

Academic Year	2021-22
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**B.P.H.E. Society's
Ahmednagar College, Ahmednagar
Internal Quality Assurance Cell
CO, PO, and PSO Attainment Sheet**

Department Name	Biochemistry
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Program Name	M.Sc.
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Program Outcomes(PO)

PO1	Learn the terms, theories, assumptions, methods, principles, theorem statements and classification
PO2	Fix out the problem and resolve it using theories and practical knowledge.
PO3	Inculcate knowledge for carrying projects and advanced research related skills.
PO4	Actively participate in team on case studies and field-based situations.
PO5	Analyze and interpret ideas, evidences and experiences with learned scientific reasoning
PO6	Aware and implement the subject facts that can be applied for the personal and social development
PO7	Use digital literacy to retrieve and evaluate subject related information
PO8	Get moral and ethical values for society as well as in research
PO9	Give analytical reasoning to interpret research data
PO10	Improve their managerial skills and abilities in subject related activities.
PO11	Inculcate continuous learning habit through all available resources.
PO12	Participate in multicultural society and communicate the subject knowledge for the betterment of society

Program Specific Outcome(PSO)

PSO1	Demonstrate a comprehensive knowledge of all disciplines.
PSO2	To assess and evaluate facts, claims and arguments using their scientific knowledge
PSO3	To define a problem, analyse, interpret and draw conclusion by planning, implementing and reporting the results of an experiment.

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Class		M.Sc. Biochemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-111			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Biomolecules I		CO1	3	2	3	2	1	2	3	1	1	2	3	2	3	3	2
Semester No	I		CO2	3	2	3	2	1	2	2	1	1	1	3	2	3	2	2
Teacher Name	Dr. S.J. Suryavanshi and Dr. Pawanjeet Vaddadi		CO3	3	2	3	3	3	3	3	3	2	0	3	3	3	2	2
Course Outcomes			CO4	3	2	3	3	3	3	3	3	2	0	3	3	2	2	2
	CO1	Students should be able to get the knowledge about structure & function of biomolecules	CO5	3	1	2	2	2	2	2	1	1	0	2	1	2	2	2
	CO2	How the biomolecules work, interact & their importance in all living systems	Average	3.00	1.80	2.80	2.40	2.00	2.40	2.60	1.80	1.40	0.60	2.80	2.20	2.60	2.20	2.00
	CO3	How to prevent & deal with vitamin deficiency diseases																
	CO4	To learn about the classification and physicochemical characteristics of amino acids and proteins																
	CO5	To provide basic concepts of the structural organization of proteins.																

Class		M.Sc Biochemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-112			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Physical Biochemistry		CO1	3	2	3	2	2	2	3	2	3	2	3	2	3	2	2
Semester No	I		CO2	2	3	3	2	2	2	3	2	2	2	3	2	2	2	2
Teacher Name	Dr. Rajesh D Tak		CO3	3	2	2	2	1	2	2	3	2	2	3	1	2	1	1
Course Outcomes			CO4	2	2	2	1	1	1	2	2	1	1	2	2	1	1	2
	CO1	Students will gain proficiency in sedimentation theory, including the operation of preparatory and analytical ultracentrifuges	CO5	1	1	1	1	2	1	2	1	1	1	2	1	1	2	1

	CO2	Students will become skilled in molecular separation techniques, including membrane filtration using various filter materials like nitrocellulose, fiberglass, and polycarbonate filters	Average															
	CO3	Students will develop expertise in a wide range of chromatography techniques, including partition and adsorption chromatography																
	CO4	Understand the principles, instrumentation, methodology, and biological applications of various spectroscopic methods																
	CO5	Develop a solid understanding of the fundamental principles of mass spectrometry, including ionization, mass analyzers, and detectors																

