



# SHIVAJI UNIVERSITY, KOLHAPUR

## Department of Bio-Chemistry

2023 - 2024

### Department of Bio-Chemistry

Establishment Year : 1995

Head of the Department : KAILAS DASHARATH SONAWANE

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Autonomous : No

### Programmes Offered in the Department

Sr. No	Programme Name	Branch	Duration		Intake	Eligibility Criteria
			Year	Month		
1	M.Sc.-Master of Science	Medical Information Management	2	0	20	B.Sc.in Chem/Physics/Nano&Tech/Stat/Maths/Biochem/Biotech/Micro/Bioinfo/Botany/Zoo/Comp Sci/Life Sci
2	M.Sc.-Master of Science	Bio-Chemistry	2	0	25	B.Sc. with Biotechnology/Chemistry/Biochemistry/Microbiology/Botany/Zoology/Life Sciences.

Ph.D Offered : Yes

**Placement opportunities :** Industry, Clinical Laboratories, Teaching, Entrepreneurship, IT Companies

**Salient Features of the Department:** Thurst area of the Department: Bioremediation & Phytoremediation, Clinical Research and Bioinformatics.  
Placement Of Students In Reputed Academic & Research Institutions as well as Industries.  
Well-equipped department with the sophisticated instruments, research facilities and infrastructure.

### Teaching Staff Information

Sr.No	Faculty Name	Designation
1	Dr. Smt. Jyoti Prafulla Jadhav	PROFESSOR
2	Dr. Shri. Kailas Dasharath Sonawane	PROFESSOR
3	Dr. Smt. Padma Babulal Dandge	ASSOCIATE PROFESSOR
4	Dr. Shri. Pankaj Kautirao Pawar	ASSOCIATE PROFESSOR
5	Shri. Sandip Shantaram Kale	ASSISTANT PROFESSOR
6	Pradeep Mahadeo Gurao	

**Infrastructure Facilities**

Classrooms
Laboratory
Seperate Common Room exclusively for Girls

Conference Hall
Library

## Equipments

Sr.No	Equipments Name	Description / Use
1	-80 Degree C Deep Freezer	<ul style="list-style-type: none"> <li>effective and safe storage of medical and pharmaceutical vaccines, blood plasma, serum and many other biological materials etc.</li> </ul>
2	Animal & Plant Tissue Culture Lab	<ul style="list-style-type: none"> <li>Cell based manufacturing</li> <li>Genetic engineering</li> <li>Drug screening and development</li> </ul>
3	Bio-Spectrophotometer	<ul style="list-style-type: none"> <li>determination of drugs, include metal-ion complexes, redox reactions, and the formation of charge-transfer complexes based on</li> </ul>
4	Cold Room Facility	<ul style="list-style-type: none"> <li>Precise temperature control of certain drugs, biologics, and medical devices to prevent degradation and guarantee user safety</li> </ul>
5	DCGE	
6	DNA Sequencer	<ul style="list-style-type: none"> <li>to determine the sequence of individual genes, larger genetic regions (i.e. clusters of genes or operons), full chromosomes, or entire genomes of any organism</li> </ul>
7	ELISA Reader	For detection of immunological sample
8	F.T.I.R.	<ul style="list-style-type: none"> <li>identification of unknown materials and confirmation of production materials (incoming or outgoing)</li> </ul>
9	Fermenter	<ul style="list-style-type: none"> <li>basic research and development, and the manufacturing of biopharmaceuticals, food and food additives, chemicals, and other products</li> </ul>
10	Flow Cytometer	<ul style="list-style-type: none"> <li>to detect and analyse the chemical and physical characteristics of cells or particles</li> </ul>
11	Fluorescence Microscope	For analysis of fluorescence laded cells
12	Gas Chromatography	<ul style="list-style-type: none"> <li>Accurate quantification</li> <li>Sensitive analysis</li> <li>Food Analysis</li> <li>Environmental monitoring</li> <li>Drug Testing</li> <li>Forensics</li> </ul>
13	Gel Documentation System	<ul style="list-style-type: none"> <li>to record and analyse the results of gel electrophoresis and membrane blotting experiments</li> </ul>
14	Gradient PCR	<ul style="list-style-type: none"> <li>Amplification of nucleic acid</li> </ul>
15	HPLC	<ul style="list-style-type: none"> <li>quantitative determination of plasma levels of drugs and their metabolites</li> <li>to confirm the identity of a drug</li> <li>monitor the progress of the therapy of a disease</li> </ul>
16	HPTLC	<ul style="list-style-type: none"> <li>purity control of chemicals, pesticides, steroids, and water analysis</li> </ul>
17	High Speed Centrifuge	<ul style="list-style-type: none"> <li>to separate particles of different mass or densities suspended in a liquid</li> </ul>
18	Lyophiliser	<ul style="list-style-type: none"> <li>increase the shelf life of vaccines and other pharmaceutical products</li> <li>transportation of biopharmaceuticals</li> </ul>
19	RT PCR	<ul style="list-style-type: none"> <li>detection of expressed genes, examination of transcript variants, and generation of cDNA templates for cloning and sequencing</li> </ul>
20	Spectrofluometer	<ul style="list-style-type: none"> <li>high precision quantification of DNA and RNA</li> <li>to analyse drugs</li> </ul>

21	Western Blot System	• separate and identify proteins
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**Other information:** ---

**Department Head Signature**