

# BIO-BOTANY

## UNIT – I – DIVERSITY OF LIVING WORLD

### CHAPTER - 1 LIVING WORLD

#### TRY AND TEST YOURSELF



#### LEVEL – I (1 - 50 Questions)

- Which one of the following statement about virus is correct?
  - Possess their own metabolic system
  - They are facultative parasites
  - They contain DNA or RNA
  - Enzymes are present
- Identify the incorrect statement about the Gram positive bacteria
  - Teichoic acid absent
  - High percentage of peptidoglycan is found in cell wall
  - Cell wall is single layered
  - Lipopolysaccharide is absent in cell wall
- Identify the Archaeobacterium
  - Acetobacter
  - Erwinia
  - Treponema
  - Methanobacterium
- The correct statement regarding Blue green algae is
  - lack of motile structure
  - presence of cellulose in cell wall
  - absence of mucilage around the thallus
  - Presence of floridean starch
- Identify the correctly matched pair
  - Actinomycete - a) Late blight
  - Mycoplasma - b) lumpy jaw
  - Bacteria - c) Crown gall
  - Fungi - d) sandal spike
- Earth was formed \_\_\_\_\_ billion years ago.
  - 4.4
  - 4.5
  - 4.6
  - 4.7
- Which one of the following plant is captured the insects?
  - Sun flower
  - Lotus
  - Venus
  - Shoe flower
- What are the elements present in DNA molecule?
  - C, H, O, N, P
  - C, H, Mg, S, Zn
  - C, H, S, Zn, K
  - C, H, S, Na, P
- According to a survey made by Mora et al., 2011 the number of estimated species on earth is \_\_\_\_\_.
  - 5.7 million
  - 6.7 million
  - 8.7 million
  - 7.7 million
- Growth is an intrinsic property of all living organisms through which they can increase cells \_\_\_\_
  - number only
  - mass only
  - both in number and mass
  - None of these
- Which one of the following pair is correctly matched?
  - In plants growth - indefinite
  - In animals growth - It occurs throughout their life
  - In animals growth – indefinite
  - In plants growth - It occurs for some period
- Growth in non-living objects is \_\_\_\_\_.
  - intrinsic
  - extrinsic
  - both of these
  - None of these
- Growth in living thing is \_\_\_\_\_.
  - intrinsic
  - extrinsic
  - both of these
  - None of these
- Prokaryotes are \_\_\_\_\_, \_\_\_\_\_.
  1. Unicellular
  2. Multicellular
  3. Oedogonium
  4. Bacteria
  - 1, 2 correct
  - 1, 3 correct
  - 1, 4 correct
  - 2, 3 correct

15. Eukayotes are \_\_\_\_\_, \_\_\_\_\_.
1. Unicellular or Multicellular    2. Oedogonium    3. Bacteria    4. Blue green algae  
a) 1, 2 correct    b) 1, 3 correct    c) 1, 4 correct    d) 2, 3 correct
16. Which of the following organisms occur by the production of budding?  
a) Hydra and Yeast    b) Spirogyra    c) Planaria    d) Amoeba
17. Which of the following organisms occur by the production of conidia?  
a) bacteria    b) Spirogyra    c) Yeast    d) Aspergillus and Penicillium
18. Which one of the following organism occurs by the production of protonema?  
a) Aspergillus    b) Hydra    c) Mosses    d) Planaria
19. Which one of the following organism occurs by the production of regeneration?  
a) Aspergillus    b) Hydra    c) Mosses    d) Planaria
20. Which of the following organisms do not occur reproduction?  
1. Queen bee    2. Male bee    3. Worker bees    4. Mules  
a) 1, 2 correct    b) 1, 3 correct    c) 1, 4 correct    d) 3, 4 correct
21. Animals sense their surroundings by sense organs. This is called \_\_\_\_\_.  
a) Consciousness    b) Unconsciousness    c) both of these    d) None of these
22. Synthesis of proteins from amino acids are called \_\_\_\_\_.  
a) Anabolism    b) Catabolism    c) Metabolism    d) None of these
23. Breaking down of glucose to CO<sub>2</sub> and H<sub>2</sub>O (Water). This is called \_\_\_\_\_.  
a) Anabolism    b) Catabolism    c) Metabolism    d) None of these
24. The word virus is derived from \_\_\_\_\_ meaning \_\_\_\_\_.  
a) Greek, Poison    b) Latin, Poison    c) Sanskrit, poison    d) English, poison
25. Which one of the following organism is called “Biological Puzzle”?  
a) Virus    b) Bacteria    c) Fungi    d) Protozoans
26. Which one of the following organism is connected to the living and nonliving world?  
a) Fungi    b) Bacteria    c) Virus    d) Protozoans
27. The study of viruses is called \_\_\_\_\_.  
a) Mycology    b) Virology    c) Pathology    d) Bacteriology
28. Which one is obligate intracellular parasites?  
a) Hydra    b) Bacteria    c) Virus    d) Amoeba
29. Viruses diameter range from \_\_\_\_\_.  
a) 20 to 300 nm    b) 30 to 200 nm    c) 20 to 200 nm    d) 30 to 300 nm
30. Bacteriophage measures about \_\_\_\_\_ in size.  
a) 10 to 100 nm    b) 10 to 200 nm    c) 10 to 300 nm    d) 20 to 200 nm
31. The size of TMV is \_\_\_\_\_.  
a) 200×10 nm    b) 200× 20 nm    c) 300×20 nm    d) 100×20 nm
32. How many types of viruses are classified based on shape and symmetry?  
a) Two    b) three    c) four    d) five
33. What is the examples of Cuboid symmetry?  
a) Influenza virus & TMV    b) Bacteriophage & Vaccinia virus  
c) Adenovirus & Herpes virus    d) None of these
34. What is the examples of helical symmetry?  
a) Influenza virus & TMV    b) Bacteriophage & Vaccinia virus  
c) Adenovirus & Herpes virus    d) None of these

35. What are the examples of Complex or Atypical symmetry  
a) Influenza virus & TMV                                  b) Bacteriophage & Vaccinia virus  
c) Adenovirus & Herpes virus                              d) None of these
36. Tobacco mosaic virus (TMV) is transferred through Vectors like \_\_\_\_\_, \_\_\_\_\_.  
a) aphids                                  b) locusts                                  c) both of these                          d) None of these
37. Which one is called Capsid?  
a) protein coat                          b) Fat coat                                  c) Vitamin coat                          d) Carbohydrate coat
38. The nucleic acid of virus may be in a \_\_\_\_\_ form.  
a) Rectangular                          b) linear or circular                      c) both of these                          d) none of these
39. Which of the following Viruses are found in segments of nucleic acid?  
a) wound tumour virus and influenza virus              b) Bacteriophage  
c) Vaccinia virus                          d) TMV
40. HIV is the animal virus which possess \_\_\_\_\_.  
a) RNA                                  b) mRNA                                  c) tRNA                                  d) DNA
41. Cauliflower Mosaic virus is animal virus which possess \_\_\_\_\_.  
a) RNA                                  b) mRNA                                  c) tRNA                                  d) DNA
42. Give an example of ssDNA.  
a) Parvoviruses                          b) Bacteriophages                          c) TMV                                  d) wound tumour virus
43. Give an example of dsDNA.  
a) Parvoviruses                          b) Bacteriophages                          c) TMV                                  d) wound tumour virus
44. Give an example of ssRNA.  
a) Parvoviruses                          b) Bacteriophages                          c) TMV                                  d) wound tumour virus
45. Give an example of dsRNA.  
a) Parvoviruses                          b) Bacteriophages                          c) TMV                                  d) wound tumour virus
46. Which one is first symptom of TMV?  
a) yellow mottling    b) green mottling  
c) discoloration of leaf colour along the veins              d) None of these
47. The protein subunits called \_\_\_\_\_.  
a) capsomeres                              b) capsid                                  c) nucleic acid                              d) None of these
48. How many capsomeres present in the protein coat of TMV virus?  
a) 2530                                  b) 2430                                  c) 2330                                  d) 2130
49. Viruses infecting bacteria ('eaters of bacteria') are called \_\_\_\_\_.  
a) Cyanophages                              b) Bacteriophages                              c) Mycophages                              d) Phage
50. The T4 phage or Bacteriophage is \_\_\_\_\_ shaped.  
a) tadpole                                  b) Rod                                      c) Spherical                                  d) Rectangle

**LEVEL – II (51 - 100 Questions)**

51. Disintegration of host bacterial cell occurs and the progeny virions are released in \_\_\_ cycle.  
a) Lytic cycle                              b) Virulent                                  c) both of these                          d) None of these
52. Which one is correctly matched?  
a) Lytic - Avirulent life cycle                                  b) Lysogenic - Virulent cycle  
c) Lytic - Virulent cycle    d) Lysogenic - Virulent & Avirulent cycle
53. Viruses infecting blue green algae are called \_\_\_\_\_.  
a) Cyanophages                              b) Bacteriophage                              c) Mycophages                              d) None of these