Class		M.Sc Biochemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-113			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Cell Biology and Membrane Biochemistry		CO1	3	2	3	3	2	2	3	2	1	2	3	2	3	2	3
Semester No	I		CO2	3	1	3	3	2	2	3	2	2	2	3	2	3	2	3
Teacher Name	Dr. Pawanjeet Vaddadi; Dr. Sunny Rupwate		CO3	3	2	3	3	2	2	3	3	3	2	3	3	3	3	3
Course Outcomes			CO4	3	3	3	2	2	1	3	3	3	2	3	1	2	2	2
	CO1	Gain a deeper understanding of the various biological processes that occur at various cellular membranes.	CO5	0	0	1	1	0	0	1		1	1	1	1	1	1	1
	CO2	Acquire a deeper knowledge on how the structures and properties of membranes are defined and regulated by their lipid, protein and carbohydrate constituents.	Average	2.40	1.60	2.60	2.40	1.60	1.40	2.60	2.50	2.00	1.80	2.60	1.80	2.40	2.00	2.40
	CO3	Develop your presentation, presentation-making, and discussion skills.																
	CO4	Student will learn cell organelles and their function																

CO5	
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Class		M.Sc Biochemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-114	PO1		PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Subject Name	Enzymology	CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Semester No	I	CO2	3	3	3	1	2	2	2	2	3	2	3	2	2	2	2	
Teacher Name	Dr. Pawanjeet Vaddadi	CO3	3	3	2	2	2	1	3	3	3	2	3	1	3	3	3	
Course Outcomes		CO4	3	3	3	2	2	1	3	3	3	2	3	1	2	2	2	
	CO1	The course will provide fundamental knowledge of enzymes their classification and importance in biological reactions.	CO5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
	CO2	Students will understand the difference between a chemical catalyst and biocatalyst , understand activation energy and how enzyme works?	Average	3.00	3.00	2.80	2.20	2.40	2.00	2.80	2.80	3.00	2.40	3.00	2.00	2.60	2.60	2.60
	CO3	To know about kinetics of the enzymatic reactions and enzyme inhibition																
	CO4	To study the enzyme regulation including allosteric enzymes – characteristics, models, examples and Multi - enzyme systems																
	CO5	Students will be exposed to industrial and biomedical applications of enzymes.																

Class		M.Sc Biochemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-114	PO1		PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Subject Name	Enzymology Practical	CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Semester No	I	CO2	3	3	3	1	2	2	2	2	3	2	3	2	2	2	2	
Teacher Name	Dr. Rajesh D Tak	CO3	3	3	2	2	2	1	3	3	3	2	3	1	3	3	3	
Course Outcomes		CO4	3	3	3	2	2	1	3	3	3	2	3	1	2	2	2	
	CO1	Students will be able to isolate and detect different enzymes from biological sources	CO5	1	1	0	0	1	1	0	1	0	1	1	1	1	0	

	CO2	Students will understand the difference between a chemical catalyst and biocatalyst, understand activation energy and how enzyme works?	Average	2.60	2.60	2.20	1.60	2.00	1.60	2.20	2.40	2.40	2.00	2.60	1.60	2.20	2.20	2.00
	CO3	To know about kinetics of the enzymatic reactions and enzyme inhibition																
	CO4	Students will be exposed to industrial and biomedical applications of enzymes.																
	CO5																	

Class		M.Sc. Biochemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-115			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Analytical Biochemistry & Physical Biochemistry practicals		CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Semester No	I		CO2	3	2	3	1	3	3	3	3	3	3	3	3	3	3	
Teacher Name	Dr. S.J. Suryavanshi and Dr. Pawanjeet Vaddadi		CO3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Course Outcomes			CO4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
	CO1	The student will acquire the laboratory skills, handling biochemical equipments	CO5	1	1	1	0	1	0	1	1	1	1	1	1	0	0	1
	CO2	These will help them in their research projects	Average	2.60	2.40	2.60	2.00	2.60	2.40	2.60	2.60	2.60	2.60	2.60	2.60	2.40	2.40	2.60
	CO3	The students will gain experimental training for preparation of solutions and different buffers																
	CO4	The students should obtain hands-on training in basic separation techniques in biochemistry like chromatography, electrophoresis, etc.																
	CO5																	

Class		M.Sc. Biochemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-211			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Metabolism		CO1	3	2	3	3	2	2	3	2	1	2	3	2	3	2	2
Semester No	II		CO2	3	1	3	3	2	2	3	2	2	2	3	2	3	2	2

