

**M.Sc. 2nd Semester Examination, 2011**

**BOTANY**

**PAPER—BOT-203**

*Full Marks : 40*

*Time : 2 hours*

*The figures in the right-hand margin indicate marks*

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

*Illustrate the answers wherever necessary*

**Write the answers to questions of each Unit in separate books**

**UNIT—I**

*(Pteridophytes)*

*[Marks : 20]*

*Answer all questions*

1. Answer any *five* of the following : 1 × 5

(a) Write the name of geologically oldest known vascular land plant. Mention its age.

*( Turn Over )*

- (b) What is the latest valid name of *Rhynia major* ? State the basis of its transfer to a new genus.
- (c) Mention two heterosporous pteridophytic taxa belonging to lycopsida.
- (d) What is bipolar growth habit ? Where does it occur ?
- (e) What is meant by sub-marginal sori ?
- (f) Name two halophytic pteridophytes.
- (g) What is indusium ? State its function.
- (h) What is 'ligule' ? Name an extinct genus bearing such a structure.

2. Write short notes on any *two* of the following :  $2\frac{1}{2} \times 2$

- (i) Apogamy in pteridophytes
- (ii) Early sphenopsids
- (iii) Evolution of 'microphyllous' leaf from non-vascularized enations
- (iv) Characteristic features of lycopsids and orders of the group.

3. Characterize the order Filicales. Give a comparative account between Schizaeaceae, Gleicheniaceae, Cyatheaceae and Polypodiaceae on the basis of soral characters. 2 + 8

*Or*

Characterize zosterophylloids. Mention the stratigraphic setting of the group. Name the important genera belonging to it. Why is the group regarded as the progenitor of lycopsida ? 4 + 2 + 2 + 2

## UNIT – II

*(Gymnosperms)*

[Marks : 20]

Answer *all* questions

4. Answer any *five* of the following : 1 × 5
- (a) What is 'sparganium' cortex ?
- (b) Write the names of the male and female fructifications of Medullosaceae.

- (c) Cite an example of a parasitic gymnosperm.
  - (d) What is 'copal' ? Cite an example.
  - (e) Mention two extant genera of cycadales.
  - (f) Write the names of male and female fructifications of Peltaspermaeae.
  - (g) Mention the names of the families of modern conifers.
  - (h) Define 'pycnoxylic wood'.
5. Write short notes on any *two* of the following :  $2\frac{1}{2} \times 2$
- (i) Gymnosperms used in therapeutics
  - (ii) Male fructifications of Williamsoniaceae
  - (iii) Dwarf shoots of *Pentoxylon*
  - (iv) *Gnetum* as a progenitor of angiosperms.

6. Characterize progymnosperms. Why is the group considered as a progenitor of gymnosperms ? 3 + 7

*Or*

Characterize pteridospermales. With suitable illustrations, describe different organs of the *Lyginopteris* plant. 3 + 7

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