



BIOLOGY

BOOKS - PRADEEP BIOLOGY (HINGLISH)

PLANT KINGDOM

CURIOSITY QUESTIONS

1. Why red algae reach the maximum depth in sea where no other photosynthetic forms

grow ?



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2. Why liverworts, mosses and ferns usually grow near water ?



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3. Why some plants of cycas produce seeds but not others ?



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4. Why it is difficult to extinguish fire in pine forests ?



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5. Why only some plants bear fruits and seeds but not others.



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NOTABLE QUESTIONS

1. Why the bryophytes usually grow luxuriantly during the rainy season near the regular supply of water ?



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2. Why the bryophytes could not become successful land plants ?



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1. What is the basic of classification of algae ?



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2. When and where does reduction division take place in the life cycle of a liverwort, a moss, a fern, a gymnosperm and an angiosperm ?



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3. Name three groups of plants that bear archegonia. Briefly describe the life cycle of any one of them.



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4. Mention the ploidy of the following:
protonemal cell of a moss, primary endosperm nucleus in dicot, leaf cell of a moss, prothallus cell of a fern, gemma cell in Marchantia,

meristem cell of monocot, ovum of a liverwort, and zygote of a fern.



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5. Write a note on economic importance of algae and gymnosperms.



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6. Both gymnosperms and angiosperms bear seeds, then why are they classified separately?



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7. What is heterospory? Briefly comment on its significance. Give two examples.



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8. Explain briefly the following term with suitable example :-

(i) protonema

(ii) antheridium

(iii) archegonium

(iv) diplontic

(v) sporophyll

(vi) isogamy



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9. Differentiate between the following:-

(i) red algae and brown algae

(ii) liverworts and moss

(iii) homosporous and heterosporous

pteridophyte

(iv) syngamy and triple fusion



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10. How would you distinguish monocots from dicots?



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11. Match the following (Column I with column II)

Column I

Column II

- | | |
|-------------------|-------------------|
| (a) Chlamydomonas | (i) Moss |
| (b) Cycas | (ii) Pteridophyte |
| (c) Selaginella | (iii) Algae |
| (d) Sphagnum | (iv) Gymnosperm |



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12. Describe the important characteristics of gymnosperms.



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ADDITIONAL QUESTIONS (VERY SHORT ANSWER QUESTIONS)

1. Name the branch of botany which deals with the study of algae.



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2. Which pigment is mainly responsible for red colour of red algae.



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3. Name a red alga inhabiting fresh waters.



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4. Which alga is used for commercial production of Agar ?



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5. Which algae covers thousands of hectares in Sargasso sea.



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6. Name a unicellular plant which is several cm long.



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7. Which group of algae are believed to be ancestors of land plants ?



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8. Which alga reproduce sexually by conjugation ?



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9. Name any two liverworts.



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10. Name the division of plants in which the main plant body is gametophyte.





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11. Name the botanical name of "peat moss".



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12. Write is the structure formed by moss spore germination ?



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13. Which generation of a moss plant has haploid number of chromosomes ?



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14. Smallest bryophyte is



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15. Name the tallest bryophyte.



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16. Name the process by which the sporophyte is formed directly from gametophyte without fertilization.



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17. Name the group of plants having multicellular sex organs surrounded by a sterile jacket but lacking vascular tissues.



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18. Why are some bryophytes called liverworts ?



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19. Name a plant where the sporophyte is completely dependent on gametophyte.



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20. Name the spore producing leaves of pteridophytes.



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21. Name a plant which is commonly called "sago palm".



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22. Name the smallest angiosperm.



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23. What is the megasporophyll of a seed plant called ?



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24. What is the megasporophyll bearing ovules of angiosperms called ?



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25. Name a plant which is commonly called "maiden hair fern".



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26. What is common between a fern leaf and a Cycas leaf.



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27. What is the microsporophyll bearing microsporangia of an angiosperm called ?



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28. Name a plant which is commonly called a "walking fern".



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29. Name the group of plants which produce seeds but not fruits.



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30. Name the smallest angiosperm.



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31. Name the tallest angiosperm.