Teacher Name	Dr. Pawanjeet Vaddadi and Dr. S.J. Suryavanshi		CO3	3	2	3	3	2	2	3	3	3	2	3	3	3	3	2
Course Outcomes			CO4	3	2	3	3	2	2	3	3	3	2	3	3	3	3	3
	CO1	Students should understand the basic concepts of bioenergetics.	CO5	3	2	3	3	2	2	3	3	3	2	3	3	3	3	3
	CO2	Their influence on biochemical processes.	Average	3.00	1.80	3.00	3.00	2.00	2.00	3.00	2.60	2.40	2.00	3.00	2.60	3.00	2.60	2.40
	CO3	How metabolism transforms the matter of macronutrients into substances a cell can use																
	CO4	They will acquire knowledge related to anabolic and catabolic pathways of carbohydrates																
	CO5	Diseases caused due to abnormalities in these pathways.																

Class	M. Sc Biochemistry		Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-212		Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Genetics		CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Semester No	II		CO2	3	3	3	1	2	2	2	2	3	2	3	2	2	2	2
Teacher Name	Mr. N.S. Gaikwad ; Dr. Pawanjeet Chhabda		CO3	3	3	2	2	2	1	3	3	3	2	3	1	3	3	3
Course Outcomes			CO4	3	3	3	1	2	2	2	2	3	2	3	2	2	2	2
	CO1	Acquire knowledge on different types of mutation	CO5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO2	Understand the assumptions made in population models.	Average	3.00	3.00	2.80	2.00	2.40	2.20	2.60	2.60	3.00	2.40	3.00	2.20	2.60	2.60	2.60
	CO3	The student will gain a basic understanding on human genetics and hereditary.																
	CO4	To bring awareness to human society on various genetic disorders, its inheritance patterns and to develop the methods, and techniques of fighting against the diseases.																
	CO5	To understand the concept and principle of Molecules of Heredity																

Class		M.Sc Biochemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-213			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Plant Biochemistry		CO1	3	3	3	2	2	1	3	2	3	2	3	3	3	2	3
Semester No	II		CO2	3	3	3	2	2	1	3	2	3	2	3	3	3	2	3
Teacher Name			CO3	3	2	2	2	2	2	3	2	2	2	3	3	3	2	3
Course Outcomes			CO4	2	2	0	1	1	2	1	1	2	2	1	1	1	1	1
	CO1	By the end of this course, students should be able to explain the key biochemical processes involved in plant metabolism	CO5	1	1	2	1	1	0	0	1	1	0	1	1	1	1	1
	CO2	After completing this course, students should have the skills to collect, analyze, and interpret biochemical data related to plant systems.	Average	2.40	2.20	2.00	1.60	1.60	1.20	2.50	1.60	2.20	1.60	2.20	2.20	2.20	1.60	2.20
	CO3	They should have a deep understanding of the chemical reactions, enzymes, and regulatory mechanisms that govern these processes including photosynthesis, respiration, and nitrogen fixation																
	CO4																	
	CO5																	

Class		M.Sc Biochemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-214 (T)			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Microbiology Theroy		CO1	3	2	3	2	2	2	3	3	2	3	2	2	2	2	2
Semester No	II		CO2	3	2	3	2	2	2	3	2	2	2	2	2	2	2	2
Teacher Name	Mr. N.S. Gaikwad		CO3	2	2	3	1	1	1	3	2	1	2	1	2	2	1	1
Course Outcomes			CO4	2	1	2	1	1	1	2	1	1	1	1	1	2	2	1
	CO1	Students will classify microorganisms based on their characteristics and taxonomy	CO5	1	1	2	1	0	0	2	1	0	1	1	1	1	1	1
	CO2	Student will learn about microbial growth and cultivation methods	Average	2.20	1.60	2.60	1.40	1.20	1.20	2.60	1.80	1.20	1.80	1.40	1.60	1.60	1.60	1.40
	CO3	Student will get well versed with microscopy techniques																
	CO4	Students will study the structure, classification, and life cycles of viruses infecting bacteria, plants, and animals.																

