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63/2 (SEM-4) BOT 403 (Opt 1,2,5)

2023

**BOTANY**

(Theory Paper)

Paper Code : BOT 403 (Opt.-1)

**(Angiosperm Taxonomy-III)**

Full Marks – 80

Pass Marks – 32

Time – Three hours

The figures in the margin indicate full marks  
for the questions.

1. Choose the correct answers : 1×6=6

(a) The father of Phytogeography is

(i) C. Linneaus

(ii) A. V. Humboldt

(iii) P. Dioscorides

(iv) J. Bentham

[Turn over

(b) Which of the following is correct method to measure  $\beta$ -diversity ?

- (i) Species richness within an ecosystem
- (ii) Species richness equitability
- (iii) Degree of change in species composition along an environmental gradient
- (iv) Species diversity of several habitats in a large geographical area

(c) The phytogeographical zone 'Semi arid' consists of

- (i) Punjab plains, Gujrat Rajputana
- (ii) Malabar plains, Western Ghat
- (iii) Andaman and Nicobar
- (iv) None of these

(d) Ranunculaceae is one of the most primitive family because of

- (i) Bisexual, hypogynous actinomorphic flowers
- (ii) Anatropous ovule
- (iii) Presence of scattered vascular bundle
- (iv) All of these

(e) Biogeographic zone Western Himalayas consists of

- (i) Kashmir, South Kashmir, Punjab, Delhi
- (ii) Kashmir, South Kashmir, Punjab, Garhwal and Kumaon
- (iii) Kashmir, Assam, Punjab, Delhi
- (iv) Kashmir, Haryana, Karnataka

(f) Which one of the following groups is found in tropical deciduous forest ?

- (i) *Shorea-Terminalia*
- (ii) *Juniperous-Abies*
- (iii) *Quercus-Rhododendron*
- (iv) *Capparis-Acacia*.

2. Answer the following short questions :  $2 \times 5 = 10$

- (a) Who proposed the 'Theory of differentiation' in phytogeography ?
- (b) Name two major botanical gardens in India.
- (c) What is 'barrier' in phytogeography ?
- (d) State any two advanced characters of Angiosperms.
- (e) What is Red List ?

3. Write short notes on any *six* of the following :  
5×6=30

- (a) History of BSI
- (b) Centre of Origin
- (c) IUCN categories
- (d) Salient features of Magnoliaceae
- (e) Age and area theory
- (f) Identifying characters of Poaceae
- (g) Phytochoria
- (h) Migration.

4. Answer any *two* of the following questions :  
10×2=20

- (a) Discuss in details the phylogeny and floral evolution of Orchidales. Write the salient features of Orchidaceae. 8+2=10
- (b) Define Herbaria. Discuss in details the role and importance of herbaria in botanical research. 2+8=10
- (c) Briefly discuss the forest types of Assam. Discuss the conservation strategies of threatened plants of Assam. 5+5=10

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5. Answer any *one* of the following questions :  
14×1=14

- (a) Elaborate why the North Eastern region of India is considered as 'Cradle of flowering of plants'. Discuss the evolutionary trends of flowering plants with suitable examples. 7+7=14
- (b) What is Phytogeography ? Highlight the importance of phytogeographical study. Give an overview of phytogeographical regions in India. 2+4+8=14

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