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ROLL No.

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TEST BOOKLET No.

71

TEST FOR POST GRADUATE PROGRAMMES

LIFE SCIENCES

Time: 2 Hours

Maximum Marks: 450

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INSTRUCTIONS TO CANDIDATES

1. You are provided with a Test Booklet and an Optical Mark Reader (OMR) Answer Sheet to mark your responses. Do not soil the Answer Sheet. Read carefully all the instructions given on the Answer Sheet.
  2. Write your Roll Number in the space provided on the top of this page.
  3. Also write your Roll Number, Test Code, and Test Subject in the columns provided for the same on the Answer Sheet. Darken the appropriate bubbles with a Ball Point Pen.
  4. The paper consists of 150 objective type questions. All questions carry equal marks.
  5. Each question has four alternative responses marked A, B, C and D and you have to darken the bubble fully by a Ball Point Pen corresponding to the correct response as indicated in the example shown on the Answer Sheet.
  6. Each correct answer carries 3 marks and each wrong answer carries 1 minus mark.
  7. Space for rough work is provided at the end of this Test Booklet.
  8. You should return the Answer Sheet to the Invigilator before you leave the examination hall. However, you can retain the Test Booklet.
  9. Every precaution has been taken to avoid errors in the Test Booklet. In the event of any such unforeseen happenings, the same may be brought to the notice of the Observer/Chief Superintendent in writing. Suitable remedial measures will be taken at the time of evaluation, if necessary.
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**LIFE SCIENCES**

1. The plants growing in the shade are called
  - (A) Heliophytes
  - (B) Schiophytes
  - (C) Xerophytes
  - (D) Halophytes
  
2. A cell from which differentiated cells derive is known as
  - (A) Stromal cell
  - (B) Veiled cell
  - (C) Stem cell
  - (D) Dentritic cell
  
3. Bovine serum albumin is sterilised by
  - (A) autoclaving
  - (B) using disinfectant
  - (C) irradiation
  - (D) filtration
  
4. Industrial Toxicology Research Center is located in
  - (A) Mumbai
  - (B) Calcutta
  - (C) Lucknow
  - (D) Bangalore
  
5. 'Cry' gene was isolated from
  - (A) *Bacillus subtilis*
  - (B) *Bacillus thuringiensis*
  - (C) *Bacillus anthracis*
  - (D) *Bacillus cereus*
  
6. Teratology deals with the study of
  - (A) birth defects
  - (B) syndromes
  - (C) toxic elements
  - (D) cell-mediated cytotoxicity
  
7. The lichen which has scale-like thallus composed of small lobes is called
  - (A) Foliose lichen
  - (B) Squamulose lichen
  - (C) Crustose lichen
  - (D) Fructicose lichen

8. Beta-lysine released from blood platelets during infection is a
- (A) fibronectin (B) hormone  
(C) polypeptide (D) interferon
9. Peroxy-acetylnitrate is a well-known
- (A) Pollutant (B) Disinfectant  
(C) Fungicide (D) Preservative
10. Pteridophytes share with the Angiosperms
- (A) Seed habit  
(B) Protostele  
(C) Well-developed conducting tissues  
(D) All of the above
11. The toxin responsible for the symptom development of wilt disease in cotton is
- (A) Momi lactone A and B (B) Phenylacetic acid  
(C) Aflatoxin (D) Fusaric acid
12. Which organelle in muscle cell stores calcium?
- (A) Sarcoplasmic reticulum  
(B) Rough endoplasmic reticulum  
(C) Golgi complex  
(D) Mitochondrion
13. Culm is common to the family
- (A) Gramineae (B) Ranunculaceae  
(C) Malvaceae (D) Sterculiaceae
14. In physical application of heat killing, D value denotes
- (A) thermal death point (B) thermal death line  
(C) decimal reduction time (D) decimal death point



