

# BIOLOGY INTER PART-II

## (OBJECTIVE PART)

1. A plant is adapted to remove the flooding of its cells in fresh water:  
(A) Mesophyte (B) Cactus (C) Hydrophyte (D) Xerophyte
2. They have adaptations for reduced rate of transpiration:  
(A) Hydrophytes (B) Xerophytes (C) Mesophytes (D) Bryophytes
3. The category of plants that has adaptation of small and thick leaves to limit water loss is called:  
(A) Hydrophytes (B) Xerophytes (C) Mesophytes (D) Agrophytes
4. The more concentrated external environment is termed as:  
(A) Hypertonic (B) Hypotonic (C) Isotonic (D) Paratonic
5. A diluted solution compared to the cell concentration is termed as:  
(A) Hypertonic (B) Hypotonic (C) Isotonic (D) Paratonic
6. Among the vertebrates, hag fishes are isotonic with the surrounding:  
(A) Fresh water (B) Sea water (C) Pond water (D) River water
7. Hag fishes are:  
(A) Osmoregulators (B) Isotonic (C) Hypertonic (D) Hypotonic
8. Which part of the plant body serves excretophores?  
(A) Stem (B) Leaves (C) Roots (D) Bark
9. 1 g of ammonia nitrogen requires how much water for excretion:  
(A) 50 ml (B) 100 ml (C) 250 ml (D) 500 ml
10. Animals excreting urea are called:  
(A) Ammonotelic (B) Aminotelic (C) Ureotelic (D) Uricotelic
11. The excretory product that requires maximum water for its removal is:  
(A) Ammonia (B) Creatinine (C) Urea (D) Uric Acid
12. Nitrogenous waste is very toxic and dissolves quickly in body fluid is:  
(A) CO<sub>2</sub> (B) Urea (C) Ammonia (D) Uric
13. The excretory product which require minimum water for its removal:  
(A) Urea (B) Uric acid (C) Creatinine (D) Ammonia
14. Flame cells are part of excretory system of:  
(A) Hydra (B) Cockroach (C) Planaria (D) Earthworm
15. Animals of the group of flatworms have simple tubular excretory system called as:  
(A) Kidney (B) Nephron (C) Nephridia (D) Protonephridium
16. The planaria flatworm have simple tubular excretory system known as:  
(A) Protonephridium (B) Metanephridium  
(C) Mesonephridium (D) Prenephridium
17. Cockroach excrete nitrogenous wastes in the form of:  
(A) Ammonia (B) Urea (C) Uric acid (D) Allantoin
18. Excretory structure present in cockroach are:  
(A) Contractile vacuole (B) Malpighian tubules  
(C) Nephridia (D) Flame cells
19. Nephridia are the excretory structures present in:  
(A) Hydra (B) Planaria (C) Cockroach (D) Earthworm
20. The Removal of Sebum on the Skin is for:  
(A) Nutrition (B) Excretion  
(C) Protection (D) Thermoregulation
21. Number of Ammonia molecules required to produce one molecule of urea is:  
(A) 01 (B) 02 (C) 03 (D) 04
22. The chief nitrogenous waste in birds and reptiles is:  
(A) NH<sub>3</sub> (B) Urea (C) Uric Acid (D) Creatinine

23. **Liver acts as a store house of:**  
 (A) Bile                      (B) Albumin    (C) R.B.Cs                      (D) Iron
24. **Liver also has numerous crucial functions of:**  
 (A) Osmoregulation                       (B) Homeostasis  
 (C) Excretion                      (D) Themoregulation
25. **Among vertebrates uric acid is the chief nitrogenous waste in birds and**  
 (A) Fishes                      (B) Amphibians                       (C) Reptiles                      (D) Mammals
26. **The compound which take part in urea cycle is:**  
 (A) Adenine    (B) Guanine                       (C) Citrulline    (D) Thymine
27. **Which organ is the central station of metabolism:**  
 (A) Kidney                      (E) Liver                      (C) Pancreas    (D) Stomach
28. **Urine leaves the kidney through adduct called:**  
 (A) Urettra                      (B) Pelvis                       (C) Ureter                      (D) Nephron
29. **Pressure filtration in kidney specifically occurs at:**  
 (A) Bowman's capsule                      (B) Loop of henle
30. **The active uptake of sodium ions in the loop of Henle is provided by the action of hormone:**  
 (A) Insulin                       (B) Aldosterone                      (C) Oxytocin    (D) Adrenaline
31. **Non-surgical removal of kidney stone is called:**  
 (A) Dialysis     (B) Lithotripsy                      (C) Uremia                      (D) Kidney transplant
32. **High degree of renal failure is also called as:**  
 (A) Uremia                      (B) Leukemia    (C) Anemia                      (D) Lithotripsy
33. **The incidence of calcium oxalate types stones of Kidney is:**  
 (A) 40 %                      (B) 50%                      (C) 60%                       (D) 70%
34. **Abdomen has a peritoneal cavity, lined by a thin epithelium called:**  
 (A) Ectoderm                      (B) Endoderm     (C) Peritoneum                      (D) Epidermis
35. **The incidence of uric acid kidney stones is:**  
 (A) 10%                      (8) 15%                      (C) 20%                      (D) 70%
36. **Most land mammals respond to cold by raising their:**  
 (A) Skin                       (B) Furs                      (C) Bristies                      (D) Spines
37. **Which one of the following is an Endotherm:**  
 (A) Birds                      (B) Bat                      (C) Humming Bird                      (D) Reptiles
38. **Which one of the following is an ectothem:**  
 (A) Brid                      (B) Huming bird                       (C) Amphibain                      (D) Bat
39. **Chemical that cause fever and are produced from blood cells are:**  
 (A) Bilirubin    (B) Interferons     (C) Pyrogens    (D) Anti boidies
40. **Human body temperature is controlled by:**  
 (A) Hypothalamus    (B) Pons                      (C) Medulla                      (D) Cerebellum
41. **The nature of shivering thermogenesis adaptation is:**  
 (A) structural     (B) physiological                      (C) psychological                      (D) behavioural
42. **Bundle caps in sunflower stem, are formed by:**  
 (A) Sclerenchyma                      (B) Parenchyma  
 (C) Mesenchyma                      (D) Collenchyma
43. **Turgor pressure is generated by high osmotic pressure in plants cell:**  
 (A) Cytoplasm                       (B) Vacuole    (C) Mitochondria                      (D) Chloroplast
44. **The collenchymas cells have protoplast and usually lack.**  
 (A) Primary wall                       (B) Secondary wall  
 (C) Middle Lemella                      (D) Vacuole
45. **The membrane that bounds vacuole is called:**  
 (A) Tonoplast    (B) Leucoplat    (C) Chromoplast                      (D) Chloroplast
46. **Angular thickenings in their primary walls are present in:**  
 (A) Parenchyma                       (B) Collenchyma  
 (C) Sclerenchyma                      (D) Tracheids
47. **An increase in plant girth due to activity of vascular cambium is called:**  
 (A) Primary growth                       (B) Secondary growth

