

CAT 2019 – LIFE SCIENCE

1. According to Geologists the characteristics of life occurred first in
 - (A) Palaeozoic era
 - (B) Mesozoic era
 - (C) Protozoic era
 - (D) Coenozoic era
2. The components used by Miller in his experiment for obtaining amino acids and other organic matters are
 - (A) Methane, water vapour, ammonia and hydrogen
 - (B) Carbon-di-oxide, oxygen and nitrogen
 - (C) Methane, ethane and ammonia
 - (D) Ammonia, ethylene and nitrous oxide
3. According to 'fluid mosaic model', the correct sequence of biomolecules in the plasma membrane is
 - (A) Lipid-Protein-Protein-Lipid
 - (B) Protein-Protein-Lipid-Lipid
 - (C) Protein-Lipid-Lipid-Protein
 - (D) Protein-Protein-Lipid-Protein
4. In which of the following tissue the highest number of mitochondria are found?
 - (A) Meristematic tissue
 - (B) Storage tissue
 - (C) Xylem tracheid
 - (D) Xylem vessel
5. True nucleus is absent in which one of the following?
 - (A) Green algae
 - (B) Bacteria
 - (C) Lichen
 - (D) Fungi

6. Cellulose is strongly
- (A) Hydrophobic
 - (B) Hydrophilic
 - (C) Lipophilic
 - (D) Ionophilic
7. The cell organelles can better be isolated by
- (A) Caesium chloride centrifugation
 - (B) gradient centrifugation
 - (C) ultra centrifugation
 - (D) differential centrifugation
8. In a DNA segment consisting of TCC, CAA, TCG, ACC, CCT and TCA gets mutated in the first nucleotide. The effect of this on coding by this segment would result in
- (A) change of the first amino acid
 - (B) change of the whole amino acids in the sequence
 - (C) no change in the amino acid sequence
 - (D) change of the last amino acid in the sequence
9. Sex determined cells usually possess
- (A) twice the amount of DNA as the body cell
 - (B) twice the amount of RNA as the body cell
 - (C) half the amount of DNA as the body cells
 - (D) thrice the amount of DNA as the body cells
10. Ploidy level of endosperm in plant seeds is
- (A) Haploid
 - (B) Diploid
 - (C) Polyploid
 - (D) Triploid
11. The number of chromosomes can be increased in plants by applying
- (A) thermo-treatment mechanism
 - (B) hormone treatment
 - (C) colchicine treatment
 - (D) hybrid vigour

12. Stomata are usually confined in more numbers on the
- (A) upper side of leaf
 - (B) lower side of leaf
 - (C) lateral stem
 - (D) leaf base
13. Leaf abscission takes place at
- (A) internodes
 - (B) nodes
 - (C) the base of petiole
 - (D) the margin of leaf
14. Those plants which require usually 8-10 hrs of light period and continuous dark period of about 14-16 hrs for subsequent flowering are called
- (A) Short day plants (SDP)
 - (B) Long night plants (LNP)
 - (C) Both (A) and (B)
 - (D) Long day plants (LDP)
15. Starch, inulin and glycogen are the examples of
- (A) storage polysaccharides
 - (B) structural polysaccharides
 - (C) oligosaccharides
 - (D) monosaccharides
16. Organic compounds having both acidic and basic properties are called
- (A) amphiphilic molecule
 - (B) dextrorotatory molecule
 - (C) levorotatory molecule
 - (D) amphoteric molecule
17. Which among the following is not a saturated fatty acid?
- (A) Palmitic acid
 - (B) Stearic acid
 - (C) Oleic acid
 - (D) Myristic acid