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32. What are the small brown or yellow spots on the underside or margin of fern sporophylls ?



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33. Which gymnosperm is commonly called a "chilgoza pine" ?



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34. Which part of ovule is haploid in angiosperms ?



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35. Which part of ovule is haploid in gymnosperms ?



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36. Name the plant which produces largest sperms in the plant-kingdom.



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37. Name a monocarpic perennial plant.



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38. What are the three kinds of vascular plants?



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39. What is the term 'angiosperm' means ?



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40. Name one common Himalayan species of Pinus.



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41. Name the group of plants is called vascular cryptogams



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SHORT ANSWER QUESTIONS

1. Give the scientific names of algae which - (a) causes a disease in tea plants (b) is edible (c) grows in polar regions on ice and snow (d) is siphonaceous.



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2. Give the various types of pigments in red, brown and green algae.



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3. Why are bryophytes called the amphibians of the plant kingdom?



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4. Why the rhizoids are not called roots ?



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5. Explain the following : (a) Circinate ptyxis (b) Double fertilization.



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6. Explain why gymnosperms fail to produce fruits.



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7. Explain why only ferns are often first plants to appear after a forest fire.



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8. Identify the following organism/structure (A,B,C,D,E,) and (a, b, c, d, e) associated with them.



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9. Food is stored as floridean starch in Rhodophyceae. Mannitol is the reserve food material of which group of algae ?



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10. In bryophytes male and female sex organs are called And



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11. Most algal genera show haplontic life style.

Name an algae which is (a) Haplo diplontic (b)

Diplontic



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SHORT ANSWER QUESTIONS (3 marks)

1. Name the characters considered in cytotaxonomic studies.



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2. Explain the role of chemical information in classification of plants.



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3. Write short notes on : (1) Numerical taxonomy (2) cladistic taxonomy.



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4. Give the diverse forms of thalli in green algae.



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5. Name the alga which is used for obtaining agar. What are the different uses of agar ?



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6. Give reasons for the dominance of angiosperms on earth's surface.



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7. Fill in the blanks

(A) The plant body in bryophytes represents the Phase and bears haploid.....in the gametangia.

(B) Some red algae secrete and deposit and appear like corals.

(C) The angiosperms, unlike gymnosperms, have a highly developed vascular tissue system within the xylem andcells in the phloem.

(D) Class gymnospermae has been placed between theandin Bentham and Hooker's system of classification of flowering plants.

(E) In *Cycas*, the megasporophylls are not organised in definite



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8. (A) Name the three series of sub-class - Polypetalae in Bentham and Hooker's system of classifications.

(B) What are the distinguishing features of series-Biscarpelatae ? Name any two orders included in this series.



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9. Give the major differences between dicotyledons and monocotyledons.



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10. Why are bryophytes called the amphibians of the plant kingdom?



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11. Comment of the life cycle and nature of a fern prothallus.



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12. In which plant will you look for mycorrhiza and coralloid roots ? Also explain what these terms mean



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13. Heteropory, i.e., formation of two types of spores-microspores and megaspores is a characteristic feature in the life cycle of a few members of pteridophytes and all spermatophytes. Do you think heterospory has

some evolutionary significance in plant kingdom?



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LONG ANSWER QUESTIONS

1. discuss different systems of classification briefly.



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2. Write short notes on (a) Numerical taxonomy (b) Chemataxonomy.



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3. List the distinguishing features of chlorophyceae.



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4. Write the characteristic features of brown algae.



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5. Write the economic importance of red algae.



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6. Write the salient features of bryophytes.



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7. Describe the general characters of seedless vascular plants.



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8. (A) Give one example each of the following :

(i) A red algae that grows in fresh water habitats , (ii) A liverwort , (iii) A pteridophyte commonly called the walking fern , (iv) A gymnosperm which is considered as a living

fossil.

(B) Name the book in which Bentham and Hooker published their monumental work on classification of flowering plants.

(C) Name any three common conifers.

(D) Name any three pteridophytes.

(E) Name any three series belonging to class :
Monocotyledonous in Bentham and Hooker's
system of classification.



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9. (A) Name the different pigment found in

Algae

(B) What are rhizoids and what is their functions ?

