

DEPARTMENT OF CHEMISTRY & BIOCHEMISTRY - UG

1.	Name of the department	CHEMISTRY & BIOCHEMISTRY - UG			
2.	Year of Establishment	Year of Establishment			
3.	Names of Programmes / M.Phil., Ph.D., Integrated Masters; Integrated Ph.D.,	Courses offered (UG, PG, etc.)	B.Sc. : PCM, CBZ, CBBt, CZBt, BcGMb		
4.	Names of Interdisciplinary departments/units involve		NIL		
5.	Annual/ semester/choice (programme wise)	Semester System: Prior to 2014 – 15 Choice Based Credit system: 2014 – 15 onwards			
6.	Participation of the depart by other departments	d NIL			
7.	Courses in collaboration vindustries, foreign institu	NIL			
8.	Details of courses/programwith reasons) NIL			
	Number of teaching posts				
9.	Designation	invakion Constinued EU-1			
). 	Designation Professors	Sanctioned NIL	Filled NIL		
	Associate Professors	NIL 5	5		
	Asst. Professors	4	4		



10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Name	Qualification	Designation	Specialization	No. of Years of Experience
A.R.Rameshbabu	M.Sc.,M.Phil	Principal	Organic	33
Shivappa Notagar	M.Sc.,M.Phil	Associate Professor	Inorganic	31
Dr. Manjula.N	M.Sc.,M.Phil Ph.D	Associate Professor	Biochemistry	30
L.Jayakumar	M.Sc.,M.Phil	Associate Professor	Inorganic	27
Dr. Mahesh Arvind	M.Sc.,M.Phil Ph.D	Associate Professor	Biochemistry	27
M.Shivaprakash	M.Sc.	Assistant Professor	Inorganic	22
S.A. Srikanta	M.Sc.	Assistant Professor	Biochemistry	22
P.Jayashree	M.Sc.	Assistant Professor	Physical	15
Jyothi. R. Kumar	M.Sc.,M.Phil B.Ed	Assistant Professor	Biochemistry	22

11.	List of senior visiting faculty NIL			
12.	Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty	N	L	
13.	Student -Teacher Ratio (programme wise)	45 : 1		
14.	Number of academic support staff	Sanctioned Filled 4		
15.	Qualifications of teaching faculty with D Sc/ D.Litt. / Ph.D. / MPhil / PG	Ph.D 02 M.Phil. 04 PG 03		
16.	Number of faculty with ongoing projects from	NIL		





17.	Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received.	NIL
18.	Research Centre /facility recognized by the University	NIL
19.	Publications	
	Publication per faculty	0.11
	Number of papers published in peer reviewed journals	01
	National Journals	0
	International Journals	01
	Books Edited	NIL
	Books Edited with ISBN Numbers	NIL
	Impact factor	
	h – index	NIL

Details of Paper Publications in Peer Reviewed Journals

a. Publications in International Journals

Name of the Faculty	TITLE OF THE PAPER	JOURNAL	IMPACT FACTOR	CITATIONS
		International		
	Bioremediation for	Journal of		
Mahesh Arvind	Environmental	Environment		
	Management	Engineering and		
		Development, 2014		

20.	Areas of consultancy and income generated	NIL
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21.	Faculty as members in					
	a. National Committees	NIL				
	b. International Committees	NIL				
	c. Editorial Boards	01				
	Dr. Mahesh Arvind Member, Technical Copapers of ICEAE to be					
	 d. Membership in Academic Bodies of Dr. Mahesh Arvin • International Society of Ecological Communications • Indian Society of Sciences • Indian Society of Environmental Science • National Academy of Environmental Science • Asia- Pacific Chemical Biological Environmental Engineering Society • Indian Science Congress Association 					
22.	Student projects					
	a) Percentage of students who have done in-house projects including inter departmental/programme	2%				
	b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies	10%				
23.	Awards / Recognitions received by faculty and students					
	 Dr. Mahesh Arvind * Fellow of Society of Sciences * Fellow of Society of Environmental Sciences * Fellow of International Society of Economic Sciences * Senior Scientist Award from Association-Bangalore Chapter Jyothi.R.Kumar 					





