

BOTANY :: 2002

- Grass stem elongates after initial growth due to :
(1) Lateral meristem (2) Secondary meristem
(3) Intercalary meristem (4) Apical meristem
- A simple tissue with mechanical and physiological functions in a young dicotyledonous plant is
(1) Parenchyma (2) Collenchyma (3) Sclerenchyma (4) Meristematic tissue
- The cells are chlorophyllous, fewer in number, unique in shape and inner walls thick. This description fits into :
(1) Subsidiary cells (2) Guard cells (3) Passage cells (4) Bulliform cells
- Endodermis is a part of :
(1) Epidermal tissue system (2) Extrastelar ground tissue system
(3) Intrastelar ground tissue system (4) Vascular tissue system
- The type of vascular bundles in the stem of *Dracaena*
(1) Radial (2) Bicollateral (3) Amphicribal (4) Amphivasal
- Protoplast lacks :
(1) Cytoplasm (2) Nucleus (3) Plasma membrane (4) Cell wall
- Development of haploid plants from totipotent pollen is called:
(1) Androgenesis (2) Parthenocarpy (3) Emasculation (4) Somatic hybridization
- Identify the vector suitable to clone long fragments of DNA :
(1) Phage vectors (2) Bacterial plasmids (3) Yeast plasmids (4) Cosmids
- In *Spirogyra*, a brief period of tetranucleate condition is found in :
(1) Holdfast (2) Gametangium (3) Vegetative cell (4) Germinating zygote
- Failure of gametangial fusion in *Rhizopus* leads to 'the formation of
(1) Zygosporangium (2) Parthenospore (3) Chlamydozoospore (4) Sporangiospore
- Number of "peristomial teeth in *Funaria* capsule
(1) 16 (2) 32 (3) 64 (4) 128
- The brown hairs present at the base of the petiole of *Pteris* are called :
(1) Setae (2) Ramenta (3) Spines (4) Stipules
- In *Cycas*, diploxylic condition is found in:
(1) Stem (2) Root (3) Corolloid root (4) Leaflet
- Genetic recombination by transduction in bacteria was discovered first in this
(1) *Salmonella typhimurium* (2) *Escherichia coli*
(3) *Streptococcus pneumoniae* (4) *Agrobacterium tumefaciens*
- The viruses with nucleic acid but without protein coat are known as :
(1) Viroids (2) Virions (3) Capsomers (4) Prions
- An example of physiological xerophyte is :
(1) *Salvinia* (2) *Euphorbia* (3) *Salicornia* (4) *Agave*
- Clay particles are :
(1) Negatively charged (2) Positively charged
(3) Neutral (4) With no charge
- The plant breeder who developed the first artificial hybrid ?
(1) Mendel (2) Swaminathan (3) Maheshwari (4) Fairchild

19. *Xanthomonas citri* posses:
 (1) Tuft of flagella (2) Bipolar flagella (3) Single polar flagella (4) No flagella
20. In pedigree method of hybridization up to which generation, the plants are tested and released for cultivation ?
 (1) F₂ generation (2) F₃ generation (3) F₄ generation . (4) F₆ generation
21. An abnormal increase in the cell number due to the infection is called:
 (1) Hyperplasia (2) Hypertrophy (3) Hypoplasia (4) Necrosis
22. Which one of the following is not associated with ascent of sap in tall trees?
 (1) Cohesion and adhesion of water molecules
 (2) Continuity of water column
 (3) Pressure in tracheary elements
 (4) Transpiration pull
23. The risk of Spoilage is less in salted pickles because of :
 (1) Guttation (2) Plasmolysis (3) Imbibition (4) Diffusion
24. Sleeping movements in *Samanea saman* leaves are regulated by
 (1) Nitrogen (2) Potassium (3) Phosphorus (4) Magnesium
25. Which of the following is needed both in photosynthesis and respiration?
 (1) Chlorophyll (2) CO₂ (3) O₂ (4) Cytochromes
26. In photosynthetic electron transport system, manganese ions are associated with
 (1) Oxygen evolving complex (2) CF₀- CF₁ complex
 (3) Cytochrome b₆.f complex (4) Plastoquinone
27. The microelement required for the synthesis of IAA is represented in its ionic form as a cofactor in this enzyme:
 (1) Catalase (2) PEP carboxy kinase
 (3) Carbonic anhydrase (4) Nitrogenase
28. When malic acid is the respiratory substance:
 (1) The amount of CO₂ released is more than O₂ consumed
 (2) The amount of CO₂ released is less than O₂ consumed
 (3) The amount of CO₂ released is equal to O₂ consumed
 (4) CO₂ is not released
29. Natural auxins are synthesised from the amino acid :
 (1) Methionine (2) Glycine (3) Lysine (4) Tryptophan
30. Exposure to light inhibits the process of germination in the seeds of the following plant :
 (1) *Allium* (2) *Laduca* (3) *Capsella* (4) Tobacco
31. The taxon 'Pentoxylae' was reconstructed by
 (1) M.O.P. Iyengar (2) Birbal Sahni (3) K.C. Mehta (4) P.Maheshwari
32. Which one of the following institutes achieved the production of chrysanthemum varieties with prolonged blooming periods
 (1) FRI (2) CSIR (3) NBRI (4) CIMAP
33. A plant with specialized epidermis for absorption of moisture from the atmosphere is :
 (1) *Avicennia* (2) *Rhizophora* (3) *Vanda* (4) *Jussiaea*