18. Liquid form of triglycerides at ordinary room temperature are called
- (A) Fats
 - (B) Oils
 - (C) Cheese
 - (D) Wax
19. Which one among the following is a sulphur containing amino acid?
- (A) Cysteine
 - (B) Leucine
 - (C) Valine
 - (D) Alanine
20. Predominating pigment found in Rhodophyceae is called
- (A) C-phycoerythrin
 - (B) C-phycoerythrin
 - (C) Chlorophylls with carotenoids
 - (D) Phycobilin
21. Vitamin B₅ is also known as
- (A) Niacin
 - (B) Riboflavin
 - (C) Phylloquinone
 - (D) Thiotic acid
22. What type of light is required for maximum inhibition of flowering at about the middle of critical dark period in context to short-day plants?
- (A) Red
 - (B) Green
 - (C) Violet
 - (D) Blue
23. The carbon isotope used in the study of photosynthesis is
- (A) C₁₃
 - (B) C₁₄
 - (C) C₁₅
 - (D) C₃

24. Dark reaction of photosynthesis is also known as
- (A) Hill reaction
 - (B) Blackman reaction
 - (C) AMP pathway
 - (D) Glyoxylate cycle
25. C_4 plants are more efficient photosynthetically than C_3 plants because of the absence of
- (A) Photoperiodism in C_4 plants
 - (B) Photorespiration in C_4 plants
 - (C) Non-cyclic electron transport in C_4 plants
 - (D) Cyclic electron transport in C_4 plants
26. How much energy is contained in one molecule of glucose?
- (A) 286 Kcal
 - (B) 486 Kcal
 - (C) 686 Kcal
 - (D) 886 Kcal
27. *Pinus* species are commonly found in
- (A) Temperate regions of Northern hemisphere
 - (B) Temperate regions of Southern hemisphere
 - (C) Tropical region of Northern hemisphere
 - (D) Tropical regions of Southern hemisphere
28. Which one of the following plants is a total stem parasite?
- (A) *Pufflesia* sp.
 - (B) *Utricularia* sp.
 - (C) *Prosera* sp.
 - (D) *Cuscuta* sp.
29. The stamen in angiosperm is the male reproductive part and generally may be differentiated into
- (A) anther only
 - (B) anther and stalk
 - (C) anther, filament and connective
 - (D) anther and filament

30. The map showing relative distance of linked genes on a chromosome during transfer of characters is called
- (A) linkage map
 - (B) linked genes
 - (C) autosomes
 - (D) allosomes
31. Reversal of a series of nucleotides in the gene is called inversion. For this action of gene mutation, the inversion requires
- (A) one breakage only
 - (B) two breakage
 - (C) three breakage
 - (D) no breakage
32. During cell division the centromere divides at
- (A) Prophase
 - (B) Metaphase
 - (C) Anaphase
 - (D) Telophase
33. The chromosomes become arranged at the equator during
- (A) Anaphase of meiosis-I
 - (B) Metaphase of mitosis
 - (C) Metaphase of mitosis and metaphase of meiosis-I and II
 - (D) Only at metaphase of meiosis-II
34. In monocots such as grasses, oats and maize, the plumule in the seed remains covered by a protective cap-like structure called
- (A) Petiole
 - (B) Shoot apex
 - (C) Root apex
 - (D) Coleoptile

35. In monocot seedling, the highest concentration of auxin is found in the
- (A) stem
 - (B) bud
 - (C) coleoptile
 - (D) flower
36. The number of calories required to change one gram of liquid into vapour is called
- (A) Heat capacity
 - (B) Latent heat of evaporation
 - (C) Expansion before freezing
 - (D) Nucleation
37. When the plant cell or the tissue is placed in hypertonic solution, the water comes out of the cell sap into the outer solution and the cell becomes flaccid. This process is known as
- (A) Turgor pressure
 - (B) Wall pressure
 - (C) Exosmosis
 - (D) Endosmosis
38. Which of the following requires metabolic energy for mineral salt absorption?
- (A) Active absorption
 - (B) Passive absorption
 - (C) Endosmosis
 - (D) Exosmosis
39. "Late blight of potato" is caused by
- (A) *Phytophthora infestans*
 - (B) *Erysiphe polygoni*
 - (C) *Albugo candida*
 - (D) *Puccinia graminis*
40. White blood cells that are nonspecific killers of microbes are
- (A) B cells
 - (B) Phagocytes
 - (C) Killer T cells
 - (D) Helper T cells

