

## EXERCISE-I

## KINGDOM PLANTAE – ALGAE

1. Carrageenin is a gel like phycocolloid used in bakery, jams, jellies, soups and clarification of beer and obtained from a red alga which is  
(A) Chondrus (B) Porphyra  
(C) Gracilaria (D) Ulva
2. A parasitic colourless red alga living on other red algae is  
(A) Harveyella (B) Batrachospermum  
(C) Porphyra (D) Cephaleuros
3. Chlorellin is obtained from chlorella. It is  
(A) Protein  
(B) Antibiotic  
(C) Fat rich compound  
(D) Anti cancer
4. Sargasso sea in North Atlantic ocean is rich in  
(A) Sargassum (B) Kelps  
(C) Fucus (D) Laminaria
5. Irish moss is  
(A) Chondrus (a red alga)  
(B) Ulva (green alga)  
(C) Porphyra (red alga)  
(D) Gelidium (red alga)
6. Largest alga is a brown alga of 60mt. length. It is  
(A) Macrocystis (B) Nereocystis  
(C) Laminaria (D) Kelp
7. Two heterokont unequal flagella are attached laterally in  
(A) Green algae (B) Red algae  
(C) Brown algae (D) Diatoms
8. Flagella are totally absent in  
(A) Kelps  
(B) Sea weeds  
(C) Red algae and blue green algae  
(D) Green algae and brown algae
9. Trumpet hyphae having sieved septa like sieve tubes of phloem are found in  
(A) Kelps (B) All brown algae  
(C) All red algae (D) Marine algae
10. Alga that shows isomorphic type of alternation of generation is  
(A) Ectocarpus (B) Volvox  
(C) Chlamydomonas (D) All of these
11. Phycocolloids are mucopolysaccharides in cell wall of sea weeds. A phycocolloid, used in food, textile, icecreams, medicines, surgical threads obtained from kelps is.  
(A) Alginic acid (B) Funori  
(C) Agar (D) Carrageenin
12. Food reserve in Rhodophyta (red algae) is  
(A) Floridean starch  
(B) Laminarian starch  
(C) Animal starch  
(D) Cyanophycean starch
13. In red algae, sex organs are  
(A) Spermatangium as male and carpogonium with trichogyne as female organ  
(B) Antheridium as male and carpogonium as female organ  
(C) Archegonium as female and spermatogonium as male organ  
(D) Oogonium as female and sporogonium as male organ
14. Main pigment in phaeophyceae (Brown algae) is  
(A) Phycocyanin  
(B) Phycoerythrin  
(C) Fucoxanthin  
(D) Chlorophyll b

15. Isogamy involves  
(A) Fusion of two morphologically similar gametes  
(B) Fusion of two morphologically similar but physiologically different gametes  
(C) Fusion of two gametes produced by same gametangium  
(D) Fusion of two dissimilar motile gametes.
16. Largest acellular, green, marine alga, popularly called umbrella plant is  
(A) Ulva (B) Acetabularia  
(C) Spirogyra (D) Volvox
17. Algae float in water during light and sink at night because  
(A) They require light in day for photosynthesis  
(B) They accumulate food in night & get heavy  
(C) Become buoyant in light due to attachment of oxygen bubbles  
(D) Become light due to consumption of Food.
18. Maximum photosynthesis is carried out by  
(A) Sea algae (B) Fresh water algae  
(C) Terrestrial algae (D) Land plants
19. Space algae rich in protein (50%) vitamin A,E, C, which can be possibly used in space flights is  
(A) Chlorella (B) Scenedesmus  
(C) Chlamydomonas (D) Spirulina
20. All algae possess  
(A) Chl a and b  
(B) Chl a, carotenes and phycobilins  
(C) Chl b and carotenes  
(D) Chl a and carotenoids
21. An oogonium is female gametangium of thallophytes. It differs from archegonium in  
(A) being smaller in size  
(B) lacking neck  
(C) lacking sterile jacket  
(D) Producing one or more egg
22. A number of algae have a capacity to change their colour in relation to the wavelength of the incident light. This change is described as  
(A) Gaidukov phenomenon  
(B) Fluorescence  
(C) Phosphorescence  
(D) Bioluminescence
23. The land plants are thought to have been evolved from green algae through  
(A) Volvicine line (B) Coccoid line  
(C) Tetrasporine line (D) None of these
24. The flagella in green algae are mostly apical in position and  
(A) Isokont  
(B) Heterokont  
(C) Tinsel type  
(D) Whiplash and tinsel both type
25. Most of filamentous green algae survive in unfavourable condition by  
(A) Zoospore (B) Zygospor  
(C) Zygote (D) Hypnospor
26. Age of Algae / The period of algae in Geological time scale is  
(A) Ordovician (B) Silurian  
(C) Precambrian (D) Jurassic
27. Who was the first scientist to delimit algae as Known to us at present  
(A) De jussieu (B) Linnaeus  
(C) Theophrastus (D) M.O.P. Liyenger
28. Non-flowering plants are  
(A) dicots (B) Monocots  
(C) Phanerogams (D) Cryptogams
29. Choose the correct statement.  
(A) Algae occupy 3/4 of the surface of earth.  
(B) Algae carries out of 90% of total photosynthesis  
(C) Algae are plants as they possess cell  
(D) All of the above.

