

**SRI JAI NARAIN PG COLLEGE, LUCKNOW**  
**DEPARTMENT OF BOTANY**

**B.Sc. SEMESTER II (SESSION 2020)**  
**PAPER III - MULTIPLE CHOICE QUESTIONS**  
**(Attempt all the questions)**

**SECTION A: PTERIDOPHYTES**

1. Spore bearing organ of *Adiantum* is called
  - a) Sporophyll
  - b) Sorus
  - c) Ramenta
  - d) Strobilus
2. Sporophyte of *Nephrolepis*
  - a) is independent of gametophyte from the beginning
  - b) is dependent on the gametophyte only in the beginning
  - c) supplies water and inorganic salt to the gametophyte
  - d) none of these
3. The stele in *Nephrolepis* is
  - a) eustele
  - b) siphostele
  - c) dictyostele
  - d) protostele
4. Polystelic stem is found in
  - a) *Selaginella*
  - b) *Cycas*
  - c) *Pinus*
  - d) *Lycopodium*
5. Gametangia of ferns are produced on the
  - a) leaves
  - b) sorus
  - c) prothallus
  - d) ramenta
6. *Lycopodium* shows
  - a) Pre-zygotic meiosis
  - b) Post-zygotic meiosis
  - c) No meiosis
  - d) No mitosis
7. The archegonium of *Lycopodium* has
  - a) Around fourteen neck canal cells
  - b) Around three neck canal cells
  - c) Around six neck canal cells
  - d) One neck canal cell having two nuclei
8. The petiole of *Nephrolepis* has a groove and its stele is
  - a) Horse shoe shaped
  - b) W-shaped
  - c) M-shaped
  - d) Irregular shape
9. Pteridophytes are also known as
  - a) Amphibians of Plant Kingdom
  - b) First Vascular Cryptogams
  - c) Dinosaurs of Plant Kingdom
  - d) Pioneers of Plant Kingdom
10. *Selaginella* and *Nephrolepis* share the following character:
  - a) Protostelic stele
  - b) Leptosporangiate sporangium
  - c) Heterospory
  - d) Absence of ovules
11. Leptosporangiate sporangium is
  - a) unicellular
  - b) multicelled and formed from a group of initial cells
  - c) multicellular
  - d) multicelled and formed from a single initial cell
12. The stele of *Lycopodium* is
  - a) polystele
  - b) siphonostele
  - c) haplostele
  - d) actinostele
13. Young sporophyte of *Nephrolepis* draws nourishment from prothallus through
  - a) haustoria
  - b) foot
  - c) root
  - d) rhizoids
14. If a sporangium develops from a group of initial cells, it is called
  - a) leptosporangiate
  - b) eusporangiate
  - c) xerophytic
  - d) hydrophytic
14. Microsporangia and macrosporangia are found in the same strobilus in
  - a) *Dryopteris*
  - b) *Selaginella*
  - c) *Psilotum*
  - d) *Equisetum*
15. In *Selaginella*, an "organ sui generis" is
  - a) rhizoid
  - b) root
  - c) ligule
  - d) rhizophore
16. *Lycopodium* is similar to *Selaginella* in
  - a) Stellar arrangement of stem
  - b) Presence of Rhizophores
  - c) Heterosporous condition of strobilus
  - d) Stellar arrangement of root
17. The hair-like structures covering young fern leaves are called
  - a) scales
  - b) elaters
  - c) ramenta
  - d) rhizoids

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18. The gametophyte and sporophyte generations are independent in

- a) Mosses
- b) Ferns
- c) Pines
- d) Cycads

19. Gametes are produced in prothallus by

- a) anthers and archegonia
- b) ascogonium and antheridia
- c) antheridia and archegonia
- d) carpels and anthers

20. The innermost wall layer that provides nourishment of the developing spores is called

- a) Elators
- b) Spores
- c) Jacket
- d) Tapetum

21. Gametophyte is equivalent to:

- a) Prothallus
- b) Thallus
- c) Cone
- d) Strobilus

22. Horsetails are members of:

- a) Lycopsida
- b) Pteropsida
- c) Psilopsida
- d) Sphenopsida

23. Which of the following is most primitive division?

- a) Lycophyta
- b) Pterophyta
- c) Psilophyta
- d) Sphenophyta

24. False indusium is found in

- a) *Adiantum*
- b) *Marsilea*
- c) *Selaginella*
- d) *Nephrolepis*

25. Amphiphloic Siphonostele is a characteristic of

- a) *Marsilea*
- b) *Adiantum*
- c) *Selaginella*
- d) *Equisetum*

26. Which of the following is known as 'Maiden Hair Fern'?

- a) *Adiantum*
- b) *Nephrolepis*
- c) *Marsilea*
- d) *Dryopteris*

27. Ligule is found in

- a) *Lycopodium*
- b) *Selaginella*
- c) *Equisetum*
- d) *Marsilea*

28. In *Equisetum* stem, mature vascular bundles have a canal called:

- a) carinal

- b) Vallicular
- c) Central
- d) Pith

29. In *Equisetum* the outer most spore wall layer called episore splits to form four bands. These bands separate from the spore wall on drying and are known as

