



IQAC/

Date: 15-02-2022

INFORMATION FOR ACADEMIC AUDIT OF THE DEPARTMENT
(Please provide information for Academic Session 2017-21)

- 1. Name of the Department:** Department of Chemistry and Chemical Science
- 2. Year of establishment:** 2017
- 3. Courses offered:** M.Sc Chemistry

Undergraduate	Post Graduate
B.Sc Chemistry courses offered to B.Sc. Physics honours	M.Sc Chemistry

- 4. Courses introduced during of the year: 2017-2018,2018-2019,2019-2020**

Undergraduate	Post Graduate	Add-on/Value Added
CCS 101- Chemistry I CCS 101L- Chemistry Lab I	CCS-401 Organic Chemistry I CCS-402 Inorganic Chemistry I CCS-403 Physical Chemistry I CCS-404 Organic Chemistry LAB-1	CCS 415 Green Chemistry and Its Application CCS 547 Biophysical chemistry CCS 549 Electronic spectroscopy
CCS 102- Chemistry II CCS 102L- Chemistry Lab II	CCS-405 Inorganic Chemistry LAB-1 CCS-406 Physical Chemistry LAB-1 CCS-407 Organic Chemistry II CCS-408 Inorganic Chemistry II	CCCS538 Biochemistry
CCS 5101 Organic Stereochemistry and spectroscopy CCS 5101L: Organic Stereochemistry and spectroscopy Lab	CCS-409 Physical Chemistry II CCS-501 Chemistry General (Interdisciplinary Topics) CCS-565 Major Project CCS-410 Biophysical and Material chemistry CCS- 411 Statistical error, electrochemical	

	analyses, environmental analyses
	CCS-412 Catalysis and green chemistry
	CCS-413 Environmental chemistry
	CCS-414 Chemistry of Xenobiotics Biodegradation-I
	CCS-502 Organic Chemistry Specialization I
	CCS-503 Organic Chemistry Specialization II
	CCS-504 Organic Chemistry Specialization III
	CCS-505 Organic Chemistry Specialization IV
	CCS-506 Organic Chemistry Specialization V
	CCS-507 Organic Chemistry Specialization VI
	CCS-508 Organic Chemistry Specialization VII
	CCS-509 Organic Chemistry Specialization VIII
	CCS-510 Advanced Organic Chemistry LAB-I
	CCS-511 Advanced Organic Chemistry LAB-II
	CCS-512 Advanced Organic Chemistry LAB-III
	CCS-513 Advanced Organic Chemistry LAB-IV
	CCS-514 Inorganic Chemistry Specialization I
	CCS-515 Inorganic Chemistry Specialization II
	CCS-516 Inorganic Chemistry

	Specialization III	
	CCS-517 Inorganic Chemistry Specialization IV	
	CCS-518 Inorganic Chemistry Specialization V	
	CCS-519 Inorganic Chemistry Specialization VI	
	CCS-520 Inorganic Chemistry Specialization VII	
	CCS-521 Inorganic Chemistry Specialization VIII	
	CCS-522 Advanced Inorganic Chemistry Lab I	
	CCS-523 Advanced Inorganic Chemistry Lab II	
	CCS-524 Advanced Inorganic Chemistry Lab III	
	CCS-525 Advanced Inorganic Chemistry Lab IV	
	CCS-526 Physical Chemistry Specialization I	
	CCS-527 Physical Chemistry Specialization II	
	CCS-528 Physical Chemistry Specialization III	
	CCS-529 Physical Chemistry Specialization IV	
	CCS-530 Physical Chemistry Specialization V	
	CCS-531 Physical Chemistry Specialization VI	
	CCS-532 Physical Chemistry Specialization VII	
	CCS-533 Physical Chemistry	

Specialization VIII

CCS-534 Advance Physical Chemistry
LAB-I

CCS-535 Advance Physical Chemistry
LAB-II

CCS-536 Advance Physical Chemistry
LAB-III

CCS-537 Advance Physical Chemistry
LAB-IV

CCS-538 Biochemistry –I

CCS-539 Biochemistry –II

CCS-540 Advanced stereochemistry

CCS-541 Computer application in
chemistry -I

CCS-542 Computer application in
chemistry –II

CCS-543 Group theory and its application
in bonding

CCS-544 Structure and properties of solids

CCS-545 Chemistry of elements

CCS-546 Advanced bioinorganic chemistry

CCS-547 Biophysical chemistry

CCS-548 Data analysis & mathematical
methods in chemistry

CCS-549 Electronic spectroscopy
(absorption and emission)

