

# ARUNAI ACADEMY FOR BOTANY



ARUNAI ACADEMY  
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**PG TRB, COLLEGE TRB, UGTRB**  
**(ONLINE CLASS/REGULAR CLASS)**  
**DHARMAPURI.9500244679,7010753971**

## UGTRB BOTANY EXAM -04.02.2024 -ANSWER KEY-QUESTION BOOKLET SERIES-B

31. High temperature in combination with which agent is most effective method of killing bacteria?  
(A) X-ray  
**(B) Moisture**  
(C) Ethylene  
(D) Desiccation
32. Which of the following bacterium is used for Vitamin B12 production?  
(A) Pseudomonas fluorescens  
(B) Clostridium acetobutylicum  
**(C) Bacillus megaterium**  
(D) Bacillus licheniformis
33. The U tube experiment of Bernard Davilson was performed using which bacterium  
(A) Pseudomonas aeruginosa  
**(B) Escherichia coli**  
(C) Bacillus subtilis  
(D) Staphylococcus aureus
34. VAM fungi is generally absent in which plant family?  
(A) Gramineae  
(B) Rosaceae  
(C) Palmaceae  
**(D) Cyperaceae**
35. Which phycobiont is found in Parmelia?  
(A) Protococcus  
(B) Pleurococcus  
**(C) Chlorella**  
(D) Xanthoria
36. Which form of lichens have arolii on the surface of thallus?  
(A) Foliose  
(B) Fruticose  
(C) Squamulose  
**(D) Crustose**

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37. *Rhizobium leguminosarum* forms leaf nodules in which plant  
(A) *Alnus*  
(B) *Medicago*  
**(C) *Pavetta***  
(D) Groundnut
38. \_\_\_\_\_ acts as indicator for soil acidity  
(A) *Marchantia*  
(B) *Riccia*  
(C) *Anthoceros*  
**(D) *Polytrichum***
39. Leaf midrib of this genus is covered upper surface by means of chloro containing longitudinal cell plates:  
**(A) *Polytrichum***  
(B) *Funaria*  
(C) *Calypogeia*  
(D) *Porella*
40. The spores of \_\_\_\_\_ are disseminated by any special method  
(A) *Anthoceros*  
(B) *Marchantia*  
**(C) *Riccia***  
(D) *Pellia*
41. Fungi with aseptate mycelium produce oospores and zygospores during a reproduction belongs to class \_\_\_\_  
(A) *Basidiomycetes*  
**(B) *Phycomycetes***  
(C) *Ascomycetes*  
(D) *Deutromycetes*
42. What type of sexual reproduction occurring in *Rhizopus*?  
(A) Anisogamous  
(B) Sporangiothecium  
(C) Oogamous  
**(D) Isogamous**
43. Honey mushroom is \_\_\_\_  
(A) *Agaricus silercola*  
(B) *Agaricus xanthodermis*  
**(C) *Armillaria mellea***  
(D) *Volvariella volvacea*
44. In plants, the 'Ring spot' symptom causing viruses are transmitted by what?  
(A) Bacteria  
(B) Algae  
**(C) *Nemalodes***  
(D) Fungi

45. The nucleic acid type present in potato X and Y viruses are \_\_\_\_
- (A) ds DNA  
(B) ss DNA  
**(C) ss RNA**  
(D) ds RNA
46. What are the loosely arranged Hyphae in the centre of Agaricus Basidiocarp stipe?
- (A) Cortex  
**(B) Medulla**  
(C) Connective cells  
(D) Hymenium
47. The fungi that causes late spot in groundnut is
- (A) Cercospora arachidicola  
**(B) Cercosporidium peronatum**  
(C) Puccinia arachnids  
(D) Colletotrichum
48. The leaves in lycopodium are simple sessile minute with a single medium vein leaves are called as
- (A) Macrophyllus  
**(B) Microphyllous**  
(C) Isophyllus  
(D) an Isophyllous
49. In homosporous pteridohyte gametophytes are \_\_\_\_.
- (A) Exosporic**  
(B) Endosporic  
(C) Endoscopic  
(D) Exoscopic
50. Gliding movement in bacteria may be due to secretion of what?
- (A) Glycoprotein on the outer surface  
(B) Pilin in the inner surface  
(C) Polysaccharide slime in the inner surface  
**(D) Polysaccharide slime on the outer surface**
51. The bryophyte genus that commonly grows best after the forest fire
- (A) Funaria  
**(B) Marchantia**  
(C) Pellia  
(D) Polytrichum
52. In spirogyra, the sap vacuole is separated from the surrounding cytoplasm by a thin semipermeable membrane which is called as
- (A) Chloroplast  
(B) Protoplast  
**(C) Tonoplast**  
(D) Colligate septum