	Best Poster Award for the poster titled "Antioxidant and Antidiabetic properties of Syzygium Cumini seeds and moringaolifera leaves" presented at National conference organized by Jyothi Nivas College in February 2012. Smitha B Rao Secured 7th Rank in 2013 University Examinations Bindu Shree Secured 10th Rank in 2014 University Examinations				
24.	List of emin		s and scientists / visitors to the artment		
a.	Dr.K.N.Mahendra	1	Professor, Dept. of chemistry, Bangalore University, Bangalore		
b.	Dr.Nagasundara.	K.R	Professor, Dept. of chemistry, Bangalore University, Bangalore		
C.	Prof. T N Guru Row		Professor, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore		
d.	Prof. M R N Murthy		Professor, Molecular Biophysics Unit, Indian Institute of Science, Bangalore		
e.	Prof. Tupil Venkatesh		Professor Emeritus, St. John's Medical College, Bangalore		
f.			Professor and Chairperson, Dept. of Environmental Science Studies, Jnana Bharati Campus, Bangalore University		
25.	Seminars/ Conf	erences/Worksho	ps organized & the source of funding		
	Title of the Conference	"Emerging tro	nsored National Seminar on ends in Chemistry with sis on Environment"		
	Dates held	23 rd Dec 2011			
a.	No. of Participants		160		
	Main Sponsor	UGC			
	Co – Sponsors	BHS Higher	Education Society		
b.	Title of the Conference	Workshop on Re	vised Biochemistry Syllabus (CBCS)		
	No. of Participants Main Sponsor Co – Sponsors		160 UGC Education Society		



	Dates held	20 th and 21 st February 2015
	No. of Participants	35
	Main Sponsor	BHS Higher Education Society

c. Conferences Attended by Faculty

i. International Conferences

Sl. No.	Name of the faculty	Title of the Workshop/ Seminar/ Conference	Date	Organized by (Name of the institution or university)	Title of the paper presented
1	Dr. Mahesh Arvind	International Conference on Ecosystem conservation and Sustainable Development	10-12 th Feb., 2011	Ambo University, Ethiopia	Current studies in Bioremidiation for environmental management
2	Dr. Mahesh Arvind	International Conference on Bioremediation and Environmental Management	28-29 th Dec 2011	Presidency College, Bangalore	Biodegradation of α-Naphthol by Arthrobacter citreus
3	Dr. Mahesh Arvind	International Conference on Environment and Human Health	28-29 th Nov.,2012	National Environment Science Academy, New Delhi	Bioremidiation and phytoremidiati on for removal of phenolic pollutants
4	Dr. Mahesh Arvind	International Conference on Environment and Agricultural Engineering	6-7 th Aug.2014	Asia Pecific Chemistry Biology Environment Engineering Society, Singapore	Bioremidiation for environmental management - a case study
5	Dr. Mahesh Arvind	International Conference on Advanced Oxidation Processes2014	28th Sept 2014	Mahatma Gandhi University, Kottayam, Kerala	Comparitive study of biodegradation of naphthol
6	Jayashree P	International conference on recent advances in material science and technology	17-19 Jan- 2013	National institute of technology Kanataka-Suratkal	Acoustic behaviour of glycine in aqueous and partial aqueous solutions of Nickel sulphate at different