CCS-550 Advanced statistical
thermodynamics and symmetry

CCS- 551 Physical methods of analysis and
structure determination

CCS-552 Synthetic methodology & strategy

CCS-553 Chemoinformatics

	CCS-554 Advanced bioorganic Chemistry
	CCS-555 Advanced bio-Analytical techniques
	CCS-556 Metabolomics and biomarker study-I
	CCS-557 Advanced characterization techniques (FESEM, HRTEM, AFM,XRD)
	CCS-558 Advance Characterization Techniques
	CCS-559 Advance Analytical techniques
	CCS-564 Asymmetric organic Catalysis Synthesis
	CCS-416 Alchemy to modern
	CCS-417 Bio safety issues & Research ethics
	CCS-418 chemical data analysis
	CCS-559- advance Analytical techniques
	CCS- 560 Computational Chemistry
	CCS-561 Food Chemistry
	CCS-562 Clinical Chemistry
	CCS-563- Chemistry of Organic materials
	CCS-564-Assymmetric Organic synthesis/Catalysis

Year 2020-2022

Undergraduate	Post Graduate	PhD	Add-on/Value Added
CCS 5101 Organic Stereochemistry and spectroscopy	CCS 516 Spectroscopic Techniques CCS 514 Advance Analytical Techniques CCS 512 Organic Chemistry CCS 511 Inorganic Chemistry CCS 517 Commercial & Green Synthesis CCs 513 Physical Chemistry CCS 519 IKS	CCS 700 Application of Spectroscopic studies in chemical research CCS 701 Organometallic and nano chemistry CCS RPE Research Publication and Ethics CCS 703 Indian Knowledge Systems and Practices CCS 704 Pedagogy of Teaching Learning Process (PTLP) CCS 705 Research Methodology	
CCS 5101L: Organic Stereochemistry and spectroscopy Lab	CCS 504 ORGANIC CHEMISTRY SPECIALIZATION III		
CCS 5201: Electrochemistry	CCS506 ORGANIC CHEMISTRY SPECIALIZATION V		
CCS 5201 L: Lab Skills in chemical Sciences	CCS507 ORGANIC CHEMISTRY SPECIALIZATION VI		
	CCS 515 INORGANIC CHEMISTRY SPECIALIZATION - II		
	CCS 518 INORGANIC CHEMISTRY SPECIALIZATION V		
	CCS 520 INORGANIC CHEMISTRY SPECIALIZATION		

	<p>VII</p> <p>CCS 527PHYSICAL CHEMISTRY SPECIALIZATION II</p> <p>CCS 530PHYSICAL CHEMISTRY SPECIALIZATION V</p> <p>CCS 531PHYSICAL CHEMISTRY SPECIALIZATION VI</p> <p>CCS 558Advance Characterisation Techniques</p> <p>CCS 564Asymmetric Organic Catalysis Synthesis</p> <p>CCS 565M.Sc Project</p>		
		<p>CCS RPE Research Publication and Ethics</p>	
		<p>CCS 703Indian Knowledge Systems and Practices</p>	

		CCS 704 Pedagogy of Teaching Learning Process (PTLP)	
		CCS 705 Research Methodology	

5. Does the Department have Academic flexibility? If yes since when?: Yes , Since 2017 Department is offering Human Making and Skill development Courses (Course Code, Course Name)

S.No	Course Code	Course Name
1	CCS 415	Green Chemistry and Its Application
2	CCS 547	Biophysical chemistry
3	CCS 549	Electronic spectroscopy
4	CCCS538	Biochemistry

6. Interdisciplinary programs offered and departments involved: 2021-2022

Name of the Course/Paper	Interdisciplinary paper shared with department
CCS 518	Nanoscience

CCS 520	Retrosynthetic Approach for Organic Synthesis
CCS5101	Organic stereochemistry and Spectroscopy
CCS5101L	Organic stereochemistry and Spectroscopy Lab
CCS5201	Electrochemistry
CCS5201L	Lab skills in chemical sciences
CCS 526	Medicinal, Supramolecular and heterocyclic chemistry

7. **Courses conducted in collaboration with other Universities and Institutions:** No
8. **Details of programmes discontinued, if any, with reasons:** No
9. **Examination System: Annual/ Semester/Choice Based Credit System/ Credit and Grading system/ any other system, specify:** Semester
10. **Participation of the department in the curriculum development for courses offered by the Departments/University. 2017-2021**

Name of the faculty	Course/Curriculum
Dr. Rajender Kumar	B.Sc, M.Sc and Ph.D Chemistry Course (NEP 2020)
Dr. Neeraj Gupta	B.Sc, M.Sc and Ph.D Chemistry Course (NEP 2020)
Dr. Manish Kumar	B.Sc, M.Sc and Ph.D Chemistry Course (NEP 2020)
Dr. Pramod Kumar	B.Sc, M.Sc and Ph.D Chemistry Course (NEP 2020)
Dr. Shiwani Berry	B.Sc, M.Sc and Ph.D Chemistry Course (NEP 2020)

11. Has the department periodically updated the syllabus or introduced any syllabus other than the one used by university for PG course at the onset? Yes.