CO5	Student will understand microbial diversity and classification
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Class		M.Sc Biochemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-214 (P)			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Microbiology Practical		CO1	3	2	3	2	2	2	3	3	2	3	2	2	2	2	2
Semester No	II		CO2	3	2	3	2	2	2	3	2	3	2	2	2	2	2	2
Teacher Name	Mr. N.S. Gaikwad		CO3	2	2	2	1	1	1	3	2	1	2	2	2	1	1	1
Course Outcomes			CO4	2	1	2	1	1	1	1	1	1	1	1	2	2	2	2
	CO1	Develop the skills to prepare various types of culture media required for microbial growth.	CO5	1	1	2	1	0	0	2	1	0	1	1	1	2	1	1
	CO2	Learn and practice microscopic techniques for observing microbial morphology, including motility, monochrome staining, and gram staining	Average	1.00	1.00	2.00	1.00	0.00	0.00	2.00	1.00	0.00	1.00	1.00	1.00	2.00	1.00	1.00
	CO3	Master techniques for determining total viable counts of microorganisms																
	CO4	Conduct microbial assays to determine the potency and effectiveness of antibiotics against specific microbial strains																
	CO5	Understand the principles and applications of sterilization techniques, including steam sterilization, dry heat sterilization, and filtration																

Class		M.Sc Biochemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-215			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Analytical Biochemistry and Physical Biochemistry Practical		CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Semester No	II		CO2	3	3	3	1	2	2	2	2	3	2	3	2	2	2	2
Teacher Name	Dr. Pawanjeet Vaddadi and Dr. Sunny Rupwate		CO3	3	3	2	2	2	1	3	3	3	2	3	1	3	3	3
Course Outcomes			CO4	3	3	3	2	2	1	3	3	3	2	3	1	2	2	2
	CO1	The students will gain experimental training for preparation of solutions	CO5	1	1	0	0	1	1	0	1	1	0	0	1	1	0	1

	CO2	Qualitatively and quantitatively isolate different Biomolecules such as proteins, amino acids and lipids Students will be able to determine the industrial value of a particular oil or fat depending upon its physical and chemical characteristics Students will get hands on training on techniques like chromatography and electrophoresis	Average	2.60	2.60	2.20	1.60	2.00	1.60	2.20	2.40	2.60	1.80	2.40	1.60	2.20	2.00	2.20	
	CO3																		
	CO4																		
	CO5																		

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Class		M.Sc. Biochemistry		Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-311	PO1	PO2		PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3		
Subject Name	Molecular Biology	CO1	3	2	3	3	2	2	3	2	1	1	3	2	3	2	2		
Semester No	III	CO2	3	2	2	3	2	2	3	2	2	1	3	2	3	2	2		
Teacher Name	Dr. S. J. Suryavanshi	CO3	3	2	2	3	2	3	3	2	2	1	3	3	3	2	2		
Course Outcomes		CO4	3	2	2	3	2	2	3	0	2	1	3	2	3	2	2		
	CO1	Students will understand types of DNA & RN	CO5	3	2	2	3	2	2	3	0	2	1	3	2	3	2		
	CO2	Details of replication in prokaryotes & eukary	Average	3.00	2.00	2.20	3.00	2.00	2.20	3.00	1.20	1.80	1.00	3.00	2.20	3.00	2.00		
	CO3	How environmental factors & chemicals damage the DNA, Repair mechanisms present in the cells																	
	CO4	How gene expression is regulated																	
	CO5	Synthesis of proteins & their targeting to where they are required.																	

Class		M.Sc Biochemistry		Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-312	PO1	PO2		PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3		
Subject Name	Immunology	CO1	3	3	2	3	2	3	2	2	3	3	3	2	3	3	2		
Semester No	III	CO2	2	1	2	3	2	3	2	2	3	3	3	3	3	2	2		
Teacher Name	Dr. Pawanjeet Vaddadi	CO3	3	3	2	3	2	3	2	2	3	3	3	2	3	2	3		
Course Outcomes		CO4	2	2	2	3	2	3	2	3	3	3	3	3	3	2	3		
	CO1	Students are acquainted with basic immunolog	CO5	2	2	2	3	2	3	2	3	3	3	3	3	2	3		
	CO2	humoral, cell-mediated and innate immune	Average	2.40	2.20	2.00	3.00	2.00	3.00	2.00	2.40	3.00	3.00	2.60	3.00	2.20	2.60		
	CO3	Acquire in-depth knowledge of Immunoglobulins and antigens																	
	CO4	involved in different types of hypersensitivity																	
	CO5	Analyze importance of conventional vs. Recombinant vaccines																	

