



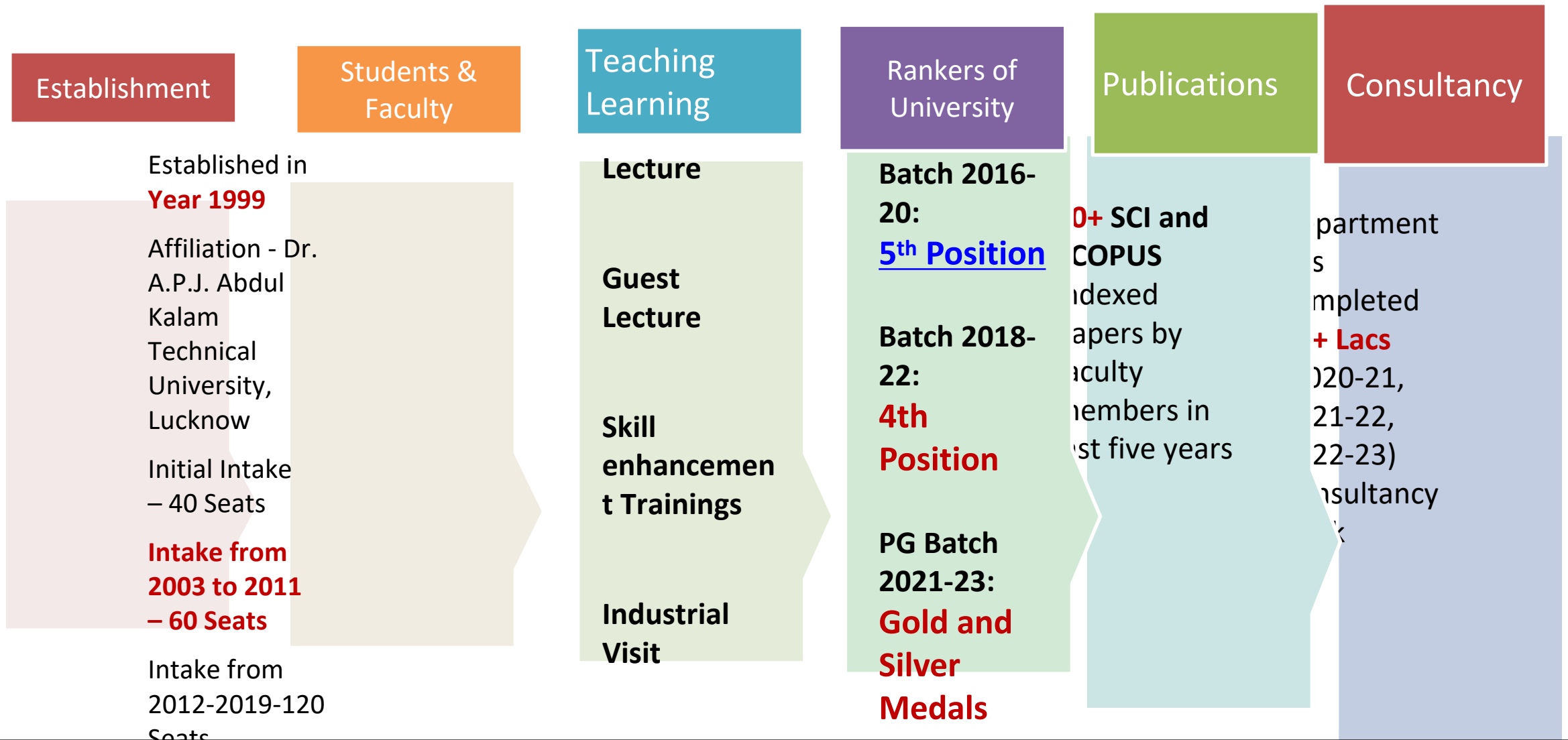
Department of Biotechnology

Welcomes

Outline

- **Department Overview**
- **Human Resources**
- **Recognition and Achievements**
- **Teaching-Learning Process**
- **Result & Placement**
- **Research & Development Initiatives**
- **Innovations and Best Practices**
- **Future Plan**

Department Overview



Department Achievements/ Recognitions

Department Level

- *Oldest Department in This Region*
- *First Department to get NBA in the Institute*
- *University Rank Holders*
- *DST funded DST FIST Centre*
- *ACIC Supported Labs*
- *Approved Ph.D. Research Centre*

Faculty Level

- *DBT & CST UP Funded Projects*
- *Patents and High Index Publications*
- *Fifteen Doctorate faculty members out of eighteen*
- *Award and Recognition*

Student Level

- *Students Patents and Publications*
- *Award and Recognition*
- *Internationally Placed Alumni*
- *Head Positions in Reputed Companies*
- *Own Business as Entrepreneur*

Brief History-Intake

Name of Programme : B.Tech. in Biotechnology

Nature of Programme : Full Time

Duration : 04 Years

Year of Establishment : 1999

NBA Accreditation : Accredited for Academic Years: 2008, 2014 and 2017 (Ext. up to June 2022) and New Cycle result awaited

Session	Sanctioned INTAKE	Strength (1st Year)
2023-24	60	44
2022-23	60	59
2021-22	60	28
2020-21	60	32
2019-20	120	37
2018-19	120	61

Department Vision and Mission

VISION

To be a leading department in the country imparting biotechnological education and problem-solving skills to the budding biotechnocrats capable of meeting emerging challenges in the area of inter-disciplinary education and industries.