53. What type of teeth is found in polytrichum?  
(A) Nematod  
(B) Sclerenchymalous  
(C) Nematoporous  
**(D) Nematodentous**
54. In Riccia which sporophytes are not present?  
**(A) Foot and seta**  
(B) Foot and capsule  
(C) Seta and capsule  
(D) Capsule and calyptra
55. In polytrichum the leaves that surrounds the archegona are called as  
**(A) Perichaetial leaf**  
(B) Perigonial leaf  
(C) Amphigastria  
(D) Photosynthetic leaf
56. The shape of the ligule occur in selaginella chrysocaulos is:  
(A) Lobed  
(B) Lanceolate  
**(C) Tongue shaped**  
(D) Filamentous
57. The Siphonostele which has both leaf and branch gaps are known as:  
(A) Cladosiphonic siphonostele  
**(B) Phyllosiphonic siphonostele**  
(C) Ectophloic siphonostele  
(D) Amphiphloic siphonostele
58. Button stage of Basidiocarp is connected with the stalk by an inner membrane is called as :  
(A) Pileus  
**(B) Velum**  
(C) Gill  
(D) Stipe
59. Globular mass of hyphae of cercospora personata accumulates beneath the host leaf is known as:  
(A) Gills  
**(B) Conidia**  
(C) Stroma  
(D) Velum
60. Sexual reproduction is absent in the members of class \_\_\_\_\_  
(A) Zygomycetes  
(B) Basidiomycetes  
**(C) Deuteromycetes**  
(D) Ascomycetes

61. Trichoblasts are seen in the epidermis of which plant part?  
**(A) Root**  
 (B) Stem  
 (C) Leaf  
 (D) Seed coat
62. What are the layer of periderm?  
 (A) Periblem, phellogen, phelloderm  
 (B) Periblem, Phellgen, Plerome  
**(C) Phellem, Phellogen, Phelloderm**  
 (D) Cortex, Dermatogen, Phelloderm
63. Submerged leaves of hydrophytes posses:  
 (A) Stomata on the both surface  
 (B) Stomata on the upper surface  
 (C) Stomata on the lower surface  
**(D) No stomata on any surface**
64. When a cambium is considered as a lateral meristem its responsibility is  
 (A) To increase the height of the stem  
 (B) To give rise to lateral branches  
**(C) To increase the girth of the plant**  
 (D) To increase the length of a plant
65. The living mechanical tissue of a dicot plant is :  
 (A) Parenchyma  
**(B) Collenchyma**  
 (C) Sclerenchyma  
 (D) Chlorenchyma
66. Balloon like out growth produced in the lumen of the vessels are called  
 (A) Bark  
 (B) Lenticels  
 (C) Sap wood  
**(D) Tyloses**
67. Exine is composed of which material that is resistant to physical and biological decomposition  
 (A) Pecto cellulose  
 (B) Enzymatic proteins  
**(C) Sporopollium**  
 (D) Pectin
68. Female gametophyte is mostly 7 celled structure comprising  
**(A) Central cell, egg, two synergids, three antipodals**  
 (B) Two central cells, egg, three synergids, antipodal  
 (C) Three synergids, three antipodals, egg  
 (D) Central cell, three synergids, two antipodals, egg
69. During anther development which layer undergoes repeated anticlinal division to cope with rapidly enlarging internal tissue:  
 (A) Tapetum  
 (B) Endothecium  
 (C) Middle layer  
**(D) Epidermis**

70. The cells of which layer of the anther wall is hygroscopic in nature?  
 (A) Epidermis  
**(B) Endothecium**  
 (C) Middle layer  
 (D) Tapetum
71. Which of the following family members do not form endosperm?  
 (A) Poaceae  
 (B) Musaceae  
 (C) Nymphaeaceae  
**(D) Orchidaceae**
72. Which type of endosperm is seen in Myristica?  
 (A) Nuclear endosperm  
 (B) Helobial endosperm  
 (C) Cellular endosperm  
**(D) Ruminant endosperm**
73. A typical dicot embryo comprises:  
 (A) Embryonal axis, two cotyledon, radical, scutellum  
**(B) Embryonal axis, two cotyledon, radical**  
 (C) Embryonal axis, two cotyledon, scutellum, plumule  
 (D) Embryonal axis, scutellum, radical plumule
74. Aerenchyma cells are characterized by  
 (A) Presence of thickenings at the corner  
 (B) Presence of uniform thickenings  
**(C) Presence of intercellular spaces**  
 (D) Presence of lignified cells
75. Rod shaped elongated sclereids found in the seed coat of pulses are known as:  
 (A) Brachy sclereids  
 (B) Astrosclereids  
**(C) Macrosclereids**  
 (D) Trichosclereids
76. An example for plant viral disease is  
 (A) Citrus canker  
 (B) Red rot of sugarcane  
**(C) Bunchy top of banana**  
 (D) Tikka disease of groundnut
77. In diseased plants reduction in size of plant parts due to subnormal cell division is known as  
**(A) Hypoplastic**  
 (B) Wilting  
 (C) Cankers  
 (D) Mosaic
78. Pathogen that produces small and circular leaf spot in groundnut plants:  
 (A) Cercospora arachidicola  
**(B) Cercospora personata**  
 (C) Cercospora aciculina  
 (D) Cercospora angulata
79. Cracking of the outer layer of fruit or tubers is known as  
 (A) Canker diseases  
 (B) Wilting diseases  
 (C) Leaf spot diseases  
**(D) Scab diseases**