Undergraduate	Post Graduate	PhD	Add-on/Value Added
<p>CCS 5101 Organic Stereochemistry and spectroscopy</p> <p>CCS 5101L: Organic Stereochemistry and spectroscopy Lab</p> <p>CCS 5201: Electrochemistry</p> <p>CCS 5201 L: Lab Skills in chemical Sciences</p>	<p>CCS 516 Spectroscopic Techniques</p> <p>CCS 514 Advance Analytical Techniques</p> <p>CCS 512 Organic Chemistry</p> <p>CCS 511 Inorganic Chemistry</p> <p>CCS 517 Commercial & Green Synthesis</p> <p>CCs 513 Physical Chemistry</p> <p>CCS 519 IKS</p> <p>CCS 504ORGANIC CHEMISTRY SPECIALIZATION III</p> <p>CCS506ORGANIC CHEMISTRY SPECIALIZATION V</p> <p>CCS507ORGANIC CHEMISTRY SPECIALIZATION VI</p> <p>CCS 515INORGANIC CHEMISTRY SPECIALIZATION - II</p> <p>CCS 518INORGANIC CHEMISTRY</p>	<p>CCS 700Application of CCS RPE Research Publication and Ethics</p> <p>CCS 703Indian Knowledge Systems and Practices</p> <p>CCS 704 Pedagogy of Teaching Learning Process (PTLP)</p> <p>CCS 705Research Methodology</p>	<p>CCS 518Nanoscience</p> <p>CCS 520 Retrosynthetic Approach for Organic Synthesis</p> <p>CCS5101 Organic stereochemistry and Spectroscopy</p> <p>CCS5101L Organic stereochemistry and Spectroscopy Lab</p> <p>CCS5201 Electrochemistry</p> <p>CCS5201L Lab skills in chemical sciences</p> <p>CCS 526 Medicinal, Supramolecular and heterocyclic chemistry</p>

	SPECIALIZATION V	
	CCS 520INORGANIC CHEMISTRY SPECIALIZATION VII	
	CCS 527PHYSICAL CHEMISTRY SPECIALIZATION II	
	CCS 530PHYSICAL CHEMISTRY SPECIALIZATION V	
	CCS 531PHYSICAL CHEMISTRY SPECIALIZATION VI	
	CCS 558Advance Characterisation Techniques	
	CCS 564Asymmetric Organic Catalysis Synthesis	
	CCS 565M.Sc Project	

12. Number of teaching posts sanctioned, filled and vacant. 2017-2018

Designation	Sanctioned	Filled			Filled under CAS
		P	A	G	
Professor	01	Nil	Nil	Nil	Nil
Associate Professor	02	Nil	Nil	Nil	Nil
Assistant Professor	04	Nil	Nil	Nil	Nil
Total	07	Nil	Nil	Nil	Nil

Filled and vacant. 2019-2021

Designation	Sanctioned	Filled			Filled under CAS
		P	A	G	
Professor	01	Nil	Nil	Nil	Nil
Associate Professor	02	01	Nil	Nil	Nil
Assistant Professor	04	04	Nil	Nil	Nil
Total	07	05	Nil	Nil	Nil

P=Permanent, A=Adhoc, G=Guest

13. Faculty profile with name, qualification, designation, experience, nature of appointment (confirmed/ probation/Ad-hoc/Guest) Appointed on Sanctioned Post: 2019-2020

Name	Gender	Designation	Qualifications	Teaching/ Research Experience	Nature of appointment
Dr. Rajender Kumar	Male	Associate Professor	PhD, Post Doc	10 years	Permanent
Dr. Neeraj Gupta	Male	Assistant Professor	Ph.D, Post. Doc	13 years	Permanent
Dr. Manish Kumar	Male	Assistant Professor	Ph. D	5 years 4 months	Permanent
Dr. Pramod Kumar	Male	Assistant Professor	Ph.D	6 Years	Permanent
Dr. Shiwani berry	<i>Female</i>	Assistant Professor	Ph.D.	4 Years	Permanent

14. Highest Qualification of the teaching staff:2020-2021

Highest Qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent							
<i>Ph.D.</i>	Nil	Nil	01	No	03	01	05