Sl. No.	Name of the faculty	Title of the Workshop/ Seminar/ Conference	Date	Organized by (Name of the institution or university)	Title of the paper presented
					temperatures and compositions of methanol and acetonitrile.
7	Dr. N Manjula	Proteomics from Discovery to Function	7th - 9th Dec 2014	Indian Institute of Technology, Mumbai	Expression of antioxidant enzyme (protien) peroxidase inpaspalumsro biculam.L (kodomillet) during salt stress
8	Jayashree P	International Conference on Electro chemical science and technology, ECONEST-2014	5 th and 6 th February 2015	Oxford college, Karnataka Science and Technology Academy Co – sponsored	

ii. National Conferences

Sl. No.	Name of the faculty	Title of the Workshop/ Seminar/ Conference	Date	Organized by (Name of the institution or university)	Title of the paper presented
1	Shivappa Notagar	Recent Advances in electrochemical and surface science and engineering	4th Feb 2011	BNM College of Engineering, Bangalore	-
2	Dr.Manjula.N	Recent Trends in analytical techniques-NCRTAT	19th Feb 2011	D.R.M.College, Davangere.	
3	K.V.Channakesha va	Recent Advances in electrochemical and surface science and engineering	4th Feb 2011	BNM College of Engineering, Bangalore	-
4	L Jayakumar	Recent Advances in Organic Synthesis and Biosciences- RAOSB"	18 th Feb- 2010	Christ University. Bangalore	
5	Dr.Mahesh Arvind	National conference on Environmental Awareness	16-18 th Feb 2010	Pune University at Rahata, Maharashtra	Biodegradation of phenolic pollutants of

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Sl. No.	Name of the faculty	Title of the Workshop/ Seminar/ Conference	Date	Organized by (Name of the institution or university)	Title of the paper presented
					vrishabavathi river
6	Dr.Mahesh Arvind	National Conference on Challenges of Modern Biology in 2020	29-31 March 2010	Indian Science Congress- Bangalore Chapter	Treatment of Vrishabavathi stream loaded with industrial effluents and sewage
7	Dr.Mahesh Arvind	National Conference on Recent trends in Biomedical Research	22 nd Nov 2010	Presidency College, Bangalore	Bioremidiation for the ill effects of phenolic pollutants
8	Dr.Mahesh Arvind	National Conference on Developmental Biology	15-17 th Sept. 2010	UGC- SAP,Bangalore University	Phytoremediati on for decontaminatin g aeromatics
9	Dr.Mahesh Arvind	Seminar on Depletion of Forests and livelihood Concerns	17-18 th Feb. 2011	Christ University, Bangalore	Bioremediation as a livelyhood concern
10	Dr.Mahesh Arvind	National Conference on Science for Mankind	2-3 rd Feb. 2011	JyotiNivas College, Bangalore	Biodegradation of phenolics by immobilized cells of Arthrobacter sp.
11	Jayashree.P	Recent advances in chemical and environmental sciences NCRACES	28-29th Dec-2011	Jain university	1.Ion solvation studies of glycine in water ,methanol,acet onitrile and their mixture by conductometry . 2. Transport behaviour of glycine in aqueous solutions of copper sulphate in 5%-20% methanol and acetonitrile at different temperatures.



Sl. No.	Name of the faculty	Title of the Workshop/ Seminar/ Conference	Date	Organized by (Name of the institution or university)	Title of the paper presented
12	Dr. Manjula.N	National Conference on Science for Mankind	2-3 rd Feb. 2011	JyotiNivas College, Bangalore	Response of Kodomillet(Pas palum scrobiculatum) to high temperature and salt stree and its comparison with Finger millet
13	L.Jayakumar	National Conference on "Recent Trends in Analytical Techniques-NCRTAT- 2011"	19 ^{ւհ} February 2011	Davanagere University, Davanagere	
14	L.Jayakumar	National Level Conference on "Chemistry for Society & Industry"	5 th March 2011	JyothiNivas College, Bangalore	
15	Dr.Mahesh Arvind	National Level Conference on "Chemistry for Society & Industry"	5 th March 2011	JyothiNivas College, Bangalore	
16	Dr.Mahesh Arvind	National Conference on Mile stones of Chemistry in the last 100 years	10 th Sept 2011	S.Nijalingappa college, Bangalore	
17	Jyothi.R.Kumar	Synergy 2012- science for mankind.	2^{nd} and 3^{rd} Feb 2012	JyothiNivascollege , Bangalore	
18	Dr.Mahesh Arvind	National Symposium on Science for shaping the future of India	30-31 st Aug 2012	V.V.Puram College, Bangalore	Bioremediation for decontaminatin g industrial pollutants
19	Dr.Mahesh Arvind	Workshop on Ensuring a clean and green urban environment- challenges and solutions in urban waste management	2 nd Oct.,2012	Bangalore University-Centre for Gandhian Studies	
20	Jayashree.P	National Seminar on Spectroscopy	13-14 th Feb 2014	Maharani's Science college for women, Bangalore	
21	Jyothi.R.Kumar	National seminar on Bioveda – A Treasure	6 & 7 th Feb 2014	Jain University Bangalore	



