

# ARUNAI ACADEMY FOR PG TRB-BOTANY DHARMAPURI.9500244679

## MODEL TEST-I

- The synangium is present in the following pteridophytic genera:  
i. Rhynia    ii. Psilotum    iii. Zosterophyllum    iv. Asteroxylon  
of these  
a. I and III are correct    b. III and IV are correct  
c. I only correct    d. II only correct
- A Sorus in which all sporangia appear. Grow and mature at the same time is called as  
I. Mixed and Gradate    II. Simple only  
III. Gradate and uniform    IV. Uniform only  
of these  
a. I and IV are correct    b. IV only is correct  
c. II only is correct    d. III and I are correct
- In nucleic acids (DNA and RNA) the phosphate is attached to the sugar by  
a. Hydrogen bond    b. Glycosidic bond  
c. Ester bond    d. Disulphide bond
- Match List I correctly with List II and select your answer using the codes given below

### List- I

### List –II

- |                   |  |
|-------------------|--|
| A. Sub-fossils    | 1. Pollen spores                           |
| B. Pseudo fossils | 2. Wood, seed, fruits                      |
| C. Mega fossils   | 3. Non-petrified, carbonized plant remains |
| D. Micro fossils  | 4. Rocks formed in the form of plant parts |

### Codes

- |      |   |   |   |
|------|---|---|---|
| A    | B | C | D |
| a. 4 | 2 | 3 | 1 |

- b. 4 3 2 1  
 c. 3 4 2 1  
 d. 3 4 1 2
5. Ribozymes are  
 a. enzymes present in the ribosomes  
 b. Enzyme which combines the ribosomal subunits  
 c. Enzymes to dissociate the ribosomal subunits  
 d. Enzymes made up of RNA, not protein
6. Select the plants that are believed to be existed during Devonian  
 a. Diatoms and brown algae      b. Chora and red algae  
 c. Psilopsids and sphenopsids      d. Cyanobacteria and bacteria'
7. 'Coal balls' with respect to fossils refer to  
 a. Petrified plant organs      b. impressions of plant organs  
 b. External parts preserved as cast      d. compression type of plant organs
8. Consider the following statements on the order coniferales  
 I. Plants are usually long. Branched evergreen trees  
 II. The branches are dimorphic with long and dwarf shoots  
 III. The wood is pyenoxylic  
 IV. The male gametes are mobile with numerous flagella  
 Which of the above statements is not true?  
 a. I and III      b. II, III and IV      c. II only      d. IV only
9. The distribution pattern of organisms found around the high latitudes of the southern hemisphere  
 a. Cosmopolitan distribution      b. Circumpolar distribution  
 c. Circumboreal      d. circumastral distribution
10. The headquarters of International plant Genetic Resources Institute located at IPGRI  
 a. Geneva      b. Rome      c. London      d. New Delhi
11. Vegetative reproduction by buds and bulbils is common in  
 a. Pinus      b. Ephedra      c. Gnetum      d. Cycas
12. Choose the correct match  
 I. Sperms bifiagellate – Mosses and Liverworts  
 II. Sperms uniflagellate - Mosses and Marchantia  
 III. Sperms multiflagellate – Mosses and Funaria

IV. Sperms triligellate - Mosses and Polytrichum

Of these

- a. I is correct      b. I and III are correct      c. II and IV are correct      d. II is correct

13. According to telome theory, the earliest leaves are flattened telomes which are called as

- a. Mesoids      b. Phylloids      c. Syntelomes      d. Phylloclade

14. Match the following

	A	B	C	D
A. Unit membrane model - i. Hiller and Hoffman	a. ii	iv	i	iii
B. Bimolecular leaflet model- ii. Singer and Nicolson	b. iii	iv	ii	i
C. Fluid mosaic mode -iii. Robertson	c. iv	iii	ii	i
D. Micerllar model -iv. Danielli and Dauson	d. ii	iii	i	iv