<i>M.Phil</i>	Nil	Nil	Nil	Nil	Nil	Nil	Nil
<i>PG</i>	Nil	Nil	Nil	Nil	Nil	Nil	Nil
<i>Any Other</i>	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Contract/Resource: NA							
<i>Ph.D.</i>	Nil	Nil	Nil	Nil	Nil	Nil	Nil
<i>M.Phil</i>	Nil	Nil	Nil	Nil	Nil	Nil	Nil
<i>PG</i>	Nil	Nil	Nil	Nil	Nil	Nil	Nil
<i>Any Other</i>	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Guest/Visiting: NA							
<i>Ph.D.</i>	Nil	Nil	Nil	Nil	Nil	Nil	Nil
<i>M.Phil</i>	Nil	Nil	Nil	Nil	Nil	Nil	Nil
<i>PG</i>	Nil	Nil	Nil	Nil	Nil	Nil	Nil
<i>Any Other</i>	Nil	Nil	Nil	Nil	Nil	Nil	Nil

15. Diversity of Faculty:

Number of Actual Strength (2019-20) =05

Teaching faculty	Number	%
From the Same University	00	00
From Other Universities within the State	01	20%
From Other States	04	80%
From Outside the Country	Nil	00

16. Number of faculty who have awarded M.Phil., Ph.D., D.Sc. / D.Lit.: All Faculty with Ph.D degree

17. List of Visiting Fellows/Teachers, Adjunct and Emeritus Professors, (2017-21).

Name	Designation	Institution
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NIL	NIL	NIL
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**18. Percentage of classes taken in each semester by faculty (programme- wise information):
2019-20**

Name of Course	Name of Paper	% Class Taken by Dr Rajender Kumar
PhD Chemistry	CCS RPE	More than 90%
M.Sc Chemistry SEM II	CCS 522	More than 90%
M.Sc Chemistry SEM III	CCS 559	More than 90%
M.Sc Chemistry SEM IV	CCS 504	More than 90%
M.Sc Chemistry SEM IV	CCS 539	More than 90%
M.Sc Chemistry SEM IV	Project, CCS 565	More than 90%
M.Sc Chemistry SEM I	CCS405	More than 90%
M.Sc Chemistry SEM I	CCS 404	More than 90%
M.Sc Chemistry SEM III	CCS 411	More than 90%
M.Sc Chemistry SEM III	CCS 540	More than 90%
Name of Course	Name of Paper	Dr. Pramod Kumar
M.Sc Chemistry SEM I	CCS 403	More than 90%
M.Sc Chemistry SEM I	CCS 513	More than 90%
M.Sc Chemistry SEM III	CCS 411	More than 90%
M.Sc Chemistry SEM III	CCS 568	More than 90%
B.ScPhysics (Hons), SEM I	CCS 101	More than 90%
B.ScPhysics (Hons), SEM I	CCS 15104L	More than 90%
Ph.D Chemistry	CCS 701	More than 90%
M.Sc Chemistry, SEM II	PHYSICAL CHEMISTRY- II, CCS-409	More than 90%
M.Sc Chemistry, SEM II	PHYSICAL CHEMISTRY LAB-I, CCS-406	More than 90%
M.Sc Chemistry, SEM IV	PHYSICAL CHEMISTRY SPECIALIZATION, CCS- 527	More than 90%

M.Sc Chemistry, SEM IV	PHYSICAL CHEMISTRY SPECIALIZATION, CCS-527	More than 90%
M.Sc Chemistry, SEM IV	Project, CCS 565	More than 90%
Name of Course	Name of Paper	Dr. Neeraj Gupta
PhD Chemistry	CCS 703	More than 90%
PhD Chemistry	CCS 705	More than 90%
M.Sc Chemistry, SEM I	CCS 401	More than 90%
M.Sc Chemistry, SEM I	CCS 404	More than 90%
B.Sc Sem. I	CCS 101L	More than 90%
M.Sc Chemistry, SEM III	CCS 566	More than 90%
M.Sc Chemistry, SEM II	CCS 538	More than 90%
M.Sc Chemistry, SEM II	CCS 408	More than 90%
M.Sc Chemistry, SEM IV	CCS 564	More than 90%
M.Sc Chemistry, SEM IV	CCS 507	More than 90%
M.Sc Chemistry SEM IV	Project, CCS 565	More than 90%
Name of Course	Name of Paper	% Class Taken by Dr Manish Kumar
B.Sc (Physics Hons) SEM II	Chemistry II, CCS 102	More than 90%
M.Sc Chemistry SEM II	Inorganic Chemistry II, CCS 408	More than 90%
M.Sc Chemistry SEM II	Electronic spectroscopy, CCS 549	More than 90%
M.Sc Chemistry SEM IV	Inorganic Chemistry specialization II, CCS 515	More than 90%
M.Sc Chemistry SEM IV	Inorganic Chemistry specialization VII, CCS 520	More than 90%
M.Sc Chemistry SEM IV	Project, CCS 565	More than 90%
B.Sc (Physics Hons) SEM I	Chemistry I Lab CCS 101L	More than 90%
Ph.D Chemistry SEM I	Organometallic and Nano chemistry CCS 701	More than 90%
M.Sc Chemistry SEM III	Special paper-II-Inorganic chemistry CCS 567	More than 90%