MISSION

- ❖ Educating young aspirants in the field of biotechnology and allied fields to fulfill national and global requirements of human resource.
- ❖ Generating trained man-power with advanced techniques in order to meet the professional responsibilities.
- ❖ Imparting social and ethical values in graduates for progressive attainment at social level.

PSO 1 An ability to apply biotechnology skills (including molecular & microbiology, immunology & genetic engineering, bioprocess & fermentation, enzyme & food technology, and bioinformatics) and its applications in core and allied fields.

PSO2 An ability to integrate technologies and develop solutions based on interdisciplinary skills.

Objective

- ❖ Pursue career as bio technocrats in core and allied biotechnological fields all over the world.
- ❖ Undertake advanced domain research and development in the field of translational research, in a sustainable, environment-friendly, and inventive manner.
- ❖ Become an entrepreneur to meet the expectations and demand of modern industrial technologies and health care system.
- ❖ Carry out professional leadership roles in industries as well as academics with a commitment to continuous learning.
- ❖ The society as a bonafide global citizen with strong sense of professional responsibility and ethics.

Faculty Profile

S. No.	Name of Faculty	Designation	Qualification	Teaching Exp.(yrs)	Industry Exp (yrs)	Total Exp (yrs)
1.	Ashima Kathuria	Professor	Ph.D. M.Sc. B.Sc.	20.6		20.6
2.	Eliza Chakraborty	Professor	Ph.D. M.Sc. B.Sc.	35	1.8	36.8
3.	Nitin Verma	Professor	PhD. M.Tech., MSc	12		12
4.	Avinash Singh	Associate Professor & Head	Ph.D. M.Tech.	17		17
5.	D.V. Surya Prakash	Associate Professor	Ph.D. M.Tech. B.Tech.	7		7
6.	Madhuri Gupta	Associate Professor	PhD. M.Tech, B.Tech.			
7.	Aditi Tiwari	Assistant Professor	M.Tech. B.Tech.	1.6		1.6
8.	Akansha Kaushik	Assistant Professor	M.Tech. B.Tech.	1.6		1.6
9.	Ankesh Pandey	Assistant Professor	Ph.D. M.Tech.	3.3		3.3

Faculty Profile

S. No.	Name of Faculty	Designation	Qualification	Teaching Exp.(yrs)	Industry Exp (yrs)	Total Exp (yrs)
10.	Anuj Kumar Singh	Assistant Professor	Ph.D. M.Tech. B.Tech.	2		2
11.	Deepika Pal	Assistant Professor	B.Tech M.Tech	1.6		1.6
12.	Gourav Mishra	Assistant Professor	Ph.D. M.Tech. B.Tech.	5		5
13.	Neha Singh	Assistant Professor	PhD. M.Tech, B.Tech.	3		3
14.	Nikesh Kumar	Assistant Professor	Ph.D., M.TECH.,B.TECH	2		2
15.	Nitika Vats	Assistant Professor	Ph.D., M.TECH.,B.TECH	4		4
16.	Prachi Singh	Assistant Professor	PhD. M.Tech, B.Tech.	2.1	1.4	3.5
17.	Sachin Kumar Tomar	Assistant Professor	Ph.D., M.TECH.,B.TECH	2	3	5

Student Teacher Ratio

Session	Sanctioned INTAKE	Strength (2, 3 & 4 year)	Faculty	STR
2023-24	60	<u>112</u>	<u>17</u>	6.58
2022-23	60	92	19	5.84
2021-22	60	118	21	5.62
2020-21	60	139	21	6.62
2019-20	120	173	29	5.96
2018-19	120	179	29	6.17
Average STR (2018-2022)				6.04



Department of Biotechnology

Student Faculty Ratio

Session	Sanctioned INTAKE	Faculty	SFR
2023-24	198	17	11.64
2022-23	258	19	13.6
2021-22	319	21	15.2
2020-21	388	21	18.5
2019-20	397	29	13.7
2018-19	396	29	13.7
Average SFR (2018-2022)			14.94

Departmental Administration

Departmental Quality Assurance Cell

Dr. Avinash Singh (HOD)

Dr. Ashima Kathuria

Dr. Gourav Mishra

Dr. Neha Singh

Dr. Sachin Kumar Tomar

Departmental Discipline / Academic Monitoring Committee

Dr. Eliza Chakraborty

Dr. Ashima Kathuria

Dr. Nitin Verma

Research and Development Committee

Dr. Eliza Chakraborty

Dr. Ashima Kathuria

Dr. Gourav Mishra

Departmental Complaint Committee / Women Cell

Dr. Eliza Chakraborty

Dr. Ashima Kathuria

Departmental Activities / Event Committee

Dr. Ashima Kathuria

Dr. Nitika Vats

Project Evaluation Committee

Dr. Gourav Mishra

Dr. Neha Singh

Dr. Sachin Kumar Tomar

Faculty Qualification

HIGHEST QUALIFICATION	QUALIFIED	PURSUING
Ph. D.	14	-
M.Tech	03	-

Staff Strength

Description	Number
Lab Instructor	08
Office Attendants	02
Total No. of Supporting Staff	10

Individual Member of Societies

S. No.	Faculty Name	Membership Detail
1.	Dr. Avinash Singh	Life time member of Indian Sc. Congress
2.	Prof. Eliza Chakraborty	Life time member of Indian Sc. Congress , Life time member and national Advisory Board Member of Indian Academy of Biomedical Sciences and ASM ,USA (2003-5)
3.	Dr. Ashima Kathuria	Life time member of Society of Biological Chemists (India), Life time member of Agricultural Technology Development Society (ATDS)
4.	Dr. Nitin Verma	Life Member Associate member of Competence platform on Energy crops and agro forestry systems for semiarid ecosystems in Africa (COMPETE) Life member of Society of Biological Chemists (India). Life Member Associate member of National Solid Waste Association of India (NSWAI). Associate member of Korean Society for Biotechnology & Bioengineering (ID: AVD2917938).