15. The hosts of Baculo virus are
- (A) Parasitoid Hymenoptera      (B) Plants  
(C) Vertebrates                      (D) Arthropods
16. Who identified the real cause of malaria?
- (A) Camillo Golgi                      (B) Louis Pasteur  
(C) Laveran                              (D) Ronald Ross
17. Sigatoka disease of banana is caused by
- (A) *Cercospora musae*  
(B) *Corynebacterium michiganense*  
(C) *Erwinia aroideae*  
(D) *Pseudomonas syringae*
18. The part of DNA molecule that varies among DNA molecules is
- (A) Sugars                                  (B) Phosphates  
(C) Sugars and phosphates      (D) Nitrogenous bases
19. The vaccine used against extra pulmonary tuberculosis is
- (A) IPV                                      (B) BCG  
(C) MMR                                  (D) DPT
20. Creatine is the waste product of
- (A) Fat metabolism                      (B) Carbohydrate metabolism  
(C) Mineral metabolism              (D) Protein metabolism
21. Biocontrol of soil-born pathogens could be enhanced by
- (A) organic amendment of soil  
(B) application of chemical fertilisers  
(C) weeding the field  
(D) All of the above

22. The disastrous Bengal famine in 1943 was due to the pathogen
- (A) *Pyricularia oryzae* (B) *Puccinia graminis*  
(C) *Rhizoctonia solani* (D) *Helminthosporium oryzae*
23. *Agrobacterium tumefaciens* produces in the host tissue an auxin, identified as
- (A) Indole butyric acid (B)  $\beta$ - indole acetic acid  
(C)  $\beta$ - naphthalene acetic acid (D) Indole-3-ethanol
24. An interaction in which the host is harmed is known as
- (A) Parasitism (B) Mutualism  
(C) Commensalism (D) Neutralism
25. Cephalisation in Annelids refers to the development of
- (A) Vascular system (B) Head  
(C) Peritoneum (D) Hydrostatic skeleton
26. The number of polypeptide chains in a protein can be identified by treatment of protein with
- (A) Cyanogen bromide (B) Ethidium bromide  
(C) Dansyl chloride (D) Sanger's reagent
27. The vegetative propagules formed in the floral region are known as
- (A) Offsets (B) Suckers  
(C) Runners (D) Bulbils
28. Phytoalexins are generally
- (A) Lipids (B) Carbohydrates  
(C) Phenolic compounds (D) Proteins



29. One of the accurate tests for endotoxin is
- (A) LAL assay (B) ELISA  
(C) Autoradiography (D) X-ray crystallography
30. The vegetational succession that begins on the sandy habitation is known as
- (A) Serule (B) Psammosere  
(C) Hydrosere (D) Lithosere
31. Red gram seed is known to contain antinutritional factors such as polyphenols mainly in the
- (A) Cotyledons (B) Radicle  
(C) Seed coat (D) Plumule
32. Viscosity of animal cell culture medium
- (A) increases the rate of protein denaturation  
(B) decreases cell damage during agitation  
(C) enhances the rate of contamination  
(D) increases the rate of transcription
33. Which of these is a parasitic alga?
- (A) *Sargassum* (B) *Acetabularia*  
(C) *Turbinaria* (D) *Cephaleuros*
34. Regression predicts
- (A) one-way relationship  
(B) two-way relationship  
(C) more than two-way relationship  
(D) nature of relationships



35. Which one of the earliest Indian work describes plant in a scientific manner?
- (A) Vrikshayurveda                      (B) Atharvaveda  
(C) Taittiriya                              (D) Nirukta
36. Proteosomes are
- (A) protein-degrading structures  
(B) protein-stabilising structures  
(C) *de novo* protein structures  
(D) protein builders
37. SnRNPs mean
- (A) small nuclear ribonucleoproteins  
(B) soluble nuclear ribonucleoproteins  
(C) synthetic ribonucleoproteins  
(D) single nuclear ribonucleoproteins
38. Icosahedral virus is also known as
- (A) Helical                                  (B) Brick-shaped  
(C) Tadpole                                  (D) Spherical
39. Which is the most used skin disinfectant in hospital neonatal wards?
- (A) Formaldehyde                      (B) Hexa chlorophene  
(C) Beta propiolactone                  (D) Ethylene oxide
40. A good example for fibrous protein with extensive, alpha helical structure is
- (A) Human hair                              (B) Silk-fibronin  
(C) Lignin                                      (D) Nail

