

BOTANY
(Final)

1. The most abundant natural polymer found in plant cell walls is?
(A) Pectin (B) Cellulose
(C) Chitin (D) Lignin
2. Lichen is a
(A) Symbiotic organism (B) Asymbiotic organism
(C) Obligate parasite (D) Pteridophyte
3. A symbiotic association between fungi and the roots of vascular plants is called as
(A) Mycorrhiza (B) Mycelium
(C) Mycoparasite (D) Coleorrhiza
4. Study of fossil soils is
(A) Paleopedology (B) Paleoecology
(C) Paleobotany (D) Agronomy
5. The study of fossilized pollen grains and spores is termed as
(A) Paleobotany (B) Palynology
(C) Photography (D) Videography
6. Which is the living fossil?
(A) *Welwitschia mirabilis* (B) *Sciadopitys verticillata*
(C) *Retrophyllum rospigliosii* (D) *Ginkgo biloba*
7. The characteristic feature of gymnosperms is
(A) naked seed (B) without seed
(C) covered seed (D) no photosynthesis
8. Phycology is the study of
(A) Fungi (B) Algae
(C) Bryotphytes (D) Angiosperms
9. Which one is produced by baker's yeast with the fermentation of sugar?
(A) Methanol (B) Butanol
(C) Ethanol (D) Acetone

10. Mushroom is
- (A) an algae (B) a fungus
(C) a parasite (D) a bryophyte
11. Chorophyta includes
- (A) Photosynthetic eukaryotes
(B) Non photosynthetic eukaryotes
(C) Photosynthetic prokaryotes
(D) Non photosynthetic prokaryotes
12. Vessels are present in all of the following plants except
- (A) Pinus (B) Rose
(C) Neem (D) Mango tree
13. Which of the following water conducting element is considered as most advanced?
- (A) Tracheids (B) Multiple vessels
(C) Annular tracheids (D) Simple vessels
14. Which of the following are the examples of phloem fibres?
- (A) Jute (B) Hemp
(C) Flax (D) All of the above
15. The waxy substance associated with the wall of cork cells is
- (A) Cutin (B) Lignin
(C) Hemicellulose (D) Suberin
16. A simple mechanical tissue devoid of lignin is
- (A) Parenchyma (B) Sclerenchyma
(C) Collenchyma (D) Chlorenchyma
17. Abnormal secondary growth is found in
- (A) *Dracaena* (B) *Triticum*
(C) *Helianthus* (D) *Cucurbita*
18. External protective tissues of plants are
- (A) Cork and cortex (B) Cortex and epidermis
(C) Epidermis and cork (D) Pericycle and cortex

19. The bark of a tree comprises
- (A) all the tissues outside the cork cambium
 - (B) all the tissues outside the vascular cambium
 - (C) only the cork
 - (D) tissues inside the cork cambium
20. Cork cells are impermeable to water because of the presence of
- (A) Lignin
 - (B) Cutin
 - (C) Suberin
 - (D) Pectin
21. Fusion of male gamete with polar nuclei of embryo sac is known as
- (A) Pollination
 - (B) Embryogeny
 - (C) Triple fusion
 - (D) Double fertilization
22. The entry of pollen tube into the ovule through micropyle is called
- (A) Isogamy
 - (B) Anisogamy
 - (C) Porogamy
 - (D) Chalazogamy
23. Development of embryo from gametophyte without the intervention of gamete is known as
- (A) Apospory
 - (B) Apogamy
 - (C) Apomixis
 - (D) Aposporogamy
24. The exine of mature pollen grain is composed chiefly of
- (A) Lipids
 - (B) Cellulose
 - (C) Pectocellulose
 - (D) Sporopollenin
25. During fertilization, the pollen tube discharges its contents in the
- (A) Central cell
 - (B) Egg
 - (C) Microphyle
 - (D) Synergid
26. The Commelinaceae family is commonly known as the
- (A) Spiderwort family
 - (B) Aster family
 - (C) Grass family
 - (D) Lily family
27. Binomials with identical genus name and specific epithet are called
- (A) Homonym
 - (B) Tautonym
 - (C) Basionym
 - (D) Synonym

