

CLASS XI BIO CH: 3

MCQ Set 4

1. The understanding of the plant kingdom has changed over time. Which of the following is now excluded from Plantae?

- a) Fungi
- b) Bryophytes
- c) Pteridophytes
- d) Gymnosperms

2. Linnaeus's system of classification was artificial because it:

- a) Was based on evolutionary relationships
- b) Gave equal weightage to vegetative and sexual characteristics
- c) Considered internal anatomy
- d) Used numerical data

3. Natural classification systems developed based on:

- a) Only external features
- b) Only sexual characteristics
- c) Natural affinities and multiple features
- d) Human convenience

4. Phylogenetic classification systems are based on:

- a) Morphology alone
- b) Evolutionary relationships
- c) Chemical composition alone
- d) Geographic distribution

5. Cytotaxonomy is based on cytological information such as:

- a) Protein sequences
- b) Secondary metabolites
- c) Chromosome number and structure
- d) Fossil records

6. Algae are largely:

- a) Terrestrial
- b) Aquatic
- c) Parasitic
- d) Epiphytic

7. Which of the following is a massive marine alga?

- a) *Volvox*
- b) *Ulothrix*

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c) Kelp

d) *Chlamydomonas*

8. Vegetative reproduction in algae occurs by:

a) Zoospores

b) Fragmentation

c) Isogamy

d) Oogamy

9. The fusion of two gametes dissimilar in size is called:

a) Isogamous

b) Anisogamous

c) Oogamous

d) Zoogamous

10. *Spirogyra* exhibits:

a) Isogamy with non-flagellated gametes

b) Anisogamy

c) Oogamy

d) Isogamy with flagellated gametes

11. A significant ecological role of algae is:

a) Causing diseases

b) Producing oxygen and forming the base of aquatic food cycles

c) Providing timber

d) Fixing nitrogen

12. Hydrocolloids like algin and carrageen are obtained from:

a) Green and red algae

b) Brown and red algae

c) Green and brown algae

d) Blue-green and red algae

13. *Gelidium* and *Gracilaria* are sources of:

a) Algin

b) Carrageen

c) Agar

d) Food

14. The pigments in green algae are located in:

a) The cytoplasm

b) Definite chloroplasts

c) Pyrenoids

d) The nucleus

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15. The shape of the chloroplast in *Spirogyra* is:

- a) Cup-shaped
- b) Spiral
- c) Reticulate
- d) Discoid

16. The brown color of Phaeophyceae is due to:

- a) Chlorophyll a
- b) Chlorophyll c
- c) Fucoxanthin
- d) r-phycoerythrin

17. The food stored in brown algae includes:

- a) Starch
- b) Laminarin and mannitol
- c) Floridean starch
- d) Glycogen

18. The flagella in brown algae are:

- a) Apical and equal
- b) Lateral and unequal
- c) Absent
- d) Multiple and apical

19. Red algae can survive in deeper water because:

- a) They have air bladders
- b) Their pigment r-phycoerythrin absorbs blue-green light
- c) They are smaller in size
- d) They have no flagella

20. The sexual reproduction in red algae is:

- a) Isogamous
- b) Anisogamous
- c) Oogamous
- d) Can be isogamous or anisogamous

21. Bryophytes are considered amphibians because:

- a) They live in water
- b) They can live on land but require water for fertilization
- c) They have a vascular system
- d) They produce spores

22. The main plant body of a bryophyte is:

- a) Sporophyte

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- b) Gametophyte
- c) Protonema
- d) Prothallus

23. The sporophyte in bryophytes is:

- a) The dominant phase
- b) Partially or fully dependent on the gametophyte
- c) Free-living and photosynthetic
- d) Long-lived

24. The antherozoids in bryophytes are:

- a) Produced in archegonia
- b) Produced in antheridia
- c) Non-motile
- d) Multiflagellate

25. The sporophyte of bryophytes produces spores by:

- a) Mitosis
- b) Meiosis
- c) Fertilization
- d) Fragmentation

26. *Sphagnum* is used for:

- a) Food
- b) Packing material and fuel
- c) Timber
- d) Ornamentation

27. Asexual reproduction in liverworts occurs by:

- a) Zoospores
- b) Fragmentation and gemmae
- c) Budding
- d) Conjugation

28. The first stage in the life cycle of a moss is the:

- a) Leafy stage
- b) Sporophyte
- c) Protonema
- d) Zygote

29. The sporophyte of mosses is:

- a) Dependent on the gametophyte
- b) The dominant phase

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- c) Free-living
- d) Haploid