Sl. No.	Name of the faculty	Title of the Workshop/ Seminar/ Conference	Date	Organized by (Name of the institution or university)	Title of the paper presented	GE
		Trove				TIE
22	L.Jayakumar	"UGC sponsored national conference on atomic physics,molecular physics and X-ray crystallography"	8 th - 10 th Jan 2015	Vijaya College , Bangalore		VIJAYA CO
23	L.Jayakumar	Advanced nanotechnology and its applications (NCOANA 2015)	22 nd and 23 rd Jan 2015			
24	Dr.Mahesh Arvind	National Conference on Value Initiatives in Institutions of higher learning Key to Youth Empowerment	3rd - 4th Feb 2015	MLA College for Women, Bangalore	Monooxygenas es and Dioxygenases in Biodegradation of phenols	

iii. State Level and Regional Level Conferences

Sl. No.	Name of the faculty	Title of the Workshop/ Seminar/ Conference	Date from to	Organized by (Name of the institution or university)
1	Jyothi R Kumar	State level seminar on "High polymer-The Material of Choice"	24 th feb 2011	Jain University, Bangalore

26. Student profile programme/course wise:

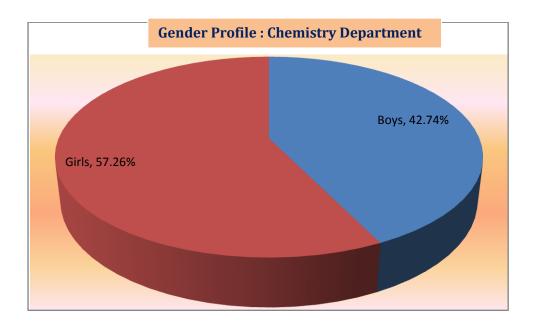
Stream : Chemistry

Year	Name of the Course /	Applicati ons	Selected		lled in I ear	TOTAL (All	Pass Percentage
Teal	Programme	Received	Selecteu	Male	Female	Years)	(outgoing students)
2010 - 11		72	72	34	38	380	91.53%
2011 - 12		93	93	32	61	352	82.35%
2012 - 13	B.Sc.	88	88	40	48	301	82.71%
2013 - 14		123	123	56	67	208	77.03%
2014 - 15		122	122	49	73	330	



Gender Profile of Students

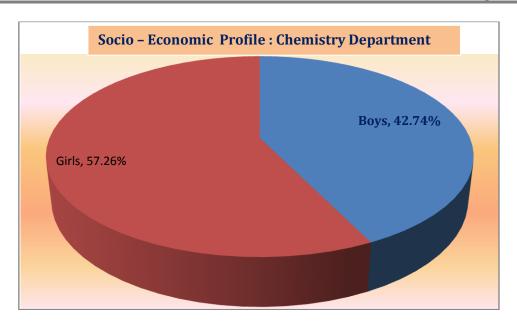
Academic Year	Boys	Girls	Total
2011 – 12	158	194	352
2012 – 13	121	180	301
2013 – 14	120	165	285
2014 – 15	143	187	330
Average Percentage	42.74%	57.26%	



