

2019

BOTANY

[Honours]

PAPER – II

Full Marks : 90

Time : 4 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

GROUP – A

1. Answer any *ten* of the following : 2 × 10
- (a) What is bryomonitoring ?
- (b) Give two uses of *Sphagnum*.

(Turn Over)

- (c) Name two aquatic bryophytes.
- (d) Name two edible pteridophytes.
- (e) Name two extant and ligulate members of pteridophytes.
- (f) Name two Indian species of *Pinus*.
- (g) Name two carboniferous fossil plants.
- (h) Differentiate spore from pollen.
- (i) What is sporopollenin ?
- (j) Name one petrified fossil and one impression fossil.
- (k) What do you mean by Carbon dating ?
- (l) What is the suspensor of a dicot embryo. State its significance.
- (m) What is helobial type of endosperm ?
- (n) Name the different stages of dicot embryo development.
- (o) Give two important features of a monocot embryo.

GROUP – B

Answer any five of the following : 8×5

2. (i) Describe the gametophytic structure of *Marchantia* with labelled diagram. 8×5
- (ii) Describe the sporophytic structure of *Sphagnum* with diagram. $4 + 4$
3. (i) Comment on the morphological nature of rhizophore of *selaginella*.
- (ii) Describe the female gametophyte of *Lycopodium*. $4 + 4$
4. What is heterospory ? Describe the gametophyte of *Marsilea*. $2 + 6$
5. Describe the relationship of *Cycas* with other gymnosperms and pteridophytes you have studied. 8
6. Give a general account of cycadofilicales with examples. What is rosette polyembryony ? $6 + 2$

7. Describe the male cone of *cycas* and state its fern characters. Name two Indian *cycas* species. $3 + 3 + 2$
8. What is palaeobotany? Write in brief about the geological time scale. $2 + 6$
9. Briefly state the life history of *Gnetum*. Enumerate its angiospermic characters. $6 + 2$

GROUP – C

Answer any two of the following : 15×2

10. Classify pteridophytes according to Sporne (1975) with class characters and examples. $8 + 7$
11. Mention the life history of *Equisetum*. Why pteridophytic life cycle is more heteromorphic than bryophytes? What is incipient heterospory? $9 + 2 + 4$
12. Mention the geological time and geographical distribution of *Rhynia*, *Lepidodendron*, *Lepidocarpon* and *calamites*. Comment on the false seed nature of *Lepidocarpon*. $12 + 3$

13. What is endosperm ? Briefly describe different types of endosperms of angiosperm with suitable drawings and examples. Outline the formation of polyembryony. 2 + 10 + 3

