

**611 - LIFE SCIENCE**  
(FINAL)

1. The hormone released by the parathyroid gland in response to the fall of blood  $\text{Ca}^{2+}$  level is
  - (A) Insulin
  - (B) Calcitonin
  - (C) Adrenaline
  - (D) PTH
  
2. Choose the correct matching pair from the following options:
  - (A) Vitamin C: Anemia
  - (B) Vitamin B1: Beriberi
  - (C) Vitamin B6: Scurvy
  - (D) Vitamin K: Rickets
  
3. Low pH decreases the affinity of hemoglobin for  $\text{O}_2$ , an effect called as
  - (A) Bohr shift
  - (B) Chloride shift
  - (C) Hamburger phenomenon
  - (D) Lineas phenomenon
  
4. Which tubule plays a crucial role in regulating the  $\text{K}^+$  and  $\text{NaCl}$  concentration of body fluids?
  - (A) Distal tubule
  - (B) Proximal tubule
  - (C) Loop of Henle
  - (D) Collecting tubule
  
5. What is the correct sequence of embryonic development in mammals?
  - (A) Fertilization → Cleavage → Morula → Zygote → Blastula → Gastrula
  - (B) Zygote → Cleavage → Morula → Fertilization → Blastula → Gastrula
  - (C) Fertilization → Zygote → Cleavage → Morula → Blastula → Gastrula
  - (D) Fertilization → Zygote → Cleavage → Blastula → Morula → Gastrula

6. Which one among the following immune cells secrete antibodies?
- (A) Plasma B cell
  - (B) T helper cell
  - (C) T regulatory cell
  - (D) Natural killer cell
7. In mammals, circadian rhythms are coordinated by clustered neurons in the hypothalamus, forming a structure called as
- (A) Suprachiasmatic nucleus
  - (B) Motor neurons
  - (C) Sensory neurons
  - (D) Corpus Callosum
8. Nociceptors belong to which of the following category of receptors?
- (A) Mechanoreceptors
  - (B) Chemoreceptors
  - (C) Pain receptors
  - (D) Thermoreceptors
9. Which of the following photoreceptor cells provide color vision?
- (A) Rods
  - (B) Parenchyma
  - (C) Pericycle
  - (D) Cones
10. Fungi that form sheaths of hyphae over the surface of a root and typically grow in the extracellular space of the root cortex are known as
- (A) Arbuscular fungi
  - (B) Ectomycorrhizal fungi
  - (C) Coenocytic fungi
  - (D) Hyphae fungi
11. Transfer of genetic material between two bacterial cells is known as
- (A) Transformation
  - (B) Translation
  - (C) Amplification
  - (D) Conjugation

12. "Ratites" is a group of organisms belonging to which one among the following?
- (A) Bacteria
  - (B) Bird
  - (C) Reptile
  - (D) Mammal
13. The innermost whorl of a flower is constituted by
- (A) Carpel
  - (B) Sepal
  - (C) Tepal
  - (D) Stamen
14. Malathion is a/an
- (A) Acetylcholinesterase inhibitor
  - (B) Voltage-gated Sodium channel inhibitor
  - (C) Chitin synthesis inhibitor
  - (D) Acetylcholine receptor inhibitor
15. The phenomenon where accumulated toxins become more concentrated in successive trophic levels of a food web is known as
- (A) Biological magnification
  - (B) Toxication
  - (C) Toxicity exaltation
  - (D) Detoxification
16. A strategy that modifies the environment to increase bioremediation by the existing organism is known as
- (A) Bioaugmentation
  - (B) Biostimulation
  - (C) Bioconcentration
  - (D) Bioaccumulation
17. On sequence analysis of a double-stranded DNA, the results showed the content of Cytosine as 30%. What is the amount of A and T put together?
- (A) 70%
  - (B) 40%
  - (C) 20%
  - (D) 30%