80. The formula of preparing standard bordeaux mixture in the ratio of copper sulphate, lime and gallons water:  
 (A) 1:1:100  
 (B) 10:10:10  
 (C) 10:10:1  
**(D) 5:5:50**
81. The invisible life Era is called as  
**(A) Archeozoic era**  
 (B) Protozoic era  
 (C) Mesozoic era  
 (D) Palaeozoic era
82. \_\_\_\_\_ proposed 'Germplasm theory'  
 (A) H.M.S Beagle  
 (B) Leyl  
**(C) Weismann**  
 (D) Dr.Henslow
83. Amber preserved fossils type are:  
 (A) Petrification type  
 (B) Mould and casts type  
 (C) Impressions type  
**(D) Unaltered fossils type**
84. What is the half life period (years) of  $C^{14}$   
 (A)  $1.3 \times 10^9$   
 (B)  $7 \times 10^8$   
**(C)  $5.73 \times 10^3$**   
 (D)  $5.73 \times 10^3$
85. As many as 20 rings of cambium formed in \_\_\_\_\_ stem.  
 (A) *Cycas circinalis*  
**(B) *Cycas pectiata***  
 (C) *Cycas rumplrii*  
 (D) *Cycas recolutin*
86. In cycas the pollengrains are shed at the \_\_\_\_\_ stage  
 (A) 4-celled stage  
**(B) 3-celled stages**  
 (C) 2-celled stages  
 (D) 1-celled stage
87. Which species of *Gnetum* shows the anomalous secondary growth  
 (A) *Gnetum gnemon*  
 (B) *Gnetum contractum*  
 (C) *Guctuma intifolinon*  
**(D) *Gnetum africanum***
88. Chilgoza is a seed obtained from \_\_\_\_\_  
**(A) *Pinus gerardiana***  
 (B) *Cycas revolute*  
 (C) *Pinus wallichiana*  
 (D) *Cycas circinalis*
89. How does Gymnosperms differ from the Angiosperms?  
 (A) Having seeds  
 (B) In beings  
 (C) In showing heterospory  
**(D) In having naked ovules**

90. The leaf trace is double in the family of \_\_\_\_\_
- (A) Cupressaceae  
**(B) Pinaceae**  
 (C) Taxodiaceae  
 (D) Araucariaceae
91. Find the correct match:
- | Name of the species   | Name of the leaves |
|-----------------------|--------------------|
| (a) Pinus wallichiana | (i) Monofoliar     |
| (b) Pinus monophylla  | (ii) Trifoliar     |
| (c) Pinus merkusii    | (iii) Bifoliar     |
| (d) Pinus roxburghii  | (iv) Pentafoliar   |
- (A) (a)-(i), (b)-(ii), (c) – (iii) (d) – (iv)  
 (B) (a)-(iv), (b)-(iii), (c) – (ii) (d) – (i)  
**(C) (a)-(iv), (b)-(i), (c) – (iii) (d) – (ii)**  
 (D) (a)-(iii), (b)-(ii), (c) – (i) (d) – (iv)
92. The epithelial cells of the cortical cells of pinus which secrete resin into the canal and helps the plants from the invasion of \_\_\_\_\_
- (A) Virus and Fungi  
**(B) Fungi**  
 (C) Bacteria and Fungi  
 (D) Bacteria
93. Laccaria Laccata is a mycorrhizal fungus present in the roots of \_\_\_\_\_ and helps for phosphorous uptake
- (A) Pinus wallichiana  
**(B) Pinus sylvestris**  
 (C) Pinus meakusii  
 (D) Pinus roxburghii
94. Which one of the following Genus is called as Hemiangiosperm?
- (A) Ephedra  
 (B) Cycas  
**(C) Gnetum**  
 (D) Pinus
95. In Pinus the seed is a reproductive structure containing a dormant embryo the future \_\_\_\_\_
- (A) Male prothallus  
**(B) Sporophyte**  
 (C) Female prothallus  
 (D) Gametophyte
96. Which is used as insecticidal fumigant in herbarium?
- (A) Mercuric chloride  
**(B) Carbon disulphide gas**  
 (C) Napthalene balls  
 (D) Para dichloro benzene
97. The given floral formula  $\% K_{(5)}, C_{1+2+(2)} A_{(9)+1} G_1$  belongs to which family?
- (A) Cucurbitaceae  
**(B) Papilionaceae**  
 (C) Solanaceae  
 (D) Euphorbiaceae
98. Caryopsis fruit is found in \_\_\_\_\_ family.
- (A) Euphorbiaceae  
 (B) Asteraceae  
 (C) Solanaceae  
**(D) Poaceae**



