

RAVI MATHS TUITION CENTRE, WHATSAPP - 8056206308

Time: 100 Mins

BIOLOGY TEST 5 PLANT KINGDOM 1

Marks : 500

- 1. 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

2. Nitrifying bacteria:-

- a) Oxidize ammonia to nitrates b) Convert free nitrogen to nitrogen compounds
- c) Convert proteins into ammonia d) Reduce nitrates to free nitrogen
- 3. In bryophytes

a) sporophytes are dependent upon gametophytes

- b) sporophyte and gametophyte generations are independent c) sporophyte in itself completes the life cycle
- d) gametophytes are dependent upon sporophyte.
- 4. do not have free living gametophyte.
 - a) Bryophytes b) Pteridophytes c) Gymnosperms d) both (b) and (c)

Solution : -

In Gymnosperms, the male and female gametophytes do not have an independent free living existence. They remain within the sporangia retained on the sporophytes i.e., female gametophyte within megasporangium and male gametophyte within microsporangium.

- 5. In **Pinus**, male strobilus bears a large number of
- a) anthers b) stamens c) microsporophylls d) megasporophylls.
- 6. 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.

- 7. select incorrect statement about viroid:
 - a) Free infectious RNA b) It was discovered T.O Diener c) It caues potato spindle tuber disease

d) It contains high molecular weight RNA

8. Choose the correct set of bacterial disease

a) Mumps, cholera, dengue b) Chicken pox, typoid, mimps c) Mumps, tetanus, chicken pox d) cholera, typhoid, tetanus

- 9. Phycobilins are characteristic pigments of:
 - a) Rhodophyta and phaeophyta b) Rhodophyta and phrophyta c) phrophyta and cyanophyta

d) Rhodophyta and cyanophyta

- 10. Floridean starch is characteristic feature of :
 - a) Polysiphonia, Gracilaria, Porphyra b) Laminaria, sargassum, Porphyra
 - c) Polysiphonia, Laminaria, Porphyra d) Chara, Dictyota, Polysiphonia
- 11. Which one has the largest gametophyte?
 - a) Cycas b) Angiosperm c) Selaginella d) Moss

Solution : -

(i) Of the given options, moss has the largest gametophyte. It get reduced in the order as Selaginella, Cycas, angiosperms. Gametophyte begins with the haploid spore and ends with the formation of haptoid gametes.(ii) Gametophyte gives rise to the sporophyte (through sexual reproduction) and sporophyte gives rise to gametophyte.

(iii) As one moves from thallophyte \rightarrow bryophyte \rightarrow pteridophyte \rightarrow gymnosperms \rightarrow angiosperms, there is development in the sporophyte and reduction in the gametophyte.

12. 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.

13. Which group shows the most extensive metabolic diversity?

a) Plantae b) Animalia c) Monera d) Fungi

- 14. Selcet the correct combination of the statement (a-d) regarding the characteristics of certain organisms:
 - (a) Methanogens are Archaebacteria which produce methane in marshy areas
 - (b) Nostoc is filamentous blue-green alga which atmospheric nitrogen
 - (c) Chemosynthetic autotrophic bacteria synthesis cellulose from glucose
 - (d) Mycoplasma lack a cell wall and can survive without oxygen

The correct statements are:

a) (a), (b), (c) b) (b), (c), (d) c) (a), (b), (d) d) (b), (c)

15. Which of the statements regarding haplontic life cycle is incorrect?

a) Sporophytic generation is represented only by the one-celled zygote.

- b) There is no free-living sporophyte. c) Mitosis in the zygote results in the formation of haploid spores.
- d) The haploid spores divide mitotically and form the gametophyte.

Solution : -

During haplontic life cycle, meiosis in the zygote results in the formation of haploid spores.

- 16. Which one of the following is a vascular cryptogam?
 - a) Ginkgo b) Marchantia c) Cedrus d) Equisetum

Solution : -

Equisetum is the vascular cryptogams.

17. The given figure shows two phases, A and B of a typical angiospermic life cycle. Select the correct option regarding it.



a)		D)						
Α	В			А	В			
Gametophytic generat	ation	Sporop	hyticc generation	nGametophytic generatio				
(n)	(2n)		(2n)		(n)			
c)		d)						
A	В		А	В				
Sporophytic generation (2n)	Sporophytic generation (2n)	Gam gene (n)	etophytic eration	Gametophytic go (n)	eneration			

18. Which of the following is an aquatic fern?

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

Solution : -

Salvinia is an aquatic fern with both annual (e.g., S. natans) and perennial species (e.g., S. molesta). The plant body consists of a floating stem bearing two rows of large green hairy leaves on the upper surface and highly branched leaf roots on the lower surface.