18. An interaction between species that benefits one of the species but neither harms nor helps the other species is known as
- (A) Mutualism
  - (B) Predation
  - (C) Parasitism
  - (D) Commensalism
19. In angiosperms, after fertilization, the ploidy level of endosperm is
- (A)  $1n$
  - (B)  $2n$
  - (C)  $3n$
  - (D)  $4n$
20. How many pairs of chromosomes does *Drosophila melanogaster* have?
- (A) 4
  - (B) 8
  - (C) 2
  - (D) 6
21. Infectious proteins are known as
- (A) Abzymes
  - (B) Prions
  - (C) Proviruses
  - (D) Viroids
22. Malpighian tubules are the organs found in
- (A) Annelids
  - (B) Arthropods
  - (C) Platyhelminths
  - (D) Vertebrates
23. The fully processed eukaryotic mRNA protects itself from digestion by 5'-exoribonuclease due to the presence of
- (A) 5' cap
  - (B) 3' poly-A tail
  - (C) 3' cap
  - (D) 5' poly-A tail

24. Which of the following codons code amino acids, Selenocysteine and Pyrrolysine?
- (A) UUU and CUU
  - (B) UGA and UUU
  - (C) UAG and CUU
  - (D) UGA and UAG
25. During carboxylation in C<sub>3</sub> plants, the very first product formed is
- (A) Phosphoglyceraldehyde
  - (B) Oxaloacetic acid
  - (C) Malic acid
  - (D) Phosphoglyceric acid
26. The class of enzymes that catalyzes the reaction involving the addition of groups to double bonds, or formation of double bonds by removal of groups are called as
- (A) Lyases
  - (B) Oxidoreductases
  - (C) Transferases
  - (D) Ligases
27. The main repository of inorganic ions in the plant cell is
- (A) Lysosomes
  - (B) Chloroplast
  - (C) Mitochondria
  - (D) Central Vacuole
28. A protein destined to be degraded through the proteasomal pathway is first tagged with
- (A) Aminopeptidase
  - (B) IgG antibody
  - (C) Rab protein
  - (D) Ubiquitin
29. G<sub>2</sub>/M class of cyclin contains
- (A) Cyclin B
  - (B) Cyclin D
  - (C) Cyclin A
  - (D) Cyclin E

30. Down Syndrome belongs to which of the following classes of genetic disorder?
- (A) Nullisomy
  - (B) Trisomy
  - (C) Monosomy
  - (D) Disomy
31. The average molecular weight of a base pair is
- (A) 660 dalton
  - (B) 1320 dalton
  - (C) 330 dalton
  - (D) 110 dalton
32. The homeobox region in *Drosophila* contains
- (A) 160-nucleotide sequence
  - (B) 60-nucleotide sequence
  - (C) 180-nucleotide sequence
  - (D) 80-nucleotide sequence
33. Rice sheath blight disease is caused by
- (A) *Pyricularia oryzae*
  - (B) *Xanthomonas oryzae*
  - (C) *Sarocladium oryzae*
  - (D) *Rhizoctonia solani*
34. All enzymes of the TCA cycle are located in the mitochondrial matrix except one, which is located in inner mitochondrial membrane in eukaryotes and in the cytosol in prokaryotes. This enzyme is
- (A) Isocitrate dehydrogenase
  - (B) Malate dehydrogenase
  - (C) Succinate dehydrogenase
  - (D) Lactate dehydrogenase
35. For the synthesis of one glucose molecule, the number of ATP required is
- (A) 9 ATP for the C<sub>3</sub> cycle and 18 ATP for the C<sub>4</sub> cycle
  - (B) 18 ATP for the C<sub>3</sub> cycle and 30 ATP for the C<sub>4</sub> cycle
  - (C) 32 ATP for the C<sub>3</sub> cycle and 30 ATP for the C<sub>4</sub> cycle
  - (D) 18 ATP for the C<sub>3</sub> cycle and 32 ATP for the C<sub>4</sub> cycle

