

Roll No.

E-321

M. Sc. (First Semester)
EXAMINATION, Dec.-Jan., 2020-21

BOTANY

Paper Fourth

(Bryophyta, Pteridophyta and Gymnosperms)

Time : Three Hours]

[Maximum Marks : 80

[Minimum Pass Marks : 16

Note : Attempt all Sections as directed.

Section—A

1 each

(Objective/Multiple Choice Questions)

Note : Attempt all questions.

Choose the correct answer :

1. Gemma cup are found in :

- (a) Riccia
- (b) Marchantia
- (c) Pellia
- (d) Sphagnum

P. T. O.

2. The Thallus of Bryophytes are :
 - (a) Gametophytic
 - (b) Xerophytic
 - (c) Sporophytic
 - (d) Diploid
3. Bryophytes are :
 - (a) aquatic
 - (b) aerial
 - (c) epiphytic
 - (d) amphibious
4. Number of teeth in each ring of peristome in funaria is :
 - (a) 16
 - (b) 14
 - (c) 12
 - (d) 08
5. Members of Anthocerotales are commonly known as :
 - (a) Liverwort
 - (b) Hornwort
 - (c) Mass
 - (d) Stonewort
6. Who is called father of Indian Bryology ?
 - (a) M. O. P. Iyengar

- (b) K. C. Mehta
 - (c) R. M. Kashyap
 - (d) J. C. Bose
7. In pteridophytes, sporangia bearing leaf is called :
- (a) Ramentum
 - (b) Inducium
 - (c) Sorus
 - (d) Sporophyll
8. Which of the following is a living member of sphenopsida ?
- (a) Marselia
 - (b) Selaginella
 - (c) Lycopodium
 - (d) Equisetum
9. Which of the following steles does not have pith ?
- (a) Solenostele
 - (b) Siphonostele
 - (c) Protostele
 - (d) Dictyostele
10. Heterospory is present in :
- (a) Lycopodium
 - (b) Selaginella
 - (c) Equisetum
 - (d) Pteris

11. Which is living fossil ?
- (a) Ginkgo
 - (b) Gnetum
 - (c) Pinus
 - (d) Welwetschia
12. Xylem vessels are present in :
- (a) Gnetum
 - (b) Cycas
 - (c) Pinus
 - (d) Isoetes
13. Monoxyle wood is present in :
- (a) Pinus
 - (b) Cycas
 - (c) Ephedra
 - (d) Gnetum
14. The endosperm of gymnosperm represents :
- (a) Sporophytic tissue
 - (b) Polyploid cells
 - (c) Gametophytic tissue
 - (d) Haploid tissues
15. Cycadeoidea was the dominant flora of :
- (a) Coenozoic era
 - (b) Paleozoic era
 - (c) Archaeozoic era
 - (d) Mesozoic era

16. The resin ducts in pinus stem represent a :

- (a) Lysigneous cavity
- (b) Intercellular space
- (c) Large vacuole
- (d) Schizogenous cavity

17. In plant kingdom largest ovule are seen in :

- (a) Pinus
- (b) Ephedra
- (c) Cycas
- (d) Gnetum

18. In gymnosperm, the archegonia lack :

- (a) Venter canal cell
- (b) Egg cell
- (c) Neck canal cell
- (d) Jacket cell

19. Spores in pteridophytes are :

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

20. According to available fossil records which of the following are the first land vascular plants ?

- (a) Cycadales
- (b) Psilophytales
- (c) Lycopsidales
- (d) Horstails

Section—B

2 each

(Very Short Answer Type Questions)

Note : Attempt any *eight* questions in 2-3 sentences.

1. Name any *two* bryophytes with dimorphic rhizoids.
2. What is ligule ?
3. Which type of stele is found in Marselia rhizome ?
4. Name any *two* timber yielding gymnospermic plants.
5. Which type of alternation of generation is found in bryophytes ?
6. Which bryophytes have capacity to store water ?
7. What is corolloid roots ?
8. How many type of branches are found in pinus ?
9. How many parts are present in sporophyte of bryophytes ?
10. Which types of stele is found in the aerial shoot of Rhynia ?

Section—C

3 each

(Short Answer Type Questions)

Note : Attempt any *eight* questions in 75 words.

1. Jhallus of anthoceros (only diagram).

2. What is gemma cup ?
3. What is rhizophore of Selaginella ?
4. What is peristome ?
5. Which type of stele is found in lycopodium ?
6. Salient features of pentoxylales.
7. L. S. cone of Selaginella (only diagram).
8. Capsule of Polytrichum (only diagram).
9. What is Prothallus ?
10. External morphology of Welwitschia.

Section—D

5 each

(Long Answer Type Questions)

Note : Attempt any *four* questions in 150 words.

1. Describe the sporophyte of anthoceros with its evolved nature.
2. Compare the gametophyte of Marchantia and Peltia.
3. Describe the heterospory and origin of seed habit.
4. Describe the life-cycle of lycopodium with diagram.
5. Describe the male and female cone of pinus.