



Yashwantrao Chavan College of Science, Karad
Department Of Chemistry
B.Sc. II Biochemistry
PO's for B.SC Biochemistry

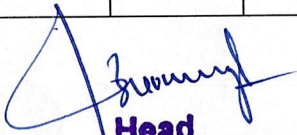
PO1	To Provide basic knowledge of the biological concepts.
PO2	To Understand the classification, configuration and structure of biomolecules.
PO3	To Understand enzymes and how they catalyse reactions.
PO4	To use current biochemical and molecular techniques to plan and carry out experiments
PO5	To help to solve biochemical problems.
PO6	To Understand biochemistry at the atomic level, draw molecules and reaction mechanisms perfectly.

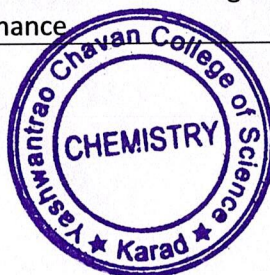

Head
Department of Chemistry
Yashwantrao Chavan College of
Science, Karad

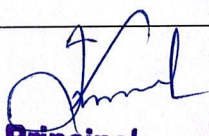



Principal
Yashwantrao Chavan College
of Science, Karad

Name of the programme	Sr. No. for courses	Course code	Course Name	Course Outcome
				Upon successful completion of the course, students will be able to:
	1		Biomolecules	Be able to demonstrate the structural and functional role of biomolecules.
B.Sc. Biochemistry				Analyze the structure function relations in various enzymes and basics of enzyme regulation.
				Illustrate the catalytic mechanisms involved in synthesis of chemical energy from biomolecules.
	2		Metabolism and Nutrition	Explain the physiological significance of anabolic and catabolic pathways used to drive cellular functions.
B.Sc. biochemistry				Compare oxidative phosphorylation and photophosphorylation at molecular level.
				Describe vitamins as coenzymes and cofactors, sources, requirements, functions and deficiency symptoms of water soluble vitamins, structure and biochemical role.
	3		Biochemical techniques and	Be able to relate to bioinformatics, database.
B.Sc. Biochemistry			Bioinformatics	Learning and coherent understanding of paper and ion exchange chromatography, eletrophoresis.
	4		Molecular Biology and Biotechnology	Describe the process polymerase chain reaction (PCR) and demonstrate its application.
B.Sc. Biochemistry				Enlist the chemical and biological differences between DNA, RNA and their role in cellular behavior.
				Summarize the central dogma of molecular biology and how mutations in DNA can alter cell performance


Head
 Department of Chemistry
 Yashwantrao Chavan College of
 Science, Karad




Principal
 Yashwantrao Chavan College
 of Science, Karad

YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

Department of Chemistry &

B.Sc. II Biochemistry

Sem - I

Course Plan

Course Code		Course	Biomolecules (Paper I)	
Prepared by	Mrs.N.R Panwal		Year	2018-2024
Pre-requisites	<ul style="list-style-type: none">• Basic (10+2) knowledge of science faculty + good analytical skills.• Basic knowledge regarding Biological concepts.			
Course Outcomes				
At the end of the course the students should be able to:				
CO1	To Understand the classification,configuration and structure of biomolecules			
CO2	To Illustrate the mechanism of biomolecules.			
CO3	To Analyze various enzymes and their enzyme regulation.			
CO4	To Understand the biomolecules at atomic level.			


Head
Department of Chemistry
Yashwantrao Chavan College of
Science, Karad




Principal
Yashwantrao Chavan College
of Science, Karad

YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

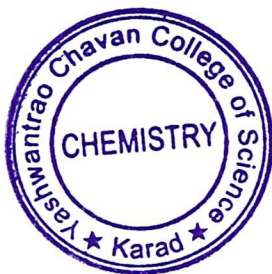
Department of Chemistry &

B.Sc. II Biochemistry

Sem - I

Course Code		Course	Nutrition and Metabolism (Paper II)	
Prepared by	Mrs.N.R.Panwal		Year	2018-2024
Pre-requisites	<ul style="list-style-type: none">• Basic (10+2) knowledge of science faculty + good analytical skills.• Basic knowledge regarding Biological concepts.			
Course Outcomes				
At the end of the course the students should be able to:				
CO1	To Understand the physiological significance of anabolic and catabolic pathways			
CO2	To Illustrate the mechanism of biomolecules.			
CO3	To Illustrate the catalytic mechanisms involved in synthesis of chemical energy from biomolecules.			
CO4	To Elucidate the inhibition of electron transport chain by various inhibitors.			