28. The newly collected specimen which is used as a substitute, when the original type material is missing in a herbarium, is designated as
- (A) Lectotype (B) Holotype
(C) Neotype (D) Isotype
29. Natural system of classification of plants differs from artificial system of classification in
- (A) taking into account only one vegetative character
(B) taking into account only one floral character
(C) taking into account all the similarities between plants
(D) All of the above
30. Which one of the following chemicals is a DNA intercalator?
- (A) 5-Bromouracil (B) Ethyl methane sulfonate
(C) Acridine orange (D) UV
31. Which one of the following neurotransmitters is secreted by the pre-ganglionic neurons of sympathetic nervous system?
- (A) Epinephrine (B) Acetylcholine
(C) Dopamine (D) Norepinephrine
32. Which of the following statements about evolution is true?
- (A) Evolution is the product of natural selection
(B) Evolution is not goal-oriented
(C) Evolution won't evolve Prokaryotes
(D) Both (A) and (B)
33. Predominant interactions between phospholipids that stabilize a biological membrane include
- (A) hydrogen bonds and covalent interactions
(B) van der Waal and ionic interactions
(C) hydrophobic interactions and hydrogen bonding
(D) covalent and hydrophobic interactions
34. Entry of enveloped viruses into its host cells is mediated by
- (A) only endocytosis
(B) both endocytosis and phagocytosis
(C) both endocytosis and membrane fusion
(D) only pinocytosis

35. Which of the following National parks has the highest density of tigers among protected areas in the world?
- (A) Jim Corbett (B) Kaziranga
(C) Keoladeo Ghana (D) Manas
36. Excess oxygen consumed after a vigorous exercise is to
- (A) pump out lactic acid from muscle
(B) increase the concentration of lactic acid in muscle
(C) reduce dissolved carbon dioxide in blood
(D) make ATP for gluconeogenesis
37. Which of the following mutagens is most likely to result in a single amino acid change in a gene product?
- (A) Acridine orange
(B) X-rays
(C) Ethylmethane sulphonate (EMS)
(D) Ethidium bromide (EtBr)
38. Green revolution occurred during
- (A) 1960 (B) 1940
(C) 1950 (D) 1930
39. Selection of homozygous plant is termed as
- (A) Pure line selection (B) Mass selection
(C) Clonal selection (D) Both (A) and (C)
40. A plant bearing both male and female flowers is said to be
- (A) Dioecious (B) Monoecious
(C) Polygamous (D) Asexual
41. Wind pollination is also known as
- (A) Anemophyly (B) Entomophyly
(C) Zoophyly (D) Hydrophyly
42. Actual petrified remains of ancient plants and animals or impressions left by them in rocks are called
- (A) Models (B) Traces
(C) Fossils (D) Images

43. Adjustment of individuals to their environment by means of special structures or of function is termed as
- (A) Mutation (B) Heredity
(C) Variation (D) Adaptation
44. A hybrid is always
- (A) Heterozygous (B) Homozygous
(C) Often homozygous (D) Both (A) and (B)
45. One of the following is not a double membranous structure
- (A) Mitochondrion (B) Vacuole
(C) Chloroplast (D) Nucleus
46. Mendel formulated some laws which are known as
- (A) Laws of germplasm (B) Laws of origin of species
(C) Laws of recapitulation (D) Laws of inheritance
47. The alleles are
- (A) a pair of genes governing a specific character such as tallness or dwarfness
(B) multiple forms of genes
(C) genes governing eye characters
(D) genes present in allosomes
48. An organism with two identical alleles for a given trait is
- (A) homozygous (B) segregating
(C) dominant (D) a hermaphrodite
49. The resemblance of individuals to their progenitors is called
- (A) Heredity (B) Genetics
(C) Evolution (D) Epigenetics
50. Maximum biodiversity can be seen in
- (A) Tropical rain forest (B) Temperate forest
(C) Savanna (D) Alpine forest
51. The most important adaptation of mangrove plants is
- (A) Vivipary (B) Thick cuticle
(C) Thick Bark (D) Thick leaves