<b>KINGDOM PLANTAE – BRYOPHYTES</b>
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- 30.** Heterotrichous habit essential for origin of Land plants refers to presence of  
 (A) Two types of sexes  
 (B) Two types of flagella  
 (C) Trichomes  
 (D) Erect and prostrate branches
- 31.** The ancestor of angiosperms is supposed to be  
 (A) Chara  
 (B) Vaucheria  
 (C) Volvox  
 (D) Chlorella
- 32.** Which green algae shows heterotrichous habit and may have given rise to terrestrial (land) habit  
 (A) Chlamydomonas  
 (B) Vaucheria  
 (C) Fritschella  
 (D) Ulothrix
- 33.** Classification of Algae into 11 classes was made by Fritsch on the basis of flagellation, pigmentation and type of reserve food. Out of this, the main criteria used in algal classification / grouping of algae is  
 (A) Chemical composition of cell wall  
 (B) Type of pigmentation  
 (C) Nature of food storage  
 (D) Shape and colony formation
- 34.** Green algae are ancestors of angiosperms/land plants because  
 (A) Both have cellulose in cell wall  
 (B) Both have starch as reserve food  
 (C) Both have chlorophyll a and b  
 (D) All of the above
- 35.** In Whittaker classification, algae are included in how many kingdoms  
 (A) 3  
 (B) 2  
 (C) 4  
 (D) All the five kingdom
- 36.** Calyptra is formed from  
 (A) Spore (B) Oospore  
 (C) Venter (D) Archegonium
- 37.** Which statement about bryophytes is not correct  
 (A) Absence of vascular tissue  
 (B) Heterospory  
 (C) Pigments similar to green algae  
 (D) Body gametophytic
- 38.** Which characters of bryophytes are similar to pteridophytes  
 (A) Sterile jacket around reproductive organs  
 (B) Archegonium like a flask  
 (C) Antherozoid flagellate  
 (D) All the above
- 39.** Which of the following part is fruiting  
 (A) Foot (B) Seta  
 (C) Capsule (D) All the above
- 40.** Sporophytic structure in bryophytes is found to be  
 (A) Totally dependent on gametophyte  
 (B) Partially dependent on gametophyte  
 (C) Any of above  
 (D) Independent from gametophyte
- 41.** What is meant by apospory  
 (A) Formation of thallus without spore formation  
 (B) Formation of thallus without gamete formation  
 (C) Formation of gametophyte by any cell of the sporophyte without undergoing meiosis  
 (D) Formation of thallus without gametic fertilisation
- 42.** The filamentous structure formed by the germination of spore from which a typical gametophyte develops is called  
 (A) Apospory (B) Sporophyte  
 (C) Protonema (D) Prothallus