99. In *Saccharum* roots arise from the nodes of the stem above the soil are called \_\_\_\_\_
- (A) Prop roots  
**(B) Stilt roots**  
 (C) Butters roots  
 (D) Climbing roots
100. The fruits that develops from hypanthodium is called \_\_\_\_\_
- (A) Berry  
 (B) Drupe  
 (C) Achene  
**(D) Syconus**
101. Auxins is synthesized mainly in
- (A) Roots  
 (B) Leaf  
**(C) Meristematic regions of the plant**  
 (D) Flowers
102. Phenomenon of photoperiodism was first discovered by
- (A) Borthwick and Hendricks  
**(B) Garner and Allard**  
 (C) Flint and Mc Alister  
 (D) F.Skoog and C.O Miller
103. In polysaccharide inulin the fructofuranose units are joined together by:
- (A)  $\alpha$  (1-2) glycosidic bonds  
**(B)  $\beta$  (2-1) glycosidic bonds**  
 (C)  $\beta$  (1-2) glycosidic bonds  
 (D)  $\alpha$  (1,2) glycosidic bonds
104. Stomata open at night in:
- (A)  $C_4$  plants  
 (B)  $C_3$  Plants  
**(C) CAM plants**  
 (D) Potometer
105. In protein part of enzyme is called as what?
- (A) Prosthetic group  
**(B) Apoenzyme**  
 (C) Holoenzyme  
 (D) Exoenzyme
106. In which process photolysis of water and evolution of  $O_2$  does not take place?
- (A) Non-cyclic photophosphorylation (B) ATP cycle  
 (C) HMP shunt  
**(D) Cyclic photophosphorylation**
107. Match the following:
- |                   |                                  |
|-------------------|----------------------------------|
| (a) Quantosomes   | (i) Isozyme                      |
| (b) LDH           | (ii) Unsaturated fatty acid      |
| (c) Cellulose     | (iii) Cytochrome $b_6-f$ complex |
| (d) Oleic acid    | (iv) Photosynthesis              |
| (e) Rieske centre | (v) Structure polysaccharide     |
- (A) (a)-(i), (b)-(ii), (c) – (iii) (d) – (v), (e)-(iv)  
**(B) (a)-(iv), (b)-(i), (c) – (v) (d) – (ii), (e)-(iii)**  
 (C) (a)-(v), (b)-(iii), (c) – (iv) (d) – (i), (e)-(ii)  
 (D) (a)-(ii), (b)-(i), (c) – (v) (d) – (iii), (e)-(iv)
108. The general formula for Monosaccharides is:
- (A)  $C_{2n}H_2O_{2n}$   
 (B)  $C_nHO_n$   
**(C)  $C_n(H_2O)_n$**   
 (D)  $(C_2H_2O_2)_n$

109. The secondary structures of protein molecules are  
**(A)  $\alpha$ -helix and  $\beta$ -pleated**  
(B) Double helix and  $\alpha$ -helix  
(C)  $\beta$ -sheets and straight chain  
(D) Double helix and  $\beta$ -pleated
110. Which group belongs to autogamous crops?  
(A) Wheat, Rice, Corn, Oats  
**(B) Rice, wheat, Oats, Barley**  
(C) Sunflower, Beetroot, Corn, Oats  
(D) Rye, Sorghum, Corn, Barley
111. Heterosis affects specific parts in specific plants. Choose the correct combination.  
(A) Potato-buds, Radish-hypocotyl  
**(B) Turnip-hypocotyl, Radish-hypocotyl**  
(C) Pea, Tendril, Carrot-leaves  
(D) Radish-leaves, Turnip-root
112. Molecular formulae of chlorophyll 'a' and 'b' respectively are  
(A)  $C_{55}H_{70}O_6N_4Mg$  and  $C_{55}H_{72}O_5N_4Mg$   
**(B)  $C_{55}H_{72}O_5N_4Mg$  and  $C_{55}H_{70}O_6N_4Mg$**   
(C)  $C_{40}H_{56}$  and  $C_{40}H_{56}O_2$   
(D)  $C_{40}H_{56}O_2$  and  $C_{40}H_{56}$
113. Amylose and amylopectin, the component of starch contains:  
**(A)  $\alpha$  (1:4) glycosidic linkages**  
 **$\alpha$  (1:6) glycosidic linkages**  
(B)  $\alpha$  (1:3) glycosidic linkages  
 $\alpha$  (1:4) glycosidic linkages  
(C)  $\alpha$  (1:2) glycosidic linkages  
 $\alpha$  (1:3) glycosidic linkages  
(D)  $\alpha$  (1:4) glycosidic linkages  
 $\alpha$  (1:5) glycosidic linkages
114. The only true natural auxin of the the high plants is  
(A) Indole -3-pyruvic acid  
(B) Indole-3-acetaldehyde  
**(C) Indole-3-acetic acid**  
(D) Indole -3-actonitrile
115. Which of the following is an atmosphere nitrogen-fixing, non-heterocystous green algae?  
(A) Aulosira  
(B) Calothrix  
**(C) Gloeotheca**  
(D) Tolypothrix

116. In *Drosophila* compound eyes made hundreds of individual visual called  
**(A) Ommatidia**  
 (B) Chromogen  
 (C) Chromatid  
 (D) Linked
117. Heterosis cannot be used to which plants?  
 (A) Crop plants  
 (B) Fruit plants  
 (C) Ornamental plants  
**(D) Weed plants**
118. The correct sequence in cell cycle is  
 (A) S-M-G<sub>1</sub>-G<sub>2</sub>  
 (B) S-G<sub>1</sub>-G<sub>2</sub>-M  
**(C) G<sub>1</sub>-S-G<sub>2</sub>-M**  
 (D) M-G<sub>1</sub>-G<sub>2</sub>-S
119. Colchicine prevents the mitosis of the cells at which of the following stage?  
 (A) Anaphase and Telophase  
**(B) Metaphase and Anaphase**  
 (C) Prophase and Metaphase  
 (D) Telophase and Anaphase
120. The ribosomes of the chloroplast consists of two ribosomal RNAs, they were:  
**(A) 23 S rRNA and 16 S rRNA**  
 (B) 18 S rRNA and 5.8 S rRNA  
 (C) 28 S rRNA and 5 S rRNA  
 (D) 23 S rRNA and 5 S rRNA
121. In Grapes \_\_\_\_\_ inflorescence is found  
 (A) Cymose-Umbel  
 (B) Mixe spadix  
 (C) Cymose-Corymb  
**(D) Thyrsus**
122. In which of the following cucurbitaceae member tendrils are absent?  
**(A) Ecballium**  
 (B) Coccinia  
 (C) Trichosanthes  
 (D) Solena
123. Obliquely swollen axile placenta in  
**(A) Solanaceae**  
 (B) Asteraceae  
 (C) Euphorbiaceae  
 (D) Leguminose
124. Which of the following palm is monocarpic palm?  
 (A) Borassus  
**(B) Corypha**  
 (C) Areca  
 (D) Phoenix
125. Telegraph plant is :  
 (A) *Desmodium triquetrum*  
 (B) *Desmodium velutinum*  
 (C) *Desmodium gangeticum*  
**(D) Desmodium motorium**

