2016

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 : 5×1

(a) What is false inducium ?

(b) Differentiate Eusporangiatae from Leptosporangiatae.

(c) What is heterospory homoangy ?

(d) What is telome truss ?

(e) Mention the latest valid name of *Rhynia major*, State the basis of its transfer to a new genus.

(f) Name the pteridophytic taxon. Where strobilus is not formed. Write the morphological nature of its reproductive structure.

(g) Name two heterosporous taxa of Filicales.

(h) What is ligule ? Mention an extinct genus bearing such a structure.

2. Write short notes on any *two* of the following : $2\times2\frac{1}{2}$

(a) *Lyonophyton rhynieusis* ;

(b) Apospory in pteridophytes ;

(c) Putative lycopsids ;

(d) 'Cooksoniod' group of early vascular plants.

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

(a) Characterize Zosterophyllopsida. Mention the stratigraphic setting of the group. Name the important genera belonging to it. Why is this group regarded as the progenitor of Lycopsida. 3+2+2+3

(b) Characterize Pteropsida. Classify the group upto orders. Discuss the soral evolution among the filicalian ferns through phyletic slide. 3+3+4

Unit—II

(*Gymnosperms*)

[Marks—20]

Answer *all* questions.

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

(a) What are capitate glands ?

(b) What does it mean by 'Sphenopteroid' type of venetion ?

(c) Write the female fructification of *Pentoxylon*. Mention its age of occurence.

(d) What is oleoresin ?

(e) Name one gymnosperm with its alkaloid which is used in the treatment of broncho-spasm.

(f) Write two leaf genera of *William Sonia*.

(g) Write the name of male and female fructifications of Corystospermaceae.

(h) Differentiate haplochelic stomata from syndetochelic one.

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

(a) Evolutionary trends among the pollen organs of Medullosaceae,

(b) Leaves of Archaeopteridales and their evolution,

(c) *Lyginopteris* stem, *and*

(d) Global distribution of extant cycads.

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

(a) Characterize Glossopteridales. Describe in details the different form genera of *Glossopteris* plant reconstructed by palacobotanists.

2+8

(b) Characterize Cycadales. Give an illustrated account of different leaf forms known among extinct and extant members of the group. Trace their course of evolution.

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