34. Which one of the following has thorns, bearing leaves and flowers on them?
 (1) Duranta (2) Artabotrys (3) Carissa (4) Bougainvillea
35. A leafy vegetable which has ochraceous stipules :
 (1) Platanus (2) Amaranthus (3) Mentha (4) Rumex
36. Alternate phyllotaxy~ in which the sixth leaf lies above the first leaf after completing two circles is known as :
 (1) Distichous (2) Tristichous (3) Pentastichous (4) Octastichous .
37. In Cyathium inflorescence, the ratio between male and female flowers Is :
 (1) One: Many (2) Many: One (3) One: One (4) One: Two
38. In obdiplostemonous androecium the stamens are arranged in :
 (1) One whorl and alternate with petals
 (2) Two whorls, with outer whorl alternating with the petals
 (3) Two whorls, with outer whorl opposite to the petals
 (4) One whorl and opposite to the petals
39. Gloriosa superba is a good example of one of the following :
 (1) Heterostyly (2) Cleistogamy (3) Self-sterility (4) Herkogamy
40. The term scutellum refers to :
 (1) Residual nucellus of pepper. seeds (2) Single cotyledon of cereals
 (3) Aril of Trianthema (4) Outgrowth of pulse seeds
41. In which plant, two curved hooks are formed on the seed ?
 (1) Xanthium (2) Martynia (3) Tribulus (4) Ricinus
42. In pulses the proteins are stored in :
 (1) Endosperm (2) Cotyledons (3) Pericarp (4) Seed coat
43. In Bentham and Hooker's classification the way of arrangement of the three series of polypetalae reflects this gradual evolution of flower from :
 (1) Dichlamydeous to Monochlamydeous condition (2) Apocarp to Syncarp
 (3) Hypogyny to Epigyny (4) Bisexuality to Unisexuality
44. In the flowers of Fabaceae, one of the following immediately encloses the essential organs
 (1) Anterior petals (2) Posterior petal (3) Lateral petals (4) Sepals
45. The characteristic fruit type 'In Asteraceae is :
 (1) Carcerulus (2) Capsule (3) Cypsela (4) Caryopsis
46. Night queen and Day king belong to one of the following genera :
 (1) Sesbania (2) Chrysanthemum (3) Cestrum (4) Lilium
47. The underground stem of this genus is a rhizome :
 (1) Allium (2) Gloriosa (3) Scilla (4) Lilium
48. When are the glogi bodies of a cell made non-functional ?
 (1) Spindle apparatus is not formed (2) Nuclear membrane does not disappear
 (3) Cytokinesis is not completed (4) Chromatids are not formed
49. Identify the trisaccharide in the following:
 (1) Mannose (2) Maltose (3) Raffinose (4) Galactose
50. Kryotype means a :
 (1) single (haploid) set of chromosomes of an organism
 (2) diagrammatic representation of the chromosomes .

(3) genes constituting a single set of chromosomes

(4) type of nucleus of an organism

(1) 3	(2) 2	(3) 2	(4) 2	(5) 4
(6) 4	(7) 1	(8) 4	(9) 4	(10) 2
(11) 2	(12) 2	(13) 4	(14) 1	(15) 1
(16) 3	(17) 1	(18) 4	(19) 3	(20) 4
(21) 1	(22) 3	(23) 2	(24) 2	(25) 4
(26) 1	(27) 3	(28) 1	(29) 4	(30) 1
(31) 2	(32) 3	(33) 3	(34) 1	(35) 4
(36) 3	(37) 2	(38) 3	(39) 4	(40) 2
(41) 2	(42) 2	(43) 3	(44) 1	(45) 3
(46) 3	(47) 2	(48) 3	(49) 3	(50) 1

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