36. Highly condensed interphase chromatin visible as irregular clumps with the light microscope is known as
- (A) Polychromatin
  - (B) Euchromatin
  - (C) Heterochromatin
  - (D) Histochochromatin
37. In human telomeres, which one of the following short nucleotide sequences are repeated multiple times?
- (A) AAACCC
  - (B) GGAACC
  - (C) ATCGCG
  - (D) TTAGGG
38. The half-life of Carbon-14 is
- (A) 4.5 billion years
  - (B)  $1.57 \times 10^7$  years
  - (C) 5,730 years
  - (D) 100 days
39. N-Formyl-methionine is the starting residue for protein synthesis in
- (A) Archaea
  - (B) Fungi
  - (C) Bacteria
  - (D) Plants
40. The genetic condition where males carry one extra copy of the X chromosome apart from XY is known as
- (A) Edwards syndrome
  - (B) Klinefelter syndrome
  - (C) Turner syndrome
  - (D) Cri-du-chat syndrome
41. The large subunit of prokaryotic 70S ribosome consists of
- (A) 16S rRNA
  - (B) 18S rRNA
  - (C) 23S, 5.8S and 5S rRNA
  - (D) 23S and 5S rRNA

42. Tocopherol is a chemical compound that belongs to which of the following Vitamins?
- (A) E
  - (B) A
  - (C) C
  - (D) D
43. Chyme is
- (A) a mixture of saliva and food in the shape of a ball
  - (B) a mixture of water, salts, cells and glycoprotein
  - (C) another name of bile
  - (D) a mixture of ingested food and gastric juice
44. The small, accessible part of an antigen that binds to an antigen receptor is called as
- (A) Paratope
  - (B) Antibody
  - (C) Epitope
  - (D) Allotrope
45. Bicollateral vascular bundles are found in the family of
- (A) Malvaceae
  - (B) Musaceae
  - (C) Cucurbitaceae
  - (D) Solanaceae
46. The largest operon of *vir* region in Ti plasmid of *Agrobacterium radiobacter* is
- (A) *vir C*
  - (B) *vir D*
  - (C) *vir E*
  - (D) *vir B*
47. The defensive adaptation in animals where a harmless species mimics as a harmful one is
- (A) Mullerian mimicry
  - (B) Aposematic Coloration
  - (C) Cryptic Coloration
  - (D) Batesian mimicry



48. The study of vital statistics of population and its change over time is known as
- (A) Life table
  - (B) Demography
  - (C) Immigration
  - (D) Survivorship Curve
49. Gaps between adjacent Schwann cells are called as
- (A) Myelin sheath
  - (B) Nodes of Ranvier
  - (C) Oligodendrocyte
  - (D) Axon hillock
50. Histamine is released by which of the following cell?
- (A) B lymphocyte
  - (B) Mast cell
  - (C) Neutrophil
  - (D) Eosinophil
51. Melatonin is produced by which of the following gland?
- (A) Thymus
  - (B) Pituitary
  - (C) Pineal
  - (D) Pancreas
52. Lateral meristem consists of which of the following?
- (A) Vascular bundle and cork cambium
  - (B) Vascular cambium and cork cambium
  - (C) Protoderm and Calyptrogen
  - (D) Vascular cambium and Calyptrogen
53. Which of the following is the sex-determination system in grasshoppers?
- (A) X-Y
  - (B) Z-W
  - (C) X-O
  - (D) Z-O

54. The family of plants commonly known as “Sedges” is
- (A) Malvaceae
  - (B) Cyperaceae
  - (C) Brassicaceae
  - (D) Xyridaceae
55. Which of the following is a natural plant hormone?
- (A) Indole-3-acetic acid
  - (B) Indole-3-butyric acid
  - (C) 1-Naphthaleneacetic acid
  - (D) 2,4-dichlorophenoxyacetic acid
56. Which of the following statements is **NOT** true about G proteins?
- (A) G proteins become activated when bound to GTP
  - (B) G proteins function as GTPase enzyme
  - (C) G proteins are involved in a signal cascade
  - (D) G proteins become activated when bound to GDP
57. The most abundant glycoprotein in the extracellular matrix of most animal cells is
- (A) Collagen
  - (B) Integrins
  - (C) Laminin
  - (D) Fibronectin
58. When a few individuals become isolated from a larger population, this smaller group may establish a new population whose gene pool differs from the source population. This is called as the
- (A) Founder effect
  - (B) Bottleneck effect
  - (C) Natural selection
  - (D) Gene flow
59. Disjunction of the synapsed homologous chromosomes occur in
- (A) Anaphase II
  - (B) Anaphase I
  - (C) Metaphase I
  - (D) Prophase I

