

## Evaluative Report of the Department of Biosciences

1. Name of the Department : **Biosciences**
2. Year of establishment: **1985**
3. Is the Department part of a School/Faculty of the university? **Yes, Faculty of Natural Sciences**
4. Names of Programmes offered (UG, PG, M. Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)

S. No.	Name of the Programme	Type of Programme	Annual Intake
1.	B.Sc. Biosciences	Regular, Full time	40
2.	M.Sc. Bioscience	Regular, Full time	30
3.	M.Sc. Biochemistry	Self financing	30
4.	Ph.D. Biosciences	Regular, Full time	As per UGC 2009 rules

5. Interdisciplinary courses and departments involved: None
6. Courses in collaboration with other universities, industries, foreign institutions, etc. None
7. Details of programmes / courses discontinued, if any, with reasons: None
8. Annual/ Semester/Choice Based Credit System  
All the courses in the Department of Biosciences are in Semester system mode.

S. No.	Name of Programme	Examination System
1.	B.Sc. Biosciences	Semester
2.	M.Sc. Biosciences	Semester
3.	M.Sc. Biochemistry	Semester
4.	Ph.D. Biosciences	Course Work- Semester

9. Participation of the department in the courses offered by other departments None
10. Number of teaching posts sanctioned and filled (Professors/Associate Professors/Asst. Professors)

S. No.	Post	Sanctioned	Filled	Actual Including (CAS and MPS)
1.	Professor	3	2	09
2.	Associate Professors	5	5	02
3.	Asst. Professors	8	7	5

11. Faculty profile with name, qualification, designation and specialisation (D.Sc./D.Litt./Ph.D./M.Phil., etc.)

S. No	Name	Qualifi- -cation	Desig- -nation	Speciali- -zation	No. of Years of Expe- -rience	No. of Ph.D. student guided for the last 5 years	
						Awar -ded	In -Progress
1.	Prof. Jawaid A. Khan	Ph.D.	Professor	Plant Virology	20	05	06
2.	Prof. Arif Ali	Ph.D.	Professor	Molecular Genetics	29	22	07
3.	Prof. Seemi	Ph.D.	Professor	Biochemistry	29	10	07

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	Farhat Basir						
4.	Prof. Sayed A. Husain	Ph.D.	Professor	Human Mol. Genetics	25	25	04
5.	Prof. Luqman A.Khan	Ph.D.	Professor	Biochemistry	20	08	05
6.	Prof. Tasneem Fatma	Ph.D.	Professor	Cyanobacteria & Algae	27	15	07
7.	Dr. M. Moshahid A Rizvi	Ph.D.	Professor	Molecular Oncology and Therapeutics	16	13	08
8.	Dr. Maryam Sardar	Ph.D.	Associate Professor	Protein Chemistry	12	02	06
9.	Dr. Qazi M Rizwanul Haq	Ph.D.	Professor	Microbiology & Plant Biotechnology	14	14	06
10.	Dr. M. Aman Jairajpuri	Ph.D.	Professor	Protein Structure-Function and Diseases	14	04	5
11.	Dr. Nikhat Manzoor (on extraordinary leave)	Ph.D.	Associate Professor	Biochemistry	12	5	08
12.	Mr. Amit Kumar Verma (on study leave)	M.Sc.	Assistant Professor	Instrumentation	08	0	0
13.	Dr. Nadeem Ahmad	Ph.D.	Assistant Professor	Mathematics, Bioinformatics	07	0	0
14.	Dr. Nida Jamil Khan	Ph.D.	Assistant Professor	Bioinformatics	06	0	01
15.	Dr. Mohammad Abid	Ph.D.	Assistant Professor	Organic Chemistry	04	0	04
16.	Dr. Mohd. Mohsin	Ph.D.	Assistant Professor	Plant Physiology & Nano-biotechnology	01	0	0

12. List of senior Visiting Fellows, faculty, adjunct faculty, emeritus professors,

None

13. Percentage of classes taken by temporary faculty – programme-wise information

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S. No.	Program	Name of Temporary Faculty	Remarks
1.	B. Sc Biosciences	No temporary faculty, guest teachers are appointed against vacancies (Classes taken by them are given under remarks column)	12.5%
2.	M. Sc Biosciences		12.5%
3.	M. Sc Biochemistry		30.0%

14. Programme-wise Student Teacher Ratio

Average student to teacher ratio for the last five years: 11.44

15. Number of academic support staff (technical) and administrative staff: sanctioned and filled

S.No.		Sanctioned	Filled	Actual
1.	Technicians	1	1	0
2.	Senior lab Assistant	2	2	2
3.	Junior lab Assistant	3	3	4
4.	Lab Assistant	4	4	4
5.	Peon	1	0	0
2.	Clerk	1	1	1
3.	Store Keeper	1	1	1

\* One position on transfer

16. Research thrust areas recognized by funding agencies

Molecular Genetics, Plant Virology, Cyanobacterial and Algal Biotechnology, Drug Designing, Protein Conformational Diseases, Molecular Biology and Microbiology, Nano-biotechnology, Fungal Biochemistry, Cancer Biology, Cardiovascular Cell Signalling

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c)

Total grants received. Give the names of the funding agencies and grants received project-wise.

Ongoing/completed Research Projects

S. No.	Project Name	Principal Investigator/ Co-investigator(s)	Year		Funding Agency	Amount Sanctioned (Amount in Lakh)
1.	Apoptosis and Pathogenicity Modulation in <i>Candida albicans</i> by Curcumin and Lead Molecules of Tulsi Essential Oil	Nikhat Manzoor (PI) Prof. Luqman A. Khan (Co-PI)	2009	2012	ICMR	Rs. 26.50
2.	Understanding the effect of chemical Chaperones in preventing serine protease inhibitor polymerization	Dr. Mohamad Aman Jairajpuri	2008	2012	DBT	Rs. 12.67