19. Peat moss is

a) Sphagnum b) Dryopteris c) Funaria d) Polytrichum

20. Moss peristome takes part in _____

a) spore dispersal b) photosynthesis c) protection d) absorption

Solution : -

Peristome functions in the dispersal of the spores. Peristome constitutes rings of teeth like projections at the rim of the capsule of the mosses. In Funaria, peristome are 32 in number, arranged in two rings of 16 each (a) outer exostome and (b) inner endostome.

- 21. Sperms of both Funaria and Pteris were released together near the archegonia of Pteris. Only Pteris sperms enter the archegonia as ______.
 - a) Pteris archegonia repel Funaria sperms b) Funaria sperms get killed by Pteris sperms
 - c) Funaria sperms are less mobile d) Pteris archegonia release chemical to attract its sperms

Solution : -

In Dryopteris and Pteris, when fertilisation occurs, sperms are attracted by the chemical diffusing into the water from the mucilage exuded by the open necks of archegonia of the older prothalli, some of them make their way down the canal to the egg in the venter and only one of these enters the egg to accomplish fertilisation.

- 22. Infoldings of plasma membrane in bacteria are called as:
 - a) Episomes b) Plasmid c) Pili d) Mesosomes
- 23. Which pigment is found in phaeophyceae?
 - a) Chl.a, c and fucoxanthin b) Chl.a, d and vioxanthin c) β Carotene and phycocyanin d) None of these
- 24. Cup-shaped chloroplast is present in

a) Spirogyra **b) Chlamydomonas** c) Ulothrix d) Chara.

Solution : -

A single cup-shaped chloroplast is characteristic of **Chlamydomonas**. It occupies the major portion of cell and is thick at the base while its sides are relatively thin and projected upward.

25. Armoured cell wall and biflagellated cells are characteristic of:-

a) Chrysophyta b) Pyrrophyta c) Euglenophyta d) Cyanophyta

26. The giant Redwood tree (Sequoia sempervirens) is a an

a) angiosperm b) free fern c) pteridophyte d) gymnosperm.

Solution : -

Sequoia sempervirens is a gymnosperm. It is the sole living species of genus Sequoia. Its common names include coast red wood, California red wood. It is an evergreen, long living monoecious tree.

27. Seaweeds are a source of

a) chlorine b) fluorine c) bromine d) iodine.

Solution : -

Seaweeds are rich in minerals such as iodine, calcium sodium, magnesium, potassium, iron, zinc, copper. Seaweeds also provide fibre, vitamins, enzyme and high quality protein.

28. Seed habit first originated in _____

a) certain ferns b) certain pines c) certain monocots d) primitive dicots

Solution : -

The tendency towards seed formation is called seed habit. It was developed in fossil gymnosperm of group Cycadofilicales (pteridosperms), i.e. seed ferns, e.g. Lyginopteris which bears characters of cycads and fern both. Seed habit is shown by few pteridophytes like Selaginella, Marselia, Isoetes, etc. which exhibit heterospory.

- 29. For higher plants, flowers are chiefly used as a basis of classification, because:
 - a) These show a great variety in colour b) It can be preserved easily

c) Reproductive parts are more conservative than vegetative parts d) None of these

30. True nucleus is absent in:-

a) Mucor b) Vaucheria c) Volvox d) Anabaena

31. 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).

32. The leaves of gymnosperms are well-adapted to withstand extremes of temperature, humidity, and wind, because of which of the following features?

a) Needle like leaves b) Thick cuticle c) Sunken stomata d) All of these

Solution : -

Conifers have a number of xerophytic characters such as needle-like (e.g., Pinus), scale-like (e.g., Thuja) or small and leathery leaves (e.g., Araucaria), thick cuticle, sclerenchymatous hypodermis and sunken stomata to reduce transpiration. They are, thus, well adapted to tide over the winter period when the soil becomes frozen and availability of water is very little.

33. 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).