Individual Member of Societies

S. No.	Faculty Name	Membership Detail
5.	Dr. DV Surya Prakash	<p>Senior Member of Hong Kong Chemical, Biological and Environmental Engineering Society (HKCBEEES) (SM-101433)</p> <p>Life time member of National Environmental Science Academy (LM – 494).</p> <p>Life time member of International Society for Research and Development (LM-M4150901984)</p> <p>Life time member of International Associations of Engineers (LM- 175063)</p> <p>Life time member of Indian Science Congress (LM-34417)</p> <p>Member of Institute of Research Engineers and Doctors (SNM20210812382)</p>
6.	Dr. Sachin Kumar Tomar	<p>Life time member of The Institution of Engineers (India)</p> <p>Life time member of The Biotech Research Society India (BRSI)</p>
7.	Dr. Ankesh Pandey	<p>Life time member of The Cytometry Society (TCS) - India (ID No. S-1298)</p>

Awards/Recognitions Received by Faculty

Awards & Recognitions

- Dr. Ashima has received Teaching Excellence award by ATDS in 2021
- Prof. Eliza has received Bharat Gourav Award and Best Educationist Award, National Post Doc Fellowship 2times from ICMR and DBT, International Post Doc fellowship from NIH,USA
- Dr Surya has received JUNIOR SCIENTIST Award - 2015 by the National Environmental Science Academy, New Delhi. And BEST YOUNG RESEARCHER AWARD 2015 – by GRABS Educational Charitable Trust, Chennai.

Award/ Registration for Ph. D. Degree

- Ph. D. Degree has been awarded to two faculty members (Dr. Neha Singh and Dr. Nitika Vats)

Ph. D. guidance

- Dr. Ashima: Two students have completed (Dr. Suman Lata from Integral University, Lucknow and Dr. Hina Iqbal from Singhania University, Rajasthan).

Publications

- **80+ Indexed Journal Articles Published in last Five Years**

Participation of Faculty in Institutional Development

Activity	Faculty Member
Exam Cell Member	Dr. Nitin Verma
Student Counsellor and Counselling Cell Member	Dr. Sachin Kumar Tomar
Placement Cell Member	Dr. Gourav Mishra
Internal Complaint Committee / Women Cell Member	Dr. Ashima Kathuria
Anti Ragging Cell	Dr. Ashima Kathuria
IQAC Member	Dr. Avinash Singh Dr. Ashima Kathuria
Activities and Events-Coordinator: Cultural Activities	Dr. Nitika Vats
Proctor	Dr. Nitika Vats
Skill Development Cell Member	Dr. Neha Singh
Institute Innovation Council: Startup and Internship Activity Coordinator	Dr. Madhuri Gupta
MIET Incubation Forum: WENN Head	Dr. Madhuri Gupta
Institute Ethics Cell: Deputy Chairperson	Dr. Eliza Chakraborty

Faculty Invited for Guest Lecture

S. No.	Name	Institute	Topic Covered	Date
1	Prof. Eliza Chakraborty	DBT Star College Scheme	Biological Waste Disposal	June 2024
2	Dr. Ashima kathuria	IAMR, Ghaziabad	Immuno-Techniques	June 2022
3	Dr. Avinash Singh	HIMT, Greater Noida	Capacity Building: Good Teaching Practices	February 2022

Students Achievements & Innovations

University Ranks

2019-20: Aditya Tyagi has secured 5th rank

2021-22: Istuti Gupta has secured 4th rank

2022-23: Namrata Gurung has secured Gold Medal (PG)

2022-23: Arshita Jindal has secured Silver Medal (PG)

Higher Education/ Placement

23 students have qualified GATE/IELET and took admission for higher education [2018-2023]

182 students have been placed in various organizations / companies

Extra/ Co-Curricular Activities

Roshni Bharti: First Prize, Volley Ball Dr. Abdul Kalam Sports Fest 2021-22 Zonal Level

Yugal Gupta: First Prize, Group Folk Dance, AKTU Arts and Cultural fest 2019-20 (Zonal level)

Amit Tripathi, Shalinee Mishra, Anju Gond: First Prize, Skit, AKTU Arts and Cultural fest 2019-20 (State level)

Ishi Gupta: First Prize, Khokho (F) - Babu Sunder Singh Institute of Technology & Management, Lko (State Level)

