SARASWATI

HEAD OFFICE
208, CD, LOCAL SHOPPING CENTER
AGGARWAL SHOPPING PLAZA, PITAMPURA

BRANCH-1
AYODHYA CHOWK
SEC – 3 , ROHINI

BRANCH-2
DC CHOWK
SEC – 9, ROHINI

9TH & 10TH MATHS / SCIENCE
11TH & 12TH – PHYSICS / CHEMISTRY / MATHS / BIOLOGY
EXCLUSIVE BATCH FOR NEET / JEE ASPIRANTS
Ph no. 9696 500 500 / 9696 400 400

BIOLOGY

CHAPTER-3 PLANT KINGDOM

(1 Mark)

Q1. Food is stored as floridean starch in Rhodophyceae. Mannitol is the reserve food material of which group of algae?

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Q2. Name the substances that fixes the brown algae to the substratum.

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Q3.A haploid plant has rhizoids and shows thallus level of organisation. It needs water to complete its life cycle as its male gametes are motile. Identify the plant group to which it may belong.

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Q4.the plant body in higher plant is well differentiated and well developed. Roots are the organs used for the purpose of absorption. What is the equivalent of roots in the less developed lower plants?

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Q5.The leaves of gymnosperms are well-adapted to withstand extremes of temperature, humidity and wind. Which features help them to adapt to such environment?

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Q6.If the diploid number of a flowering plant is 36, what would be the chromosome number in its endosperm?

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Q7. Most algal genera show haplontic life style Name an alga which is

(a) Haplo-diplontic

(b) Diplontic.

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Q8. Give an example of plants with

(a) Haplontic life cycle

(b) Diplontic life cycle

(c) Haplo-diplontic life cycle.

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Q9. What term is used for life cycle having diploid dominant phase and gametophytic phase represented by few cells?

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Q10. Fill in the blanks at (A) and (B). Storage food present in brown algae is in the form of (A) and (B).

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Q11.Give the name of the pigment, which imparts colour to red algae.

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Q12.Why are members of Rhodophyceae called red algae?

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Q13. Fill in the blanks (A) and (B). Besides Chlorophyll, the pigment present in red algae is (A) and in brown algae, it is (B).

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Q14. Why is the plant body (dominant phase) of bryophytes called gametophyte?

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Q15. In bryophytes, male and female sex organs, are called ----------and---------- respectively.

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Q16.Why are gymnosperms called naked- seeded plants?

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Q17. Why is the embryo sae of an angiosperms haploid?

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Q18. Why is the endosperm of angiosperms triploid?

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(2 Mark)

Q19.Why has our understanding of plant kingdom changed over time?

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Q20.Differentiate between red algae and brown algae.

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Q21.Differentiate between liverworts and mosses.

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Q22. Write any four characteristics of Pteridophytes.

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Q23. Differentiate between homosporous and heterosporous pteridophytes.

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Q24. Differentiate between the gametophyte of bryophytes and that of pteridophytes.

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Q25. Both bryophytes and pteridophytes require water for fertilisation; yet they differ from each other in many aspects. Bring out any two differences between them.

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Q26. How is the gametophytes of bryophytes different from that of gymnosperms?

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Q27. Match the following column I with column II .

COLUMN I COLUMN II

(i) chlamydomonas

(ii) Cyas

(iii) Selaginella

(iv) Sphagnum

Q28. How would you distinguish monocots from dicots?

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Q29. Differentiate between syngamy and triple fusion.

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Q30. What is the basis of classification of algae?

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Q31. Most algal genera show haplontic life style.

Name an alga which is

(a) Haplo-diplontic

(b) Diplontic.

Q32. Bring out the differences between Chlorophyceae and Phaeophyceae.

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Q33. Mosses hold an ecologically important role in land colonisation. Explain.

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Q34. Mosses are also a source of fuel and manure. Justify the statement.

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Q35. Why bryophytes are called amphibians of the plant kingdom?

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Q36. Both gymnosperms and angiosperms bear seeds, then why are they classified separately?