34. Pneumatophores occur in

a) Carnivorous plants b) Free-floating hydrophytes c) Halophytes d) Submerged hydrophytes Solution : -

(i) Pneumatophores are modified roots which are present in halophytes. They are meant for gaseous exchange or respiration in mangroves. Halophytes grows in saline swamps, and marshy areas, so their roots come out of water for respiration. The gaseous exchange occurs through small pores present on pneumatophores called-lenticels.

(ii) Carnivorous Plants, Free-floating Hydrophytes and Submerged hydrophytes do not possess pneumatophores.

35. Which one is a wrong statement?

a) Brown algae have chlorophyll a and c, and fucoxanthin

- b) Archegonia are found in Bryophyta, Pteridophyta and Gymnosperms
- c) Mucor has biflagellate zoospores d) Haploid endosperm is typical feature of gymnosperms
- 36. Read the given statements and select the correct option.

Statement 1 Bryophytes show alternation of generation.

Statement 2 A haploid gametophytic generation and a diploid sporophytic generation alternate in the life cycle.

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 d) Both statements 1 and 2 are incorrect
- 37. Sexual reproduction in Spirogyra is an advanced feature because it shows _____

a) physiologically differentiated sex organs. b) different sizes of motile sex organs.

c) same size of motile sex organs. d) morphologically different sex organs.

Solution : -

In spirogyra, sexual reproduction takes place by conjugation involving union of two gametes. The fusing gametes are similar but one is more active and passes onto the other cell. This differentiation of gametes is called physiological anisogamy.

38. Gemmae are asexual reproductive bodies of

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

39. The 'wing' of Pinus seed is derived from _____

a) testa b) testa and tegmen c) surface of ovuliferous scale d) All of the above

Solution : -

The winges of seed of Pinus is thin, membranous diploid and develops jointly from the basal upper surface (adaxial) of ovuliferous scale and outer layer of integument of the ovule.

- 40. In prokaryotes, chromatophores are
 - a) Specialized granules responsible for colouration of cells
 - b) structures responsible for organizing the shap of the organism
 - c) Inclusion bodies lying free inside the cells for carrying out various metabolic activities

d) Internal membrane systems that my become extensive and complex in photosynthetic bacteria

- 41. Which one of the following statements about Cycas is incorrect?
 - a) It does not have a well organised female flower b) It has circinate vemarion
 - c) Its xylem is mainly composed of xylem vessels d) Its roots contain some blue-green algae

Solution : -

Statements (c) is incorrect regarding Cycas as Vessels are absent from the xylem of all gymnosperms (except Gnetales). Cycas belongs to Cycadaies (not Gnetales).

- 42. Algin is phycocolloid , obtained form the cell wall of
 - a) Polysiphoina and Porphyra b) Gelidium and Laminaria c) Microcystis and Volvox
 - d) Focus and Dictyota
- 43. Which one of the following is wrong statement
 - a) Phosphorus is a constituent of cell membranes certain nucleic acids and all proteins
 - b) Nitrosomonas and Nitrobacter a chemoautotrophs
 - c) Anabaena and Nostoc are capable of fixing nitrogen in free-living state also
 - d) Root nodule forming nitrogen fixers live aerobes under free-living conditions
- 44. Which kind of life-cycle pattern is exhibited by seed-bearing plants?
 - a) Haplontic b) Diplontic c) Haplo-diplontic d) All of these

Solution : -

In diplontic life cycle, the dominant free living phase is the diploid (2n). Sporophyte is photosynthetic The gametophytic phase is represented by single to few-celled haploid gametophyte. All seed-bearing plants, i.e., gymnosperms and angiosperms exhibit this type of life cycle.

- 45. In which one of these the elaters arc present along with mature spores in the capsule (to help in spore dispersal)?a) Riccla b) Marchantia c) Funaria d) Sphagnum
- 46. In pteridophytes, prothallus produces
 - a) sporangia b) antheridia and archegonia c) vascular tissues d) root, stem and leaf.
- 47. Which of the following suffix is always correct for taxonomic categories without any exception?
 - a) "-ia" for class like in class Mammalia b) "-ca" for genus like in genus Musca
 - c) "-ceae" for family like is family poaceae d) "-oda" for phylum like in phylum Arthopoda
- 48. Which one of the following living organisms completely lacks a cell wall?
 - a) Cyanobacteria b) Sea-fan(Gorgonia) c) Saccharomyces d) Blue-green algae
- 49. Algae with strach as reserve food material are also characterised by
 - a) Presence of chlorophyll b b) Sulphated phycocolloids c) Nonsulphated phycocolloids
 - d) Nonflagellate nature

