

2017

BOTANY

Paper : 402

ANGIOSPERM TAXONOMY - II

Full Marks: 80

Time: 3 hours

The figures in the margin indicate full marks for the questions

Q1). Answer the following multiple choice questions : $1 \times 5 = 5$

(i) Match List-I (Flora) with List-II (Authors) and select the correct answer using the codes given below the list:

List-I	List-II
A. The Flora of Eastern Himalaya	1. Hara et al. (1966)
B. The Flora of USSR	2. Komarov (1934)
C. Flora of New Zealand	3. Moore (1961, 1970)
D. Flora of Tropical Africa	4. D. Oliver et al. (1868-1937)

Codes:

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

(ii) Which one of following is not a part of Parsimony-based methods for construction of Phylogenetic Trees?

- (a) Distance methods (b) Agglomerative methods
(c) Neighbor-joining method (d) Divisive methods

(iii) Which one of following is not a part of Biosystematic study

- (a) Growth in uniform environment
(b) Growth in varied environment
(c) Study of chromosomal homology
(d) Study of numerical taxonomy

(iv) The art of herbarium making was first initiated by:

- (a) K. Holmgren (b) Luca Ghini
(c) Hall (d) Linnaeus

(v) 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

Q2). Answer the very short type Questions (any Four) $1 \times 4 = 4$

- a. Who first proposed a cladistics classification of Angiosperm?
b. Write full form of UPGMA.
c. What is PHYLIP?

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d. Write full form of IPNI?

e. What is monophyly?

Q3). Distinguish between (any Three) $4 \times 3 = 12$

- a. Plesiomorphic and Apomorphic characters
b. Index and Flora
c. Manual and Monograph
d. Herbaria and Virtual Herbaria
e. AFLP's and RAPD's

Q4). Write a short note on any Four of the following $5 \times 4 = 20$

- a. Herbarium preparation of aquatic plants
b. Preparation of Monograph
c. CAL
d. Missouri Botanical Garden
e. Plant introduction

Q5). Answer the following questions (any Three) $3 \times 9 = 27$

- a. Discuss the various categories and importance of biosystematics study. Mention the limitations of biosystematics study. $5+4=9$
b. Discuss the role anatomical characters in taxonomy. Give specific examples 9
c. What are dichotomous keys? Discuss the role of Taxonomic keys in plant identification. $2+7=9$
d. Write the principle and functions of Polymerase Chain Reaction. 9

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Q6). Answer the following questions (any One)

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- a. Define Chemotaxonomy? Explain the role of Chemotaxonomy in solving taxonomic problems. 2+10=12
- b. Describe the different steps involved in a preparation of a herbarium. Discuss the importance of Herbaria. 8+4=12