- 43.** What is gemma  
(A) A bryophyte  
(B) Asexual reproductive structure  
(C) Vegetative reproductive structure  
(D) Sexual reproductive structure
- 44.** Which region is called Gold mines of bryophytes  
(A) Eastern Himalayas  
(B) Western Himalayas  
(C) Northern Himalayas  
(D) Southern Himalayas
- 45.** What is the nature of *Buxbaumia aphylla*  
(A) Autotrophic (B) Saprophytic  
(C) Parasitic (D) None of these
- 46.** These are not found in vascular tissues of bryophytes  
(A) Companion cells (B) Vessels  
(C) Tracheids (D) Vascular tissue
- 47.** What are the absorptive organs of bryophytes  
(A) Root (B) Haustoria  
(C) Rhizoid (D) All the above
- 48.** What is not found in foliose bryophytes  
(A) Stem (B) Leaves  
(C) Roots (D) All the above
- 49.** Which moss is used for making seed beds, for grafting and packaging etc  
(A) *Andraea* (B) *Funaria*  
(C) *Sphagnum* (D) *Polytrichum*
- 50.** The reproductive organs in bryophyta are  
(A) Unicellular without sterile jacket  
(B) Multicellular with sterile jacket  
(C) Unicellular with sterile jacket  
(D) Multicellular without sterile jacket
- 51.** The thalli of bryophytes are generally  
(A) Unbranched  
(B) Branched  
(C) Dichotomously branched  
(D) Polybranched
- 52.** Which types of rhizoids are found in mosses  
(A) Unicellular, smooth walled, unbranched  
(B) Unicellular, tuberculated, unbranched  
(C) Multicellular with oblique septa, smooth walled, branched  
(D) None of the above
- 53.** Unicellular unbranched rhizoids are found in  
(A) Liverwort (B) Moss  
(C) Both of above (D) Foliose liverwort
- 54.** Rhizoids are  
(A) Structures homologous to roots  
(B) Structures analogous to roots  
(C) Root but unbranched  
(D) None of the above
- 55.** Which of these bryophytes is aquatic  
(A) *Riccia fluitans*  
(B) *Riella*  
(C) *Ricciocarpus natans*  
(D) All the above

#### KINGDOM PLANTAE – PTERIDOPHYTES

- 56.** In which homosporous is found  
(A) *Selaginella* (B) *Equisetum*  
(C) *Marsilea* (D) All the above
- 57.** Sporocarp is found in  
(A) *Azolla* (B) *Salvinia*  
(C) *Marsilea* (D) All the above
- 58.** The type of stele in which the xylem is hollow or has pith is called  
(A) Siphonostele (B) Solenostele  
(C) Eustele (D) Any of the above
- 59.** Which is the simplest and most primitive stele  
(A) Protostele (B) Siphonostele  
(C) Solenostele (D) Dictyostele
- 60.** In which furcate venation is found  
(A) *Pteris* (B) *Pteridium*  
(C) *Dryopteris* (D) All the above