- (C) Sap wood (D) Heart wood
48. **The Sclerenchyma cells found in seed coats and nut shells are the:**  
 (A) Fibres (B) Vessels  (C) Tracheids (D) Scleriedes
49. **This type of wood is most resistant to decay and insect attack.**  
 (A) Heart wood (B) Sapwood (C) Cork (D) Bark
50. **The sclerenchyma has thick secondary walls usually impregnated with:**  
 (A) Chitin (B) Pectin (C) Silica  (D) Lignin
51. **The movement in response to stimulus of touch i.e. Climbing vines is called:**  
 (A) Hydrotropism  (B) Thigmotropism  
 (C) Phototropism (D) Geotropism
52. **Haptonastic movements occur in response to:**  
 (A) Contact (B) Chemical (C) Temperature (D) Water
53. **Action of the Venus fly trap is:**  
 (A) Nyctinasty (B) Photonasty  (C) Haptonasty (D) Thermonasty
54. **Movement shown by sperms of liver worts, mosses and ferns towards archegonia is a:**  
 (A) Chemotactic movement (B) Photoactic movement  
 (C) Chemotropic movement (D) Phototropic movement
55. **Which bone provide attachment site for muscle:**  
 (A) Compact bone (B) Spongy bone  
 (C) Soft bone (D) Cartilage
56. **The process of moulting is controlled by the nervous system and a hormone called:"**  
 (A) Aldosterone (B) Androgen  
 (C) Ecdysone (D) Oxytocin
57. **Mature bone cells are called as:**  
 (A) Osteocytes (B) Osteoblasts  
 (C) Chondrocytes (D) Blastocytes
58. **Define Cartilage. What are two types of cartilage?**  
 (A) Humerus (B) Femus (C) Tibia  (D) Rib
59. **The number of cervical vertebrae are:**  
 (A) 07 (B) 12 (C) 33 (D) 22
60. **The fusion of four posterior vertebrae present in the pelvic region form:**  
 (A) Sacrum (B) Lumbar  (C) Coccyx (D) Chest cage
61. **All of the following bones are associated with coxal bones, except:**  
 (A) Ilium (B) Ischium (C) Pubis  (D) Clavicle
62. **The joints that allows movement in several directions is called:**  
 (A) Fibrous Joint (B) Synovial Joint  
 (C) Hinge Joint  (D) Ball and Socket Joint
63. **Sciatica is characterized by stabbing pain radiating over the course of:**  
 (A) Sciatic artery  (B) Sciatic nerve  
 (C) Sciatic vein (D) Sciatic capillary
64. **Which one of the following is not a joint disease:**  
 (A) Arthritis  (B) Sciatica (C) Disc Slip (D) Spondylosis
65. **A disease which causes immobility and fusion of vertebral joint is called:**  
 (A) Disc Slip (B) Sciatica (C) Arthritis  (D) Spondylosis
66. **The inflammatory degenerative disease of joint is:**  
 (A) Arthritis (B) Sciatica (C) Herniation (D) Spondylosis
67. **The beginning of bone formation, starts after injury:**  
 (A) 3-4 months (B) 2-3 months (C) 8 weeks (D) 8-12 weeks
68. **Trpomyosin is a complex of how many polypeptide chains?**  
 (A) Single  (B) Double (C) Triple (D) None
69. **The disease caused by low calcium in blood is called:**  
 (A) Tetanus (B) Cramp (C) Sciatica  (D) Tetany
70. **Which is the end of muscle which remains fixed when the muscle contracts?**  
 (A) Insertion  (B) Origin (C) Tendon (D) Belly

