

| No. | Information of the subject | |
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| 1. | Unit name: | Molecular Genetic |
| 2. | Code: | BioT 22041 |
| 3. | Classification: | Core subject |
| 4. | Credit value: | 3.5 |
| 5. | Semester/Year Offered: | 2/2 |
| 6. | Pre-requisite: | NA |
| 7. | Mode of delivery: | Presentations, Lectures |
| 8. | Assessment system and breakdown of marks: | Tutorial |
| | Tutorial | 20% |
| | Mid-term exam | 40% |
| | Final exam | 40% |
| 9. | Academic staff teaching unit: | Department of Biotechnology |
| 10. | <p>Course outcome of unit: After completion of this course, students will be able to</p> <ol style="list-style-type: none"> 1. learn the structure of DNA and chromosome organization 2. Recognize the mechanism of DNA replication in both prokaryotes and eukaryotes 3. Realize the different types of RNAs and their functions produced in prokaryotes and eukaryotes and transcription mechanisms in both cell types 4. Describe the general structure of amino acids, levels of protein structure and translation mechanisms in both prokaryotes and eukaryotes 5. Realize the different types of mutations and their causes | |
| 11. | Synopsis of unit: This module of molecular genetics is designed to give the knowledge and comprehension of the structure of DNA and chromosome, DNA replication, gene expression and control in both prokaryotes and eukaryotes and mutations. | |
| 12. | <p>Topics</p> <ol style="list-style-type: none"> 1. DNA Structure and Chromosome Organization 2. DNA Replication 3. Gene Expression – Transcription 4. Gene Expression – Translation 5. Mutations | |
| 13. | <p>Main reference:</p> <ul style="list-style-type: none"> • David R Hyde: “Introduction to Genetic Principles” | |
| 14. | <p>Additional references:</p> <ul style="list-style-type: none"> • Waston et al., “Molecular Biology of the Gene” | |