52. Tendency of pollutants to become concentrated in successive trophic levels is known as
- (A) Biomagnification (B) Biorhythm
(C) Bioremediation (D) Biopiracy
53. More than half of the Earth's flora and fauna are found in
- (A) Tundra (B) Tropical rain forests
(C) Grasslands (D) Chapparal
54. Two biodiversity hot-spots in India
- (A) Eastern Himalayas and Western Ghats
(B) Western Himalayas and Western Ghats
(C) Eastern Himalayas and Eastern Ghats
(D) Western Himalayas and Eastern Ghats
55. Eutrophication is
- (A) an improved water quality status of lakes
(B) the result of accumulation of plant nutrients in water bodies
(C) a process in the carbon cycle
(D) a water purification technique
56. The largest reservoir of nitrogen in our planet is
- (A) Ocean (B) Atmosphere
(C) Biosphere (D) Fossil fuels
57. Father of medicine is
- (A) Aristotle (B) Dioscorides
(C) Hippocrates (D) Galen
58. Flower bud of drug showing medicinal importance is
- (A) Saffron (B) Clove
(C) Fig (D) Caraway
59. *Vinca rosea* belongs to the family
- (A) Rubiaceae (B) Solanaceae
(C) Apocyanaceae (D) Erythroxyllaceae
60. The important chemical constituent of rauwolfia is
- (A) Reserpine (B) Resercinnamine
(C) Ajamalicine (D) Desperidine

61. One of the following is the source of rubber
- (A) *Hevea brasiliensis* (B) *Tectona grandis*
(C) *Cedrus deodara* (D) *Michelia chàmaca*
62. Saffron is produced from
- (A) Roots of *Indigofera* (B) Petals of *Rosa*
(C) Stamens of *Hibiscus* (D) Style and Stigma of *Crocus*
63. 'Holy basil' is the synonym for the following drug producing herb
- (A) *Alpinia officinarum* (B) *Allium sativum*
(C) *Nardostachys jatamonus* (D) *Ocimum sanctum*
64. Cross pollination is essential in the following type of vegetables
- (A) Monoecious (B) Dioecious
(C) Gynoecious (D) Perigynous
65. Maturation of anthers and stigma at the same time refers to
- (A) Homogamy (B) Chasmogamy
(C) Cleistogamy (D) Dichogamy
66. In tissue culture medium, the embryos formed from pollen grains is due to
- (A) Cellular totipotency (B) Organogenesis
(C) Double fertilization (D) Test tube culture
67. Indian Institute of Horticulture Research (IIHR) is established at
- (A) Bangalore (B) New Delhi
(C) Lucknow (D) Jodhpur
68. Biostatistics is also called as
- (A) Biometry (B) Bio-numerology
(C) Biometeorology (D) Algebra
69. The standard deviation is the square of
- (A) standard error (SD) (B) mode
(C) variance (D) regression
70. Interference RNA was discovered by
- (A) Cohen and Boyer (B) Fire and Mello
(C) Yonath and Ramakrishnan (D) Holley and Khorana