- 50. Gametophytic plant body is nonvascular ina) Algae and liverworts b) Mosses and ferns c) gymnosperms and angiosperms d) All of these
- 51. Pteridophytes differ from mosses/ bryophytes in possessing _____
 - a) flagellate spermatozoidsb) independent gametophytec) well developed vascular systemd) archegonia

Solution : -

Pteridophytes are most primitive vascular flowerless, spore producing cryptogamic land plants, commonly called vascular amphibians/botanical snakes/spore producing seedless tracheophytes. They are first vascular land plants to have independent sporophyte diploid plant body with true root, stem and leaves. In contrast bryophytes, the amphibians of plant kingdom are devoid of true roots, stem and leaves, with no vascular supply but root-like, non-vascular rhizoids, leaf-like and stemlike structures are present.

- 52. Consider the following four statements whether they are correct or wrong:
 - (a) The sporophyte in liverworts is more elaborate than that is mosses
 - (b) Salvinia is heterosporous
 - (c) The life-cycle in all seed-bearing plants is diplontic.
 - (d) In Pinus male and female cones are borne on different trees.
 - The two wrong statements together are:
 - a) statements (a) and (b) b) statements (a) and (c) c) statements (a) and (d) d) statements (b) and (c)
- 53. 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.

- 54. At least a half of the total CO_2 fixation on Earth is carried out through photosynthesis by:
 - a) angiosperms b) gymnosperms c) algae d) bryophytes

Solution : -

Nearly 50% of total carbon dioxide fixation is carried out by algae through photosynthesis. Photosynthesis by algae releases oxygen in the immediate aquatic environment. It is essential for respiration of aquatic life.

- 55. Nuclear membrane is absent in:
 - a) Penicillium b) Agaricus c) Volvox d) Nostoc
- 56. Plants of this group are diploid and well adapted to extreme conditions. They grow bearing sporophylls in compact structures called cones. The group in reference is

a) monocots b) dicots c) pteridophytes d) gymnosperms.

- 57. What is the chromosomes number in rhizoid, egg cells, capsule and protonema, if leaf cell of bryophyte contains 10 chromosomes?
 - a) 10, 10, 20 and 10 respectively b) 10, 20, 20 and 10 respectively c) 20, 10, 20 and 10 respectively

d) 10, 10, 20 and 20 respectively

58. Angiosperms A and B shown in the figure belong to the Class _ and _ respectively.

a)	b)							
A			A			В		
DicotyledonaeMonocotyledonae			Мо	MonocotyledonaeMonocotyledon				
c)			d)					
Α		В		A			В	
MonocotyledonaeMonocotyledona					Dicotyledon	ae	Dicotyledonaee	

Solution : -

Zoomed in portions of leaves show parallel venation in plant A, a characteristic of monocotyledonae except for a few and reticulate venation in plant 8, a characteristic of Dicotyledonae.

59. Green algae are considered as ancestors of higher plants due to their resemblance with higher plants in:-

a) Pigments b) Cell wall c) Stored food d) All the above

60. Assertion: Spores in mosses are contained within the capsule.

Reason: Spores are formed by mitotic division in mosses.

- 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 : -

In mosses, after fertilisation, the zygote develops into a sporophyte, consisting of a foot, seta and capsule. The sporophyte in mosses is more elaborate than that in liverworts. The capsule contains spores. Spores are formed after meiosis and develop into new gametophyte.

- 61. All single called eukaryotes placed under protista and the link with fungi, plants and animals, Slime moulds are saprophytic protists. what is incorrect about it:
 - a) Body moves along decaying twings and leaves engulfing organic matter
 - b) Under suitable conditions from plasmodium which may grow and spread over several feet

c) Under favourable conditions plasmodium differentiate and from fruiting body

- d) Their spores possess cell wall
- 62. Archegoniophore occurs in:
 - a) Chara b) Funaria c) Adiantum d) Marchantia

Solution : -

Refer the diagram of Marchantia.