54. What is the correct sequence of Lytic cycle of Bacteriophage?  
 a) (i) Adsorption (ii) Penetration (iii) Synthesis (iv) Assembly and Maturation (v) Release  
 b) (i) Synthesis (ii) Penetration (iii) Adsorption (iv) Assembly and Maturation (v) Release  
 c) (i) Release (ii) Penetration (iii) Synthesis (iv) Assembly and Maturation (v) Adsorption  
 d) (i) Penetration (ii) Adsorption (iii) Release (iv) Assembly and Maturation (v) Synthesis
55. The viruses attacking fungi are called \_\_\_\_\_.  
 a) Mycoviruses      b) Mycophages      c) both of these      d) Bacteriophage
56. Which of the following organism is caused the rabies disease?  
 a) Bacteria      b) Fungi      c) Algae      d) Virus
57. Which one is excluded in the “Five Kingdom Classification”?  
 a) Bacteria      b) Virus      c) Fungi      d) Bryophytes
58. A new Kingdom, the Chromista was erected and it included all algae whose chloroplasts contain \_\_\_\_\_, \_\_\_\_\_.  
 a) chlorophyll ‘a’      b) chlorophyll ‘c’      c) both of these      d) None of these
59. Which acid gives sourness to the Curd?  
 a) Sulphuric acid      b) Acetic acid      c) Nitric acid      d) Lactic acid
60. Which bacterium present in the curd?  
 a) Salmonella typhi      b) Nitrosomonas      c) Lactobacillus lactis      d) Nitrobacter
61. The study of Bacteria is called \_\_\_\_\_.  
 a) Mycology      b) Virology      c) Algology      d) Bacteriology
62. \_\_\_\_\_ helps in the diffusion of solutes in Bacteria.  
 a) Peptidoglycan      b) Amino acids      c) Porin polypeptide      d) Polypeptide
63. The DNA is not bound to \_\_\_\_\_ proteins.  
 a) Glucose      b) Fructose      c) Histone      d) Fat
64. The Mesosomes of Bacteria are helped in \_\_\_\_\_ and \_\_\_\_\_.  
 a) respiration      b) binary fission      c) both of these      d) Nutrition
65. There are special type of pili which help in conjugation called \_\_\_\_\_.  
 a) genophore      b) Flagella      c) sex pili      d) None of these
66. Which one of the following acid is present in the Gram positive Bacteria?  
 a) Acetic acid      b) Formic acid      c) Teichoic acid      d) Sulphuric acid
67. Which kind of respiration occurs in bacteria Streptococcus?  
 a) Aerobic respiration      b) Anaerobic respiration  
 c) Facultative anaerobes      d) Capnophilic Bacteria
68. Match the following. (Chemoorganotrophs)  
 A) Methane bacteria - (i) Lactobacillus  
 B) Acetic acid bacteria - (ii) Methanococcus  
 C) Lactic acid bacteria - (iii) Acetobacter  
 a) A-(ii), B-(iii), C-(i)      b) A-(i), B-(ii), C-(iii)  
 c) A-(i), B-(iii), C-(ii)      d) A-(ii), B-(i), C-(iii)
69. Match the following. (Heterotrophic Bacteria)  
 A) Parasites - (i) Bacillus mycoides  
 B) Saprophytes - (ii) Clostridium  
 C) Symbiotic - (iii) Rhizobium  
 a) A-(ii), B-(iii), C-(i)      b) A-(i), B-(ii), C-(iii)  
 c) A-(ii), B-(i), C-(iii)      d) A-(i), B-(iii), C-(ii)

70. Match the following. (Chemolithotrophs)
- |                        |   |                                  |
|------------------------|---|----------------------------------|
| A) Sulphur bacteria    | - | (i) Hydrogenomonas               |
| B) Iron bacteria       | - | (ii) Nitrosomonas & Nitrobacter  |
| C) Hydrogen bacteria   | - | (iii) Ferrobacillus ferrooxidans |
| D) Nitrifying bacteria | - | (iv) Thiobacillus thiooxidans    |
- a) A-(iv), B-(ii), C-(i), D-(iii)      b) A-(iv), B-(iii), C-(i), D-(ii)  
c) A-(ii), B-(i), C-(iii), D-(iv)      d) A-(i), B-(ii), C-(iv), D-(iii)
71. \_\_\_\_\_ in root nodules of leguminous crops.
- a) Clostridium      b) Acetobacter      c) Lactobacillus      d) Rhizobium
72. \_\_\_\_\_ are thick walled resting spores.
- a) Endospores      b) Exospores      c) both of these      d) None of these
73. Gene recombination can occur in bacteria by \_\_\_\_\_.
- a) Conjugation      b) Transduction      c) Transformation      d) All of these
74. Who demonstrated transformation in Mice using *Diplococcus pneumoniae* in 1928?
- a) Frederick Griffith      b) J. Lederberg and Edward L. Tatum  
c) Zinder and Lederberg.      d) None of these
75. Match the following. (Sexual reproduction of Bacteria)
- |                   |   |                                   |
|-------------------|---|-----------------------------------|
| A) Conjugation    | - | (i) <i>Diplococcus pneumonia</i>  |
| B) Transformation | - | (ii) <i>Salmonella typhimurum</i> |
| C) Transduction   | - | (iii) <i>E.coli</i>               |
- a) A-(iii), B-(i), C-(ii)      b) A-(ii), B-(iii), C-(i)  
c) A-(i), B-(ii), C-(iii)      d) A-(i), B-(iii), C-(ii)
76. Which one is used to treat syphilis?
- a) Polymyxin      b) Aureomycin      c) Chloromycetin      d) Bacitracin
77. \_\_\_\_\_ is prepared by the fermentation of sugar from Bacteria *Clostridium acetobutylicum*.
- a) Vitamin C      b) Vitamin A      c) Vitamin B<sub>2</sub>      d) Vitamin B<sub>6</sub>
78. Potato scab disease caused by \_\_\_\_\_.
- a) Virus      b) Mycoplasma      c) Bacteria      d) Fungi
79. \_\_\_\_\_ disease caused by Virus.
- a) Cholera      b) Tuberculosis      c) Pneumonia      d) Chikungunya
80. Which of the following is wrongly matched?
- a) Cholera - *Vibrio cholerae*      b) Typhoid - *Salmonella typhi*  
c) Tuberculosis - *Mycobacterium tuberculosis*      d) Leprosy - *Yersinia pestis*
81. Which of the following is wrongly matched?
- a) Leprosy - *Mycobacterium leprae*      b) Pneumonia - *Diplococcus pneumonia*  
c) Plague - *Clostridium tetani*      d) Diphtheria - *Corynebacterium diphtheria*
82. Which of the following is correctly matched?
- a) Food poisoning - *Clostridium botulinum*      b) Syphilis - *Treponema pallidum*  
c) Both of these      d) None of these
83. Which of the following Bacteria are used to prepare probiotic yoghurt and tooth paste?
- a) *Lactobacillus*      b) *Bifidobacterium*      c) Both of these      d) None of these
84. Gliding movement is noticed in \_\_\_\_\_.
- a) *Oscillatoria*      b) *Nostoc*      c) *Chroococcus*      d) *Gloeocapsa*
85. Which of the following organisms are caused the water blooms?
- a) *Microcystis aeruginosa*      b) *Anabaena flos-aquae*  
c) both of these      d) None of these

86. \_\_\_\_\_ are involved in nitrogen fixation of Cyanobacteria.  
a) Heterocysts      b) Cell wall      c) Starch      d) Centrioplasm
87. \_\_\_\_\_ is rich in protein hence it is used as single cell protein.  
a) Spirulina      b) Nostoc      c) Scytonema      d) None of these
88. Which one of the following organism appears like “Fried Egg” in culture?  
a) Mycoplasma      b) Protozoa      c) Amoeba      d) None of these
89. ‘Ray fungi’ are called as \_\_\_\_\_.  
a) Archaeobacteria      b) Cyanobacteria      c) Actinobacteria      d) Albugo
90. Who discovered Penicillin in the year 1928?  
a) P. A. Micheli      b) Fontana      c) Alexander Fleming      d) A.F.Blakeslee
91. Alexander Fleming was awarded Nobel Prize in Medicine of Penicillin in the year \_\_\_\_\_.  
a) 1944      b) 1945      c) 1946      d) 1947
92. Who is the father of Indian Mycology?  
a) P. A. Micheli      b) Fontana      c) Alexander Fleming      d) E. J. Butler
93. \_\_\_\_\_ published a book, ‘Fungi and Disease in Plants’ on Indian plant diseases in the year 1918.  
a) P. A. Micheli      b) E. J. Butler      c) Fontana      d) Alexander Fleming
94. Bread mold fungi is \_\_\_\_\_.  
a) Mucor      b) Yeast      c) Agaricus      d) Aspergillus
95. Which one is called as "Sac fungi"?  
a) Phycomycetes      b) Ascomycetes      c) Basidiomycetes      d) Deuteromycetes
96. Basidiomycetes include \_\_\_\_\_.  
a) Puff balls      b) Toad stools      c) Bird nest’s fungi      d) All of these
97. The fungi belonging to this group lack sexual reproduction and are called \_\_\_\_\_.  
a) Imperfect fungi      b) perfect fungi      c) Club fungi      d) Sac fungi
98. Chromista which accommodates \_\_\_\_\_.  
a) myxomycetes      b) Oomycetes      c) both of these      d) None of these
99. \_\_\_\_\_ is used for fermentation of sugars to yield alcohol.  
a) Bacteria      b) Virus      c) Yeast      d) Mycoplasma
100. \_\_\_\_\_ are involved in spoilage of food materials.  
a) Aspergillus      b) Rhizopus      c) Mucor      d) All of these

**LEVEL – III (101 - 152 Questions)**

101. Fungi are used as Biopesticides to eradicate the pests of crops  
a) Beauveria bassiana      b) Metarhizium anisopliae      c) both of these      d) None of these
102. \_\_\_\_\_ fungi produced Gibberellin to induce the plant growth and is used as growth promoter.  
a) Beauveria bassiana      b) Metarhizium anisopliae      c) Gibberella fujikuroi      d) None of these
103. Which of the following fungi are called as “Toad stools”?  
a) Amanita phalloides      b) Amanita verna      c) Boletus satanus      d) All of these
104. \_\_\_\_\_ fungi are produced carcinogenic toxin called aflatoxin.  
a) Aspergillus flavus      b) Amanita phalloides      c) Amanita verna      d) Boletus satanus
105. \_\_\_\_\_ is an example of Arbuscular Mycorrhizae (VAM).  
a) Pisolithus tinctorius      b) Gigaspora      c) Oidio dendron      d) Rhizoctonia
106. Athlete’s foot disease caused by \_\_\_\_\_.  
a) Candida albicans      b) Albugo candida  
c) Epidermophyton floccosum      d) Coccidioides immitis

