Total No. of printed pages = 4

2015

BOTANY

(Major)

Theory Paper : M-4.2

Full Marks – 60

Time – 2½ hours

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

1. Answer the following :   1×7=7

(a) Define the term 'Androgynophore'.

(b) What are Operational Taxonomic Units (OTU)?

(c) Define Dendrogram.

(d) Differentiate sub-species and variety.

(e) What are Cleistogamous flowers ?

[Turn over

(f) Name the type of androecium found in the family Cucurbitaceae and Asteraceae.

(g) What type of inflorescence is found in the family Euphorbiaceae ?

2. Answer the following : $2 \times 4 = 8$

(a) Differentiate between Phenetics and Cladistics.

(b) Name the different kinds of nomenclatural types recognised by ICBN.

(c) Write the differences between the labellum found in family Orchidaceae and Zingiberaceae.

(d) Describe the floral structure of the family Fabaceae.

3. Answer any *three* questions of the following :
$5 \times 3 = 15$

(a) Describe briefly the Biological concept of species.

(b) Write the aim and objectives of Plant Taxonomy.

(e) State the principles of Biocode.

(d) How is cluster analysis used in numerical taxonomy to make classifications ?

(e) Why the family Asteraceae is regarded as highly evolved family among Dicotyledonae ?

4. Answer any *three* questions of the following :

10×3=30

(a) What are the different systems of classifications ? Give an outline of any one Phylogenetic system of classification. Discuss in brief the advantages and disadvantages of the system.   2+6+2=10

(b) Describe the principles, rules and recommendations of ICBN.   4+4+2=10

(c) With the help of suitable examples, explain the use of embryological characters in solving Taxonomical problems.   10

(d) Compare the floral characters of Acanthaceae and Lamiaceae. Which of these two families is more advanced ? Give reasons.

8+2=10

(e) Write the most important distinguishing floral characters along with floral formula and floral diagram of the following families : 5×2=10

(i) Solanaceae and Rubiaceae

(ii) Malvaceae and Verbenaceae.

(f) Give an account of the family Poaceae and discuss its phylogenetic relationships.

8+2=10