**Course outcomes**

**B.Sc – Industrial Microbiology IInd year**

**Semester- III**

**Subject: Microbial genetics (Theory & Practical)**

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| **Co1** | Study the conformational flexibility of DNA, DNA replication (conservative and semi conservative). |
| **Co2** | Understand the genetic code, transcription, translation and protein synthesis. |
| **Co3** | Describe the Operon concept, inducible and repressible system and its positive and negative regulation. |
| **Co4**  | Explain Mutations and its Molecular mechanism of mutation. |
| **Co5** | Describe forward and reverse mutation, transition, transversion, chemical induced, radiations and base analogues |
| **Co6** | Understand the Genetic Recombination: Transformation, Transduction and Conjugation. |
| **Co7** | Explain Homologous recombination |

**Subject: Environmental Microbiology-I**

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| **Co1**.  | Understand the physical, chemical and microbiological characteristic of air, water and soil. |
| **Co2**. | Aware about the several types of interactions among the microorganism.  |
| **Co3** | Discover the microflora of air, soil and water |
| **Co4** | Explain the role of various factors such as moisture content, oxygen, pH and temperature on the soil, water and air microflora. |
| **Co5**. | Acquaint with the role of microorganisms in biogeochemical cycle. |

**CREDITS**- 3 **THEORY PERIODS OF EACH PAPER OF 45 MINUTES EACH PER WEEK OVER A SEMESTER**

 **6 PRACTICAL PERIODS OF 45 MINUTES EACH PER WEEK OVER A SEMESTER**

**B.Sc – Industrial Microbiology IInd year**

**Semester- IV**

**Subject: Food Microbiology** **(Theory & Practical)**

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| **Co1** | . Describe the Food Spoilage and extrinsic and intrinsic Factors affecting microbial growth in foods |
| **Co2** | Explain the Microbial spoilage of specific food- Milk & milk products, Fruits & vegetables, Cereals & cereal products, Meat & meat products |
| **Co3** | Understand the physical methods of food preservation such as temperature, Dehydration, Osmotic pressure etc |
| **Co4** | Study the methods of Chemical preservatives ( salt and sugars, organic acids, propylene oxide, wood smoke and antibiotics) |
| **Co5** | Describe the Food intoxication & food infections and microorganism involved in them. |
| **Co6** | Describe the production process of different fermented food products: yoghurt, butter milk & cheese, Fermented bakery products (bread), Fermented beverages (beer and wine), Single cell protein |
| **Co7** | Explain Probiotics & Prebiotics |

**Subject Environmental Microbiology-II (Theory & Practical)**

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| **Co1**  | Acquaint with the physical, chemical and microbiological characteristic of sewage and waste water. |
| **Co2** | Describe the several treatment processes for lowering down the organic load in sewage water. |
| **Co3** | Explain the water borne diseases. |
| **Co4** | Illustrate the assays for checking the quality of waste water. |
| **Co5** | Understand the methods of disposal of solid waste |
| **Co6** | Evaluate the role of microorganisms in the degradation of xenobiotic compounds |

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 **6 PRACTICAL PERIODS OF 45 MINUTES EACH PER WEEK OVER A SEMESTER**