60. The shortest phase of the cell cycle is
- (A) G1 phase
  - (B) G2 phase
  - (C) M phase
  - (D) S phase
61. Among the following, which cell organelle is involved in apoptosis?
- (A) Endoplasmic reticulum
  - (B) Mitochondria
  - (C) Golgi apparatus
  - (D) Centrosome
62. Calmodulin is a calcium-binding messenger protein of eukaryotic cells. A single calmodulin protein binds to which of the following number of  $\text{Ca}^{2+}$  ions?
- (A) 3
  - (B) 2
  - (C) 1
  - (D) 4
63. Left-handed  $\alpha$  helix in Ramachandran plot will have the following values
- (A) High  $\Psi$  and low  $\Phi$  values
  - (B) High  $\Psi$  and  $\Phi$  values
  - (C) Low  $\Psi$  and high  $\Phi$  values
  - (D) Low  $\Psi$  and  $\Phi$  values
64. The term "dodecyl" in Sodium dodecyl sulfate represents
- (A) 10-carbon chain with an amino group
  - (B) 10-carbon chain with a hydroxyl group
  - (C) 12-carbon chain with an aromatic ring
  - (D) 12-carbon chain
65. In eukaryotic cells, the mRNA is transcribed from the nuclear DNA by
- (A) RNA polymerase I
  - (B) RNA polymerase III
  - (C) RNA polymerase II
  - (D) RNA polymerase IV

66. The nervous system in an adult animal is derived from which of the following germ layer?
- (A) Mesoderm
  - (B) Ectoderm
  - (C) Endoderm
  - (D) Meso-endoderm
67. Erythropoietin is mainly synthesized in
- (A) Heart
  - (B) Liver
  - (C) Kidney
  - (D) Spleen
68. The speciation where gene flow is interrupted due to division of a population into geographically isolated sub-populations is known as
- (A) Allopatric
  - (B) Sympatric
  - (C) Parapatric
  - (D) Neopatric
69. Choanocytes are found in one of the following phyla
- (A) Annelida
  - (B) Porifera
  - (C) Arthropoda
  - (D) Mollusca
70. Which of the following is used as a primary dye in acid-fast staining?
- (A) Safranin
  - (B) Methylene blue
  - (C) Carbol fuchsin
  - (D) Eosine
71. Which of the following amino acids is coded by three codons (AUU, AUC, AUA)?
- (A) Tryptophan
  - (B) Isoleucine
  - (C) Glycine
  - (D) Tyrosine

72. An animal whose body temperature varies with the environment is known as
- (A) Homeothermic
  - (B) Poikilothermic
  - (C) Endothermic
  - (D) Isothermic
73. Monotremes are
- (A) Mammals with a pouch
  - (B) Placental mammals
  - (C) Marine reptiles
  - (D) Egg-laying mammals
74. In the 1930s, which of the following organisms was used to formulate the “one gene-one enzyme” hypothesis?
- (A) *Neurospora crassa*
  - (B) *Drosophila melanogaster*
  - (C) *Homo sapiens*
  - (D) *Penicillium chrysogenum*
75. In the generalized life cycle of fungi, the union of the cytoplasm of two-parent mycelia refers to
- (A) Heterogamy
  - (B) Plasmogamy
  - (C) Karyogamy
  - (D) Oogamy
76. Skeletal muscle bundles are held together by a common connective tissue layer known as
- (A) Perimysium
  - (B) Fascia
  - (C) Aponeurosis
  - (D) Endomysium
77. The structural units of a compound eye of many insects, crustaceans and polychaete worms are called as
- (A) Ommatidia
  - (B) Rhabdom
  - (C) Cornea
  - (D) Simple eye

