

QAD Series

Bryophytes, Pteridophytes, Gymnosperms, Angiosperms (embryology)

- The term **Bryophyta** was coined by
a) C Linnaeus b) E. Haeckel c) Copeland d) R. Brown
 - The aquatic **Bryophyta** is
a) *Riccia natans* b) *Ricciocarpus fluitans*
c) *Pelia* d) *Azolla anabaena*
 - The smallest **Bryophyta** is
a) *Dawsonia* b) *Zoopsis* c) *Funaria* d) *Azolla*
 - The method of vegetative reproduction of **Bryophyta** is
a) gemma cup b) aphimixis c) aposory d) apogamy
 - In **Bryophyta** sex organs are
a) unicellular & non-jacked b) unicellular & jacked
c) multicellular & jacked d) multicellular & non-jacketed
 - The scales are
a) unicellular and helps in attached
b) unicellular and helps in photosynthesis
c) multicellular helps in attachment
d) multicellular helps in reproduction
 - Female receptacle of **Marchantia** is
a) disc-shaped b) star-shaped c) club-shaped d) flask shape
 - The numbers of NCC in archegonium of **Marchantia** are
a) 6-10 b) 4-6 c) 1-3 d) 4-10
 - Elater** is
a) haploid & takes part in spore disperse
b) diploid & takes part in spore dispersal
c) may be either haploid or diploid
d) usually polyploid
 - Juvenile stage of **Funaria** is
a) gametophyte b) protonema c) spore d) prothallus
 - Rhizoid of moss is meant for
a) respiration b) absorption
c) mechanical support d) support and absorption
 - Antheridium is protected by
a) perigonal leaf b) paraphysis c) pericentral leaf d) all
 - The stomata is present in
a) root of moss b) stem of moss c) leaf of moss d) capsule of moss
 - Funaria** is
a) Monoecious b) Autoecious c) Both a & b d) None
 - Chemical helps in chemotactic movement of ♂ gamete of moss
a) K^+ & Ca b) sucrose c) malic acid d) all
 - Peristome teeth are
a) 32 in number b) 16+16 in number
c) 32/32 in all d) 32 in two circles
 - The peristome teeth take part in
a) spores dispersal b) providing nutrition
c) conduction d) spore dehiscence
 - Stomata of **Funaria** is supported by
a) guard cell b) ring cell c) no cell d) epithem
 - The aquatic **Pteridophyta** is
a) *Azolla* b) *Dryopteris* c) *Selaginella* d) *Pteris*
 - The tree fern is
a) *Dryopteris* b) *Pteris* c) *Cyathea* d) *Azolla*
 - The **Pteridophyta** is
a) homosporous b) heterosporous
c) Both a & b d) always heterosporous
 - In **Pteridophyta** the leaf is
a) microsporophyll b) megasporophyll c) frond d) scales
 - The sporangium develops from single cell initial is
a) leptosporangiate b) eusporangiate c) both d) None
 - The 1st vascular land plant
a) *Rhynia* b) *Dryopteris* c) *Pteris* d) *Selaginella*
 - Which of the following is modified stem?
a) Rhizoid b) Rhizome c) Rhizomorph d) Rhizophore
 - Circinate vernation is shown by of fern.
a) stem b) leaf c) root d) rachis
 - Sorus** is group of
a) ramenta b) sporangium c) rachis d) indusium
 - The prothallus of fern is shaped.
a) heart b) dome c) flask d) kidney
 - Antheridium present near rhizoid is in fern is shaped.
a) club b) dome c) flask d) kidney
 - The Archegonium of fern consist of
a) 1 NCC with uninucleate b) 1 NCC with binucleate
c) many NCC with uninucleate d) 2 NCC with uninucleate
 - Which of the following is first vascular plant?
a) **Bryophyta** b) **Pteridophyta** c) **Gymnosperm** d) **Angiosperm**
 - The spermatophyte includes
a) **Bryophyta** only b) **Pteridophyta** only
c) **Gymnosperm** d) **Gymnosperm** and **Angiosperm**
 - Gymnosperm** is known as naked seeded plant because
a) seed coat is absent b) ovary is absent
c) both a & b d) pericarp is present
 - Which is commonly known as 'living fossil'?
a) *Ginkgo biloba* b) *Pinus* c) *Cycas* d) *Ephedra*
 - Seeds in gymnosperm represent generation.