41. Glutathione peroxidase contains
- (A) Nickel (B) Selenium  
(C) Copper (D) Zinc
42. NADH enters into mitochondrion with the help of
- (A) Glycerol-phosphate shuttle (B) SOD  
(C) Oxidative phosphorylation (D) Hydroperoxidase
43. By whose staining technique, DNA was implicated as an important component of chromosome as early as 1914?
- (A) George Beadle (B) Edward Tatum  
(C) Colin Macleod (D) Robert Feulgen
44. Iron-containing haemo-protein which transfers hydrogen from a substrate to molecular oxygen is
- (A) Cytochrome (B) Riboflavin  
(C) Histone (D) Haemoglobin
45. Name the enzyme which converts citrate to isocitrate
- (A) Aconitase  
(B) Isocitrate dehydrogenase  
(C) Citrate synthase  
(D) Alpha keto-glutarate dehydrogenase
46. Caffeine is present in
- (A) Coffee (B) Coffee and tea  
(C) Tea and cocoa (D) Tea and clove
47. Dolomite is
- (A) Calcium phosphate  
(B) Calcium carbonate  
(C) Calcium magnesium carbonate  
(D) Calcium oxide





48. The most essential equipment for an animal cell culture laboratory is
- (A) Soxhlet apparatus (B) HPLC  
(C) Laminar-flow hood (D) Photographic unit
49. In breeding of crop plants, male sterility is used for
- (A) production of haploids  
(B) hybrid production  
(C) transfer of genes  
(D) development of apomictics
50. Which one has been called "the fuzzy" test tube?
- (A) House fly (B) Laboratory mouse  
(C) Guinea pig (D) Albino rabbit
51. Q fever is caused by
- (A) *Coxiella burnetii* (B) *Yersinia pestis*  
(C) *Neisseria gonorrhoea* (D) *Treponema pallidum*
52. Apoptosis is activated by the enzyme
- (A) Caspase (B) Cyclooxygenase  
(C) Collagenase (D) Sialidase
53. Addition of carbohydrate side chain to a protein is called
- (A) Glycosylation (B) Sequential induction  
(C) Glycolysis (D) Glycophosphorylation
54. Butylated hydroxytoluene is used in food as a
- (A) Colouring agent (B) Preservative  
(C) Taste enhancer (D) Texture enhancer

55. C-value denotes the fact that the size of the haploid genome is
- (A) fairly constant within any one species
  - (B) fairly constant within any one genus
  - (C) fairly constant within the family
  - (D) All of the above
56. UV-B has the wavelength range of
- (A) 268-314 nm
  - (B) 289-315 nm
  - (C) 250-310 nm
  - (D) 255-320 nm
57. Which is the main vector for the Rickettsias that causes Typhus disease?
- (A) Head louse
  - (B) Body louse
  - (C) Spirochete
  - (D) Ticks
58. The respiratory chain and Kreb's cycle together produce ATP molecules
- (A) 32
  - (B) 34
  - (C) 36
  - (D) 38
59. One of the characteristic features of xerophytes is the presence of
- (A) minimum development of vascular tissue
  - (B) thick cuticle
  - (C) lack of sclerenchyma
  - (D) air chambers
60. The senescence exhibited by the annuals and biennials is known as
- (A) shoot senescence
  - (B) whole plant senescence
  - (C) sequential senescence
  - (D) synchronous senescence



