

**2015**  
**BOTANY — HONOURS**  
**Fourth Paper**  
**(Group – A)**  
**Full Marks – 50**

*The figures in the margin indicate full marks*

*Candidates are required to give their answers in their own words as far as practicable*

1. Answer the following questions :

- |  |     |
|--|-----|
| (a) Define synandrous stamens with one example.                        | 1+1 |
| (b) What is 'nomen nudum'?   | 1   |
| (c) Define cladistics.   | 1   |
| (d) Define OTU.  | 2   |
| (e) Explain the authors citation in <i>Cynodon dactylon</i> (L.) Pers. | 2   |
| (f) Define pollinia with one example.                                  | 1+1 |

2. Answer **any two** of the following :

- |  |                                    |
|--|------------------------------------|
| (a) With suitable illustrations distinguish between umbel and corymb.<br>Cite one example to each. | 2+2+ $\frac{1}{2}$ + $\frac{1}{2}$ |
| (b) Describe the different forms of regular gamopetalous corolla with one example in each form.    | 5                                  |
| (c) Describe different types of dry dehiscent fruits with one example in each type.                | 5                                  |
| (d) Draw and describe different types of placentation.   | 5                                  |

3. Distinguish between natural and phylogenetic systems of classification. Give a broad outline of Cronquist's system of classification (1988) up to subclasses. Mention the merits and demerits of this system.

3+6+3+3

**Or**

Answer the following :

- |  |       |
|--|-------|
| (a) Write any five principles of ICBN.                 |       |
| (b) Discuss the role of Herbaria in taxonomic studies. |       |
| (c) Describe the different phases of taxonomy.         | 5+5+5 |

[Turn Over]

4. Comment on the floral morphology of Gramineae (Poaceae). Mention the primitive features of Magnoliaceae. Name the subfamilies of Leguminosae and state their distinguishing characters. Give the botanical names of any two economically important plants of the Leguminosae.

4+3+3+3+2

*Or*

Answer the following :

(a) Name any four phytochemicals used in taxonomic study. State how the pigment characters are used to solve the taxonomic problems.

2+3

(b) Write the diagnostic features of the family Palmae (Arecaceae) and mention its systematic position according to Bentham and Hooker's system of classification.

3+2

(c) State the 'Rules of Priority'. With an example, explain the limitation of Principle of Priority.

3+2