2016

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) What is jaculator? Name the family where it is found. 1+1

   (b) Define stylopodium with one example. 1+1

   (c) What is indented key? 1

   (d) Define apomorphy. 1

   (e) Explain tautonym with one example. 1+1

   (f) Explain the author citation in the name *Acalypha racemosa* Wall. ex Baill. 2

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

   (a) Distinguish between spike and catkin inflorescences with one example in each. With suitable line drawings describe verticillaster inflorescence with one example. 3+2

   (b) Distinguish between aggregate and multiple fruits. Define caryopsis and cypsella with one example in each. $2+1\frac{1}{2}+1\frac{1}{2}$

   (c) Draw and describe different forms of ovule with one example in each. 5

   (d) With the help of a labelled diagram, describe the different forms of regular polypetalous corolla with one example in each. 5

3. Give a broad outline of Bentham and Hooker's system of plant classification up to series. Mention three merits and three demerits of this system. Why this system of classification is considered as Pre-Darwinian in concept but Post-Darwinian in publication? 8+6+1

Or

   (a) State five conditions for rejection of names. 5

   (b) Define nomenclatural type. Distinguish between holotype and paratype. 1+2+2

   (c) Describe the role of botanical garden with reference to conservation of plants. 5

4. Compare the floral morphological characters of Zingiberaceae and Orchidaceae. State the advanced features of the family Compositae (Asteraceae). Describe the economic importance of Palmae (Arecaceae). 8+4+3

Or

   (a) State the cytological features used in taxonomic studies. Explain, with one example, their importance in solving taxonomic problem. $2\frac{1}{2}+2\frac{1}{2}$

   (b) Explain the terms 'monophyletic' and 'polyphyletic' groups. $2\frac{1}{2}+2\frac{1}{2}$

   (c) Mention the plesiomorphic features of a dicotyledonous family studied by you. Mention the systematic position of this family according to the Cronquist's system of classification. 3+2