2016

M.Sc.

Part-I Examination

BOTANY

PAPER—III

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 <u>separate books</u>.

First Half

[*Marks : 50*]

Answer *Q. No. 1* and any *four* questions from the rest.

1. Write short notes on any *five* :   5×2

    (a) Social forestry ;

    (b) Littoral Forest ;

(c) Aspect and exposure ;

(d) Laterization ;

(e) Grafting ;

(f) Humus ;

(g) Micro climate ;

(h) Pollarding.

2. (a) Name the Climatic factors important for forest structure. How these factors influence the composition of a forest ?

(b) Briefly describe the methods of natural regeneration of forest through seeds. 5+5

3. (a) What is Shelterwood system ? Mention the advantages and disadvantages of Shelter wood system.

(b) Describe the different kinds of shelterwood system. 5+5

4. (a) What is coppice system ? Write a short note on simple coppice system.

(b) What is the difference between coppice with standard and coppice with reserver system ?

(c) Describe the pattern of felling in the coppice system. 5+2+3

5. What are biotic factors ? Briefly describe the influence of biotic factors on vegetation. 3+7

6. (a) What are the main objectives of Silviclture ? Which silviculture system would be applicable for regenerating a 'Sal' forest ?

(b) What do you mean by NWFP ? Mention its importance on the economy of local population. 6+4

7. Write Source and Use of any *five* of the following : 5×2

(a) Bamboos and Canes,

(b) Dye yielding plants,

(c) Oleoresin,

(d) Spice yielding plants,

(e) Grass oil,

(f) Poison yielding plants.

Second Half

[Marks : 50]

Answer *all* questions.

1. Write short notes on any *five* of the following :

   5×2

   (i) Girth Class ;

   (ii) Factors affect economic value of timber ;

   (iii) Artificial form factor ;

   (iv) Chain survey ;

   (v) Working Circle ;

   (vi) Felling series ;

   (vii) Normal growing stock ;

   (viii) Huber's formula.

2. Answer any *four* of the following :   4×10

   (i) What is BH ? Write and explain the rules of BH measurement of a tree. Write a note on forest inventory.   2+4+4

   (ii) (a) Define CAI & MAI. Discuss their significance in Forest management.

   (b) How the financial rotation differs from the rotation of highest income ? State the factors for regulating rotation.   (2+3)+(3+2)

   (iii) (a) What is the difference between map and plan ? Write down the instruments required for plane table survey. Write down the length of lgunter's chain in meters and feet.

   (b) Why is prism used in Prismatic compass ? In a running compass survey following bearings were taken. Findout the stations affected by local attraction and write the correct bearings :

Line	F.B.	B.B.
AB	340°	160°
BC	87°	268°30'
CD	175°30'	353°
DA	265°	86°

   (2+2+1)+(1+4)

   (iv) (a) What are the main attributes of a normal forest ? What are the abnormalities ?