63. Match the following list of microbes and the importance:

(a) Saconaron y cos coronolas (i) i readelion or initiano approcente agona	(a)	Saccharomyces cerevisiae	(i)	Production of immunosuppressive agents
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(b)Monascus purpureus (ii) Ripening of swiss cheese

(c) Trichoderma polysporum (iii) Commercial production of ethanal

(d) Propionibacterium sharmanil (iv) Production of blood cholesterol lowering agents

a))			b))			c)				d))			
а	b	с	d	а	b	c	d	а	b	с	d	а	b	с	d	
iii	i	iv	ii	iii	iv	i	ii	iv	iii	ii	i	iv	ii	i	iii	

- 64. The imperfect fungi which are decomposers of and help in mineral cycling belong to: a) Ascomycetes **b) Deuteromycetes** c) Basidiomycetes d) Phycomycetes
- 65. Phycoerythrin is present in

a) Euglena b) Polysiphonia c) Chlamydomonas d) Fucus.

- 66. Laminaria belongs to the class
 - a) chlorophyceae b) Cyanophyaceae c) Phaeophyceae d) Rhodophyceae
- 67. Casparian strips occur in _____

a) Cortex b) Pericycle c) Epidermis d) Endodermis

Solution : -

(i) Casparian ships are present in Endodermis of roots. It is a strips of Suberin and lignin which is impermeable to water. Casparian strips are located on the radial and tangential walls of endodermis. It prevents plasmolysis of endodermal cells.

(ii) Cortex is found below epiblema which is made up of thin-walled parenchy-matous cell. Epidermis is the outermost layer rnade up of thin-walled flattened and slightly elongated parenchymatous cells. Pericycle is located below the endodermis and it is made of parenchymatous cells.

- 68. In gymnosperms, the pollen chamber represents:
 - a) The microsporangium in which pollen grains develop
 - b) A cell in in the pollen grain in which the sperms are formed
 - c) A cavity in the ovule in which pollen grains are stored after pollination
 - d) An opening in the megagametophyte through which the pollen tube approaches the egg
- 69. In Chlorophyceae, sexual reproduction occurs by _____

a) isogamy and anisogamy b) isogamy, anisogamy and oogamy c) oogamy only

d) anisogamy and oogamy

Solution : -

(i) In Chlorophyceae, three types of sexual reproduction occurs, i.e. isogamy, anisogamy and oogamy. Isogamy involves the fusion of those gametes which are similar in size, shape and structure, e.g. Chktmydomonos debaryana.

(ii) In anisogamy gametes differ morphologically and also behave differently, e.g. Chlamydomonas braunii. In oogamy, fusion between motile and non-motile gametes takes place, e.g. Chlamydomonas coccifera.

- 70. Which one single organism or the pair of organism is correctly assigned to its or their named taxonomic group?
 - a) Yeast used in making bread and beer is a fungus b) Nostoc and Anabaena are examples of protistes c) Paramecium and plasmodium belong to the same kingdom as that of Penicillium
 - d) Lichen is a composite organism formed from the symbiotic association of an algae and protozoan
- 71. Gymnosperms
 - a) Are Homosporous
 - b) Possess a male gametophyte which is highly reduced and is confined to single cell only
 - c) possess strobill on same or different trees
 - d) Show the presences of female gametophyte which is reined within microsporangium
- 72. Haplo-diplontic life cycle is found in
 - a) bryophytes b) pteridophytes c) fungi d) both (a) and (b).

Solution : -

Haplo-diplontic type of life cycle involves the clear alternation of generations between a haploid gamete producing gametophyte and a diploid spore producing sporophyte. Both bryophytes and pteridophytes exhibit this kind of life cycle pattern.

- 73. In which of the following characters, the angiosperms resemble gymnosperms?
 - a) Presence of ovule b) Absence of endosperm c) Presence of vessels
 - d) Mode of fertilisation by zoodiosiphonogamy
- 74. The algae shown in the given figure belong to the Class



a) Chlorophyceae b) Phaeophyceae c) Rhodophyceae d) Cyanophyceae.

Solution : -

The algae shown in the given figure are **Volvox**, **Chlamydomonas** and **Chara** respectively. They belong to Class Chlorophyceae.

