



Plant Kingdom Important Questions With Answers

NEET Biology 2023

1. In angiosperms, functional megaspore develops into _____ .

- a) **Embryo sac** b) Ovule c) Endosperm d) Pollen sac

Solution : -

In angiosperms, functional megaspore develops into embryo sac.

2. Gametophytic plant body is nonvascular in

- a) Algae and liverworts b) Mosses and ferns c) gymnosperms and angiosperms **d) All of these**

3. Select true statement about lichens:-

- a) These are very good pollution indicators b) The algal component of lichen is known as phycobiont
c) The fungal component of lichen is known as mycobiont **d) All the above**

4. Ringworm in humans is caused by :

- a) Viruses b) Bacteria **c) Fungi** d) Nematodes

5. Which type of sexual reproduction is found in Volvox?

- a) Isogamous b) Anisogamous c) Oogamous **d) All of these**

Solution : -

Volvox shows advanced oogamy which takes place by the formation of antheridia and oogonia. They may be formed on the same plant (monoecious) or on different plants (dioecious). The sex-organs are produced fewer in number.

6. The chief water conducting elements of xylem in gymnosperms are:

- a) Tracheids** b) Vessels c) Fibres d) Transfusion tissue

7. Autotrophic aquatic organisms which usually reproduce vegetatively by fragmentation, and perform sexual reproduction also by the nonmotile gametes. These organism are:-

- a) Polysiphonia, Porphyra, Gracilaria b) Ectocarpus, Dictyota, Laminaria c) Laminaria, Fucus, Sargassum
d) Volvox, Chara, Spirogyra

8. The prominent phase in the life cycle of bryophytes is

- a) gametophyte** b) sporophyte c) seta d) sporogonium.

Solution : -

Bryophytes shows two morphologically distinct heteromorphic generations, i.e. gametophytic and sporophytic generations. Gametophytic generation is the dominant phase of life cycle and in general the term 'plant body' is used to represent this phase.

9. Read the given statements and select the incorrect ones.

- (i) Sporophyte in mosses is more elaborate than that in liverworts.
(ii) Salvinia is homosporous.
(iii) Life-cycle in all spermatophytes is diplontic.
(iv) In Cycas, male cones and megasporophylls are borne on the same trees.

- a) (i) and (ii)** b) (i) and (iii) c) (ii) and (iv) d) (iii) and (iv)

Solution : -

Few pteridophytes are heterosporous, i.e; with two types of spores, microspores and megaspores, e.g., Selaginella, Salvinia, Marsilea. Plants of Cycas are also heterosporous and invariably dioecious, i.e., male and female reproductive organs occur on separate individuals.

10. In pteridophyta, reduction division occurs when:-
a) Prothallus is formed **b) Spores are formed** c) Sex organs are formed d) Gametes are formed

11. Read the given statements and select the correct option.

Statement 1: Main plant body of bryophytes is sporophytic.

Statement 2: Main plant body of pteridophytes is gametophytic.

- a) Both statements 1 and 2 are correct. b) Statement 1 is correct but statement 2 is incorrect
c) Statement 1 is incorrect but statement 2 is correct. **d) Both statements 1 and 2 are incorrect.**

Solution : -

Main plant body is gametophytic in bryophytes and sporophytic in pteridophytes.

12. Pinus differs from mango in having _____ .
a) tree habit b) green leaves **c) ovules not enclosed in ovary** d) wood

Solution : -

(i) Gymnosperms, (e.g. Pinus) are commonly called as naked seeded plants since their ovules (which later become seed) are not covered and lie naked on the surfaces of specialised leaves (megasporophylls or ovuliferous scales) arranged into cones.

(ii) Thus, gymnosperms are also known as seeded plants without flowers or phanerogams without ovary. In contrast, angiosperms are seed bearing, flowering vascular plants in which seeds are enclosed in fruits, and are called as phanerogams with ovary or seeded flowering plants.

13. _____ classification systems were based on evolutionary relationships between various organisms.
a) Natural b) Artificial c) Phylogenetic **d) Both (a) and (b)**

Solution : -

Classification based on evolutionary relationships of organisms is called phylogenetic system of classification.

14. Which one of the following statements is wrong?
a) Mannitol is stored in Rhodophyceae b) Algin and Carrageen are product of algae
c) Agar-agar is obtained from Gelidium and Gracilaria d) Chlorella and Spirulina are used as space food.

Solution : -

Mannitol is the stored food in Phaeophyceae.

15. Asexual reproduction in liverworts takes place by
a) fragmentation of thalli and gemmae formation b) gemmae formation and diploid spore formation
c) spores formation and isogamy d) fragmentation and zoospore formation.

Solution : -

Asexual reproduction in liverworts takes place by fragmentation of thalli, or by the formation of specialised structures called gemmae.

