

Topic :- Plant Kingdom

- 1 **(a)**
In pteridophytes, gametophytes (prothallus) require cool, damp and shady places to grow
- 2 **(a)**
Fern (Pteridophyta) and *Funaria* (Bryophyta) are on-seed producing plants, while *Ficus* and *Pinus* are seed producing plants.
- 3 **(d)**
Anthoceros is a hornwort (bryophyte) that harbours a nitrogen fixing blue-green algae (*Nostoc*) in its mucilage cavities. The association of *Nostoc* and *Anthoceros* is highly specialized form of symbiosis.
- 4 **(b)**
Gk. *Rhodo*-red; *Phyton*-plants. The characteristic red colour of algae is due to presence of excess amount of *r*-phycoerythrin (red in colour) which masks the colour of other pigments
- 5 **(b)**
The liverworts are widely distributed over the earth's surface but are far more numerous in the tropics than in other parts of the world. In India, they are abundant in the **Western Himalayas**, where rainfall is the heaviest.
- 6 **(a)**
In the alternation of generations the sporophytic generation is $2n$ and the gametophytic generation is n
- 7 **(c)**
All the chloroplast in the *Spirogyra* may be loosely or tightly coiled and run spirally in parallel. The band-shaped chloroplast is either narrow (having smooth margin) or broad (having serrated margin).
- 8 **(a)**
The leaves of *Selaginella* are microphyllous. Each leaf is traversed by a single unbranched mid rib. A ligule arises from the base of each leaf (ligulate) they are delicate, green with entire or serrate margin and acute apex.
- 9 **(b)**
In *Dryopteris*, the mechanism of sporangium opening is effectively operated by **stomium**, when stomium ruptures the spores are discharged.

- 10 **(a)**
Chara possesses calcium encrustation and larvicidal properties.
- 11 **(a)**
Brown algae such as *Laminaria*, *Macrocystis*, *Fucus*, etc, are the main source of iodine.
- 12 **(b)**
In *Cycas*, the archegonia are formed from the gametophytic cells lining the archegonial chamber. The number of archegonia formed in a gametophyte is variable, e.g., 3 – 8 in *C. revoluta*, 3 – 6 in *C. rumphi* and 3 – 8 in *C. circinalis*.
- 13 **(b)**
Leaf, calyptra and protonema all are haploid and have same number of chromosomes.
- 14 **(b)**
Angiosperms are so named because they are enclosed within a fruit of some sort
- 15 **(a)**
Double fertilisation is the fusion of one male gamete with female gamete (syngamy) and other male gamete with diploid secondary nucleus (triple fusion), i.e., double fertilisation = syngamy = triple fusion
- 16 **(d)**
Seeds of *Pinus gerardiana* (gymnosperm) are commonly known as chilgoza.
- 17 **(a)**
Adiantum is also called walking fern. In *Adiantum*, the tips of the leaves, on coming in contact with the soil, give out adventitious roots which, in turn, produce new leaves and develop into new plants.
- 18 **(c)**
The capsule bears spores. Spores are formed after meiosis
- 19 **(a)**
The antherozoids of *Dryopteris* are large, coiled and multiflagellate structures which have a prominent vesicle and a nucleus.
- 20 **(b)**
Pteridophytes are vascular cryptogams. They generally produce spores but do not have seeds.

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

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