

## BOTANY :: 2001

1. Clover leaf shaped nucleic acid is  
(1) DNA                      (2) m-RNA                      (3) r-RNA                      (4) t-RNA
2. During meiosis, the disjunction of chromosomes can be seen in this stage  
(1) Anaphase I              (2) Anaphase II              (3) Metaphase I              (4) Metaphase II
3. Malpighian cells are  
(1) Brachysclereids      (2) Macrosclereids      (3) Asterosclereids      (4) Trichosclereids
4. The cells which help in rolling and unrolling of leaf lamina in grasses are  
(1) Complementary cells                      (2) Motor cells  
(3) Passage cells                      (4) Companion cells
5. The seat of origin of the lateral roots is  
(1) Epidermis              (2) Cortex                      (3) Endodermis              (4) Pericycle
6. Reverse transcriptase enzymes are employed to  
(1) Cut DNA molecule at specific site  
(2) Join DNA fragments  
(3) Synthesis complementary DNA from m-RNA  
(4) Introduce recombinant DNA into host
7. The substance used in the tissue culture media for induction of shoots in callus is  
(1) ABA                      (2) GA<sub>3</sub>                      (3) IAA                      (4) Kinetin
8. Spirulina is an example of  
(1) Biopesticide              (2) Biofertilizer              (3) Edible fungi              (4) Single cell protein
9. The diploid phase in the life cycle of spirogyra is represented by  
(1) Female gamete      (2) Zygospore              (3) Aplanospore              (4) Akinete
10. Promycelium in Rhizopus develops from  
(1) Zygothecium              (2) Chlamydothecium              (3) Zygothecium              (4) Sporangium
11. Which of the following one belongs to the gametophyte phase in Funaria ?  
(1) Capsule                      (2) Operculum                      (3) Apophysis                      (4) Calyptra
12. Sex organs in pteris are produced on  
(1) Dorsal side of the prothallus                      (2) Ventral side of the prothallus  
(3) Margins of the fertile leaflets                      (4) Apices of Sporophytic stem
13. Endosperm in Cycas is  
(1) Haploid                      (2) Diploid                      (3) Triploid                      (4) Tetraploid
14. Oxytetracycline is obtained from  
(1) Streptomyces rimosus                      (2) Bacillus licheniformis  
(3) Bacillus polymyxa                      (4) Corynebacterium glutamicum
15. The virus which causes ring spot disease in cherry is transmitted through  
(1) Seeds                      (2) Fungi                      (3) Insects                      (4) Pollen grains
16. The great Bengal famine of 1943 was due to  
(1) Bacterial blight of rice                      (2) Neck blast of rice  
(3) Brown leaf spot of rice                      (4) Rice tungro
17. Rust of Jowar is caused by

- (1) *Sphacelotheca sorghi* (2) *Puccinia purpurea*  
(3) *Sclerospora graminicola* (4) *Venturia inaequalis*

18. An example of Xerophytic plants with cladode is

- (1) Asparagus (2) Aloe (3) Agave (4) Argemone

19. Mulching means:

- (1) Raising the plants against slope (2) Shallow ploughing  
(3) Planting of crops in rows (4) Layer formed by the stubble and grass

20. Soil transported by wind is known as

- (1) Alluvial (2) Colluvial (3) Eolian (4) Glacial

21. Who introduced the term 'Heterosis' ?

- (1) Koelreuter (2) Shull (3) Johannsen (4) Boriug

22. Dharwar American variety of cotton is the product of

- (1) Mass selection. (2) Clonal selection  
(3) Mutation breeding (4) Parasexual hybridization

23. Scotoactive stomatal movement can be observed in the leaves of

- (1) *Vallisneria* (2) *Potamogeton* (3) *bryophyllum* (4) *Nerium*

24. The organism which lives as an endosymbiont in Barley is

- (1) *Klebsiella* (2) *Glomus* (3) *Azolla* (4) *Azospirillum*

25. The peroxisomal enzyme which catalyzes the conversion of glycolate belongs to this category

- (1) Oxidoreductases (2) Hydrolases  
(3) Lyases (4) Isomerases

26. Which of the component of photosynthetic electron transport is directly involved in the transport of protons from stroma to lumen of thylakoid ?