M.Sc Chemistry SEM III	Advance practical CCS 569 (Lab)	More than 90%
M.Sc Chemistry SEM I	Inorganic Chemistry I CCS 408	More than 90%
M.Sc CBB SEM I	Biophysical Chemistry CCS 547	More than 90%
B.Sc (Physics Hons) SEM II	Chemistry II, CCS 102	More than 90%
M.Sc Chemistry SEM II	Inorganic Chemistry II, CCS 408	More than 90%
M.Sc Chemistry SEM II	Electronic spectroscopy, CCS 549	More than 90%
M.Sc Chemistry SEM IV	Inorganic Chemistry specialization II, CCS 515	More than 90%
M.Sc Chemistry SEM IV	Project, CCS 565	More than 90%
Name of Course	Name of Paper	Dr. Shiwani Berry
M.Sc Chemistry SEM II	CCS 546 Advanced Bioinorganic Chemistry	More than 90%
M.Sc Chemistry SEM II	CCS 407 Organic Chemistry II	More than 90%
M.Sc Chemistry SEM IV	CCS-506 Organic Chemistry Specialization V	More than 90%
M.Sc Chemistry SEM IV	CCS-518 Inorganic Chemistry Specialization V	More than 90%
M.Sc Chemistry SEM IV	CCS-531 Physical Chemistry Specialization VI	More than 90%
M.Sc Chemistry SEM IV	CCS 558 Advance Characterisation Techniques	More than 90%
M.Sc Chemistry SEM IV	CCS 565, Project	More than 90%
Ph.D Chemistry SEM I	CCS 700- Application of spectroscopic studies in chemical research	More than 90%
M.Sc Chemistry SEM III	CCS 501 Chemistry General (Interdisciplinary Topics)	More than 90%
M.Sc Chemistry SEM III	Advance practical CCS 569 (Lab)	More than 90%
M.Sc CBB SEM I	CCS 415 Green Chemistry and its Applications (Human Making Course)	More than 90%

4.	Others		Nil	Nil	Nil
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21. Thrust areas of research as identified by the department: (Please fill your thrust area)

- Nanotechnology, Organic Synthesis, Drug Delivery, Catalysis, water pollution and its remediation.

22. Information about research grants, projects completed and ongoing during last year:

a) From National funding agencies (like UGC, CSIR, DST, DBT, DST-FIST; CSIR, UGC-SAP/CAS, DAE, DBT, BRNS, ICSSR, AICTE, etc): 2017-2021

Sr. No.	Name of the Principle Investigator (Co-investigator)	Title of the Project	Funding Agency, Duration & date of sanction	Amount (in Lakh)	Status of Project (Submitted/Ongoing)	Remarks if any (Publication/Award/Patent)
1	Dr. Pramod Kumar	"Microemulsion Mediated Multifunction Iron-Oxide/Ormosil Nanoparticles for Bioimaging and Drug Delivery"	Science and Engineering research board. New Delhi-SERB 2 Year & 23-12-2020	21,15,520.00	Ongoing	2
2	Dr. Rajender Kumar	"Polydopamine Based Nanoparticle with Antimicrobial and Antiarsenic Properties for Water Disinfection on and Remediation"	Science and Engineering research board. New Delhi-SERB	44,00,000.00	Completed	3
3	Dr. Shiwani Berry	Synthesis and characterization of novel pyrazole linked thiazolidinones and hybrid β -lactams: potential antibacterial heterocycles	UGC 3Years 23-11-2021	10,00,000.00	Ongoing	

Note: Please enclose a copy of Report Summery, Utilization Certificate and relevant documents

b) From International funding agencies: 2016-21

Sr. No.	Name of the Principal Investigator	Title of the Project	Funding Agency, Duration	Amount (in Lakh)	Status of Project (Submitted/	Remarks if any (Publication/
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	(Co-investigator)		& date of sanction		Ongoing)	Award/Patent)
1.	NIL	NIL	NIL	NIL	NIL	NIL

Note: Please enclose a copy of Report Summery, Utilization Certificate and relevant documents

c) From Corporate Houses/Industries: 2016-21

Sr. No.	Name of the Principal Investigator (Co-investigator)	Title of the Project	Funding Agency, Duration & date of sanction	Amount (in Lakh)	Status of Project (Submitted/Ongoing)	Remarks if any (Publication/Award/Patent)
1.	NIL	NIL	NIL	NIL	NIL	NIL