61. Which one of the following virus possesses double-stranded RNA?
- (A) Reovirus (B) Cauliflower mosaic virus  
(C) T<sub>4</sub> phage (D) TMV
62. The aerating pores formed in the bark through which exchange of gases takes place is
- (A) Pneumatophores (B) Stomata  
(C) Hydathodes (D) Lenticles
63. Orobanche is an example of
- (A) partial root parasite (B) total root parasite  
(C) total stem parasite (D) partial stem parasite
64. The most primitive method of sexual reproduction in alga is
- (A) isogamy (B) anisogamy  
(C) oogamy (D) heterokaryosis
65. Zeatin is
- (A) Auxin (B) Gibberellin  
(C) Cytokinin (D) Abscisic acid
66. Small aquatic forms make up a large part of the free floating microscopic life in water which is known as
- (A) primary producers (B) blooms  
(C) frustules (D) plankton
67. The end product of glycolysis is
- (A) Pyruvic acid (B) Citric acid  
(C) Ethyl alcohol (D) Glyceraldehyde phosphate

68. Clinostat is used to demonstrate
- (A) Phototropic movements      (B) Heliotropic movements  
(C) Geotropic movements      (D) Seismonastic movements
69. After the first subculture, the primary culture is known as
- (A) organ culture      (B) cell line  
(C) malignant transformants      (D) continuous cell line
70. T-cell maturation takes place in
- (A) thymus      (B) spleen  
(C) tonsil      (D) bone marrow
71. The hybrid cell, produced by fusing a normal activated antibody-producing B cell with a myeloma cell, is called
- (A) Antigen-presenting cells      (B) Basophil  
(C) Hybridoma      (D) Effector cell
72. The anaerobe often present in the canned food is
- (A) *Clostridium butyricum*      (B) *Clostridium iodophilum*  
(C) *Clostridium perfringens*      (D) *Clostridium botulinum*
73. 'Sauerkraut' is a
- (A) vaccine      (B) distilled liquor  
(C) fermented vegetable      (D) pathogen
74. The subunit of chromatin is
- (A) chromatid      (B) chromonemata  
(C) nucleosome      (D) gene



75. Various components of electron transport system are present in the
- (A) inner mitochondrial membrane
  - (B) outer mitochondrial membrane
  - (C) mitochondrial matrix
  - (D) intracrestal space
76. Heterosis explains the
- (A) superiority of the hybrid over parents
  - (B) inferiority of the hybrid
  - (C) both the superiority and inferiority of the hybrid
  - (D) increased vigour of interspecific hybrid
77. Salting preserves fish, meat and certain vegetable pickles
- (A) by decreasing osmotic pressure
  - (B) by decreasing the available amount of water
  - (C) by creating anaerobic condition
  - (D) by lowering the temperature
78. Non-infectious antigen that induces hypersensitivity reactions, most commonly IgE- mediated type I reactions, are called
- (A) Adjuvants
  - (B) Boosters
  - (C) Allergens
  - (D) Endotoxins
79. It is believed that primitive flowers, in general, had
- (A) indefinite number of parts
  - (B) fewer number of parts
  - (C) indefinite number of stamens but fewer carpels
  - (D) fewer stamens but indefinite number of carpels
80. Pollination brought out by bats is known as
- (A) Entomophily
  - (B) Anemophily
  - (C) Ornithophily
  - (D) Cheiropterophily



81. Example of Angiosperms which do not form endosperm is
- (A) Orchidaceae (B) Ranunculaceae  
(C) Urticaceae (D) Polygalaceae
82. The tendency of biological systems to remain in a state of equilibrium is called
- (A) Net productivity (B) Pre climax  
(C) Post climax (D) Homeostasis
83. Nagarhole National park is situated in
- (A) Mysore district (B) Kodagu district  
(C) Chikmagalur district (D) Hassan district
84. The 'ropiness' of unpacked bread is due to the growth of
- (A) *Aspergillus nidulans* (B) *Neurospora sp.*  
(C) *Bacillus subtilis* (D) *Escherichia coli*
85. The most harmful type of environmental pollutants are
- (A) human organic wastes  
(B) agricultural wastes  
(C) non-biodegradable wastes  
(D) natural nutrients present in excess
86. The reclamation of sodic soils requires application of
- (A) a surface organic mulch  
(B) gypsum  
(C) biofertilisers  
(D) micronutrients
87. Which one of the following is an introduced plant?
- (A) Tomato (B) Brinjal  
(C) Mango (D) Coconut



