

G-1/112/21

Roll No.....

M.Sc. I Semester Examination, April-2021

BOTANY

Paper IV

(Bryophyta, Pteridophyta and Gymnosperm)

Time : 3 Hours]

[Maximum Marks : 80

Note : *All questions are compulsory. Question Paper comprises of 3 sections. **Section A** is objective type/Multiple Choice questions with no internal choice. **Section B** is short answer type with internal choice. **Section C** is long answer type with internal choice.*

SECTION 'A'

1×8=8

(Objective Type Questions)

Choose the correct answer :

1. Most bryophytes require a damp habitat because :
 - (a) they don't have cuticle
 - (b) they lack gametangia to protect their embryo
 - (c) flagellated antherozoids must swim to fertilize the egg
 - (d) their sporophytic generation depend on gametophyte

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3. Write short notes on resemblances and difference among Gymnosperms and Angiosperms.

Or

Write short notes on distribution of Gymnosperms.

4. Write short notes on internal structure of stem of *Lygenopteris*.

Or

Give an account of male cone of *Ephedra*.

SECTION 'C'

12×4=48

(Long Answer Type Questions)

Note : Answer the following questions in 500 words.
Draw well labelled diagram wherever necessary.

1. Give an account of economic importance of Bryophytes.

Or

Give an illustrated account of external morphology and sexual reproduction in *Sphagnum*.

2. Give an account of different members of Psilophytales.

Or

Describe calamites in following heads :

- (i) External morphology of sporophyte,
- (ii) Fructification.

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7. The male cone of *Cycas* lacks :

- (a) microspores (b) microsporophylls
- (c) nucellus (d) microsporangium

8. Which plant is known as living fossil ?

- (a) *Cordaite* (b) *Pentoxylon*
- (c) *Ginkgo* (d) *Gnetum*

SECTION 'B'

6×4=24

(Short Answer Type Questions)

Note : Answer the following questions in 250 words.
Draw well labelled diagrams wherever necessary.

1. Describe the structure and development of antheridium in *Porella*.

Or

Describe the structure and development of Archegonium of *sphagnum*.

2. Write short notes on primary and secondary structure of Axis of *Isoetes*.

Or

Write short notes on spore producing organ of *Psilotum*.

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2. Rhizoids of **sphagnum** are :
- (a) Unicellular
 - (b) Multicellular with oblique septa
 - (c) Green coloured
 - (d) Unicellular with septa
3. Indusium is absent in :
- (a) *Selaginella* (b) *Dryopteris*
 - (c) *Pteridium* (d) *Marsilea*
4. In Psilotum spore producing organ called :
- (a) Sporophyll (b) Indusium
 - (c) Ramenta (d) Synangium
5. Fruits are not formed in Gymnosperms because :
- (a) The process of fertilization does not take place in them
 - (b) They does not have ovary
 - (c) they are not pollinated
 - (d) they are seed less plants
6. In Gymnosperms pollination is exclusively by :
- (a) wind (b) water
 - (c) insect (d) animals

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3. Give an account of general characters and classification of Gymnosperms.

Or

Give an account of diversity in male and female reproductive organs of Gymnosperms.

4. Describe the reproduction in sporophyte of *Pinus*.

Or

Give an account of external morphology and reproductive structure of *Ginkgo*.

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