Socio – economic profile of students

Academic Year	SC/ST	OBC	GM	Total
2011 – 12	63	130	159	352
2012 – 13	59	142	100	301
2013 – 14	53	146	86	285
2014 – 15	67	159	104	330
Average Percentage	19.09%	45.50%	35.41%	





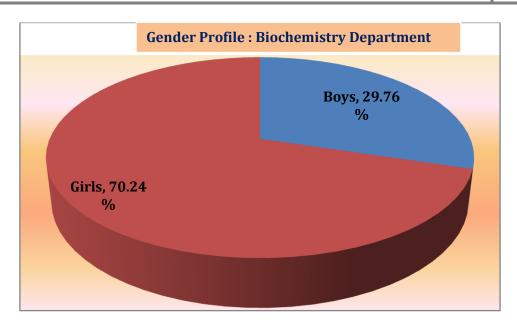
Stream: Biochemistry

Year	Name of the Course /	Applications	Selected		ed in I ear	TOTAL in ALL	Pass Percentage
Teal	Programme	Received	Selecteu	Male	Female	Years	(outgoing students)
2010 - 11		17	17	4	13	57	100.00%
2011 - 12		21	21	6	15	54	91.30%
2012 - 13	B.Sc.	16	16	6	10	45	83.33%
2013 - 14		30	30	7	23	65	88.24%
2014 - 15		24	24	6	18	71	

Gender Profile of Biochemistry Students

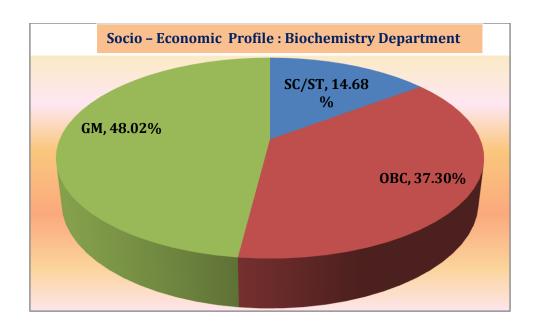
Academic Year	Boys	Girls	Total
2011 – 12	25	47	72
2012 – 13	13	29	42
2013 – 14	18	47	65
2014 – 15	17	54	71
Average Percentage	29.76%	70.24%	





Socio – economic profile of Biochemistry students

Academic Year	SC/ST	OBC	GM	Total
2011 – 12	11	23	38	72
2012 – 13	5	18	19	42
2013 – 14	9	29	27	65
2014 – 15	12	23	36	71
Average Percentage	14.68%	37.30%	48.02%	





27. Diversity of Students

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
B.Sc.	100%	0%	0%

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defence services, etc.?

NIL

29. Student progression (Chemistry & Biochemistry)

Student progression		Against	:% enroll	ed
	Year	No. enrolled	Total No.	%age
	2010 - 11	5	69	7.25%
HC t - DC	2011 - 12	9	120	7.50%
UG to PG	2012 - 13	9	136	6.62%
	2013 - 14	10	77	13%
	Average	8.25	100.5	8.21%
PG to M.Phil.	NA			
PG to Ph.D.	NA			
Ph.D. to Post-Doctoral	NA			
Employed Campus selection	Data Not Available			
Other than campus recruitment	Data Not Available			9
Entrepreneurship/Self-employment	NIL			



30.	Details of Infrastructural facilities	
a.	LIBRARY	
	Books Main Library	5000 Books
	Department Library	100 Books
b.	Internet facilities for Staff & Students	Available
C.	Class rooms with ICT facility	02 Class rooms and Laboratory
d.	Laboratories	
	Total Number Available	03
	Average Area of Each Laboratory	1100 sq. Ft.
	Total area of Laboratories	About 3300 Sq. Ft.
31.	Number of students receiving financial assistance from college, university, Government or other agencies	Data furnished under student support services