78. A severe mental disturbance characterized by psychotic episodes in which patients have a distorted perception of reality is called as
- (A) Depression
  - (B) Parkinson's disorder
  - (C) Alzheimer's disease
  - (D) Schizophrenia
79. The primary function of the sodium-potassium pump across the plasma membrane is
- (A) to move sodium in and potassium outside the cell
  - (B) to move both sodium and potassium outside the cell
  - (C) to move sodium out and potassium inside the cell
  - (D) to move both sodium and potassium inside the cell
80. Which of the following represents the correct order of events during the reproductive cycle of the human female?
- (A) FSH rise, ovulation, follicular phase, luteal phase, menstruation
  - (B) Menstruation, FSH rise, LH surge, ovulation, luteal phase
  - (C) Follicular phase, luteal phase, LH surge, ovulation, menstruation
  - (D) Luteal phase, menstruation, FSH rise, ovulation, proliferative phase
81. The elastic tissue which connects the Cauda epididymis to the scrotal sac is known as
- (A) Caput epididymis
  - (B) Scrotal ligament
  - (C) Gubernaculum
  - (D) Tendinous cord
82. The volume of air inhaled and exhaled with each breath during normal breathing is called as
- (A) Expiratory reserve volume
  - (B) Residual volume
  - (C) Inspiratory reserve volume
  - (D) Tidal volume
83. Which of the following breeds only once in its life time?
- (A) Dispersed
  - (B) Clumped
  - (C) Iteroparous
  - (D) Semelparous

84. Which of the following ecosystems consists of forest, grassland and deserts?
- (A) Terrestrial ecosystem
  - (B) Artificial ecosystem
  - (C) Aquatic ecosystem
  - (D) Natural ecosystem
85. The skeleton structure of all amino acids is same except for
- (A) Lysine
  - (B) Proline
  - (C) Glycine
  - (D) Alanine
86. What is the protein found in nail, hair and horns?
- (A) Collagen
  - (B) Keratin
  - (C) Hemoglobin
  - (D) Myoglobin
87. What bond stabilizes the double-helix of DNA?
- (A) Hydrophobic bond
  - (B) Covalent bond
  - (C) Hydrogen bond
  - (D) Ionic bond
88. Identify the unsaturated fatty acid.
- (A) Lauric
  - (B) Linoleic
  - (C) Palmitic
  - (D) Myristic
89. Megaloblastic anemia is caused by the deficiency of
- (A) Thiamine
  - (B) Pyridoxine
  - (C) Niacin
  - (D) Folic acid

90. Which of the following is a component of the coenzyme A?
- (A) Retinol
  - (B) Pantothenic acid
  - (C) Pyridoxine
  - (D) Folic acid
91. What is the SI unit of enzyme activity?
- (A) Km
  - (B) Kat
  - (C) K<sub>cat</sub>
  - (D) V<sub>max</sub>
92. Which of the following equations shows the relationship between free energy change ( $\Delta G$ ) and the change in entropy ( $\Delta S$ ), under constant temperature and pressure?
- (A)  $\Delta G = T\Delta H - \Delta S$
  - (B)  $\Delta G = T\Delta H / \Delta S$
  - (C)  $\Delta G = \Delta H / T\Delta S$
  - (D)  $\Delta G = \Delta H - T\Delta S$
93. Which of the following is an example of amphibolic pathway?
- (A) Glyoxylate
  - (B) Citric acid cycle
  - (C) Glycolysis
  - (D) Lipid metabolism
94. Which of the following was used in Engelmann's experiment to show photosynthetic activity?
- (A) *Spirogyra spp.*
  - (B) *Rhizopus stolonifer*
  - (C) *Cyanobacteria sp.*
  - (D) *Penicillium spp.*
95. The priming function in glycogen synthesis is done by which of the following molecules?
- (A) Lysine
  - (B) Arginine
  - (C) Glycogenin
  - (D) Glutamate