Head
Department of Chemistry
Yashwantrao Chavan College of
Science, Karad



Principal
Yashwantrao Chavan College
of Science, Karad

YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

Department of Chemistry &

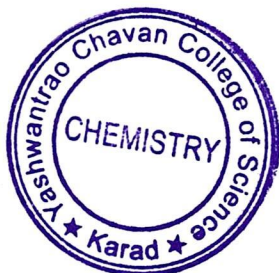
B.Sc. II Biochemistry

Sem - II

Course Plan

Course Code		Course	Biochemical techniques & Bioinformatics(Paper-III)	
Prepared by	Mrs.N.R.Panwal		Year	2018-2024
Pre-requisites	<ul style="list-style-type: none">• Basic (10+2) knowledge of science faculty + good analytical skills.• Basic knowledge regarding Biological concepts.			
Course Outcomes				
At the end of the course the students should be able to:				
CO1	To Learning of therotical basis of absorption spectroscopy.			
CO2	To Illustrate the biochemical and molecular techniques.			
CO3	To Learining of Chromatographic techniques.			
CO4	To Explain the immune system.			


Head
Department of Chemistry
Yashwantrao Chavan College of
Science, Karad




Principal
Yashwantrao Chavan College
of Science, Karad

YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

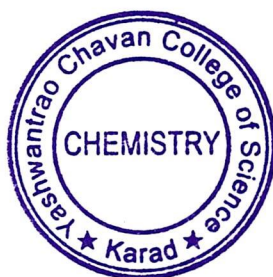
Department of Chemistry &

B.Sc. II Biochemistry

Course Plan

Course Code		Course	Molecular biology & Biotechnology(Paper IV)	
Prepared by	Mrs.N.R.Panwal		Year	2018-2024
Pre-requisites	<ul style="list-style-type: none">• Basic (10+2) knowledge of science faculty + good analytical skills.• Basic knowledge regarding Biological concepts.			
Course Outcomes				
At the end of the course the students should be able to:				
CO1	To Explain the chemical and biological difference between DNA and RNA.			
CO2	To Understand the central dogma of life.			
CO3	To Illustrate characterization of DNA using different techniques.			
CO4	To Explain the fuctions of drugs used in diabetes and AIDS.			

Head
Department of Chemistry
Yashwantrao Chavan College of
Science, Karad



Principal
Yashwantrao Chavan College
of Science, Karad

YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

Department of Chemistry &

B.Sc. II Biochemistry

PSOs

PSO-1 .After completion of the program the students are well poised to pursue careers in academic and industry in the areas of pharmaceutical and biochemistry.

PSO-2. Health care professionals for services in the fields of clinical biochemistry, laboratory management, hospital and community services.

PSO-3. The students will be able to demonstrate practical skills in handling biological specimens, analysis and their safe disposal.


PSO-4. Communicate the fundamental concepts of specific molecules, enzymes, cells, organ systems and metabolism of compounds.

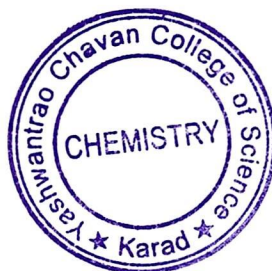
PSO-5.Apply the knowledge and expertise in industries, diagnostic laboratories and various research fields.

PSO-6.Impart practical skills and scientific knowledge in domains of Molecular biology, enzymology, genetics, clinical biology and immunology.

PSO-7.Develop problem solving ability by utilizing the conceptual knowledge, analytical techniques, computational and statistical approaches.

PSO-8.Facilitate to pursue post graduation in related fields in life sciences and contribute their knowledge to the betterment of the society in various research and health care sectors.


Head
Department of Chemistry
Yashwantrao Chavan College of
Science, Karad




Principal
Yashwantrao Chavan College
of Science, Karad