15. DNA polymerase I, discovered by Kornberg et al (1955), is a multifunctional enzyme it

- a. Catalyses the addition of nucleotide residues of primer RNA at 3' end  
 b. Catalyses 3' – 5' exonuclease activity  
 c. Catalyses 3 – 5' endonuclease activity  
 d. is chiefly responsible for DNA chain

16. Endemism term coined by

- a. Von Humboldt      b. linnaeus  
 c. Augustin P. de Candolle      d. Nelson & Platnick

17. The first International Botanical Congress was held at Paris in

- a. August 1867      b. August 1868      c. August 1767      d. August 1869

18. Any one of two or more name s used for the same taxon rank; a rejected name due to misapplication or difference in taxonomic judgment.

- a. Synonym      b. homonym      c. tautonym      d. taxon

19. Liriodendron tulipifera is belongs to

- a. Ranunculaceae      b. Magnoliaceae      c. Polygalaceae      d. Caryophyllaceae

20. choose the correct order of Epochs of Cenozoic

I. Paleocene    II. Eocene    III. Oligocene    IV. Miocene    V. Pliocene    VI. Pleistocene  
 VII. Holocene

- a. I, II, III, V, VII, IV, VI      b. VII, VI, V, IV, III, II, I  
 C. I, II, III, IV, V, VII, VI      d. I, II, III, IV, V, VI, VII

21. The term Biophytolysts' refers to
- Capability of certain bacteria in sunlight
  - Capability of certain fungi during respiration at sunlight
  - Capability of certain algae to produce hydrogen from water and light
  - Capability of certain water plants in sunlight
22. Fossil protilepidodendales is
- Herbaceous Heterosporous
  - tree Heterosporous
  - Herbaceous homosporous
  - tree homosporous
23. Fossil Sigillaria belongs to
- Fern
  - Gymnosperm
  - Bryophytes
  - Algae
24. Gondwanaland is the name given to a
- dinosaur
  - land plant
  - Devonian fish
  - Permian continent
25. Their sporangia present on reduced branches called sporangiophores found in fossil of
- Rhyniophyta
  - Arthropitya
  - Zosterophyllophyta
  - Trimerophytophyta
26. Giant horsetail belongs to
- Rhyniophyta
  - Arthropitya
  - Microphylllophyta
  - Trimerophytophyta
27. Saffron is produced from
- roots of Indigofera
  - petals of Rosa
  - stamens of Hibiscus
  - Style and stigma of Crocus
28. Flowers in Ranunculaceae are characterized by
- Cyclic arrangement of floral whorls on a short thalamus
  - Spiral arrangement of stamens and carpals on a short thalamus
  - Cyclic arrangement of floral whorls on a long thalamus
  - Spiral arrangement of stamens and carpals on an elongated thalamus
29. Berberine alkaloids are widely distributed in plants belonging to families berberidaceae and
- Combretaceae
  - Liliaceae
  - Ranunculaceae
  - Asteracea
30. Which of the following is known as the castor family
- Solanaceae
  - Lauraceae
  - Loranthaceae
  - Euphorbiaceae
31. Number of seed plants described by Bentham and Hooker's classification were
- 102
  - 302
  - 402
  - 202
32. The term ICTV used to