(C) Give a brief account of economic importance of gymnosperms.

(D) Name the four divisions of seedless vascular and give on example of each. Which plant is considered as earliest vascular land plant ?

(E) Name the first angiosperm and give its approximate age.



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10. Gametophyte is a dominant phase in the life cycle of a bryophyte. Explain.



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11. Draw labelled diagrams of

- (a) Female and male thallus of a liverwort.
- (b) Gametophyte and sporophyte of Funaria.
- (c) Alternation of generation in angiosperm



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ANALYTICAL QUESTIONS WITH ANSWERS

1. What are the resurrection plants ? Give one example.



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2. What is a living fossil ? Name any two examples among plants.



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3. Why do animals not graze upon ferns ? Give reason.



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4. Why is the trunk (main stem) of Cycas usually thick in the upper part and thin at the base ?



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5. Why is the plant body of an alga called a thallus ? Name any two unicellular green algae which are placed in the plant kingdom instead of the Kingdom-Protista.



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6. Lichen is usually cited as an example of symbiosis in plants where an algal and fungal species live together for their mutual benefit. Which of the following will happen if algal and

fungal partners are separated from one another ?

(a) Both will survive and grow normally and independent of each other.

(b) Both will die.

(c) Algal component will survive while fungal component will die.

(d) fungal component will survive while algal component will die.

Based on your answer how do you justify this association as symbiosis ?



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7. Why are the stem-like and leaf-like structures of a moss plant not called stem and leaves ?



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8. Why is *Adiantum* (a pteridophyte) commonly called 'walking fern' and 'maiden hair fern' ?



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9. (a) What is peat ? How is it formed ?

(b) What is its economic importance ?



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10. (a) Brown algae contain chlorophyll a, chlorophyll c, β - and α -carotenenes, xanthophylls and fucoxanthin pigments in the chromatophores. Still, these algae look brown in colour. Why ?

(b) Give one example each of species of brown

algae which are used as (i) food by man (ii) fodder for the sheep and goat (iii) as emulsifier in icecream etc.



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11. Bryophytes are fundamentally terrestrial plants. Still, they are regarded as 'the amphibians of the plant kingdom'. Why ?



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12. Assign the following organisms to their respective plant groups :

Cycas, Selaginella, Polysiphonia, Sequoia,
Psilotum, Polytrichum, Chlamydomonas,
Sphagnum, Eucalyptus



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13. Name the group of plants in which a dominant, independent, photosynthetic phase is represented by gametophytic generation

and a short-lived, multicellular, sporophyte remains totally or partially dependent on the gametophyte.



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14. Which plant group includes first terrestrial plants that possess vascular tissues. Name two homosporous and two heterosporous plants belonging to this group.



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15. Why is presence of water a must for fertilization in pteridophytes ?



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16. Which organism remains associated with coralloid roots of Cycas ? What is the nature of association and what function does the organism perform inside the Cycas roots ?



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17. A Classification based on vegetative characters of plants is not easily accepted by the taxonomists. Give reason.



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18. Which group of plants is responsible for maximum fixation of carbon dioxide on earth. Explain how they increase the level of dissolved oxygen in their immediate environment.



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19. Study the following table and write the correct options in place of A, B, C and D.



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20. (a) Why is sphagnum used as packing material for trans-shipment of living material ?

(b) Why are root-like structures of bryophytes called rhizoids ?



Multiple Choice Questions

1. Which of the following propagates through leaf tip

- A. Sprout-leaf plant
- B. Marchantia
- C. Moss
- D. Walking fern

Answer: D



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2. Angiosperms have dominated the land flora primarily by their

A. Property of producing large amount of seeds

B. Nature of self pollination

C. Domestication by man

D. Power of adaptability in diverse habitat

Answer: D



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3. Which of the following is not the features of gymnosperm ?

A. Parallel venation

B. Perennial plants

C. Distinct branches (long and short branches)

D. Xylem with vessels

Answer: D



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4. In Cycas Pollination takes place in

A. 3-celled stage

B. 4-celled stage

C. 2-celled stage

D. 1-celled stage

Answer: A



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5. what differentiates a dicot leaf from monocot leaf

A. Parallel venation

B. Differentiation of palisade and spongy parenchyma

C. Stomata only on upper side

D. Stomata both on upper and lower sides

Answer: B



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6. Which one of the following is not a characteristic features of bryophytes ?