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3.	Analysis of Structural and Mechanistic Basis of Novel Antithrombin Variants in Indian Families with Thrombosis	Dr. Mohamad Aman Jairajpuri (Under Extended mode)	2011	2014	ICMR	Rs. 23 .00
4.	Molecular evolution of Parkins gene in cervical cancer	Dr. M. Moshahid Alam Rizvi	2012	2015	UGC	Rs. 10.00
5.	Design and Synthesis of Novel Peptidomimetic Antibacterial Agents.	Dr. Mohammad Abid	2012	2015	DST	Rs. 18.50
6.	Synthesis and Pharmacodynamic Studies in the Efficacy of Diketo acid and Triazole based Antifungal Agents.	Dr. Mohammad Abid	2012	2015	UGC	Rs. 10.38
7.	Effect of Abiotic Stresses on the Expression of Different MicroRNA-Targeted Transcription Factors in Rice	Dr. Qazi Rizwanul Haq	2012	2015	UGC	Rs. 10.69
8.	EMR project entitled "Screening of Anticancer potential of Indian Medicinal Plants"- Ministry of Health & Family Welfare, Govt. of Indian (Department of AYUSH) sanction number.	Dr. Sayed Akhtar Husain	2014		CCRUM	Rs. 30 Lakhs
9.	DBT (Twining project in collaboration with Gauhati University) entitled –“ Study the associative role of	Dr. Sayed Akhtar Husain	2013		DBT	Total cost = Rs 1.1688 Crore JMI share = Rs 47.80 lakhs

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	alteration(s) in cell cycle controller EZH2, tumor suppressor RUNX3, DNA repair gene MGMT and local food habits with the predisposition and severity of esophageal cancer”					
10.	DBT (Twining project- in collaboration with Gauhati University) entitled –“Screening of genetic and immunological factors in Human Papilloma Virus Infection induced Cervical cancer: A North East India based study”	Dr. Sayed Akhtar Husain	2013			Total cost = Rs 81.63 Lakhs JMI Share =28.18 Lakhs
11.	Comparative study of ESBL producing and K. Pneumoniae from purified tap water and unpurified samples of Yamuna.	Dr. Arif Ali	2014	--	MEoF and Climate change	Rs 35 Lakhs
12.	Biosynthesized nanoparticles as antibacterial agent against water borne pathogen bacteria (APPROVED)	Dr. Meryam Sardar	2015	--	ICMR (Approved)	Rs 27.5 Lakhs

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### 18. Inter-institutional collaborative projects and grants received

#### a) All India collaboration

S.No.	Project Name	Principal Investigator/ Co-investigator(s)	Year		Funding Agency	Amount Sanctioned (Amount in Lakh)
1.	Apoptosis and Pathogenicity Modulation in <i>Candida albicans</i> by Curcumin and Lead Molecules of Tulsi Essential Oil	Nikhat Manzoor (PI) and Prof. Luqman A. Khan (Co-PI) With Dr. Ima Culata Xess Department of Microbiology AIIMS, New-Delhi	2009	2012	ICMR	Rs. 26.50
2.	Analysis of Structural and Mechanistic Basis of Novel Antithrombin Variants in Indian Families with Thrombosis	Dr. Mohamad Aman Jairajpuri With Dr. Renu Saxena and Dr. M. Mahapatra, Department of Hematology, AIIMS, New-Delhi.	2011	2014	ICMR	Rs. 23.00
3.	Molecular evaluation of PTEN gene in colorectal cancer patients from Northern India	Dr. Moshahid Alam Rizvi	2008	2011	DBT, New Delhi	Rs. 20.00
4.	Investigation on Probiotic and Therapeutic potential of certain plants of dietary nature on mouse enteric microbes and jejunum stem cells	Dr. Moshahid Alam Rizvi	2007	2011	DRDO, New Delhi	Rs. 32.00

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5.	Role of molecular markers NF-kB, Role of NF-kB, cytokines IL-1a, IL-6, IL-8, TN-alpha, cox-2 and p53 for assessing the malignant potential to oral cancer and their association to therapeutic response in patient with Oral RIM.	Dr. Moshahid Alam Rizvi	2013	2016	UGC, India as a Co-PI	Rs 13.45 Lakhs
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b) International: None

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, etc.; total grants received. 125 Lakhs

S. No.	Programme	Coordinator	Amount	Year Sanctioned
1.	DST-FIST	Prof. Jawaid A. Khan	65 lakhs	2010
2.	UGC-SAP	Prof. Seemi F. Basir	45 lakhs	2011
3.	UGC Non SAP	-	15 lakhs	2009

20. Research facility / centre with

- State recognition
- National recognition None
- International recognition

21. Special research laboratories sponsored by / created by industry or corporate bodies None

22. Publications:

For details please see Annexure- Publications

S. No.	Item	Total Numbers
1.	Number of papers published in peer reviewed journals (2008-2014)	332
2.	Number of Papers published in Conferences	Nil
3.	Monographs	Nil
4.	Chapters in Books	3
5.	Edited Books	Nil
6.	Laboratory manuals	-
7.	Articles in Magazine	Nil
8.	Editorials	-
9.	Books with ISBN with details of Publisher	04
10.	Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social	

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	Sciences Directory, EBSCO host, etc.)	
11.	Citation Index range/Average	0-81
12.	SNIP	0.00—2.3
13.	SJR	0.01-0.874
14.	Impact Factor Range/Average	0.2-11.03
15.	h-index	0-15

Publication Summary (Journals): Details given as annexure-1 (2008-2014)

S.No.	Name of Faculty	No. of Publications	H index	Citation Index Range/Average	Impact Factor Range/Average
1.	Dr. Jawaid Ahmad Khan	16	11	0-11	0.57-2.8
2.	Dr. Arif Ali	38	17	0-52	0.4-05
3.	Dr. Seemi Farhat Basir	36	17	0-39	01-11
4.	Dr. Sayed Akhtar Husain	32	25	0-41	0.6-7.2
5.	Dr. Luqman Ahmad Khan	40	17	0-60	0.6-3.3
6.	Dr. Moshahid Alam Rizvi	53	12	0-41	0.5-9
7.	Dr. Tasneem Fatma	18	05	0-47	0.6-4.8
8.	Dr. Qazi Mohd Rizwanul Haq	34	15	0-38	0.36-4.37
9.	Dr. Mohamad Aman Jairajpuri	16	8	0-26	0-4.1
10.	Dr. Meryam Sardar	35	12	0-15	0-4.8
11.	Dr. Nikhat Manzoor (On Long EOL)	47	13	0-60	0.878- 3.2
12.	Dr. Nadeem Ahmad	-	-	-	-
13.	Dr. Mohammad Abid	07	11	0-53	0.5-4.7
14.	Dr. Nida Jamil Khan (On CCL)	02	-	5-7	2.1-3.7
15.	Amit Kumar Verma (On Study Leave)	01	-	35	3.5
16.	Dr. Mohd. Mohsin	05	02	0-10	3.1-6.5