41. Antibodies are synthesized by
- (A) B lymphocytes
 - (B) Phagocytes
 - (C) Helper T lymphocytes
 - (D) Killer T lymphocytes
42. Concave surfaces of mammalian RBCs is helpful in
- (A) formation of more haemoglobin
 - (B) increasing the surface area of rbc_s
 - (C) reducing surface tension of plasmamembrane
 - (D) providing more space for haemoglobin
43. Which of the following factors does not determine the shape of the cell?
- (A) Membrane fluidity
 - (B) Size of the vacuole
 - (C) Viscosity of the cytoplasm
 - (D) Cell-cell distance
44. Chromosomes are held together by
- (A) securin
 - (B) separase
 - (C) cohesin
 - (D) mitogen factor
45. The degree of transport across cell membrane is the
- (A) highest for hydrophobic molecules
 - (B) lowest for hydrophobic molecules
 - (C) highest for ions
 - (D) highest for polar molecules
46. Which of the following is the least predominant granulocyte in blood?
- (A) neutrophil
 - (B) eosinophil
 - (C) basophil
 - (D) plasma cell

47. The life span of erythrocytes is
- (A) 120 days
 - (B) 90 days
 - (C) 60 days
 - (D) 150 days
48. Which of the following is the precursor of germ cells?
- (A) Zygote
 - (B) Gastrula
 - (C) Blastula
 - (D) Primordial germ cell
49. *Zona pellucida* is rich in the
- (A) proteins and oligosaccharides
 - (B) lipids
 - (C) enzymes
 - (D) granules
50. The G° value for ATP is
- (A) -7.3 kcal/mol
 - (B) +7.3 kcal/mol
 - (C) -7.3 kJ/mol
 - (D) +7.3 kJ/mol
51. The term hydride ion is used to refer to
- (A) one proton and two electrons
 - (B) two protons and one electron
 - (C) two protons
 - (D) two electrons
52. Deficiency of HGPRT leads to
- (A) SCID
 - (B) Hartnup's disease
 - (C) cystinuria
 - (D) gout

53. Carnosine is the precursor of
- (A) anserine
 - (B) PRPP
 - (C) uric acid
 - (D) purine
54. Indole derivative is excreted in urine during
- (A) Hartnup's disease
 - (B) cystinuria
 - (C) cysteinuria
 - (D) indoluria
55. Enzyme catalyzing conversion of ATP to 3',5' cyclic AMP is
- (A) cyclic AMP synthase
 - (B) cyclic AMP synthetase
 - (C) adenylyl cyclase
 - (D) ATP hydrolase
56. Hydroxyapatite chromatography is used exclusively for the separation of
- (A) proteins
 - (B) enzymes
 - (C) nucleic acids
 - (D) lipids
57. Which of the following viruses is composed of segmented double-stranded RNA?
- (A) Herpes virus
 - (B) Adenovirus
 - (C) Reovirus
 - (D) Poxvirus
58. Which of the following virus contains structurally essential lipid?
- (A) Herpes virus
 - (B) Papovavirus
 - (C) Adenovirus
 - (D) Picornavirus

59. In cells infected with virus actual synthesis of virus is immediately preceded by
- (A) adsorption
 - (B) penetration
 - (C) eclipse
 - (D) release
60. The genus *Candida* reproduces by
- (A) arthrospore formation
 - (B) blastospore formation
 - (C) ascospore formation
 - (D) sporangiospore formation
61. The most common form of sporotrichosis is
- (A) skeletal
 - (B) mucosal
 - (C) lymphocutaneous
 - (D) visceral
62. Antigenic variation is most extensive in
- (A) smallpox virus
 - (B) influenza virus
 - (C) herpesvirus
 - (D) measles virus
63. The incubation period of viral hepatitis type A is
- (A) 60-90 days
 - (B) 15-45 days
 - (C) 5-10 days
 - (D) 2-5 days
64. The tetracyclines are identical in their overall mechanism of action to
- (A) sulfonamides
 - (B) penicillin
 - (C) isoniazid
 - (D) chloramphenicol