88. Renin is used for
- (A) starch processing (B) clarification of fruit juices  
(C) cheese making (D) flavouring of meat
89. The first human vaccine produced by using large-scale cell culture technique was
- (A) Rabies vaccine (B) Measles vaccine  
(C) Yellow fever vaccine (D) Polio vaccine
90. A drug which prevents uric acid biosynthesis by inhibiting the enzyme xanthine oxidase is
- (A) aspirin (B) allopurinol  
(C) colchicine (D) probenecid
91. Synthesis of prostaglandins is inhibited by
- (A) aspirin (B) arsenic  
(C) fluoride (D) cyanide
92. The surface tension in intestinal lumen between fat droplets and aqueous medium is decreased by
- (A) bile Salts (B) bile acids  
(C) HCl (D) lactic acid
93. The digestive enzymes of cellular compounds are confined to
- (A) lysosomes (B) ribosomes  
(C) peroxisomes (D) polysomes
94. Repeating units of hyaluronic acid are
- (A) N-acetyl glucosamine and D-glucuronic acid  
(B) N-acetyl galactosamine and D-glucuronic Acid  
(C) N-acetyl glucosamine and galactose  
(D) N-acetyl galactosamine and L- iduronic acid



95. A higher concentration of fructose is found in
- (A) aqueous humor (B) vitreous humor  
(C) synovial fluid (D) seminal fluid
96. Worldwide, the most common vitamin deficiency is that of
- (A) ascorbic acid (B) folic acid  
(C) vitamin A (D) vitamin D
97. N-acetylneuraminic acid is an example of
- (A) Sialic acid (B) Mucic acid  
(C) Glucuronic acid (D) Hippuric acid
98. How many ATPs are produced in the conversion of phosphoenol pyruvate to citrate?
- (A) 1 (B) 2  
(C) 4 (D) 6
99. Sakaguchi reaction is specific for
- (A) guanidine group (B) phenolic group  
(C) carboxylic group (D) None of the above
100. About 6.25 g of haemoglobin is produced and destroyed in the body each day. The total amount of haemoglobin in a normal healthy 70kg weighing male adult then is
- (A) 250 g (B) 150 g  
(C) 100 g (D) 70 g
101. Most of calcium is present in bone, but 2% present in the soft tissue and blood, is called
- (A) Calcinated blood (B) Solidified blood  
(C) Physiological blood (D) Colloidal blood



102. Thallophytes with no chlorophyll are known as
- (A) algae (B) algae other than green algae  
(C) fungi (D) bacteria
103. Acetyl CoA is an immediate intermediate of
- (A) acetic acid (B) Pyruvic acid  
(C) starch (D) glucose
104. DNA replication in eukaryotes takes place in
- (A) G-1 phase (B) S- phase  
(C) G-2 phase (D) M-phase
105. A trisomic individual has
- (A) one extra chromosome  
(B) one less chromosome  
(C) two extra chromosomes  
(D) one pair of extra chromosomes
106. The bio-insecticide azadirachtin, is obtained from
- (A) tobacco (B) *Bacillus spp.*  
(C) neem (D) fungus
107. Mesozoic era is the age of
- (A) fishes (B) birds  
(C) reptiles (D) mammals
108. Spoilage of food material is prevented in cold storage due to
- (A) reduced respiration at low temperature  
(B) reduced enzyme activity in the food articles  
(C) reduced enzyme activity in microbes as well as food articles  
(D) purified nature of air