23. Details of patents and income generated None
24. Areas of consultancy and income generated None
25. Faculty selected nationally/ internationally to visit other laboratories in India and abroad

Faculty	Programme
Dr. Nikhat Manzoor	Visited Molecular Microbiology Lab, Department of Oral Sciences, School of Dentistry, University of Otago, Dunedin-9054, New Zealand as a BOYSCAST Fellow (2008-09)
Dr. Mohammad Abid	Indian Academy of Sciences-Summer Research Fellowship for a period of 02 months with <i>Prof. S. Chandrasekaran</i> , Department of Organic Chemistry, IISc Bangalore during May 2011-July 2011.



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26. Faculty serving in

- a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Dr. Jawaid A. Khan:

1. Life member of Indian Virological Society
2. Life member of Indian Phytopathological Society
3. Biochimica et Biophysica Acta (BBA- General subjects) (Reviewer)
4. Journal of Phytopathology (Reviewer)
5. Current Sciences (Reviewer)
6. Indian Journal of Virology (Reviewer)

Prof. Luqman Ahmad Khan:

1. Journal of Amino acids (Reviewer)
2. African Journal of Biotechnology (Reviewer)

Prof. Tasneem Fatima:

1. World Journal of Microbiology and Biotechnology (Referee)
2. Environmental Monitoring And Assessment (Referee)
3. Biomass and Energy (Referee)
4. Physics and Chemistry of Earth (Referee)
5. Journal of Applied Phycology (Member and Referee)
6. Phycological Society of India (Member and Referee)
7. Association of Microbiologist of India (Life member)
8. Indian Science Congress Association (Life member)
9. Indian Women Scientist Association (Member)
10. Third World Organization for Women in Science (Member)
11. Asia – Pacific Society for Applied Phycology (Member)
12. Society of Environmental Scientists, Department of Botany, Delhi University (Life member)

Dr. Arif Ali:

1. Member, Asian Federation of Biotechnology
2. Member European Federation of Biotechnology
3. Life member of the Indian Society of Plant Biochemistry and Biotechnology,
4. IARI, New Delhi.
5. Life member of the Indian Society of Biotechnology, New Delhi.
6. Life member of the Association of Microbiologists of India.
7. Life member of the Indian Journal of Microbiology.
8. Life member of the Indian Society of Cell Biology.
9. Life member of the International Association of Environmental Botanists.
10. Life member of the India Association of Plant Genetic Resources.

Dr. Seemi Farhat Basir:

1. Member of Staff Selection Committee, Govt. of India.
2. Member of Selection Committee, J.M.I. and Kashmir University.
3. Member of UGC five year plan assessment committee.
4. Referee for Journal of Molecular Cell Biology.
5. Referee for Human and Experimental Toxicology

Dr. M. Moshahid Alam Rizvi

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1. Life member Indian Society of Parasitology
2. Member faculty DST INSPIRE
3. Member MAAS

### Dr. Qazi Rizwanul Haq:

1. Member of Indian Phytopathological Society
2. Member of Indian Society of Mycology & Plant Pathology
3. Member of Indian Virological Society
4. Member of Association of Microbiologists of India

### Dr. Meryam Sardar:

1. Member of Society of Biological Chemists

### Dr. Aman Jairajpuri:

1. Society of Biological Chemist, Life Member
2. IBS-Indian Biophysical society-Life member

### Dr. Nikhat Manzoor:

1. Life Member, Association of Microbiologists of India (AMI).
2. Life Member, Society of Biological Chemists

### Dr. Mohammad Abid:

1. Chemical Research Society of India (Life membership no. LM 1410) since 2011.
2. Former Member -American Chemical Society (2009)
3. IUPAC Sponsored Affiliate Member since 2009.
4. Referee for Arabian Journal of Chemistry

### Amit Kumar Verma:

1. Lifetime member of Indian Society of Human Genetics (ISHG).

### 27. Faculty recharging strategies:

Faculties are recharged through refresher, orientation, conferences and workshop programmes.

### Prof. Tasneem Fatima

1. Resource person: INSPIRE Programme, DST, Govt. of India.

### Dr. Qazi Rizwan-ul-Haq

1. Subject Expert in workshop for the Development of Hindi Dictionary of Biotechnology, organized by the Commission for Scientific & Technical Terminology, Ministry of Human Resource Development, Government of India. from 28<sup>th</sup> January – 30<sup>th</sup> January 2009, at the Department of Biotechnology Jamia Millia Islamia, New Delhi.
2. One week Quality Improvement Programme (QIP) course on Advances in wastewater treatment from 10-15 Oct 2011 at Chemical Engineering Department, Indian Institute of Technology, Delhi.

### Nikhat Manzoor

1. 1st RC in Basic Sciences (Interdisciplinary), organized by UGC-Academic Staff College, Jamia Millia Islamia, New Delhi-110025 from 6th May to 27th May, 2011
2. Special Summer School organized by UGC-Academic Staff College, Jamia Millia Islamia, New Delhi-110025 from 30th June to 19th July 2008 (Orientation/Refresher Course)

### Dr. Nadeem Ahmad

1. 96<sup>th</sup> four week Orientation program from 14<sup>th</sup> April to 13<sup>th</sup> May, 2011 organized by UGC-ASC, JMI.
2. 2<sup>nd</sup> three week Refresher Course in Basic Sciences (Interdisciplinary) from 3<sup>rd</sup> May to 23<sup>rd</sup>

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May, 2012 organized by UGC-ASC, JMI.

