

CHAPTER 5

Plant Kingdom

Algae

1. Which of the following is incorrectly matched? (2022)
 - a. *Volvox* - Starch
 - b. *Ectocarpus* - Fucoxanthin
 - c. *Ulothrix* - Mannitol
 - d. *Porphyra* - Floridean Starch
2. Hydrocolloid carrageen is obtained from: (2022)
 - a. Phaeophyceae only
 - b. Chlorophyceae and Phaeophyceae
 - c. Phaeophyceae and Rhodophyceae
 - d. Rhodophyceae only
3. Which of the following algae produce Carrageen? (2021)
 - a. Brown algae
 - b. Red algae
 - c. Blue-green algae
 - d. Green algae
4. Which of the following algae contains mannitol as reserve food material? (2021)
 - a. *Gracilaria*
 - b. *Volvox*
 - c. *Ulothrix*
 - d. *Ectocarpus*
5. Which of the following pairs is of unicellular algae? (2020)
 - a. *Gelidium* and *Gracilaria*
 - b. *Anabaena* and *Volvox*
 - c. *Chlorella* and *Spirulina*
 - d. *Laminaria* and *Sargassum*
6. Floridean starch has structure similar to: (2020)
 - a. Amylopectin and glycogen
 - b. Mannitol and algin
 - c. Laminarin and cellulose
 - d. Starch and cellulose
7. Phycoerythrin is the major pigment in: (2020-Covid)
 - a. Blue green algae
 - b. Green algae
 - c. Brown algae
 - d. Red algae
8. An example of colonial alga is (2017-Delhi)
 - a. *Chlorella*
 - b. *Volvox*
 - c. *Ulothrix*
 - d. *Spirogyra*
9. Which one of the following statements is wrong? (2016 - II)
 - a. Agar-agar is obtained from *Gelidium* and *Gracilaria*.
 - b. *Laminaria* and *Sargassum* are used as food.
 - c. Algae increase the level of dissolved oxygen in the immediate environment.
 - d. Algin is obtained from red algae, and carrageen from brown algae.
10. Male gametes are flagellated in: (2015)
 - a. *Ectocarpus*
 - b. *Spirogyra*
 - c. *Polysiphonia*
 - d. *Anabaena*
11. Isogamous condition with non-flagellated gametes is found in: (2013)
 - a. *Fucus*
 - b. *Chlamydomonas*
 - c. *Spirogyra*
 - d. *Volvox*
12. Select the wrong statement: (2013)
 - a. *Chlamydomonas* exhibits both isogamy and anisogamy and *Fucus* shows oogamy
 - b. Isogametes are similar in structure, function and behaviour
 - c. Anisogametes differ either in structure, function or behaviour
 - d. In oogamous reproduction, female gamete is smaller and motile, while male gamete is larger and non motile

Bryophytes

13. Gemmae are present in: (2021)
 - a. Pteridophytes
 - b. Some Gymnosperms
 - c. Some Liverworts
 - d. Mosses
14. Which one is wrongly matched? (2018)
 - a. Uniflagellate gametes - *Polysiphonia*
 - b. Biflagellate zoospores - Brown algae
 - c. Gemma cups - *Marchantia*
 - d. Unicellular organism - *Chlorella*

Pteridophytes

15. Genera like *Selaginella* and *Salvinia* produce two kinds of spores. Such plants are known as: (2021)
 - a. Heterosorus
 - b. Homosporous
 - c. Heterosporous
 - d. Homosorus
16. Strobili or cones are found in: (2020)
 - a. *Pteris*
 - b. *Marchantia*
 - c. *Equisetum*
 - d. *Salvinia*

17. From evolutionary point of view, retention of the female gametophyte with developing young embryo on the parent sporophyte for some time, is first observed in (2019)
 a. Liverworts b. Mosses
 c. Pteridophytes d. Gymnosperms
18. In bryophytes and pteridophytes, transport of male gametes requires: (2016 - I)
 a. Wind b. Insects
 c. Birds d. Water
26. Which one is wrong statement? (2015)
 a. *Mucor* has biflagellate zoospores
 b. Haploid endosperm is typical feature of gymnosperms
 c. Brown algae have chlorophyll *a* and *c* and fucoxanthin
 d. Archegonia are found in Bryophyta, Pteridophyta and Gymnosperms.
27. Read the following statements (A-E) and answer the question which follows them: (2013)
 A. In liverworts, mosses, and ferns gametophytes are free-living
 B. Gymnosperms and some ferns are heterosporous
 C. Sexual reproduction in *Fucus*, *Volvox* and *Albugo* is oogamous
 D. The sporophyte in liverworts is more elaborate than that in mosses
 E. Both *Pinus* and *Marchantia* are dioecious.