Class		M.Sc. Biochemistry		Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-313	PO1	PO2		PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3		
Subject Name	Recombinant DNA Technology	CO1	3	2	2	2	3	2	3	3	2	2	3	2	3	2	2		
Semester No	III	CO2	3	2	2	2	3	2	3	2	2	2	3	2	3	2	2		
Teacher Name	Dr. R.D.Tak ; Dr. S.D. Rupwate	CO3	3	2	2	2	3	2	3	2	2	1	3	2	3	2	2		

Course Outcomes		CO4	3	2	2	2	3	2	3	2	2	1	3	2	3	2	2
CO1	Students will understand the need of manipulation of DNA	CO5	3	2	2	2	3	2	3	3	2	1	3	3	3	2	2
CO2	Use of suitable vectors & markers for particular cloning	Average	3.00	2.00	2.00	2.00	3.00	2.00	3.00	2.40	2.00	1.40	3.00	2.20	3.00	2.00	2.00
CO3	How the genes as well as proteins can be modified																
CO4	How the recombinants can be identified																
CO5	Students will be able to use this info in medicine, agriculture fields etc																

Class	M.Sc Biochemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-314	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Bio-processing and Industrial Biochemistry	CO1	3	3	2	3	2	3	2	2	3	3	3	2	3	3	2
Semester No	III	CO2	2	1	2	3	2	3	2	2	3	3	3	3	3	2	2
Teacher Name	Mr. N.S.Gaikwad	CO3	3	3	2	3	2	3	2	2	3	3	3	2	3	2	3
Course Outcomes		CO4	2	2	2	3	2	3	2	3	3	3	3	3	3	2	3
CO1	Students are exposed to information about the production of active compounds	CO5	2	2	2	3	2	3	2	3	3	3	3	3	3	2	3
CO2	At the end students acquire knowledge about use of continuous production of active compounds	Average	2.40	2.20	2.00	3.00	2.00	3.00	2.00	2.40	3.00	3.00	3.00	2.60	3.00	2.20	2.60
CO3	Students acquire knowledge about continuous production of active compounds including secondary metabolites and engineered molecules																
CO4	Students are exposed to how tissue culture is used to develop thousands of genetically identical plants from one single parent plant																
CO5	At the end students understand about the production of vaccines, pharmaceutical drugs, development of useful viruses for use in vaccine production.																

Class	M.Sc Biochemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-315	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Molecular Biology and Immunological techniques	CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Semester No	III	CO2	3	3	3	3	3	2	3	3	3	3	3	3	3	3	1
Teacher Name	Dr. Sunny D Rupwate and Dr. Pawanjee	CO3	2	3	2	2	2	2	2	3	2	2	1	3	3	3	3
Course Outcomes		CO4	3	3	3	3	3	2	1	2	2	2	1	2	3	1	3
CO1	To get expertise in isolation of plasmids, cloning of DNA	CO5	3	1	1	2	1	1	1	2	3	2	0	3	3	3	3
CO2	Student will learn about the technique like PCR	Average	2.80	2.60	2.40	2.60	2.40	2.00	2.00	2.60	2.60	2.40	1.60	2.80	3.00	2.60	2.60
CO3	Student will learn how to design primer and designing cloning strategy																
CO4	The student will demonstrate knowledge and practice of common immunological laboratory procedures used to detect and measure the immune response																
CO5	Student will learn about the technique like lateral flow immunoassay																

Class	M.Sc Biochemistry	Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-411	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Neurochemistry & Endocrinology	CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Semester No	IV	CO2	3	3	3	3	3	2	3	3	3	3	3	3	3	3	1
Teacher Name	Dr Rajesh D Tak and Mr. N.S.Gaikwad	CO3	2	3	2	2	2	2	2	3	2	2	1	3	3	3	3
Course Outcomes		CO4	3	3	3	3	3	2	1	2	2	2	1	2	3	1	3
CO1	Gain a comprehensive understanding of the relationship between neurochemistry and endocrinology	CO5	3	1	1	2	1	1	1	2	3	2	0	3	3	3	3

