

0227

SET -

Total No. of Questions - **33**

Regd.

Total No. of Printed Pages - **3**

No.

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

Part - III**BOTANY, Paper - II****(English Version)****MODEL PAPER****(For the Academic Year 2021-22 only)****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. Mention the components of ATPase enzyme. What is their location? Which part of the enzyme shows conformational change?
3. What is apical dominance? Name the growth hormone that causes it.
4. Explain the terms phenotype and genotype.
5. What is the cross between the F_1 progeny and the homozygous recessive parent called? How is it useful?
6. Define true breeding. Mention its significance.
7. In a typical DNA molecule, the proportion of Thymine is 30% of the N bases. Find out the percentages of other N bases.

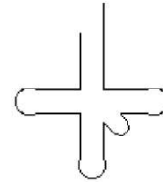
8. What is the difference between the template strand and a coding strand in a DNA molecule?
9. What is the function of the codon-AUG?
10. What are the components of a nucleotide?
11. What is down-stream processing?
12. Can a disease be detected before its symptoms appear? Explain the principle involved.
13. What are fermentors?
14. Name the scientists who were credited for showing the role of penicillin as an antibiotic.
15. Why does 'Swiss cheese' have big holes. Name the bacteria responsible for it.

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. Tabulate any eight differences between C₃ and C₄ plants/ cycles.
 18. Write the physiological responses of gibberellins in plants.
 19. Mention the advantages of selecting pea plant for experiment by Mendel.
 20. Explain the Incomplete dominance with example.
 21. Define Law of Segregation and Law of Independent Assortment.
 22. Define and design a test-cross.
 23. Write short notes on restriction enzymes.

24. Give a brief account of Bt cotton
25. Give a brief account of Pest resistant plants.
26. Define transformation in Griffith's experiment. Discuss how it helps in the identification of DNA as genetic material.
27. Write the important features of Genetic code?
28. On the diagram of the secondary structure of tRNA shown below label the location of the following parts:
- a) Anticodon b) Acceptor stem
- c) Anticodon stem
- d) 5' end e) 3' end
29. What are the differences between DNA and RNA.



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