- a) Viruses classification                      b) Bacteria classification  
 c) viruses culture test                        d) Bacteria culture test
33. Leaf bearing sporangia found on  
 a) Sphenophytes                      b) seed fern                      c) williansonia                      d) Fillicineae
34. The egg secretes pheromone in  
 a) chara                      b) chlamydomonas                      c) fucus                      d) polysiphonia
35. Which has the highest absorption per unit mass at a wavelength of 260 nm?  
 a. Double stranded DNA                      b. Mononucleotides                      c. RNA                      d. Protein
36. Viruses are acquired and transmitted in less than 5 minutes  
 a. Non-persistent transmission                      b. Semi-persistent transmission  
 c. Persistent transmission                      d. all of these
37. Plastochron refers to  
 a. Pigment associated with photoperiodism                      b. Photosynthetic unit  
 c. Time interval between the inception or formation of two successive layers in the shoot apex                      d. None of these
38. N1 and SM1 are  
 a. algal viruses                      b. mycoviruses  
 d. Bacterial viruses                      d. Small chromosome segment
39. Azotobacter, Beijerinckia are  
 a. These bacteria present in the rhizosphere of graminaceous plants and symbiotically fix atmospheric nitrogen.  
 b. Form nodules in legume roots and fix atmospheric nitrogen  
 c. Present in the soil as heterotrophs use variety of carbon sources in soil and fix atmospheric nitrogen  
 d. Endoparasites
40. Bergey's Manual of systematic bacteriology has  
 a) 1 volume                      b. 2 volumes                      c. 3 volumes                      d. 4 volumes
41. Which of the following lichen yields large amount of calcium oxalate crystals  
 a. Cetraria islandica                      b. Lecanora esculenta                      c. Ochrolechia                      d. Parmelia
42. Who proved that oxygen evolved in photosynthesis comes from water?  
 a) Mayer                      b) Melvin Calvin                      c) Hatch                      d) Ruben and Kamen
43. Extranuclear mtDNA, chloroplast DNA  
 a. Do not encode protein                      b. Encode protein which are expressed only in ribosomes

- c.Encode protein which are expressed only in mitochondria and chloroplast  
d.Encode proteins which are expressed anywhere with cell
44. Phloroglucinol specifically used to stain  
a. Cellulose      b. Lignin      c. Suberin      d. pectin
45. The ovule types seen among the members of centrospermae are  
a. Anatropous and circinotropous      b. Campylotropous and amphitropous  
c. Circinotropous only      d. Anatropous only
46. Amphivasal vascular bundle consists of  
a. Xylem surrounding phloem      b. Phloem surrounding xylem  
c. Xylem and phloem in same line      d. Xylem and phloem as separate strands
47. Totipotency is  
a. Dedifferentiation and dedifferentiation      b. Dedifferentiation and Redifferentiation  
c. Differentiation and Redifferentiation      d. Dedifferentiation and Differentiation
48. Tenuinucellate type of ovule consists of  
a. Small nucellus      b. Large nucellus      c. No nucellus      d. Perisperm
49. A group of cells below the embryo sac in the chalazal region is called as  
a. Epistase      b. Hypostase      c. Suspensor      d. Haustoria
50. Select the following statement which is correct  
I. Leg haemoglobin is located in root nodules  
II. Leg haemoglobin combines with oxygen and protects nitrogenase  
III. Leg haemoglobin is an oxygen scavenger  
IV. Leg haemoglobin is pink coloured and is product of Rhizobium and legume complex  
a.I Only      b.I and II Only      c.I,II,III only      d.all of these
51. The transfer of minerals from top soil to sub soil through soil water is called  
(a) Transpiration      (b) Conduction      (c) Percolation      (d) Leaching
52. Function of Zinc is  
(a) Synthesis of chlorophyll b      (b) Biosynthesis of Indole 3 - IAA  
(c) Closing of Stomata      (d) Oxidation of carbohydrate
53. Which of the following is the easiest method of gene transfer?  
a) Protoplast fusion      b) Electroporation  
c) Transformation      d)Gene gun
54. Meosomes are also known as