- 61.** Which of these is megaphyllous plant  
(A) Lycopodium (B) Selaginella  
(C) Equisetum (D) Ferns
- 62.** During embryo formation, its first division is parallel to archegonial neck, the polarity is called  
(A) vertical (B) Transverse  
(C) Lateral (D) Exoscopic
- 63.** During embryo development, if the apical pole is towards the base of the venter, the polarity is  
(A) Exoscopic (B) Endoscopic  
(C) Basal (D) Lateral
- 64.** During embryo formation, if the apical pole is towards archegonial neck, the polarity is called  
(A) Exoscopic (B) Endoscopic  
(C) Basal (D) Lateral
- 65.** The movement of antherozoids of pteridophytes is  
(A) Chemonasty (B) Chemotactic  
(C) Both (A) & (B) (D) None of the above
- 66.** The mucilage present at the mouth of neck of archegonium in pteridophytes contain  
(A) Malic acid (B) Fumaric acid  
(C) None of above (D) Both (A) or (B)
- 67.** The mucilage present at the mouth of neck of archegonium in pteridophytes is formed from  
(A) Disintegration of neck canal cells  
(B) Disintegration of neck canal cells and venter canal cell  
(C) Disintegration of cap cells present at top of neck  
(D) All the above
- 68.** How many flagella are found in antherozoid of pteridophytes  
(A) Two  
(B) Many  
(C) Two in some, many in others  
(D) Generally many
- 69.** Which of these is a living fossil  
(A) *Rhynia* (B) *Horneophyton*  
(C) *Psilotum* (D) None of these
- 70.** Megasporophyll of pteridophytes is equivalent to angiospermic  
(A) Carpel (B) Ovule  
(C) Gynoecium (D) All the above
- 71.** Individual sporangia fused laterally are called  
(A) Sorus (B) Synsorus  
(C) Synangium (D) Psilotum
- 72.** Which character of pteridophytes is not similar to bryophytes  
(A) Water requirement for fertilisation  
(B) Dependence of sporophyte on gametophyte  
(C) Heterospory  
(D) None of above
- 73.** According to Campbell, Pteridophytes evolved from  
(A) Bryophytes (B) Algae  
(C) Gymnosperms (D) Independently
- 74.** Which character of pteridophytes is not similar to Gymnosperms  
(A) Sporophyte differentiated into roots, stem and leaves  
(B) Heterosporous  
(C) vascular system developed  
(D) None of the above
- 75.** The sporophylls in strobilus are  
(A) Leaf like  
(B) Partially enlarged leaf  
(C) Both (A) and (B)  
(D) Fully enlarged leaf
- 76.** Which plant has sympodial branches  
(A) Pteris (B) Pteridium  
(C) Equisetum (D) Marsilea

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| <p><b>77.</b> In ferns, sporangia form<br/>(A) Sporocarp (B) Sorus<br/>(C) Synangium (D) Cone</p> <p><b>78.</b> The leaf bearing sporangia in pteridophytes is called<br/>(A) Sporangiphore (B) Sporophyll<br/>(C) Fronds (D) from Bulbil</p> <p><b>79.</b> Reproduction in walking fern mainly occurs<br/>(A) From tuber (B) From leaf tip<br/>(C) From spore (D) Bulbil</p> <p><b>80.</b> From where, the branches arise in stem among pteridophytes<br/>(A) From leaf axil (B) from Extra axillary<br/>(C) Both of above (D) None of these</p> <p><b>81.</b> Which part in pteridophytes is called a conservation organ<br/>(A) Root (B) Stem<br/>(C) Sporangium (D) Embryo</p> <p><b>82.</b> Which type of branching is found in pteridophytes<br/>(A) Monopodial<br/>(B) Dichotomous branching<br/>(C) Sometimes sympodial<br/>(D) All the above</p> <p><b>83.</b> Among pteridophytes, in which plants vessels are present<br/>(A) <i>Selaginella rupestris</i><br/>(B) <i>Pteridium equilinum</i><br/>(C) Both of above<br/>(D) <i>Isoetes</i></p> <p><b>84.</b> Which group of Pteridophyta, does not have true roots<br/>(A) Psilophyta (B) Lycophyta<br/>(C) Arthrophyta (D) Filicophyta</p> <p><b>85.</b> Stem of which of these shows roughness due to silica on it<br/>(A) <i>Selaginella</i> (B) <i>Lycopodium</i><br/>(C) <i>Equisetum</i> (D) <i>Pteridium</i></p> | <p><b>86.</b> Which of the following found sporophyll<br/>(A) <i>Selaginella</i> (B) <i>Lycopodium</i><br/>(C) <i>Equisetum</i> (D) <i>Pteridium</i></p> <p><b>87.</b> Megaphyllous leaves found in<br/>(A) Filicophyta (B) Arthrophyta<br/>(C) Lycopsidea (D) Psilophyta</p> <p><b>88.</b> Which is called ressurection plant<br/>(A) <i>Selaginella lepidophylla</i><br/>(B) <i>Osmunda</i><br/>(C) <i>Equisetum arbense</i><br/>(D) All the above</p> <p><b>89.</b> <i>Selaginella</i> is called as<br/>(A) Little club moss (B) Spike moss<br/>(C) Both of above (D) <i>Isoetes</i></p> <p><b>90.</b> Which one is called as horse tail<br/>(A) <i>Equisetum</i> (B) <i>Pteridium</i><br/>(C) <i>Selaginella</i> (D) <i>Isoetes</i></p> <p><b>91.</b> Bracken fern and sun fern are alternative names for<br/>(A) <i>Pteris</i> (B) <i>Pteridium</i><br/>(C) <i>Dryopteris</i> (D) None of these</p> <p><b>92.</b> Which one is called as walking fern<br/>(A) <i>Adiantum</i> (B) <i>Pteris</i><br/>(C) <i>Dryopteris</i> (D) None of these</p> <p><b>93.</b> Whose name is quill wort<br/>(A) <i>Anthoceros</i> (B) <i>Pteris</i><br/>(C) <i>Isoetes</i> (D) <i>Utricularia</i></p> <p><b>94.</b> Which is called as “flowering fern”<br/>(A) <i>Osmunda regalis</i> (B) <i>Isoetes</i><br/>(C) <i>Marsilea</i> (D) <i>Equisetum</i></p> <p><b>95.</b> Which of these is tree fern<br/>(A) <i>Cyathia</i> (B) <i>Alsophila</i><br/>(C) Both of above (D) <i>Ophioglossum</i></p> |
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**KINGDOM PLANTAE – GYMNOSPERMS**