- 75. "Ordines Anomali" of Bentham and Hooke includes
 - a) seed plants showing abnormal forms of growth and development
 - b) Plants represented only in fossil state
 - c) Plants described in the literature but which Bentham and Hooker did not see in original
 - d) A few orders which could not be place satisfactorily in the classification
- 76. The function of mesome in prokaryotes is:
 - a) Aerobic respiration b) Cell wall formation c) Both (1) and (2) d) N₂-fixation
- 77. **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.
- 78. In Pinus, endosperm cells have 30 chromosomes then how many chromosomes are present in sieve cells:-

a) 30 **b) 60** c) 10 d) 15

- 79. Brown algae is characterised by the presence of _
 - a) phycocyanin b) phycoerythrin c) fucoxanthin d) haematochrome

Solution : -

In addition to chlorophyll-a, brown algae posses special carotenoids and fucoxanthin. It is due to the fucoxanthin (brown pigment) that these algae appear brown. Phycocyanin and phycoerythrin are phycobilins which are found in red algae (phycocyanin-r. phycoerythrin_r) and blue-green algae (phycocyanin-c, phycoerythrin_c).

80. Assertion: Stomata are found on the surface of leaves in gymnosperms.

Reason: In gymnosperms, cuticle of leaves is thin.

- 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 leaves in gymnosperms are well-adapted to withstand extreme temperature, humidity and wind. In conifers, the needle-like leaves reduce the surface area. Their thick cuticle and sunken stomata help to reduce water loss.

81. Chlorophylla, chlorophyll and phycoerythrin pigments are found in:

a) Cyanophyceae b) Bacillariophyceae c) Rhodophyceae d) Chlorophyceae

Solution : -

Rhodophyta are commonly called red algae because of the predominance of the red pigment, r-phycoerythrin in their body along with chl.a and chl.d.

82. _____classification systemswere based on evolutionary relationships between various organisms.

a) Natural b) Artificial c) Phylogenetic d) Both (a) and (b)

- 83. Algae have cell wall made up of:
 - a) Cellulose, hemicellulose and pectins b) Cellulose, galactans and mannans
 - c) Hemicellulose, pectins and proteins d) Pectins, cellulose and proteins
- 84. Assertion: In gymnosperms, the male and female gametophytes do not have independent existence.

Reason: They remain within the sporangia retained on the sporophyte.

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.
- 85. Find the false statement from the followings:
 - a) Cyanobacteria, that are also referred to as bluegreen algae are not algae any more
 - b) Algae, bryophytes, pteridophytes, gymnosperms and Angiosperms are described under the kingdom Plantae
 - c) Artififical systems gave equal weightage to vegetative and sexual characteristics

d) Cytotaxonomy uses the chemical constituents of the plant cells to resolve confusions taxonomy

- 86. Which out of the following are included under Tracheophyta, i.e., vascular plants?
 - a) Pteridophytes b) Gymnosperms c) Angiosperms d) All of these
- 87. In pteridophytes, main plant body is a _(i)_ which is _(ii)_ into true roots, stem and leaves.

Fill the blanks in above statement and select the correct option.



gametophytenot differentiated

- 88. Grass leaves curl inwards during very dry weather. Select the most appropriate reason from the following:
 - a) Flaccidity of bulliform cells b) Shrinkage of air spaces in spongy mesophyll c) Tyloses in vessels
 - d) Closure of stomata

Solution : -

Bulliform cells become flaccid due to water loss. This will make the leaves to curl inward to minimise water loss.

a) heterosporous b) dioecious c) monoecious d) homosporous.

Solution : -

Heterospory is the condition of producing two types of spores, i.e., megaspores and microspores. Heterospory occurs in all seed bearing plants, i.e., gymnosperms and angiosperms.

- 90. Bryophytes comprise _
 - a) Sporophyte of longer duration b) Dominant phase of sporophyte which is parasitic
 - c) Dominant phase of gametophyte which produces spores

d) Small sporophyte phase generally parasitic on gametophyte

Solution : -

Bryophyta is a group of thalloid, non-vascular, cryptogams which have gametophytic (haploid phase) as dominant phase. It bears diploid sporophytic phase which takes food from gametophytic phase, thus behaves as parasite on gametophyte.

91. Select the incorrect statement with respect to given type of life cycle.



- a) Meiosis occurs at the time of spore formation in sporophytic plant.
- b) Gametophytic plant is produced by germination of spores.
- c) This life cycle is exhibited by most algae and some seed bearing plants
- d) This life cycle is exhibited by many bryophytes and pteridophytes.