Dr. Mohammad Abid

1. Postdoctoral Fellowship (PDF) for a period of 18 months with *Prof. Isabelle ARTAUD*, UMR-8601 at University Paris Descartes, Paris, France during Sept. 2008 to Jan. 2010.
2. Participated in the 100<sup>th</sup> four week Orientation Programme, organized by UGC-Academic Staff College, JMI, New Delhi from 09<sup>th</sup> April to 05<sup>th</sup> May, 2012.

Amit Kumar Verma

1. 85<sup>th</sup> Orientation Program (5<sup>th</sup> August – 2<sup>nd</sup> September, 2008) organized by Academic Staff College, Jamia Millia Islamia, New Delhi.
2. 2<sup>nd</sup> Refresher course in Basic Sciences (Interdisciplinary) from 3<sup>rd</sup> – 23<sup>rd</sup> May, 2012, organized by Academic Staff College, Jamia Millia Islamia, New Delhi.

Dr. Nida Jameel

1. 93<sup>rd</sup> four week Orientation Programme organized by UGC-ASC, Jamia Millia Islamia, New Delhi (20<sup>th</sup> July-16<sup>th</sup> August, 2010).

28. Student projects

Prof. Tasneem Fatima

M.Sc dissertation: 20  
Collaborative projects: 00

Dr. Arif Ali

M.Sc dissertation: 21  
Collaborative projects: 00

Dr. Seemi Farhat Basir

M.Sc dissertation: 25  
Collaborative projects: 25

Dr. Luqman A. Khan

M.Sc dissertation: 25  
Collaborative projects: 30

Dr. Jawaid Ahmad Khan

M.Sc dissertation: 07  
Collaborative projects: 00

Dr. Moshahid Alam Rizvi

M.Sc dissertation: 16  
Collaborative projects: 00

Dr. Qazi Rizwan-ul-Haq

M.Sc dissertation: 16  
Collaborative projects: 00

Dr. Meryam Sardar

M.Sc dissertation: 13  
Collaborative projects: 00

Dr. Mohamad Aman Jairajpuri

M.Sc dissertation: 14  
Collaborative projects: 02

Dr. Nikhat Manzoor

M.Sc dissertation: 13

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Collaborative projects: 06

Dr. Mohammad Abid

M.Sc Dissertation: 03

Collaborative projects: 00

29. Awards / recognitions received at the national and international level by Faculty, Doctoral / post doctoral fellows and Students

S. No	Name of Faculty	Name of the Award	Awarding Authority	Year and other details
1.	Prof. Arif Ali	UGC-BSR one time	UGC	2012
2.	Prof. Arif Ali	Rajiv Gandhi Samajratan Award	All India National Congress Association	2011
3.	Dr. Mohamad Aman Jairajpuri	Best Poster Award to abstract	Asian Biophysics Association	2011, ABA meeting, New-Delhi
4.	Dr. Mohamad Aman Jairajpuri	Best Poster Award to abstract	International Symposium on Chemistry and Biology of Serpin	2011, University of North Carolina, USA
5.	Dr. Mohamad Aman Jairajpuri	Best Poster Award to abstract	International Conference in Bioinformatics	2011, Center for Research in Interdisciplinary Basic Sciences. JMI, New-Delhi, India
6.	Dr. Nikhat Manzoor	BOYSCAST Fellow	DST	2008-2009
9.	Dr. Mohammad Abid	Young Scientist	DST (SERB)	2012-2015

30. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any, None

31. Code of ethics for research followed by the departments

We have following ethical committees for conducting research and teaching:

1. Human Research ethical committee
2. Bio safety committee
3. Animal ethics committee

These committees rigorously evaluate scientific and ethical content of research projects as also student PhD synopsis. In addition to above we implement Jamia ordinances and anti-plagiarism software for academic standards and purity.

32. Student profile course-wise : (Aggregate of 5 years)

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S. No	Name of the Course	Applications received	Selected		Pass percentage	
			Male	Female	Male	Female
1.	B.Sc. (Biosciences)	3907	85	114	100%	100%
2.	M.Sc. (Biosciences)	2279	55	74	100%	100%
3.	M. Sc. (Biochemistry)	1502	46	56	100%	100%

### 33. Diversity of students (Average of 5 years)

S. No.	Name of the Course	% of students from the same university	students from universities within the State including JMI	students from universities outside the State	students from other countries
1.	B.Sc. (Bioscience)	Not available	39%	61%	Nil
2.	M.Sc. (Bioscience)	Not available	49%	48.7%	2.30%
3.	M. Sc. (Biochemistr)	Not available	40%	57.1%	2.90%

### 34. How many students have cleared Civil Services and Defence Services examinations. NET, SET, GATE and other competitive examinations? Give details category-wise

S. No.	Name of student	Year	Qualifying Exam.
1	Sweta Shaily	2008	CSIR JRF 2007
2	Yumnam Priyadarshini	2008	CSIR-JRF 2008
3	Reena Kumari	2008	CSIR-UGC-JRF, 2007
4	Mohammad Shoeb Alam	2008	ICMR-JRF 2007
5	Sumedha Sachar	2008	CSIR-UGC-JRF, 2007, DBT-JRF 2007 and ICMR-JRF 2008
6	Shah Ubaid Ullah	2008	CSIR-UGC-JRF, June and Dec 2007; DBT-JRF 2007 and ICMR-JRF 2008
7	Amarjeet Singh	2008	CSIR-UGC-JRF, 2008
8	Bhavna Yadav	2008	CSIR-UGC-JRF, 2008
9	M Hussain	2008	CSIR-UGC-JRF, 2008
10	Anwar Alam	2008	ICMR-JRF 2008
11	Kuhulika Bhalla	2008	ICMR-JRF 2008
12	Anoop Kumar Pal	2008	CSIR-JRF 2007 and GATE 2007 GRE-University of Massachusetts (USA)-2008
13	Faiza Amber Siddiqui	2008	DBT-JRF 2007, NET paper I June 2008 and GATE 2008

