Class 11 NEET Botany Sample Questions 2024

1. Identify the incorrect statements:
    - (i) Lower taxa share more characteristics.
    - (ii) Order groups genera with some similarities.
    - (iii) Cats and dogs belong to the same family, Felidae.
    - (iv) Carolus Linnaeus introduced binomial nomenclature.

    Answer: (2) (ii), (iii), and (iv)
2. Class in taxonomy includes related:
    Answer: (1) Families
3. Find the mismatched pair:
    Answer: (3) Polynomials – Liliaceae, Solanaceae families
4. Correctly described cellular part:
    Answer: (1) Thylakoids – Flattened sacs forming grana in chloroplasts
5. Reason for naming basidiomycetes as club fungi:
    Answer: (1) Club-shaped basidia
6. Somatogamy involves the fusion of:
    Answer: (1) Two vegetative/somatic cells of different strains
7. Definition of coenocytic hypha:
    Answer: (3) Multinucleate hypha without septa
8. Number of kingdoms in Domain Eukarya under a six-kingdom system:
    Answer: (2) Three
9. Why was Linnaeus' plant classification artificial?
    Answer: (1) Based on only a few morphological characters
10. Location of pyrenoids in green algae:
    Answer: (2) Chloroplast
11. Prions and diseases like CJD and BSE:
    - Statement I: Caused by prions.
    - Statement II: Prions are infectious RNA molecules.

    Answer: (2) Statement I is correct, but Statement II is incorrect.

12. Elaters are found in the sporogonium of:
    Answer: (2) Marchantia

13. Characteristic of racemose inflorescence:
    Answer: (4) Both (1) Acropetal flower arrangement and (3) Continuous growth of the main axis
14. Incorrect statement about red algae:
    Answer: (3) Post-fertilization development is like other algae.
15. Bryophytes as amphibians of the plant kingdom due to dependency on water for reproduction:
    Answer: (1) Both statements are correct.
16. Similarities between bryophytes and algae:
    Answer: (2) Thallus-like body, lack of vascular strands, autotrophic nature
17. Ovary becoming two-chambered due to false septum formation occurs in:
    Answer: (1) Argemone and mustard
18. Correct statements about dicot seeds:
    - Micropyle above hilum
    - Radicle and plumule at embryonal axis ends
      Answer: (1) (a) and (b)
19. Monocot leaf characteristics:
    Answer: (4) Mesophyll is not differentiated into palisade and spongy parenchyma
20. Label parts in a fruit diagram:
    - Epicarp, mesocarp, seed, endocarp
      Answer: (4)
21. Correct statements about leaves:
    - Monocot leaf base forms a sheath.
    - Leguminous plants may have swollen pulvinus.
    - Lamina has veins and veinlets.
    - Veins provide rigidity.
      Answer: (3) All except (b)
22. Phyllotaxy order with alternate, opposite, whorled arrangements:
    Answer: (1) China rose, Calotropis, Nerium
23. Plants with whorled simple leaves and reticulate venation:
    Answer: (4) Nerium
24. Sheaths enclosing plumule and radicle in monocots are called:
    Answer: (3) Coleoptile; coleorhiza
25. Gynoecium characteristics in Fabaceae family plants:
    Answer: (3) Superior ovary, monocarpellary, unilocular with many ovules
26. Assertion about dicotyledons having tap roots and monocots having fibrous roots with parallel venation:

- Reason explains stem features like nodes/internodes.