Solution : -

Given type of life cycle is haplo-diplontic or diplohaplontic life cycle in which haploid gametophytic phase and diploid sporophytic phase alternate with each other. The gametophytic plant (n) produces gametes (n), which fuse to give rise to diploid zygote (2n). Zygote grows to form sporophytic plant body (2n). Meiosis occurs in the sporophyte at the time of formation of spores and the spores germinate to produce gametophytic plants. Bryophytes and pteridophytes exhibit this life cycle pattern. Algae exhibit haplontic life cycle pattern and gymnosperms and angiosperms follow diplontic life cycle pattern.

92. Ringworm in humans is caused by :

a) Viruses b) Bacteria c) Fungi d) Namatodes

93. Which group of plantae represents gametophytic plant body with dependent sporopyte?

a) Algae and bryophytesb) Bryophytes and pterdophytesc) Livereorts and mossesd) Ferns and Cycads

94. Which one of the following plants is monoecious?

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a) Pinus b) Cycas c) Papaya d) Marchantia
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Solution : -

Pinus is monoecious plant in which both male cone and female cone are present on same plant on different branches. Marchantia, Cycas and Papaya are dioecious plants.

95. Which part of poppy plant is used to obtain the drug Smack?

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a) Roots b) Latex c) Flowers d) Leaves
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Solution : -

The latex is used to obtain the drug Smack from poppy plant. Smack is a white crystalline, odourless and bitter in test. It acts as depressant and slows down the body functions.

96. What is the ploidy of primary endosperm nucleus (PEN) in angiosperms?

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a) Haploid b) Diploid c) Triploid d) Polyploid
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97. Archegoniophore is present in ____

a) Marchantia b) Chara c) Adiantum d) Funaria

Solution : -

Archegoniophore is present in Marchantia. Marchantia belongs to bryophyte in which archegonia is present on special branch called archegoniophore.

98. Which of the following options correctly identifies the plant shown in figure and the group it belongs to?



a) Marchantia - Liverwort b) Sphagnum - Moss c) Sphagnum - Liverwort d) Funaria - Moss

Solution : -

Plant shown in the figure is Sphagnum. It is a bryophyte, commonly called as peat moss.

- 99. In which group of organisms the cells walls for two thin overlapping shells which fit together
 - a) Slime moulds b) Chrysophytes c) Euglenoids d) Dinoflagellates
- 100. Which one of the following is a correct statement?
 - a) Antheridiophores and archegoniophores are present in pteridophytes

b) Origin of seed habit can be traced in pteridophytes

- c) pteridophyte gametophyte has a protonemal and leafy stage
- d) In gymnosperms female gametophyte is free living
- 101. Which one of the following is commonly used in transfer of foreign DNA into crop plants?
 - a) Penicillium expansum b) Trichoderma harzianum c) Meloidogyne incognita

d) Agrobacterium tumefaciens

- 102. Two plants can be conclusively said to belong to the same species if they:
 - a) Have same number of chromosomes b) Can reproduce freely with each other and form seeds
 - c) Have more than 90 percent similar genes d) Look similar and possess identical secondary metabolites
- 103. Pigment-containing membranous extensions in some cyanobacteria are:
 - a) Chromatophores b) Heterocysts c) Basal bodies d) Pneumatophores
- 104. The "endosperm" of a gymnosperm represent:
 - a) Gametophytic tissue b) Sporophytic tissue c) Tissue formed by double fertilization
 - d) Polyploid tissue
- 105. The chief water conducting elements of xylem in gymnosperms are:
 - a) Tracheids b) Vessels c) Fibres d) Transfusion tissue
- 106. Which fungus is used extensively in biochemical and genetic work?
 - a) Agaricus b) Aspergillus c) Claviceps d) Neurospora
- 107. Mycorrhizal roots of ______ are associated with some fungal symbionts.
 - a) Pinus b) Cedrus c) Cycas d) Ginkgo

Solution : -

A mycorrhiza is a symbiotic association of a fungus with a root system. The mycorrhizal roots of Pinus occur near the soil surface. They are devoid of root hair and root cap. The fungus commonly associated with mycorrhizal roots of **Pinus** is **Boletus elegans**.