71. There are \_\_\_\_\_ muscles in the human body most of which occur in pairs:  
 (A) 650       (B) 630       (C) 660       (D) 645
72. What is mortality rate in developing countries due to Tetanus?  
 (A) 35%       (B) 40%       (C) 45%       (D) 50%
73. Which animal shows digitigrade mode of locomotion?  
 (A) Bear       (B) Dear       (C) Rabbit       (D) Horse
74. A respiratory protein found in all aerobic species is:  
 (A) Cytochrome 'a'       (B) Cytochrome 'b'  
 (C) Cytochrome 'c'       (D) Cytochrome 'd'
75. Which animal moves by jet-propulsion?  
 (A) Earth worm       (B) Star Fish       (C) Snail       (D) Jelly Fish
76. Euglena moves with the help of:  
 (A) Cilium       (B) Pseudopodium       (C) Myonemes       (D) Flagellum
77. The diameter of cilia ranges from:  
 (A) 0.1 to 0.5  $\mu\text{m}$        (B) 0.1 to 0.5 mm  
 (C) 0.36 to 0.8  $\mu\text{m}$        (D) 0.3 to 0.8 mm
78. The mammals who walk on tips of the toes, modified into hooves are termed as:  
 (A) Plantigrades       (B) Unguligrades  
 (C) Digitigrades       (D) Brachigrades
79. The supracoracoid muscles provide power for the:  
 (A) Upward Stroke       (B) Downward Stroke  
 (C) Recovery Stroke       (D) Neutral Stroke
80. Digitigrade mammals tend to walk on their:  
 (A) Jelly fish       (B) Silver fish       (C) Cuttle fish       (D) Star fish
81. The plant hormone that inhibit the growth of lateral shoots:  
 (A) Auxins       (B) Gibberellins       (C) Cytokinins       (D) Ethene
82. Promotes closing of Stomata under conditions of water stress:  
 (A) Auxins       (B) Gibberellins       (C) Cytokinins       (D) Abscisic acid
83. Ethene induce flowering in:  
 (A) Banana       (B) Rose       (C) Pine-apple       (D) Orange
84. Nissl's granules are group of:  
 (A) Mesosomes       (B) Lysosomes       (C) Ribosomes       (D) Chromosomes
85. The processes conducting impulses away from the cell body are called:  
 (A) Dendrites       (B) Dendron       (C) Nissl's granulis       (D) Axon
86. The sensation of pain is produced by:  
 (A) Chemoreceptors       (B) Photoreceptors  
 (C) Nociceptors       (D) Mechanoreceptors
87. Nociceptors produce sensation of:  
 (A) Touch       (B) Pain       (C) Warmth       (D) Pressure
88. Resting membrane potential of a neuron is:  
 (A) 50 mv       (B) -60 mv       (C) -70 mv       (D) -80 mv
89. In neurons the message is transmitted across synapse in the form of chemical messenger called:  
 (A) Neurotransmitters       (B) Communication  
 (C) Nerve Impulse       (D) Synaptic Vesicle
90. The number of spinal nerve in man is:  
 (A) 24       (B) 62       (C) 12       (D) 31
91. Diffused nervous system is found in:  
 (A) Poriferans       (B) Platyhelminthes       (C) Cnidarians       (D) Annelids
92. The largest part of brain is:  
 (A) Hypothalamus       (B) Cerebellum       (C) Cerebrum       (D) Pons
93. In human mid brain is:  
 (A) Reduced       (B) Enlarged       (C) Swollen       (D) Broken
94. The structure in human brain which control hunger is:  
 (A) Amygdala       (B) Hippocampus       (C) Thalamus       (D) Hypothalamus

95. Alzheimer's disease is:  
 (A) Physical illness (B) Mental illness  
 (C) Renal illness (D) Pulmonary illness
96. Alzheimer's disease is characterized by the decline in the function of:  
 (A) Brain (B) Liver (C) Kidney (D) Stomach
97. Effective drug available for Parkinson's disease is:  
 (A) Nicotine (B) GDNF (C) AZT (D) L-dopa
98. Endocrine glands secrete:  
 (A) Hormones (B) Salts (C) Enzymes (D) Mucous
99. Which hormone is chemically steroid?  
 (A) ADH (B) Corticosterone (C) Thyroxine (D) Insulin
100. The corpus luteum secretes a hormone called:  
 (A) Oxytocin (B) Progesterone (C) Oestrogen (D) Testosterone
101. Insulin and glucagon hormones are in nature:  
 (A) Carbohydrates (B) Proteins  
 (C) Steroids (D) Polypeptides
102. Ovulation is induced by:  
 (A) FSH (B) LH (C) Estrogen (D) Progesterone
103. Excess thyroxine produces a condition called:  
 (A) Cretinism (B) Dwarfism (C) Grave's disease (D) Cushing's disease
104. Kohler used chimpanzee to prove:  
 (A) Habituation (B) Imprinting (C) Latent Learning (D) Insight learning
105. The form of learning which involve a diminish of response to repeated stimuli.  
 (A) Imprinting (B) Habituation (C) Conditioning (D) Latent learning
106. Higher from the learning is the:  
 (A) Conditioned reflex type-I (B) Imprinting  
 (C) Insight learning (D) Latent learning
107. Fruit development without fertilization is \_\_\_\_\_:  
 (A) Dormancy (B) Climacteric  
 (C) Parthenocarpy (D) Parthenogenesis
108. Parthenocarpy is sometimes artificially induced in tomato, peppers etc, by adding:  
 (A) Auxins (B) Cytokinins (C) Abscisic Acid (D) Ethene
109. Vehicle for transport of male gamete in land plants is:  
 (A) Water (B) Pollen tube (C) Pollen grain (D) Wind
110. Developing seeds are a rich source of:  
 (A) Auxin (B) Gibberellins (C) Cytokinins (D) All of these
111. Reproduction is very important to the survival of:  
 (A) Species (B) Individual (C) Population (D) Community
112. Fruit ripening is often accompanied by burst of respiratory activity called:  
 (A) Apomixes (B) Climacteric  
 (C) Photoperiodism (D) Endosperm
113. Evolution of pollen tube is parallel to the evolution of:  
 (A) Stem (B) Leaves (C) Flower (D) Seed
114. P500 is quiescent form, is converted to active p730 by the absorption of:  
 (A) Blue light (B) Red light (C) Yellow light (D) Far red light
115. The light which promotes germination of fern spores:  
 (A) Green (B) White (C) Blue (D) Red
116. Which is a long day plant?  
 (A) Soyabean (B) Henbane (C) Tomato (D) Cucumber
117. Photoperiod affects flowering meristems start producing:  
 (A) Floral buds (B) Leaves (C) Lateral buds (D) Branches
118. Cucumber, tomato, garden pea, maize, cotton are example of:  
 (A) Short day plant (B) long day plant  
 (C) Day- neutral plant (D) Night-neutral plant