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14	Farhan Ahmad	2008	DBT-JRF 2007 and CSIR-JRF, ICMR-JRF 2008
15	Manindra Singh	2008	DBT-JRF, CSIR-JRF, ICMR-JRF and GATE, all in 2008
16	Manish Sharma	2008	DBT-JRF, 2008
17	Niraj	2008	NET paper I June 2008
18	Priti Kataria	2008	UGC-JRF 2007 and NET-LS Dec 2007
19	Pretty Garg	2008	CSIR-JRF 2007, DBT-JRF 2008 and GATE 2008
20	Swati Garg	2008	CSIR-JRF 2007, DBT-JRF 2008 and GATE 2008 GRE-University of Winsconson
21	Apoorv Sharma	2008	NET-JRF 2007, NET-LS 2008
22	Nikita Chopra	2008	NET-LS 2007, CSIR-JRF 2008
23	Mohsin Khan	2008	NET-LS 2007 and CSIR-2008,
24	Yogesh Rawat	2008	NET-LS 2007, CSIR-JRF 2008
25	Edwina Thomas	2008	GATE 2007, CSIR-JRF 2008
26	Asha Mishra	2008	NET-LS 2008
27	Poonam Gupta	2008	ICMR-JRF, 2008
28	Mohd Khubaib	2008	NET-LS 2008
29	Aashiq Hussain	2008	CSIR-JRF 2008
30	Kusum Narwal	2008	CSIR-JRF 2008
31	Ratnagarba Desai	2008	CSIR-JRF 2008
32	Asma	2008	NET-LS 2008
33	Savita Bansal	2008	CSIR-JRF 2008
34	Ekansh Mittal	2008	CSIR- JRF 2008, GATE 2008
35	Sapna	2008	CSIR-JRF 2008
36	Nitika Rani	2008	CSIR-JRF 2008
37	Deependra Pratap Singh	2008	CSIR-JRF 2008
38	Nehul Saxena	2008	UGC-JRF 2008
39	Shashi Pratap Singh	2008	UGC-LS 2008
40	Arti Kumari	2008	UGC-LS 2008
41	Vishi Shandli	2008	UGC-LS 2008
42	Zafar Mehmood	2008	NET-LS 2008
43	Shweta Mediratta	2008	CSIR-JRF 2008
44	Sattyanarayan Deep	2008	CSIR JRF 2008
45	Mansi Sethi	2008	NET-LS 2008 –GRE: 1380 (U of Kentucky USA-2010)
46	Mohd Khubaib	2009	ICMR-2009, CSIR-JRF-2009
47	Apoorv Sharma	2009	CSIR-JRF-2009
48	Sheeza Khan	2009	NET-UGC-JRF
49	Mohsin Khan	2009	CSIR-JRF-2009
50	Mohd Yasser	2009	UGC-JRF
51	Himanshu Joshi	2009	CSIR –JRF-2009
52	Kusum Nariwal	2009	CSIR-JRF 2009

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53	Abhijit Mishra	2009	ICMR-JRF 2009
54	Zafar Mahmood	2010	University of Wurzburg (Germany)
55	Md. Meraj Khan	2010	Univ. of Turkoo, Finland
56	Asma	2010	CSIR-JRF, INSPIRE-JRF
57	Sunil Kumar Dubey	2010	CSIR-JRF
58	Subodh Joshi	2010	UGC-JRF
59	Abhijit Mishra	2010	UGC-LS, ICMR-JRF
60	Udeep Chawla	2010	GRE-University of Arizona (USA)
61	Priti Kataria	2009	GRE-University of Massachusetts (USA)
62	Angad Kumar	2011	CSIR-JRF
63	Muddasser Azam	2010	CSIR-JRF
64	Pankaj	2011	CSIR-JRF
65	Himani	2011	CSIR-JRF
66	Jaya Upreti	2010	UGC-JRF
67	Nikita chopra	2011	USA-GRE
68	Shaikh Kashif	2012	UGC-JRF
69	Kirti	2012	CSIR-JRF
70	Durdana Yaseen	2012	NET-LS, UGC-JRF 2013
71	Komal Sharma	2013	UGC-JRF
72.	Ravi Kumar Singh	2013	ICMR-JRF
73.	Shruti Goel	2013	CSIR-JRF
74.	Neha Saluja	2014	CSIR-JRF
75.	Deepti Sharma	2014	CSIR-JRF
76.	Ekta Dhamija	2014	CSIR-JRF
77.	Mohsin Maseet	2014	NET-LS
78	Nematullah	2014	NET-LS
79	Surbhi Sharma	2014	UGC-JRF, CSIR-JRF
80.	Mohammad Azhar	2014	UGC-JRF
81	Nudrat	2014	UGC-JRF
82	Virendra Kumar	2014	NET-LS
83.	Juveria	2014	NET-LS
84.	Kavita Sharma	2014	NET-LS

### 35. Student progression:

S. No	Student progression	Percentage against enrolled
1.	UG to PG	25%
2.	PG to M.Phil.	0% (no M.Phil.)
3.	PG to Ph.D.	10%
4.	Ph.D. to Post-Doctoral	Nil
5.	Employed • Campus selection • Other than campus recruitment	No information
6.	Entrepreneurs	No information

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### 36. Diversity of staff

S. No	Percentage of faculty who are graduates (PhD)	
1.	of the same university	35%
2.	from other universities within the State	7%
3.	from universities from other States	50%
4.	from universities outside the country	7%

### 37. Number of faculty who were awarded Ph.D., D.Sc. and D.Litt. during the assessment period

1. Nida Jameel ---2009

### 38. Present details of infrastructural facilities with regard to

a) Library: We have a full fledge library at the campus. We are also in process to open a departmental library soon.

b) Internet facilities for staff and students. Every faculty has full time access to internet through Wi-Fi and LAN facilities. Students can also access internet through wi fi and from 30 computers in the Computer room.

