

Total No. of Questions - 21

Total No. of Printed Pages - 2

Regd.
No.

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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. What are apoplast and symplast?
2. Explain the role of the pink color pigment in the root nodules of legume plants. What is it called?
3. What is the shape of T.M.V.? What is its genetic material?
4. What is the cross between the F_1 progeny and the homozygous recessive parent called? How is it useful?

5. The sequence of coding strand of DNA in a transcription unit is 5'-GGAATTCCG-3'.
What is the sequence of nucleotides of the following?
a) Its complementary strand b) The mRNA
6. What is the difference between exons and introns?
7. What is the full form of PCR? How is it useful in biotechnology?
8. What is Green Revolution? Who is regarded as father of Green Revolution?
9. What is the chemical nature of biogas? Name the bacteria involved in the production of biogas.
10. What is meant by germplasm collection?

6 × 4 = 24

SECTION B

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

11. Write the physiological responses of Gibberellins in plants.
12. Tabulate any eight differences between C_3 and C_4 plants/cycles.
13. How does ascent of sap occur in tall plants?
14. Explain the mechanism of opening and closing of stomata.
15. Explain the process of conjugation in bacteria.
16. Explain incomplete dominance with example.
17. Write the important features of genetic code.
18. Give a brief account of Bt-cotton.

SECTION C

2 × 8 = 16

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

19. Describe the process of various biochemical reactions that occur during Glycolysis.
20. Give a brief account of the tools of recombinant DNA technology.
21. Describe the tissue culture technique and its advantages.