119. Example of Day Neutral plant is:  
 (A) Tomato      (B) Soyabean    (C) Xanthium    (D) Chrysanthium
120. In nature to P730 to P660 Conversion occurs in:  
 (A) Dark      (B) Light      (C) Morning    (D) Evening
121. Type of asexual reproduction:  
 (A) Fertilization    (B) Vernalization     (C) Apomixes    (D) Photoperiodism
122. The animals that lay shelled eggs to protect the developing embryo are called:  
 (A) Oviparous      (B) Viviparous  
 (C) Ovoviviparous    (D) Egg laying mammals
123. Fertilization is the process which leads to the union of:  
 (A) Individuals     (B) Gametes    (C) Sperms      (D) Eggs
124. In honey bee, males are haploid and produce sperms by:  
 (A) Mitosis      (B) Meiosis      (C) Apomixis    (D) Parthenogenesis
125. Haploid males produce sperms by mitosis:  
 (A) Honey bee      (B) Earth worm      (C) Hydra      (D) Man
126. The hormone responsible for production of sperm cells and male secondary sexual characteristics during puberty is:  
 (A) Progesterone     (B) Testosterone    (C) Thyroxin    (D) Estrogen
127. Discharge of egg from the Ovary is called:  
 (A) Oogenesis       (B) Ovulation  
 (C) Gametogenesis    (D) Spermatogenesis
128. The first convoluted part of vas deferens is called:  
 (A) Epididymis      (B) Penis      (C) Scrotum    (D) Sperm
129. The release of ovum from the ovary is called  
 (A) Ovulation      (B) Menstruation    (C) Follicle atresia    (D) Menace
130. Decrease of FSH and increase of estrogen causes the pituitary gland to secrete:  
 (A) LH      (B) LTH      (C) TSH      (D) ACTH
131. Oestrus cycle, a reproductive cycle is found in all females except:  
 (A) Cat      (B) Cow       (C) Human being    (D) Lion
132. The yellowish glandular structure corpus luteum, starts secreting a hormone:  
 (A) LH      (B) FSH      (C) Oestrogen     (D) Progesterone
133. Towards the end of pregnancy, the reduction in progesterone level, stimulates pituitary gland to produce:  
 (A) Oxytocin    (B) Oestrogen    (C) Androgen    (D) Pro lactin
134. Average loss of blood during birth in human female is about:  
 (A) 350 cm<sup>3</sup>    (B) 350 cm<sup>2</sup>       (C) 350 cm      (D) 350 ml
135. In human female the total gestation period is female is usually about  
 (A) 280 days    (B) 280 weeks    (C) 28 months    (D) 360 days
136. The hormones that induces Labour pain:  
 (A) Lactogen     (B) Oxytocin    (C) LH      (D) LTH
137. The human embryo is referred to as the fetus, from beginning of:  
 (A) 3<sup>rd</sup> Month    (B) 3<sup>rd</sup> Week    (C) 6<sup>th</sup> Month    (D) 6<sup>th</sup> Week
138. Lutealizing hormone in human female induces:  
 (A) Menstruation    (B) Menopause    (C) Oogenesis     (D) Ovulation
139. Primary growth in plants is caused by:  
 (A) Apical meristem      (B) Lateral meristem  
 (C) Intercalary meristem    (D) Rib meristem
140. Intercalary meristems are situated at:  
 (A) Root Apex      (B) Shoot Apex  
 (C) Base of Internode    (D) Top of Internode
141. Secondary growth leads to an increase in the diameter if the:  
 (A) Stem      (B) Root      (C) Leaf       (D) Stem and Root
142. The meristems that are found at the tips of roots and shoots are called:  
 (A) Lateral meristems      (B) Intercalary meristems