126. In which of the following labiatae member bears solitary flowers?  
**(A) Scultellaria**  
 (B) Monarda  
 (C) Hyptis  
 (D) Coleus
127. Thymol is derived from:  
 (A) Thymus serpyllum  
 (B) Mentha piperia  
**(C) Thymus vulgaris**  
 (D) Lavendulla officinalis
128. Unarmed tree euphorbia species is  
 (A) Euphorbia nivulia  
 (B) Euphorbia cattimandoo  
 (C) Euphorbia antiguorum  
**(D) Euphorbia tiruelli**
129. Ascending imbricate aestivation is characteristic feature of:  
 (A) Papilionaceae  
 (B) Mimosaceae  
**(C) Caesalpiniaceae**  
 (D) Arecaceae
130. Ardil, a synthetic fibre is obtained from a protein present in  
**(A) Arachis hypogea**  
 (B) Cocos nucifera  
 (C) Gossipium hirsutum  
 (D) Orzya sativa
131. Attenuated bacteria retain their capacity:  
**(A) To produce antibodies**  
 (B) To produce disease  
 (C) To retain virulence  
 (D) To produce toxin
132. Agrobacterium tumefaciens that causes crown gall disease has the ability to:  
 (A) causes disease in paddy plants (B) causes cancer in humans  
 (C) causes hairy roots  
**(D) Transform normal plant cell to cancer cell**
133. Hybridoma cells, for the production of monoclonal antibodies are synthesized by fusing:  
 (A) Myeloma cells and red blood cells  
 (B) Antibodies and  $\beta$ -lymphocytes  
 (C) antibodies and antigens  
**(D) Myeloma cells and  $\beta$ -lymphocytes**
134. In alcoholic fermentation, yeast produces \_\_\_\_\_  
**(A) Ethyl alcohol + CO<sub>2</sub>**  
 (B) Ethanol + water  
 (C) Ethyl alcohol + O<sub>2</sub>  
 (D) Ethanol + glucose
135. Polio virus enters the body by contaminated water or food and initially infects the :  
 (A) lower limbs  
 (B) bones joints  
 (C) blood stream  
**(D) gastrointestinal tract**

136. In fed-batch fermentation substrate is added:
- (A) In large quantities
  - (B) In small doses
  - (C) Continuously**
  - (D) Occasionallu
137. \_\_\_\_\_ protect the bacterial cells from desiccation, attachment of bacteriophages and phagocytosis
- (A) cellwall
  - (B) capsule**
  - (C) pilus
  - (D) flagella
138. In bacterial ribosomes, the size of the smaller subunit is
- (A) 20 s
  - (B) 30 s**
  - (C) 70 s
  - (D) 80 s
139. In Pencillin, antibiotic activity is due to :
- (A) benzyl ring
  - (B) methyl group
  - (C)  $\beta$ -lactum ring**
  - (D) porphyrin ring
140. In bacterial growth curve, the log phase shows:
- (A) Rapid growth
  - (B) Delayed growth
  - (C) Exponential growth**
  - (D) Moderate growth
141. The electron microscopy of the loops of lambrush chromosomes have shown the attachment of which enzyme molecules to the principal axis of DNA?
- (A) DNA ligase
  - (B) RNA polymerase**
  - (C) DNA polymerase
  - (D) DNA Replicase
142. The rod like chromosomes with the centromere at its one end giving a very short arm and a very long arm is called as
- (A) Acrocentric**
  - (B) Metacentric
  - (C) Telocentric
  - (D) Sub-metacentric
143. The three general types of cytoskeletal components are:
- (A) Rods, Golgi bodies, Tubulins (B) Actin filaments, rods, lysosomes
  - (C) Actin filaments, microtubules intermediate filaments**
  - (D) Tubulin, Actin, Microtubules
144. How many allelic combinations are produced if a genotype of parent is AaBbCc?
- (A) 8**
  - (B) 9
  - (C) 16
  - (D) 3