Teaching, Learning and Evaluation

Academic
Calendar

Subject
Allocation

Preparation of
Time Table

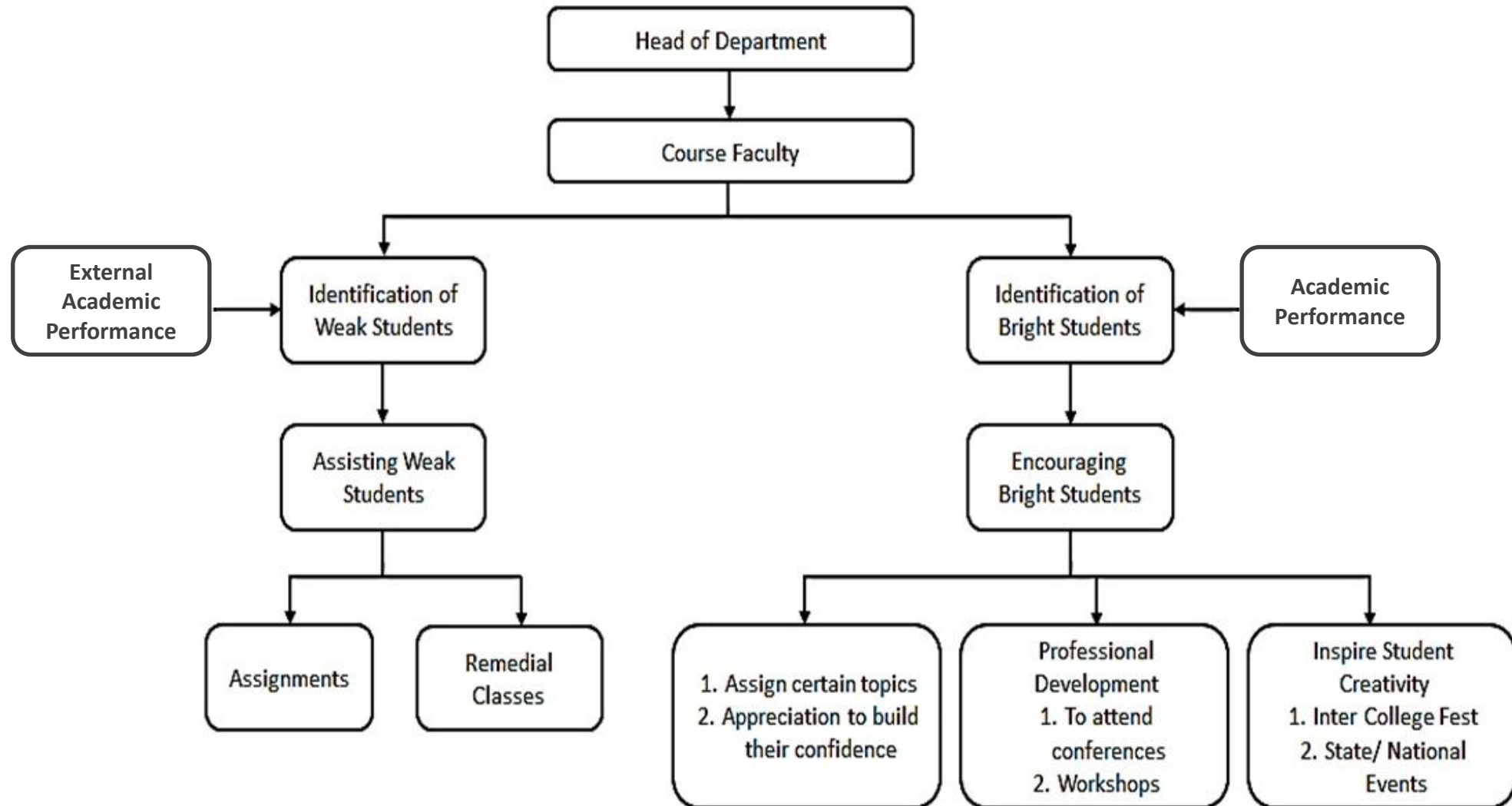
Lesson Plan

HOD

Contact
Classes

Component	Component of Evaluation	Type of Exam
Theory	First Sessional Exam (CT-1)	Short & Long Answer Type Questions
	Second Sessional Exam(CT-2)	Short & Long Answer Type Questions
	Pre-University Exam (PUT)	Short & Long Answer Type Questions
	Assignment/Quiz	Numerical & Short Answer Type Questions/Multiple choice questions
Practical	Weekly Evaluation	Students need to experiment in the lab Analysis of student's performance through viva voce. Practical file checking
	Practical Examination	At the end of the semester Viva-voce & Experiment Conduction
Seminar, Industrial training, and Project	PowerPoint Presentation	Interactive session and viva voce
	Hard Bound or spiral bound Report, Project model	Data interpretation