- (C) Secondary meristems (D) Apical meristems
143. The removal of apex releases those Lateral buds from the apical dominance. It is called:  
 (A) Inhibitory effect (B) Compensatory  
 (C) Apical dominance (D) Reproduction
144. The mesodermal cells do not invaginate but migrate medially and caudally from both and create a midline thickening called:  
 (A) Hensen's Node (B) Primitive streak (C) Epiblast (D) Hypoblast
145. Immediately after fertilization, the egg under goes a series of mitotic divisions called:  
 (A) Morulla (B) Gastrulation (C) Cleavage (D) Blastula
146. The Shell, over chick egg is secreted as it passes through:  
 (A) Ovary (B) Oviduct (C) Uterus (D) Cloaca
147. The cavity formed between somatic and splanchnic mesoderm is:  
 (A) Archeenteron (B) Hensen's node (C) Coelom (D) Neurocoel
148. Hatching period of chick is:  
 (A) 15 days (B) 18 days (C) 21 days (D) 28 days
149. Somites are formed and organized by:  
 (A) Ectoderm (B) Mesoderm (C) Endoderm (D) Blastoderm
150. The discoidal cap of cells above the blastocoele is called:  
 (A) Ectoderm (B) Mesoderm (C) Endoderm (D) Blastoderm
151. The pigment free area that appears at the time of fertilization is called:  
 (A) Embryo (B) Yolk (C) Gray crescent (D) White cytoplasm
152. The grey equatorial cytoplasm in fertilized egg of ascidian produce:  
 (A) Gut (B) Muscle Cells (C) Larval epidermis (D) Notochord tube
153. Gray vegetal cytoplasm gives rise to:  
 (A) Gut (B) Muscle Cells (C) Larval epidermis (D) Notochord  
 (A) Muscle Cells (B) Gut (C) Larval epidermis (D) Notochord
154. The negative physiological changes in our body are said to be:  
 (A) Maturation (B) Childhood (C) Aging (D) Death
155. Unspecialized cells, neoblast are always present in body of:  
 (A) Salamander (B) Planaria (C) Newt (D) Lizard
156. The unspecialized cells present in flatworms and planaria are:  
 (A) Neoblast (B) Osteoblast (C) Osteoclast (D) Chondrocyte
157. Chromosomes appear inside the nucleus at the time of:  
 (A) Cell Division (B) Cell Elongation  
 (C) Cell maturation (D) Cell differentiation
158. The base pairs in human genome are:  
 (A) Two billion (B) Three billion (C) Four billion (D) Five billion
159. Highly condensed portions of the chromatin are called:  
 (A) Homochromatin (B) Euchromatin  
 (C) Heterochromatin (D) Achromatin
160. The particular array of chromosomes that an individual possess is called its:  
 (A) Genotype (B) Phenotype (C) Karyotype (D) Epistasis
161. In 1882, chromosomes were first observed by:  
 (A) John E Brown (B) T.H. Morgan  
 (C) Walter Fleming (D) Walther Sutton:
162. Walther Fleming first discovered chromosomes in the dividing cells of:  
 (A) Frog Larvae (B) Sea Urchin Larvae  
 (C) Insect Larvae (D) Salamander Larvae
163. Transfer of genetic material from one cell to other that can alter the genetic make-up of recipient cell is called:  
 (A) Transformation (B) Translation  
 (C) Transcription (D) Replication
164. X-Ray diffraction analysis of DNA was performed by:  
 (A) Erwin Chargaff (B) Watson & Crick

- Rosalind Franklin (D) Charles Darwin
165. **Pentose sugar in the molecule of DNA is:**  
 (A) Ribose  Deoxyribose (C) Lactose (D) Sucrose
166. **The strand which replication towards the replication fork is:**  
 Leading (B) Lagging (C) Okazaki (D) Primer
167. **In 1953, F.Sanger described the sequence of Amino Acids of:**  
 (A) Myoglobin (B) Keratin  Insulin (D) Globulin
168. **In sickle cell anemia code for glutamic acid is replaced by:**  
 Leucine (B) Histidine (C) Valine (D) Proline
169. **OR Which strand of DNA is transcribed?**  
 (A) Coding strand (B) Sense strand  
 Antisense strand (D) Conservative strand
170. **One of the given does not code for any amino acid:**  
 (A) AUG (B) ACU (C) GAU  UAA
171. **In bacteria, human and all living organism, AGA specifies:**  
 (A) Phenylalanine (B) Leucine (C) Methionine  Arginine
172. **Nerve cells and eye lens cells remain in \_\_\_\_\_ stage for life time:**  
 (A) G<sub>1</sub> (B) G<sub>2</sub>  G<sub>0</sub> (D) S
173. **The period of life cycle of cell between two consecutive divisions is termed as:**  
 (A) Resting phase  Inter phase (C) G<sub>1</sub> phase (D) G<sub>2</sub> Phase
174. **In the case of human cell, average cell cycle is about:**  
 24 hours (B) 26 hours (C) 28 hours (D) 30 hours
175. **Full cell cycle in yeast cells has length of:**  
 (A) 30 minutes (B) 60 minutes (C) 90 minutes  120 minutes
176. **Post mitotic cells can exist the cell cycle during:**  
 (A) G<sub>0</sub> -phase  G<sub>1</sub> - phase (C) S-phase (D) G<sub>2</sub>-phase
177. **Chromosomal Doubling Occurs in:**  
 (A) G<sub>1</sub> phase  S phase (C) G<sub>2</sub> phase (D) G<sub>0</sub>-phase
178. **RNA and protein called:**  
 (A) Insulin  Tubulin (C) Actin (D) Myosin
179. **The microtubule is composed of traces of RNA and protein called:**  
 (A) Myosin (B) Troponin (C) Actin  Tubulin
180. **The microtubules are composed of a protein tubulin and traces of:**  
 (A) DNA  RNA (C) Lipids (D) Terpenoids
181. **During cell division, the nuclear division is called:**  
 (A) Cytokinesis  Karyokinesis (C) Karyotype (D) Plasmolysis
182. **Contractile ring in cytokinesis is formed by:**  
 (A) Tubulin  Actin & Myosin (C) Keratin (D) Cyclin
183. **Each bivalent consists of four:**  
 (A) Chromosomes  Chromatids (C) Chiasmata (D) Spores
184. **The chromatin material gets condensed by folding and chromosomes appear as thin thread in mitosis at the beginning of:**  
 (A) In e.p.hase  Prophase (C) Metaphase (D) Anaphase
185. **The tumor which is localized and not transferred to other body parts:**  
 (A) Malignant  Benign (C) Apoptosis (D) Necrosis
186. **Which one sub-stage of prophase-I of Meiosis-I lasts for days, week or even years?**  
 (A) Zygotene (B) Leptotene  Pachytene (D) Diplotene
187. **In which stage of Meiosis, crossing over occur:**  
 (A) Leptotene  Pachytene (C) Zygotene (D) Anaphase
188. **The stage of prophase that last for days, week or even year is:**  
 (A) Leptotene (B) Zygotene  Pachytene (D) Diplotene
189. **The prophase stage in which the chromosomes become visible, shorten and thick:**  
 Leptotene (B) Zygotene (C) Pachytene (D) Diplotene
190. **In which stage of Meiosis, the paired chromosomes repel each other and begin to separate:**



