







27. In the plant name *Capparis lasiantha* R.Br..ex.DC. The author citation indicated that
- Robert Brown published the name
  - De candolle named it
  - Robert Brown has more status than de Candolle
  - Robert Brown and de Candolle have equal status
28. Gynobasic style is characteristic to the family
- Liliaceae
  - Loranthaceae
  - Lauraceae
  - Labiatae
29. In a hexaploid plant  $2n=42$ . The base chromosome number  $x =$
- 21
  - 7
  - 14
  - 12
30. *Triticumaestivum* is a polyploidy with genomes from
- Triticummonococum*&*Aegilopsspeltoedus*
  - Aegilopsspeltoedus*&*Aegilopsisquarrosa*
  - Aegilopsisquarrosa*&*Triticummonococum*
  - Triticummonococum* ,*Aegilopsspeltoedus*&*Aegilopsisquarrosa*
31. The fruit in the family cruciferae is
- Siliqua
  - Achene
  - Berry
  - Follicle
32. Cincinnus inflorescence is a distinguishing feature of family
- Rutaceae
  - Metastomaceae
  - Caryophyllaceae
  - Lythraceae
33. Quinine is obtained from the plant that belongs to the family
- Rutaceae
  - Rhamnaceae
  - Rosaceae
  - Rubiaceae
34. The fleshy edible fruit of cashew nut is the modified
- Ovary
  - Thalamus
  - Mesocarp
  - Epicarp
35. A species confined to a small area is known as
- Rare
  - Key stone
  - Endemic
  - Endangered
36. For preservation in the herbarium, the specimens are treated with
- Heating
  - Repellents
  - Fumigants
  - All the above

37. Which among the following system is not a phylogenetic system of classification?  
 A) Charles Bessey                      B) Robert Thorne  
 C) Engler&Prantl                      D) De Candolle
38. A taxon should have a single correct name if the same name to be used for different species or taxa is known as  
 A) Tautonym                              B) Basionym  
 C) Homonym                              D) Nomennudum
39. The pollen tube that enters the ovule by piercing the integuments is known as  
 A) Porogamy                              B) Chalazogamy  
 C) Mesogamy                              D) Syngamy
40. Endosperm development is completely absent in  
 A) Orchidaceae                            B) Podostemaceae  
 C) Both in A&B                            D) None of the above
41. Monosporicembryosac with eight nuclei is found in  
 A) Adoxa                                    B) Polygonum  
 C) Allium                                    D) Fritillaria
42. Indian rubber plant is  
 A) *Ficuselastica*                            B) *Ficusaltissima*  
 C) *Ficuscarica*                              D) *Ficuspalmate*
43. Saffron is obtained from  
 A) The stigma                              B) The stamens  
 C) The petals                              D) The seeds
44. Ragi is obtained from  
 A) *Oryza sativa*                              B) *Eleusinecoracana*  
 C) *Panicummiliaceum*                      D) *Sorghum vulgare*
45. Chlorofluorocarbons rise to the stratosphere and  
 A) React directly with stratospheric ozone to destroy it.  
 B) Become free radicals that react with oxygen to create ozone.  
 C) React with free radicals to remove carbon dioxide.  
 D) After interacting with UV energy, become free radicals, which destroy ozone.
46. "Jeevani" made by using ethanobotanical lead from the tribe  
 A) Kani                                      B) Kurumar  
 C) Vellan                                    D) Naikkan



56. "Human cells contain DNA sequences that match the sequences found in bacterial 16SrDNA." What is your response to this statement?
- The statement is untrue, because healthy human cells should contain no bacterial DNA
  - The statement is true, because mitochondria contain bacterial DNA sequences
  - The statement is untrue, because there is no such thing as rDNA, only rRNA
  - The statement is true, because the 16S sequences are part of the human 18S sequences
57. For transmission electron microscopy, thin sections have to be prepared by
- Rotary microtome
  - Sled microtome
  - Cryomicrotome
  - Ultramicrotome
58. Haematoxylin is obtained from the
- Heart wood of *Haematoxylumcampechianum* of the family Fabaceae
  - Leaf of *Haematoxylumcampechianum* of the family Fabaceae
  - Heart wood of *Haematoxylumcampechianum* of the family Malvaceae
  - Leaves of *Haematoxylumcampechianum* of the family Malvaceae
59. The fuelgen nuclear reaction included the following
- Reaction of deoxyribose with leucofuschin to give purple colour to DNA
  - Reaction of ribose with leucofuschin to give purple colour to DNA
  - Removal of purine at purine deoxyriboseglycosidic bond of DNA by acid hydrolysis.
  - All of the above
60. In humans, the Barr body is an
- Active X chromosome in females
  - Active X chromosome in males
  - Inactive Y chromosome in males
  - Inactive X chromosome in females
61. Disease(s) caused by perturbation of protein conformation
- Prion diseases only
  - Alzheimer's disease only
  - Both A&B
  - None of these
62. The following is not a carbohydrate.
- Starch
  - Glycogen
  - Inulin
  - Prostaglandins
63. Kwashiorkor disease is caused by deficiency of
- Starch
  - Protein
  - Fatty acids
  - Minerals