Initiatives for Slow Learner and Advanced Learner



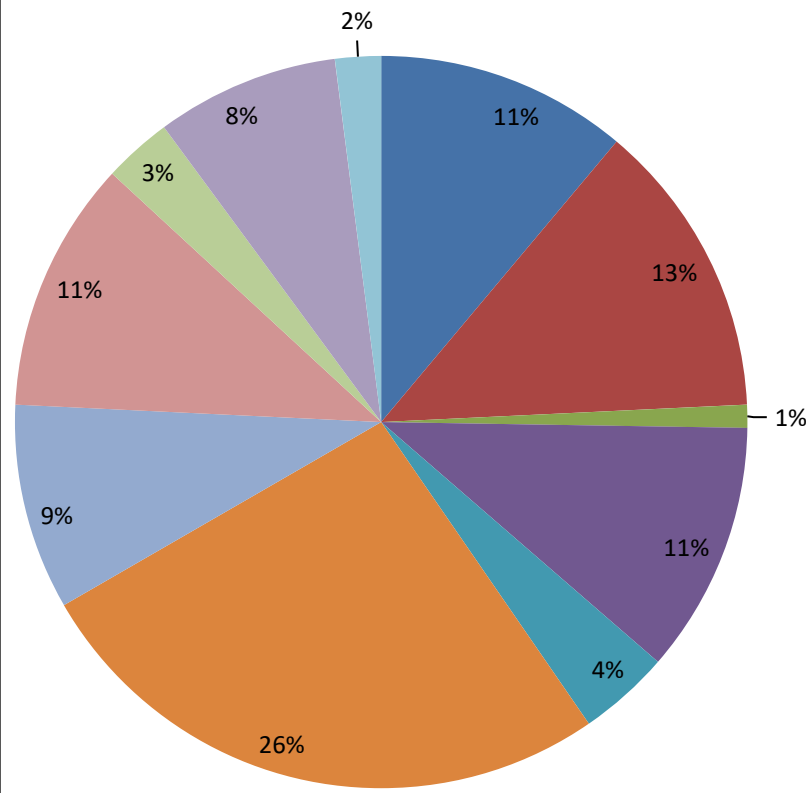
E Learning

ICT based Teaching/ Learning

Videos

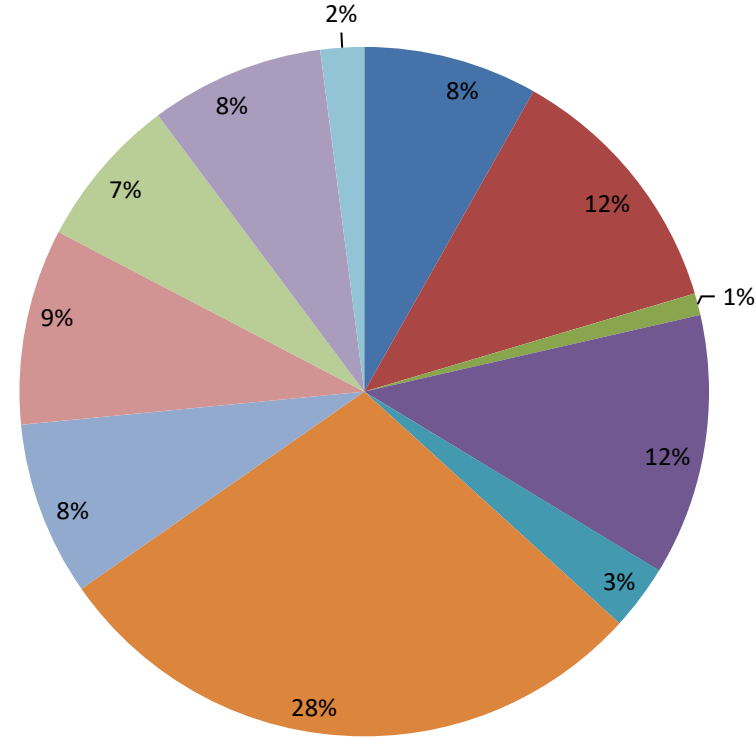
Program Curriculum

% Credits (R Code)



- Humanities Course
- Basic Science Course
- Basic Science Course Lab
- Engineering Science Course
- Engineering Science Course Lab
- Professional Core Course
- Professional Core Course Lab
- Professional Elective Course
- Open Elective Course
- Project Work

% Credits (K Code)



- Humanities Course
- Basic Science Course
- Basic Science Course Lab
- Engineering Science Course
- Engineering Science Course Lab
- Professional Core Course
- Professional Core Course Lab
- Professional Elective Course
- Open Elective Course
- Project Work
- Mini-Project/ Internship/Seminar