71. Which one among the following plants is not a GMO?
- (A) Bt cotton (B) Golden rice
(C) Bt Brinjal (D) Pomato
72. The first transgenic plant was
- (A) Pea (B) Tobacco
(C) Flax (D) Cotton
73. Which one among the following bacteria has been generally used in genetic engineering research?
- (A) *Bacillus* (B) *E. coli*
(C) *Pseudomonas* (D) *Agrobacterium*
74. Which one among the following is used as an anionic detergent in SDS-PAGE?
- (A) Cetyl trimethylammonium bromide (CTAB)
(B) Sodium chloride (NaCl)
(C) Ethylenediaminetetraacetic acid (EDTA)
(D) Sodium dodecyl sulphate (SDS)
75. Which base in RNA is replaced by uracil?
- (A) Thymidine (B) Guanine
(C) Cytosine (D) Adenine
76. Which one among the following enzymes uses ATP to add a phosphate group to the substrate?
- (A) Isomerase (B) Kinase
(C) Aldolase (D) Enolase
77. Sucrose is composed of
- (A) Fructose and maltose (B) Glucose and galactose
(C) Fructose and galactose (D) Fructose and glucose
78. Cell without cell wall is termed as
- (A) Apoplast (B) Protoplast
(C) Symplast (D) Tonoplast
79. Plant and animal cell possess
- (A) Cell walls (B) Mitochondria
(C) Central vacuoles (D) Chloroplast

80. Mycorrhizae are symbiotic associations between
- (A) algae and fungi (B) bacteria and fungi
(C) bacteria and root (D) root and fungi
81. Which technique is used to introduce genes into dicots?
- (A) Ti plasmid infection (B) Microinjection
(C) Particle acceleration (D) Electroporation
82. Which one among the following auxins is a naturally occurring form in plants?
- (A) Naphthalenacetic acid (NAA)
(B) 2,4-dichlorophenoxyacetic acid (2,4-D)
(C) Indole-3-acetic acid (IAA)
(D) Picloram
83. Black rust of wheat is caused by
- (A) *Puccinia recondita* (B) *P.graminis*
(C) *P.striiformis* (D) *Alternaria solani*
84. Coenocytic mycelium occurs in the members of
- (A) Ascomycetae (B) Basidiomycetae
(C) Deuteromycetae (D) Phycomycetae
85. Which of the following species of *Agaricus* is poisonous?
- (A) *A campestris* (B) *A bisporus*
(C) *A xanthodermus* (D) *A rodmani*
86. The female reproductive structure in many lichens is called as
- (A) Carpogonium (B) Oogonium
(C) Ascogonium (D) Ascomata
87. Bacteria in which flagella are found all over the body wall are known as
- (A) Gram positive (B) Gram negative
(C) Atrichous (D) Peritrichous
88. The group of plants referred as 'amphibians' of plant kingdom is
- (A) Bryophytes (B) Mosses
(C) Liverworts (D) Hornworts

89. Scientific name of red wood tree is
- (A) *Cedrus* (B) *Pinus*
(C) *Dalbergia* (D) *Sequoia*
90. Scientific name of pigeon pea is
- (A) *Lens culinaris* (B) *Cajanus cajan*
(C) *Pisum arvense* (D) *Pisum sativum*
91. The function of the root cap is
- (A) to absorb nutrients
(B) storage of end products
(C) protection of root tip and control of geotropic movement
(D) for stylish look
92. In *Bougainvillea* large coloured structures are
- (A) Bracts (B) Stamens
(C) Petals (D) Sepals
93. The phenomenon of polyembryony was first observed in
- (A) *Mangifera* (B) *Cucurbita*
(C) *Citrus* (D) *Euphorbia*
94. The first and great plant taxonomist is
- (A) Hooker (B) Engler
(C) Linnaeus (D) Aristotle
95. The National Botanical Research Institute (NBRI) is located at
- (A) Delhi (B) Dehradun
(C) Lucknow (D) Darjeeling
96. The botanical name of cauliflower is
- (A) *Brassica oleracea* var. *botrytis*
(B) *Brassica oleracea* var. *capitata*
(C) *Brassica oleracea* var. *gongylodes*
(D) *Brassica campestris*
97. Which one among the following trees yields valuable timber?
- (A) *Acacia arabica* (B) *Dalbergia sisso*
(C) *Mangifera indica* (D) *Prosopis specigera*

