

2016

**BOTANY**

BOT 402

**ANGIOSPERM TAXONOMY – II**

Full Marks : 80

Time : 3 Hrs

Figures in the right hand margin indicate full marks for the question

1. Answer the following multiple choice questions 1×6=6
- (i) Which method is statistically more robust for phylogenetic analysis?
- (a) Maximum parsimony  
(b) Maximum likelihood method  
(c) Neighbor-joining method      (d) None of the above
- (ii) PCR is considered as a revolutionary technology because all of the following, except
- (a) It is a highly sensitive technology  
(b) It enables as unlimited production of a DNA fragment in vitro  
(c) It enables the direct production of a synthetic gene that did not exist before  
(d) Its experimental protocol is simple
- (iii) Match List-I (Floras) with List-II (Authors) and select the correct answer using the codes given below the list:

List-I	List-II
A. Forest Flora of Meghalaya	1. Balakrishnan (1983)
B. Flora of Jowai	2. Haridasan & Rao (1987)
C. Flora of USSR	3. Moore (1961,71)
D. Flora of New Zealand	4. Komarov (1934)

Codes:

	A	B	C	D
(a)	1	2	3	4
(b)	2	1	3	4
(c)	2	1	4	3
(d)	2	1	3	4

(iv) The biological database contains:

- (a) DNA (b) Proteins  
(c) Structure (d) All of the above

(v) The term ecotype was first proposed by:

- (a) Turesson (1922) (b) Srebbins (1950)  
(c) Hall (1926) (d) Gregor (1939)

(vi) Restriction Fragment Length Polymorphism (RFLP) is:

- (a) The technique used to fingerprint patterns of inheritance  
(b) The difference in the restriction maps between the two allele  
(c) The difference in the restriction maps between two individuals of one species  
(d) The difference in the restriction maps between two individuals of two species

2. Answer the very short type Questions (any three)  $1 \times 3 = 3$

- a. What is full form of IPNI?  
b. Who is known as father of Botany?

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c. What is PHYLIP?

d. What is serotaxonomy?

3. Distinguish between (any three)  $4 \times 3 = 12$

- a. RAPD and RFLP's  
b. GIS and GPS  
c. Herbaria and digital Herbaria  
d. Plant collection and Documentation

4. Write a short note on any Four of the following  $5 \times 4 = 20$

- a. IAPT  
b. RAPD in molecular systematics  
c. Revisionary study  
d. Preparation of flora  
e. Plant introduction and acclimatization

5. Answer the following questions (any Three)  $3 \times 9 = 27$

- a. What is polymerase chain reaction? Discuss its principles and applications.  $2 + 7 = 9$   
b. What is Taxonomic keys? Discuss the role of botanical keys in identification of plants.  $2 + 7 = 9$   
c. Describe the different steps involved in a preparation of a herbarium. Discuss the role of Herbaria.  $5 + 4 = 9$   
d. Discuss the role gross morphological characters in taxonomy

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6. Answer the following questions (any One) 12

- a. Define biosystematics. Discuss the various categories and importance of biosystematics study.  $6 + 6 = 12$

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b. Distinguished between taxonomy and systematics? Explain the role of phytotaxonomy in solving taxonomic problems.

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