Student's Project: Allocation Process

Till end of 6th sem

Starting of 7th sem

During 7th & 8th sem

Students forms group in 6th Sem

Faculty Members submit their proposed areas

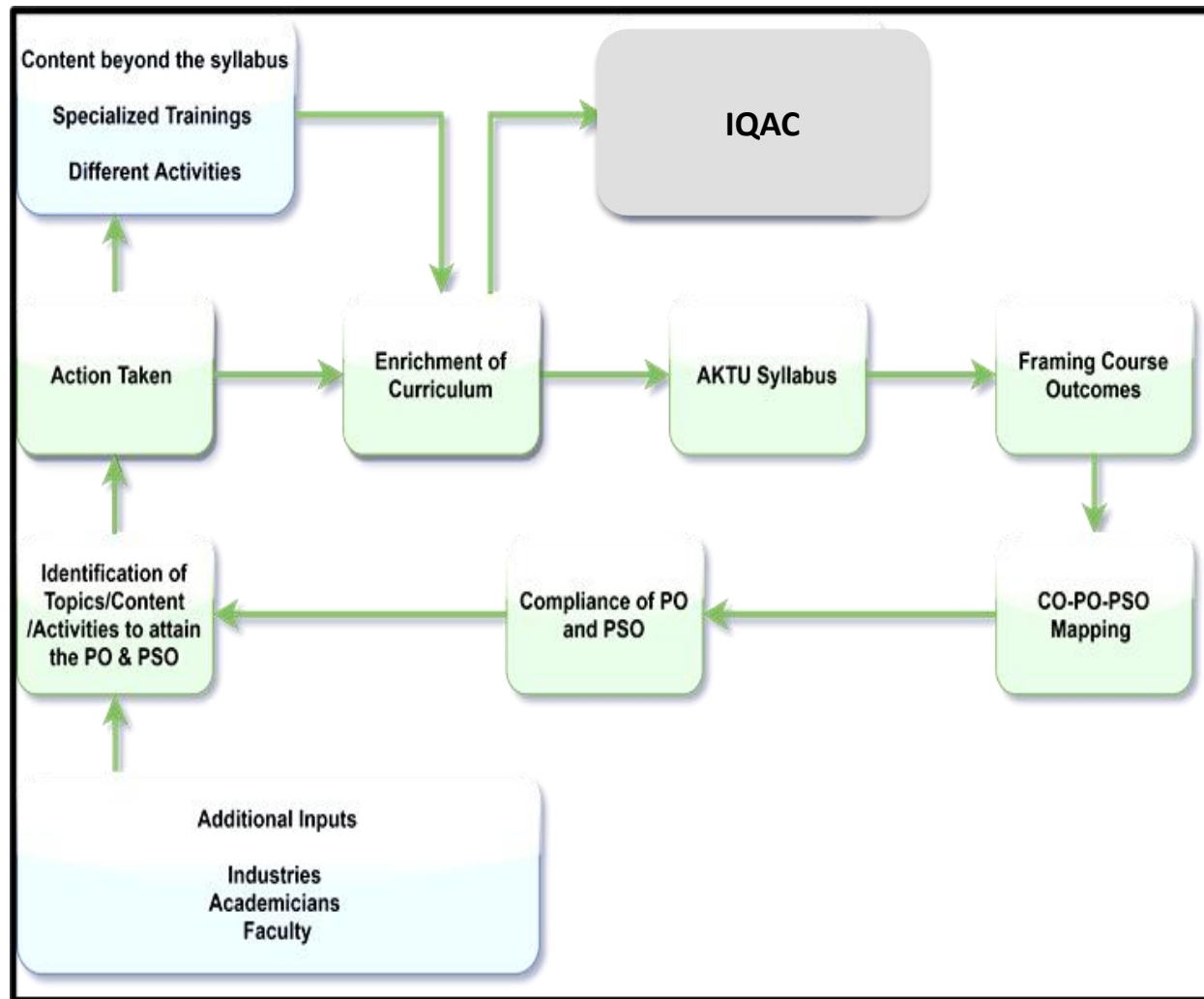
Students selects their area of project & guide

Synopsis & Presentation

Approval by Project Review Committee

Evaluation by Review Committee and Guide

Curriculum Enrichment



Semester	Name of Training
Summer break	Microscopy Pre-Project Analytical Training
III Semester	Linux (Operating Systems Basics, Commands, Scripting) Professional Comm./ Aptitude & Quantitative
Winter break	MS-Excel
IV Semester	Ms-Word, PPT Personality Development Program Classes Verbal Communication & Aptitude
Summer break	Basics of Nanotechniques
V Semester	C programming Aptitude classes Verbal Communication
Winter break	Legal and Regulatory Authority and Basics of IPR
VI Semester	AMCAT assessment Research Methodology *(IOP Molecular Techniques)
Summer break	Industrial Training (In Bio-Tech Industry)
VII Semester	GATE preparation classes PDP classes

Value Added Courses

Academic Year	Name of the Value-Added Course
2022-2023	Python Basics (Coding Practice)
	MS Excel (Advance)
	Python Basics (Coding Practice)
	Python Advance with Data Science
2021-22	MS OFFICE
	SCIENTIFIC WRITING
	Data Structure Using C
	Molecular Biology Techniques
2020-2021	LINUX
	Basics of IPR
	C Programming

Academic Year	Name of the Value-Added Course
2019-20	LINUX
	MATLAB
	MATLAB
	MS OFFICE
	C Programming
2018-19	MS Excel
	PYTHON Basics)

Student Mentoring & Support

No. of students	Mentor
11	Dr. Ashima Kathuria
14	Dr. Nitin Verma
15	Dr. D V Surya Prakash
14	Dr. Gourav Mishra
16	Dr. Nitika Vats
15	Dr. Neha Singh
15	Dr. Sachin Kumar Tomar
15	Dr. Ankesh Pandey

Guest Lecture/seminar/FDP/Conferences organized

S. No	Session	Guest Lecture/seminar/FDP/Conferences Organized
1	2022-23	04
2	2021-22	08
3	2020-21	04
4	2019-20	01
5	2018-19	02

Certification (MOOCS: Coursera, NPTEL etc.)