c) Total number of class rooms: 4

d) Class rooms with ICT facility: 1

e) Students' laboratories: 5

f) Research laboratories: 14

### 39. List of doctoral, post-doctoral students and Research Associates

#### Doctoral Students

S. No.	Name of Supervisor and their Scholars	S.No	Name of Supervisor and their Scholars
	Prof. Jawaid Ahmad Khan	20.	Sabbir Ansari
1.	Ms. Shweta	21.	Sumbul Afreen
2.	Mr. Zainul Abdeen Khan	22.	Belal Ahmad
3.	Ms. Sameena Khatoon	23.	Nazia Ahmad
4.	Ms. Sadia Akhtar	24.	Shaikh Mohd. kashif
5.	Gazal Wamiq	Prof. Seemi Farhat Basir	
6.	Razia Qadir		
7.	Mirza Sarwar Beg		
	Prof. Arif Ali	25.	Mrs. Perna Chaudhary
8.	Ms. Shaista Sarvat	26.	Ms. Nisha Thakur
9.	Ms. Shagufta Nahid	27.	Ms. Sweta Shaily
10.	Mr. Salman Radkarim	28.	Ms. Ruchi Gupta
11.	Nimisha Patel	29.	Ms. Rupal Sinha
12.	Ashita A. Pinto	30.	Ms. Jaya Upreti
13.	Tanzeel	31.	Ms. Shamama Nishat
14.	Priyanka Bohra	32.	Mohd. Tarique



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Prof. Tasneem Fatma		Prof. Luqman Ahmad Khan	
15.	Mr. K Mahender	33.	Mr. Sheikh Shreaz
16.	Mr. Naveen Bharat	34.	Ms. Neelofar
17.	Ms. Fareha Bano	35.	Ms. Deepa Anil Kumar
18.	Mr. Raziq Anwer	36.	Ms. Rimple Bhatia
19.	Ms. Shaheen Hussain	37.	Ms. Snowber Yousuf
39.	Ms. Hiba Shabir	38.	Ms. Swati Kundu
			Dr. Meryam Sardar
		56.	Ms. Veena Singh
		57.	Mr. Deepak Kumar
Prof. M. Moshahid Alam Rizvi		58.	Mr. Razi Ahmad
40.	Mr. Md. Irshad	59.	Mr. Abhjeet Mishra
41.	Mr. Feroz Akhtar	60.	Ms. Nafeesa Khatoon
42.	Ms. Priyanka	Dr. Mohammad Aman Jairajpuri	
43.	Ms. Shilpie Biswas	61.	Mr. Mohammad Asim
44.	Ms. Zakia Kazim	62.	Mr. Md. Sazzad Khan
45.	Mr. Irfan Ahmad	63.	Ms. Asma Naseem
46.	Afreen Naseem	64.	Ms. Qudsia Rashid
47.	Zubair Bin hafeez	65.	Ms. Charu kapil
48.	Shanshah Khan	66.	Mohd. Farhan Ali
49.	Ankita Leekha	67.	Teena Bhakuni
Dr. Q. M.R. Haq		Dr. Nikhat Manzoor	
50.	Mr. Mohiddin Khan Warsi	68.	Ms. Amber Khan
51.	Mr. Veer Bahadur Singh	69.	Mr. Jitender Singh Verma
52.	Md. Mudsser Azam	70.	Ms. Ruchi Srivastava
53.	Samreen sadaf	71.	Ms. Edvina Thomas
54.	Aftab Hussain Mondal	72.	Sumit Kumar Rastogi
55.	Kehkashan Siddiqui	73.	Yamini Sharma
74.	Mr. Mohd. Asad		
Dr. Mohammad Abid			
75.	Mohammad Irfan		
76.	Mohsin Khan		

### Post-Doctoral Students

S.No.	Name of Student	Name of Fellowship	Name of Supervisor
1.	Dr. Mohammad Akmal	UGC-Kothari PDF	Prof. Jawaid Ahmad Khan
2.	Dr. Pravej Alam	UGC-Kothari PDF	Prof. Jawaid Ahmad Khan
3.	Dr. M. Saliq Noorani	DST- Young Scientist	Prof. Jawaid Ahmad Khan
4.	Dr. Sajjad Khan	ICMR-Research Associate	Prof. M. Aman Jairajpuri
5.	Dr. Kafeel A. Ansari	UGC-Kothari PDF	Prof. Tasneem Fatma
6.	Dr. Maria Habib	UGC-Kothari PDF	Prof. Syed A. Hussain

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7.	Dr. Shabana Parveen	UGC-PDF (Women)	Prof. Moshahid A. Rizvi
8.	Dr. Darkshanda Neelam	DST-Young Scientist	
9.	Dr. Asad Khan	DST- Young Scientist	
10.	Dr. Syed H. Mehdi	UGC-Kothari PDF	
11.	Dr. Rehana Qureshi	UGC-Kothari PDF	
12.	Dr. Ayesha Aizaz Farid	UGC-PDF (Women)	

40. Number of post graduate students getting financial assistance from the university. None

41. Was any need assessment exercise undertaken before the development of new programme (s)? If so, highlight the methodology.

- An expert committee consisting of external and internal experts is constituted for assessment and design of programs; recommendations go to board of studies followed by faculty committee and academic council for consideration and approval.

42. Does the department obtain feedback from

a. Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

- All faculty members and some senior faculty members of other departments and universities are member of board of studies which considers and approves the curriculum.

b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

- Head of the department routinely gets feedback from the students on the staff, curriculum and teachers to monitor and incorporate their view in improving and monitoring progress.

c. Alumni and employers on the programmes offered and how does the department utilize the feedback?

- We have very active contact with our alumni and take special care in being in contact with them. Input received from them is put before board of the studies of department for consideration.

