

**NEW ERA SENIOR SECONDARY SCHOOL NIZAMPURA, VADODARA**  
**Yearly Syllabus planning**  
**Class XI Biotechnology**

| MONTH        | NO. OF DAYS | Chapter   | Content   |
|--------------|-------------|---|---|
| April<br>May | 23 + 2      | <b>Biotechnology: An Over view</b><br><br><b>The Basic Unit of life</b> | <ul style="list-style-type: none"> <li>• Introduction to Biotechnology</li> <li>• Introduction to cell</li> <li>• Cell structure and components</li> <li>• Bacterial cell and characteristics</li> <li>• cell membrane and cytoplasm</li> </ul>   |
| June         | 19          | <b>The Basic Unit of life</b>   | <ul style="list-style-type: none"> <li>• Membrane proteins, lipids and cell wall</li> <li>• Cell organelles: Endoplasmic reticulum, Golgi apparatus, Chloroplast, Mitochondria, Vacuoles, and cell inclusions</li> <li>• Nucleus, chromosomes - basic structure, number.</li> <li>• prokaryotic and eukaryotic cells</li> </ul> |
| July         | 26          | <b>Cell Growth and Development</b>                                      | <ul style="list-style-type: none"> <li>• Cell Division</li> <li>• Mitosis</li> <li>• Meiosis</li> <li>• Cell cycle and Regulation</li> <li>• Cell communication</li> </ul>  |
| August       | 23          | <b>Molecules of Life</b>  | <ul style="list-style-type: none"> <li>• Building blocks: Carbohydrates, Amino acids</li> </ul>   |
| Sept.        | 23          | <b>Molecules of Life</b>  | <ul style="list-style-type: none"> <li>• Building blocks:, Vitamins and Coenzymes, Lipids and Nucleic acids</li> </ul>  |

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|-------|-------------|--|---|
| Oct.  | 23          | <b>Molecules of Life</b>                         | <ul style="list-style-type: none"> <li>• Enzymes Mendelian Genetics,</li> <li>• Role of chromosome in inheritance</li> </ul>  |
| Nov.  | 11          | <b>Concepts of Genetics</b>                      | <ul style="list-style-type: none"> <li>• Multiple Alleles, Linkage and crossing over, Genetic Recombination</li> </ul>  |
| Dec.  | 23          | <b>Concepts of Genetics</b>                      | <ul style="list-style-type: none"> <li>• , Genetic mapping, Gene Intereaction, Sex linked inheritance, Extranuclear inheritance, Quantitative inheritance, Population Genetics</li> </ul>   |
| Jan   | 22          | <b>Genes and Genomes: Structure and Function</b> | <ul style="list-style-type: none"> <li>• DNA as genetic material</li> <li>• Transforming principle</li> <li>• DNA replication, Transcription and Translation</li> <li>• Regulation of gene expression, Mutation and DNA repair</li> <li>• Human genetic disorders</li> <li>• Pedigree analysis</li> </ul> |

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|-----|----|--|---|
|     |    |  | <ul style="list-style-type: none"><li>• Genomes</li></ul>   |
| Feb | 23 |  | <ul style="list-style-type: none"><li>• <b>Presentation on following topics</b></li><li>• Biochemical Transformations</li><li>• Carbohydrate metabolism</li><li>• Photosynthesis</li></ul> <p style="text-align: right;"><b>Revision for term-2</b></p> |