109. The enzymes catalysing breakdown without addition of water are called
- (A) lyases (B) hydrolases  
(C) ligases (D) oxidoreductases
110. Viral oncogene differs from the proto-oncogene in that it is
- (A) mutated (B) spliced  
(C) circular (D) having tandem repeats
111. Glucagon is secreted by
- (A)  $\beta$ -cells of pancreas  
(B)  $\alpha$ -cells of pancreas  
(C)  $\beta$ -cells of islets of Langerhans  
(D) adrenal cortex
112. Which organism does not evolve oxygen in photosynthesis?
- (A) *Anabaena* (B) *Funaria*  
(C) Higher plants (D) *Rhodospirillum*
113. Photochemical reaction occurs in
- (A) lumen of thylakoid  
(B) stroma of chloroplast  
(C) membrane of thylakoid  
(D) inner membrane of chloroplast
114. Translocation of carbohydrate occurs mainly as
- (A) glucose (B) fructose  
(C) maltose (D) sucrose
115. Isotopes used for proving semi-conservative replication of DNA are
- (A)  $N^{14}$  and  $P^{31}$  (B)  $N^{14}$  and  $N^{15}$   
(C)  $N^{14}$  and  $C^{14}$  (D)  $C^{14}$  and  $P^{31}$



116. The bacterial enzyme that changes positively supercoiled DNA into negatively supercoiled DNA is
- (A) DNA helicase
  - (B) DNA gyrase
  - (C) Reverse transcriptase
  - (D) Polymerase
117. Which of the following enzymes does not require a primer?
- (A) RNA dependent DNA polymerase
  - (B) DNA dependent DNA polymerase
  - (C) DNA dependent RNA polymerase
  - (D) Taq DNA polymerase
118. Spliceosome, a complex of snRNA, protein and pre-mRNA is found in
- (A) eukaryotic cell
  - (B) prokaryotic cell
  - (C) both eukaryotic and prokaryotic cells
  - (D) only in plant cell
119. Which one of the following amino acids has the greatest number of codons?
- (A) Proline
  - (B) Leucine
  - (C) Tryptophan
  - (D) Aspartic acid
120. Chloramphenicol inhibits
- (A) Cell wall synthesis in bacteria
  - (B) Protein synthesis on 70S ribosomes
  - (C) Protein synthesis on 80S ribosomes
  - (D) DNA replication
121. Thymine dimer formation during replication of DNA is caused due to
- (A) Gamma irradiation
  - (B) UV irradiation
  - (C) X-rays
  - (D) IR irradiation



122. The Ames test is a mass screening approach used for the detection of
- (A) toxins (B) mutagenic carcinogens  
(C) lactose intolerance (D) phenylketonuria
123. Yeast artificial chromosomes (YAC) is used for
- (A) cloning large segments of DNA  
(B) cloning only yeast genomic sequences  
(C) cloning only cDNA sequences  
(D) all DNA except plant DNA sequences
124. Conifer trees are the feature of which of the following biomes?
- (A) temperate grasslands (B) tropical forest  
(C) tundra (D) tropical grasslands
125. Which of the following mineral nutrient usually is shortest supply in most ecosystems?
- (A) Nitrogen (B) Phosphorus  
(C) Calcium (D) Potassium
126. In terms of biodiversity, the most widely distributed group among taxonomic groups is
- (A) mammals (B) fungi  
(C) algae (D) insecta
127. DDT belongs to which class of pesticides?
- (A) Organophosphates (B) Carbonates  
(C) Chlorinated hydrocarbons (D) Flavonoids
128. Name the fungus which causes great damage to textile industry?
- (A) *Ceratocystis fimbriata*  
(B) *Ceratobasidium sp.*  
(C) *Cercospora apii*  
(D) *Chaetomium globosum*