145. Skin colour in human beings is an example of:
- (A) Extra chromosomal inheritance
  - (B) Polygenic inheritance**
  - (C) Cytoplasmic inheritance
  - (D) Extra nuclear inheritance
146. In which fungus, pontecorvo observed mitotic crossing over?
- (A) Aspergillus nidulants**
  - (B) Aspergillus fumigatus
  - (C) Neurospora crassa
  - (D) Aspergillus niger
147. In which phase of cell cycle, replication of DNA takes place?
- (A) G<sub>1</sub> phase
  - (B) M phase
  - (C) S phase**
  - (D) G<sub>2</sub> phase
148. Which of the following falls under broad genetic base?
- (A) Gene for stringlessness in beans
  - (B) Peta cytoplasm in rice
  - (C) Opaque-2 gene in maize
  - (D) Open-pollinated variety**
149. A Single gene which affects multiple traits alter the phenotype of the organism is called:
- (A) Pleiotropic gene**
  - (B) Complementary gene
  - (C) Codon
  - (D) Pseudogene
150. A gene which suppresses the activity of a greater at another locus is called:
- (A) Hypostatic gene
  - (B) Codominant gene
  - (C) Supplementary gene
  - (D) Epistatic gene**
151. Which of the following is a significant greenhouse gas with its major source from paddy fields, marshes and swamps
- (A) Methane**
  - (B) Nitrous oxide
  - (C) Chlorofluoro carbons
  - (D) Carbon-di-oxide
152. Which one of the following hydrophytic plant possesses spongy respiratory roots?
- (A) Pistia stratiotes
  - (B) Eichornia crassipes
  - (C) Jussiaea repens**
  - (D) Aponogeton natans
153. Geographic information systems (GIS) which is a computer system designed to analyse and display spatial data is used in:
- (A) Orthophoto maps
  - (B) Overlay analysis**
  - (C) Microwave sensing
  - (D) Infrared sensing



**ALL POWER IS WITHIN YOU**

**ARUNAI ACADEMY FOR PG TRB BOTANY**

**(EXCLUSIVELY FOR BOTANY)**

**DHARMAPURI.**

**CONTACT: 9500244679, 7010753971**

(ஆன்லைன் மற்றும் நேரடிவகுப்புகள்)

**ADMISSION GOING FOR PGTRB BOTANY**

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**ARUNAI ACADEMY FOR PGTRB-BOTANY DHARMAPURI.9500244679/7010753971**

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154. *Taraxacum officinale* is one of the common examples of the following:  
(A) Endermis  
(B) Discontinuous species  
**(C) World wide available**  
(D) Palaeo endemic
155. Which one of the following tree is dominated by the tropical deciduous forests of southern india?  
(A) *Bambusa arundinaceae*  
**(B) *Tectona grandis***  
(C) *Albizzia lebeck*  
(D) *Shorea robusta*
156. Presence of prop roots, pneumatophores and viviparous germination are found in the plants growing in  
**(A) Mangrove forest**  
(B) Swamp forest  
(C) Pine forest  
(D) Savanna
157. \_\_\_\_\_ is a free service over the internet that provides very fast, accurate and sensitive database searching  
(A) FASTA  
(B) BIRCH  
**(C) BLAST**  
(D) BIOCORBA
158. Which of the following is a large scale determination of the three dimensional structure of proteins?  
(A) Functional proteomics  
**(B) Structural proteomics**  
(C) Proteomics  
(D) Expression proteomics
159. NCBI-database which determines the three dimensional biomolecular structure is also called as  
**(A) MMDB**  
(B) PDB  
(C) VAST  
(D) CDD
160. Increase in absorption of ultraviolet light by DNA is called  
(A) Hypertrophy  
**(B) Hyperchromicity**  
(C) Hypophtsectomy  
(D) Hydronium
161. *Potamogeton* and *iosetes* are examples of hydrophytes:  
(A) Rooted floating  
(B) Submerged  
(C) Free floating  
**(D) Rooted submerged**



162. The key nutrients which results in eutrophication are

- (i) Nitrogen
- (ii) Oxygen
- (ii) Phosphorous
- (iv) Carbon

(A) (ii) and (iv)      **(B) (i) and (iii)**  
 (C) (ii) and (iii)      (D) (iii) and (iv)

163. Consider the statement, which is true for a fresh water pond:

- (1) In profundal zone, sunlight will penetrate
- (2) In littoral zone planktons are seen
- (3) In limnetic zone rooted hydrophytes are seen

(A) (1), (2) and (3)  
 (B) (1) and (2)  
 (C) (2) and (3)  
 (D) (3) and (1)

164. In wild type E.Coli does not utilize  $\beta$  glucoside sugar as sole carbon source. This is due to

- (A) Cryptic gene**
- (B) Split gene
- (C) Pseudo gene
- (D) Multi gene

165. Polycistone, short lived, lack of poly A tail and unstable molecules are the

- (A) Prokaryotic mRNA**
- (B) Prokaryotic DNA
- (C) Eukaryotic mRNA
- (D) Eukaryotic tRNA

166. The enzymes involved in DNA replication and their functions. Match the following:

Enzymes	Functions
---------	-----------

- |                |                                |
|----------------|--------------------------------|
| (a) Helicase   | (i) Elongation                 |
| (b) Gyrase     | (ii) Initiation                |
| (c) Polymerase | (iii) Negative supercoils      |
| (d) Primase    | (iv) Seperation of two strands |

(A) (a) (i) , (b) (ii) , (c) (iii) , (d) (iv)

**(B) (a) (iv) , (b) (iii) , (c) (i) , (d) (ii)**

(C) (a) (ii) , (b) (iii) , (c) (iv) , (d) (i)

(D) (a) (iv) , (b) (i) , (c) (ii) , (d) (iii)

