

Total No. of Questions - 21

Regd.
No.

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Total No. of Printed Pages - 2

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

Time : 3 Hours**Max. Marks : 60****Note :** Read the following instructions carefully:

- 1) Answer **all** 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'.
- 2) In Section 'A', questions from Sr. 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.
- 3) In Section 'B', questions from Sr. Nos. 11 to 18 are of "**Short Answer Type**". Each question carries **four** marks. Every answer may be limited to **20** lines.
- 4) In Section 'C', questions from Sr. Nos. 19 to 21 are of "**Long Answer Type**". Each question carries **eight** marks. Every answer may be limited to **60** lines.
- 5) Draw labelled diagrams **wherever necessary** for questions in Sections 'B' and 'C'.

SECTION A**10 × 2 = 20****Note :** Answer **all** questions. Each answer may be limited to **5** lines.

1. Define Hydroponics.
2. How does guttation differ from transpiration?
3. Define biotechnology.
4. What are pleomorphic bacteria? Give an example.
5. Explain the terms, phenotype and genotype.
6. What are the components of a nucleotide?

7. Why does 'swiss cheese' have big holes? Name the bacteria responsible for it.
8. What is the difference between exons and introns?
9. Name the nematode that infests the roots of tobacco plants. Name the strategy adopted to prevent this infestation.
10. Name a microbe used for statin production. How do statins lower blood cholesterol level?

SECTION B

6 × 4 = 24

Note : Answer any six questions. Each answer may be limited to 20 lines.

11. What is meant by plasmolysis? How is it practically useful to us?
12. Define RQ. Write a short note on RQ.
13. Write briefly about enzyme inhibitors.
14. Write a note on agricultural/ horticultural applications of auxins.
15. Explain the structure of T-even bacteriophages.
16. Explain incomplete dominance with an example.
17. Write the important features of genetic code.
18. Give a brief account on Bt. cotton.

SECTION C

2 × 8 = 16

Note : Answer any two questions. Each answer may be limited to 60 lines.

19. Explain Calvin Cycle.
20. Explain briefly the various processes of recombinant DNA technology.
21. You are a Botanist, working in the area of plant breeding. Describe the various steps that you will undertake to release a new variety.