65. The reaction that occurs when antibody and soluble antigen are mixed is demonstrated by
- (A) agglutination test
 - (B) precipitin test
 - (C) adsorption test
 - (D) hemagglutination test
66. A newborn infant's blood contains high levels of
- (A) IgA
 - (B) IgG
 - (C) IgM
 - (D) IgE
67. At what age does the thymus reach its maximal size?
- (A) During the first year of life
 - (B) Teenage years (Puberty)
 - (C) Between 40 and 50 years of age
 - (D) After 70 years of age
68. Somatic mutation of immunoglobulin genes accounts for
- (A) allelic exclusion
 - (B) class switching from IgM to IgG
 - (C) affinity maturation
 - (D) All of the above
69. A slide of macrophages are stained by immunofluorescence using a monoclonal antibody for the TAP1 / TAP2 complex. Which of the following intracellular compartments would exhibit positive staining with this antibody?
- (A) Cell surface
 - (B) Endoplasmic reticulum
 - (C) Golgi apparatus
 - (D) Macrophages

70. Which of the following are examples of mechanisms for the development of autoimmunity?
- (A) Polyclonal B cell activation
 - (B) Tissue damage
 - (C) Increased expression of TCR molecules
 - (D) Increased expression of class II MHC molecules
71. Malarial parasites are cultivated in the
- (A) blood agar
 - (B) HeLa cell culture
 - (C) RPMI 1640
 - (D) NNN medium
72. Mature *Entamoeba histolytica* cyst is characterized by the presence of
- (A) four nuclei
 - (B) chromatoid bars
 - (C) glycogen mass
 - (D) binucleate stage
73. Nocturnal periodicity of microfilaria is in relation with their occurrence in the
- (A) Peripheral blood
 - (B) Urine
 - (C) Lymph
 - (D) Blood of internal organs
74. Who investigated the microbial oxidation of Ferrous ion, Fe^{2+} the reduced form of iron to Ferric iron, Fe^{3+} the oxidized form, an essential component of rust?
- (A) Martinus Beijerinck
 - (B) Serge Winogradsky
 - (C) Selmán Waksman
 - (D) Jacob Lipman
75. The nematode predator fungus is
- (A) *Rhizoctonia solani*
 - (B) *Arthrobotrys oligospora*
 - (C) *Rhizopus nigricans*
 - (D) *S. carlsbergensis*

76. The average number of nucleotides in the Okazaki fragments of prokaryotes is
- (A) 1500 nucleotides
 - (B) 150 nucleotides
 - (C) 1000 nucleotides
 - (D) 750 nucleotides
77. 'Turner syndrome' are most monosomic and have the chromosome
- (A) 47 XXY
 - (B) 46 XX
 - (C) 45 X
 - (D) 47 XYY
78. A single base substitution in DNA that changes a codon for one amino acid into a codon for another is called
- (A) frame-shift mutation
 - (B) point mutation
 - (C) nonsense mutation
 - (D) missense mutation
79. The protein that binds to DNA to switch on transcription by RNA polymerase is
- (A) aporepressor
 - (E) corepressor
 - (C) inducer
 - (D) CAP (CRP)
80. The consensus sequence TATAATG centered about 10bp before the start point of bacterial genes is referred as
- (A) position effect
 - (B) Promoter box
 - (C) Hogness (TATA) box
 - (D) Homeo box

81. In lysogeny, new properties are conferred on the bacterial cell by products of
- (A) bacterial genes
 - (B) sex factor genes
 - (C) prophage genes
 - (D) colicogenic genes
82. The attachment of amino acids to their specific tRNA molecules are facilitated by the enzyme
- (A) aminoacyl tRNA transferase
 - (B) sigma factor
 - (C) reverse transcriptase
 - (D) RNA polymerase
83. When DNA is denatured, the optical density increased, this characteristic is called as
- (A) hyperchromicity
 - (B) hybrid-arrested translation
 - (C) G-banding
 - (D) disjunction
84. The test used to determine the carcinogenic potential of a chemical is called
- (A) replica planting test
 - (B) Koberg assay
 - (C) Ames test
 - (D) insertion frequency test
85. Autonomous replicating sequence (ARS) is a characteristic feature of
- (A) plasmid vectors
 - (B) phage vectors
 - (C) *E. coli* vectors
 - (D) yeast vectors
86. In gel filtration chromatography, separation of proteins are based on their
- (A) size and net charge
 - (B) size and shape
 - (C) size and specific affinity
 - (D) shape and net charge

