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MCQ Set 3

1. The five-kingdom classification was proposed by:
a) Linnaeus
b) Bentham and Hooker
c) Whittaker
d) Tippo

2. Which of the following was once considered an alga but is now excluded from Plantae?
a) *Spirogyra*
b) *Volvox*
c) Cyanobacteria
d) *Chlamydomonas*

3. Artificial systems of classification separated closely related species because they were based on:
a) Many characteristics
b) Evolutionary history
c) A few characteristics
d) Internal anatomy

4. Phylogenetic classification systems assume that organisms in the same taxa:
a) Look similar
b) Live in the same habitat
c) Have a common ancestor
d) Have the same chemical composition

5. Numerical Taxonomy is based on:
a) Only reproductive characters
b) All observable characteristics
c) Only fossil evidence
d) Chromosome number

6. Which of the following is a unicellular alga?
a) *Volvox*
b) *Ulothrix*
c) *Spirogyra*
d) *Chlamydomonas*

7. The fusion of one large, non-motile female gamete and a smaller, motile male gamete is called:

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a) Isogamy
b) Anisogamy
c) Oogamy
d) Zoogamy

8. Which alga shows oogamous reproduction?
a) *Ulothrix*
b) *Spirogyra*
c) *Volvox*
d) *Eudorina*

9. The algae *Porphyra* and *Laminaria* are used as:
a) Sources of hydrocolloids
b) Food
c) Food supplements
d) Sources of agar

10. Agar is used for all of the following EXCEPT:
a) Growing microbes
b) Preparing ice-creams and jellies
c) As a direct food source
d) As a culture medium

11. *Chlorella* is used as a food supplement because it is rich in:
a) Carbohydrates
b) Fats
c) Proteins
d) Vitamins

12. The green color of Chlorophyceae is due to the dominance of:
a) Chlorophyll a and c
b) Chlorophyll a and b
c) Fucoxanthin
d) r-phycoerythrin

13. The storage bodies in the chloroplasts of green algae are called:
a) Pyrenoids
b) Stigma
c) Vacuoles
d) Ribosomes

14. A common example of a green alga is:
a) *Ectocarpus*
b) *Polysiphonia*

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c) *Chara*
d) *Fucus*

15. Brown algae possess chlorophyll:
a) a and b
b) a and c
c) a and d
d) b and c

16. The cell wall of brown algae is covered with a gelatinous coating of:
a) Pectin
b) Algin
c) Cellulose
d) Lignin

17. The plant body of brown algae is attached to the substratum by:
a) Rhizoids
b) Holdfast
c) Roots
d) Stipe

18. Asexual reproduction in brown algae occurs through:
a) Non-motile spores
b) Biflagellate zoospores
c) Isogametes
d) Fragmentation only

19. Red algae are mostly:
a) Freshwater
b) Terrestrial
c) Marine
d) Found in dry areas

20. The food stored in red algae is:
a) Starch
b) Laminarin
c) Floridean starch
d) Mannitol

21. Flagella are absent in the class:
a) Chlorophyceae
b) Phaeophyceae
c) Rhodophyceae
d) Bacillariophyceae

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22. Bryophytes are dependent on water for:
a) Photosynthesis
b) Sexual reproduction
c) Vegetative growth
d) Spore dispersal

23. The main plant body of a bryophyte is:
a) Diploid
b) Haploid
c) Triploid
d) Polyploid

24. The antherozoids in bryophytes are:
a) Non-motile
b) Uniflagellate
c) Biflagellate
d) Multiflagellate

25. The sporophyte of bryophytes produces spores by:
a) Mitosis
b) Meiosis
c) Fertilization
d) Fragmentation

26. Peat, used as fuel, is obtained from:
a) *Funaria*
b) *Marchantia*
c) *Sphagnum*
d) *Polytrichum*

27. Liverworts reproduce asexually by:
a) Zoospores
b) Gemmae
c) Budding
d) Conjugation

28. The gemmae in liverworts are produced in:
a) Antheridia
b) Archegonia
c) Gemma cups
d) Sporangia

29. The leafy stage in mosses develops from the:
a) Primary protonema

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b) Secondary protonema
c) Sporophyte
d) Zygote

30. The sporophyte of mosses consists of:
a) Root, stem, leaves
b) Foot, seta, capsule
c) Holdfast, stipe, frond
d) Antheridium, archegonium