107. A saprophytic angiosperm is \_\_\_\_\_.  
a) Cuscuta                      b) Monotropa                      c) Vanda                      d) Nepenthes
108. The symbiotic association between \_\_\_\_\_ and \_\_\_\_\_ is called lichens.  
a) Algae & Bryophytes                      b) Algae & Pteridophytes  
c) Algae & Fungi                      d) Fungi & Gymnosperm
109. The other name of Phycobiont is called \_\_\_\_\_.  
a) Photobiont                      b) Mycobiont                      c) both of these                      d) None of these
110. In Lichen, the algal partner is called \_\_\_\_\_.  
a) Mycobiont                      b) Phycobiont                      c) both of these                      d) None of these
111. In Lichen, the fungal partner is called \_\_\_\_\_.  
a) Mycobiont                      b) Phycobiont                      c) both of these                      d) Photobiont
112. \_\_\_\_\_ are considered as pollution indicators.  
a) Algae                      b) Fungi                      c) Lichens                      d) Mycorrhizae
113. \_\_\_\_\_ produced from lichens show antibiotic properties.  
a) Oxalic acid                      b) Formic acid                      c) Acetic acid                      d) Usnic acid
114. Lichens are sensitive to air pollutants especially to \_\_\_\_\_.  
a) CO<sub>2</sub>                      b) CCl<sub>4</sub>                      c) SO<sub>2</sub>                      d) CO
115. The dye present in litmus paper used as acid base indicator in the laboratories is obtained from \_\_\_\_\_.  
a) Roccella montagnei                      b) Cladonia rangiferina                      c) both of these                      d) None of these
116. Which of the following is acting as pioneers in Xerosere?  
a) Algae                      b) Fungi                      c) Lichen                      d) Virus
117. Which of the following is Reindeer moss?  
a) Roccella montagnei                      b) Cladonia rangiferina  
c) both of these                      d) None of these
118. Which one is correctly matched?  
a) Leprose - a distinct fungal layer is absent                      b) Crustose - crust like  
c) Fruticose - branched pendulous shrub like                      d) All of these

**NEET BASED QUESTIONS:**

119. Which of the following are found in extreme saline conditions? (NEET-2017)  
a) Archaeobacteria                      b) Eubacteria                      c) Cyanobacteria                      d) Mycobacteria
120. Select the mismatch (NEET – 2017)  
a) Frankia - Alnus                      b) Rhodospirillum - Mycorrhiza  
c) Anabaena - Nitrogen fixer                      d) Rhizobium - Alfalfa
121. Which among the following are the smallest living cells, known without a definite cell wall, pathogenic to plants as well as animals and can survive without oxygen? (NEET – 2017)  
a) Bacillus                      b) Pseudomonas                      c) Mycoplasma                      d) Nostoc
122. Read the following statements (A to E) and select the option with all correct statements (AIPMT – 2015)  
A) Mosses and Lichens are the first organisms to colonise a bare rock.  
B) Selaginella is a homosporous pteridophyte.  
C) Coralloid roots in Cycas have VAM.  
D) Main plant body in bryophytes is gametophytic, whereas in pteridophytes it is sporophytic.  
E) In gymnosperms, male and female gametophytes are present within sporangia located on sporophyte.  
a) B, C and E                      b) A, C and D                      c) B, C and D                      d) A, D and E

123. An example of colonial alga is (NEET – 2017)  
a) Chlorella                      b) Volvox                      c) Ulothrix                      d) Spirogyra
124. Five kingdom system of classification suggested by R.H. Whittaker is not based on (AIPMT- 2014)  
a) Presence or absence of a well-defined nucleus    b) Mode of reproduction  
c) Mode of nutrition    d) Complexity of body organization
125. Mycorrhizae are the example of (NEET – 2017)  
a) Fungitasis                      b) Antibiosis                      c) Amensalism                      d) Mutualism
126. Which of the following shows coiled RNA strand and capsomeres? (AIPMT – 2014)  
a) Polio virus              b) Tobacco mosaic virus              c) Measles virus              d) Retrovirus
127. Viroids differ from viruses in having: (NEET – 2017)  
a) DNA molecules with protein coat                      b) DNA molecules without protein coat  
c) RNA molecules with protein coat                      d) RNA molecules without protein coat
128. Select the mismatch (NEET – 2017)  
a) Pinus                      —              Dioecious  
b) Cycas                      —              Dioecious  
c) Salvinia                      —              Heterosporous  
d) Equisetum                      —              Homosporous
129. Life cycle of Ectocarpus and Fucus respectively are (NEET – 2017)  
a) Haplontic, Diplontic    b) Diplontic, Haplodiplontic  
c) Haplodiplontic, Diplontic    d) Haplodiplontic, Halplontic
130. Zygote meiosis is characteristic of (NEET – 2017)  
a) Marchantia                      b) Fucus                      c) Funaria                      d) Chlamydomonas
131. Which of the following is correctly matched for the product produced by them? (NEET – 2017)  
a) Acetobacter acetic                      -              Antibiotics  
b) Methanobacterium                      -              Lactic acid  
c) Penicillium notatum                      -              Acetic acid  
d) Saccharomyces cerevisiae -              Ethanol
134. Which of the following components provides sticky character to the bacterial cell? (NEET- 2017)  
a) Cell wall    b) Nuclear membrane                      c) Plasma membrane    d) Glycocalyx
135. Which of the following statements is wrong for viroids? (NEET – 2016)  
a) They lack a protein coat    b) They are smaller than viruses  
c) They causes infections    d) Their RNA is a high molecular weight
136. In bryophytes and pteridophytes, transport of male gametes require (NEET –2016)  
a) Wind                      b) Insects                      c) Birds                      d) Water
137. How many organisms in the list below are autotrophs? (AIPMT Mains 2012)  
Lactobacillus, Nostoc, Chara, Nitrosomonas, Nitrobacter, Streptomyces, Saccharomyces, Trypanosoma, Porphyra, Wolffia  
a) Four                      b) Five                      c) Six                      d) Three
138. Which of the following would appear as the pioneer organisms on bare rocks? (NEET – 2016)  
a) Lichens                      b) Liverworts                      c) Mosses                      d) Green algae
139. Monoecious plant of Chara shows occurrence of (NEET-2013)  
a) Stamen and carpel on the same plant  
b) Upper antheridium and lower oogonium on the same plant  
c) Upper oogonium and lower antheridium on the same plant  
d) Antheridiophore and archegoniophore on the same plant

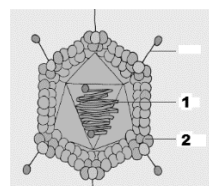


140. Read the following five statements (A-E) and answer as asked next to them (AIPMT Prelims -2012)
- In Equisetum, the female gametophyte is retained on the parent sporophyte
  - In Ginkgo, male gametophyte is not independent
  - The sporophyte in Riccia is more developed than that in Polytrichum
  - Sexual reproduction in Volvox is isogamous
  - The spores of slime moulds lack cell walls
- a) Two                      b) Three                      c) Four                      d) One
142. One of the major components of cell wall of most fungi is (NEET – 2016)
- Chitin
  - Peptidoglycan
  - Celulose
  - Hemicelulose
143. Which one of the following statements is wrong? (NEET – 2016)
- Cyanobacteria are also called blue green algae
  - Golden algae are also called desmids
  - Eubacteria are also called false bacteria
  - Phycomycetes are also called algal fungi
144. Flagellated male gametes are present in all the three of which one of the following sets? (AIPMT Prelims – 2007)
- Riccia, Dryopteris and Cycas
  - Anthoceros, Funaria and Spirogyra
  - Zygnema, Saprolegnia and Hydrilla
  - Fucus, Marsilea and Calotropis
145. Ectophloic siphonostele is found in (AIPMT Prelims – 2005)
- Adiantum and Cucurbitaceae
  - Osmunda and Equisetum
  - Marsilea and Botrychium
  - Dicksonia and maiden hair fern
146. Which part of the tobacco plant is infected by Meloidogyne incognita? (NEET – 2016)
- Flower
  - Leaf
  - Stem
  - Root
147. Select the correct statement (NEET – 2016)
- Gymnosperms are both homosporous and heterosporous
  - Salvinia, Ginkgo and Pinus all are gymnosperms
  - Sequoia is one of the tallest trees
  - The leaves of gymnosperms are not well adapted to extremes of climate
148. Seed formation without fertilization in flowering plants involves the process of (NEET – 2016)
- Sporulation
  - Budding
  - Somatic hybridization
  - Apomixis
149. Chrysophytes, Euglenoids, Dinoflagellates and Slime moulds are included in the kingdom (NEET – 2016)
- Animalia
  - Monera
  - Protista
  - Fungi
150. The primitive prokaryotes responsible for the production of biogas from the dung of ruminant animals, include the (NEET – 2016)
- Halophiles
  - Thermoacidophiles
  - Methanogens
  - Eubacteria

### Picture Based Questions

151. Label the parts for the following question.

- 1 DNA 2 Protein
- 1 Collar 2 Sheath
- 1 RNA 2 Protein
- 1 Sheath 2 Tail fibre



152. Write the correct option for the following diagram.

- Fission - Yeast
- Budding- Yeast
- Conidia- Penicillium
- Sporangia- Mucor



**UNIT – I – DIVERSITY OF LIVING WORLD****CHAPTER - 2  
PLANT KINGDOM****TRY AND TEST YOURSELF****LEVEL – I (1 - 50 Questions)**