16. Protista is similar to Plantae and different from monera in:-
a) Mode of nutrition b) Cellular grade of organization **c) Nuclear membrane** d) Cell wall

17. Plant classification as proposed by Carolus Linnaeus was artificial because it was based on
a) only a few morphological characters b) all the possible characters
c) anatomical characters which are adaptive in nature d) physiological and morphological characters

18. Curing of tea leaves is brought about by the activity of :
a) virus b) fungi **c) bacteria** d) mycorrhiza

19. Which one of the following is monoecious?

a) Cycas **b) Pinus** c) Date palm d) Marchantia

20. The plant group that produces spores and embryo but lacks vascular tissues and seeds is _____ .

a) Pteridophyta b) Rhodophyta **c) Bryophyta** d) Phaeophyta

Solution : -

(i) Bryophytes consist of thalloid body, attached to the substratum by hair-like structures called rhizoids (true roots are absent), these lack vascular tissue (xylem and phloem) and require water at the time of fertilisation.

Bryophytes exhibit alternation of generation.

(ii) The haploid gametophyte (producing gametes for sexual reproduction) alternates with diploid sporophyte (producing spores for asexual reproduction). production of large number of spores is for increasing the chances of survival and is an adaptation to land conditions.

21. Columella is a specialised structure found in the sporangium of _____ .

a) Ulothrix **b) Rhizopus** c) Spirogyra d) None of these

Solution : -

In Rhizopus, the central non-sporiferous region of sporangium is called columella.

22. **Assertion:** Bryophytes are called as terrestrial amphibians.

Reason: Bryophytes require an external layer of water on the soil surface for their existence.

a) If both assertion and reason are true and reason is the correct explanation of assertion.

b) If both assertion and reason are true but reason is not the correct explanation of assertion.

c) If assertion is true but reason is false. d) If both assertion and reason are false.

23. Monascus purpureus is a yeast used commercially in the production of:-

a) citric acid **b) blood cholesterol** c) ethanol d) streptokinase for removing clots from the blood vessels

24. Match column I with column II and select the correct option from the codes given below.

Column I	Column II
A. Pteris	(i) Bryophyte
B. Cedrus	(ii) Pteridophyte
C. Sonchus	(iii) Gymnosperm
D. Marchantia	(iv) Angiosperm

a) A-(ii), B-(iii), C-(iv), D-(i) b) A-(ii), B-(i), C-(iv), D- (iii) c) A-(i), B-(iii), C-(iv). D-(ii)

d) A-(iii), B-(iv), C-(ii), D-(i)

25. Gymnosperms are also called soft wood spermatophytes because they lack:

a) Thick walled tracheids **b) Xylem fibres** c) Cambium d) Phloem fibres

Solution : -

Gymnosperms are called softwood spermatophytes because they do not have xylem vessels. Xylem consist of tracheids only with little fibres.

26. Male gametophyte in angiosperms produces:

a) Three sperms b) two sperms and a vegetative cell c) Single sperm and a vegetative cell

d) Single sperm and two vegetative cell

27. 'Red tides' are produced by

a) Red algae **b) Dinoflagellates** c) Diatoms d) Brown algae

28. Flagellated male gametes are present in all the three of which one of the following sets?

a) Riccia, Dryopteris and cycas b) Athoceros, Funaria and Spirogyra

c) Zygnema, Saprolegina and Hydrilla d) Fucus, Marsilea and Calotropis

Solution : -

Flagellated male gametes are present in Riccia, Dryopteris and Cycas. The male gametes of bryophytes are biflagellate, and those of pteridophytes are multiflagellate, except Selaginella having biflagellate gametes. The male gametes of gymnosperms are nonmotile except those of Cycas having multifoliate gametes.

29. Heterosporous pteridophytes show certain characteristics, which are precursor to the 'seed habit' in gymnosperms. One of such characteristics is
 a) presence of vascular tissues b) external water required for fertilisation c) presence of embryo stage
d) development of embryo inside the female gametophyte.

Solution : -

Genera like **Selaginella** and **Salvinia** which produce two kinds of spores, are known as heterosporous. The megaspores and microspores germinate and give rise to female and male gametophytes, respectively. The female gametophytes in these plants are retained on the parent sporophytes for variable periods. The development of the zygotes into young embryos take place within the female gametophytes. This event is the precursor to the seed habit which is considered as an important step in evolution.

30. cone bearing Pteridophyta are:-
 a) Lycopsida and Psilopsida b) Filicinae and Lycopsida c) Filicinae and Sphenopsida
d) Lycopsida and Sphenopsida

31. Phylogeny refers to:-
 a) Natural classification b) Evolutionary classification **c) Evolutionary history** d) Origin of algae

32. An alga very rich in protein is _____ .
 a) Spirogyra b) Ulothrix c) Oscillatoria **d) Chlorella**

Solution : -

Dried Chlorellaplrenoidosa contains approximately 50-55% crude protein (more than that in dried beef, soyabean meal and dried yeast).

33. The actual account of habitat and distribution of plants of given area is known as:
a) Flora b) Fauna c) Manual d) Monograph

34. Which one of the following matches is correct?

a)	Alrenaria	Sexual reproduction absent	Deuteromycetes	b)	Mucor	Reproduction by Conjugation	Ascomycetes
c)	Agaricus	Parasitic fungus	Basidiomycetes	d)	Phytophthora	Aseptate mycelium	Basidiomycetes

35. Viruses have:-
a) DNA enclosed in a protein coat b) Prokaryotic nucleus c) Single chromosome
 d) Both DNA and RNA

36. Which one is wrong statement?
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

Solution : -

Mucor has biflagellate zoospores. It is wrong statement. Because Mucor belongs to Zygomycetes which gametes are non-motile and non-flagellated.