- (1) Plastocyanin (2) Plastoquinone (3) Ferredoxin (4) Pheophytin

27. How many ATP molecules are formed in electron transport from the reduced nicotinamide adenine dinucleotides generated in one turn of Krebs cycle :

- (1) Three (2) Six (3) Nine (4) Twelve

28. Which of the following codons is not associated with the termination of protein synthesis?

- (1) UM . (2) UAG (3) UGA (4) AUG

29. 'Richmond-Lung Effect' Deals with :

- (1) Parthenocarpic fruit formation by auxins  
(2) Foolish seedling disease by gibberelins  
(3) Delay in senescence by cytokinins  
(4) Closure of stomata by abscisic acid

30. Identify the plant in which 'night break' is inhibitory to floral induction:

- (1) Spinach (2) Xanthium (3) Beet (4) Hyoscyamus

31. *Salicornia* is an example of :

- (1) Mesophyte (2) Epiphyte (3) Halophyte (4) Parasite

32. Which National Institute. Encourages the publication of flora of different regions of India ?

- (1) IARI (2) NBRI (3) BSI (4) FRI

33. An aquatic plant which has spongy breathing roots is

- (1) *Pistia* (2) *Hydrilla* (3) *Jussiaea* (4) *Eichhornia*

34. In *Cissus* the tendril is a modification of

- (1) Terminal bud (2) Axillary bud (3) Leaf (4) Leaflet
35. Which of the following shows both opposite decussate and opposite superposed phyllotaxy ?  
 (1) Psidium (2) Quisqualis (3) Calotropis (4) Ixora
36. An inflorescence which contains gall flowers is  
 (1) Verticillaster (2) Cyathium (3) Hypanthodium (4) Capitulum
37. What is the type of Placentation do you find in Nymphaea ?  
 (1) Parietal (2) Superficial (3) Marginal (4) Basal
38. In Clerodendron the self-pollination is prevented by  
 (1) Protogyny (2) Protandry (3) Herkogamy (4) Heterostyly
39. What is the position of the multilayered sterile tissue in the transverse section of an young anther  
 (1) Between epidermis and endothecium  
 (2) Between endothecium and tapetum  
 (3) Between tapetum and sporogenous tissue  
 (4) Between the cells of sporogenous tissue
40. In Pyrus malus, the false fruit is formed from  
 (1) Thalamus (2) Pedicel (3) Peduncle (4) Calyx
41. Seeds with spongy aril containing air spaces are found in  
 (1) Calotropis (2) Xanthoxylum (3) Nymphaea (4) Hiptage
42. Which of the following taxons is known for the absence of fruits?  
 (1) Polypetalae (2) Gamopetalae (3) Gymnospermae (4) Monochlamydae
43. Which one of the following is an advanced floral feature ?  
 (1) Hypogyny (2) Bisexuality (3) Apocarpous (4) Zygomorphy
44. Stellate hairs are common in this family  
 (1) Asteraceae (2) Caesalpiniaceae (3) Liliaceae (4) Malvaceae
45. The position of the odd sepal in Caesalpiniaceae is  
 (1) Posterior (2) Anterior (3) Lateral (4) Oblique
46. An alkaloid called cap sine is obtained from this plant  
 (1) Chillies (2) Potato (3) Tomato (4) Tobacco
47. Which of the following is a cultivated variety of red gram ?  
 (1) Varalakshmi (2) Gangabhavani (3) Padma (4) Sarada
48. A cell organelle enveloped by a single unit membrane is  
 (1) Mitochondrion (2) Lysosome (3) Chloroplast (4) Nucleus
49. Fluid mosaic model of-cell membrane was proposed by  
 (1) Singer and Nicholson (2) De Robertis and Frenchi  
 (3) Davson and Danielli (4) Robertson
50. The part of the chromosome beyond the secondary constriction is known as  
 (1) Terminus (2) Chromomere (3) Centromere (4) Telomere

**ANSWERS**

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

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