108. cone bearing Pteridophyta are:-

a) Lycopsida and Psilopsida b) Filicinae and Lycopsida c) Filicinae and Sphenopsida

d) Lycopsida and Sphenopsida

- 109. A well developed archegonium with neck consisting of 4-6 rows of neck canal cells, characterises:
 - a) gymnosperms only b) bryophytes and pteridophytes c) pteridophytes and gymnosperms
 - d) gymnosperms and flowering plants

Solution : -

Archegonium is the flask-shaped female reproductive body of bryophytes and pteridophytes. Archegonium usually consists of a tubular neck and a swollen venter. Neck is made up of 4-6 vertical row of cells and encloses 6-10 neck canal cells in bryophytes and 4 vertical rows in pteridophytes enclosing 1-4 neck canal cells. Venter

has 1-2 layer but it is wall-less in pteridophytes.

- 110. Which of the following are not membrane -bouns :
 - a) Mesosomes b) Vacuoles c) Ribosomes d) Lysosomes
- 111. Myxomycetes are-

a) saprobes or parasites, having mycelia, a sexual reproduction by fragmentation, sexual reproduction **b**)

Slimy mass of multinucleate protoplasm, having pseudopodia-like structures for engulfing food reproduction through fragmentation of zoospores

c) Prokaryotic organisms, cellular or acellular saprobes or autotrophic, reproduce by binary fission d)

Eukaryotic, single-called or filamentous saprobes or autotrophic, asexual reproduction by division of haploid individuals, sexual reproduction by fusion of two cells or their nuke

112. 'Red tides' are produced by

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

113. Which of the following is responsible for peat formation?

a) Marchantia b) Riccia c) Funaria d) Sphagnum

114. Ergot of rye is caused by a species of:-

a) Claviceps b) Phytophthora c) Uncinula d) Ustilago

- 115. In class Phycomycetes the mycelium is:
 - a) Coenocytic and aseptate b) Coenocytic and septate c) Uninucleate and aseptate
 - d) Multinucleate and septate
- 116. Largest sperms in the plant world are found in
 - a) Pinus b) Banyan c) Cycas d) Thuja

Solution : -

Cycas is a gynnospermic plant. It has the biggest sperms (antherozoids) and ovules in the plant world.

117. In the five-kingdom classification, Chlamydomonas and Chlorella have been included in:

a) Plantae b) Monera c) Protista d) Algae

118. Assertion: Algae show only anisogamous type of reproduction.

Reason: In algae, gametes can never be non flagellated.

- 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 : -

Sexual reproduction in algae takes place through fusion of two gametes. These gametes can be flagellated and similar in size (as in Chlamydomonas) or non-flagellated (nonmotile) but similar in size (as in Spirogyra). Such reproduction is called isogamous.

119. Which of the following are noncellular organisms that are characterized by having an inert crystalline structure outside the living cell:-

a) Bacteria b) Mycoplasma c) virus d) Lichen

120. Assertion: Chlorella and Spirulina are used as a food supplement by space travellers.

Reason: Chlorella and Spirulina are unicellular algae.

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 : -

Unicellular algae Chlorella and Spirulina are rich in proteins and hence used as food supplement by space travellers.

- 121. The dominant Phase in the life Cycle of pteridophyta is nutritionally equivalent to the
 - a) gametophytic phase of bryophyta b) Sporophytic Phase of Bryophyta
 - c) Gametophytic Phase of angiosperm d) Gametophytic Phase of Gymnosperm

122. The sporophyte is the dominant phase in

a) pteridophytes b) gymnosperms c) angiosperms d) all of these.

Solution : -

In gymnosperms, pteridophytes and angiosperms, the sporophytic phase is dominant.

- 123. Examine the given characters:-
 - (A) Formation of only one functional megaspore in amegasporangium
 - (B) Formation of hard covering around megasporangium
 - (C) Development of embryo from zygote withthin the female gametophyte
 - (D) Retention of megaspore inside the megasporangium
 - Thes were very essential events occurred during the course of evolution for the phenomenon of:-
 - a) Heterospory b) seed habit c) Fruit formation d) Covered seed formation
- 124. Dinoflagellates are called fire algae due to which character:
 - a) They appear like fire due to pigmentsb) The produce fire due to frictionc) The occur on burnt placesd) They show bioluminescence
- 125. The main difference between gram \oplus and gram Θ resides in the composition of:
 - a) Cilia b) Cell-wall c) Cell-membrance d) Cytoplasm

