ethanol    C. Malt    D. Oxygen
263. Which of the following organisms is viviparous?  
A. Lizard      B. Grasshopper    C. Snail    D. Sheep
264. Filtered blood from the kidney is carried back to the circulatory system through the -----  
A. Hepatic portal vein    B. renal artery    C. renal vein    D. pulmonary vein