37. Gymnosperms do not include
a) herbs b) shrubs c) trees d) both (a) and (b).

Solution : -

Living gymnosperms are predominantly middle sized trees (**Cycas**) to tall trees (**Pinus**) and shrubs (**Ephedra**). Rarely they are woody climbers (**Gnetum montanum**). There are no herbs in gymnosperms.

38. In the prothallus of a vascular cryptogram, the antherozoids and eggs mature at different times. As a result:

- a) **Self fertilization is prevented** b) There is no change in success rate of fertilization
 c) There is high degree of sterility d) one can conclude that the plant is apomictic

Solution : -

In the Prothallus of vascular cryptogam, the antherozoids and eggs mature at different times. As a result self-fertilisation is prevented.

39. Fill in the blanks a, b, c and d by observing the characters given in the table and choose the correct answer from the options:-

Plant group	Main body	Fertilisation	Vascular tissue	Female sex organ
Bryophyte	Gametophyte	Zooidiogamy	Absent	(c)
Pteridophyta	(a)	Zooidiogamy	(b)	Archegonium
Gymnosperm	Sporophyte	Siphnogamy and zooidiogamy	Present	(d)

a)

a	b	c	d
Sporophyte	Present	Archegonium	Archegonium

b)

a	b	c	d
Sporophyte	Absent	Oogonium	Archegonium

d)

a	b	c	d
Gametophyte	Present	Archegonium	Carpel

c)

a	b	c	d
Gametophyte	Present	Archegonium	Carpel

40. Which one of the following is heterosporous?

- a) Adiantum b) Equisetum c) Dryopteris **d) Salvinia**

Solution : -

(i) Salvinia is heterosporous. Salvinia produces two types of spores which are different in sizes. Small spores are called microspores and large spores called megaspores. Microspores after germination produce male gametophyte and megaspores after germination produce female gametophyte.

(ii) Dryopteris and Adiantum are homosporous. The spores are pioneer structure of the gametophyte generation.

41. Common example of red algae is

- a) Porphyra b) Batrachospermum c) Ectocarpus **d) both (a) and (b).**

Solution : -

Porphyra and Batrachospermum, both are red algae (Rhodophyceae). Ectocarpus is a filamentous marine brown alga (Phaeophyceae).

42. Zygotic meiosis is characteristic of:

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

Solution : -

Majority of the algae exhibit haplontic life cycle. Chlamydomonas has haplontic life cycle and hence shows zygotic meiosis.

43. Which one of the following is a slime mould?

- a) Anabaena b) Rhizopus **c) Physarum** d) Thiobacillus

44. Which one of the following shows isogamy with non-flagellated gametes?

- a) Sargassum b) Ectocarpus c) Ulothrix **d) Spirogyra**

45. The Plant used as an alternative of cotton:-

- a) Sphagnum** b) Funaria c) Riccia d) Andria

46. The product of conjugation in Spirogyra or fertilisation of Chlamydomonas is _____ .

a) **zygospore** b) zoospore c) oospore d) carpospore

Solution : -

(i) Zygospore (zygote) is the fusion product of two gametes. It infact, represents the resting stage formed after withdrawal of flagella and formation of a thick wall around the freshly formed zygote. Zygospore is spherical with thick, smooth or stellate wall and contains fats and reserve food materials other than starch. It can resist unfavourable conditions.

(ii) In Chlamydomonas, Zygospore is the resultant of isogalny, anisogamy or oogamy. In Spirogyra sexual reproduction occurs through conjugation, which may be scalariform or lateral. The resulting zygote secretes a thick wall called zygospore (having 3 layers thick wall, diploid nucleus and abundant food reserves in the form of oil and starch).

47. Which group of organisms is responsible for the production of biogas from the dung of cows and buffaloes?

a) Methanomonas **b) Methanogens** c) Cyanobacteria d) Mycoplasma

48. Assertion: Gymnosperms do not produce fruit.

Reason: Ovules of gymnosperms are enclosed within the ovaries.

- a) If both assertion and reason are true and reason is the correct explanation of assertion.
b) If both assertion and reason are true but reason is not the correct explanation of assertion.
c) If assertion is true but reason is false. **d) If both assertion and reason are false.**

Solution : -

The gymnosperms are plants in which the ovules are not enclosed by any ovary wall and remain exposed, both before and after fertilisation. The seeds that develop postfertilisation, are not covered, i.e., are naked. After fertilisation, zygote develops into an embryo and ovules into naked seeds.

49. The function of leghaemoglobin in the root nodules of legumes is:-

a) Inhibition of nitrogenase activity **b) Oxygen removal** c) Nodule differentiation
d) Expression of nif gene

50. Gemmae are asexual reproductive bodies of

a) brown algae b) mosses **c) liverworts** d) red algae