- Which of the plant group has gametophyte as a dominant phase  
a) Pteridophytes      b) Bryophytes      c) Gymnosperm      d) Angiosperm
- Which of the following represent gametophytic generation in pteridophytes  
a) Prothallus      b) Thallus      c) Cone      d) Rhizophore
- The haploid number of chromosome for an Angiosperm is 14, the number of chromosome in its endosperm would be  
a) 7      b) 14      c) 42      d) 28
- Endosperm in Gymnosperm is formed  
a) At the time of fertilization      b) Before fertilization  
c) After fertilization      d) Along with the development of embryo
- Recently, with the aid of molecular characteristics the following organisms were segregated and placed under separate kingdoms.  
a) Bacteria      b) Fungi      c) Both of them      d) None of them
- The plants are convert the light energy to chemical energy  
a) Algae      b) Animals      c) Fungi      d) Human beings
- Plantae is the  
a) Kingdom      b) Sub Kingdom      c) Classes      d) Families
- Non-flowering, Non-seed producing plants come under  
a) Gymnosperm      b) Cryptogamae      c) Angiosperm      d) Dicotyledons
- The sub-Kingdom Phanerogamae contains plants which are  
a) Flowering      b) Seed producing      c) Both of them      d) None of them
- This change will happen in all the plants  
a) Mutation      b) Permanent      c) Temporary change      d) Alternation nation of generation
- Gametophytic phase has  
a)  $2n$       b)  $3n$       c)  $n$       d)  $4n$
- The life cycle seen in plants  
a) Haplontic Life Cycle      b) Diplontic Life Cycle  
c) Haplodiplontic Life Cycle      d) All of them
- The example of Diplontic Life Cycle  
a) Volvox      b) Angiosperms      c) Spirogyra      d) pteridophytes
- In ocean and seas, the following plants are commonly seen  
a) Algae      b) Fungi      c) Bryophyte      d) Flowering plants
- Father of Indian Phycology is  
a) T.V.Desikachary      b) V.S. Sundaralingam      c) Y. Bharadwaja      d) M.O. Parthasarathy
- \_\_\_\_\_ lead an endozoic life in Hydra and sponges.  
a) Fritschiella      b) Vaucheria      c) Cladophora      d) Chlorella
- Dunaliella salina grows in  
a) Ocean      b) salt pans      c) Land      d) Fresh water

- 
18. This algae seen in fresh water  
a) Gracilaria                      b) Sargassum                      c) Fucus                      d) Ulothrix
19. Chlamydomonas nivalis grow in snow covered mountains and impart \_\_\_\_\_ colour to the snow.  
a) Green                      b) Blue                      c) Red                      d) Brown
20. Unicellular motile algae  
a) Chlamydomonas                      b) Chlorella                      c) Laminaria                      d) Macrocyctis
21. Colonial non motile  
a) Volvox                      b) Hydrodictyon                      c) Vaucheria                      d) Ulva
22. The shape of Ulva  
a) Root shaped                      b) Stem shaped                      c) Foliaceous                      d) Flower shaped
23. Giant Kelps  
a) Laminaria                      b) Macrocyctis                      c) Both of them                      d) None of them
24. Siliceous walls are present in  
a) Ulothrix                      b) Chlamydomonas                      c) Coleochaete                      d) Diatoms
25. In Chara the thallus is encrusted with  
a) Pottassium carbonate                      b) Calcium carbonate                      c) Ammonium carbonate                      d) carbonate
26. The cell organelle that helps in starch synthesis and storage of starch.  
a) Chloroplast                      b) Golgi apparatus                      c) Endoplasmic Reticulum                      d) Pyrenoids
27. Reproduction takes place by fission in the Algae  
a) Ulothrix                      b) Chlamydomonas                      c) Protosiphon                      d) Sphacelaria
28. Thick walled spores meant for perennation seen in  
a) Pithophora                      b) Sargassum                      c) chara                      d) chlorella
29. Asexual reproduction in Algae takes place by  
a) zoospores                      b) aplanospore                      c) Hypnospore                      d) All of them
30. How many classes are seen in F.E. Fritsch's classification?  
a) 10                      b) 11                      c) 12                      d) 13
31. Select the unmatched pair.  
a) Cup shaped chloroplast - Chlamydomonas                      b) Discoid shaped chloroplast - Chara  
c) Reticulate shaped chloroplast - Oedogonium                      d) Spiral shaped chloroplast - Zygnema
32. Chlorella, Volvox, Ulothrix and ulva belongs to  
a) Phaeophyceae                      b) Chlorophyceae                      c) Rhodophyceae                      d) Dinophyceae
33. The colour of the pigment fucoxanthin  
a) Brown pigment                      b) Red pigment                      c) Golden brown pigment                      d) Green pigment
34. Marine Red Algae belongs to \_\_\_\_\_ class.  
a) Chlorophyceae                      b) Phaeophyceae                      c) Cyanophyceae                      d) Rhodophyceae
35. Corallina and Lithothamnion are heavily impregnated with \_\_\_\_\_ and form coral reefs.  
a) Potassium                      b) Sulphur                      c) Iron                      d) Lime
36. The storage product is in Rhodophyceae  
a) Starch                      b) Floridean starch                      c) Mannitol                      d) Laminarin
37. The edible algae is  
a) Ulva                      b) Chlorella                      c) Sargassum                      d) All of them
38. Single cell protein algae  
a) Gracilaria                      b) Chlamydomonas                      c) Chlorella                      d) Sea palm
39. \_\_\_\_\_ are simplest and most primitive plant groups descended from alga – like ancestors. They are simple embryophytes.  
a) Pteridophyte                      b) Bryophyte                      c) Angiosperm                      d) Gymnosperm
40. Father of Indian Bryology  
a) Shiv Ram Kashyap                      b) Sivakumar                      c) Siva Raman                      d) Siva Krishnan

41. The amphibians of Plant kingdom  
 a) Gymnosperm      b) Angiosperm      c) Bryophyte      d) Pteridophyte
42. The habitat of *Riella* and *Ricciocarpus*  
 a) Terrestrial      b) Aquatic      c) Mountain      d) Rock
43. In \_\_\_\_\_ leaf like, stem like structures are present.  
 a) Liverworts      b) Hornworts      c) Mosses      d) None of them
44. Catch the correct match.  
 a) *Riccia* - adventitious buds      b) *Anthoceros* - gemmae  
 c) *Bryopteris* - tubers      d) *Marchantia* - detachable branches
45. The flagella seen in antherozoids of Bryophytes  
 a) 1      b) 2      c) 3      d) No flagella
46. The female reproductive organ of Bryophytes  
 a) Oogonium      b) Antheridium      c) Archegonium      d) Spermatogonium
47. The first cell of the sporophyte generation of Bryophytes  
 a) Spore      b) Male gamete      c) Female gamete      d) Zygote
48. \_\_\_\_\_ is the sporophytic basal portion and is embedded in the gametophyte.  
 a) Foot      b) Seta      c) Capsule      d) Spore
49. In Bryophytes \_\_\_\_\_ are present and help in dispersal of spores.  
 a) Elaters      b) Meiosis      c) Mitosis      d) Seta
50. The sporophytic phase constitute  
 a) Zygote      b) Embryo      c) Sporogonium      d) All of them

### LEVEL – II (51 - 84 Questions)

51. In horticulture, the following is used as packing material  
 a) Sphagnum      b) Peat      c) Both of them      d) None of them
52. The plant group which are considered as first true land plants  
 a) Alga      b) Fungi      c) Bryophytes      d) Pteridophytes
53. Club moss, Horse tails, quill worts are belong to  
 a) Gymnosperm      b) Angiosperm      c) Bryophyte      d) Pteridophyte
54. The roots are in Pteridophyte  
 a) Primary root      b) tap root      c) adventitious root      d) branch root
55. In *Selaginella*, the water conducting element  
 a) Tracheid      b) Xylem vessel      c) Xylem fibre      d) Xylem parenchyma
56. The shape of the strobilus  
 a) Cone      b) Square      c) Rectangular      d) Round
57. Heterospory is the origin for \_\_\_\_\_ habit.  
 a) Root      b) Seed      c) Flower      d) Stem
58. Antherozoids of pteridophytes contain \_\_\_\_\_ flagella.  
 a) Two      b) Four      c) Eight      d) Numerous
59. Which organ contains the broad venter?  
 a) Archegonium      b) Antheridium      c) Zygote      d) Spores
60. In \_\_\_\_\_ phloem surrounds xylem.  
 a) Eustele      b) Dictyostele      c) Protostele      d) Solenostele
61. Find out the wrong match.  
 a) *Selaginella* - Haplostele      b) *Lycopodium serratum* - Plectostele  
 c) *Lycopodium cernuum* - Mixed protostele      d) *Pteridium* - Polycyclicstele
62. In \_\_\_\_\_ stele, the stele is separated into several vascular strands and each one is called meristele.  
 a) Plectostele      b) Haplostele      c) Actinostele      d) Dictyostele