30. Pteridophytes are the first plants to have:

- a) Seeds
- b) Vascular tissues
- c) Flowers
- d) Fruits

31. The dominant phase in pteridophytes is the:

- a) Gametophyte
- b) Sporophyte
- c) Protonema
- d) Prothallus

32. The gametophyte of pteridophytes is called:

- a) Protonema
- b) Prothallus
- c) Sporophyll
- d) Thallus

33. Sporangia in pteridophytes are borne on:

- a) Roots
- b) Stems
- c) Sporophylls
- d) Gametophytes

34. Heterospory refers to the production of:

- a) One kind of spore
- b) Two kinds of spores
- c) Three kinds of spores
- d) No spores

35. *Selaginella* is:

- a) Homosporous
- b) Heterosporous
- c) Isosporous
- d) Asexual

36. The development of the zygote into a young embryo within the female gametophyte is a precursor to:

- a) The flower habit
- b) The seed habit

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- c) The fruit habit
- d) The vascular habit

37. Gymnosperms are characterized by:

- a) Enclosed ovules
- b) Naked seeds
- c) Fruits
- d) Flowers

38. In *Cycas*, the roots are associated with cyanobacteria in:

- a) Mycorrhiza
- b) Coralloid roots
- c) Tap roots
- d) Adventitious roots

39. The male gametophyte in gymnosperms is:

- a) The antheridium
- b) The pollen grain
- c) The archegonium
- d) The prothallus

40. The ovules in gymnosperms are borne on:

- a) Microsporophylls
- b) Megasporophylls
- c) Scales
- d) Strobili

41. The tallest tree species is:

- a) *Eucalyptus*
- b) *Sequoia*
- c) *Pinus*
- d) *Cycas*

42. Angiosperms are characterized by:

- a) Naked seeds
- b) Seeds enclosed in fruits
- c) Dominant gametophyte
- d) Absence of flowers

43. Angiosperms are divided into:

- a) Homosporous and heterosporous
- b) Vascular and non-vascular
- c) Dicotyledons and monocotyledons
- d) Seedless and seeded

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44. Which of the following is a dicotyledon?

- a) Wheat
- b) Maize
- c) Rice
- d) Pea

45. The main basis for classifying algae is:

- a) Type of pigment and stored food
- b) Habitat
- c) Flagellation
- d) Cell wall structure

46. Reduction division in a fern occurs in:

- a) Leaf cells
- b) Spore mother cells
- c) Prothallus cells
- d) Zygote

47. Which of the following groups bear archegonia?

- a) Bryophytes, Pteridophytes, Gymnosperms
- b) Algae, Bryophytes, Pteridophytes
- c) Only Bryophytes
- d) Only Pteridophytes

48. The ploidy of the leaf cell of a moss is:

- a) Haploid
- b) Diploid
- c) Triploid
- d) Polyploid

49. The smallest angiosperm is:

- a) *Eucalyptus*
- b) *Wolffia*
- c) *Sequoia*
- d) *Pinus*

50. The class Monocotyledons includes plants with:

- a) Reticulate venation
 - b) Two cotyledons
 - c) Tap root system
 - d) Parallel venation
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Answers: Set 4

1. a) Fungi
2. b) Gave equal weightage to vegetative and sexual characteristics
3. c) Natural affinities and multiple features
4. b) Evolutionary relationships
5. c) Chromosome number and structure
6. b) Aquatic
7. c) Kelp
8. b) Fragmentation
9. b) Anisogamous
10. a) Isogamy with non-flagellated gametes
11. b) Producing oxygen and forming the base of aquatic food cycles
12. b) Brown and red algae
13. c) Agar
14. b) Definite chloroplasts
15. b) Spiral
16. c) Fucoxanthin
17. b) Laminarin and mannitol
18. b) Lateral and unequal
19. b) Their pigment r-phycoerythrin absorbs blue-green light
20. c) Oogamous
21. b) They can live on land but require water for fertilization
22. b) Gametophyte
23. b) Partially or fully dependent on the gametophyte
24. b) Produced in antheridia
25. b) Meiosis
26. b) Packing material and fuel
27. b) Fragmentation and gemmae
28. c) Protonema
29. a) Dependent on the gametophyte
30. b) Vascular tissues
31. b) Sporophyte
32. b) Prothallus
33. c) Sporophylls
34. b) Two kinds of spores
35. b) Heterosporous
36. b) The seed habit
37. b) Naked seeds
38. b) Coralloid roots
39. b) The pollen grain
40. b) Megasporophylls

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- 41. b) *Sequoia*
- 42. b) Seeds enclosed in fruits
- 43. c) Dicotyledons and monocotyledons
- 44. d) Pea
- 45. a) Type of pigment and stored food
- 46. b) Spore mother cells
- 47. a) Bryophytes, Pteridophytes, Gymnosperms
- 48. a) Haploid
- 49. b) *Wolffia*
- 50. d) Parallel venation

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