CO2	Investigate Receptor Function and Sensory Perception	Average	2.80	2.60	2.40	2.60	2.40	2.00	2.00	2.60	2.60	2.40	1.60	2.80	3.00	2.60	2.60
CO3	Examine Learning and Memory Mechanisms																
CO4	Investigate the biochemistry of muscle contraction and cell motility,																
CO5	Examine the biochemistry of nerve conduction																

Class		Course Outcomes	Program Outcomes												PSOs		
Subject Code	Subject Name		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
BCH-412	Medical Biochemistry	CO1	3	3	3	2	2	1	3	2	3	2	3	3	3	2	3
IV	Dr. S. J. Suryavanshi	CO2	3	3	3	2	2	1	3	2	3	2	3	3	3	2	3
		CO3	3	2	2	2	2	2	3	2	2	2	3	3	3	2	3
		CO4	3	2	1	3	2	2	3	2	2	1	3	3	3	2	3
		CO5	3	1	1	1	1	1	3	1	1	1	3	2	3	1	1
		Average	3.00	2.20	2.00	2.00	1.80	1.40	3.00	1.80	2.20	1.60	3.00	2.80	3.00	1.80	2.60
	CO1	Students will learn different drugs against bacteria															
	CO2	How these causative agents become resistant to antibiotics															
	CO3	How cancer develops, types etc															
	CO4	Study of sickle cell anemia, thalassemia, malaria															
	CO5	Diseases due to accumulation of abnormal proteins in brain															

Class		Course Outcomes	Program Outcomes												PSOs		
Subject Code	Subject Name		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
BCH-413	Clinical Nutrition and Food Technology	CO1	3	3	3	2	2	1	3	2	3	2	3	2	3	2	3
IV	Dr. Sunny D Rupwate and Dr. Pawanjee	CO2	3	3	3	2	2	1	2	2	3	2	3	2	3	2	3
		CO3	3	0	2	2	1	3	2	2	2	2	3	2	3	2	3
		CO4	3	2	1	2	1	0	2	1	1	1	3	1	3	2	3
		CO5															
		Average	3.00	2.00	2.25	2.00	1.50	1.25	2.25	1.75	2.25	1.75	3.00	1.75	3.00	2.00	3.00
	CO1	By the end of this course, students should be able to identify the nutrients in food															
	CO2	Students should be proficient in assessing the nutritional status of individuals															
	CO3	By the end of this course, students should have a comprehensive understanding of various food processing techniques, including preservation, packaging, thermal processing, and fermentation															
	CO4	They should understand the importance of hygiene, sanitation, and regulatory compliance in food manufacturing															
	CO5																

Class		Course Outcomes	Program Outcomes												PSOs		
Subject Code	Subject Name		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
BCH-414	Clinical Biochemistry and Research Methods	CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
IV	Dr. S. J. Suryavanshi	CO2	3	2	3	2	3	3	3	3	3	3	3	3	3	3	3
		CO3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
		CO4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
		CO5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
		Average	3.00	2.80	3.00	2.80	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
	CO1	Students will understand to use their knowledge to identify the normal levels of various parameters															
	CO2	They will know handling of blood, urine samples															
	CO3	Checking particular parameters for a particular organ															
	CO4	Corelate with the normal levels															
	CO5	Come to the conclusion of a possible problem in that individual															

Class		M.Sc Biochemistry		Course Outcomes	Program Outcomes												PSOs		
Subject Code	BCH-415	PO1	PO2		PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3		
Subject Name	Project	CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Semester No	IV	CO2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Teacher Name	Dr. Pawanjeet Vaddadi ; Dr. S. J. Suryav	CO3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
Course Outcomes		CO4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
	CO1	Student will be able to choose an appropriate top	CO5	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
	CO2	For the selected research topic, student will be ab	Average	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00		
	CO3	For the selected study, student will be able to complile relevant data, interpret and analyze it																	
	CO4	Student will be able to write a project report and will be able to defend his/her work in front of examiners																	
	CO5	Students can experience a boost in confidence in employment interviews as they complete thorough study of project topic																	