A. Dominant gametophytic generation

B. Filamentous rhizoids

C. Amphibious habitat

D. Vascular tissue

Answer: D



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7. First vascular plant is

A. Thallophyta

B. Bryophyta

C. Pteridophyta

D. Spermatophyta

Answer: C



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8. Living fossils is

A. Ginkgo biloba

B. Gnetum ulva

C. *Pinus roxburghii*

D. *Cycas revoluta*

Answer: A



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9. Which of the following contain xylem vessel

A. Bryophyta

B. Pteridophyta

C. Gymnosperm

D. Angiosperm

Answer: D



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10. Top-shaped multiciliate male gametes, and the mature seed which bears only one embryo with two cotyledons, are characteristic features of

A. Cycas

B. Polypetalous angiosperms

C. Conifers

D. Gamopetalous angiosperms

Answer: C



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11. In a moss the sporophyte

A. Manufactures food for itself, as well as

for the gametophyte.

B. Is partially parasite on the gametophyte

C. Produces gametes that give rise to the
gametophyte

D. Arises from a spore produced from the
gametophyte

Answer: B



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12. Conifers differ from grasses in the

A. Formation of endosperm before fertilization

B. Production of seeds from ovules

C. Lack of xylem tracheids

D. Absence of pollen tubes

Answer: A



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13. Moss peat is used as a packing material for sending flowers and live plants to distant places because

A. It serves as a disinfectant

B. It is easily available

C. It is hygroscopic

D. It reduces transpiration

Answer: C



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14. Which of these is mismatched

- A. Phaneros - visible
- B. Kryptos - concealed
- C. Gymno - naked
- D. Bryon - liverworts



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15. Maiden Hair Fern is

A. Dryopteris

B. Pteris

C. Adiantum

D. Lycopodium

Answer: C



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16. In the classification of plants the term cladistics refers to the

A. Phylogenetic classification

B. Sexual classification

C. Artificial classification

D. Natural classification

Answer: A



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17. In gymnosperms the pollen chamber represents

A. A cavity in the ovule in which pollen grains are stored after pollination

B. An opening in the megagametophyte through which the pollen tube approaches the egg.

C. The microsporangium in which pollen grains develop

D. A cell in the pollen grain in which the sperms are formed.

Answer: A



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18. In the prothallus of a vascular cryptogam, the antherozoids and egg mature and different time As a result.

A. There is high degree of sterility

B. One can conclude that the plant is apomictic

C. Self fertilization is prevented

D. There is no change in success rate of fertilization.

Answer: C



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19. Incorrect character of brown algae is

A. Presence of Chl a and b

B. It remain attached to substratum

C. Presence of Chl a and c

D. Presence of fucoxanthin

Answer: A



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20. Phytoplanktons are

A. Heterotrophs

B. Autotrophs

C. saprotrophs

D. All of these

Answer: B



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21. Pollen grains of Pinus are

A. Monosaccate

B. Bisaccate

C. Tri-saccate

D. Non-saccate

Answer: B



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22. In which of the following features, *Cycas* resembles with angiosperms ?

- A. Presence of vessels
- B. Circinate vernation
- C. Dichotomously branched leaves
- D. Pollen tube is the male gametes

Answer: D



23. In which plant, the body represent gametophytic phase and bear haploid gametes ?

A. Galidium

B. Riccia

C. Lycopodium

D. Equisetum

Answer: B



24. system of classification that employs numerical data to evaluate similarities and differences is known as

- A. Biosystematics
- B. Cytotaxonomy
- C. Phenetics
- D. Chemotaxonomy

Answer: C



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25. Which of the following occurs both in fresh as well as in marine water

- A. Oedogonium
- B. Cladophora
- C. Spirogyra
- D. None of these

Answer: B



26. Cladistic is a system of

- A. Cytotaxonomy
- B. Numerical taxonomy
- C. Phylogenetic classification
- D. Biochemical classification