  Answer: (2)

27. Which is not a lateral meristem?

    Answer: (4) Periderm

28. Role of ATP/NADPH in hexose molecule formation during photosynthesis:
    - The light reaction produces ATP/NADPH.
    - 6 CO_2 + 12 NADPH + 18 ATP → Hexose

      Answer: (1)

29. Parenchyma modifications exclude:

    Answer: (3) Collenchyma

30. Match placentation types with examples:

    | Type: Example, Marginal | Pea |
    1. | Axile | Lemon |
    2. | Parietal | Argemone |
    3. | Free-central | Primrose |
    4. | Basal | Marigold |

Answer: (3)

31. Match the following items from List I with those in List II:

    | List-I | List-II |
    (A) Oxygen evolving complex | (I) Pigments |
    (B) Proton gradient concentration | (II) High oxygen |
    (C) Absorb light at specific wavelengths | (III) ATP synthesis |
    (D) Photorespiration | (IV) Photolysis of water |

Answer: (1) (A) – (IV); (B) – (III); (C) – (I); (D) – (II)

32. Identify the labelled structures (a), (b), and (c):

    Answer: (3) Golgi apparatus, endoplasmic reticulum, and mitochondrion.

33. Match the items in List I with those in List II:

    | List-I | List-II |
    (A) Bud in the axil of leaf | (I) Pitcher plant and Venus Flytrap |
    (B) Bud in the axil of leaflets | (II) Cacti |
    (C) Spines (modified leaves) | (III) Compound leaf |
    D) Leaves modified to catch insects | (IV) Simple leaf |
    E) Fleshy leaves with stored food | (V) Garlic and onion |

Answer: (1) (A)-(IV), (B)-(III), (C)-(II), (D)-(I), (E)-(V)

34. Which statements are true regarding endoplasmic reticulum?

- (a) Smooth endoplasmic reticulum synthesizes lipids.
- (b) It is referred to as the control centre of the cell.

- (c) It processes carbohydrates.
- (d) It modifies toxic chemicals for the cell.

Answer: (1) All except statement b.

35. Which function is not associated with centrioles?
    Answer: (3) Osmoregulation.
36. What is the approximate duration of the cell cycle in human cells?
    Answer: (3) 24 days.
37. Which feature does not characterise telophase?
    Answer: (2) Centromeres split and chromatids separate.
38. At which stage does chiasma formation occur?
    Answer: (4) Pachytene.
39. What constitutes a tetrad?
    Answer: (3) Four homologous chromosomes, each with two chromatids.
40. What process maintains chromosome constancy across generations?
    Answer: (1) Mitosis.
41. Evaluate these statements about C4 photosynthesis:

- Assertion: The C4 pathway is more efficient than the C3 pathway.
- Reason: Photorespiration is minimised in C4 plants.

Answer: (1)

42. Assess these statements regarding grasses:

- Assertion: Grasses like Cynodon dactylon require frequent trimming.
- Reason: They possess intercalary meristem that promotes rapid growth.

Answer: (1)

43. Which organism was not used by Engelmann to demonstrate the effectiveness of light wavelengths in photosynthesis?
    Answer: (2) Unicellular green alga, Chlorella.
44. When does RuBisCO function as an oxygenase?
    Answer: (1) When phosphoglycerate and phosphoglycolate are produced.
45. Where are protons released during water splitting?
    Answer: (1) In the lumen of the thylakoids.
46. Select the correct statements:

- Statement I: Conidia are asexual propagules found only in fungi.
- Statement II: A potato tuber with at least one eye can grow into a new plant.
- Statement III: Ginger propagates through its underground roots.
- Statement IV: Bulbils, which assist in vegetative propagation, are found in Dioscorea and Agave.

Answer: (4)

47. Where does glycolysis occur and what does it produce?
    Answer: (1) Cytosol; pyruvate; mitochondrion.
48. Which component is identified as complex V of the electron transport system in the inner mitochondrial membrane?
    Answer: (4) ATP synthase.
49. Analyse these statements regarding light reactions:

- Statement A: The Z scheme occurs only with PSI.
- Statement B: Only PSI operates during cyclic photophosphorylation.
- Statement C: Cyclic photophosphorylation produces ATP and NADPH(H+).
- Statement D: Stroma lamellae lack PSII and NADP reductase.

Answer: (4)

50. Which type of plants exhibit Kranz anatomy?
    Answer: (1) CAM plants.