98. Which one among the following is the largest family of the plant kingdom?
- (A) Compositae (B) Leguminosae
(C) Gramineae (D) Orchidaceae
99. The Indian rubber plant belongs to the family
- (A) Euphorbiaceae (B) Moraceae
(C) Asclepiadaceae (D) Sapotaceae
100. From which part of *Cinchona*, quinine is extracted?
- (A) Roots (B) Seeds
(C) Bark (D) Fruits
101. Which one among the following crops occupies higher cultivation acreage in India?
- (A) Jowar (B) Wheat
(C) Bajra (D) Rice
102. The characteristic smell in garlic is due to
- (A) an alkaloid (B) a symbiotic virus
(C) diallyl disulphide (D) a corticosteroid
103. Fenny is distilled from
- (A) *Vitis vinifera* (B) *Juniperus communis*
(C) *Borassus flabellifer* (D) *Anacardium occidentale*
104. Cilia are produced by
- (A) Centrioles (B) Peroxisomes
(C) Dictyosomes (D) Golgi body
105. Auxins are
- (A) Phytohormones (B) Proteins
(C) Porphyrins (D) Cell osmophores
106. Thigmotropism is the response of plants to
- (A) Gravity (B) Water
(C) Light (D) Touch
107. The term synecology refers to the study of
- (A) Plant community (B) Individual organism
(C) Environment (D) Plant-animal interactions

108. Building blocks of the nucleic acids are
- (A) Amino acids (B) Nucleoproteins
(C) Nucleotides (D) Nucleosides
109. Chromosome of prokaryotes is composed of
- (A) DNA (B) Protein
(C) RNA (D) DNA, RNA and proteins
110. The nucleolus is composed of
- (A) DNA, RNA and protein
(B) DNA and RNA only
(C) DNA and protein only
(D) Nucleic acids, proteins and phospholipids
111. Which one among the following plants is a millet?
- (A) *Triticum aestivum* (B) *Zea mays*
(C) *Oryza sativa* (D) *Eleusine coracana*
112. Angiosperms are
- (A) Open seeded plants (B) Closed seeded plants
(C) Seedless plants (D) Aquatic plants
113. When the calyx and corolla are combined, it is called
- (A) Epicalyx (B) Leaf sheath
(C) Bracteole (D) Perianth
114. Botanical name of wheat is
- (A) *Triticum* (B) *Oryza*
(C) *Bambusa* (D) *Ricinus*
115. Radish is a
- (A) Bulb (B) Modified root
(C) Tuber (D) Stem
116. *Solanum tuberosum* is
- (A) Tomato (B) Potato
(C) Banana (D) Mango

117. The collection of dried plant specimens is called
- (A) Vivarium (B) Aquarium
(C) Terrarium (D) Herbarium
118. The smallest gymnosperm is a species of
- (A) *Ephedra* (B) *Zamia*
(C) *Cycas* (D) *Gnetum*
119. *Eugenia caryophyllus* is the botanical name of
- (A) Clove (B) Eucalyptus
(C) Coriander (D) Cardamom
120. Krebs cycle occurs in
- (A) Cytoplasm (B) Ribosomes
(C) Mitochondria (D) Chloroplasts
121. Agar is extracted from
- (A) Blue-green algae (B) Brown algae
(C) Green algae (D) Red algae
122. *Datura* belongs to the family
- (A) Compositae (B) Cruciferae
(C) Liliaceae (D) Solanaceae
123. Acid rain is due to
- (A) Sulphur dioxide pollution (B) Carbon monoxide pollution
(C) Pesticide pollution (D) Dust particles
124. Viruses contain
- (A) Only DNA (B) Only RNA
(C) Either DNA or RNA (D) Both DNA and RNA
125. Where is the Sugarcane Breeding Institute located?
- (A) Lucknow (B) Mysore
(C) Coimbatore (D) Ludhiana
126. The drug 'Belladonna' is obtained from
- (A) *Atropa* (B) *Rawolfia*
(C) *Solanum* (D) *Capsicum*

