

**Placement Brochure**  
**Department of Biotechnology**  
**University of Kashmir**

**MESSAGE FROM THE HEAD**

The Department of Biotechnology at the University of Kashmir, established in 2000, has swiftly ascended to the forefront of biotechnology education and research in India. This remarkable achievement is a testament to the unwavering teamwork, dedication, and integrity of our exceptional faculty, many of whom have honed their expertise at prestigious international institutions in the USA and Europe.

Our department's primary focus lies in fostering post-graduate teaching and doctoral research programs, attracting the brightest minds through a rigorous selection process based on the national-level Graduate Aptitude Test in Biotechnology (GAT-B). These outstanding students receive a monthly stipend of Rs. 5,000, further strengthening their commitment to academic excellence. The financial support of the Department of Biotechnology (DBT), New Delhi, is instrumental in propelling our post-graduate program to new heights.

As we chart our course for the future, I wholeheartedly encourage each individual to embrace innovation, perseverance, and a relentless pursuit of knowledge. Our work holds the potential to revolutionize lives and pave the way for a brighter tomorrow. It is with immense pride that I lead such a talented and dedicated team, united in our mission to advance the frontiers of biotechnology.

**VISION**

To become a globally recognized Centre of excellence in biotechnology, propelling Jammu and Kashmir into a brighter future.

**MISSION**

Impart quality education and training in Biotechnology, provide a strong infrastructural base to support quality training and research in Biotechnology across the UT of Jammu and Kashmir

**GOALS**

- 1) Establish an internationally acclaimed center of excellence in biotechnology, propelling Jammu and Kashmir to the forefront of this dynamic field.
- 2) Impart high-quality biotechnology education and training, empowering students to become leaders in their respective domains.

- 3) Cultivate a robust infrastructural foundation that supports world-class biotechnology training and research across Jammu and Kashmir.
- 4) Attract and retain exceptional faculty from diverse biological disciplines, fostering a vibrant intellectual environment.
- 5) Delve into the intricacies of biotechnology's advanced fields, including signaling biology, transcription biology, neurobiology, and genetics.
- 6) Explore the most modern and relevant facets of biotechnology, unraveling the mysteries of life's intricate processes.
- 7) Secure extramural support from leading national funding agencies, including DBT, DST, ICMR, and UGC, to fuel our research endeavors.

### **CORE VALUES**

- 1) Excellence: We are committed to pursuing excellence in every aspect of our endeavors, striving for continuous improvement and innovation.
- 2) Innovation: We foster a culture of creativity and breakthrough thinking, constantly seeking new frontiers in biotechnology.
- 3) Collaboration: We forge strong partnerships with leading academicians and scientists, fostering a collaborative environment that drives groundbreaking research.
- 4) Integrity: We uphold the highest ethical standards, conducting our work with honesty, transparency, and accountability.
- 5) Social Responsibility: We leverage our knowledge and expertise to make a positive impact on society, addressing pressing healthcare challenges and improving lives.

### **ABOUT THE DEPARTMENT**

The Department of Biotechnology at the University of Kashmir was established in 2000 with the aim of attracting and training talented and well-trained faculty from diverse biological disciplines to provide high-quality biotechnology education and research. This DBT (Department of Biotechnology, Ministry of Science and Technology, Government of India)-funded establishment has since grown to be recognized as one of the top ten biotechnology schools in the country for its faculty and infrastructure. The department maintains a high standard of training thanks to its qualified faculty members who have achieved recognition in their respective fields. The success of our students in national and international examinations like NET, GATE, ICMR, and GRE, as well as their placement in organizations of international repute, is a testament to our quality. This department offers a comprehensive M.Sc. Biotechnology program for fifteen students every year, selected from a pool of graduates from diverse biological fields. The program's curriculum is comprehensive and covers everything from basic biotechnology concepts to advanced areas such as signaling biology, transcription biology, neurobiology, and genetics. The department's research program focuses on the most modern and relevant areas of biotechnology,

leading to the award of MPhil and/or Ph.D. degrees. Individual investigators in the department have played a key role in establishing a high-quality research facility and achieving productivity through external funding from national agencies such as DBT, DST, ICMR, and UGC.

### **OUR STRENGTHS**

- 1) **Renowned Faculty:** Our experienced faculty members with diverse expertise bring a wealth of knowledge and experience to the classroom and research laboratory.
- 2) **Comprehensive Curriculum:** Our M.Sc. Biotechnology program covers a broad range of topics, from basic biotechnology concepts to advanced fields such as signaling biology, transcription biology, neurobiology, and genetics.
- 3) **State-of-the-Art Research Facilities:** Our well-equipped research facilities provide our students and researchers with the resources they need to conduct cutting-edge research in various areas of biotechnology.
- 4) **Strong Collaboration:** We actively collaborate with leading academics/industries to ensure that our curriculum and research are aligned with the latest advancements and demands of the biotechnology sector.

