BOTANY :: 2002

1. Grass stem elongates after initial growth due to :
   (1) Lateral meristem (2) Secondary meristem
   (3) Intercalary meristem (4) Apical meristem
2. A simple tissue with mechanical and physiological functions in a young dicotyledonous plant is
   (1) Parenchyma (2) Collenchyma (3) Sclerenchyma (4) Meristematic tissue
3. 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
4. Endodermis is a part of :
   (1) Epidermal tissue system (2) Extrastelar ground tissue system
   (3) Intrastelar ground tissue system (4) Vascular tissue system
5. The type of vascular bundles in the stem of Dracaena
   (1) Radial (2) Bicollateral (3) Amphicribal (4) Amphivasal
6. Protoplast lacks :
   (1) Cytoplasm (2) Nucleus (3) Plasma membrane (4) Cell wall
7. Development of haploid plants from totipotent pollen is called:
   (1) Androgenesis (2) Parthenocarpy (3) Emasculation (4) Somatic hybridization
8. Identify the vector suitable to clone long fragments of DNA :
   (1) Phage vectors (2) Bacterial plasmids (3) Yeast plasmids (4) Cosmids
9. In Spirogyra, a brief period of tetranucleate condition is found in :
   (1) Holdfast (2) Gametangium (3) Vegetative cell (4) Germinating zygote
10. Failure of gametangial fusion in Rhizopus lends to 'the formation of
    (1) Zygospore (2) Parthenospore (3) Chlamydospore (4) Sporangiospore
11. Number of "peristomial teeth in *Funaria* capsule
    (1) 16 (2) 32 (3) 64 (4) 128
12. The brown hairs present at the base of the petiole of Pteris are called :
    (1) Setae (2) Ramenta (3) Spines (4) Stipules
13. In Cycas, diploxylic condition is found in:
    (1) Stem (2) Root (3) Corolloid root (4) Leaflet

14. Genetic recombination by transduction in bacteria was discovered first in this
    (1) Salmonella typlimurium (2) Escherichia coli
    (3) Streptococcus pneumoniae (4) Agrobacterium tumefaciens
15. The viruses with nucleic acid but without protein coat are known as :
    (1) Viroids (2) Virions (3) Capsomers (4) Prions
16. An example .of physiological xerophyte is :
    (1) Salvinia (2) Euphorbia (3) Salicornia (4) Agave
17. Clay particles are :
    (1) Negatively charged (2) Positively charged
    (3) Neutral (4) With no charge
18. 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) F_2 generation (2) F_3 generation (3) F4 generation . (4) F_6 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) CO_2 (3) O_2 (4) Cytochromes

26. In photosynthetic electron transport system, manganese ions are associated with
(1) Oxygen evolving complex (2) CF_0- CF_1 complex
(3) Cytochrome b_6.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 CO_2 released is more than O_2 consumed
(2) The amount of CO_2 released is less than O_2 consumed
(3) The amount of CO_2 released is equal to O_2 consumed
(4) CO_2 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 inflorescunce, the ratio between male and female flowers Is :
(1) One: Many (2) Many: One (3) One: One (4) One: Two

38. In obdlplostemonous 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 wayof arrangement of the three series of polypetalae reflects this gradual evolution of flower from :
(1) Dichlamydeous to Monochlamydeous condition (2) Apocarpy to Syncarpy
(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	**7) 2**	**(48) 3**	**(49) 3**	**(50) 1**