63. Eustele is seen in  
a) Dicot stem                      b) Dicot root                      c) Monocot stem                      d) Monocot ro
64. The film Jurassic Park was released in \_\_\_\_\_ year.  
a) 1990                      b) 1992                      c) 1993                      d) 1994
65. In Jurassic Park, a transparent substance \_\_\_\_\_ which preserves the extinct forms.  
a) Tannin                      b) Resin                      c) Amber                      d) Rosin
66. The plant which produces amber  
a) Lycopodium                      b) Tree fern                      c) Cycas                      d) Pinites succinifera
67. Pinites succinifera belongs to  
a) Gymnosperms                      b) Angiosperm                      c) Dicotyledons                      d) Monocotyledons
68. Choose the wrong statement in the following  
a) Coralloid Roots are seen in Cycas.                      b) Gnetum is an evergreen woody tree.  
c) In Pinus the roots have mycorrhizae.                      d) Tracheids are seen in Xylem.
69. Double fertilization takes place in  
a) Gymnosperm                      b) Angiosperm                      c) Bryophyte                      d) Pteridophyte
70. It does not produce fruit, but this plant group produce seeds.  
a) Gymnosperm                      b) Pteridophyte                      c) Alga                      d) Fungi
71. Sago contains \_\_\_\_\_ so it used as food.  
a) Fat                      b) Protein                      c) Vitamin                      d) Starch
72. \_\_\_\_\_ is used as mounting medium in permanent slide preparation.  
a) Taxol                      b) Oleoresin                      c) Canada balsam                      d) Roasted see
73. This plant is used for making railway sleepers.  
a) Cycas                      b) Pinus                      c) Cedrus atlantica                      d) Cedrus deodara
74. The national wood fossil park is situated in \_\_\_\_\_, a Village of Villupuram district of Tamil Nadu.  
a) Udaiyar palayam                      b) Tiruvakkarai                      c) Tirukkottiyur                      d) Tirupparaidurai
75. Father of Indian Palaeobotany.  
a) Prof. Birbal Sahni                      b) Prof. Akbar                      c) Prof. Babar                      d) Prof. Abdulla
76. Birbal Sahni Institute of Palaebotany is located in  
a) Orissa                      b) Bihar                      c) Lucknow                      d) Mumbai
77. Find out the wrong match in the following statements  
a) Shiwalik fossil park - Himachal Pradesh                      b) Mandla Fossil park - Madhya Pradesh  
c) Rajmahal Hills - Kerala                      d) Ariyalur Park - Tamilnadu
78. They constitute major plant group of our earth  
a) Alga                      b) Fungi                      c) Gymnosperm                      d) Angiosper
79. Reticulate venation is present in the leaves  
a) Pteridophyte                      b) Dicotyledon                      c) Monocotyledon                      d) Gymnosperm
80. The venation of leaf seen in Monocotyledon plant  
a) Reticulate venation                      b) Palmately Reticulate venation  
c) Pinnately Reticulate venation                      d) Parallel venation
81. \_\_\_\_\_ is present in open vascular bundle.  
a) Parenchyma                      b) Collenchyma                      c) Cambium                      d) Pith
82. The endosperm of Angiosperm  
a) Haploid                      b) Diploid                      c) Triploid                      d) None of the
83. The class seen in Angiosperm.  
a) Rhodophyceae                      b) Chlorophyceae                      c) Cycadaceae                      d) Dicotyledons
84. Trimerous flowers are seen in  
a) Hibiscus                      b) Rose                      c) Grass                      d) Jasmine



18. Some plants produce flowers and fruits only once and die after a vegetative growth of several years. These plants are called  
 a) Polycarpic                      b) Bicarpic                      c) Monocarpic                      d) Tricarpic
19. Multiple root cap is seen in  
 a) Pandanus                      b) Pistia                      c) Eichhornia                      d) None of them
20. They absorb water and minerals from the soil  
 a) Primary root                      b) Root hairs                      c) Secondary root                      d) Tertiary root
21. Root pocket is present in  
 a) Phyllanthus                      b) Oryza                      c) Grass                      d) Pistia
22. Meristematic Zone, Zone of Elongation, Zone of Maturation is seen in  
 a) Root                      b) Stem                      c) Flower                      d) bud
23. Adventitious root system is seen in  
 a) Oryza sativa                      b) Mango                      c) Neem tree                      d) Polyalthia
24. Conical Root is seen in  
 a) Beta vulgaris                      b) Avicennia                      c) Daucus carota                      d) Raphanus sativus
25. Examples for Breathing root  
 a) Avicennia                      b) Rhizophora                      c) Bruguiera                      d) All of them
26. In Mango ginger \_\_\_\_\_ root is present  
 a) Tuberos root                      b) Nodulose root                      c) Fasciculated root                      d) Annulated root
27. It is an annulated root  
 a) Psychotria                      b) Vitis                      c) Dahlia                      d) Ipomoea
28. Example for Pillar root  
 a) Banyan tree                      b) Indian rubber                      c) Both of them                      d) None of them
29. The root of Piper betel  
 a) Prop root                      b) Stilt root                      c) Climbing root                      d) Buttress root
30. Epiphytic roots develop a spongy tissue called  
 a) Parenchyma                      b) Velamen                      c) Collenchyma                      d) Xylem
31. The root of Bryophyllum, Begonia, Zamioculcas is  
 a) Conical Root                      b) Fusiform root                      c) Napiform root                      d) Foliar root
32. Sucking or Haustorial roots are seen in  
 a) Cuscuta                      b) Tinospora                      c) Vanda                      d) Aerides
33. The binomial of Mango ginger  
 a) Tinospora                      b) Curcuma amada                      c) Taeniophyllum                      d) Cuscuta
34. The stem which store water is  
 a) Zingiber                      b) Opuntia                      c) Neptunia                      d) Carissa
35. Buds arising at any part other than stem are known as  
 a) Apical bud                      b) Lateral bud  
 c) Accessory bud                      d) Adventitious buds
36. Bulbils or specialized buds are seen in  
 a) Oxalis                      b) Coffea arabica                      c) Aegle marmelos                      d) Agave
37. It is an unbranched, stout, cylindrical stem, marked with scars of fallen leaves  
 a) Excurrent                      b) Decurrent                      c) Caudex                      d) Culm
38. The type of Trailers (or) Stragglers  
 a) Procumbent                      b) Decumbent                      c) Diffuse                      d) All of them
39. The examples of Stem climbers  
 a) Pothos                      b) Dioscorea                      c) Bougainvillea                      d) Bauhinia
40. Find out the wrongly matched pair.  
 a) Bulb - Allium sativum                      b) Corm- Colacasia  
 c) Rhizome - Curcuma longa                      d) Tuber - Daucus carota

41. The pitcher plant is  
 a) Nepenthes                      b) Gloriosa                      c) Passiflora                      d) Smilax
42. Cylindrical Phylloclade is seen in  
 a) Euphorbia tirucalli    b) Euphorbia antiquorum    c) Casuarina                      d) All of them
43. In Asparagus the stem is  
 a) Phylloclade                      b) Cladode                      c) Runner                      d) Stolon
44. It is a slender, prostrate branch creeping on the ground and rooting at the nodes.  
 a) Stolon                      b) Sucker                      c) Runner                      d) Offset
45. The example of Sucker is  
 a) Centella                      b) Chrysanthemum                      c) Allium sativum                      d) Allium cepa
46. \_\_\_\_\_ are thread-like coiling structures which help the plants in climbing.  
 a) Lianas                      b) Thorns                      c) Hook                      d) Tendrils
47. In Solanum tuberosum, the “eyes” represent  
 a) Apical bud                      b) Axillary bud                      c) Pseudobulb                      d) Adventitious bud
48. Branching pattern is determined by the relative activity of  
 a) Intercalary meristem    b) Cork cambium                      c) Apical meristem                      d) lateral meristem
49. Choose the wrong statement in the following.  
 a) Indeterminate growth is also known as monopodial branching.  
 b) Determinate growth is also known as sympodial branching.  
 c) Example for Indeterminate growth is Polyalthia  
 d) Example for determinate growth is Antiaris.
50. Which is the primary photosynthetic organs and the main site of transpiration?  
 a) Leaf                      b) Root                      c) Stem                      d) Stipule

### LEVEL – II (51-91 Questions)

51. Pulvinus leaf base become broad, thick and swollen is seen in  
 a) Paddy                      b) Legumes                      c) Fruits                      d) Vegetables
52. Sheathing leaf base is present in  
 a) Arecaceae                      b) Musaceae                      c) Poaceae                      d) All the above
53. The expanded flat green portion of the leaf is  
 a) Petiole                      b) Lamina                      c) leafbase                      d) Node
54. The main function of the stipule is  
 a) to protect the leaf in the bud condition.                      b) to protect the terminal bud  
 c) to protect the axillary bud                      d) to protect the leaf base.
55. What is sessile leaf?  
 a) Leaves do not possess leaf blade                      b) Leaves do not possess leaf base  
 c) Leaves do not possess stipules                      d) Leaves do not possess petiole
56. Pinnately reticulate venation is seen in  
 a) Mangifera indica    b) Musa                      c) Cucurbita                      d) Zizyphus
57. Find out the correctly matched pair.  
 a) Pinnately reticulate venation - Cinnamomum                      b) Palmately reticulate venation - Nerium  
 c) Pinnately Parallel Venation - Canna                      d) Palmately Parallel Venation - Zinger
58. Which is the wrongly matched pair?  
 a) Alternate phyllotaxy - Quisqualis                      b) Opposite phyllotaxy - Calotropis  
 c) Ternate phyllotaxy - Nerium                      d) Whorled phyllotaxy - Allamanda
59. Example for simple leaf  
 a) Neem                      b) Cassia                      c) Abrus                      d) Cucurbita
60. The primary rachis produces secondary rachii which bear the leaflets is called  
 a) Unipinnate                      b) Bipinnate                      c) Tripinnate                      d) Decompound