31. Pteridophytes have well-differentiated:
a) Roots, stems, and leaves
b) Flowers and fruits
c) Seeds
d) Cones

32. The sporophylls in *Selaginella* form:
a) Flowers
b) Strobili or cones
c) Prothalli
d) Sori

33. The gametophyte in pteridophytes is:
a) Dominant
b) Dependent on the sporophyte
c) Free-living and photosynthetic
d) Non-photosynthetic

34. Water is required in pteridophytes for:
a) The growth of the sporophyte
b) The transfer of antherozoids
c) Photosynthesis in the prothallus
d) Spore dispersal

35. Heterospory is found in:
a) *Funaria*
b) *Marchantia*
c) *Selaginella*
d) *Equisetum*

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. *Equisetum* belongs to the class:
a) Psilopsida
b) Lycopsida
c) Sphenopsida
d) Pteropsida

38. Gymnosperms have:
a) Enclosed ovules
b) Naked seeds
c) Fruits
d) Flowers

39. In *Cycas*, the leaves are:
a) Simple and short-lived
b) Compound and short-lived
c) Pinnate and persist for a few years
d) Needle-like and reduced

40. The male cones in gymnosperms bear:
a) Megasporangia
b) Microsporangia
c) Archegonia
d) Ovules

41. The female gametophyte in gymnosperms is:
a) Free-living
b) Retained within the megasporangium
c) Motile
d) Formed before fertilization

42. The pollen tube in gymnosperms carries:
a) Spores
b) Male gametes
c) Female gametes
d) Seeds

43. After fertilization in gymnosperms, the zygote develops into:
a) Fruit
b) Seed
c) Embryo
d) Endosperm

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44. *Ginkgo* is a:
a) Bryophyte
b) Pteridophyte
c) Gymnosperm
d) Angiosperm

45. Angiosperms are different from gymnosperms in having:
a) Vascular tissues
b) Seeds
c) Flowers and fruits
d) Pollen grains

46. The two classes of angiosperms are:
a) Homosporous and heterosporous
b) Vascular and non-vascular
c) Dicotyledons and monocotyledons
d) Seedless and seeded

47. Which of the following is a monocotyledon?
a) Sunflower
b) Rose
c) Wheat
d) Mango

48. The basis of classification of algae includes:
a) Type of pigment and stored food
b) Habitat and size
c) Flagellation and cell wall
d) Reproductive organs

49. Reduction division in a liverwort takes place in:
a) The gametophyte
b) The spore mother cells of the sporophyte
c) The antheridium
d) The archegonium

50. The ploidy of the primary endosperm nucleus in a dicot is:
a) Haploid
b) Diploid
c) Triploid
d) Tetraploid

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Answers: Set 3

1. c) Whittaker
2. c) Cyanobacteria
3. c) A few characteristics
4. c) Have a common ancestor
5. b) All observable characteristics
6. d) *Chlamydomonas*
7. c) Oogamy
8. c) *Volvox*
9. b) Food
10. c) As a direct food source
11. c) Proteins
12. b) Chlorophyll a and b
13. a) Pyrenoids
14. c) *Chara*
15. b) a and c
16. b) Algin
17. b) Holdfast
18. b) Biflagellate zoospores
19. c) Marine
20. c) Floridean starch
21. c) Rhodophyceae
22. b) Sexual reproduction
23. b) Haploid
24. c) Biflagellate
25. b) Meiosis
26. c) *Sphagnum*
27. b) Gemmae
28. c) Gemma cups
29. b) Secondary protonema
30. b) Foot, seta, capsule
31. a) Roots, stems, and leaves
32. b) Strobili or cones
33. c) Free-living and photosynthetic
34. b) The transfer of antherozoids
35. c) *Selaginella*
36. b) The seed habit
37. c) Sphenopsida
38. b) Naked seeds
39. c) Pinnate and persist for a few years
40. b) Microsporangia

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41. b) Retained within the megasporangium
42. b) Male gametes
43. c) Embryo
44. c) Gymnosperm
45. c) Flowers and fruits
46. c) Dicotyledons and monocotyledons
47. c) Wheat
48. a) Type of pigment and stored food
49. b) The spore mother cells of the sporophyte
50. c) Triploid