87. In order to obtain virus-free plants through tissue culture, the best method is

- (A) meristem culture
- (B) protoplast culture
- (C) anther culture
- (D) embryo culture

88. Ropiness of bread is caused by

- (A) *Bacillus subtilis*
- (B) *Penicillium expansum*
- (C) *Rhizopus nigricans*
- (D) *Leuconostoc* sp.

89. Meats, low in carbohydrates are decomposed by

- (A) non-proteolytic species
- (B) proteolytic species
- (C) osmophilic organisms
- (D) lipophilic organisms

90. High temperature short-time pasteurization is a process that occurs at

- (A) 71.5°C for 2 minutes
- (B) 62.0°C for 30 minutes
- (C) 71.5°C for 15 seconds
- (D) 71.5°C for 5 seconds

91. The aroma or taste of beer is provided by the addition of

- (A) sulfite
- (B) dextrans
- (C) hops
- (D) lysine

92. Rennin is a proteolytic enzyme used in the manufacture of

- (A) Beer
- (B) Wine
- (C) Single cell protein
- (D) Cheese

93. The 'heaviness' or 'lightness' of beer is caused by the presence of relatively non-fermentable compound called
- (A) pectins
 - (B) sorghum
 - (C) dextrans
 - (D) rice starch
94. The formation of ions by a chemical reaction of a compound with the solvent is called as
- (A) electrolysis
 - (B) redox reaction
 - (C) ionization
 - (D) dissociation
95. Light scattering by a colloidal dispersion is called as
- (A) Tyndall effect
 - (B) Colloidal dispersions
 - (C) Brownian movement
 - (D) Emulsions
96. 'If a system is in equilibrium and a change is made in its conditions, the system will change in which ever way most directly restores equilibrium' is called
- (A) Le Chatelier's principle
 - (B) Dalton's Law
 - (C) Law of multiple proportions
 - (D) Law of Guldberg and Waage
97. The reaction of an ester with sodium or potassium hydroxide to give an alcohol and the salt of an acid is
- (A) saponification
 - (B) stereoisomer
 - (C) salt bridge
 - (D) reductive process

98. Which of the following conceptual spheres of the environment is having the least storage capacity of matter?
- (A) Atmosphere
 - (B) Lithosphere
 - (C) Hydrosphere
 - (D) Biosphere
99. India has the world's largest share of
- (A) Manganese
 - (B) Mica
 - (C) Copper
 - (D) Diamond
100. As per the FAO definition the minimum percentage of depletion of tree crown cover, that can be considered as deforestation is
- (A) 50%
 - (B) 60%
 - (C) 70%
 - (D) 90%
101. Which of the following are major players in phosphorus cycle?
- (A) Human beings and fish
 - (B) Human beings and marine birds
 - (C) Fish and marine birds
 - (D) Animals and fish
102. Who introduced the concept of biodiversity hotspot?
- (A) Christopher Columbus
 - (B) Norman Myers
 - (C) WWF
 - (D) Charles Darwin
103. What is the maximum allowable concentration of fluorides in drinking water?
- (A) 1.0 milligram per liter
 - (B) 1.25 milligram per liter
 - (C) 1.50 milligram per liter
 - (D) 1.75 milligram per liter