61. There are three leaflets articulated to the petiole it is said to be  
 a) Unifoliolate      b) Bifoliolate      c) Trifoliolate      d) Quadrifoliolate
62. In which of the following the entire leaf is modified into tendrils?  
 a) Smilax      b) Naravelia      c) Pisum      d) Lathyrus
63. Bignonia unguiscati has  
 a) Leaf tendrils      b) Leaf hooks      c) Leaf Spines      d) Phyllode
64. Which family has succulent leaves?  
 a) Malvaceae      b) Asteraceae      c) Crassulaceae      d) Musaceae
65. Utricularia, a \_\_\_\_ free-floating or slightly submerged plant common in many water bodies.  
 a) stem less      b) root less      c) leaf less      d) fruit less
66. Floral leaves are  
 a) Sepals      b) Petals      c) Carpels      d) All of them
67. Leaves persist throughout the year is known as  
 a) Cauducuous      b) Deciduous      c) Evergreen      d) Marcescent
68. Dorsiventral leaf is seen mostly in  
 a) Dicotyledons      b) Monocotyledons      c) Gymnosperms      d) Pteridophytes
69. Example of developmental heterophylly  
 a) Eucalyptus      b) Ferns      c) Lotus      d) Cabbage

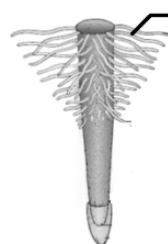
### NEET BASED QUESTIONS

70. Leaves become modified into spines in [AIPMT-2015]  
 a) Silk Cotton      b) Opuntia      c) Pea      d) Onion
71. Keel is the characteristic feature of flower of [AIPMT-2015]  
 a) Tomato      b) Tulip      c) Indigofera      d) Aloe
72. Perigynous flowers are found in [AIPMT-2015]  
 a) Rose      b) Guava      c) Cucumber      d) China rose
73. Which one of the following statements is correct [AIPMT-2014]  
 a) The seed in grasses is not endospermic  
 b) Mango is a parthenocarpic fruit  
 c) A proteinaceous aleurone layer is present in maize grain  
 d) A sterile pistil is called a staminode
74. An example of edible underground stem is [AIPMT-2014]  
 a) Carrot      b) Groundnut      c) Sweet potato      d) Potato
75. Placenta and pericarp are both edible portions in [AIPMT-2014]  
 a) Apple      b) Banana      c) Tomato      d) Potato
76. When the margins of sepals or petals overlap one another without any particular direction, the condition is termed as [AIPMT-2014]  
 a) Vexillary      b) Imbricate      c) Twisted      d) Valvate
77. An aggregate fruit is one which develops from [AIPMT-2014]  
 a) Multicarpellary syncarpous gynoecium      b) Multicarpellary apocarpous gynoecium  
 c) Complete inflorescence      d) Multicarpellary superior ovary
78. Non-albuminous seed is produced in [AIPMT-2014]  
 a) Maize      b) Castor      c) Wheat      d) Pea
79. Seed coat is not thin, membranous in [NEET-2013]  
 a) Coconut      b) Groundnut      c) Gram      d) Maize

80. In China rose the flower are [NEET-2013]  
 a) Actinomorphic, Epigynous with valvate aestivation  
 b) Zygomorphic, hypogynous with imbricate aestivation  
 c) Zygomorphic, epigynous with twisted aestivation  
 d) Actinomorphic, hypogynous with twisted aestivation
81. Placentation in tomato and lemon is [AIPMT Prelims-2012]  
 a) Marginal                      b) Axile                      c) Parietal                      d) Free central
82. Vexillary aestivation is characteristic of the family [AIPMT Prelims-2012]  
 a) Solanaceae                      b) Brassicaceae                      c) Fabaceae                      d) Asteraceae
83. Phyllode is present in [AIPMT Prelims-2012]  
 a) Australian Acacia                      b) Opuntia                      c) Asparagus                      d) Euphorbia
84. How many plants in the list given below have composite fruits that develop from an inflorescence? Walnut, poppy, radish, pineapple, apple, tomato. [AIPMT Prelims-2012]  
 a) Two                      b) Three                      c) Four                      d) Five
85. Cymose inflorescence is present in [AIPMT Prelims-2012]  
 a) Trifolium                      b) Brassica                      c) Solanum                      d) Sesbania
86. Which one of the following organism is correctly matched with its three characteristics? [AIPMT Mains -2012]  
 a) Pea : C3 pathway, Endospermic seed, Vexillary aestivation  
 b) Tomato : Twisted aestivation, Axile placentation, Berry  
 c) Onion : Bulb, Imbricate aestivation, Axile placentation  
 d) Maize: C3 pathway, Closed vascular bundles, scutellum
87. How many plants in the list given have marginal placentation? Mustard, Gram, Tulip, Asparagus, Arhar, sun hemp, Chilli, Colchicine, Onion, Moong, Pea, Tobacco, Lupin [AIPMT Mains -2012]  
 a) Four                      b) Five                      c) Six                      d) Three
88. The Eyes of the potato tuber are [AIPMT Prelims-2011]  
 a) Axillary buds                      b) Root buds                      c) Flower buds                      d) Shoot buds
89. Which one of the following statements is correct? [AIPMT Prelims-2011]  
 a) Flower of tulip is a modified shoot                      b) In tomato, fruit is a capsule  
 c) Seeds of orchids have oil – rich endosperm                      d) Placentation in primrose is basal
90. A drup develops in [AIPMT Prelims-2011]  
 a) Tomato                      b) Mango                      c) Wheat                      d) Pea

### Picture Based Question

91. Select the correct labelling part of the following  
 a) Root hair  
 b) Tap root  
 c) Fibrous root  
 d) Climbing root



**UNIT – II – PLANT MORPHOLOGY AND TAXONOMY OF ANGIOSPERM****CHAPTER - 4  
REPRODUCTIVE MORPHOLOGY****TRY AND TEST YOURSELF****LEVEL – I (1 - 50 Questions)**

1. Vexillary aestivation is characteristic of the family  
a) Fabaceae                      b) Asteraceae                      c) Solanaceae                      d) Brassicaceae
2. Gynoecium with united carpels is termed as  
a) Apocarpous                      b) Multicarpellary                      c) Syncarpous                      d) None of the above
3. Aggregate fruit develops from  
a) Multicarpellary, apocarpous ovary                      b) Multicarpellary, syncarpous ovary  
c) Multicarpellary ovary                      d) Whole inflorescence
4. In an inflorescence where flower sare borne laterally in an acropetal succession the position of the youngest floral bud shall be  
a) Proximal                      b) Distal                      c) Intercalary                      d) Anywhere
5. A true fruit is the one where  
a) Only ovary of the flower develops into fruit  
b) Ovary and calyx of the flower develops into fruit  
c) Ovary, calyx and thalamus of the flower develops into fruit.  
d) All floral whorls of the flower develops into fruit.
6. The example of terminal inflorescence  
a) Nerium oleander    b) Hibiscus rosa-sinensis    c) Theobroma cocoa    d) Couropita guianensis
7. What type of inflorescence seen in Theobroma cocoa?  
a) Terminal                      b) Axillary                      c) Cauliflorous                      d) None of them
8. It is an unbranched indeterminate inflorescence with sessile flowers.  
a) Simple raceme                      b) Spike                      c) Panicle                      d) Corymb
9. A pair of inflorescence bracts called \_\_\_\_\_ is present at the base of the spikelet.  
a) Capitulum                      b) Pedicle                      c) glumes                      d) Peduncle
10. Each sessile flower in spikelet has lemma, and Palea. They are  
a) Bract and bracteole    b) bracteole and bract    c) bisexual and unisexual    d) unisexual and bisexual
11. Spathe is a brightly coloured or hard bract seen in the following inflorescence  
a) Head                      b) Umbel                      c) Spike                      d) Spadix
12. The other name of Compound Raceme or 'Raceme of racemes'.  
a) Simple raceme                      b) Panicle                      c) Corymb                      d) Spike
13. The Example of Compound Umbel inflorescence  
a) Daucas carota                      b) Coriandrum sativum    c) Memecylon edule    d) All of them
14. Head inflorescence is a characteristic inflorescence of the family  
a) Fabaceae                      b) Poaceae                      c) Solanaceae                      d) Asteraceae

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15. Homogamous head inflorescence in Vernonia has  
a) Disc florets      b) male flower      c) both of them      d) None of them
16. Heterogamous head inflorescence is seen in  
a) Helianthus      b) Tridax      c) both of them      d) Sonchus
17. The other name of Monochasial cyme  
a) Biparous      b) multiparous      c) uniparous      d) None of them
18. Polychasial cyme is seen in  
a) Heliotropium      b) Nerium      c) Jasminum      d) Clerodendron
19. This inflorescence is called as "Raceme of cymes"  
a) Scorpiod cyme      b) Cyathium      c) Coenanthium      d) Thyrsus
20. In this inflorescence nectar is present in involucre  
a) Cyathium      b) Verticil      c) Coenanthium      d) Simple raceme
21. It is a modified condensed reproductive shoot  
a) Root      b) Stem      c) Flower      d) Fruit
22. All the flowers of the plant are bisexual. It is called  
a) Monoecious      b) Dioecious      c) Hermaphroditic      d) Polygamous
23. The example for Dioecious flowers  
a) Papaya      b) Palmyra      c) Both of them      d) None of them
24. Musa and Mangifera flowers  
a) Monoecious      b) Dioecious      c) Hermaphroditic      d) Polygamous
25. Example for Actinomorphic (or) radial (or) polysymmetric  
a) Hibiscus      b) Datura      c) Water lily      d) All of them
26. Presence of same number of perianth parts in different whorls of a flower is called  
a) Isomerous      b) Anisomerous      c) Trimerous      d) Tetramerous
27. The flower with united (or) fused sepals is called  
a) Aposepalous      b) Synsepalous      c) Caducous      d) Deciduous
28. The persistent calyx is seen in  
a) Brassica      b) Datura      c) Brinjal      d) Nelumbo
29. The Calyx is modified into hair like structure or scaly called \_\_\_\_\_.  
a) Campanulate      b) urceolate      c) tubular      d) pappus
30. In Papilionaceous corolla there are \_\_\_\_\_ types of petals are seen.  
a) 2      b) 3      c) 4      d) 5
31. The shape of the corolla in Cucurbita maxima  
a) Tubular      b) Rotate      c) Companulate      d) Urceolate
32. Corolla with two lips seen in  
a) Ocimum      b) Leucas      c) Adhatoda      d) All of them
33. Undifferentiated Calyx and Corolla in a flower is called Perianth. Each member is called  
a) Sepal      b) Petal      c) Tepal      d) Carpel
34. Arrangement of sepals and petals in the flower bud  
a) Aestivation      b) Placentation      c) Polyphyllous      d) Gamophyllous
35. Each stamen in androecium consists of  
a) Filament      b) Anther      c) Connective      d) All of them