- a. Mitochondria    b. Endoplasmic reticulum    c. Plasmids    d. Chondroids
55. Tansley proposed
- a. Mono-climax Theory    b. Poly climax Theory  
c. Climax-pattern Theory    d. Climax as Vegetation Theory
56. Epibiotics means
- a. The plants belong to fossil groups and are restricted to few pockets due to favourable climate, lack of competition  
b. A taxon is evolutionarily young and not yet spread over the new area  
c. The plants belong to fossil groups and are distributed upper geological region to few pockets due to favourable climate, lack of competition  
d. Restricted diploids which have given rise to widespread polyploids.
57. Which of the following pairs are correctly matched? Principal wave length of light physiological event
1. 700 nm – Photosystem – I    2. 650 nm – photosystem – II  
3. 690 nm – photosystem – II    4. 620 nm – Phycocyanin
- Select the correct answer using codes
- a. 1,2 and 4    b. 1,3 and 4    c. 2 and 4    d. 1 and 3
58. according to Theory of Continental drift- The two landmasses were separated by
- a. Tethys Sea    b. Pangaea    c. Panthalassa    d. Gondwanaland
59. Alpha Taxonomy is
- a. Primitive taxonomy    b. Descriptive taxonomy  
c. Natural taxonomy    d. Taxonomy based on only morphological characters
60. The DNA polymerase involved in base excision repair is
- a) DNA polymerase  $\alpha$     b) DNA polymerase  $\beta$   
c) DNA polymerase  $\sigma$     d) DNA polymerase  $\gamma$
61. .Which of the following leads to disruption of nucleosomal structure?
- a) Acetylation    b) Carboxylation    c) Phosphorylation    d) Methylation
62. XY sex chromosomes were discovered by
- a. Mendel    b. R Brown    c. Nettie Stevens    d. M J D White
63. Which of the following is correct?
- a. A forms 2 hydrogen bonds with G; T forms 3 hydrogen bonds with C  
b. A forms 3 hydrogen bonds with T; G forms 2 hydrogen bonds with C  
c. A forms 2 covalent bonds with T; G forms 3 covalent bonds with C

- d. A forms 2 hydrogen bonds with T; G forms 3 hydrogen bonds with C
64. Cyanobacteria begins producing free oxygen (photosynthesis)  
a. Cambrian b. Ordovician c. Silurian d. Proterozoic
65. Ginkgo biloba is a living fossil gymnosperm that first appeared during the  
a. Permian b. Triassic Period c. Jurassic period d. Silurian
66. Who coined the term clone?  
a. Webber b. Johansen c. Gardner d. Louis de Vilmorin
67. Which of the following photosynthetic characteristics are present in C<sub>3</sub> plants -but not in C<sub>4</sub> plants?  
1. CO<sub>2</sub> compensation point of 45 ppm  
2. Relatively higher rate of photorespiratory CO<sub>2</sub> evolution  
3. Presence of well developed bundle sheath  
4. Initial involvement of RUBP carboxylase (RUBISCO) IN CO<sub>2</sub> assimilation  
Select the correct answer:  
a. 1,2 and 3 b. 1,2 and 4 c. 1,2 and 4 d. 2 and 4
68. During the glyoxylate cycle, four-carbon oxaloacetate is generated from two carbon acetate. The correct sequence in which the intermediate compounds appear from citrate is  
a. citrate, succinate, fumarate, glyoxylate  
b. citrate, fumarate, glyoxylate, malate  
c. citrate, isocitrate, glyoxylate, malate  
d. citrate, isocitrate, malate, glyoxylate
69. Match List – I with List – II

**List – I****List – II****Essential elements      Deficiency symptoms**

A. Boron	1. Die – back disease
B. Copper	2. Interveinal chlorosis
C. Iron	3. Little leaf disease
D. Zinc	4. Terminal leaf necrosis

Codes : A      B      C      D

- a. 1      4      3      2  
b. 1      4      2      3  
c. 4      1      3      2