S. No	Session	No. of Students Completed
1	2022-23	08
2	2021-22	06
3	2020-21	21
4	2019-20	27
5	2018-19	01

Student Research Publications

S. No	Session	No. of Student Papers Indexed in			
		SCI	Scopus	UGC	Google Index
1	2022-23	01	02	-	06
2	2021-22	-	03	-	11
3	2020-21	03	01	02	17
4	2019-20	01	-	-	03
5	2018-19	-	-	-	1

Student Research Publications (Sample)

S. No.	Session	Title of Paper	Name of Journal/Conference	Indexing	Authors
1	2022-23	Fabrication and Evaluation of Basil Essential Oil-Loaded Halloysite Nanotubes in Chitosan Nanocomposite Film and Its Application in Food Packaging	Antibiotics	SCI	Narayan Chaudhary, Gourav Mishra, Tushar Yadav, Nishant Srivastava, Vimal K. Maurya and Shailendra K. Saxena
2	2022-23	Comparative Studies on the Potential of Lignocellulosics in Biosorption	Research Journal of Chemistry and Environment	Scopus	Pandey Manjaree, Gupta Tamanna, Tyagi Vidhi and Verma Nitin
3	2021-22	Studies on Cytotoxic and Genotoxic Potential of Ethanolic extract of Lawsonia inermis leaves	International Journal of Health Science	Scopus	Mohammad Munawar T, Chinta Koteswara Rao, Andanamala Vijay Rajesh, Udit Narayan Sharma, Istuti Gupta, Surya Prakash DV
4	2021-22	Point mutation of COVID-19 proteins: A study on novel corona virus (nCoV) correlation with MERS and H1N1 viruses and in silico investigation of nCoV proteins for future applications	Journal of Cellular Biotechnology	Scopus	Kaushik Akansha, Kasana Swati, Verma Priyanka and Anuj Kumar Singh

Well Equipped Departmental Labs



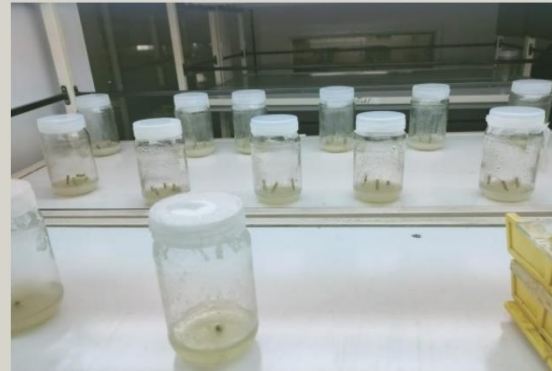
Nanotoxicity & *Drosophila*



DST-FIST



**Medical Translational
Biotechnology Research**



Plant Biotechnology



Bioprocess Engineering

Well Equipped Departmental Labs



**Microbiology &
Immunology/
Bioprocess Engineering
II**



**Techniques in
Biotechnology /
Environmental
Biotechnology**



**Biochemistry/
Enzyme Engineering**



Hydroponic System

Support Facilities in the Department

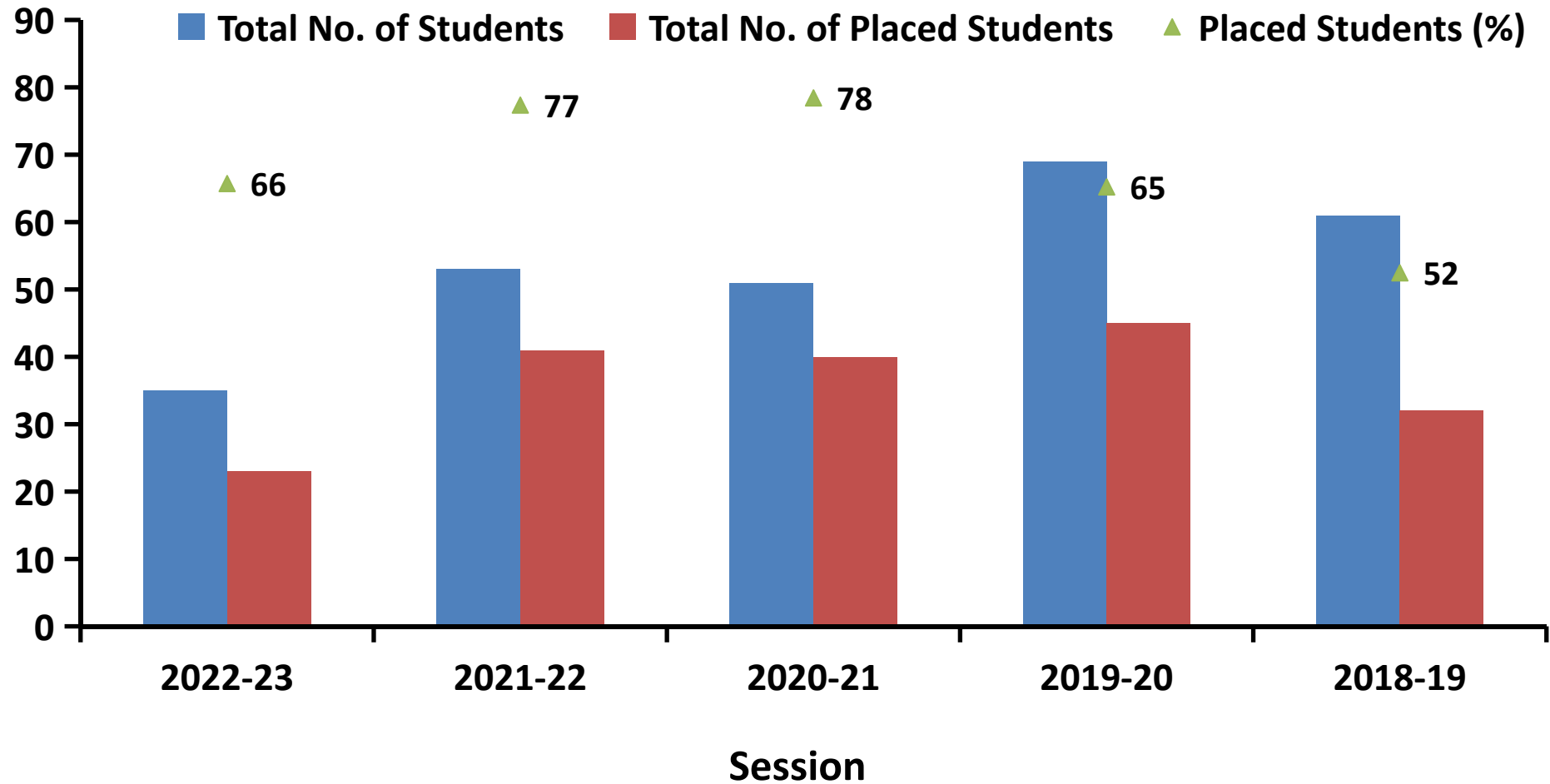
<i>S. No.</i>	<i>Facility Name</i>	<i>Details</i>
1	Supporting Complex Lab (Room A-235)	Autoclave Vertical, Horizontal Steam Sterilizer, Water Purification system, Double Distillation, Fridge (310 Lt) R32, Deep Freezer (-20°C)
2	Departmental Library (Room A-240)	Program Specific Textbooks and Reference books, Previous Year Question Paper, Career Guidance Books, M.Tech. Thesis Report, B.Tech. Thesis Report, Seminar Reports, Industrial Training Report.