- (A) Leptotene (B) Zygotene  (C) Diplotene (D) Pachytene
191. **The condensation of chromosomes reaches to its maximum during**  
 (A) Pachytene (B) Zygotene (C) Diakinesis  (D) Leptotene
192. **Synapsis occurs during:**  
 (A) Pachytene (B) Leptotene  (C) Zygotene (D) Diplotene
193. **Unequal separation of chromosomes is called:**  
 (A) Disjunction (B) Separation  (C) Non-disjunction (D) Metastasis
194. **Plasmids were discovered while studying the sex life of:**  
 (A) E.Coli (B) Hyphomicrobium  
 (C) Vibriofii (D) Mycobacterium
195. **Cell death due to tissue damage is called:**  
 (A) Apoptosis (B) Metastasis  (C) Necrosis (D) Suicide
196. **Apoptosis is:**  
 (A) Division of cells (B) Death of Cells by tissue damage  
 (C) Suicide of cells (D) Weakness of cells
197. **Programmed and organized process of cell death is also called as:**  
 (A) Apoptosis (B) Necrosis (C) Cyclosis (D) Chlorosis
198. **The position of gene one chromosome is called its:**  
 (A) Allele (B) Phenotype  (C) Locus (D) Genotype
199. **The genes found in a breeding population constitute:**  
 (A) Genotype (B) Genome (C) Gene frequency  (D) Gene Pool
200. **Expression of a trait is termed as:**  
 (A) Genotype  (B) Phenotype (C) Wild type (D) Dominance
201. **Mendelian factors were renamed as "genes" by:**  
 (A) Mendel  (B) Correns (C) Johannsen (D) Morgan
202. **The cross which is used to find out the homozygous or heterozygous nature of the genotype is called:**  
 (A) Test cross (B) Reciprocal cross  
 (C) Monohybrid cross (D) Dihybridcross
203. **Different alleles of a gene that are both expressed in a heterozygous condition are called:**  
 (A) Codominant (B) Over dominant  
 (C) Complete dominant (D) Incomplete dominant
204. **MN Blood group is example of:**  
 (A) Complete dominance  (B) Co dominance  
 (C) Incomplete dominance (D) Over dominance
205. **RH Blood group system is named after:**  
 (A) Discoverer  (B) Rhesus monkey (C) A Patient (D) Rhinoceros
206. **The individuals called universal recipients have \_\_\_\_\_.**  
 (A) A blood group (B) B blood group  
 (C) O blood group  (D) AB blood group
207. **In 1901, ABC group system was discovered by:**  
 (A) Punnet  (B) Karl Landsteiner (C) Bern Stein (D) Wiener
208. **A person having neither antigen A nor B would have blood group:**  
 (A) O (B) A (C) B (D) AB
209. **Human skin colour is controlled by gene pairs:**  
 (A) Two to Four  (B) Three to Six (C) Four to Six (D) Six to Ten
210. **A gamete without any sex chromosome is called:**  
 (A) Homogamete (B) Heterogamete  
 (C) Isogamete  (D) Nullogamete
211. **The sex chromosomes were discovered by:**  
 (A) Sutton  (B) Morgan (C) Jordan (D) Correns
212. **The true colour blindness is:**  
 (A) Monochromacy (B) Dichromacy  
 (C) Tetrachromacy (D) Trichromacy

213. Green colour blindness is called:  
 (A) Deuteranopia     (B) Protanopia     (C) Tritanopia     (D) Colour blind
214. The gene that triggers towards maleness is:  
 (A) TFM     (B) SRY     (C) MODY     (D) BOB
215. Hypophosphatemic rickets in an \_\_\_\_\_ trait:  
 (A) X – Linked     (B) Y – Linked     (C) X and Y Linked     (D) An Autosomal
216. The maturity on set diabetes of the young is:  
 (A) An autosomal recessive trait     (B) An autosomal dominant trait  
 (C) A sex linked trait     (D) A sex influenced trait
217. The enzymes which are used to cut out the gene of interest are known as:  
 (A) DNA ligase     (B) DNA polymerase  
 (C) RNA polymerase     (D) Restriction Endonuclease
218. Eco RI is a commonly used:  
 (A) Gene     (B) Restriction Enzyme     (C) Bacteriophage     (D) Bacteria.
219. PSC 101 has antibiotic resistance gene for:  
 (A) Tetracycline     (B) Ampicillin     (C) Neomycin     (D) Ergotine
220. Recombinant DNA is introduced into the host cell  
 (A) phage     (B) vector     (C) bacterium     (D) fungus
221. Taq polymerase enzyme present in:  
 (A) Fungi     (B) Bacteria     (C) Alga     (D) Bacterium
222. Organisms that have had a foreign gene inserted into them are called:  
 (A) Transgenic Organism     (B) Hermaphrodites  
 (C) Polygenesis     (D) Transmuted organisms
223. Anti -Thrombin III is a biotechnological product produced by:  
 (A) Sheep     (B) Goat     (C) Mice     (D) Cow
224. Urine is preferable vehicle for a biotechnology product than:  
 (A) Milk     (B) Blood     (C) Plasma     (D) Tissue Fluid
225. Transgenic bacteria are produced in large vats called:  
 (A) transducer     (B) bioreactor     (C) biomultiplier     (D) Culter media
226. Cystic fibrosis lack a gene that codes for trans-membrane carrier of:  
 (A) Chloride ion     (B) Sodium ion     (C) Calcium ion     (D) Magnesium ion
227. Patients of cystic fibrosis numerous infections of:  
 (A) Digestive tract     (B) Excretory tract  
 (C) Respiratory tract     (D) Reproductive tract
228. An antibody made by soya beans can be used as treatment for:  
 (A) AIDS     (B) Herpes simple     (C) Genital Herpes     (D) Hepatitis C
229. The enzyme luciferase is produced commonly known as the:  
 (A) House fly     (B) Butterfly     (C) Caddis fly     (D) Fire fly
230. The ultimate source of changes is:  
 (A) Evolution     (B) Mutation     (C) Genetic drift     (D) Migration
231. Among the scientists who believed in divine creation was:  
 (A) Lamark     (B) Darwin     (C) Carolus Linnaeus     (D) Hyell
232. Lyell published the principle of \_\_\_\_\_ :  
 (A) Population     (B) Community     (C) Biome     (D) Geology
233. An essay on the principle of population was published by:  
 (A) Darwin     (B) Wallace     (C) Linnaeus     (D) Malthus
234. The idea of endosymbiont was purposed by:  
 (A) Cuvier     (B) Lyell     (C) Malthus     (D) Margulis
235. According to endosymbiont hyposthesis, the aerobic bacteria developed into :  
 (A) Ribosome     (B) Lysosome     (C) Mtochondria     (D) Plastids
236. Alfred Wallace developed a theory of natural selection essentially:  
 (A) Linnaeus's     (B) Darwin's     (C) Lamark's     (D) Mendel's
237. Book "The Origin of Species" was written by:  
 (A) Linnaeus     (B) Darwin     (C) Lamark     (D) Wallace