96. Triacylglycerol packed with the apolipoprotein and cholesterol in lipoprotein aggregate is known as
- (A) HDL
  - (B) Chylomicrons
  - (C) VLDL
  - (D) LDL
97. Which of the following is the energy source for the brain during starvation?
- (A) Fat
  - (B) Ketone bodies
  - (C) Protein
  - (D) Lipids
98. Which of the following pairs of amino acids is essential for infants?
- (A) Methionine and Glycine
  - (B) Valine and Serine
  - (C) Arginine and Histidine
  - (D) Lysine and Leucine
99. Name the type of cell in which synthesis of urea cycle takes places.
- (A) Pancreatic cell
  - (B) Bowman's gland cell
  - (C) Urinary epithelium cell
  - (D) Hepatocyte
100. What is the end product of purine degradation in mammals?
- (A) Guanine
  - (B) Inosine
  - (C) Uric acid
  - (D) Hypoxanthine
101. Which of the following genetic disorders is caused by the deficiency of enzyme HGPRT?
- (A) SCID
  - (B) Lesch-Nyhan syndrome
  - (C) Cystic fibrosis
  - (D) Down syndrome

102. Who discovered the cell by observing a piece of cork under a microscope?
- (A) Louis Pasteur
  - (B) Rudolf Virchow
  - (C) Anton van Leeuwenhoek
  - (D) Robert Hooke
103. Who discovered ribosome for the first time?
- (A) George Emil Palade
  - (B) Theodor Schwann
  - (C) Anton van Leeuwenhoek
  - (D) Robert Hooke
104. What is the largest single membrane-bound intracellular compartment?
- (A) Golgi apparatus
  - (B) Ribosome
  - (C) Nucleus
  - (D) Endoplasmic reticulum
105. The release of melanosomes from melanocytes is mediated by
- (A) Autophagy
  - (B) Endocytosis
  - (C) Exocytosis
  - (D) Pinocytosis
106. Which of the following carry two nuclei?
- (A) Slime molds
  - (B) Paramecium
  - (C) Cyanobacteria
  - (D) Amoeba
107. Which of the following organelles is used for aerobic respiration and ATP synthesis in *Entamoeba histolytica*?
- (A) Hydrogenosome
  - (B) Mitochondria
  - (C) Mitosome
  - (D) Peroxisome

108. The plant organelle that acts as the major site for oxidative reaction is
- (A) Peroxisome
  - (B) Mitochondria
  - (C) Chloroplast
  - (D) Thylakoid
109. Select the signal molecule that does **NOT** interact with cell surface receptor
- (A) Insulin
  - (B) Glucagon
  - (C) Testosterone
  - (D) Gastrin
110. The process of nuclear division is known as
- (A) Interkinesis
  - (B) Karyokinesis
  - (C) Polymerization
  - (D) Cytokinesis
111. The molecule used to determine the evolutionary relationship between taxonomic groups is
- (A) 23S rRNA
  - (B) 5S rRNA
  - (C) 18S rRNA
  - (D) 16S rRNA
112. Which of the following bacteria is pleomorphic?
- (A) *Mycobacteria*
  - (B) *Streptococcus*
  - (C) *Pseudomonas*
  - (D) *Corynebacterium*
113. Name the acid present in the cell wall of a bacterium that helps in retaining its colour during the acid-fast test
- (A) Teichoic acid
  - (B) Malic acid
  - (C) Mycolic acid
  - (D) Tartaric acid