CO-PO Mapping

		Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
FY	FY	1 BCH-111	3.00	1.80	2.80	2.40	2.00	2.40	2.60	1.80	1.40	0.60	2.80	2.20
		2 BCH-112	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		3 BCH-113	2.40	1.60	2.60	2.40	1.60	1.40	2.60	2.50	2.00	1.80	2.60	1.80
		4 BCH-114	3.00	3.00	2.80	2.20	2.40	2.00	2.80	2.80	3.00	2.40	3.00	2.00
		5 BCH-114	2.60	2.60	2.20	1.60	2.00	1.60	2.20	2.40	2.40	2.00	2.60	1.60
		6 BCH-115	2.60	2.40	2.60	2.00	2.60	2.40	2.60	2.60	2.60	2.60	2.60	2.60
		7 BCH-211	3.00	1.80	3.00	3.00	2.00	2.00	3.00	2.60	2.40	2.00	3.00	2.60
		8 BCH-212	3.00	3.00	2.80	2.00	2.40	2.20	2.60	2.60	3.00	2.40	3.00	2.20
		9 BCH-213	2.40	2.20	2.00	1.60	1.60	1.20	2.50	1.60	2.20	1.60	2.20	2.20
		10 BCH-214 (T)	2.20	1.60	2.60	1.40	1.20	1.20	2.60	1.80	1.20	1.80	1.40	1.60
		11 BCH-215	1.00	1.00	2.00	1.00	0.00	0.00	2.00	1.00	0.00	1.00	1.00	1.00
		12 #REF!	2.60	2.60	2.20	1.60	2.00	1.60	2.20	2.40	2.60	1.80	2.40	1.60
SY	SY	1 BCH-311	3.00	2.00	2.20	3.00	2.00	2.20	3.00	1.20	1.80	1.00	3.00	2.20
		2 BCH-312	2.40	2.20	2.00	3.00	2.00	3.00	2.00	2.40	3.00	3.00	3.00	2.60
		3 BCH-313	3.00	2.00	2.00	2.00	3.00	2.00	3.00	2.40	2.00	1.40	3.00	2.20
		4 BCH-314	2.40	2.20	2.00	3.00	2.00	3.00	2.00	2.40	3.00	3.00	3.00	2.60
		5 BCH-315	2.80	2.60	2.40	2.60	2.40	2.00	2.00	2.60	2.60	2.40	1.60	2.80
		6 BCH-411	2.80	2.60	2.40	2.60	2.40	2.00	2.00	2.60	2.60	2.40	1.60	2.80
		7 BCH-412	3.00	2.20	2.00	2.00	1.80	1.40	3.00	1.80	2.20	1.60	3.00	2.80
		8 BCH-413	3.00	2.00	2.25	2.00	1.50	1.25	2.25	1.75	2.25	1.75	3.00	1.75
		9 BCH-414	3.00	2.80	3.00	2.80	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
		10 BCH-415	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