36. Anthers connate, filaments free. This condition is called  
 a) Monadelphous      b) Diadelphous      c) Syngenesious      d) Polyadelphous
37. Example of Synandrous  
 a) Cotton      b) Pea      c) Asteraceae      d) Coccinea
38. Pollen grains are fused together as a single mass is called  
 a) Gynostegium      b) Pollinium      c) Didynamous      d) Tetradynamous
39. Longer than the corolla tube and project out. This is called  
 a) Exserted      b) Inserted      c) Hetero stemonous      d) Monothecal
40. Filament is attached to the anther at mid-point is called  
 a) Basifixal      b) Dorsifixal      c) Versatile      d) Adnate
41. Anther dehisces at right angles to the long axis of anther lobe.  
 a) Longitudinal      b) Transverse      c) Poricidal      d) Valvular
42. They are components of Gynoecium/  
 a) Tepal      b) Stamen      c) Anther      d) Carpel
43. Annona has  
 a) Apocarpous ovary      b) Syncarpous ovary      c) Introse      d) Extrose
44. A \_\_\_\_\_ is a crosswall or partition of ovary  
 a) Placenta      b) Discoid      c) locule      d) Septum
45. More than one locule, ovaries are called  
 a) Unilocular      b) Bilocular      c) Trilocular      d) Plurilocular
46. A style branched into two, it is called  
 a) Bifid      b) Simple      c) Gynobasic      d) None of them
47. Plumose stigma seen in the family  
 a) Asteraceae      b) Poaceae      c) Both of them      d) None of them
48. Capitata stigma is seen in  
 a) Tridax      b) Helianthus      c) Aster      d) Alchemilla
49. The internal elongation between the corolla and androecium is called  
 a) Anthophore      b) Androphore      c) Gynophore      d) Gynandrophore
50. It is the ovary with the sepals, petals and stamens attached at the apex of the ovary. It is called  
 a) Half-inferior ovary      b) Superior ovary      c) Inferior ovary      d) Perigynous ovary

### **LEVEL – II (51-71 Questions)**

51. Axile placentation seen in  
 a) Hibiscus      b) Tomato      c) Lemon      d) All of them
52. Nymphaeaceae family has \_\_\_\_\_ type of placentation  
 a) Marginal      b) Axile      c) Superficial      d) Parietal
53. It is the placenta at the base of the ovary  
 a) Free central      b) Basal      c) Axile      d) Marginal
54. The branch that bears the flower is called  
 a) Petiole      b) Mother axis      c) Pedicle      d) Peduncle
55. 'A' represents  
 a) Calyx      b) Corolla      c) Pistil      d) Androecium

56. Pistillode represents as  
 a)  $\underline{G}$                       b)  $\overline{G}$                       c)  $G-$                       d)  $G_0$
57. An edible product of the enter gynoecium is called as  
 a) Vegetable                      b) Fruit                      c) Nuts                      d) Seed
58. Pericarp is called as  
 a) Fruit wall                      b) Seed wall                      c) Leaf wall                      d) Stem wall
59. Mango and Coconut fruits are  
 a) Berry                      b) Drupe                      c) Pepo                      d) Hesperidium
60. The example of Pome  
 a) Apple                      b) Orange                      c) Lemon                      d) All of them
61. Identify the correctly matched pair  
 a) Follicle - Pisum                      b) Legume - Calotropis                      c) Siliqua – Brassica                      d) Silicula - Papaver
62. Find out the wrong statement of the following.  
 a) Capsule splitting along septa and valves remaining attached to septa is called Septicidal.  
 b) Capsule splitting along locules and valves remaining attached to septa.  
 c) Capsule splitting so that valves fall off leaving seeds attached to the central axis is called Septifragal.  
 d) Dehiscence through pores is called Denticidal.
63. Identify the wrongly matched pair.  
 a) Achene - Straw berry                      b) Cypsela -Tridax                      c) Caryopsis – Anacardium                      d) Nut- Quercus
64. Identify the right match for the following.  
 a) Cremocarp - Ocimum                      b) Carcerulus - Carrot  
 c) Lomentum - Coriander                      d) Regma - Ricinus
65. Sorosis develops from the \_\_\_\_\_ inflorescence  
 a) Spike                      b) Panicle                      c) Cyme                      d) Cyathium
66. The edible part of Date  
 a) Whole fruit                      b) Tender fruit                      c) Pericarp                      d) Seed
67. The fruit seen in Lady's finger  
 a) Pome                      b) Loculicidal capsule                      c) Cremocarp                      d) Siliqua
68. Lycopersicon esculentum is the binomial of  
 a) Potato                      b) Brinjal                      c) Tomato                      d) Poppy
69. The binomial of Pine apple  
 a) Ananas cosmosus                      b) Morus alba                      c) Ficus carica                      d) Pyrus malus
70. Example of albuminous seed  
 a) Castor                      b) Pea                      c) Ground nut                      d) All of them

### Picture Based Question

71. Identify the placentation inside the ovary  
 a) Axile placentation  
 b) Parietal placentation  
 c) Basal placentation  
 d) Marginal placentation



**UNIT – II – PLANT MORPHOLOGY AND TAXONOMY OF ANGIOSPERM****CHAPTER - 5  
TAXONOMY AND SYSTEMATIC BOTANY****TRY AND TEST YOURSELF****LEVEL – I (1 - 50 Questions)**

1. Specimen derived from non-original collection serves as the nomenclatural type, when original specimen is missing. It is known as  
a) Holotype                      b) Neotype                      c) Isotype                      d) Paratype
2. Phylogenetic classification is the most favoured classification because it reflects  
a) Comparative Anatomy                      b) Number of flowers produced  
c) Comparative cytology                      d) Evolutionary relationships
3. The taxonomy which involves the similarities and dissimilarities among the immune system of different taxa is termed as  
a) Chemotaxonomy    b) Molecular systematics    c) Serotaxonomy    d) Numerical taxonomy
4. Which of the following is a flowering plant with nodules containing filamentous nitrogen fixing micro - organisms?  
a) Crotalaria juncea    b) Cycas revolute                      c) Cicer arietinum                      d) Casuarina equisetifolia
5. Flowers are zygomorphic in  
a) Ceropegia                      b) Thevetia                      c) Datura                      d) Solanum
6. \_\_\_\_\_ are the prime companions of human beings in this universe.  
a) Plants                      b) Animals                      c) Human beings                      d) All of them
7. “De Historia Plantarum” was written by  
a) Aristotle                      b) Linnaeus                      c) Adolf Englar                      d) Theophrastus
8. Dioscorides, Greek physician described about 600 medicinal plants in  
a) ‘Origin of species’    b) ‘Species Plantarum’    c) ‘Materia medica’    d) ‘Genera plantarum’
9. \_\_\_\_\_ includes group of families which show less similarities among them.  
a) Family                      b) Order                      c) Class                      d) Series
10. Class consists of group of orders which share few similarities.  
a) Kingdom                      b) Species                      c) Order                      d) Genera
11. \_\_\_\_\_ is the fundamental unit of taxonomic classification and basic unit of evolutionary process.  
a) Sub family                      b) Sub genus                      c) Sub class                      d) Species
12. Assertion: Process of evolution.  
Reason : Biological species plays a vital role.  
a) Assertion is correct, Reason is correct.    b) Assertion is wrong, Reason is correct.  
c) Assertion is correct, Reason is wrong.    d) Assertion is wrong, Reason is wrong.
13. The other name of Biological species is  
a) Phylogenetic Species                      b) Morphological Species  
c) Isolation Species                      d) Taxonomic species
14. In \_\_\_\_\_ a detailed set of rules regarding plant nomenclature was given by A.P.de Candolle in his famous work “Theorie elementaire de la botanique”.  
a) 1813                      b) 1814                      c) 1815                      d) 1816
15. Phylogenetic Species concept was developed by  
a) Meglitsch                      b) Simpson                      c) Wiley                      d) All of them