a) Single b) 2 c) 3 d) 4
 - Phenomenon of 'sulphur shower' is related with
a) *Cycas* b) *Pinus* c) *Ephedra* d) *Ginkgo*
 - Microsporangia are present on surface of microsporophyll in **Pinus**
a) Dorsal b) Ventral c) Both a and b d) None
 - Wing of seed of **Pinus** is developed from
a) outer layer of integument b) inner layer of integument
c) inner layer of integument and basal part of ovuliferous scale
d) only from ovuliferous scale
 - The endosperm in gymnosperm is
a) Haploid b) Diploid c) Triploid d) Polyploid
 - Megasporophyll of **Pinus** is made of
a) scale b) ovuliferous scale c) Both a and b d) None
 - The vegetative reproduction in **Cycas** occurs by
a) Gemma b) Fragmentation c) Bulbils d) Absent
 - Inverted omega shaped arrangement of vascular bundles is found in
a) *Cycas* leaflet b) *Cycas* leaf c) *Cycas* petiole d) *Cycas* root
 - Endosperm in gymnosperm develop from
a) Microspore b) Megaspore c) Sec. nucleus d) Archegonium
 - Pinus ovule** is
a) Atropous and bitegmic b) Anatropous and unitegmic
c) Orthotropous and unitegmic d) Anatropous and bitegmic
 - Resin ducts in **Pinus** stem represent
a) Lysigenous cavity b) Compound vacuoles
c) Schizogenous cavity d) Intercellular space
 - Early embryogeny in **Cycas** is characterized by
a) absence of superior cell
b) presence of expanded free nuclear division
c) reduced free nuclear division d) many cotyledons
- ### Embryology
- In angiosperm, embryo sac denotes
a) megagametophyte b) mega-sporophyll
c) megasporangium d) microsporophyll
 - If a diploid female plant is hybridized with a tetraploid male plant, then the endosperm is
a) diploid b) tetraploid c) hexaploid d) octaploid
 - Mode of reproduction resulting in the development of an embryo without the act of fertilization meiosis is
a) Amphimixis b) Apomixis c) Apogamy d) Agamospermy
 - The monocarpic plant is
a) mango b) litchi c) rice d) apple
 - 35 meiotic division leads to the formation of how many seeds?
a) 28 b) 35 c) 36 d) 70

6. When pollen of a flower is transferred to stigma of another flower of the same plant, the pollination is referred to as
a) autogamy b) geitonogamy c) xenogamy d) allogamy
7. The central body of ovule is called
a) Integuments b) Nucellus c) Funiculus d) Raphe
8. The tapetum cells commonly divide by
a) Amitosis b) Meiosis
c) Brachymelosis d) Endomitosis
9. Tapetum is involved in the synthesis of enzyme
a) Cellulose b) Pectinase c) Callase d) Kinase
10. Pollen grains are best defined by
a) male gametophyte
b) partially developed embryo
c) partially developed 2 or 3-celled male gametophyte
d) spore mother cell
11. Egg apparatus in embryo-sac of ovule is composed of
a) Egg cell and antipodals b) Synergids and antipodals
c) egg cell and polar nuclei d) Egg cell and synergids
12. Perisperm represents the remnant of
a) endosperm b) nucellus c) tapetum d) scutellum
13. Collar like outgrowth arising from the base of ovule forming a sort of third integuments to known as
a) Aril b) Caruncle c) Operculum d) Comma
14. If embryo-sac becomes bent like a horse shoe, ovule is
a) Orthotropous b) Anatropous c) Amphitropous d) Circinotropous
15. How many pollen mother cells should undergo meiotic division to form 16 pollen grains?
a) 4 b) 8 c) 16 d) 64
16. To avoid self-pollination sometimes a barrier stands between gynoecium and stamens. The condition is
a) Homogamy b) Heterostyly c) Herkogamy d) Dichogamy
17. Close relationship between flower and pollinating agent *Pronuba* is exhibited by
a) *Yucca* b) *Salvia* c) *Calotropis* d) *Ophrys*
18. *Agave* species reproduces vegetatively by means of
a) Bulbil b) Stolon c) Sucker d) offset
19. Insect pollinated flowers usually possess
a) Dry pollen with smooth surface b) Sticky pollen with smooth surface
c) Sticky pollen with rough surface d) Dry pollen with rough surface
20. Continued self-pollination generation after generation results in formation of
a) weaker progeny b) better progeny
c) new varieties d) viable seed
21. Ubisch bodies are associated with the developments
a) Embryo-sac b) Embryo
c) Endosperm d) pollen grains
22. Siphonogamy is related with
a) Numerous spores in a tetrad c) pollen like embryo-sac
c) embryo-sac like pollen grains d) pollen tube formation
23. When pollen tube enters the embryo sac through the integuments of the ovule, the process is called
a) Porogamy b) Mesogamy
c) Chalazogamy d) Herkogamy
24. By hormone application it is possible to obtain seed less fruit from unpollinated ovary. In which of the following plant it is undesirable to obtain seedless fruit?