CO-PO ATTAINMENT

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
3	1.8	2.8	2.4	2	2.4	2.6	1.8	1.4	0.6	2.8	2.2
0	0	0	0	0	0	0	0	0	0	0	0
2.4	1.6	2.6	2.4	1.6	1.4	2.6	2.5	2	1.8	2.6	1.8
3	3	2.8	2.2	2.4	2	2.8	2.8	3	2.4	3	2
2.6	2.6	2.2	1.6	2	1.6	2.2	2.4	2.4	2	2.6	1.6
2.6	2.4	2.6	2	2.6	2.4	2.6	2.6	2.6	2.6	2.6	2.6
3	1.8	3	3	2	2	3	2.6	2.4	2	3	2.6
3	3	2.8	2	2.4	2.2	2.6	2.6	3	2.4	3	2.2
2.4	2.2	2	1.6	1.6	1.2	2.5	1.6	2.2	1.6	2.2	2.2
2.2	1.6	2.6	1.4	1.2	1.2	2.6	1.8	1.2	1.8	1.4	1.6
1	1	2	1	0	0	2	1	0	1	1	1
2.6	2.6	2.2	1.6	2	1.6	2.2	2.4	2.6	1.8	2.4	1.6
3	2	2.2	3	2	2.2	3	1.2	1.8	1	3	2.2
2.4	2.2	2	3	2	3	2	2.4	3	3	3	2.6
3	2	2	2	3	2	3	2.4	2	1.4	3	2.2
2.4	2.2	2	3	2	3	2	2.4	3	3	3	2.6
2.8	2.6	2.4	2.6	2.4	2	2	2.6	2.6	2.4	1.6	2.8
2.8	2.6	2.4	2.6	2.4	2	2	2.6	2.6	2.4	1.6	2.8
3	2.2	2	2	1.8	1.4	3	1.8	2.2	1.6	3	2.8
3	2	2.25	2	1.5	1.25	2.25	1.75	2.25	1.75	3	1.75
3	2.8	3	2.8	3	3	3	3	3	3	3	3
3	3	3	3	3	3	3	3	3	3	3	3

CO-PSO MAPPING

CO-PSO ATTAINMENT

Percentage CO-PSO ATTAINMENT

FY

SY

	Course	PSO1	PSO2	PSO3
1	BCH-111	2.60	2.20	2.00
2	BCH-112	0.00	0.00	0.00
3	BCH-113	2.40	2.00	2.40
4	BCH-114	2.60	2.60	2.60
5	BCH-114	2.20	2.20	2.00
6	BCH-115	2.40	2.40	2.60
7	BCH-211	3.00	2.60	2.40
8	BCH-212	2.60	2.60	2.60
9	BCH-213	2.20	1.60	2.20
10	BCH-214 (1.60	1.60	1.40
11	BCH-215	1.00	2.00	1.00
12	#REF!	2.20	2.00	2.20
1	BCH-311	3.00	2.00	2.00
2	BCH-312	3.00	2.20	2.60
3	BCH-313	3.00	2.00	2.00
4	BCH-314	3.00	2.20	2.60
5	BCH-315	3.00	2.60	2.60
6	BCH-411	3.00	2.60	2.60
7	BCH-412	3.00	1.80	2.60
8	BCH-413	3.00	2.00	3.00
9	BCH-414	3.00	3.00	3.00
10	BCH-415	3.00	3.00	3.00

	Course	PSO1	PSO2	PSO3
	BCH-111	2.6	2.2	2
	BCH-112	0	0	0
	BCH-113	2.4	2	2.4
	BCH-114	2.6	2.6	2.6
	BCH-114	2.2	2.2	2
	BCH-115	2.4	2.4	2.6
	BCH-211	3	2.6	2.4
	BCH-212	2.6	2.6	2.6
	BCH-213	2.2	1.6	2.2
	BCH-214 (T)	1.6	1.6	1.4
	BCH-215	1	2	1
	#REF!	2.2	2	2.2
	BCH-311	3	2	2
	BCH-312	3	2.2	2.6
	BCH-313	3	2	2
	BCH-314	3	2.2	2.6
	BCH-315	3	2.6	2.6
	BCH-411	3	2.6	2.6
	BCH-412	3	1.8	2.6
	BCH-413	3	2	3
	BCH-414	3	3	3
	BCH-415	3	3	3

	Course	PSO1	PSO2	PSO3
	BCH-111	100	100	100
	BCH-112	#DIV/0!	#DIV/0!	#DIV/0!
	BCH-113	100	100	100
	BCH-114	100	100	100
	BCH-114	100	100	100
	BCH-115	100	100	100
	BCH-211	100	100	100
	BCH-212	100	100	100
	BCH-213	100	100	100
	BCH-214 (100	100	100
	BCH-215	100	100	100
	#REF!	100	100	100
	BCH-311	100	100	100
	BCH-312	100	100	100
	BCH-313	100	100	100
	BCH-314	100	100	100
	BCH-315	100	100	100
	BCH-411	100	100	100
	BCH-412	100	100	100
	BCH-413	100	100	100
	BCH-414	100	100	100
	BCH-415	100	100	100