114. Which of these is **NOT** a selective medium?
- (A) Eosin methylene blue agar
  - (B) MacConkey agar
  - (C) Blood agar
  - (D) Mannitol salt agar
115. The ability of an organism to resist infection by pathogen is called
- (A) Allergy
  - (B) Hypersensitivity
  - (C) Infection
  - (D) Immunity
116. Which of the following antibodies gives primary immune reaction?
- (A) IgA
  - (B) IgE
  - (C) IgG
  - (D) IgM
117. Which of the following cells is multipotent?
- (A) Hematopoietic stem cell
  - (B) T-cell
  - (C) B-cell
  - (D) Monocytes
118. An example of non-professional antigen presenting cells is
- (A) Macrophages
  - (B) B lymphocytes
  - (C) Fibroblast
  - (D) Dendritic cells
119. Who is known as the father of taxonomy?
- (A) Aristotle
  - (B) Carl Linnaeus
  - (C) Earnst Haeckel
  - (D) Robert Whittaker

120. Which of the following belongs to the class 'Phanerogamae'?
- (A) Angiosperm
  - (B) Bryophytes
  - (C) Pteridophytes
  - (D) Thallophyta
121. Which organisms have segmental nephridia for osmoregulation and excretion?
- (A) Aschelminthes
  - (B) Annelida
  - (C) Platyhelminthes
  - (D) Arthropoda
122. The tendency of two or more than two genes to stay together during inheritance is known as
- (A) Crossing over
  - (B) Gene interaction
  - (C) Genetics
  - (D) Linkage
123. Which of the following is **NOT** a sex-limited 'trait'?
- (A) Baldness
  - (B) Milk production
  - (C) Musculature
  - (D) Pitch of voice
124. The pedigree analysis is a
- (A) Linkage map
  - (B) Quantitative genetic analysis
  - (C) Polygene analysis
  - (D) Record of inheritance pattern
125. Alteration in which of the following chromosomes shows Down syndrome?
- (A) Sex chromosome
  - (B) 18
  - (C) 21
  - (D) 13

126. Rearrangement of DNA that involves the breakage and reunion of fragments is known as
- (A) Replication
  - (B) Recombination
  - (C) Translation
  - (D) Transcription
127. Name the repair system for UV-mediated damage of DNA
- (A) Nucleotide excision repair
  - (B) DNA glycosylase
  - (C) Exchange of homologous segments
  - (D) Photoreactivation
128. Which of the following is **NOT** a step of mRNA processing?
- (A) Polyadenylation
  - (B) Splicing of introns
  - (C) 5' capping
  - (D) RNA silencing
129. What is the detection technique of auxotrophs?
- (A) Spread plating
  - (B) Replica plating
  - (C) Pure culture technique
  - (D) Hybridization
130. What is the site of spermatogenesis?
- (A) Seminiferous tubules
  - (B) Epididymis
  - (C) Rete testis
  - (D) Vas deferens
131. Name the enzyme which cleaves dsDNA after recognizing specific nucleotide sequences
- (A) DNA polymerase
  - (B) Ligases
  - (C) RNase H
  - (D) Restriction endonuclease

132. Name the vector system used for plant genetic transformation
- (A) Cosmids
  - (B) M13 phage
  - (C) Ti plasmid
  - (D) Resistance plasmid
133. Which of the following is the unit of a genetic map?
- (A) Angstrom
  - (B) Nanometer
  - (C) Centimeter
  - (D) Centimorgan
134. What is supplemented with pro-vitamin A in order to improve its nutritional quality?
- (A) Tomato
  - (B) Potato
  - (C) Rice
  - (D) Cotton
135. The asexual mode of embryo formation is
- (A) Protoplast culture
  - (B) Callus culture
  - (C) Somatic embryogenesis
  - (D) Protoplast fusion
136. Who proposed the concept of 'essential mineral nutrients' of plants?
- (A) Arnon and Stout
  - (B) Carl Linnaeus
  - (C) Aristotle
  - (D) Leonhart Fuchs
137. Which of the following enzymes does **NOT** need Manganese for its activity?
- (A) Nitrogenase
  - (B) Arginase
  - (C) Superoxide dismutase
  - (D) Pyruvate carboxylase