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(3 Mark)

Q37.What is the alterations of generations? Describe how bryophytes exhibit this phenomenon in their life cycle?

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Q38. Differentiate between green algae, brown algae and red algae in respect of pigments and reserve food material.

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Q39.Why bryophytes do not attain great heights?

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Q40. What is heterospory? Briefly comment on its significance. Give two examples

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Q41. How far does Selaginella, one of the few living members of Lycopodiales (Pteridophytes), fall short of seed habit?

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Q42. How are the male and female gametophytes of pteridophytes and gymnosperms different from each other?

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Q43. Each plant or group of plants has some phylogenetic significance in relation to evolution: Cycas, one of the few living members of gymnosperms is called as the 'relic of past. Can you establish a phylogenetic relationship of Cycas with any other group of plants that justifies the above statement?

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Q44. In which plant will you look for mycorrhiza and coralloid roots? Also explain what these terms mean.

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Q45. How many types of cycle does green algae exhibit? Explain.

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(5 Mark)

Q46. Gametophyte is the dominant phase in the life cycle of a bryophyte. Explain.

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Q47.Name three groups of plants that bear archegonia. Briefly describe the life cycle of any one of them.

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Q48.Comment on the life cycle and nature of fern prothallus.

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Q49.The heterosporous pteridophytes show certain characterstics which are precursor to the seed habit in gymnosperms. Explain.

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Q50. The male and female reproductive organs of several pteridophytes and gymnosperms floral comparable to Structures of angiosperms. Make an attempt to compare the various reproductive parts of pteridophytes and gymnosperms with reproductive structures of angiosperms.

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Q51. Explain why sexual reproduction in angiosperms is said to take place through double fertilisation and triple fusion. Also draw a labelled diagram of embryo sac to explain the phenomenon.

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Q52. James went on a picnic along with his family to a river valley. There they had bonfire, they prepared their food and enjoyed a lot. After lunch James' mother thought of cleaning utensils when she realised that she had forgotten to bring her scrub. James then inspected some plants nearby and uprooted a plant and gave it to his mother for cleaning utensils.

(a) Which plant James might have given to his mother?

(b) Why it is used for cleaning of utensils?

(c) Mention its habitat and morphology.

(d) What values are shown by James?

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Q53. Algae, bryophytes and pteridophytes are plants, which do not produce seeds. The seed habit in plants is considered an important step in evolution.

(a) What are the two events that are considered as precursors of seed habit?

(b) Name two pteridophytes that are hetero- sporous.

(c) Indicate the value you can get from these phenomena.

Q54. Algae are aquatic plants, which range from the microscopic unicellular Chlorella to massive marine algae, called sea kelps. They are divided into three phyla/divisions.

(a) Mention two criteria used for classification of algae.

(b) What are the ecosystem services carried out by algae?

(c) How are algae commercially useful to mankind?

(d) What value(s) do these plants teach us?

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Q55. Algae show a variety in their modes of sexual reproduction, which may be isogamous, anisogamous or oogamous, but they do not produce any embryo.

(a) What is oogamy? Give an example.

(b) How is anisogamy different from isogamy? Name an anisogamous and isogamous algae.

(c) Which among the three, is considered the most advanced in evolution?

(d) Indicate the value obtained from these concepts.

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Q56. Angiosperms and gymnosperms are the seed- producing plants. Though what we eat from Pinus plants (Chilgoza), are called dry fruits, they are not fruits.

(a) Why are fruits not formed in gymnosperms?

(b) What are the two types of seeds, found in angiosperms, with reference to the number of cotyledons? Give one example of each.

(c) What value do we learn from these differences?

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Q56. In plants both haploid and diploid cells can undergo mitosis and this ability leads to the formation of haploid gametophytic and diploid sporophytic plant bodies. They show alternation of generations between these two phases in the life cycle.

(a) Name the three types of life cycles shown by plants.

(b) What type of life cycle is shown by bryophytes and pteridophytes? Yet, what is the difference between them?

(c) Which is the dominant phase in the life cycle of: (i) Gymnosperms and (ii) Algae?

(d) What value have you learnt from the life-cycle patterns shown by plants?

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