32.	Details on student enrichment programmes (special lectures / workshops /seminar) with external experts
1.	Guest lecture on "Environmental Issues around Bangalore City" by Prof. Nandini, Professor, Dept. of Environmental Science, Bangalore University on 1st Sept 2012
2.	Guest lecture on " Lead Poisoning " by Prof. Tupil Venkatesh , Professor Emeritus, St. John's Medical College, Bangalore on 26 th Feb 2013.
3.	Guest lecture on " Crystallography " by Prof. M R N Murthy , Molcular Biophysics Unit, Indian Institute of Science., Bangalore on 17 th October 2013
4.	Industrial Visit to ttk Pvt. Ltd., Hosur and Global Calcium Pvt. Ltd., Hosur on 5 th Oct 2011.50 students of VI Sem B.Sc. and 3 teachers took part
5.	Industrial Visit to Nerolac Paints and Varnishes Industry , Hosur on 11 th Oct 2012 where 56 students and 3 teachers took part



- 6. Industrial Visit to **Mangalore Chemicals and Fertilizers Limited, Mangalore** on 30th March 2013 to 1st April 2013 where 40 students and 3 teachers participated
 - 33. Teaching methods adopted to improve student learning
 - Chalk and Talk Method
 - Use of ICT in class room sessions with PPT presentations
 - > Demonstration of Models and use of charts in classroom sessions
 - Question Bank and Assignment
 - Laboratory Manual to students
 - Additional coaching provided to students involved in Sports, cultural, NCC, NSS and Co Curricular activities who would have lost their regular classes

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

Participation in Environment awareness programmes. Participation in NSS and NCC events. Participation in National Festivals. Lady faculty members of the department actively participate in Women Empowerment Cell activities.

Dr.Mahesh Arvind is working as student counsellor for the college students and for voluntary organizations.

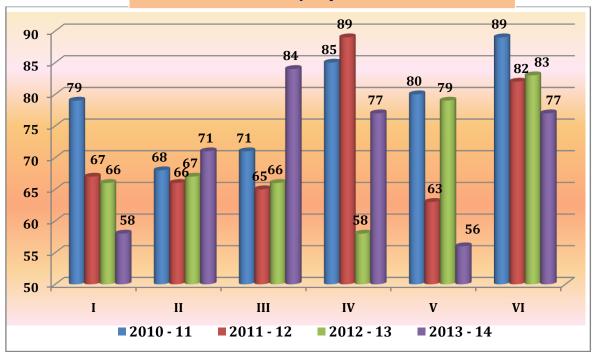
Dr.Mahesh Arvind is the Convener of the college literary and cultural committee

I. Trend in Success Rate of Chemistry Students: 2010 - 2014

Sem	2010 - 11	2011 - 12	2012 - 13	2013 - 14
I	79	67	66	58
II	68	66	67	71
III	71	65	66	84
IV	85	89	58	77
v	80	63	79	56
VI	89	82	83	77



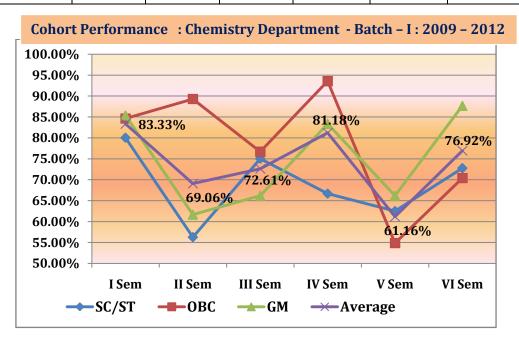
Success Rate: Chemistry Department - 2010 - 2014