- 96.** What is the speciality of *Cycas*  
 (A) Largest ovule of the plant kingdom  
 (B) Largest egg of the plant kingdom  
 (C) Largest antherozoid of plant kingdom  
 (D) All the above
- 97.** The longest archegonial neck in gymnosperms is found in  
 (A) *Cycas*  
 (B) *Pinus*  
 (C) *Ephedra*  
 (D) Equal in all the above
- 98.** Which is called as the Christmas tree  
 (A) *Thuja* (B) *Araucaria excelsa*  
 (C) *Juniperus* (D) *Pinus roxburghii*
- 99.** Which plant is called maiden hair tree  
 (A) *Adiantum* (B) *Pteris*  
 (C) *Ginkgo biloba* (D) All the above
- 100.** From which gymnosperm sago is prepared  
 (A) *Cycas* (B) *Pinus*  
 (C) *Metroxylon* (D) All the above
- 101.** Canada balsam is obtained from  
 (A) *Abies* (B) *Cedrus*  
 (C) *Pinus* (D) All the above
- 102.** It is found in gymnosperm  
 (A) Homospory (B) Heterospory  
 (C) Both (A) & (B) (D) Apospory
- 103.** Gymnosperms are generally  
 (A) Dioecious (B) Monoecious  
 (C) Gametophytes (D) Homothallic
- 104.** The wood with dense xylem and reduced parenchyma in xylem is called  
 (A) Pycnoxylic (B) Monoxylic  
 (C) Diarch (D) Monarch
- 105.** When parenchyma is abundant in wood it is called  
 (A) Pycnoxylic (B) Manoxylic  
 (C) Less xylic (D) Mesarch
- 106.** What is found in most gymnospermous leaves or leaflets for lateral transport  
 (A) Mid rib (B) Lateral rib  
 (C) Transfusion tissue (D) Vascular tissue
- 107.** Which is totally absent in gymnosperms  
 (A) Vessels (B) Tracheids  
 (C) Sieve tubes (D) Companion cells
- 108.** Of which era, gymnosperms were the main vegetation  
 (A) Palaeozoic  
 (B) Mesozoic  
 (C) Coenozoic  
 (D) Jurassic & Cretaceous
- 109.** Which is called as living fossil  
 (A) *Ginkgo* (B) *Cycas*  
 (C) *Metasequoia* (D) All the above
- 110.** Microspores in gymnosperms germinate  
 (A) Precocious  
 (B) After their release  
 (C) In pollen chamber of ovule  
 (D) On micropyle
- 111.** At the time of pollen liberation, what is the stage of pollen grains in Gymnosperms  
 (A) 3-celled (B) 4-celled  
 (C) 5-celled (D) Any of the above
- 112.** What is meant by precocious development of pollen grains  
 (A) Development of pollen grain starts before transfer to ovule  
 (B) Development of pollen grain starts in the sporangium  
 (C) Development of pollen grain starts in pollen chamber  
 (D) None of the above