238. **Acquired characteristics of an individual cannot be:**  
 (A) Inherited (B) Flourished (C) Lost (D) Migrated
239. **Biogeography is the geographical distribution of:**  
(A) Phylum  (B) Species (C) Classes (D) Genera
240. **Which of the following is vestigial organ of whale:**  
(A) Pelvis (B) Leg bones (C) Lungs  (D) Pelvis and leg bones
241. **The armored mammal that lives only in America:**  
 (A) Armadillos (B) Penguin (C) Echidna (D) Porcupine
242. **Armadillos, the armored mammals live only in \_\_\_\_\_:**  
(A) Africa  (B) America (C) Europe (D) Asia
243. **Tubes that connect the middle ear with the throat in humans are called:**  
 (A) Eustachian tube (B) Neural tube  
(C) Fallopian tube (D) Nephridial tube
244. **Which one is not a vestigial organ of human being?**  
(A) appendix (B) Coccyx (C) nictitating membrane  (D) eye lid
245. **In fish, the gill pouches develop into:**  
 (A) Gills (B) Pharynx (C) Eustachian tube (D) Fins
246. **A group of individuals belong to a particular species and sharing a common geographic area is called:**  
(A) Family  (B) Population (C) Species (D) Community
247. **Some individuals leave behind more progeny than others and the rate at which they do so is affected by their inherited characteristics. This is called:**  
(A) Non random mating  (B) Selection (C) Migration (D) Mutation
248. **The change in frequency of alleles at locus that occur by chance is called:**  
(A) Mutation (B) Migration  (C) Genetic Drift (D) Selection
249. **In 1917, term Niche was first proposed by American Ornithologist named:**  
(A) Charles Eltarf  (B) Joseph Grinnell (C) Ernst Haeckel (D) Lamarck
250. **The actual location of place, where an organism lives is called its:**  
(A) Niche (B) Environment  (C) Habitat (D) Ecosystem
251. **Any group of inter breeding organisms of the same species that exist together in both time and space is called:**  
(A) Community  (B) Population (C) Ecosystem (D) Biosphere
252. **The whole of the world land is called:**  
 (A) Lithosphere (B) Ecosphere (C) Hygrosphere (D) Biosphere
253. **All the food chains begin with:**  
 (A) Producers (B) Primary Consumers  
(C) Secondary consumers (D) Decomposers
254. **Lithosphere includes:**  
 (A) Earth Soil (B) Air (C) Water (D) Gases
255. **The abiotic component of an ecosystem is:**  
 (A) Temperature (B) Producer (C) Consumer (D) Decomposer
256. **In each case succession is initiated by a few hardy invaders called:**  
(A) Starters  (B) Pioneers (C) Climax Community (D) Decomposers
257. **The leaves with very small surface area, are found in:**  
(A) Hydrophytes (B) Mesophytes  (C) Xerophytes (D) Sciophytes
258. **Lichens are example of:**  
(A) Parasitism (B) Predation  (C) Mutualism (D) Commensalism
259. **The animal that is caught and eaten is called:**  
(A) Predator  (B) Prey (C) Host (D) Parasite
260. **Moderate grazing is very helpful to maintain ecosystem:**  
(A) Tundra  (B) Grass Land (C) Pond (D) Desert
261. **The bacteria in the root nodules fix nitrogen and convert it into:**  
(A) Nitrate (B) Nitrite  (C) Amino Acid (D) Ammonia
262. **Lichen is a symbiotic association between a fungus and:**