a) Tomato b) water melon
c) Orange d) pomegranate
25. Which of the following is correct for sexual reproduction?
a) Only one parent is involved b) Less energy is required
c) Genetic variation occurs d) it is a quick method of reproduction
26. Wall of pollen grain is made up of
a) sporopollenin b) pecto cellulose
c) callose d) more than one is correct
27. During the formation of male gametophyte
a) 1 mitosis and 1 meiosis occurs b) 1 mitosis and 2 meiosis occurs
c) 1 meiosis and 2 mitosis occurs d) 2 mitosis and 2 meiosis occurs
28. Which of the following is the first cell of microsporogenesis?
a) Archesporium b) Amphithecium c) Endothecium d) columella
29. An ovule is an/a
a) mature fertilized ovule b) unripe fruit
c) unfertilized egg d) integumented megasporangium
30. Scutellum is the
a) Rudimentary cotyledon in grasses
b) Cotyledon of all monocots
c) Cotyledon in grasses only
d) protective sheath to shoot apex
31. Which of the following is true with respect to endothecium?
a) Its cells are diploid
b) Its lies between middle layers & tapetum
c) It helps in dehiscence & dispersal of megaspores
d) more than one option are true
32. The haploid generation in Angiospermic plants is represented by
a) nucellus, egg cell, synergids and Antipodals
b) microspore, pollen grains, pollen tube and embryo sac
c) pollen tube, microspores, vegetative cell and generative cell
d) middle layers, archesporium, perisperm and aril
33. The sheath around radical is known as
a) Coleorhiza b) Coleoptile c) Raphe d) Scutellum
34. The two essential cellular processes of Amphimixis are
a) mitosis and meiosis b) meiosis and brachymeiosis
c) meiosis and syngamy d) meiosis and amitosis
35. *Cocos nucifera* possess
a) Nuclear endosperm b) Cellular endosperm
c) both a & b d) Helobial endosperm
36. If the chromosome number of an angiospermic plant is 12. The chromosome number of endothecium, microspore, endosperm, nucellus and antipodal cells are
a) 12, 6, 18, 6 and 6 respectively
b) 12, 6, 18, 12 and 6 respectively
c) 12, 6, 18, 12 and 12 respectively
d) 12, 6, 18, 6 and 6 respectively
37. The mature anther dehisces by means by
a) Germ pores b) stomium c) intine d) Anther wall
38. A homozygous tall staminate plant (AA) is crossed with a homozygous dwarf pistillate plant (aa), what will be the genotype of Nucellus, integument, embryo and endosperm in the seed
a) aa, aa, Aa, AAa b) aa, aa, Aa, aaA
c) Aa, aa, aaA, AA d) AA, AA, Aa, aaA
39. Which of the following condition is best suited for autogamy
a) Dichogamy b) Chasmogamy
c) Cleistogamy d) Homogamy
40. Double fertilization is exceptional to
a) Pteridophytes b) Bryophytes c) Angiosperms d) Thallophytes
41. A mature angiosperm ovule is
a) 6-celled b) 7-celled c) 8-celled d) 9-celled
42. Self pollination is
a) Geitonogamy b) Xenogamy c) Both d) Autogamy
43. Pollen grains are able to withstand extreme of temperature and desiccation because their exine is composed of
a) Cutin b) Suberin c) Sporopollenin d) Callose
44. Fruit production without fertilization is
a) polyembryony b) parthenocarpy c) Apomixis d) parthenogamy
45. In which of the following chasmogamous as well as cleistogamous flowers are found
a) *Comelina* b) pea c) china rose d) All
46. Find the odd in one
a) Corm b) Offset c) Tuber d) Conidia
47. Congress grass is
a) a weed imported along with Rice
b) cause of chronic digestive disorders
c) responsible for severe allergies & bronchial afflictions
d) both a & b
48. Asexual reproduction
a) do involve fusion of gametes
b) may involve participation of gametes
c) is always uniparental unlike sexual reproduction
d) do not involve seed formation
49. Angiosperm pollen grains are released in
a) 3 celled stage always b) 2 celled stage commonly
c) 2 celled stage always d) 3 celled stage commonly