Note: Please enclose a copy of Report Summery, Utilization Certificate and relevant documents

23. Funds received at University level through Corpus fund/Seed Money: 2016-21

Sr. No.	Name of the Principle Investigator (Co-investigator)	Title of the Project	Funding Agency, Duration & date of sanction	Amount (in INR)	Status of Project (Submitted/Ongoing)	Remarks if any (Publication/Award/Patent)
1.	NIL	NIL	NIL	NIL	NIL	NIL

Note: Please enclose a copy of Report Summery, Utilization Certificate and relevant documents

24. Research facilities available in the department and recognition received, if any?

Ultraviolet spectrophotometer.(2 Nos.) (Thermofisher, Analytical Gena)

Weighing Balance (2 Nos.)

Incubator Shaker

Stirrers

Centrifuge

Water Bath

25. Special research laboratories sponsored by/created by industry or corporate bodies. NO

26. Details of patents filed & granted and income generated: No

27. Consultancy services provided, name of the teacher/s and income generated: 2016-21

Sr. No.	Year	Name of the teacher	Nature of consultancy	Funds generated (In Rs)
1.	2019-20	NIL	NIL	NIL

28. Publications: 2016-21

Sr. No.	Papers published in UGC listed journals	Papers published in peer reviewed journals (Not in UGC-LIST)	Monographs, Books, Chapters in books		Citations	h-index*	Impact factor range/Average Impact factor*
			With ISBN no.	Without ISBN no.			
1	09	-			866	20	12
2.	06	-			480	09	46.7

* Based on Scopus/ Web of science

29. #Details of teachers invited as resource persons for Refresher courses, Orientation courses, Seminars, Workshops, Conferences at state, national and international levels. 2016-21

Name of Faculty	Resource Person for (Refresher courses, Orientation courses, Seminars, Workshops, Conferences)	Levels (National/ International/ State/University/College)
Dr. Rajender Kumar	Invited lecture on X-ray Photoelectron spectroscopy and its applications in Biomedical and Material Science at National Conference on Modern Spectral Based Techniques in Pharmaceutical Analysis (MSBTPA) Organized by Laureate Institute of Pharmacy, Sponsored by Himachal Pradesh technical University From 24 to 25 December 2021.	National Conference.
Dr. Neeraj Gupta	Resource person in Ram chand paul Symposium, Panjab University Chandigarh. Title of talk was Tuning Nanocarbon Support for Designing New Metal Based and Metal Free Catalysts for Organic Synthesis and Biomass Valorisation	National
Dr. Pramod Kumar	Resource person in National Webinar "Environmental issues and their Solution" Topic is TOXICITY OF NANO PARTICLES ON ENVIRONMENT AND FUTURE NEEDS, 28 th Dec 2020 [Organized by Department of Botany through IQAC, Govt. Degree College Jaisinghnagar, Shahdol (M.P.)]	National
Dr. Pramod Kumar	Refresher Course on Chemistry" (on "Centre for Professional Development in Higher Education	National

	(CPDHE), UGC-Human Resource Development Centre, University of Delhi ” 27 Oct-10 Nov. 2020, [Organized By : Centre for Professional Development in Higher Education (CPDHE), UGC-Human Resource Development Centre, University of Delhi]	
Dr. Pramod Kumar	Faculty Induction/Orientation Programme (FIP-01) on “Sponsored by ministry of Human Resource Development Pandit Madan Mohan Malaviya National Mission on Teacher and Teaching Learning Center ” 04 June-01 July 2020 , [Organized By : Teaching Learning Center Ramanujan College, University of Delhi]	National
Dr. Pramod Kumar	Faculty Development Programme on Topic <i>Quantum and Energy Materials: Potential & Applications</i> “Sponsored by ministry of Human Development, Government of India ” 20 April-24 April 2020 , [Organized By : Applied Science Department, NITTTR, Chandigarh]	National
Dr. Pramod Kumar	Faculty Development Programme on Topic <i>Nanomaterials and Devices</i> “Sponsored by ministry of Human Development, Government of India ” 27 May-01 June 2020 , [Organized By : Applied Science Department, NITTTR, Chandigarh]	National
Dr. Pramod Kumar	Faculty Development Programme on Topic Spectroscopic and analytical techniques : Application “Sponsored by ministry of Human Development, Government of India ” 25-29 May- 2020 , [Organized By : Guru Angad Dev Teaching Learning Center SGTB Khalsa College (DU), Under PMMMNMTT of MHRD and Department of Chemistry, J.C	National

	BOSE University of Science & Technology, YMCA, Faridabad]	
Dr. Manish Kumar	4-Week Induction/Orientation Programme for "Faculty in Universities/Colleges/Institutes of Higher Education by Teaching Learning Centre, Ramanujan College University of Delhi	National
Dr. Manish Kumar	Two week interdisciplinary refresher course/faculty development programme on "advanced research methodology" by Teaching Learning Centre, Ramanujan College University of Delhi	National

#Format for para 29

Participated/Invited as Resource person and presented/Judged the topic "(Title of the topic)." under the session/sub-session "(Name, if any)" in state/national/international workshop/conference/seminar on "(Title of the event)." Organised by (Department/College) held on (Date/month/year), at (Institution/University).

