

Topic :- Plant Kingdom

- 1 (c)
Zoospores.
Algae produce different type of spores, the most common being the zoospores, asexually. These are motile, flagellated and give rise to new plant on germination
- 2 (d)
The ovules of gymnosperms are unitegmic (apparently bitegmic in *Gnetum*). The integument is three layered. In gymnosperms, the ovules are freely exposed before and after fertilization, *i.e.*, they are not enclosed by an ovary wall.
- 3 (a)
A-Synergids, B-Polar nuclei, E-Central cell, D-Antipodal cells, E-Filiform apparatus, F-Egg cell
Polygonum type of embryo sac is 7-celled 8-nucleate, *i.e.*, composed of 3 antipodals, 2 synergid, one egg and one central cell
- 4 (b)
Agar, one of the commercial products obtained from *Gelidium* and *Gracilaria* is used to grow microbes and in preparation of ice-creams and jellies
- 5 (a)
Polysiphonia is the example of class-Rhodophyceae. It is red algae. The characteristic red colour of algae is due to presence of excess amount of *r*-phycoerythrin
- 6 (a)
Protonema is prostrate, branched, multicellular, filamentous structure, which bears erect foliose gametophore. Protonema is produced on germination of a moss (bryophyte) spore, from which new plants develop as buds.
- 7 (d)
- | Group | Major Pigment | Reserve Food |
|---------------|-----------------------|-------------------------|
| Chlorophyceae | Chlorophyll
l -a,b | Starch |
| Phaeophyceae | Chlorophyll
l -a,c | Laminarian,
mannitol |
| Rhodophyceae | Chlorophyll
l -a,d | Floridean
starch |
- 8 (a)
Algae is a group of chlorophyll bearing, photosynthetic, autotrophic, thalloid plants. Except a

few, all the algae are aquatic. The algae reproduce by vegetative, asexual and sexual means. *Ulothrix* is a filamentous algae and *Volvox* is in colonial form

9 (c)

In angiosperms, the pollen grains and ovules are produced in special structure called flower

10 (c)

The members of class-Chlorophyceae are commonly called green algae. Their cells possess one or more chloroplasts. Photosynthetic pigments in chloroplasts are chlorophyll-*a*, Chlorophyll-*b*, carotene and xanthophylls. The green colour is due to presence of excess of chlorophyll. Chloroplastic pigments are the same as in the land plants

11 (d)

Crude turpentine (oleoresin) is obtained from the long leaf of pine (*Pinus australis*) and slash pine (*P. caribaea*). pine resin is obtained from chir pine (*Pinus roxburghii*) and blue pine (*P. wallichiana*) by tapping.

12 (c)

In *Cycas*, pollination occurs at three called stage. Microspore is shedded from the microsporangium at three-celled stage, *i.e.*, prothallial cell, tube cell and generative cell.

13 (b)

Sphagnum is bryophyte, commonly called as bog moss or peat moss. It is hygroscopic and possesses a remarkable water holding capacity. Hence, it is used as a packing material in the transportation of flowers, live plants, tubers, bulbs, seedlings, etc. It is also used in seedbeds and in moss-sticks.

14 (c)

In the angiosperm ovule, central cell of the embryo sac prior to the triple fusion, contains two haploid polar nuclei. Triple fusion in angiosperm is the fusion of second sperm with two polar nuclei or the secondary nucleus, which results in the formation of a triploid primary endosperm nucleus

15 (d)

The haploid gametophyte is dominant, long lived, green and independent whereas the diploid sporophyte is short lived and dependent upon the gametophyte

16 (b)

In *Cycas*, the leaves are of two types, *i.e.*, scale leaves and foliose leaves. Foliose leaves are large, compound and pinnately divided into many leaflets. Leaflet is sessile, straight, linear-lanceolate.

17 (a)

The pteridophytes are flowerless, seedless, spore producing vascular plants which have successfully invaded the land. These are called vascular cryptogams because among cryptogams the vascular strands are present only in pteridophytes.

18 (a)

A-Sporophyte B-Haploid microspore C-Haploid megaspore

In gymnosperms the dominant phase is sporophyte. They are neterosporous and produce

haploid megaspore and microspores. Which are produced with in sporangia born on sporophyll. These sporangia are arranged spirally along an axis to form compact cones

19 **(c)**

The plant body of algae is called thallus. The thalli of algae show a great variation of forms. Algae are photoautotrophic in their mode of nutrition. They perform photosynthesis due to presence of chlorophyll in their chloroplasts or chromatophores

20 **(c)**

All statements belong to class-Rhodophyceae

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	C	D	A	B	A	A	D	A	C	C
Q.	11	12	13	14	15	16	17	18	19	20
A.	D	C	B	C	D	B	A	A	C	C

PE