Gymnosperms

19. Which of the following statements is incorrect about gymnosperms? (2020-Covid)
 a. Male and female gametophytes are free living
 b. Most of them have narrow leaves with thick cuticle
 c. Their seeds are not covered
 d. They are heterosporous
20. *Pinus* seed cannot germinate and established without fungal association. This is because : (2019)
 a. Its embryo is immature.
 b. It has obligate association with mycorrhizae.
 c. It has very hard seed coat.
 d. Its seeds contain inhibitors that prevent germination.
21. Which of the following statement is correct? (2018)
 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*
22. Winged pollen grains are present in [OS] (2018)
 a. Mustard b. *Cycas*
 c. Mango d. *Pinus*
23. Select the mismatch: (2017-Delhi)
 a. *Pinus* – Dioecious
 b. *Cycas* – Dioecious
 c. *Salvinia* – Heterosporous
 d. *Equisetum* – Homosporous
24. Conifers are adapted to tolerate extreme environmental conditions because of: (2016 - II)
 a. Thick cuticle
 b. Presence of vessels
 c. Broad hardy leaves
 d. Superficial stomata
25. Select the correct statement. (2016 - I)
 a. Gymnosperms are both homosporous and heterosporous
 b. *Salvinia*, *Ginkgo* and *Pinus* all are gymnosperms
 c. *Sequoia* is one of the tallest trees
 d. The leaves of gymnosperms are not well adapted to extremes of climate
28. Besides paddy fields, Cyanobacteria are also found inside vegetative part of: [OS] (2013)
 a. *Psilotum* b. *Pinus*
 c. *Cycas* d. *Equisetum*

Angiosperms

29. Male and female gametophytes do not have an independent free living existence in: [RC] (2020-Covid)
 a. Algae b. Angiosperms
 c. Bryophytes d. Pteridophytes
30. Double fertilisation is exhibited by [RC] (2017-Delhi)
 a. Gymnosperms b. Algae
 c. Fungi d. Angiosperms
31. Male gametophyte with least number of cells is present in: [RC] (2014)
 a. *Pinus* b. *Pteris*
 c. *Funaria* d. *Lilium*

Plant Life Cycles

32. Match the plant with the kind of life cycle it exhibits:

List-I		List-II	
(A)	<i>Spirogyra</i>	(i)	Dominant diploid sporophyte vascular plant, with highly reduced male or female gametophyte
(B)	Fern	(ii)	Dominant haploid free-living gametophyte
(C)	<i>Funaria</i>	(iii)	Dominant diploid sporophyte alternating with reduced gametophyte called prothallus
(D)	<i>Cycas</i>	(iv)	Dominant haploid leafy gametophyte alternating with partially dependent multicellular sporophyte

Plant Kingdom

Choose the correct answer from the options given below.
(2022)

- a. A-ii B-iv C-i D-iii
b. A-iv B-i C-ii D-iii
c. A-ii B-iii C-iv D-i
d. A-iii B-iv C-i D-ii

33. Life cycle of *Ectocarpus* and *Fucus* respectively are:
(2017-Delhi)

- a. Haplontic, Diplontic b. Diplontic, Haplodiplontic
c. Haplo-diplontic, Diplontic d. Haplo-diplontic, Haplontic

34. Zygotic meiosis is characteristic of: [OS] (2017-Delhi)

- a. *Marchantia* b. *Fucus*
c. *Funaria* d. *Chlamydomonas*

Answer Key

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
c	d	b	d	c	a	d	b	d	a	c	d	c	a	c	c	c
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
d	a	b	a	d	a	a	c	a	d	c	b	d	d	c	c	d