Answer: C



27. Double fertilization

A. Gymnosperms

B. Pteridophytes

C. Angiosperms

D. Bryophytes

Answer: C



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28. Naked seeds of gymnosperms mean for absence of which of the following

A. Seed coat

B. Integument

C. Embryo

D. None of these

Answer: D



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29. New systematics introduced by sir Julian Huxley is also called

A. Phenatics

B. Cladistics

C. Biosystematics

D. Numerical taxonomy

Answer: C



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30. Choose the wrong pair

A. Hepaticopsida - Marchantia

B. Lycopsida - Selaginella

C. Bryopsida - Anthoceros

D. Pteropsida - Dryopteris

Answer: C



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31. Consider the following statements regarding the major pigments and stored food in the different groups of algae and select the correct options given

(A) In chlorophyceae the stored food material is starch and the major pigments are chlorophyll-a and d

(B) In phaeophyceae, laminarin is the stored food and major pigments are chlorophyll-a and b

(C) In rhodophyceae, floridean starch is the

stored food and the major pigments are chlorophyll-a, d and phycoeythrin.

- A. (a) is correct, but (b) and (c) are wrong
- B. (a) and (b) are correct, but (c) is wrong
- C. (a) and (c)are correct, but (b) is wrong
- D. (c) is correct, but (a) and (b) are wrong



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32. In which one of the following male and female gametophytes do not have free living independent existence

A. Polyrichum

B. Cedrus

C. Pteris

D. Funaria

Answer: B



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33. Which one of the following is heterosporous ?

A. Adiantum

B. Equisetum

C. Dryopteris

D. Salvinia

Answer: D



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34. In which of the following all listed genera belong to the same class of algae

A. Chara, Fucus, Polysiphonia

B. Volvox, Spirogyra, Chlamydomonas

C. Porphyra, Ectocarpus, Ulothrix

D. Sargassum, Laminaria, Gracillaria

Answer: B



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35. Both chlorophyll a and b are present in

A. Rhodophyceae

B. Phaeophyceae

C. Chlorophyceae

D. None of these

Answer: C



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36. Which of the following is called amphibians of plant kingdom ?

- A. Bryophytes
- B. Pteridophytes
- C. Gymnosperms
- D. Algae

Answer: A



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37. Yellow-green pigment is found in

A. Xanthophyta

B. Chlorophyta

C. Phaeophyta

D. Rhodophyta

Answer: A



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38. Eusporangiate fern is produced from

A. A group of sporangial, initial cell

B. Single initial cell

C. Epidermal cells

D. Hypodermal cells

Answer: A



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39. Which one of the following plants is monoecious

A. Pinus

B. Cycas

C. Papaya

D. Marchantia

Answer: A



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40. Phylogenetic system of classification is based on

A. Morphological features

B. Chemical constituents

C. Floral characters

D. Evolutionary relationships

Answer: D



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41. Male and female gametophytes are independent and free-living in

A. Sphagnum

B. mustard

C. Castor

D. Pinus

Answer: A



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42. Cyanobacteria are classified under

A. Protista

B. Plantae

C. Monera

D. Algae

Answer: C



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43. Fusion of two gametes which are dissimilar in size is termed as

A. Oogamy

B. Isogamy

C. Anisogamy

D. Zoogamy

Answer: C



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44. Holdfast, stipe and frond constitute the plant body in case of

A. Rhodophyceae

B. Chlorophyceae

C. Phaeophyceae

D. All of above

Answer: C



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45. A plant shows thallus level of organization. It shows rhizoids and is haploid. It needs water to complete its life cycle because the male

gametes are motile. Identify the group to which it belongs to

A. Pteridophytes

B. Gymnosperms

C. Monocots

D. Bryophytes

Answer: D



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46. A Prothallus is

A. a structure in pteridophytes formed before the thallus develops

B. a sporophytic free living structure formed in pteridophytes

C. a gametophyte free living structure formed in pteridophytes

D. a primitive structure formed after fertilization in pteridophytes

Answer: C



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47. Plants of this group are diploid and well adapted to extreme conditions. They grow bearing sporophylls in compact structures called cones. The group in reference is