16. Assigning \_\_\_\_\_ for a plant is known as Nomenclature.  
a) Classification      b) Arrangement      c) Name      d) None of them
17. ICBN deals with the names of \_\_\_\_\_ and extinct (fossil) organisms.  
a) existing      b) living      c) both of them      d) None of them
18. The present ICBN was evolved by following the same rules of  
a) Linnaeus      b) A.P. de Candolle      c) Alphonse de Candolle      d) All of them
19. 18<sup>th</sup> International Botanical Congress held in 2011 at \_\_\_\_\_, Australia.  
a) Melbourne      b) Brisbane      c) Sydney      d) Perth
20. Asexual reproductive stage of fungus is called  
a) Telomorph      b) Morphotaxa      c) Anamorph      d) Fungorum
21. 19<sup>th</sup> International Botanical Congress was held in Shenzhen in \_\_\_\_\_ in 2017.  
a) India      b) China      c) Pakistan      d) Nepal
22. \_\_\_\_\_ names are known as common names. They are regional or local but are not universal.  
a) Specific name      b) binomial      c) Vernacular      d) rare names
23. Polynomial system of naming a plant is replaced by a binomial system by  
a) Gaspard Bauhin      b) Bentham      c) Hooker      d) Linnaeus
24. How many types of author citation in Taxonomy?  
a) Two      b) Three      c) Four      d) One
25. R.Br. denotes the following  
a) Robert Brow      b) Robert Browny      c) Robert Brown      d) Robert Bro
26. When more than one specimen cited by the author in the protologue without designating holotype.  
a) Neotype      b) Syntype      c) Paratype      d) Epitype
27. Taxonomic keys are the tools for the identification. The most common type of key is \_\_\_\_\_.  
a) monochotomous key      b) dichotomous key      c) Trichotomous key      d) Tetrachotomous key
28. Example for Regional Flora  
a) Flora of Thiruvannamalai      b) Flora of Tamil Nadu Carnatic by K.M.Matthew  
c) Flora of Europaea by D.A.Web      d) Flora of Narthamalai
29. Gardens existed for growing ornamental plants for aesthetic value, religious and status reasons. The famous “\_\_\_\_\_ gardens” of Babylon in Mesopotamia is an example.  
a) Hanging      b) Rooting      c) Absorbing      d) Holding
30. The National Orchidarium Yercaud established in \_\_\_\_\_.  
a) 1961      b) 1962      c) 1963      d) 1964
31. In Indian Botanical Garden Kolkata, the major attraction is \_\_\_\_  
a) Insectivorous plants      b) Orchids      c) Bambusetum      d) The Great Banyan tree
32. First modern botanical garden was established by \_\_\_\_\_ a professor of Botany at Pisa, Italy in 1544.  
a) Lt. Col. Robert Kyd      b) Gamble      c) Luca Ghini      d) Fischer
33. The standard size of plant press  
a) 10” x 17”      b) 12” x 16”      c) 12” x 18”      d) 13” x 18”
34. 29cm x 41cm is the standard size of \_\_\_\_\_ sheet is used for mounting the specimens.  
a) Garden      b) Plant      c) Species      d) Herbarium
35. Presently deep freezing \_\_\_\_\_ method is followed throughout the world to protect the herbarium sheets against mold and insects.  
a) -18°C      b) -19°C      c) -19.5°C      d) -20°C
36. In Artificial system of classification Linnaeus described 7,300 species and arranged in \_\_\_\_\_ classes.  
a) 26      b) 28      c) 24      d) 22
37. The sexual system of classification is otherwise called as  
a) Natural system      b) Phylogenetic system      c) Evolutionary system      d) Artificial system
38. “Genera Plantarum” published by George Bentham and Joseph Dalton Hooker contains  
a) Two volumes      b) Three volumes      c) Four volumes      d) Five volumes



39. George Bentham and Joseph Dalton Hooker classified seeded plants into  
 a) Dicotyledonae    b) Monocotyledonae    c) Gymnospermae    d) All of them
40. Dome or conical shaped thalamus with superior ovary seen in  
 a) Thalamiflorae    b) Disciflorae    c) Calyciflorae    d) Inferae
41. Plants with incomplete flowers either apetalous or with undiffernciated calyx and corolla are placed under  
 a) Polypetalae    b) Gamopetalae    c) Epipetalae    d) Monochlamydeae
42. Gymnospermae includes  
 a) Gnetaeaceae    b) Coniferae    c) Cycadaceae    d) All of them
43. The Monocotyledonae has \_\_\_\_\_ series and \_\_\_\_\_ families.  
 a) 6 series and 30 families    b) 7 series and 34 families  
 c) 8 series and 40 families    d) 7 series and 60 families
44. Adolph Engler and Karl A Prantl published \_\_\_\_\_ system of classification in “Die Naturelichen Pflanzen Familien” in 23 volumes.  
 a) Artificial system of classification    b) Natural system of classification  
 c) Phylogenetic system of classification    d) None of them
45. Plants with embryos but no pollen tubes in Bryophytes & Pteridophytes. They are called as  
 a) Embryophyta    b) Thallophytes  
 c) Embryophyta Siphonogama    d) Embryophyta Asiphonogama
46. Embryophyta Siphonogama means  
 a) plants with embryos but no pollen tubes    b) plants with embryos and pollen tubes  
 c) Both of them    d) None of them
47. In 1968 \_\_\_\_\_ wrote the book titled “The evolution and classification of flowering plants.”  
 a) Adolph Engler    b) Karl A Prantl    c) Linnaeus    d) Arthur Cronquist
48. The most recent updated version, APG IV (2016) recognised 64 orders and \_\_\_\_\_ families.  
 a) 400 families    b) 412 families    c) 414 families    d) 416 families
49. Angiosperms are classified into  
 a) early angiosperms    b) monocots    c) eudicots    d) All of them
50. The word biosystematics was introduced by  
 a) Camp    b) Gilly    c) Both of them    d) None of them

### **LEVEL – II (51 - 77 Questions)**

51. \_\_\_\_\_ are the carriers of genetic information.  
 a) Nucleus    b) Cytoplasm    c) Mitochondria    d) Chromosomes
52. \_\_\_\_\_ in 1976 defined serotaxonomy is “the study of the origins and properties of antisera”  
 a) Smith    b) Arthur Cronquist    c) Bentham    d) Hooker
53. The genetic sequence used to identify a plant is known as  
 a) “DNA tags”    b) “DNA barcodes”    c) Both of them    d) None of them
54. The outcome of a cladistic analysis is a \_\_\_\_\_, a tree-shaped diagram that represent the best hypothesis of phylogenetic relationships.  
 a) Pedigree Analysis    b) cladistics    c) Numerical Taxonomy    d) Cladogram
55. Taxa that includes members from two different lineages are \_\_\_\_\_.  
 a) Monophyletic group    b) biphyletic group    c) Paraphyletic group    d) Polyphyletic group
56. The habit of *Aeschynomene aspera* (or) pith plant  
 a) Tree    b) Climber    c) Hydrophyte    d) Shrub
57. The outer most petal in Fabaceae is large and it is called  
 a) standard petal    b) wing petal    c) keel petal    d) alae
58. Dimorphic stamens are seen in  
 a) *Clitoria ternatea*    b) *Aeschynomene aspera*    c) *Dalbergia latifolia*    d) *Crotalaria verrucosa*

59. Nodulated roots are seen in the family. In the root nitrogen – fixing bacteria (*Rhizobium leguminosarum*) is seen.  
 a) Solanaceae      b) Fabaceae      c) Liliaceae      d) Arecaceae
60. The characteristic fruit of Fabaceae  
 a) Berry      b) Drupe      c) Legume      d) Pepo
61. Reniform shaped seed is seen in  
 a) *Clitoria ternatea*      b) *Pisum sativum*      c) Both of them      d) None of them
62. Timber plants of Fabaceae  
 a) *Dalbergia latifolia*      b) *Pterocarpus santalinus*      c) *Pterocarpus dalbergioides*      d) All of them
63. The following plant is called sunhemp  
 a) *Crotalaria juncea*      b) *Sesbania aegyptiaca*      c) *Butea frondosa*      d) *Clitoria ternatea*
64. The binomial of Soya bean  
 a) *Cajanus cajan*      b) *Phaseolus vulgaris*      c) *Glycine max*      d) *Vigna mungo*
65. The vernacular name of *Vigna unguiculata*  
 a) Pigeon pea      b) Cow pea      c) Chick pea      d) Horse gram
66. The stem tuber of Solanaceae  
 a) *Solanum violaceum*      b) *Solanum trilobatum*      c) *Solanum melongena*      d) *Solanum tuberosum*
67. What is rhipidium?  
 a) Axillary cymose      b) Terminal cymose  
 c) Extra axillary scorpioid cyme      d) umbellate cyme
68. The enlarged calyx to envelop the fruit is seen in  
 a) *Physalis*      b) *Withania*      c) Both of them      d) None of them
69. The medicinal plant of Solanaceae  
 a) *Atropa belladonna*      b) *Capsicum annum*      c) *Nicotiana tabaccum*      d) *Cestrum nocturnum*
70. The binomial of Day Jasmine  
 a) *Cestrum nocturnum*      b) *Nicotiana alata*      c) *Cestrum diurnum*      d) *Petunia hybrid*
71. In \_\_\_\_\_ stem is modified into Cladodes and the leaves are reduced to scales.  
 a) *Lilium*      b) *Gloriosa*      c) *Ruscus*      d) *Asparagus*
72. Tricarpallary, syncarpous and superior ovary are seen in  
 a) Solanaceae      b) Musaceae      c) Liliaceae      d) Fabaceae
73. Bulbs are seen in  
 a) *Aloe vera*      b) *Aloe barbadense*      c) Both of them      d) None of them
74. The bulbs used for killing rats obtained from  
 a) *Urginea indica*      b) *Scilla hyacinthiana*      c) *Allium cepa*      d) *Allium sativum*
75. The ornamental plant in Liliaceae  
 a) *Agapanthus africanus*      b) *Gloriosa superba*      c) *Yucca gloriosa*      d) All of them

### Picture Based Questions

76. Which family has the following type of corolla?

- a) Liliaceae  
 b) Fabaceae  
 c) Solanaceae  
 d) Musaceae



77. Arrange the diagrams in correct sequence.

- a) 3, 2, 1  
 b) 2, 3, 1  
 c) 1, 2, 3  
 d) 3, 1, 2