Result and Placement

Year Wise Pass %

<i>S. No</i>	<i>Session</i>	<i>Pass %</i>
1	2022-23	80
2	2021-22	91
3	2020-21	99
4	2019-20	97
5	2018-19	97

Campus Placement



Our Major Recruiters



R&D Initiatives (Faculty)

Research Policy

Incentives for Publications

R&D Initiatives (Students)

Financial Support for Project Work from BIRAC and Outcomes

Project Exhibition

Research Paper Publications (Sample)

<i>S. No</i>	<i>Name of Author</i>	<i>Title of paper</i>	<i>Name of journal</i>	<i>ISSN number</i>	<i>Year of publication</i>
1	Sachin Kumar Tomar, Susant Kumar Padhi, Pritam Kumar Dikshit, Sus hila Yadav, Malini B alakrishnan	Effect of hydraulic retention time on biological nutrients removal in an anaerobic membrane bioreactor treating low-strength drain wastewater	Bio resource Technology Reports	2589014X	2023
2	D V Surya Prakash, Kuldeep Roy, Sandeep Sirohi	Enhanced Bactericidal Efficacy of ZnO Nanoparticles in Conjugation with Different Antibiotics	International Journal of Biochemistry and Biomolecules	10.1007/s1266802301156-4	2023

Grants Received (Sample)

S.NO	Title of the project	Scheme	Objective	Year	Amt (lacs)
1	Biodegradable Diapers with safe wetness Indicator	Start-up INDIA - MSME	Sustainable and cost effective	2022	18.5
2-8					

Patent Published/ Granted (Sample)

S.No.	Name of Applicant	Patent Application Number/ Patent Number	Title of Patent Published / Granted	Status Published / Granted	Date of Published / Granted
1	MIET and Eliza Chakraborty	202331047407	A Fusion Hydrogel Based Matrix in 3D cell culture	Published	21.07.2023
2	1. MIET 2 . DV Surya Prakash 3 . Sandeep Sirohi 4 . Nitika Vats 5 . Avinash Singh 6 . Ashima Kathuria 7 . Shailendra Kumar	202211045339	Anti-oxidant herbal formulation	Published	19.08.2022

MoU

S. No.	Name of the MoU / linkage	<u>Name of the institution / industry</u> (II Party of MOU)	Year of signing MoU / linkage	Purpose of the MoU / Linkage
01	Meerut Institute of Engg & Tech	MITTAL GLOBAL CLINICAL TRIAL SERVICES, MEERUT	2023	Pre-Clinical & Toxicity Studies; Drug Design & In-silico Toxicity Prediction; In-vitro and Stability Studies on Drug, Formulation & Medical Devices; in-vivo Efficacy testing of drugs, formulations & medical devices; Product process modification, modernization and troubleshooting
02	Meerut Institute of Engg & Tech	Swaja Robotics Private Limited, Meerut	2023	Industrial Visit, Skill based training, education and research, placement
03	Meerut Institute of Engg & Tech	Swami Vivekanand Subharti University, Meerut	2023	Product Development, Collaborative Research, Academic Activities, Mentoring, Industrial Tour, Visit, Training, FDP , Seminar, Workshop, Exhibitions

Activities under MoU conducted

Name of the institution/ industry/ corporate house with which MoU is signed	Year of signing MoU	Duration	List the actual activities under each MOU and web-links year-wise	Google drive link in support of activity conducted under each MOU
IIFSR, Meerut	July, 2019	3 years	Visit to TTA Section, IIFSR (6 th Sept., 2020)	<u>Activity-1</u>

Future Focus

Research Publications

Patents

Admissions

Skill Development

Placements

Thank You