II. Cohort Performance of Chemistry Students: 2010 - 2014

Batch - I: 2009 - 12

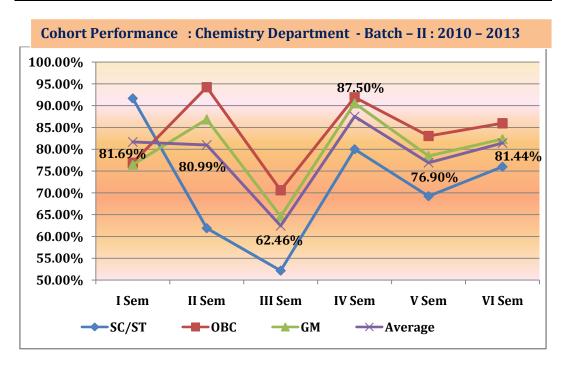
Category	I Sem	II Sem	III Sem	IV Sem	V Sem	VI Sem
SC/ST	80.00%	56.25%	75.00%	66.67%	62.50%	72.73%
ОВС	84.62%	89.29%	76.67%	93.55%	54.84%	70.37%
GM	85.37%	61.64%	66.15%	83.33%	66.15%	87.65%
Average	83.33%	69.06%	72.61%	81.18%	61.16%	76.92%





Batch - II: 2010 - 13

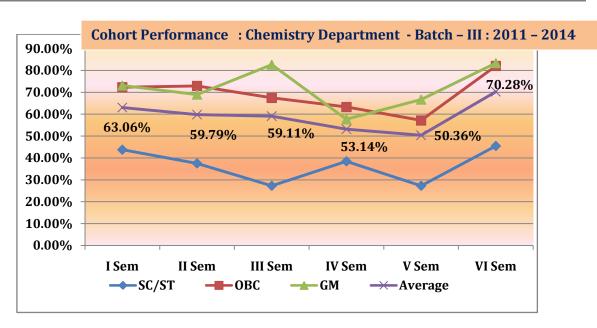
Category	I Sem	II Sem	III Sem	IV Sem	V Sem	VI Sem
SC/ST	91.67%	61.90%	52.17%	80.00%	69.23%	76.00%
ОВС	76.92%	94.23%	70.59%	91.94%	83.05%	85.96%
GM	76.47%	86.84%	64.62%	90.57%	78.43%	82.35%
Average	81.69%	80.99%	62.46%	87.50%	76.90%	81.44%



Batch - III: 2011 - 14

Category	I Sem	II Sem	III Sem	IV Sem	V Sem	VI Sem
SC/ST	43.75%	37.50%	27.27%	38.46%	27.27%	45.45%
ОВС	72.34%	72.92%	67.44%	63.27%	57.14%	82.05%
GM	73.08%	68.97%	82.61%	57.69%	66.67%	83.33%
Average	63.06%	59.79%	59.11%	53.14%	50.36%	70.28%

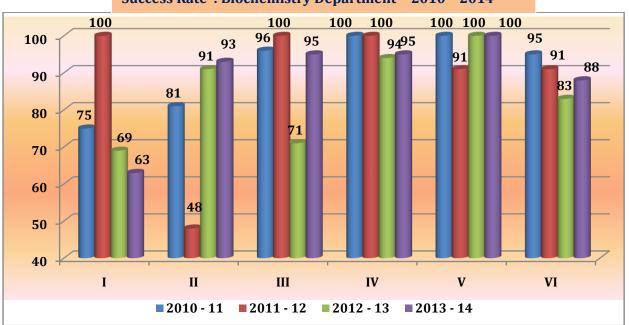




III. Trend in Success Rate of Biochemistry Students: 2010 - 2014

Sem	2010 - 11	2011 - 12	2012 - 13	2013 - 14
I	75	100	69	63
II	81	48	91	93
III	96	100	71	95
IV	100	100	94	95
V	100	91	100	100
VI	95	91	83	88

