



TULSIRAMJI GAIKWAD-PATIL COLLEGE OF ENGINEERING & TECHNOLOGY

Wardha Road, Nagpur - 441108

Accredited with NAAC A+ Grade & NBA Accredited (EE, ME, CE & ECE)

Approved by AICTE, New Delhi, Govt. of Maharashtra

(An Autonomous Institution Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)



Biotechnology Department

Biotechnology Department

B.Tech Third Sem (NEP)

BBT32301: Microbiology and Cell Biology

Course Code	Course Outcomes
BBT32301.1	Analyze the historical contributions to microbiology and classify different classes of microorganisms
BBT32301.2	Compare the structure and function of prokaryotic and eukaryotic microorganisms, including bacteria, viruses, algae, fungi, and protozoa
BBT32301.3	Develop techniques for isolating and culturing microbes, including streaking, pour plate, and spread plate methods
BBT32301.4	Explain the principles of cell biology, including cell discovery, classification, and the differences between prokaryotic and eukaryotic cells
BBT32301.5	Evaluate the structure and function of various cell organelles and their roles in cellular organization in both simple and complex organisms



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Biotechnology Department

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B.Tech Third Sem (NEP)

BBT32302: Biochemistry and Molecular Biology

Course Code	Course Outcomes
BBT32302.1	Describe the classification, structure, and function of carbohydrates, and analyze their chemical reactions and properties
BBT32302.2	Explain the classification and structure of amino acids and proteins, and analyze the processes of protein denaturation and renaturation
BBT32302.3	Understand the structure and types of DNA and RNA, and explain the functions of nucleic acids, nucleosides, nucleotides, purines, and pyrimidines
BBT32302.4	Analyze the processes of DNA replication, transcription, and translation in prokaryotic and eukaryotic cells, and evaluate the genetic cod
BBT32302.5	Classify and describe the structure, properties, and biological functions of fatty acids and simple lipids, including triacylglycerol, phospholipids, and glycolipids



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BBA32305: Entrepreneurship and Startups

Course Code	Course Outcomes
BBA32305.1	Describe the definitions, traits, and motivation of entrepreneurs and intrapreneurs, and compare different business structures and roles of entrepreneurs and managers
BBA32305.2	Analyze the process from ideation to startup, including PMF design, market analysis, competition evaluation, strategy development, marketing, accounting, and risk analysis
BBA32305.3	Evaluate various funding options for startups, including angel funding, venture funding, and private equity, and understand their differences



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BSH32308: Ethics in Engineering Practices

Course Code	Course Outcomes
BSH32308.1	Describe Basic Human Values, Ethics & Importance of Engineering Ethics.
BSH32308.2	Illustrate the Basic Ethics for Engineers, Principles of Engineering Ethics & Fundamental Rights of individuals of society.
BSH32308.3	Discuss Ethics for Engineer Professionals, and their Safety, Responsibility & Rights.



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BSH32307: Probability and Statistics

Course Code	Course Outcomes
BSH32307.1	Apply Gauss elimination, Gauss-Seidel, and Jacobi iterative methods to solve systems of linear equations.
BSH32307.2	Analyze probability problems by defining random experiments, sample spaces, and using addition and multiplication theorems.
BSH32307.3	Evaluate statistical data by computing measures of central tendency, skewness, variance, standard deviation, and interpreting probability distributions such as binomial, Poisson, and normal distributions.



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B.Tech Third Sem (NEP)

BBT32303: Microbiology and Cell Biology Lab

Course Code	Course Outcomes
BBT32303.1	Analyze the historical contributions to microbiology and classify different classes of microorganisms
BBT32303.2	Compare the structure and function of prokaryotic and eukaryotic microorganisms, including bacteria, viruses, algae, fungi, and protozoa
BBT32303.3	Develop techniques for isolating and culturing microbes, including streaking, pour plate, and spread plate methods
BBT32303.4	Explain the principles of cell biology, including cell discovery, classification, and the differences between prokaryotic and eukaryotic cells
BBT32303.5	Evaluate the structure and function of various cell organelles and their roles in cellular organization in both simple and complex organisms



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B.Tech Third Sem (NEP)

BBT32304: Biochemistry and Molecular Biology Lab

Course Code	Course Outcomes
BBT32302.1	Describe the classification, structure, and function of carbohydrates, and analyze their chemical reactions and properties
BBT32302.2	Explain the classification and structure of amino acids and proteins, and analyze the processes of protein denaturation and renaturation
BBT32302.3	Understand the structure and types of DNA and RNA, and explain the functions of nucleic acids, nucleosides, nucleotides, purines, and pyrimidines
BBT32302.4	Analyze the processes of DNA replication, transcription, and translation in prokaryotic and eukaryotic cells, and evaluate the genetic code
BBT32302.5	Classify and describe the structure, properties, and biological functions of fatty acids and simple lipids, including triacylglycerol, phospholipids, and glycolipids



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BBT32309: Food and Nutrition

Course Code	Course Outcomes
BBT23206.1	Discuss the fundamentals of microbes associated with food and factors responsible for food spoilage.
BBT23206.2	Analyse the different methods in food preservation technology
BBT23206.3	Explain process of production of industrially important microbial metabolites.
BBT23206.4	Analyse the effects of food in various factors like BMR and physical activity.
BBT23206.5	Summarize the role of different food components in the human nutrition