

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)

Chromepet, Chennai - 600 044.

M.Sc.PBPBT - END SEMESTER EXAMINATIONS - APRIL 2025

SEMESTER - II

24PPBET2A03 - Recombinant DNA Technology

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Label the steps involved in the polymerase chain reaction (PCR).
2. Illustrate the biosynthesis pathway of Tetracyclines with a simple sketch.
3. Describe the differences between live attenuated and recombinant vaccines.
4. Infer the advantages and potential risks of genetically modified crops.
5. List the key enzymes in microbial Vitamin C synthesis and their functions.
6. Apply strain improvement techniques to enhance antibiotic production.
7. Describe the production of Vitamin B12.
8. Justify the use of Golden Rice as a solution to Vitamin A deficiency in developing countries.

Section C

I - Answer any **TWO** questions ($2 \times 10 = 20$ Marks)

9. Explain the process of recombinant DNA technology and its applications in genetic engineering.
10. Predict advancements in microbial vitamin production and their impact on pharma and food industries.
11. Examine antibiotic production and recommend strategies to enhance yield and reduce resistance.
12. Differentiate between naturally extracted insulin and recombinant insulin in terms of production and efficacy.

II - Compulsory question ($1 \times 10 = 10$ Marks)

13. Examine the impact of Bt-Cotton and Bt-Brinjal on pest resistance and yield.