A. Monocots

B. Dicots

C. Pteridophytes

D. Gymnosperms

Answer: D



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48. The embryo sac of an angiosperms is made up of

A. 8 cells

B. 7 cells and 8 nuclei

C. 8 nuclei

D. 7 cells and 7 nuclei

Answer: B



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49. If the diploid number of a flowering plant is 36, what would be the chromosome number in its endosperm

A. 36

B. 18

C. 54

D. 72

Answer: C



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50. Protonema is

A. haploid and is found in mosses

B. diploid and is found in liverworts

C. diploid and is found pteridophytes

D. haploid and is found in pteridophytes

Answer: A



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51. The giant redwood tree (*Sequoia sempervirens*) is a/an

A. Angiosperm

B. Free fern

C. Pteridophyte

D. Gymnosperm

Answer: D



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52. Algae have cell wall made up of

A. cellulose, hemicellulose and pectin

B. cellulose, galactans and mannans

C. hemicellulose, pectins and proteins

D. pectins, cellulose and proteins.

Answer: D



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53. The chief water conducting elements of xylem in gymnosperms are

A. tracheids

B. vessels

C. fibres

D. transfusion tissue

Answer: A



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54. Which one of the following is a xerophytic plant in which the stem is modified into the flat green and succulent structure

Or

Phylloclade is found in

A. Opuntia

B. Casuarina

C. Hydrilla

D. Acacia

Answer: A



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55. Identify the pair that exhibit circinate veneration

A. Nephrolepis and Cycas

B. Riccia and Nephrolepis

C. Psilotum and Riccia

D. Equisetum and Selaginella

Answer: A



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56. Which one of the following is mismatched incorrectly ?

A. Pinus : coralloid roots

B. Sequoia : tap roots

C. cycas : unbranched stem

D. Cedrus : branched stem

Answer: A



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57. Comparable to angiosperms, which of the following algae exhibits diplontic life cycle ?

A. Spirogyra

B. Ectocarpus

C. Polysiphonia

D. Fucus.

Answer: D



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58. Archegoniophore is present in

A. Marchantia

B. Chara

C. Adiantum

D. Funaria

Answer: A



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59. Compared with the gametophytes of the bryophytes, the gametophytes of vascular plants tend to be:-

A. smaller but to have sex organs

B. larger but to have smaller sex organs

C. larger and to have larger sex organs

D. smaller and to have smaller sex organs

Answer: D



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60. The gametophyte is not an independent, free-living generation in

A. Polyrichum

B. Adiantum

C. Marchantia

D. Pinus

Answer: D



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61. Consider the following four statements whether they are correct or wrong.

(A) The sporophyte in liverworts is more elaborate than that in mosses.

(B) Salvinia is heterosporous.

(C) The life cycle in all seed-bearing plants is diplontic.

(D) In Pinus, male and female cones are borne on different trees.

The two wrong statements together are

A. A and C

B. A and D

C. B and C

D. A and B

Answer: B



62. Cycas and Adiantum resemble each other in having

- A. Seeds
- B. Motile sperms
- C. Cambium
- D. Vessels

Answer: B



63. Which one of the following is a correct statement?

A. Pteridophyte gametophyte has a protonemal and leafy stage.

B. In gymnosperms female gametophyte is free living

C. Antheridiophores and archegoniophores are present in pteridophytes

D. Origin of seed habit can be traced in
pteridophytes

Answer: D



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64. Gymnosperms are also called soft wood
spermatophytes because they lack

A. Cambium

B. Phloem fibres

C. Thick-walled tracheids

D. Xylem fibres

Answer: D



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65. Which one of the following pairs is wrongly matched

A. Ginkgo - Archegonia

B. Salvinia - Prothallus

C. Viroids - RNA

D. Mustard - Synechids

Answer: B



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66. How many plants in the list given below have marginal placentation : Mustard, Gram, Tulip, Asparagus, Arhar, Sun hemp, Chilli, Chochicine, onion, Moong, Pea, Tobacco, Lupin

A. Four

B. Five

C. Six

D. Three

Answer: C



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67. Which one of the following organisms is correctly matched with its three characteristics