Success Rate: Biochemistry Department - 2010 - 2014



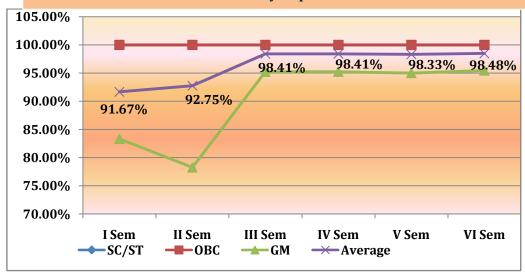


IV. Cohort Performance of Biochemistry Students: 2010 - 2014

Batch - I: 2009 - 12

Category	I Sem	II Sem	III Sem	IV Sem	V Sem	VI Sem
SC/ST	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
ОВС	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
GM	83.33%	78.26%	95.24%	95.24%	95.00%	95.45%
Average	91.67%	92.75%	98.41%	98.41%	98.33%	98.48%

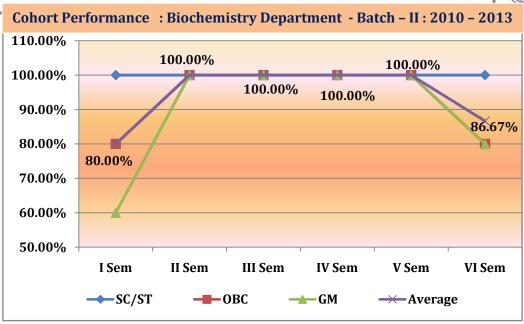
Cohort Performance: Biochemistry Department - Batch -I: 2009 - 2012



Batch - II: 2010 - 13

Category	I Sem	II Sem	III Sem	IV Sem	V Sem	VI Sem
SC/ST	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
ОВС	80.00%	100.00%	100.00%	100.00%	100.00%	80.00%
GM	60.00%	100.00%	100.00%	100.00%	100.00%	80.00%
Average	80.00%	100.00%	100.00%	100.00%	100.00%	86.67%

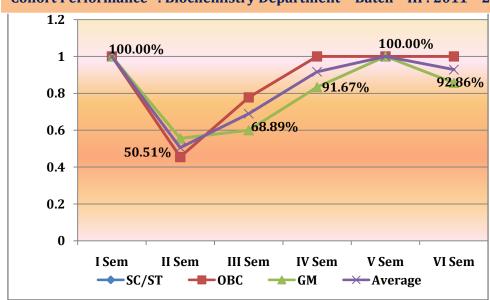




Batch - III : 2011 - 14

Category	I Sem	II Sem	III Sem	IV Sem	V Sem	VI Sem
SC/ST	NA	NA	NA	NA	NA	NA
ОВС	100.00%	45.45%	77.78%	100.00%	100.00%	100.00%
GM	100.00%	55.56%	60.00%	83.33%	100.00%	85.71%
Average	100.00%	50.51%	68.89%	91.67%	100.00%	92.86%

Cohort Performance: Biochemistry Department - Batch - III: 2011 - 2014





35.SWOC Analysis of the department of Chemistry and Biochemistry

Strengths

- Good, dedicated and qualified teaching faculty
- ➤ Adequate Laboratory facilities for teaching learning purposes
- > Study material and laboratory material provided to students
- Fairly good student teacher ratio

Weaknesses

- Inconsistent student strength over years
- Declining student strength and quality to pure science course and hence chemistry

Opportunities

- Explore Minor research project with funding from UGC and VGST
- ➤ Introduce Industrial Chemistry as a specialization once autonomy is granted
- Collaborate with Pharmaceutical industries and other chemical industries for student research projects and employment opportunities

Challenges

- Making curriculum relevant to the market and industry needs
- Funding requirements for modernization of the laboratories and acquiring equipment suitable for both academic and research purpose

Future Plans

- ➤ Creating an advanced spectroscopy lab with UV Visible spectrophotometer, Fluorescence spectrophotometer and similar other equipment with necessary physical infrastructure
- ➤ Introduction of career oriented course in Industrial Chemistry
- ➤ Developing interactions with national institutes of research and industry to tap the talent resource available there.
- ➤ Developing interdepartmental collaborations to introduce innovative teaching and research methodology.
- Adapting to latest teaching pedagogy in class room teaching
