

Total No. of Questions – 21

Regd.

Total No. of Printed Pages – 2

No.

Part – III
BOTANY, Paper-II
(English Version)

Time : 3 Hours]

[Max. Marks : 60

Note : Read the following instructions carefully :

- (i) Answer **all** the questions of Section – A. Answer any **six** questions out of **eight** in Section – B and answer any **two** questions out of **three** in Section – C.
- (ii) In Section – A, questions from Sl. Nos. 1 to 10 are of “Very Short Answer Type”. Each question carries **two** marks. Every answer may be limited to **5** lines. Answer **all** the questions at one place in the same order.
- (iii) In Section – B, questions from Sl. Nos. 11 to 18 are of “Short Answer Type”. Each question carries **four** marks. Every answer may be limited to **20** lines.
- (iv) In Section – C, questions from Sl. Nos. 19 to 21 are of “Long Answer Type”. Each question carries **eight** marks. Every answer may be limited to **60** lines.
- (v) Draw labelled diagrams, wherever necessary for questions in Sections – B and C.

SECTION – A

Note : Answer **all** the questions. Each answer may be limited to **5** lines : $10 \times 2 = 20$

1. What are apoplast and symplast ?
2. Define the law of limiting factors proposed by Blackman.
3. What is a genophore ?
4. Who proposed the Chromosome Theory of Inheritance ?
5. What are the components of a transcription unit ?
6. Define stop codon. Write the codons.
7. What is down-stream processing ?

8. Can a disease be detected before its symptoms appear ? Explain the principle involved.
9. Give two examples of fungi used in SCP production.
10. Name any two industrially important enzymes.

SECTION - B

Note : Answer any **six** questions. Each answer may be limited to **20** lines : $6 \times 4 = 24$

11. Define and explain water potential.
12. Explain the steps involved in the formation of root nodule.
13. Write briefly about enzyme inhibitors.
14. Write the physiological responses of gibberellins in plants.
15. Explain the lytic cycle with reference to certain viruses.
16. Explain the law of Dominance using a monohybrid cross.
17. Write briefly on nucleosomes.
18. List out the beneficial aspects of transgenic plants.

SECTION - C

Note : Answer any **two** questions. Each answer may be limited to **60** lines : $2 \times 8 = 16$

19. Explain the reactions of Krebs cycle.
20. Give a brief account of the tools of recombinant DNA technology.
21. Describe the tissue culture technique. What are the advantages of tissue culture over conventional method of plant breeding in crop improvement programmes ?