127. Pine and fir are abundant in
- (A) Tropical forests (B) Coniferous forests
(C) Temperate forests (D) Polar forests
128. Air pollution effects on plants are mostly found on
- (A) Leaves (B) Flowers
(C) Stems (D) Roots
129. As water pollution increases in a stream, the values of BOD and COD change in the following manner
- (A) BOD decreases and COD increases
(B) BOD increases and COD decreases
(C) Both decrease
(D) Both increase
130. Which part of the coconut produces coir?
- (A) Seed coat (B) Pericarp
(C) Mesocarp (D) Epicarp
131. A dihybrid ratio according to Mendelian genetics is
- (A) 1:1:1:1 (B) 3:1
(C) 9:3:3:1 (D) 9:5:1:1
132. Cotton fibres are made up of
- (A) Cellulose (B) Starch
(C) Lignin (D) Protein
133. The embryo in sunflower has
- (A) No cotyledon (B) One cotyledon
(C) Two cotyledons (D) Many cotyledons
134. When a plant of F-1 generation is crossed with homozygous dominant plants, it is termed as
- (A) Simple cross (B) Test cross
(C) Backcross (D) Special cross
135. The main function of lysosomes is
- (A) Digestion (B) Replication
(C) Translation (D) Translocation

136. Mutations are caused due to exposure to
- (A) Radioactive mutagens (B) Chemical mutagens
(C) Radiation mutagens (D) Carcinogens
137. Algae found growing attached to soil substratum are called as
- (A) Epilithic (B) benthos
(C) Epipellic (D) Sciophytic
138. Tuberculosis is caused due to the infection by
- (A) *Clostridium* (B) *Mycobacterium*
(C) *Salmonella* (D) *Treponema*
139. Pneumatophores are usually present in
- (A) Mangrove plants (B) Xerophytes
(C) Hydrophytes (D) Epiphytes
140. Storage leaves are founds in
- (A) *Trapa* (B) *Allium*
(C) *Triticum* (D) Maize
141. The fruit of grasses is usually a
- (A) Capsule (B) Achene
(C) Nut (D) Caryopsis
142. Which one among the following is a prokaryote?
- (A) *Spirogyra* (B) *Rhizopus*
(C) *Escherichia* (D) *Amoeba*
143. Mitochondria are absent in
- (A) Yeast (B) Fungi
(C) Bacteria (D) Green algae
144. Wilting occurs in plants when
- (A) Epidermis is peeled off (B) Phloem is blocked
(C) Xylem is blocked (D) Pith is removed
145. Which one among the following is an insectivorous plant?
- (A) *Cuscuta* (B) *Orobranche*
(C) *Drosera* (D) *Rafflesia*

146. The flowering responses of plants can be changed by
- (A) Induced mutations
 - (B) Photoperiodic treatment
 - (C) Injection of enzymes
 - (D) Somatic hybridisation
147. RNA is absent in
- (A) Plasma membrane
 - (B) Cytoplasm
 - (C) Chromosome
 - (D) Ribosome
148. Genes control
- (A) Heredity but not protein synthesis
 - (B) Protein synthesis but not heredity
 - (C) Protein synthesis and heredity
 - (D) Biochemical reactions of enzyme
149. Mycorrhiza is
- (A) a fungus parasitizing root system of higher plants
 - (B) an association of rhizobium with the roots of leguminous plants
 - (C) a symbiotic association of plant leaves and certain fungi
 - (D) an association of algae and fungi
150. Crossing over involves
- (A) Deletion of chromosomes
 - (B) Addition of chromosomes
 - (C) Exchange of genetic materials
 - (D) Duplication of chromosomes