104. Septic tank is
- (A) an aerobic attached growth treatment system
 - (B) an aerobic suspended growth biological treatment system
 - (C) an anaerobic attached growth biological treatment system
 - (D) an anaerobic suspended growth treatment system
105. Population pyramids are useful to
- (A) express the population growth rates
 - (B) express the age-sex distribution of a population
 - (C) indicate the birth rates
 - (D) indicate the death rates
106. Snapping division, a distinctive type of binary fission resulting in an angular or a palisade arrangement of cells is characteristic of the genus
- (A) Enterobacter
 - (B) Klebsiella
 - (C) Salmonella
 - (D) Corynebacterium
107. The bacterium which help to maintain the normal intestine balance, possess antitumorigenic activity and to reduce serum cholesterol levels is
- (A) *Bifidobacterium* sp.
 - (B) *Lactobacillus acidophilus*
 - (C) *Lactobacillus bulgaricus*
 - (D) *Streptococcus thermophilus*
108. N-acetyl glucosamine and N-acetyl-muramic acid are fundamental building blocks for
- (A) capsule
 - (B) peptidoglycon
 - (C) lipopolysaccharide
 - (D) outer membrane
109. Reoviruses possess
- (A) a lipid envelope
 - (B) one capsid
 - (C) capsomeres connected to six neighbouring capsomers
 - (D) two capsids

110. Which of the following is not a component of chlorophyll?
- (A) Calcium
 - (B) Carbon
 - (C) Magnesium
 - (D) Hydrogen
111. Monosporic eight-nucleated female gametophyte is found in
- (A) adoxa
 - (B) onion
 - (C) fritillaria
 - (D) polygonum
112. In C_3 plants, first stable product of photosynthesis during dark reaction is
- (A) PGA
 - (B) RuBP
 - (C) Pyruvic acid
 - (D) Oxaloacetic acid
113. A drug which reduces high blood pressure is obtained from
- (A) *Aconitum chasmanthum*
 - (B) *Cenille asiatica*
 - (C) *Rawolfia serpentina*
 - (D) *Scianum nigrum*
114. Aggregate fruit is defined as the one which develops from
- (A) multicarpellary apocarpous gynoecium
 - (B) multicarpellary syncarpous gynoecium
 - (C) multicarpellary superior ovary
 - (D) complete inflorescence
115. Angiosperms differ from the gymnosperms
- (A) in having compound leaves
 - (B) being ever green
 - (C) being smaller in size
 - (D) in having ovules enclosed in ovary

116. In helminthes, flame cells are component of their

- (A) reproductive system
- (B) excretory system
- (C) nervous system
- (D) respiratory system

117. Which of the following has no alternate host?

- (A) *Taenia solium*
- (B) *Ascaris lumbricoides*
- (C) *Plasmodium vivax*
- (D) *Fasciola hepatica*

118. Lung books are the respiratory organs of

- (A) Insects
- (B) Crustaceans
- (C) Archnids
- (D) Peripatus

119. Auricularia is the larva of

- (A) Echinozoa
- (B) Asterozoa
- (C) Ophiurozoa
- (D) Holothurozoa

120. In which of the following the heart is not ventral in position

- (A) Fish
- (B) Frog
- (C) Lamprey
- (D) Crabs

121. Flying frog is

- (A) Hyla
- (B) Pipa
- (C) Bufo
- (D) Rhacophorus

122. The cells which secrete male sex hormone testosterone are
- (A) isthmus
 - (B) crypt cells
 - (C) lieberkiihn
 - (D) Leydig's cells
123. Pulmonary artery originates from
- (A) right ventricle
 - (B) right auricle
 - (C) left auricle
 - (D) left ventricle
124. Brunner's gland is found in
- (A) stomach
 - (B) ileum
 - (C) duodenum
 - (D) rumen
125. The strongest ligament in the body is
- (A) Crucial ligament
 - (B) Lacunar ligament
 - (C) Ligamentum flavum
 - (D) Iliofemoral ligament
126. The mean molecular weight of an amino acid in a typical globular protein is
- (A) 70
 - (B) 150
 - (C) 110
 - (D) 90
127. The maturation of anther and stigma at different times in the same flower is known as
- (A) Herkogamy
 - (B) Cleistogamy
 - (C) Chasmogamy
 - (D) Dichogamy

