

0227**C**

Total No. of Questions 33
Total No. of Printed Pages 3

Regd.
No.

--	--	--	--	--	--	--	--	--	--

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

Time : 3 Hours

Max. Marks : 60

SECTION - A

10 × 2 = 20

- Note:** (i) Answer **ANY TEN** Questions
(ii) Each Question carries **TWO** marks
(iii) All are very short answer type questions.

1. Who proposed 'Lock and Key hypothesis' and 'Induced fit hypothesis'?
2. What is meant by bolting? Which hormone causes bolting?
3. Where does the photolysis of H_2O occur? What is its significance?
4. Explain the terms phenotype and genotype.
5. Who proposed the Chromosome Theory of Inheritance?
6. Distinguish between heterochromatin and euchromatin. Which of the two is transcriptionally active?
7. In a typical DNA molecule, the proportion of Thymine is 30% of the N bases. Find out the percentages of other N bases.
8. What is the difference between exons and introns?
9. What are the components of a nucleotide?

10. Define true breeding. Mention its significance.
11. What is EcoRI? How does it function?
12. Name a microbe used for statin production. How do statins lower blood cholesterol level?
13. What is GEAC and what are its objectives?
14. Name any two industrially important enzymes.
15. What are fermentors?

SECTION - B

6 × 4 = 24

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

16. Explain different types of cofactors.
17. Define RQ. Write a short note on RQ.
18. Write a note on agricultural/ horticultural applications of auxins.
19. Explain the Incomplete dominance with example.
20. Mention the advantages of selecting pea plant for experiment by Mendel.
21. Define and design a test-cross.
22. Write a brief note on chromosomal mutations and gene mutations.
23. Write the important features of Genetic code.
24. Draw the schematic/ diagrammatic presentation of the lac operon.
25. What are the differences between DNA and RNA?

26. Write briefly on nucleosomes.
27. List out the beneficial aspects of transgenic plants.
28. Write short notes on restriction enzymes.
29. Give a brief account of Bt cotton.

SECTION - C

2 × 8 = 16

- Note:**
- (i) Answer any **ANY TWO** questions.
 - (ii) Each question carries **EIGHT** marks.
 - (iii) All are long answer type questions.

(iv) Draw labelled diagrams wherever necessary.

30. Explain the reactions of Krebs cycle.
31. Explain briefly the various processes of recombinant DNA technology.
32. Explain Calvin cycle.
33. Write brief essay on microbes in sewage treatments.