

NEW ERA SENIOR SECONDARY SCHOOL NIZAMPURA, VADODARA
Yearly Syllabus planning
Class XII

Biotechnology

MONTH	NO. OF DAYS	Chapter	Content
April May	22 3	RECOMBINANT DNA TECHNOLOGY	<ul style="list-style-type: none"> • Introduction • Tools of rDNA Technology • Making rDNA • Introduction of rDNA into Host Cells • Identification of Recombinants • Polymerase Chain Reaction (PCR)
June	18	RECOMBINANT DNA TECHNOLOGY PROTEIN STRUCTURE AND ENGINEERING	<ul style="list-style-type: none"> • DNA Sequencing <hr/> <ul style="list-style-type: none"> • Introduction to the World of Proteins • 3-D Shape of Proteins • Structure-Function Relationship in Proteins
July	26	PROTEIN STRUCTURE AND ENGINEERING GENOMICS AND BIOINFORMATICS	<ul style="list-style-type: none"> • Characterization of Proteins • Protein Based Products • Designing proteins <hr/> <ul style="list-style-type: none"> • Gene Prediction and Counting • Genome Similarity, SNPs and Comparative Genomics Unit Test 1
August	22	GENOMICS AND BIOINFORMATICS	<ul style="list-style-type: none"> • Functional Genomics • Proteomics • Information Sources • Analysis using Bioinformatics Tools
Sept.	23	MICROBIAL CELL CULTURE AND ITS APPLICATION	<ul style="list-style-type: none"> • Introduction • Microbial Culture Techniques Term - 1 <ul style="list-style-type: none"> • Measurement and Kinetics of Microbial Growth • Isolation of Microbial Products • Strain Isolation and Improvement • Applications of Microbial Culture Technology

MONTH	NO. OF DAYS	Chapter	Content
Oct.	11	PLANT CELL CULTURE	<ul style="list-style-type: none"> • Introduction

		AND APPLICATION	<ul style="list-style-type: none"> • Cell and Tissue Culture Techniques • Applications of Cell and Tissue Culture • Transgenic Plants with Beneficial Traits • Biosafety in Plant Genetic Engineering
Nov.	21	ANIMAL CELL CULTURE AND APPLICATION	<ul style="list-style-type: none"> • Introduction • Animal Cell Culture Techniques
Dec.	23	ANIMAL CELL CULTURE AND APPLICATION	<ul style="list-style-type: none"> • Applications of Animal Cell Culture • Stem Cell Technology Revision & Pre-board Paper Solving
Jan	25		Pre-board
Feb	23		Revision for term-2