43. List the distinguished alumni of the department (maximum 10)

S. No.	Name of Alumni	Affiliation
1.	Dr. Shakir Ali	Professor and Head, Department of Biochemistry, Hamdard University New Delhi
2.	Dr. Mohammad Mahfuzul Haque	Asstt. Professor, Cleveland Clinic Lerner College of Medicine, The Cleveland Clinic, Cleveland, Ohio 44195 USA
3.	Dr. Inamul Haque	Assistant Professor, Division of Hematology/Oncology Internal Medicine, The University of Kansas Medical Center, Kansas City, KS, and Research Biologist Cancer Research Unit VA Medical Center, Kansas City, MO Tel: 816-861-4700x57126; Fax: 816-922-3320 Email: <a href="mailto:ihaque-vfa@kumc.edu">ihaque-vfa@kumc.edu</a> ; <a href="mailto:inamul.haque@va.gov">inamul.haque@va.gov</a> <a href="http://www.vamccancerresearchunit.org">www.vamccancerresearchunit.org</a>

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4.	Dr. Umesh Bageshwar	Assistant Research Professor Texas A&M Health Science Center, College Station, TX email: <a href="mailto:bageshwar@medicine.tamhsc.edu">bageshwar@medicine.tamhsc.edu</a>
5.	Dr. Inshad Ali Khan	Scientist EI CSIR- Indian Institute of Integrative Medicine, Jammu.
6.	Dr. Urmi Bajpai	Associate Professor Department of Biomedical Sciences, Acharya Narendra Dev College, University of Delhi
7.	Dr. Zulfiqar Ahmad	Assistant Professor Department of Biological Sciences, East Tennessee State University, Johnson City, TN 37614
8.	Dr. Zahid Ashraf	Defence Research Development Organization (Govt of India), New Delhi
9.	Dr. Anita Lal	Brain Tumor Research Center at the University of California, San Francisco, USA
10.	Dr. Meena Kumari	Deputy Director, SCERT, Manipur

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

Extension Lecture Series during 2008-2012 by the Department of Biosciences:

S. No.	Speaker	Topic	Year
1.	Dr. Renu Batra, Safferling Institut für Biologische Informationsverarbeitung, Forschungszentrum Jülich, Jülich 52428	Structural study on Herpes viral proteases	2008
2.	Dr. V.K. Burnaval, Senior Scientist, Plant Virology Unit-2, Division of Plant Pathology, IARI, New Delhi-12	Detection of viruses and virus-like pathogens in plants with special reference to citrus	2008
3.	Dr. Santosh K. Kar, Professor in Biotechnology, School of Biotechnology, JNU, New Delhi-110 067	Rational designing of tuberculosis vaccine	2008
4.	Dr. Mausumi Bhardwaj, Asst. Director & Chief, Div. of Mol. Genetics, ICPO, NOIDA	Cancer and cancer vaccines	2008
5.	Yogendra Singh,	Virulence factors in Anthrax and tuberculosis	2008
6.	Dr. Rajiv Bhatt, Professor in Biotechnology, School of	Issues and challenges in investigating folding of proteins	2008

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	Biotechnology, JNU, New Delhi		
7.	Dr. Mohamad Aman Jairajpuri, Associate Professor, Department of Biosciences, JMI, New Delhi	Antithrombin: A bloody important serine protease inhibitor	2008
8.	Dr. Mohammad Husain, Associate Professor, Department of Biosciences, JMI, New Delhi	HIV-associated nephropathy (HIVAN): role of HIV-1 genes	2008
9.	Dr. M. Moshahid Alam Rizvi, Associate Professor, Department of Biosciences, JMI, New Delhi	Cancer genetics	2008
10.	Dr. Mohd. Irfan Qureshi, Assistant Professor, Department of Biosciences, JMI, New Delhi	Molecular sociology of the cell	2008
11.	Dr. T.K. Das, Department of Anatomy, AIIMS, New Delhi	Electron Microscopy: It's application in biology	2009
12.	Dr. Santosh K. Kar, School of Biotechnology, JNU, New Delhi	Immune system of plants, insects & humans: The lesson for vaccine development	2009
13.	Dr. Shelly Praveen, Division of Plant Pathology, IARI, New Delhi	RNAi: Unfolding gene silencing	2009
14.	Dr. Rajeev Bhatt, School of Biotechnology, JNU, New Delhi	Why study protein folding? Old issues and new challenges	2009
15.	Dr. Nirupam Roy Chaudhary, Plant Molecular Biology Group, ICGB, New Delhi	Geminivirus: An insight into its replication mechanism	2010
16.	Dr. Sunil Jha, School of Life Sciences, Jawaharlal Nehru University, New Delhi – 110 067	What is Sleep and why do we need it?	2010
17.	Dr. R.K. Jain, Professor & Head, Division of Plant Pathology, IARI, New Delhi – 110 012	Moleuclar Diagnosis of Plant Pathogens	2010
18.	Dr. Manoj Majee, National Institute of Plant Genomic Research, New Delhi.	Inosiltol metabolism in chickpen in perspective of abiotic stress responses	2010

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19.	Extention Lecture Series, “Recent Trends in Biosciences” 2011		2011
20.	Extention Lecture Series, “Recent Trends in Biosciences” 2012	Professor D. N. Rao (AIIMS) Dr. Arun K Sharma University of Delhi, South Campus Dr. Jameel Akhtar (NBPGR) Dr Agam P Singh (NII) Professor Swaraj Batra (MAMC) Professor M. Zainul Abdin (Jamia Hamdard,) Dr Shahid Jameel (ICGEB)	2012
21.	Prof. SM Paul Khurana Amity University, Noida, UP	Recent Trends in Biotechnology	2014
22.	Prof. AK Pandey Delhi University New Delhi	Biodiversity	2014
23.	Prof Indrani Dasgupta Delhi University (South Campus)	Transgenic Resistance agents-Plant Viruses	2014
24.	Prof. B. Jairam IIT, Delhi	Drug Designing and Discovery	2014
25.	Dr. M. Irfan Qureshi Dept. of Biotechnology JMI	Plant Proteomics	2014

45. List the teaching methods adopted by the faculty for different programmes.
- Board/Chalk
  - Overhead Projection
  - LCD Projection
  - Quiz
  - Seminar Presentation
46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?
- Feedback of alumni is taken regularly.
  - Monitoring of performance in national level exams like NET, GATE, CSIR-UGC-JRF, ICMR-JRF, DBT-JRF, and others.
  - Compulsory Regular Internal Assessment tests.
  - A full-fledged coaching and career planning center functions in the University.
47. Highlight the participation of students and faculty in extension activities.
- Biofest is an annual event in Biosciences. It involves debates, science quiz, skits and painting competition based on various themes of life-sciences. Organization of extension lecture annually and renowned scientists are invited to deliver lectures.
  - Students are deputed to undertake advanced research training.

