



Reg. No. : .....

Name : .....

IV Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/  
Improvement) Examination, April 2023  
(2019 Admission Onwards)  
CORE COURSE IN BOTANY/PLANT SCIENCE  
4B04BOT/PLS : Plant Diversity II – Pteridophytes and Gymnosperms

Time : 3 Hours

Max. Marks : 40

*Instruction : Draw diagrams wherever specified.*

## PART – A

Objective type questions. Answer all.

(4×1=4)

- Who is the father of Indian Pteridology ?  
a) Dr. P. V. Madhusoodanan      b) Dr. P. N. Mehra  
c) Dr. B. K. Nayar                  d) Dr. S. P. Khullar
- The following is commonly called 'Horsetails'.  
a) Selaginella                          b) Marsilea  
c) Pteris                                  d) Equisetum
- The Gymnosperm showing Angiosperm characters  
a) Gnetum                                b) Pinus  
c) Cycas                                  d) Podocarpus
- A prominent character of Cycas is  
a) Spur shoot  
b) Coralloid root  
c) Branch of indefinite growth  
d) Needle leaf

P.T.O.



## PART – B

Short Essay questions. Answer **any eight**.

(8×2=16)

- What is the spore producing structure of Marsilea ? Is it a homosporous Pteridophyte ?
- Differentiate protostele and siphonostele.
- Write two similarities each between Pteridophytes and Gymnosperms.
- Write four economic importances of Pteridophytes.
- Define Paleobotany and write one significance.
- Write down the characters of Pteris Sori.
- Write short note on the habit of Gnetum.
- Write down the characters of spur shoot.
- What is glossopodium ?
- Draw the anatomy of Pteris petiole and label the parts.
- What is heterospory ? Write an example.
- What is polyembryony ? Write down one significance.

## PART – C

Essay questions. Answer **any four**.

(4×3=12)

- Describe the petiole anatomy of Marsilea with a diagram.
- Describe the anatomy of Pinus needle with a diagram.
- Describe the structure of synangium with diagram.



- Describe briefly the habit of Lepidodendron.
- Describe the spore producing structure of Equisetum.
- What is "Bars of Sanio" ?

## PART – D

Long Essay questions. Answer **any one**.

(1×8=8)

- Explain the stelar evolution in Pteridophytes.
- Explain the reproductive structures and fertilization in Gnetum.
- Heterospory leading to seed habit. Explain with example.