2007

BOTANY

PAPER-III

Full Marks : 100

Time : 4 hours

The figures in the right-hand margin indicate marks

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

Illustrate the answers wherever necessary

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

FIRST HALF

[Marks:50]

Answer Q.No.1 and any *three* from the rest

1. (a) Write differences between the following pairs *(any five):*

(i) Advancing fire and Counter fire

(ii) Germinative capacity' and Plant percent

(iii) Gums and Resins

(iv) Social forestry and Agroforestry

(v) High forest and coppice forest

(vi) **Seedling coppice and Stool coppice**

(***vii)*** **Fixed P.B. and Floating P.B.**

(***viii***) **Saline soil and Non-saline alkali soil.**

(**b) What is conversion and conversion period? How Sal coppice forest is converted into Sal high forest?**

(c) Explain the method of soil formation. What is **soil profile** ? (2x5)+(2+3)+(3+2)

2. Answer any two of the following : 5x2

(a) What are the causes of fire in forests ? Discuss the advantages of fire.

(b) Write a brief **note on coppice with reserve** system.

(c) What are **the reasons of Pan formation in soil?'** Describe the types of Pan.

3. (a) Discuss the influence of rainfall on the vegetation of India.

(b) Write brief note on "Man and his **animal as** biotic factor". 5x2

4. What **is selection** system? Explain the pattern of felling? Which categories of trees are removed in this system? Where the system is applied? 2+4+3+1

Or

When the operations for regeneration is initiated in uniform system? Explain the procedure followed **from the regeneration stage to final felling. Where** the system is applied? 2+6+2

5. **Write detail notes on any *two* of the following : 5 x 2**

(i) Resins and their extraction

***(ii)* Edible plant's parts of forest trees**

(iii) Wood and **leaf oils**

(iv) Dyes.

Write briefly about the following *(any four)* $2\frac{1}{2} \times 4$

(i) Soap nuts

(ii) **Bidi leaves**

(iii) Silk

(iv,) Lac

(v) Leaf tans

(vi) Root drugs.

SECOND HALF

[Marks:50]

Answer *all* **questions**

6. Distinguish between the following *(any four)* 1X4 **2**

(i) Reserve forest and Protected forest

(ii) Working **circle and Overlapping working circle**

(iii) **Bearing** and Angle

(iv) Plane survey and Geodetic survey

(v) Crop diameter and Mean diameter

(vi) Artificial form factor and Absolute form factor

(vii) Technical rotation and Silvicultural rotation.

(a) What is Newton's formula? Discuss its limitation. Calculate the volume of a log having **following measurements**
Length-5m, Big girth r160cm, Mid girth-150cm and Small girth -130cm.

(b) What is R.F. ? What do you mean by

RF= $\frac{1}{10,000}$?

(c) Why diameter is recorded as diameter class ? (.1__+2+4)+(1+2)+2

Or

(d) On what principle the Abney's **level is constructed** ? What **is the useof mirror in the instrument** ? Why it is necessary to add the eye height to **get the total** height of the tree ? How the crop height **is calculated?**

(e) Convert the following **Reduced Bearing to** whole **circle Bearing :**
(i) 55°NE *(ii)* 55°SE *(iii)* 75°SW *(iv)* 75°NW.

(f) What is the use of prism in prismatic compass ? The following table shows the record of an Unclosed compass traverse. Find out the stations affected by the local attractions. (1+1+1+2)+2+(1+4)

Line	*Fore* ***Bearing***	***Back Bearing***
AB	*45°*	226°
BC	135°	313°30'
CD	190°	10°30'
DE	270°	90°

B. **(a) What is Increment** ? **Explain the relationship of** CAI and **MAI and their significance.**

(b) Discuss the concept of sustained yield **management**. (1+3+3)+5

Or

(c) What is Von Mantel'**s formula? Discuss its application in yield regulation.**

(d) Explain the Flury's constant. (2+6)+4

9. Write short notes on any *four* of the following : 3 x 4.

(i) Principles of survey

(ii) Yield table

(iii) Remote sensing

(iv) Advantages of plane table survey

(v) Non-instrumental method of height measurement

(*vi)* Application of volume table

***(vii)* Felling series**

(viii) **Traverse.**