A. Pea : C_3 pathway, endospermic seed,
vexillary aestivation

B. Tomato : twisted aestivation, axile
placentation, berry

C. Onion : bulb, imbricate aestivation, axile
placentation

D. Maize : C_3 pathway, closed vascular
bundles, scutellum

Answer: C



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68. Isogamous condition with non-flagellated gametes is found in :

A. Spirogyra

B. Volvox

C. Fucus

D. Chlamydomonas

Answer: A



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69. Select the wrong statement

A. Anisogametes differ either in structure, function or behaviour

B. In oomycetes, female gamete is smaller and motile, while male gametes is larger and non-motile

C. Chlamydomonas exhibits both isogamy and anisogamy and Fucus shows oogamy

D. Isogametes are similar in structure,
function and behaviour

Answer: B



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70. Monoecious plant of Chara shows
occurrence of

A. stamen and carpel on the same plant

B. upper antheridium and lower oogonium

on the same plant

C. upper oogonium and lower antheridium

on the same plant

D. antheridiophore and archegoniophore

on the same plant

Answer: C



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71. Read the following statement (A-E) and answer the question which follows them

(A) In liverworts, mosses and ferns gametophytes are free living

(B) Gymnosperms and some ferns are heterosporous

(C) Sexual reproduction in *Fucus*, *Volvox* and *Allbugo* is oogamous

(D) The sporophyte in liverworts is more elaborate than that in mosses

(E) Both, *Pinus* and *Marchantia* are dioecious

How many of the above statements are correct

A. Two

B. Three

C. Four

D. One

Answer: B



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72. Which one of the following shows isogamy with non-flagellated gametes

A. Sargassum

B. Ectocarpus

C. Ulothrix

D. Spirogyra

Answer: D



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73. Which one of the following is wrong about Chara

A. Upper oogonium and lower round antheridium.

B. Globule and nucleole present on the same plant.

C. Upper antheridium and lower oogonium.

D. Globule is male reproductive structure.

Answer: C



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74. Which of the following is responsible for peat formation?

A. Marchantia

B. Riccia

C. Fumaria

D. Sphagnum

Answer: D



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75. Red tide is caused by

A. Gonyaulax

B. Ceratium

C. Taceratium

D. All of these

Answer: A



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76. Cycas is classified as a gymnosperms due to its

- A. Motile sperms
- B. Fruit formation
- C. naked ovule
- D. Phycnoxylic wood

Answer: C



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77. Which one is a wrong statement?

A. Brown algae have chlorophyll a and c,
and fucoxanthin

B. Archegonia are found in Bryophyta,
Pteridophyta and Gymnosperms

C. Mucor has biflagellate zoospores

D. Haploid endosperms is typical feature of
Gymnosperms

Answer: C



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78. Axile placentation is present in

A. Argemone

B. Dianthus

C. Lemon

D. Pea

Answer: C



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79. Select the correct statement

A. Salvinia, Ginkgo and Pinus all are gymnosperms

B. Sequoia is one of the tallest trees

C. The leaves of gymnosperms are not well adapted to extremes of climate

D. Gymnosperms are both homosporous and heterosporous

Answer: B



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80. In bryophytes and pteridophytes, transport of male gamete require :

A. Insects

B. Birds

C. Water

D. Wind

Answer: C



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81. Conifers are adapted to tolerate extreme environmental conditions because of

- A. broad hardy leaves
- B. thick cuticle
- C. Presence of vessels
- D. superficial stomata

Answer: C



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82. An example of colonial alga is

A. Volvox

B. Ulothrix

C. Spirogyra

D. Chlorella

Answer: A



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83. Life cycle of Ectocarpus and Fucus respectively are

- A. diplontic, haplodiplontic
- B. haplodiplontic, diplontic
- C. haplodiplontic, haplontic
- D. haplontic, diplontic

Answer: B



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84. Which among the following are the smallest living cells, known without a definite cell wall, pathogenic to plants as well as animals and can survive without oxygen ?