## KINGDOM PLANTAE ANGIOSPERMS

- 113.** The pollen grain at the time of release is actually  
 (A) Male gametophyte  
 (B) Partially developed male gametophyte  
 (C) Microspore  
 (D) Male sporophyte
- 114.** Which type of megaspore tetrad is found in gymnosperms  
 (A) Linear (B) Tetrahedral  
 (C) Isobilateral (D) All the above
- 115.** Which spore of the megaspore tetrad forms the female gametophyte  
 (A) One towards the micropylar end  
 (B) One opposite to the micropylar end  
 (C) One in the middle of the two ends  
 (D) Any of the above
- 116.** What is the speciality of gymnosperm seed  
 (A) Dormancy  
 (B) Presence of endosperm  
 (C) Presence of three generations in seed  
 (D) Presence of single seed coat on seed
- 117.** It is found in *Pinus*  
 (A) True polyembryony  
 (B) Cleavage polyembryony  
 (C) both (A) & (B)  
 (D) None of the above
- 118.** True polyembryony is found in  
 (A) *Cycas* (B) *Pinus*  
 (C) Both (A) & (B) (D) Any of the above
- 119.** How many cotyledons are found in gymnospermous embryo  
 (A) Two (B) Many  
 (C) Both (A) & (B) (D) One
- 120.** How many neck canal cells are there in the neck of archegonia in gymnosperms  
 (A) Two  
 (B) One, binucleate  
 (C) One to five  
 (D) Neck canal cells absent
- 121.** A saprophytic angiosperm that absorbs humus through fungi (mycotrophic humus plant)  
 (A) *Neottia* (B) *Monotropa*  
 (C) *Corallorhiza* (D) All of these
- 122.** Man made angiosperm is  
 (A) Barley (B) Maize (corn)  
 (C) Triticale (D) Potato
- 123.** Smallest angiosperm with smallest flower is  
 (A) *Wolffia* is smallest angiosperm and *lemna* has smallest flower  
 (B) *Lemna* is smallest angiosperm but *Wolffia* has smallest flowers  
 (C) *Lemna* is smallest angiosperm and *Zostera* has smallest flower  
 (D) None of the above statements is correct.
- 124.** Which of the following is classified on the basis of number of cotyledons  
 (A) Gymnosperms (B) Embryophytes  
 (C) Angiosperms (D) Tracheophytes
- 125.** The stamen in angiosperms is homologous to which part in gymnosperm and pteridophytes  
 (A) Microsporangium  
 (B) Microsporophyll  
 (C) Megasporophyll  
 (D) Male gametophyte
- 126.** The megasporophyll of vascular plants is analogous to which structure in angiosperms  
 (A) Stamen (B) Ovule  
 (C) Carpel/ovary (D) Leaf
- 127.** A structure absent in Angiosperms is  
 (A) Archegonium  
 (B) Pistil  
 (C) Microgametophyte  
 (D) Megagametophyte