- a) Jacket
- b) Tapetum
- c) Oosphere
- d) Elators

30. Sporocarp is found in:

- a) *Adiantum*
- b) *Marsilea*
- c) *Equisetum*
- d) *Lycopodium*

**SECTION B: GYMNOSPERMS AND PALAEOBOTANY**

31. Which of the followings is absent in the xylem of gymnosperms?

- a) Trachieds
- b) Parenchyma
- c) Fibers
- d) Vessels

32. Bark of *Pinus* is produced by the activity of:

- a) Phelloderm
- b) Phellozoid
- c) Phellum
- d) Phellogen

33. In *Cycas* generative cell represents the reduced:

- a) Antheridium
- b) Archegonium
- c) Oogonium
- d) Antherozoids

34. In *Pinus*, The unutilized prothallial cell becomes:

- a) Endosperm
- b) Archegonium
- c) Oogonium
- d) Antherozoids

35. Endosperm in gymnosperm is:

- a) Haploid
- b) Diploid
- c) Triploid
- d) Tetraploid

36. Which of the following is called living fossil?

- a) *Ephedra*
- b) *Pinus*
- c) *Cycas*
- d) *Ginkgo*

37. Megasporangium is:

- a) Pollen sac
- b) Ovule
- c) Seed
- d) Venter

38. In *Pinus*, pollination takes place with the help of

- a) water
- b) wind

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- c) insects  
d) animals
39. In *Cycas*, archegonium has following number of neck canal cells:  
a) 4  
b) 3  
c) 2  
d) 0
40. Phloem of gymnosperms is devoid of  
a) sieve tubes  
b) companion cells  
c) phloem parenchyma  
d) sieve plates
41. In *Cycas* a representation of stamen is  
a) microsporophyll  
b) microsporangium  
c) megasporophyll  
d) megasporangium
42. Algal zone is characteristic of  
a) roots of *Pinus*  
b) normal roots of *Cycas*  
c) coralloid roots of *Cycas*  
d) stems of *Pinus*
43. Which of the following orders resembles much more to angiosperms?  
a) Coniferales  
b) Gnetales  
c) Cycadales  
d) Pteridospermales
44. Winged seeds are found in  
a) *Cycas* species  
b) *Pinus* species  
c) *Ephedra* species  
d) *Rhynia* species
45. *Cycas* is said to be a living fossil because  
a) it is found only in China  
b) it looks like a fern tree  
c) it has ciliated sperms  
d) it also occurs as a fossil
46. *Cycas* and *Dryopteris* resemble each other in the presence of  
a) cambium  
b) ciliated sperms  
c) seeds  
d) ovules
47. Manoxylic wood is found in  
a) *Cycas*  
b) *Pinus*  
c) *Ephedra*  
d) *Gnetum*
48. Transfusion tissue facilitates  
a) Upward conduction  
b) Downward conduction  
c) Lateral conduction  
d) Transpiration
49. Endosperm in gymnosperms is formed  
a) at the time of fertilization  
b) before fertilization  
c) after fertilization  
d) before or after fertilization
51. The ovuliferous scales of *Pinus* are comparable to  
a) scales  
b) pistils  
c) stamens  
d) petals
52. Mucilage canals of *Cycas* stem are  
a) schizogenous  
b) lysogenous  
c) endogenous  
d) ectogenous
53. The number of integuments of *Pinus* is  
a) one  
b) two  
c) three  
d) four
54. Female cone is absent in  
a) *Cycas*  
b) *Pinus*  
c) *Taxus*  
d) *Ephedra*
55. The stem of *Pinus* plant has  
a) closed, conjoint parallel vascular bundles  
b) open, conjoint parallel vascular bundles  
c) open, separate parallel vascular bundles  
d) open, conjoint collateral vascular bundles
56. Coralloid roots of *Cycas* are  
a) positively geotropic  
b) apogeotropic  
c) phototropic  
d) chemotropic
57. Sulphur shower is related to  
a) *Cycas* pollen  
b) *Pinus* pollen  
c) *Cycas* ovules  
d) *Pinus* ovules
58. Fertilization in gymnosperms is usually  
a) isogamous  
b) zooidogamous  
c) oogamous  
d) siphonogamous
59. Sago-grains are chiefly obtained from  
a) *Ginkgo biloba*  
b) *Pinus gerardiana*  
c) *Cycas revoluta*  
d) *Ephedra sinica*
60. Which of the following is not a characteristic feature of *Cycas* ?  
a) Circinate venation of foliage leaves  
b) Presence of pycnoxylic wood  
c) Presence of motile sperm  
d) Absence of vessels in the xylem