

2014

M.Sc.

2nd Semester Examination

BOTANY

PAPER—BOT-203

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

Unit—I

(Pteridophytes)

[Marks—20]

Answer all questions.

1. Answer any five of the following : 1×5
- (a) What is meant by leptosporangiate?
 - (b) Define a 'telome'?
 - (c) What is meant by 'coenosorus'?

(Turn Over)

- (d) Name two heterosporous genera of filicalian ferns.
- (e) Name two fern genera with marginal sori.
- (f) What is ligule? Name an extinct genus bearing such a structure.
- (g) What is meant by an 'enation'?
- (h) What is inceptient heterospory?
2. Write short notes on any *two* of the following : $2\frac{1}{2} \times 2$
- (a) The 'cooksoniod' group of early vascular plants.
- (b) Apospory.
- (c) *Leclercquia*.
- (d) Sporocarp of *Marsilca*.
3. Answer any *one* of the following : 10×1
- (a) Characterize Trimerophytopsida. Mention important genera of the group. Why is the group regarded as the cardinal one in the evolution of pteridophytes of higher scale ? 4+2+4
- (b) With suitable illustrations, give a consise account of the evolution of stele among different groups of pteridophytes.

10

Unit—II
(Gymnosperms)
[Marks—20]

Answer all questions.

4. Answer any five of the following : 1×5
- (a) What is 'pre-pollen'?
 - (b) Mention the name of a halophytic gymnosperm.
 - (c) What is meant by 'heterosporous homoangy'?
 - (d) Define zoridogamous mode of fertilization.
 - (e) Name the microsporangiate organ and ovulate organ of callistophytaceae.
 - (f) Name a pollen organ of the *glossopteris* plant.
 - (g) What is 'Amber'?
 - (h) Mention the male and female fructification of *Pentoxylon* plant.
5. Write short notes on any two of the following : $2\frac{1}{2} \times 2$
- (a) Leaf genera of Medullosaceae.
 - (b) *Nipaniophyllum*.
 - (c) Gymnosperms and human health.
 - (d) Discovery of 'Progymnosperms'.

6. Answer any one of the following : 10×1

(a) Characterize cycadales. With suitable illustrations trace the evolution megasporophyll among the member of the group.

3+7

(b) Characterize glossopteridales. Describe in detail the different form-genera of *Glossopteris* plant that was reconstructed by palaeobotanists.

2+8