A. Pseudomonas

B. Mycoplasma

C. Nostoc

D. Bacillus

Answer: B



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85. Select the mismatch

A. Cycas - Dioecious

B. Salvinia - Heterosporous

C. Equisetum - Homosporous

D. Pinus - Dioecious

Answer: D



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86. Double fertilization is exhibited by

A. algae

B. fungi

C. angiosperms

D. gymnosperms

Answer: C



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87. Pneumatophores occur in

A. halophytes

B. free - floating hydrophytes

C. carnivorous plants

D. submerged hydrophytes

Answer: A



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88. Which of the following statements is correct ?

A. Ovules are not enclosed by ovary wall in gymnosperms.

B. Selaginella is heterosporous, while Salvinia is homosporous.

C. Horsetails are gymnosperms.

D. Stems are usually unbranched in both Cycas and Cedrus.

Answer: A



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89. Winged pollen grains are present in

A. mustard

B. Cycas

C. mango

D. Pinus

Answer: D



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90. After karyogamy followed by meiosis, spores are produced exogenously in

- A. Neurospora
- B. Alternaria
- C. Agaricus
- D. Saccharomyces

Answer: C



91. Oxygen is not produced during photosynthesis by

A. Green sulphur bacteria

B. Nostoc

C. Cycas

D. Chara

Answer: A



92. Assertion. Algae belonging to different divisions contain similar photosynthetic pigments.

Reason. Algae of different divisions live in similar habitats.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: D



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93. Assertion. Most of the red algae are marine.

Reason. Red algae contain red pigment anthocyanin.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: C



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94. Assertion. Life history of Funaria is completed only when it is growing in humid conditions.

Reason. The plant body is very delicate and cannot withstand dry condition.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: B



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95. Assertion. Gametophytic plant body of bryophytes dominates over sporophytic plant body.

Reason. Gametophytes produce gametes whereas sporophytes produce spores.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: B



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96. Assertion. Some thalloid forms of bryophytes are called liverworts.

Reason. The thalli of liverworts look like liver of animals.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A



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97. Assertion. Rhizoids of liverworts are unicellular.

Reason. Liverworts can not develop multicellular rhizoids.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: B



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98. Assertion. Bryophytes are successful land plants.

Reason. They grow successfully on land without requiring water.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: D



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99. Assertion. The leaves of Funaria are not true leaves.

Reason. The leaves of Funaria do not possess axial bud.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A



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100. Assertion. Moss protonema resembles green algae.

Reason. It develops unicellular sex organs.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: C



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101. Assertion. Gymnosperms do not produce fruits.

Reason. The ovules of gymnosperms are not enclosed within the ovaries.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A



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102. Assertion. The wood of Pinus provides commercially important timber.

Reason. The wood of Pinus is manoxylic.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation

of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: C



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103. Assertion. Female plant of *Cycas* shows sympodial branching.

Reason. A lateral branch of *Cycas aries* near the base of female cone.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: D



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104. Assertion. Vascular plants dominate land.
Reason. They have wide-spreading roots, water-proofing material like cutin, stomata for gaseous exchange. Mechanical tissue to provide support and vascular tissue for long distance transport system.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A



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105. Assertion. Cycas is called a living fossil.

Reason. Cycas has a long geographical record evidenced by its fossils and still occurs in living condition, in a limited area.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A



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106. Assertion. After a forest fire, ferns are often the first plants to appear.

Reason. The rhizomes of ferns survive the forest fire, and develop new leaves.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A



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107. Assertion. Classification proposed by Betham and Hooker is natural.

Reason. This system of classification used as many taxonomic characters as possible.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: B



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108. Assertion. Many visitors to the hills suffer from skin and respiratory allergy problems.

Reason. Conifers trees produce a large quantity of wind-borne pollen grains.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A



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109. Assertion. The thallus of Riccia is internally differentiated into an upper photosynthetic region and lower storage region.

Reason. The lower storage region is formed from parenchymatous cells.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A



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Assertion-Reason Type Question

1. Assertion. Most of the physiological experiments have been performed using unicellular green algae.

Reason. Algal cells are complete organisms capable of photosynthesis and other processes similar to higher plants.

A. If both Assertion and Reason are true and the Reason is a correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A



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