

2012

M.Sc.

Part-I Examination

BOTANY

PAPER—II

Full Marks : 100

Time : 4 Hours

The figures in the margin indicate full marks.

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

Illustrate the answers wherever necessary.

Write the answer to questions of each Half in separate books.

First Half

[Marks—50]

[Taxonomy of Angiosperms]

1. Write on any five the following : 4×5
- (i) Major category and minor category of taxa ;
 - (ii) Autonym and Synonym ;
 - (iii) Flora and Monograph ;

(Turn Over)

- (iv) Biosystematics ;
- (v) Uses of *ex* and *in* Author's citation ;
- (vi) Kinds of nomenclatural type ;
- (vii) Uses of anatomy in taxonomic study ;
- (viii) Evolutionary significance of Asterales.

2. Characterise the order Magnoliales. Point out the primitive features of this order. Discuss the evolutionary significance of this taxon. Give the scientific names of two economic important plants of this order. 6+4+3+2

Or

Write short notes on any *three* of the following 5×3

- (i) Importance of Herbarium;
 - (ii) Uses of chemistry in taxonomic interpretation;
 - (iii) Subclasses of Angiosperms according to Thorne;
 - (iv) Numerical taxonomy; and
 - (v) Floral characters of Liliales.
3. Characterise and classify the order Alismatales. Comment on the evolutionary aspects of this order. Write scientific names of two plants of this order found in West Bengal.

(4+4)+5+2

Or

Discuss with examples the different theories of origin of Angiosperms. 15

Second Half

[Marks—50]

**[Computer Application in Biology
& Bioinformatics]**

Answer any *three* questions from

Q. No. 4 to 8 and *two* from Q. No. 9 to 11.

4. (a) What are input/output devices ? Give some examples of commonly used input and output devices. 4
- (b) Distinguish hard copy and soft copy. 2
- (c) What is DVD ROM ? State the differences between CD ROM and DVD ROM. 4
5. (a) Differentiate the system programs and the application programs ? Give examples for each. 4
- (b) What are the differences between source program and object program ?
How a source program is converted into an object program ? Explain diagrammatically. 4
- (c) Explain cache memory 2

6. (a) What do you mean by LAN, WAN and Internet? 3
- (b) What services are provided by the Internet? Describe them in brief. 4
- (c) Write short notes on e-mail and URL. 3
7. (a) Write a brief note of 'if' statement in C. 3
- (b) Suppose the array a_i , $i = 1, 2, \dots, n$ represents the height of n students of a class. Write a program in C to find the maximum height among these heights. 8
8. (a) What is print layout view? 4+6
- (b) What are headers and footers? How would you go about creating a header or a footer? 4
- (c) Describe a method to create a table. 2+4+4
9. (a) Compare mean, median and mode as measures of location of a distribution. 6

- (b) From the following table, showing the wages distribution in a certain factory, determine the mean wage :

Weekly wages	No. of employees
20 — 40	8
40 — 60	12
60 — 80	20
80 — 100	30
100 — 120	40
120 — 140	35
140 — 160	18
160 — 180	7
180 — 200	5

10. (a) Discuss on dispersion? State the merits and demerits of various measures of dispersion. 4

- (b) Find the mean and standard deviation for the following :

Years under :	10	20	30	40	50	60
No. of persons :	15	32	51	78	97	109

6

11. (a) State application fields of Bio-informatics where chi-square test is applied.
- (b) What do you mean by covariance? Work out the coefficient of linear correlation between x and y from the following data. Determine the regression line of y on x and then make an estimate of the value of y , when $x = 12$

x :	1	3	4	6	8	9	11	14
y :	1	2	4	4	5	7	8	9

3+7