### **CORE FACULTY**

Dr. Mahboobul Hussain Professor and Head	Dr. Khurshid Andrabi Professor	Dr. Raies A. Qadri Professor	Dr. Ehtishamul Haq Professor
Dr. Firdous A Khanday Professor	Mr. Bilal Ahmad Reshi Sr. Assistant Professor	Dr. Abrar A Qurashi Sr. Assistant Professor	Dr. Ajazul Hamid Wani
Dr. Asiya Batool Inspire fellow			

### **VISITING FACULTY**

Eminent experts from the biotechnology field including academicians and scientists visit the department regularly to share their knowledge and expertise with students. This exposure ensures that students receive a well-rounded and competitive education that equips them for success in the biotechnology field.

1	Prof. Satyajit Rath Professor of Biology IISER, Pune	Vaccines & nobel prizes: science, technology and public health"
2	Dr. Mohd, Azhar Aziz Director Nanotechnology, Aligarh Muslim University, Aligarh, UP	Precision and Personal Medicine in colorectal Cancer

## **PLACEMENT AND COUNSELING**

The career counselor of the Department of Biotechnology works closely with the Centre for Career Planning & Counselling (CCPC), University of Kashmir, to enable the students to make better, more informed and creative career choices. The Department is proud of its success that its students have been placed in the following prestigious organizations

## **CURRICULUM OVERVIEW**

### **M.Sc. IN BIOTECHNOLOGY**

#### **SPONSORED BY DEPARTMENT OF BIOTECHNOLOGY (DBT), MINISTRY OF SCIENCE AND TECHNOLOGY, GOVERNMENT OF INDIA**

The curriculum is based on choice based credit system (CBCS), spanning four semesters. The students have to obtain 24 credits in each semester. Out of 24 credits, 22 credits have to be obtained from the department of Biotechnology, while 2 credits are required to obtain either from other departments of school of Biological sciences (Named as “Generic elective” (GE), or from any other department of university other than the departments of Biological Sciences (Named as “Open elective” (OE).

The semester I, II and III are based on class teaching, tutorials and laboratory courses, while semester IV is exclusively devoted to 6 months of research project work.

Glossary of terms used in the curriculum:

One Credit: 16 hours of Lecturers (L) or 32 hours of Tutorial (T) or 32 hours of practical (P)

IA: Internal Assessment

SEE: Semester End Examination

CR: Core

DCE: Discipline centric GE: Generic Elective OE: Open Elective

### **PROGRAM OBJECTIVE**

The M.Sc Biotechnology course offered by the department of Biotechnology, University of Kashmir objective is to utilize the academic expertise and research training of its faculty members in providing the platform for imparting highest level of knowledge in the field of biotechnology to the post graduate students. The curriculum structure is designed in a manner so as to provide in first semester the basic knowledge about the cellular, molecular, immunological and metabolic aspects of the living cells. In the subsequent semester two and three, the courses offered orients the students towards the biotechnology specialization, like genetic engineering, plant biotechnology and Bioprocess engineering and fermentation technology. The aim of these courses is to abreast students with latest concepts in the field of biotechnology. The 4th semester research-training objective is to provide research orientation to students. Program outcome After completion of the M.Sc Biotechnology course, the students will possess fundamental concepts of cellular functioning at the molecular level. The students will be able to understand how metabolic pathways operate in the human cells and their significance in physiological and pathophysiological aspects. The immune biology concepts will help students to understand how human body interacts with pathogens and how immune intervention can be helpful in treating various communicable diseases. The students will get to know how genetic engineering and recombinant DNA techniques can be utilized to manipulate animal and plant genomes for the betterment of human welfare. The environmental biotechnology course will help students to understand and implement the biological means in providing safe and clean environment. The Bioethical and biosafety courses will make students aware about the ethical and safety means required during implementation of biotechnological research interventions. Finally, the students will be able to develop research skills and training to explore their abilities as potential scientists.

