

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

Time : 3 Hours]

[Max. Marks : 60

SECTION - A

10 × 2 = 20

- Note :** (i) Answer **ALL** questions.
(ii) Each question carries **TWO** marks.
(iii) **ALL** are very short answer type questions.

1. What are Pleomorphic bacteria ? Give an example.
2. Define Hydroponics.
3. Explain the role of the pink colour pigment in the root nodule of legume plants. What is it called ?
4. Who proposed the chromosome theory of Inheritance ?
5. In a typical DNA molecule, the proportion of Thymine is 30% of the N bases. Find out the percentages of other N bases.
6. What are the components of a nucleotide ?
7. Name any two artificially restructured plasmids.
8. What is Green Revolution ? Who is regarded as Father of Green Revolution ?
9. Name any two genetically modified crops.
10. Name a microbe used for statin production. How do statins lower blood cholesterol level ?



SECTION - B

6 × 4 = 24

- Note :** (i) Answer **ANY SIX** questions.
(ii) Each question carries **FOUR** marks.
(iii) **ALL** are short answer type questions.
(iv) Draw labelled diagrams, wherever necessary.

11. Explain the mechanism of opening and closing of Stomata.
12. Explain the mechanism of enzyme action.
13. Tabulate any eight differences between C_3 and C_4 plants/cycles.
14. Write any four physiological effects of Cytokinins in plants.
15. Explain the structure of T-even bacteriophages.
16. Mention the advantages of selecting Pea plant for experiment by Mendel.
17. Write briefly on Nucleosomes.
18. List out the beneficial aspects of Transgenic plants.

SECTION - C

2 × 8 = 16

- Note :** (i) Answer **ANY TWO** questions.
(ii) Each question carries **EIGHT** marks.
(iii) **ALL** are long answer type questions.
(iv) Draw labelled diagrams, wherever necessary.

19. Explain the reactions of Krebs 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.

