2007

BOTANY

PAPER II

Full Marks **:100**

Time : **4 hours**

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their o wa words as far as practicable

Illustrate the answers whenever necessary

Write the **answers of the Questions of each Half in separate books**

FIRST HALF

[Marks : 501

(Taxonomy ofAngiospern?s)

Answer *all* questions

1 **Comment on any *five* of the following** **4x5**

(i) Biosystematic categories.,

(ii) Phases of Taxonomic studies.

(iii) Taxonomic Hierarchy.

(iv) Effective and valid publication.

(v) Taxonomy and Systematic Botany.

(vi) **Role of Botanical** Garden **in taxonomic studies.**

(vii) Isotype and Syntype.

(viii) **Flora and vegetation:**

(ix) Macromolecules and Macromolecules.

(x) Role of betalains **in taxonomic treatment of** Caryophyllalles.

2. **What is taximetrics** ? Who first **proped this** classification? What is OTU? What are the basic differences between phenetic, phyletic and cladistics ? What are the merits and demerits in **taximetrics** ? 2 + 1 + 2+ 6+ (2 + 2)

Or

(a) Characterise Alismatales.. Comment on the evolutionary **significance of this taxon.** 5+5

(b) Discuss two important theories in solving angiosperms origin. What is basal **angiosperms ?** 4+1

3. **Chat terize the order** Ashes. Draw **the, putative relationships among the members of this group. Why this order is highly evolved among Magnoliopsida ? What is Eudieots** 3+3+4+1

Or

What is phylogenetic system' **of classification What are the basic differences between natural and artificial system of classification** ?' **Discuss in details the putative relationships among the subclasses in Taktajan's system of plant classification , with merits and demerits. Why this system of classification is called integrated system of classification ?** 1+4+6+3+1

SECOND HALF

UMT — I

(Bio-Informatics and ComputerApplication)

[Marks : 30]

Answer **any *three* questions**

4. (a) Draw a block **diagram** of a computer showing **its organization and the** . flow of **data amongst the components.**

(b) What are the diff ces between compiler and interpreter,

(c) What do youfnmean by application softwaie and give two examples of it. L + 3

What is **menu bar of** MS-Word ? How do you perform the follq ctions **in MS**-Wor4'

(a) Saving a document in a folder

(b) Inserting a symbol in the text

(c) Changing font size of a part of the text. 2+.(3+3+2)

6. (a) Explain FOR-NEXT loop in C with example.

(b) Write **a computer program to convert environmental temperature** of 10 **farm houses given in degree Fahrenheit to degree celcius.** **4+6**

(a) What **do you understand** by low **level language and high level language**. What is compiler and interpreter?

(b) Discuss, **in brief, different** types of **databases,** which **are used in bioinformatics**. (3+2)+5

8 Write short **notes** on any *four* of the following : 21 x 4

2

(*i*) Primary memory

(*ii*) Control unit

***(iii)* CDROM**

(iv) Arithmetic Logic Unit

(v) Operating System

(vi), Internet.

UMT-11

(Bio Statistics)

[Marks 20)

Answer any *two* questions

9 **(a) Define correlation coefficient. What is the range of it?**

(b) Find the correlation coefficient of the following data :

Length (cm) (x) :	**5**	**7**	**8**	**10**	**12**
No. of seeds (y) :	15	25	18	10	5

(c) Write regression equations of x on y and y **onx** **3+5+2**

1 O . (a) Calculate mean and mode of the following data :

Weight (in gm) :	0-10	10-20	20-30	30-40	40-50	50-60
No. of Boys	**15**	**13**	17	10	10	

(b) What do you mean by **median** of a distribution? Find the **median of the 'following simple distribution**

5, 8, 3, 2, 7, 9. **7 + 3**

11. (a) Give the **classical** definition of probability.

(b) Show that

$$P(A \cup B) = P(A) + P(B) - P(A \cap B).$$

(c) The probability **of a bomb hitting a target is 115.** Two bombs **are enough** to destroy a bridge. If **six bombs are aimed at the bridge, show (using the binomial** distribution) that the probability of destroying the bridge is 1077/3125. 2+3+5