d. 4      1      2      3

70. Theory of Regressive evolution is evolution of sporophytes due to the progressive reduction or simplification.its supported by  
 a. Church and Kashyap      b. Bower  
 c.Cavers and Campbell      d.Campbell and Bower
71. Which of the following is N<sub>2</sub> fixing bacterium living in association with sugarcane  
 a) Acetobacter      b) Azotobacter      c) Frankia      d) Azospirillum
72. Linear sori and false indusium are characteristic of  
 a. pteris      b. Dryopteris      c. Adiantum      d. polypodium
73. Bordeaux mixture was discovered by P.A. Millardet of France during the year 1882 following his chance observation of farmer's practice for protection against:  
 a. Plasmoparaviticola on grapevine      b.Uncinula nectar on grapevine  
 c.Podospaeraleucotricha on apple      d. Venturiainequalis on apple
74. Pick out the wrong pair  
 a.Pandemic - Disease not prevalent throughout the country, continent or the world  
 b.Epidemic - The diseases which appear very virulently among the people  
 c.Endemic - The diseases which appear very virulently among the people  
 d.Sporadic - Disease which occurs at very irregular interval and location.
75. The vascular supply given from the main stele for leaf is called  
 a. Leaf gap      b.Leaf trace      c. Branch trace      d. Haplostele
76. Transfusion parenchyma is see in  
 a. Rachis of Cycas      b. Microsion Parenchyma Is Seen In  
 c. Coralloid Root of Cycas      d. Leaf Lamina of Cycas
77. Which of the following is not true of E.Coli?  
 a. Gene combination can occur through transformation transduction and conjugation  
 b. It is a facultative aerobic bacteria  
 c. It is an obligate aerobic Bacteria  
 d. It occurs in the human intestine
78. The endosperm is myristica is an example for  
 a. Helobial type      b. Cellular type  
 c. Nucleartype      d. Ruminant type

79. Increase in number of chromonemate per chromosome is
- Polyembryony
  - Polyteny
  - Diplospory
  - Polyandry
80. Synecology is the study of
- Species with relation to community
  - Community in relation to population
  - Community in relation to environment
  - Species with relation to environment
81. Prof. M.O.P lyenger regarded as the “Father of Indian Algology” is credited with the discovery of
- Porphyralinearais
  - Fritschiella tuberosa
  - Coleochaetepulvinata
  - Botrachospermumminliforme
82. The protoplasmic inclusions found in xylem phloem, and other tissue of plants infected by virus are known as
- Crystalline inclusions
  - X-Bodies
  - Intranuclear inclusions
  - Intercellular inclusions
83. Match the following List of Mycotoxins with the food items affected by the toxins. Choose the correct answer from the responses below:
- | Mycotoxins    | Food items     | A      | B   | C   | D  |
|---------------|----------------|--------|-----|-----|----|
| A.Aflatoxin   | i. Wheat       | a. iii | ii  | i   | iv |
| B.ATA toxin   | ii. Apple      | b. i   | iii | iv  | ii |
| C.Patulin     | iii. Groundnut | c. iii | i   | ii  | iv |
| D.Rubra toxin | iv. Corn       | d. i   | iv  | iii | ii |
84. The general formula of polysaccharides is
- $C_n(H_2O)_{n-1}$
  - $C_n(H_2O)_{n-2}$
  - $(C_6H_{10}O_5)_x$
  - $C_nH_{2n}O_n$
85. Lycopenes are the main pigments of tomato and many other fruits. They are
- Polyterpenes
  - isoprene derivatives
  - Sesquiterpenes
  - Sterols

86. The vascular bundle in which xylem is in the centre and surrounded by phloem is known as
- Coruoint collateral
  - Amphivasal
  - Conjoint bicollateral
  - Amphicribal
87. Elaters are:
- diploid in marchantia and haploid in peltia
  - Haploid in marchantia and diploid in peltia
  - haploid in both marchantia and peltia
  - diploid in both marchantia and peltia
88. Which one is not a clearing agent?
- Xylene
  - Chloroform
  - Benzene
  - Acetone
89. Meixner test is performed to find what?
- The poisonous components of mushrooms
  - The level of toxicity in water due to presence of bacteria
  - The amount of probiotics in food substances
  - The presence of aflatoxins in food products
90. Identify the period during which flowering plants might have appeared
- Permian period of palaeozoic era
  - Cretaceous period of Mesozoic era
  - Tertiary period of cenozoic era
  - Triassic period of Mesozoic era
91. Consider the following statements:
- Tracheids are the chief water conducting elements of Gymnosperms
  - Tracheids have a living layer of cytoplasm
- Of the statements:
- I alone is true
  - II alone is true
  - Both I and II are true
  - Both I and II false
92. The anther wall consists of four wall layers where
- Tapetum like just inner to endothecium
  - Middle layers lie inner between endothecium and tapetum
  - Endothecium lies inner to middle layers