- (A) Gymnosperm (B) Angiosperm  (C) An alga (D) Pteridophyta
263. In root nodules, the organisms present are:  
 (A) Bacteria (B) Cyanobacteria (C) Algae (D) Fungi
264. In aquatic ecosystem, near shore zone is called:  
 (A) Littoral zone (B) Limnetic zone (C) Profundal zone (D) Benthic zone
265. Fresh water ecosystem covers less than:  
 (A) 7% (B) 5% (C) 3%  (D) 1%
266. Here, light is insufficient to support photosynthesis.  
 (A) Littoral Zone (B) Limnetic Zone  
 (C) Profunda Zone (D) Photoplankton Zone
267. Limnetic phytoplankton include the:  
 (A) Bacteria  (B) Cyanobacteria (C) Fishes (D) Mosses
268. In spermatophytes, important adaptation is the evolution:  
 (A) Seed coat (B) Pollen tube (C) Fruit (D) Flower
269. Coniferous forests located at high latitude are called:  
 (A) Alpine  (B) Boreal (C) Taiga (D) Prairies
270. Temperate deciduous forests are located in Pakistan at:  
 (A) Shogran (B) Chilas (C) Mionwali (D) Sind
271. Perhaps the most fragile of all the because of its short growing season is:  
 (A) Tundra (B) Desert  
 (C) Grass land (D) Temperate Deciduous forest
272. Northern coniferous forest is called:  
 (A) Savanna (B) Prairies  (C) Taiga (D) Tundra
273. Coniferous forest located at high altitude are called:  
 (A) Deciduous forest  (B) Alpine forest (C) Tundra (D) Grass land
274. Layering is the characteristic of:  
 (A) Tundra (B) Desert (C) Taiga  (D) Grassland
275. Grassland ecosystem in Pakistan is found in:  
 (A) Chilas  (B) Chitral (C) Dir (D) Swat
276. In Sindh, the desert ecosystem is called:  
 (A) Thar (B) Thal (C) Sahara (D) Gobi
277. Desert ecosystem of Bhakkar and Mianwali is called:  
 (A) Thar  (B) Thal (C) Sahara (D) Rohi
278. The biomes which has been increased in area by human activities:  
 (A) Grassland (B) Tundra  (C) Desert (D) Coniferous forests
279. A succulent plant has water stored in tissue:  
 (A) Cacti (B) Moss (C) Yarrow (D) Spruce
280. Cactus is found in the ecosystem:  
 (A) Forest  (B) Desert (C) Grass land (D) Tundra
281. Mountain of Karakoram is located in major terrestrial ecosystem in Pakistan:  
 (A) Grassland (B) Coniferous alpine forest  
 (C) Temperate deciduous forest  (D) Tundra
282. The arctic tundra stretches across Northern North America, Northern Europe and:  
 (A) Cyprus  (B) Siberia (C) Morocco (D) Nepal
283. The Nuclear power station can last only for about:  
 (A) 10 years (B) 20 years  (C) 30 years (D) 40 years
284. In ocean of tropical regions, the temperature of surface water is about:  
 (A) 5°C (B) 10°C (C) -5°C  (D) 25°C
285. The most widely used source of energy on earth is:  
 (A) Wind  (B) Sun (C) Water (D) Geothermal
286. The upper weathered layer of earth crust is:  
 (A) Rock  (B) Soil (C) Sandy (D) Rhizome
287. It is not fossilized fuel:  
 (A) Lignite  (B) Peat (C) Natural gas (D) Oil

288. It is a fossilized fuel:  
 (A) Water (B) Oil (C) Wind (D) Oil
289. Which of the following is a renewable resource?  
 (A) oil and air (B) water and oil (C) oil and gas (D) air and water
290. The world population is expected to be nearly doubled by:  
 (A) 2020 (B) 2030 (C) 2040 (D) 2050
291. The decline in thickness of ozone layer is caused by increasing level of:  
 (A) Chlorofluorocarbon(CFCs) (B) Nitrogen  
 (C) Chlorine (D) Carbon Dioxide
292. Ozone in the upper layer of atmosphere that filters:  
 (A) IR radiation (B) UV radiation (C)  $\beta$  radiation (D)  $\alpha$  radiation
293. Some detergents contain a lot of:  
 (A) Sulphur (B) Carbon (C) Phosphate (D) Carbonates
294. A single chlorine atom can react with ultraviolet rays and destroy as many as ozone molecule:  
 (A) One million (B) Two million (C) One billion (D) Two billion
295. Water present in water and ice cap is:  
 (A) 01% (B) 02% (C) 03 % (D) 04%
296. In pure form, Ozone is:  
 (A) Greenish (B) Reddish (C) Yellowish (D) Bluish
297. Which of the following act as environmental buffers  
 (A) Deserts (B) Forests (C) Industry (D) Fossil fuels
298. Oxides of Nitrogen cause:  
 (A) Lung Cancer (B) Cough (C) Brain damage (D) Cholera
299. The atmosphere gas behaves like glass sheet of green house is:  
 (A) Oxygen (B) Hydrogen (C) Carbon dioxide (D) Nitrogen

## (SUBJECTIVE PART)

### SECTION-I

#### SHORT QUESTIONS (SQs)

1. What is lithotripsy?
2. What are pyrogens?
3. Differentiate between hypotonic and hypertonic environment.
4. What are osmoconformers and osmoregulators?
5. What is extracorporeal shock wave lithotripsy?
6. What are flame cells? Why they are called so?
7. Write structural formula of urea and uric acid.
8. Define homeostasis. Give its importance.
9. Differentiate between poikilotherms and homeotherms.
10. Differentiate between ectotherms and endotherms.
11. Differentiate between hemodialysis and peritoneal dialysis.
12. What are xerophytes? Give two adaptations of xerophytes.
13. Draw and label urea cycle.
14. Illustrate the function of Malpighian tubules.
15. What is sciatica and its causes?
16. What is foreman triosseum? How it is formed?
17. What is the role of vascular cambium?
18. What is axial skeleton?