- 128.** A rootless aquatic insectivorous plant that traps water insects by its leaf bladders  
(A) *Drosera* (B) *Utricularia*  
(C) *Nepenthes* (D) *Dionaea*
- 129.** Monocots are characterised by  
(A) Fibrous root system, parallel venation, trimerous flower, two lateral cotyledons and eustele (parallel vascular bundles)  
(B) Fibrous root system, parallel venation, trimerous flower, one cotyledon and atactostele (scattered vascular bundles)  
(C) Fibrous root system, parallel venation, pentamerous flower one cotyledon in embryo and atactostele  
(D) Taproot system, parallel venation, trimerous flowers, one cotyledon and eustele.
- 130.** Biggest flower belongs to a Angiospermic plant which is  
(A) Partial stem parasite  
(B) Partial root parasite  
(C) Total stem parasite  
(D) Total root parasite
- 131.** Insectivorous plants are adapted to  
(A) Soil deficient in sugars  
(B) Soil deficient in nitrogen compounds  
(C) Soil deficient in trace elements  
(D) Soil is marshy
- 132.** Smallest angiospermic dicot parasite is  
(A) *Arceuthobium* (B) *Wolffia*  
(C) *Cassytha* (D) *Rafflesia*
- 133.** Sago of commerce is obtained from  
(A) *Calamus ritung*  
(B) *Metroxylon rumphii*  
(C) *Areca catechu*  
(D) *Phoenix dactylifera*
- 134.** *Santalum album* (sandal wood tree) is  
(A) Partial stem parasite  
(B) Partial root parasite  
(C) Total stem parasite  
(D) Total root parasite
- 135.** Read statement A to E regarding pteridophytes & find out how many is/are correct statement  
(1) Pteridophytes are popularly known as botanical snakes  
(2) Pteridophytes are vascular cryptogams  
(3) some pteridophytes are found in xerophytic condition ex. *Selaginella lepidophylla*  
(4) vessels are usually present in xylem.  
(5) companion cells and sieve tubes are absent in phloem  
(A) two (B) three  
(C) four (D) all are correct
- 136.** Read statement A to D & select wrong statement  
(1) The pteridophytes include horse tails & fern  
(2) Pteridophytes are the first terrestrial plants to possess vascular tissues xylem & phloem.  
(3) In Bryophytes the dominant phase in the life cycle is the sporophytic plant body.  
(4) In pteridophytes, the main plant body is a gametophyte  
(A) only B (B) only A & C  
(C) only C & D (D) only B & D
- 137.** The leaves in pteridophytes are small (microphylls) as in \_\_\_\_\_ (i) \_\_\_\_\_ & large (macrophylls) as in \_\_\_\_\_ (ii) \_\_\_\_\_ i & ii are respectively.  
(A) (i) Fern, (ii) *Selaginella*  
(B) (i) *Selaginella* (ii) fern  
(C) (i) *Pteridium* (ii) *Equisetum*  
(D) (i) *Lycopodium* (ii) *Equisetum*

- 138.** Read statement A to D & find out how many is/are incorrect statement
- (1) In majority of the pteridophytes all the spores are of similar kinds.
  - (2) Genera like selaginella & salvina produce two kind of spore.
  - (3) The development of the zygote in to young embryos take place within the female gametophytes. This event is a precursor to the seed habit.
  - (4) Azolla is an aquatic fern that is used as biofertilizer due to presence of nitrogen fixing cyanobacteria. Anabaena in its leaves
- (A) zero  
(B) one  
(C) two  
(D) three
- 139.** Roots in some genera of gymnosperm have fungal association in the form of mycorrhiza \_\_\_\_ (i) \_\_\_\_ while in some others \_\_\_\_ (ii) \_\_\_\_ small specialised roots called coralloid roots are associated with  $N_2$  fixing cyanobacteria. The stem are unbranched \_\_\_\_ (iii) \_\_\_\_ or branched \_\_\_\_ (iv) \_\_\_\_ in this question (i), (ii), (iii) & (iv) are respectively.
- (A) (i) pinus, (ii) cycas, (iii) cycas (iv) pinus  
(B) (i) cycas (ii) pinus (iii) pinus (iv) cycas  
(C) (i) pinus (ii) cycas (iii) pinus (iv) cycas  
(D) (i) cycas (ii) pinus (iii) cycas (iv) pinus
- 140.** Which is/are wrong regarding gymnosperms
- (1) Heterosporous
  - (2) Produce haploid microspore & megaspore
  - (3) Two kind of spore are produced within sporangia that are borne on sporophyll
  - (4) The microspores develop into a male gametophytic generation, which is highly reduced.
- (A) only A & D                      (B) only B & D  
(C) only B & C                      (D) none