30. #Details of teachers participated in Refresher courses, Orientation courses, Seminars, Workshops, Conferences at national and international levels.(participant, presented paper, chaired the session)

Name of Faculty	Participation in (Refresher courses, Orientation courses, Seminars, Workshops, Conferences)	Levels (National/ International/ State/University/College)
Dr. Shiwani Berry 2020-2021	4-Week Induction/Orientation Programme for "Faculty in Universities/Colleges/Institutes of Higher Education by Teaching Learning Centre, Ramanujan College University of Delhi	National
Dr. Shiwani Berry	Participated in National seminar on Role of teachers in NEP by Central university of Himachal Pradesh from 22-23 Feb, 2021	National

#Format for para 30

Participated in state/national/international workshop/conference/seminar on "(Title of the event)." Organised by (Department/College) held on (Date/month/year), at (Institution/University).

31. Details of teachers presented paper Seminars, Workshops, Conferences at national and international levels. (Participant, presented paper, chaired the session) in an academic year.

Name of Faculty	Participation in (Refresher courses, Orientation courses, Seminars, Workshops, Conferences)	Levels (National/ International/ State/University/College)

#Format for para 31

Presented a paper entitled as “(Title of the paper/poster/oral presentation)” in state/national/international workshop/conference/seminar on “(Title of the event).” Organised by (Department/College) held on (date/month/year), at (Institution/University).

32. Participation of teachers in various academic activities as members of committees at University level, State level, National level, International level bodies. (give details)

Name of Faculty	Nature of Participation (Activity)	Levels (National/ International/ State/University/College)
Dr. Rajender Kumar	Member Academic Council, CUHP	University
	Member Board of Studies for B.Sc.	Himachal Pradesh University Shimla-05
	Member Board of Studies, CUHP	University
	Member NIRF 2022 for CUHP	CUHP
Dr. Shiwani Berry	Shahpur Campus Coordinator of CUHP SPARSH committee	CUHP

33. Percentage of participation of full-time teachers in various bodies of the Universities/ Other Colleges, (eg. BoS and Academic Council during the last year) 2019-21

➤ **Dr. Rajender Kumar**

- 1 Member Academic Council, CUHP
2. BoS Member of Ramanujan Department of Mathematics
3. BOS Member department of Computer Science and Information Technology
4. BOS Chairman, Department of Chemistry and Chemical Science, CUHP

➤ **Dr. Neeraj Gupta** has participated in BoS meeting in the year 2020

Data requirement:

- Number of teachers participated
- Name of the body in which full time teacher participated
- Total number of teachers

$$\text{Formula} = \frac{\text{Number of teachers participated} \times 100}{\text{Total Number of teachers}}$$

Documents: Enclose scanned copies of the certificate supporting the participation of teachers

34. Details of teachers appointed/nominated on Editorial Boards at university, state, national and international levels. 2019-20

Sr. No.	Name of the teacher	Name of Editorial Boards	Level of board	Name of Institution

1.	NIL	NIL	NIL	NIL
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35. Awards/Prizes and recognitions received by teachers at University, State, National and International level: 2019-20

Sr. No.	Name of the teacher	Nature of Award	Level of Award	Money received if any (In Rs)
1.	NIL	NIL	NIL	NIL

36. Awards and Prizes received by students at University, State, National and International level: 2019-20

Sr. No.	Name of the Student	Name of the activity	Nature of Award	Level of Award	Money received if any (In Rs)
1.	NIL	NIL	NIL	NIL	NIL

37. Details of Seminars/ Conferences/Workshops organized by department at University, State, National and International level and the source of funding with details: NIL

Name of Conference/ Seminars / Workshops	Funding agency and funds received		No. of Participants		University/State/ National/ International	Dates
	Internal	External	Internal	External		

38. Student profile programme-wise at UG and PG (2019-20)

UG/PG	Applications Received	No. of students Admitted	Sanctioned Seats	Male*	Female	Total
2017-19	903	28	30	01	27	28
2018-20	960	29	30	07	22	29
2019-21	539	30	33	16	14	30
2020-22	868	32	33	16	16	32