72. The atom within each cytochrome molecule that actually accepts and release electron is  
 A) Carbon B) Iron  
 C) Zinc D) Oxygen
73. Which of the following statements are associated with the process of photorespiration in plants?  
 (P) Photorespiration takes place in only C<sub>3</sub> plants.  
 (Q) Photorespiration takes place in only C<sub>4</sub> plants.  
 (R) Photorespiration takes place in both C<sub>3</sub> and C<sub>4</sub> plants.  
 (S) Glycolate is oxidized to glyoxylate in the peroxisome.  
 (T) Glycolate is oxidized to glyoxylate in the mitochondria.  
 A) (P) and (S) B) (R) and (S)  
 C) (Q) and (T) D) (R) and (T)
74. How many distinct photosynthetic mechanisms exist in vascular plants?  
 A) 2 B) 3 C) 4 D) 1
75. In the following crops, which produces maximum carbohydrate/unit land?  
 A) Rice B) Wheat  
 C) Potato D) Sugarcane
76. The treatment that induces rapid growth and development in the plants of temperate or polar region is  
 A) Vernalization B) Grating  
 C) Scarification D) Soaking of seeds
77. Movement of pollen tube towards micropyle of ovule depends on  
 A) Thigmotropism B) Thermotropism  
 C) Chemotropism D) Hydrotropism
78. Which of the following groups of enzymes are unique to the Calvin cycle?  
 A) Ribulosebisphosphate carboxylase, phosphoribulokinase, and sedoheptulose1, 7-bisphosphatase  
 B) Ribose 5-phosphate isomerase, epimerase, and aldolase  
 C) Glyceraldehyde3-phosphate dehydrogenase, phosphofructokinase, and phosphoenolpyruvate carboxylase  
 D) Phosphoglycolate phosphatase, glycerol kinase, and serine synthetase
79. Biomass turnover time is the ratio between biomass and productivity of an ecosystem. Which of the following forests should have highest biomass turnover time?  
 A) Tropical dry forests  
 B) Tropical wet forests  
 C) Temperate deciduous forests  
 D) Boreal forests



88. Which of the following best supports the endosymbiotic theory of the evolutionary origin of mitochondria?
- Mitochondria, chloroplasts, and prokaryotes contain electron carriers.
  - Genes for mitochondrial pyruvate dehydrogenase subunits are found in the nuclear DNA
  - Mitochondrial and bacterial ribosomal functions are inhibited by the same antibiotics
  - The outer mitochondrial membrane contains the protein porin.
89. The organism which requires priority of conservation according to the Red Data Book published by IUCN is
- Vulnerable
  - Endangered
  - Rare
  - Threatened
90. The following biofertilizer is not a nitrogen source
- Rhizobium
  - Azolla
  - Pseudomonas
  - Azospirillum
91. Biosphere reserve in Madhya Pradesh
- Gulf of Mannar
  - Sundarbans
  - Nandadevi
  - Panchmarhi
92. Diploid organisms in which one chromosome of a single pair is missing are called
- Trisomic
  - Nullisomic
  - Monosomic
  - Tetrasomic
93. Abnormal males possessing an extra X chromosome develop
- Klinefelter Syndrome
  - Turner Syndrome
  - Down syndrome
  - Patau Syndrome
94. In meiosis, an inversion in one member of a pair of homologous chromosomes will most likely lead to which of the following?
- Nondisjunction of the affected chromosome
  - Chromosomes with duplications and deficiencies
  - Increased recombination frequency in the inverted region
  - Mispairing of the affected chromosome with a nonhomologous chromosome
95. Smallest unit in the cell wall is
- Fibril
  - Microfibril
  - Micelle
  - Cutin
96. The following crystalline DNA helix structure is left handed
- A- DNA
  - B –DNA
  - Z -DNA
  - D –DNA



107. The terminator codons are  
 A) UAA, UAG, UGA                      B) UUU, UUC, UUG  
 C) UUA, UGG, UGA                      D) UGC, UGG, UAG
108. A base change in DNA that would not affect the amino acid sequence in the protein is known as  
 A) Missense mutation                      B) Nonsense mutation  
 C) Silent Mutation                         D) Neutral mutation
109. Electrophoresis of histones and myoglobin under non-denaturing conditions (pH = 7.0) results in  
 A) Both proteins migrate to the anode  
 B) Histones migrate to the anode and myoglobin migrates to the cathode  
 C) Histones migrate to the cathode and myoglobin migrates to the anode  
 D) Both proteins migrate to the cathode
110. Formation of what type of chemical bond is catalyzed by DNA ligase  
 A) Phosphoester                            B) Hydrogen  
 C) Glycosidic                                D) Ester
111. The following crop is used in phytoremediation  
 A) Mustard                                    B) Wheat  
 C) Rice                                         D) Sugarcane
112. Freeze preservation of living plant cells involves the following steps  
 A) Freezing- thawing – storage- reculture  
 B) Freezing-storage- reculture –thawing  
 C) Freezing-storage-thawing-reculture  
 D) Freezing--reculture -storage-thawing
113. The cDNA library of the organism will be  
 A) Tissue specific                            B) Growth specific  
 C) Organ specific                            D) Cell specific
114. Drought tolerance in plants is strongly correlated with the accumulation of aminoacid  
 A) Serine                                        B) Lysine  
 C) Tryptophan                                D) Proline
115. If male plant is diploid and female plant is tetraploid , the endosperm will be  
 A) Haploid                                     B) Pentaploid  
 C) Triploid                                     D) Tetraploid