167. In passive sensor system, the source of electro magnetic waves of remote sensing is

- (A) Camera
- (B) Satellite

**(C) solar radiation**

(D) RADAR

168. Bio accumulation of \_\_\_\_\_ toxic heavy metals affects kidney and liver

(A) Lead

**(B) Cadmium**

(C) Copper

(D) Zinc

169. Species of bacteria converts sulphate to elemental sulphur by:  
**(A) Thiobacillus**  
(B) Klebsiella  
(C) Nitrosoccus  
(D) Nitrospira
170. In significant role in the stabilization of eco system by natural control and regulation of population is called  
**(A) Bio indicator**  
(B) wild life indicator  
(C) Animal indicator  
(D) Plant indicator
171. E.Coli cells contain \_\_\_\_\_ species tRNA for leucine amino acid  
(A) Two  
(B) Three  
(C) Four  
**(D) Five**
172. \_\_\_\_\_ codon codes for two amino acids glycine and glutamic acid  
**(A) GGA**  
(B) AUG  
(C) GUG  
(D) AGG
173. Matsukemin was used to control which pest?  
**(A) Pine caterpillar**  
(B) Cotton pest  
(C) Gypsy moth  
(D) Brassica pest
174. S-1 Nuclease is used to degrade what?  
(A) Single Stranded RNA  
**(B) Single Stranded DNA**  
(C) Double Stranded DNA  
(D) Double Stranded RNA
175. Electroblotting technique is also called:  
(A) Colony Hybridization  
(B) Southern blotting  
(C) Northern blotting  
**(D) Western blotting**
176. Trade name of glyphosate is:  
(A) Atrazine  
(B) Basta  
**(C) Roundup**  
(D) Gleen
177. Golden rice has additionally \_\_\_\_\_ genes than its parents  
(A) One  
(B) Two  
**(C) Three**  
(D) Four
178. 5<sup>1</sup> GAATTC is a recognition sequence  
3<sup>1</sup>CTTAAG  
(A) Bam HI  
(B) BAM H  
**(C) Eco RI**  
(D) Taq I

179. Meadow forms connecting link between

- (A) Mesophyte and Xerophyte
- (B) Mesophyte and Epiphyte
- (C) Mesophyte and Halophyte
- (D) Mesophyte and Hydrophyte**

180. Eriogonium ovalifolium indicates the presence of \_\_\_\_ in soil

- (A) Silver**
- (B) Copper
- (C) Mercury
- (D) Nickel

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**நமது ARUNAI ACADEMY -யில் பயின்று தேர்ச்சி**

**பெற்று அரசு பள்ளியில் தாவரவியல் முதுகலை**

**ஆசிரியர்களாக பணியில் சேர்ந்துள்ள சாதனையாளர்கள்.....**

SNO	ROLLNO	NAME	MARK	DOB	Gender
1	13PG15060231	SAVEETHA S	100	05/06/1984	F
2	13PG15060213	SUBRAMANI N	98	06/03/1985	M
3	13PG15060219	KOMATHI K S	94	05/09/1980	F
4	13PG30060119	ANANCIA P	94	20/07/1971	F
5	13PG15060075	SIVAKUMAR T	96	27/07/1986	M
6	13PG25060165	MANIVANNAN A M	93	10/05/1981	M
7	14PG06150465	REKA M SC	113	06/06/1986	F
8	14PG06250210	PONNURANGAN P	111	04/06/1985	M

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9	17PG17050052	KALAINIDHI G	104		M
10	17PG17060090	RAMAKRISHNAN K	103		M
11	17PG16060115	SAGADEVAN T	103		M
12	17PG17060330	MADHIYAN C	97		M
13	17PG17060273	MURUGAN K	96		M
14	17PG17060129	SANTHI D	96		F
15	17PG14060165	JOTHI JF	95		F
16	17PG17060482	PARIMALA M	95		F
17	17PG17060150	SANGEETHA S	92		F
18	17PG17060B41	SELVI K	92		F
19	17PG17060078	NANDHINI M	92		F
20	17PG17060104	FATHIMABEGUM A	83		F
21	17PG17060015	DEVI C	90		F
22	17PG16060144	SARAVANAN C	94		M
23	17PG15060439	GAYATHRI M	91		F
24	17PG17060284	AMSAVENI N	87		F
25	16SL02040246	RAMYA S	90	06/10/1989	F
26	16SL02040008	UMAPRIYA S	82	25/10/1979	F
27	16SL03040432	KALAI GNANASELVI M	77	07/03/1986	F

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28	19PG061803103	CHENNAMMAL.C	94	08-Jun-87	Female
29	19PG061500227	SUDHA M	91	10-Jun-88	Female
30	19PG061801079	GOVINDARAJU R	89	30-Jun-76	Male
31	19PG061801110	JAYARAMAN C	89	08-Jun-84	Male
32	19PG061801154	SANJAIGANDHI P	88	05-Jun-80	Male
33	19PG061801151	KATHIRVELU	88	16-Jun-85	Male
34	19PG061801060	ARTHANAREESWARAN P	88	20-May-89	Male
35	19PG061500237	SANGEETHA P	87	16-May-88	Female
36	19PG061807600	RAMESH A	86	05-May-83	Male
37	19PG061300142	SAKTHIVEL K	85	21-Jun-91	Male
38	19PG061500224	SAMBAVI S	84	12-Apr-89	Female
39	19PG062107356	VASANTH K	84	27-Apr-87	Male
40	19PG061809260	KARTHIK M	83	03-Jan-85	Male
41	19PG061803107	POOVARASI S M	83	08-Sep-85	Female
42	19PG061408534	REVATHI K	83	15-May-90	Female
43	19PG061807557	VIVEKANANDAN G	82	10-May-80	Male
44	19PG061301575	THANGARASU M	82	15-Jul-80	Male
45	19PG061800195	MURUGAN T	82	10-Jun-82	Male