138. Name the term which defines the plant movement by touch
- (A) Seismonasty
  - (B) Thigmonasty
  - (C) Nyctinasty
  - (D) Photonasty
139. Which of the following cells support, nourish and protect the neurons?
- (A) Ganglia
  - (B) Perikaryon
  - (C) Glial cells
  - (D) Nissl bodies
140. Name the part of the eye which produces aqueous fluid that fills the front part of the eye:
- (A) Ciliary body
  - (B) Cornea
  - (C) Vitreous humor
  - (D) Uvea
141. What is the name of the gland which secretes melatonin?
- (A) Pituitary gland
  - (B) Pineal gland
  - (C) Thyroid gland
  - (D) Hypothalamus
142. What is micturition?
- (A) Discharge of feces
  - (B) Discharge of sweat
  - (C) Discharge of urine
  - (D) Discharge of sperm
143. Which of the following is the energy source of the sperm?
- (A) Fructose
  - (B) Proteins
  - (C) Lipids
  - (D) Nucleic acids



144. The process which begins after fertilization is known as
- (A) Organogenesis
  - (B) Cleavage
  - (C) Spermiogenesis
  - (D) Embryogenesis
145. What is pedology?
- (A) Study of climate
  - (B) Study of leaves
  - (C) Study of soil
  - (D) Study of the effect of light on plant growth
146. Genetically different population with the same physical features is known as
- (A) Community
  - (B) Ecotype
  - (C) Ecads
  - (D) Ecosystem
147. Which of the following zones lies at the bottom of the sea?
- (A) Benthic
  - (B) Littoral
  - (C) Pelagic zone
  - (D) Neritic zone
148. Which type of anemia is responsible for the disease thalassemia?
- (A) Hemolytic anemia
  - (B) Aplastic anemia
  - (C) Hemorrhagic anemia
  - (D) Iron deficiency anemia
149. An apoenzyme is defined as
- (A) a protein portion of an enzyme
  - (B) a non-protein group
  - (C) a complete, biologically active conjugated enzyme
  - (D) a prosthetic group

150. Who is referred to as 'Father of Genetics'?

- (A) Gregor Johann Mendel
- (B) Erich Tschermak
- (C) Hugo de Vries
- (D) Carl Correns

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## FINAL ANSWER KEY

**Subject Name: 611 LIFE SCIENCE**

SI No.	Key	SI No.	Key	SI No.	Key	SI No.	Key	SI No.	Key
1	D	31	A	61	B	91	B	121	B
2	B	32	C	62	D	92	D	122	D
3	A	33	D	63	B	93	B	123	A
4	A	34	C	64	D	94	A	124	D
5	C	35	B	65	C	95	C	125	C
6	A	36	C	66	B	96	B	126	B
7	A	37	D	67	C	97	B	127	D
8	C	38	C	68	A	98	C	128	D
9	D	39	C	69	B	99	D	129	B
10	B	40	B	70	C	100	C	130	A
11	D	41	D	71	B	101	B	131	D
12	B	42	A	72	B	102	D	132	C
13	A	43	D	73	D	103	A	133	D
14	A	44	C	74	A	104	D	134	C
15	A	45	C	75	B	105	C	135	C
16	B	46	D	76	B	106	B	136	A
17	B	47	D	77	A	107	C	137	A
18	D	48	B	78	D	108	A	138	B
19	C	49	B	79	C	109	C	139	C
20	A	50	B	80	B	110	B	140	A
21	B	51	C	81	C	111	D	141	B
22	B	52	B	82	D	112	D	142	C
23	A	53	C	83	D	113	C	143	A
24	D	54	B	84	A	114	C	144	D
25	D	55	A	85	B	115	D	145	C
26	A	56	D	86	B	116	D	146	B
27	D	57	A	87	C	117	A	147	A
28	D	58	A	88	B	118	C	148	A
29	A	59	B	89	D	119	B	149	A
30	B	60	C	90	B	120	A	150	A