

AU-387

M.Sc. (Part—II) Semester—III (CBCS) Examination

BOTANY

Paper—IX

(Biology and Diversity of Pteridophytes and Gymnosperms)

Time : Three Hours]

[Maximum Marks : 80

1. Give a detailed account on heterospory and seed habit of *Selaginella*. 16

OR

Describe steler organization and evolution of pteridophytes. 16

2. Write in brief :

(a) Synangium of psilotales 5

(b) Anatomy of *Lycopodium* stem 5

(c) Sporophyte of filicales 6

OR

(d) Fructification in calamitales 5

(e) Sex organs of *Isoetes* 5

(f) Strobilus of *Selaginella*. 6

3. Discuss evolutionary trends in female gametophyte of gymnosperms. 16

OR

Give recent trends in classification of gymnosperms. 16

4. Discuss in brief :

(g) Reproductive organs of pentoxylates 5

(h) Anatomy of cycadcoidea stem 5

(i) Fructifications of *Glossopteris* 6

OR

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(Contd.)

- (j) *Pachytesta* 5
- (k) Steller pattern in the genus *medullosa* 5
- (l) Morphology and anatomy of cardaitaceae. 6
5. Explain in brief :
- (m) Female cone of *Podocarpus* 5
- (n) Shoot diamorphism in *Ginkgo* 5
- (o) Male flower of *Ephedra* 6
- OR**
- (p) Reproductive organs of *Taxus* 5
- (q) Sporophyte of *Welwitschia* 5
- (r) R.L.S. and T.L.S. of *Araucaria*. 6