46	19PG062110427	SATHEESH KUMAR M	82	06-May-86	Male
47	19PG062105867	C.SUBASHINI	82	19-Jun-86	Female
48	19PG063803521	JAYANTHIA	81	01-Jul-79	Female
49	19PG061500254	MAYIL M	80	25-Apr-80	Female
50	19PG061812379	MUNIRAJU. M.	80	14-Apr-89	Male
51	19PG061803274	A ANITHA	79	27-Nov-81	Female
52	19PG061808460	ANANDAKUMAR D	79	28-Jul-83	Male
53	19PG061812445	MANIVEL M	79	07-Jun-87	Male
54	19PG062750215	SANKILI R	78	20-May-73	Male
55	19PG061801066	MAHENDRAN T	78	05-jun-81	Male
56	19PG062750161	SUGANTHI S	78	03-Feb-83	Female
57	19PG061809264	K TAMILARASAN	77	15-Apr-83	Male
58	19PG061809820	MAHESWARAN M	76	07-Jul-89	Male
59	21PG1122116552	SARANYA S	98	12-04-1989	Female
60	21PG1104089972	SUMATHI S	97	18-03-1985	Female
61	21PG1104088914	DHIVYA E	96	23-03-1990	Female
62	21PG1122114674	G VIJAYALAKSHMI	94	04-03-1984	Female

63	21PG1102081727	L KANAGUMANI	94	08-03-1984	Female
64	21PG1135139049	MALATHI K	94	24-01-1989	Female
65	21PG1132136272	R ELAVARASAN	93	20-05-1981	Male
66	21PG1136141830	DEEPA P	93	11-06-1983	Female
67	21PG1104090258	VINOTH KUMAR M	93	28-05-1984	Male
68	21PG1102084773	SAKTHIVEL S	93	13-06-1986	Male
69	21PG1104088906	THENMOZHI B	93	12-06-1987	Female
70	21PG1104088922	PRIYA A	93	13-06-1989	Female
71	21PG1136141764	AJITHKUMAR C	93	07-06-1996	Male
72	21PG1122113982	SELVAM R	92	05-07-1980	Male
73	21PG1132129905	DILIPAN S	92		
74	21PG1122117042	MOHANAPRIYA B	92	06-05-1987	Female
75	21PG1129126171	A MANIVEL	91	14-02-1980	Male

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76	21PG1102079479	E PUSHPA	91	26-04-1982	Female
77	21PG1132129911	SARAVANAN R	91	30-04-1982	Male
78	21PG1122117194	PARITHA B	91	20-05-1984	Female
79	21PG1122114707	S THANGAMANI	91	05-06-1985	Female
80	21PG1133137753	SHYNI J	91	24-07-1986	Female
81	21PG1104086183	MANIKANDAN R	91	07-02-1989	Male
82	21PG1128125875	GOMATHI S	90	02-06-1980	Female
83	21PG1108093532	R YASODHA	90	13-04-1984	Female
84	21PG1136141844	MATHANKUMAR G	90	12-05-1993	Male
85	21PG1122117118	DHANASEKARAN	89	01-06-1986	Male
87	21PG1122113911	MUTHULAKSHMI S	89	22-04-1987	Female
88	21PG1113105187	MOOVENTHAN S	89	05-06-1987	Male
89	21PG1122116499	ARIVUMATHI M	89	29-06-1997	Female

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90	21PG1132129934	PARTHASARATHY	88	30-05-1983	Male
91	21PG1136141748	V GOPI	88	13-05-1984	Male
92	21PG1122117143	GOVINDHAMMAL	88	14-05-1985	Female
93	21PG1106091720	SHALINI S P	88	24-08-1985	Female
94	21PG1104088918	E DHANASEKARAN	88	04-05-1987	Male
95	21PG1122116059	THENMOZHI N	88	13-05-1995	Female
96	21PG1118110823	B JEEVA	87	15-05-1977	Female
97	21PG1106091640	VIJAYA M	87	20-06-1977	Female
98	21PG1102080216	GUNASELVAM K	87	09-07-1984	Male
99	21PG1108095512	KRISHNAVENI M	87	25-12-1984	Female
100	21PG1110096438	SURESH R	87	03-04-1985	Male
101	21PG1111102677	ESAISELVI S	87	16-05-1990	Female
103	21PG1122116524	S SENTHAMARAI	86	28-05-1978	Female
104	21PG1136141827	POONGKUZHALI R	86	10-05-1981	Female
105	21PG1136141803	UMA A	86	07-06-1981	Female
106	21PG1123118643	P AMUTHA	86	07-05-1982	Female

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107	21PG1102079433	NATARAJAN B	86	03-02-1985	Male
108	21PG1117109842	BHUVANESWARI S	86	19-08-1986	Female
109	21PG1129126695	MANIRAJ R	84	28-05-1988	Male
110	21PG1113105670	KUPPUSAMY A	82	12-03-1981	Male
111	21PG1104089014	GOPAL C	82	15-04-1977	Male
112	21PG1106091662	MAHESWARI C	81	20-05-1987	Female
113	21PG1102079471	K RAJALAKSHMI	80	07-04-1981	Female

**“Success is the sum of small efforts repeated day in and day out.”**

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