- d. Taperum lies inner to middle layers
93. The pioneers in a Xerosere and Hydrosere are respectively:
- a. Lichens and Zooplanktons      b. Phytoplanktons and Zooplanktons  
c. Phtoplanktons and Lichens      d. Lichens and phytoplanktons
94. Which of the following Era is known as Age of Angiosperms'?
- a. Coenozoic      b. Archaeozoic      c. Proterozoic      d. Palaeozoic
95. The ICBN is divided into three parts. They are:
- a. Principles; Rules and Recommendations  
b. Principles, Codes and Nomenclature  
c. Principles, Types and Publications  
d. Principles Typitications and Nomenclature
96. The classification which is based on the data collected from variety of sources, such Morphology, Physiology chemistry etc?
- a. Serotaxonomy      b. Cytotaxonomy      c. Numerical Taxonomy      d. Chemotaxonomy
97. Match List-I correctly with List-II and select your answer using the codes given below:
- | a. List -I                 | List -II         | Code: | A | B | C | D |
|----------------------------|------------------|-------|---|---|---|---|
| A. Aspergillusniger        | 1. Itaconic acid | a.    | 3 | 1 | 2 | 4 |
| B. Aspergillus oryzae      | 2. Gluconic acid | b.    | 3 | 4 | 1 | 2 |
| C. Aspergillus terreus     | 3. Cltric acid   | c.    | 4 | 3 | 2 | 1 |
| D. Penicilliumperfulogenum | 4. Kojic acid    | d.    | 3 | 4 | 2 | 1 |
98. Taq polymerase is the most common enzyme used in PCR it is\_\_\_\_\_
- a. Thermostable but survives at 40°C for 1 minute  
b. Thermostable and survives at 95°C for 1-2 minutes  
c. Thermolabile and survives at 20°C for 1-2 minutes  
d. Thermolabile but survives at 60°C for 1-2 minutes
99. Which of the following cytochromes react with oxygen during electron transport chain?
- a. Cyt.f      b. Cyt.b      c. Cyt.a<sub>3</sub>      d. Cyt.b<sub>6</sub>
100. Which articles deals with the 'Typification' in ICBN?
- a) Article 29      b) Article 10      c) Article 23      d) Article 26
101. Species that occur in different geogniphical regional separated by special barrier are
- a. Allopathic      b. Autogenic      c. Sympatric      d. Allogenic

102. Which of the following are called Natural Lipids?  
 a. Triglycerides and waxes    b. Phospholipids and glucolipids  
 c. Sterols and Phospholipids    d. Lipoproteins and gangliosides
103. Which one the following is not a reducing sugar?  
 a. Glucose    b. Sucrose    c. Maltose    d. Ribose
104. The difference between starch and cellulose is  
 a. both starch and cellulose contain  $\alpha$ -glucose  
 b. both starch and cellulose contain  $\beta$ -glucose  
 c. Starch contain  $\alpha$ -glucose and cellulose contain  $\beta$ -glucose  
 d. Starch contain  $\beta$ -glucose and cellulose contain  $\alpha$ -glucose.
105. The meristematic zone containing bryophyte is  
 a. Riccia    b. Marchantia    c. Porella    d. Notothylas
106. The chemical bonds regarded as responsible for maintaining the tertiary structure of globular proteins is  
 a. Ionic bonds    b. Disulfide bonds    c. Peptide bonds    d. Covalent bonds
107. Hill reaction takes place in  
 a. a. Grana    b. Stroma    c. Cytoplasm    d. Stroma lamellae
108. NADP is  
 a. an enzyme    b. Part of IRNA    c. nucleotide    d. co-enzyme
109. Raunkiaer prepared a normal spectrum based on sampling of world flora using one thousand entities. Which the departure of percentages of Phanerophytes  
 a.46    b.12    c.36.    d.5
110. Sequoia sempervirens is  
 a. Palaeoendemics    b. Neoendemics  
 c. Pseudo endemics    d. Discontinuous Distribution

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