### **PROGRAM OUTCOME**

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### SYLLABUS/COURSE STRUCTURE

Sem	S.No	Course type	Course Code	Course Title	CD			T C	IM	SEM	TM
					L	T	P				
I	1	Core (CR)	BT23101 CR	Cell Biology	3	1	0	4	20	80	100
	2		BT23102 CR	Molecular Biology-I	3	1	0	4	20	80	100
	3		BT23103 CR	Immune Biology	3	1	0	4	20	80	100
	4		BT23104 CR	Biomolecules	2	0	0	2	10	40	50
	5	Discipline centric (DCE)	BT23101 DCE	Biotechniques	2	1	0	3	15	60	75
	6		BT23102 DCE	Biostatistics	2	0	0	2	10	40	50
	7		BT23103 DCE	Laboratory Course-I	0	0	3	3	15	60	75
	8	Generic elective (GE)	BT23001 GE	Biochemical techniques	2	0	0	2	10	40	50
	9	Open Elective (OE)	BT23001 OE	Introduction to cancer Biology	2	0	0	2	10	40	50
II	1	Core (CR)	BT23201 CR	Animal cell Science and Technology	3	1	0	4	20	80	100
	2		BT23202 CR	Molecular Biology-II	3	1	0	4	20	80	100
	3		BT23203 CR	Advanced Enzymology	3	1	0	4	20	80	100



IV												
	1	Core (CR)	BT23401 CR	Proposal Writing	1	0	0	1	0	25	25	
	2		BT23402 CR	Research Based project	0	0	14	14	70	280	350	
	3		BT23403 CR	Seminar and Journal Club	0	2	0	2	10	40	50	
	4		BT23404 CR	Project presentation	0	3	0	3	15	60	75	
	5		BT23405 CR	Project viva	0	2	0	2	0	50	50	
	6	Generic elective (GE)	BT23005 GE	Basic Recombinant DNA Technology	2	0	0	2	10	40	50	
7	Open elective	BT23003 OE	Bioethics	2	0	0	2	10	40	50		

**Abbreviations:**

Sem: Semester



CD: Credit distribution

TC: Total credits






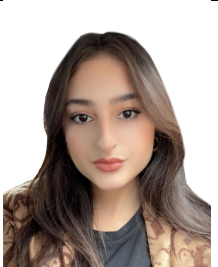
IM: Internal marks

SSE: Semester end marks

**PROFILE BIOTECHNOLOGY STUDENTS**

Name	Specialization	Project Title	Email	Photograph
Danish Rasool Wani	MSc Biotechnology	Stress, ISWI and epigenetic reprogramming-a new insight into the trinucleotide repeat disorders	Danishrasool112@gmail.com	
Auqib hussain parray	MSc Biotechnology	Analysis of eIF4E regulated interactome in condition of mTORC1 and/or MNK1 inhibition	Auqibhussainparray442@gmail.com	



Yasir Mustafa khoja	MSc Biotechnology	Evaluation of the effect of Eif4E on the telomerase activity of cancer cells	Yassirkhoja35@gmail.com	
Raj P Wasnik	MSc Biotechnology	Generation ,expression and purification of iswi SDM mutants	Rajwasnik00@gmail.com	
Raudha Muneer	MSc Biotechnology	Role of Mindin and Pai-1 in a mouse model of Dermal Fibrosis	raudhamuneer@gmail.com	
Beenish bashir	MSc Biotechnology	A study on the FXTAS model of Drosophila	Shahbeenish484@gmail.com	
Showkeen a showkat	MSc Biotechnology	Generation of stable Expression mammalian cell lines using Lentivirus	Showkeenashowkat01@gmail.com	
Shah Wardah	MSc Biotechnology	Isolation and characterization of Bithorax complex of Drosophila cells using CRISPR CAS9 technology	Shahwardah98@gmail.com	

### List of Companies

- Moderna Lnc.
- Cipla Ltd.
- Regeneron Pharmaceuticals
- Bharat biotech
- Biocon Ltd.
- Frontier Lifeline Pvt.Ltd.

- Pfizer
- BioNtech
- Vertex Pharmaceuticals Inc.
- Torrent Pharmaceuticals Ltd.
- Intas Pharmaceuticals
- Indian Immunologicals Ltd.
- C-CAMP
- Serum institute of India
- Chromous Biotech
- International Centre for genetic engineering and Biotechnology
- Tergene Biotech Pvt.Ltd.
- JanaCare Solutions Pvt.Ltd.
- Cadila Pharmaceuticals Ltd.
- Reliance Lifescience
- Shantha Biotechnics Ltd.
- Syngene International Ltd.
- Novo Nordisk
- Roche
- Merck
- Panacea Biotec Ltd.
- Dr.Reddys Laboratories' Ltd.
- Johnson and Johnson India Pvt, Ltd
- JK agri genetics Ltd,
- ThermoFisher scientific
- Sun Pharmaceuticals
- Zydus Cadila
- Strand Lifesciences
- NATCO Pharma
- Mankind Pharma Pvt.Ltd
- Abbott India
- DABUR INDIA LIMITED