129. Mycoplasma contains
- (A) RNA (B) DNA  
(C) Both of the above (D) Neither RNA nor DNA
130. A closed ascocarp with a pore at the top, a true osticle and a wall of its own is
- (A) perithecium (B) apothecium  
(C) cleistothecium (D) hypothecium
131. The teeth of grazing animal usually suffer excess wear which is due to the presence of
- (A) sodium (B) selenium  
(C) fluoride (D) silicon
132. Which of the following is a high irradiance response?
- (A) Seed germination (B) Stem elongation  
(C) Leaf expansion (D) Root elongation
133. Chemolithotrophs are those bacteria which utilise
- (A) inorganic material as the energy source  
(B) light as the energy source  
(C) organic compound as the electron source  
(D) crude oil as carbon source
134. Individuals exposed to smallpox virus are immune to the same disease due to the
- (A) presence of larger quantities of antibodies  
(B) presence of long lived memory cells  
(C) healthy life style  
(D) generation of antigen-specific macrophages



135. RNA as genetic material is found in which of the following organisms?
- (A) Plasmodium
  - (B) *Staphylococcus aureus*
  - (C) *Schizosaccharomyces cerevisiae*
  - (D) Polio virus
136. Sulpha drugs are effective antibiotics that inhibit the formation of folic acid by acting as a
- (A) non-competitive inhibitor
  - (B) competitive inhibitor
  - (C) uncompetitive inhibitor
  - (D) irreversible inhibitor
137. Monoclonal antibodies can be produced by
- (A) immunoprecipitation technology
  - (B) shot gun cloning technology
  - (C) hybridoma technology
  - (D) transgenics technology
138. An autoimmune disease of humans usually involving anti-nuclear antibodies is
- (A) Sclerosis
  - (B) SLE
  - (C) Rheumatic fever
  - (D) *Myasthenia gravis*
139. Which of the following plays no role in the movement of water through the xylem of plants?
- (A) Capillarity
  - (B) Root pressure
  - (C)  $H^+$ /ATPase pump
  - (D) Transpirational pull



140. Leaf abscission is
- (A) followed by leaf senescence
  - (B) regulated by the hormone abscisic acid
  - (C) a passive process, involving nothing more than the death of petiole cells
  - (D) associated with an increase in ethylene production by petiole cells
141. The production of  $\alpha$ -amylase in cereal grains
- (A) results in the degradation of starch into sugar
  - (B) is induced by gibberellin from the germinating embryo
  - (C) occurs in the starchy endosperm cells
  - (D) occurs throughout seed development
142. Long term reflex actions such as cycling and swimming are controlled by
- (A) cerebellum
  - (B) spinal cord
  - (C) hypothalamus
  - (D) cerebrum
143. Which of the following sequences describes the passage of an action potential in the neuron?
- (A) Axon, cell body, dendrite, synaptic cleft
  - (B) Synaptic cleft, axon, dendrite, cell body
  - (C) Dendrite, synaptic cleft, cell body, axon
  - (D) Dendrite, cell body, axon, synaptic cleft
144. Which of the following is the most muscular chamber in a bird's heart or mammal's heart?
- (A) The right atrium
  - (B) The left artery
  - (C) Pulmonary vein
  - (D) All of the above

145. Which of the following hormone is a modified amino acid?
- (A) Prostaglandin                      (B) Estrogen  
(C) Epinephrine                        (D) Progesterone
146. The concept of trophic structure of a community emphasises
- (A) Prevalent form of vegetation  
(B) Keystone predator  
(C) Feeding relationship within a community  
(D) Effects of coevolution
147. Which of the following best describes an ecological race?
- (A) A locally adapted population with distinct features  
(B) A population that is fertile with other population  
(C) A species with more than one polymorphism  
(D) A morphological polymorphism maintained by ecological factors
148. A species facing an extremely high risk of extinction in the immediate future is called
- (A) vulnerable                            (B) rare  
(C) endangered                            (D) link species
149. Virus-free plants have been propagated commercially through
- (A) cell culture                            (B) pollen culture  
(C) apical meristem culture            (D) embryo culture
150. Tobacco and tea leaves are fermented to give flavour and taste. This type of fermentation is known as
- (A) alcohol fermentation                (B) curing  
(C) degradation                          (D) lactic acid fermentation