128. How many DNA molecules are present in the nucleus of human somatic cell in G₂ stage of cell cycle?
- (A) 23
 - (B) 46
 - (C) 69
 - (D) 92
129. The high solubility of amino acids in water is due to
- (A) the presence of side chain
 - (B) dipolar ion structure
 - (C) unipolarity
 - (D) the hydrophilic nature of the amino group
130. Human chorionic gonadotropin responsible for maintenance of pregnancy in women originates from
- (A) Ovary
 - (B) Pituitary
 - (C) Uterus
 - (D) Placental trophoblast
131. Which of the following has a quaternary structure?
- (A) -chymotrypsin
 - (B) Haemoglobin
 - (C) Insulin
 - (D) Myoglobin
132. Binding of oxygen to haemoglobin occurs when Fe is in the following oxidation state
- (A) +1
 - (B) +2
 - (C) +3
 - (D) +4

133. Philadelphia chromosome is generated by translocation between
- (A) Chromosome 18 and chromosome 6
 - (B) Chromosome 22 and chromosome 3
 - (C) Chromosome 22 and chromosome 9
 - (D) Chromosome 16 and chromosome 4
134. Pantothenic acid is a constituent of the coenzyme involved in
- (A) Decarboxylation
 - (B) Acetylation
 - (C) Dehydrogenation
 - (D) Reduction
135. Chymotrypsin in the small intestine hydrolyzes peptide linkage containing
- (A) Phenylalanine
 - (B) Alanine
 - (C) Methionine
 - (D) Valine
136. How many meiotic divisions are required to produce 12 pollen grains in *Cyperaceae*?
- (A) 2
 - (B) 3
 - (C) 6
 - (D) 12
137. Glucose and galactose are two isomeric monosaccharides known as
- (A) Anomers
 - (B) Epimers
 - (C) Enantiomers
 - (D) Conformers
138. Mutations which do not cause any functional change in the protein are known as
- (A) Non-sense mutation
 - (B) Missense mutation
 - (C) Backward mutation
 - (D) Silent mutation

139. In Guinea pig, black coat color is a dominant trait and white is recessive trait. A black female in test crosses, produces six black offsprings. The probability that a heterozygous black would do this by chance alone is approximately
- (A) 50%
 - (B) 1%
 - (C) 25%
 - (D) cannot be determined from the information
140. The end product of purine catabolism in normal humans is
- (A) Urea
 - (B) Uric acid
 - (C) Creatinine
 - (D) Xanthine
141. The concentrations of sphingomyelins are increased in
- (A) Gaucher's disease
 - (B) Fabry's disease
 - (C) Febrile disease
 - (D) Niemann-Pick disease
142. The only carbohydrate which is not having any chiral carbon atom is
- (A) Glyceraldehyde
 - (B) Erythrose
 - (C) Dihydroxyacetone
 - (D) Erythrulose
143. If the garden pea has 14 chromosomes in its diploid complement, how many double trisomies could theoretically exist?
- (A) 6
 - (B) 16
 - (C) 9
 - (D) 21

144. Which of the following compounds does not act as secondary messenger during signaling process?
- (A) cAMP
 - (B) calcium ions
 - (C) inositol 1,4,5-triphosphate
 - (D) Triacylglycerols
145. Which of the following statements is not correct for an oncogene?
- (A) They cause cellular transformation
 - (B) They are often transduced by retroviruses
 - (C) Generally they are growth regulatory proteins
 - (D) They are always localized in the nucleus
146. Which of the following can serve as an inhibitor of electron transport?
- (A) Puromycin
 - (B) Actinomycin
 - (C) Malonate
 - (D) Cyanide
147. Inhibition of photosynthesis in the presence of O_2 in C_3 plants is called
- (A) Pasteur effect
 - (B) Warburg effect
 - (C) Decker effect
 - (D) Hexose monophosphate shunt
148. Which one among the following is the most important factor in speciation?
- (A) Geographic isolation
 - (B) Ethological isolation
 - (C) Reproductive isolation
 - (D) Ecological isolation
149. Which of the following structural motifs is common in prokaryotic DNA binding proteins?
- (A) Homeodomain
 - (B) Helix-turn-helix
 - (C) Helix-loop-helix
 - (D) Leucine zipper

150. Which one of the following viruses replicate in the cytoplasm?

- (A) SV40
- (B) Adenovirus
- (C) Vaccinia virus
- (D) Herpes simplex virus