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- Ms. Shweta, PhD student, was selected for Research Fellowship (8 months) awarded by Ministry of Human Resource Development (HRD), Govt. of India and Israel Govt. in the field of Agriculture to carry out research work in Israel. (Supervisor: Prof. Jawaid Ahmad Khan).
- Ms. Shamama Nishat, PhD student was selected for DAAD Fellowship (6 months) to carry out research work in Germany. (Supervisor: Prof. Seemi Farhat Basir).
- Participation in international conferences/awards.  
Ms. Poonam Singh and Mr. Mohammad Asim, both PhD student, presented paper in International Symposium on Chemistry and Biology of Serpin 2011 at University of North Carolina, USA and awarded best poster award (Supervisor: Dr. Aman Jairajpuri).
- Ms. Qudsia Rashid and Ms. Poonam Singh, both PhD student, presented paper in International Conference in Bioinformatics 2011, Center for Research in Interdisciplinary Basic Sciences. JMI, New-Delhi, India and awarded best poster and oral presentation award (Supervisor: Dr. Aman Jairajpuri).

48. Give details of “beyond syllabus scholarly activities” of the department.

1. Technical Writing
2. Seminars
3. Summer Training
4. Popular lectures by visiting scientists
5. Students Projects
6. Radio and talk shows on TV

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details. No

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

Dr. Jawaid A. Khan

- Generation of RNAi-mediated resistance against cotton leaf disease
- Genetic transformation

Dr. Tasneem Fatima

- Stress physiology product development
- Toxicology

Dr. Arif Ali

- Mercury and antibiotic profiling and resistance

Dr. Seemi Farhat Basir

- Development of anti-diabetic drug from natural sources.

Dr. Luqman A Khan

- Development of more effective antifungal therapies.

Dr. Moshahid Alam Rizvi

- Genomic and Epigenomic studies of human Cancer.

Dr Qazi Rizwan-ul Haq

- Molecular Characterization of Viruses infecting different Plant Varieties and development

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of techniques for their identification.

Dr. Meryam Sardar

- Metallic nanoparticles and their applications including optical/chemical sensors, electronic devices, and catalysts.
- Biomedical research applications of metallic nanoparticles.

Dr. Mohamad Aman Jairajpuri

- Protein Structure Function and Diseases
- Mechanism of activation of antithrombin and Synthetic activators of antithrombin
- Antiangiogenic properties of serpin and Serpin polymerization

Dr. Nikhat Manzoor

- Development of effective antifungal therapies.

Dr. Mohammad Abid

- Designing and subsequent synthesis of potential antimicrobial agents.
- Natural Product modifications
- Small peptide synthesis (solution and solid phase)

Dr. Mohd. Mohsin

- Development of FRET-based nanosensors.
- Fluxomics of metabolites within the metabolic network.

51. Detail any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.  
Department of Biosciences, Faculty of Natural Sciences

Strengths

- Multidisciplinary modern biology department with in-house expertise in pure and interface physics, chemistry and mathematics.
- Teaching and Research programmes capture entire spread of life sciences and our products are balanced and composite life scientist.
- Entire array of available equipments/technical expertise employed in life science under one roof, as against expertise/equipments scattered over several entities in other universities.
- Dedicated & Relatively young Faculty (Average age = 44 years) with no personality issues. Immense opportunities for collaborative research and long term projects/ programmes.
- Very strong sense of belonging for the department among the faculty members, non-teaching staff and alumni. Alumni of the department remain in constant touch and visit department.

Weaknesses

- Lack of Animal House Facility seriously impedes researches in areas of biochemistry, physiology, immunology, cancer biology, drug discovery and environmental/pollution biology etc.
- Several areas/specializations of biology have become full blown sciences (Biochemistry, Microbiology, Genetics etc.). Most universities have created full departments to do justice with these branches. We have just one teacher even in these developed areas. This precludes the possibility of having Grade-A practical/research infrastructure in these areas.
- The department has accumulated, through university & Extra-mural support, most departmental level research equipments and infrastructure. We definitely need an Advanced instrumentation facility with high end equipments/facilities being employed in frontier areas of biology. In

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most universities this is University level facility with equipments like: NMR, TEM, SEM, CD, Stop-flow, FACS, RTPC, LCMS, GCMS, protein isolation facility, Radioactive lab etc.

- Lack of field station (which is required for field test of new breeds/ GM crops) will hamper future research in Plant Tissue Culture & Molecular biology.
- Absence of interaction with relevant industries. Currently there is No mechanism at Department/University level for collaborative/Applied Research and training with industries. No interaction even between science and technology faculties in Jamia precluding the possibility of translating ideas/research into products. Many Central Universities have established University-Technology Transfer Centre to sustain and promote applied research & Technology transfer.

### Opportunities

- Interdisciplinary teaching and research
- Induction of Bachelors and Master students from varied discipline of life and allied sciences.
- Some labs/areas have progressed to an extent where after animal and field testing we can have collaboration with industries.
- Availability of diverse life science human and material resources at one department provides opportunity for genesis of new interdisciplinary ideas and subjects.
- The department is in a position to have joint programs with International Universities and institutes.

### Challenges

- Shrinking catchment area due to coming up of several new public and private new universities in the country.
- The above may translate into poor feeder cadre.
- There is positive correlation between quality learning process and students staying on campus. There is need for additional/improved accommodation for students to match national/international standards.
- Life sciences is rapidly advancing field where teachers are required to upgrade themselves constantly. Constant encouragement/vigil/training opportunities will be required for updated delivery in classrooms and labs.
- Syllabi are required to be constantly updated and kept abreast with developing knowledge to ensure that the students remain competitive.

### 52. Future plans of the department.

- Starting course of M.Sc. in Microbiology
- Establishment of Animal House for research
- Establishment of Field station for promoting Tissue culture research
- Establishment of Advanced Research Instrumentation Facility
- Technology Transfer Centre for applied research
- Expansion of Department to a faculty of Life Sciences along the lines of other central universities comprising of Departments of Biochemistry, Microbiology, Genetics & Molecular Biology, Biotechnology and Biosciences.  
Focused Life Science programmes in collaboration with overseas universities