

2017

M.Sc.

1st Semester Examination

BOTANY

PAPER—BOT-104

Subject Code—23

Full Marks : 40

Time : 2 Hours

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Answer all questions.

Unit - I

(Pteridophytes)

[Marks : 20]

1. Answer any *four* of the following :

1×4

- (a) Mention two gametophyte structures of Rhyniopsida.
- (b) What is meant by apoxogenesis ?
- (c) Write the bisporangiate cone genus of Lepidodendrids.

(Turn Over)

- (d) Which pteridophytic taxon is often referred to as resurrection plant? Why?
- (e) What is meant by acrostichoid sorus?
- (f) What is indusium? Cite an example of a fern without indusium.
- (g) Name a member of Trimerophyte showing quadriseriate branching pattern.

2. Write short notes on any *two* of the following : 3×2

- (a) *Renalia* ;
- (b) *Sawdonia* – a member of Zosterophyllopsida ; and
- (c) Apospory in pteridophytes.

3. Answer any *one* of the following : 10×1

- (a) Characterize Zosterophyllopsida. How does the group differ from Rhyniopsida? Mention four genera of the group. Why the group is regarded as the progenitor of Lycopsidea? 3+2+2+3
- (b) Characterize Filicopsida. Mention the major extant clads of Filicopsida. Discuss the evolution of sorus in ferns through Phyletic slide. 3+3+4

Unit - II
(Gymnosperms)
[Marks : 20]

4. Answer any *four* of the following : 1×4
- (a) What are seed ferns ?
 - (b) Name two leaf genera of *Corynospermaceae*.
 - (c) Write the male and female furctifications of *Peltaspermaceae*.
 - (d) Mention the area of occurrence of *Welwitschia*.
 - (e) Write the scientific name of halophytic gymnosperm.
 - (f) Mention the gymnospermous taxon and its alkaloid which is used to treat cancer.
 - (g) Give the scientific name of two lianas of gymnosperms.
5. Write short notes on any *two* of the following : 3×2
- (a) Microsporangiate organs of *Medullosa* ;
 - (b) Gymnosperms and human health ; and
 - (c) *Lyginopteris oldhamia*.

6. Answer any one of the following :

10×1

- (a) Illustrate different fossil taxa of *Glossopteris*. 10
- (b) Characterize the order Cycadales. Name the extant taxa of this group. Discuss the evolution of megasporophylls among the different cycadalean taxa. 3+3+4
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