

Topic :- Plant Kingdom

- 1 **(a)**
In gymnosperms the dominant phase is sporophyte, gymnosperms are heterosporous produced haploid megaspore and microspores, which are produced within sporangia borne on sporophyll. These spore bearing plants are called sporophytes
- 2 **(a)**
Liverworts reproduce asexually by the formation of specialised structure called gemmae or through fragmentation of thalli. Gemmae are asexual buds, which originate from small receptacles called gemma cups
- 3 **(d)**
Bryophytes are also known as amphibians of plant kingdom. They have various features, which enabled them to live on both land and on water habitats
- 4 **(b)**
Professor **M O P Iyenger** is known as **father of Indian phycology**. Phycology is the study of algae (chlorophyllous thallophytes).

Professor **K C Mehta** worked on cause behind annual recurrence of wheat rust (fungi, *i.e.*, non-chlorophyllous thallophytes) in plains of northern India.
- 5 **(a)**
Sago starch is obtained from *Pinus*
- 6 **(c)**
The primary endosperm nucleus is triploid ($3n$) as it is the product of triple fusion
- 7 **(c)**
A-Antheridiophore, B-Archegoniophore, C-Gemma cup
- 8 **(a)**
Genera like *Selaginella* and *Salvinia*, which produce two kinds of spores, macro (large) and micro (small) spores are known as heterosporous
- 9 **(c)**
Pinus is either monoecious or dioecious. In monoecious condition male and female strobili are present on same plant and dioecious condition male and female strobili are present on different plant. *Cycas* have only dioecious condition
- 10 **(a)**
Agar (agar-agar) is polymer of D-galactose 3-6 anhydro L-galactose having sulphate esterification after tenth galactose unit.

- 11 **(a)**
Gymnosperms are naked seeded plants because seeds are presents on the megasporophyll and are not enclosed with fruit wall due to lack of ovary wall.
- 12 **(c)**
A-Diclyota, B-Polysiphonia, C-Porphyra, D-Laminaria, E-Fucus
- 13 **(a)**
Filament and anther.
Male sex organ is stamen also known as androecium. It consists of an anther lobe and a filament. Anther produces pollen grains
- 14 **(c)**
Cycas are heterosporous and in additions, produce highly specialised complex reproductive and dispersal structure called seeds. *Cycas* is also a dioecious plant. Dioecius plants are unisexual, having male and female reproductive organs on different individual (plants)
- 15 **(b)**
Chilgoza a gymnospermic seed that is eaten as dry fruit is produced by *Pinus gerardiana*
- 16 **(a)**
In moss (*Funaria*), the dispersal of spores is facilitated by hygroscopic pouring movements of peristomial teeth (lengthening and shortening of peristomial teeth). The inner peristome acts as a sieve allowing only few spores to escape at a time.
- 17 **(b)**
Bryophytes lack true-roots, stem or leaves. They possess root-like, leaf-like or stem-like structures
- 18 **(a)**
In *Cycas*, ovules are found without ovary, this condition is called naked ovule. *Cycas* produces largest ovules in the plant kingdom. The ovules are orthotropous and unitegmic.
- 19 **(c)**
Maiden hair fern, the common name given to the fern *Adiantum capillus veneris*, in which leaves are bi-pinnate with sori (clustered stalked sporangia) present sub-marginally.

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

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