"Education for Knowledge Science and Culture"

- Dr Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

VIVEKANAND COLLEGE KOLHAPUR (AN EMPOWERED AUTONOMOUS INSTITUTE),

Syllabus for

Bachelor of Science Part – III

NEP Phase – 1.0

BIOTECHNOLOGY (ENTIRE)

SEMESTER V AND VI

(Syllabus to be implemented from June, 2025 onwards)

Subject Offered Sem-V:- E Sem-VI:- F	Course outcomes paper wise for B.Sc-III Biotechnology entire for 2023- 2024
DSC07BTE51 Basics in Genetic Engineering	At the end of this course students will be able to: CO 1. Understand the concept of cloning CO2. Demonstrate the techniques of DNA fingerprinting CO 3. Perceive knowledge about sequencing technology. CO 4. Illustrate the importance of probe designing
DSC07BTE52 Industrial Biotechnology	At the end of this course students will be able to: CO 1.Construct the design required to set up industrial fermentation. CO 2. Draw a contrast between industrial & pilot fermentation CO 3. Discover various ways of media formulation for industrial scale. CO 4. Compare classical & Modern fermentation techniques.
DSC07BTE53 Enzymology	At the end of this course students will be able to: CO 1. To educate students about the fundamental concepts of enzyme CO 2. To study different types of enzyme CO 3. To enable the students to outline Enzyme kinetics CO 4. To gather knowledge of separation and purification of enzyme
DSC07BTE54 Research methodology in Biotechnology	At the end of this course students will be able to: CO 1. To understand the different types of research work CO 2. To present the research work scientifically CO 3. Illustrate the mechanism/working of Instrumentation use in Research Methodology CO 4. To perform the Application of Spectroscopy
DSE07BTE51 Animal tissue culture	At the end of this course students will be able to: CO 1. Construct the design required to set up animal tissue culture laboratory CO 2. Classify different characters and biology of cultured cells CO 3. Illustrate the importance of asepsis CO 4. Understand the importance of stem cell technology
DSC07BTE61 Advance in Genetic Engineering	At the end of this course students will be able to: CO 1. Reflect the importance of chemical synthesis of DNA. CO2. Differentiate various types of PCR & their applications. CO 3. Appreciate the importance of screening. CO 4.study impact of GM foods on human health.
DSC07BTE62 Applications of Biotechnology in Agriculture	At the end of this course students will be able to: CO 1. Outline the importance of Hybridization & mutation in crop improvement. CO2. Explain the techniques of artificial seed germination. CO 3. Discuss the strategies to develop transgenic plants CO 4. Formulate bio fertilizer.
DSC07BTE63 Biosafety, Bioethics and IPR	At the end of this course students will be able to: CO 1. Learn the concept of Bio safety CO2. Understand the mechanism of Intellectual Property Rights. CO 3. Classify different characters & functions of Bioethics.

	CO 4.Elaborate the process. Intellectual Property Rights
DSC07BTE64 Bioinformatics	At the end of this course students will be able to: CO 1. Outline the importance of Human Genome Project. CO2. List different types of structural database. CO 3. Explain the importance of phylogenetic analysis. CO 4. Construct drug molecules.
DSE07BTE61 Plant Tissue Culture	At the end of this course students will be able to: CO 1. Understand the importance of plant tissue culture CO 2. Technically trained with good practical exposure (different PTC techniques) to perform plant cell culture CO 3. Illustrate the importance of asepsis CO 4. Construct the design required to set up plant tissue culture laboratory