*For Add-on/Value Added/Short term Course

Diversity of Students: (2017-21)

Name of the Programme	Course	Year	Total number	% of students from the same	% of students from other State	% of students from other countries

				state		
UG	NIL	I	NIL	NIL	NIL	NIL
PG	M. Sc Chemistry	2017-19	27	27	NIL	NIL
		2018-20	27	27	00	NIL
		2019-21	30	26	04	NIL
		2020-22	32	31	01	Nil

39. Year-wise results of students at UG and PG: 2017-21

UG/PG	Year	Appeared	Passed	Pass %	Grade %			
					O	A	B	C
PG	2017-2019	27	27	100%	04	21	02	00
PG	2018-20	27	27	100%	11	16	00	00
PG	2019-2021	30	30	100%	30	00	00	00

40. Student progression/ placement record: Number/ percentage of students proceeded for higher studies Number/percentage of students placed:2017-21

Year	% proceeded for higher studies			% of students placed
	UG to PG	PG to Ph.D./ M.Phil	Professional	
UG	Nil	Nil	Nil	
PG 2019	Nil	Nil	Nil	
PG 2020	Nil	Yes		20%
PG 2021	Nil	Yes		45%

41. Number of students awarded M.Phil., Ph.D., Degree (in case of any faculty is Co-supervisor):2017-21 NIL

Year	M.Phil	Ph.D.	Title of the Research	Parent University	Male	Female	Total

42. Number of students cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give Category wise data. 2017-21

Year	UPSC/other State PSCs	NET/ SET	GATE	Other Exams	Total
2017-18	Nil	Nil	Nil	Nil	Nil

2018-19	Nil	Nil	Nil	Nil	Nil
2019-20	Nil	Net=01,Set 01	01	Nil	03
2020-21	Nil	Set -02, Net-1	01	Nil	04

43. Dropout rate in UG and PG (average for the last two batches)

UG =NIL

PG = 3%

44. Present details of departmental infrastructural & other facilities with regard to 2017-21

- a) Central Library Books and Journals, etc, relevant to Department :
- b) Departmental Library (books, journals etc.) : 00
- c) Computers and Internet facilities for staff : 09
- d) Total number of class rooms : 01
- e) Class rooms with ICT facility : 01
- f) Students' laboratory : 01
- g) Research laboratories :00
- h) Smart class room :01
- i) Any other facility LCDs :00

45. List of faculty members doing post-doctoral Research 2017-21 : NIL

Sr. No.	Name of the Faculty	Institute	Research Topic
1			

46. Number of students getting financial assistance from the university/state / central government / NGOs/ Trusts/ Other sources 2017-21:

S.N.	Name of the Fellow	Year of Enrolment	Duration of the fellowship	Type of the fellowship	Granting agency
1.	ABHISHEK	2018	Per Year	Free-ship-	Central University of Himachal Pradesh
2.	ANKITA SHARMA	2018	Per Year	Free-ship-	Central University of Himachal Pradesh
3.	DIKSHA KAUNDAL	2018	Per Year	Free-ship-	Central University of Himachal Pradesh

	KRITIKA	2018	Per Year	Free-ship-	Central University of Himachal Pradesh
5.	PRIYANKA	2018	Per Year	Free-ship-	Central University of Himachal Pradesh
6.	SANTOSH KUMARI	2018	Per Year	Free-ship-	Central University of Himachal Pradesh
7.	AKANKSHA	2018	Per Year	Free-ship-	Central University of Himachal Pradesh
8.	SHIMONA	2018	Per Year	Free-ship-	Central University of Himachal Pradesh
9.	DIVYA THAKUR	2018	Per Year	Free-ship-	Central University of Himachal Pradesh
10.	NAVEEN KUMAR	2018	Per Year	Free-ship-	Central University of Himachal Pradesh
11.	NIDHI	2018	Per Year	Free-ship-	Central University of Himachal Pradesh
12.	PRIYANKA RANA	2019	Per Year	Free-ship-	Central University of Himachal Pradesh
13.	SUNIL KUMAR	2019	Per Year	Free-ship-	Central University of Himachal Pradesh
14.	ANKITA SHRAMA)	2019	Per Year	Free-ship-	Central University of Himachal Pradesh
15.	KRITIKA	2019	Per Year	Free-ship-	Central University of Himachal Pradesh
16.	PRIYANKA	2019	Per Year	Free-ship-	Central University of Himachal Pradesh
17.	SUDHIKSHA DHIMAM	2019	Per Year	Free-ship-	Central University of Himachal Pradesh
18.	SONIKA KUMARI	2020	Per Year	Free-ship-	Central University of Himachal Pradesh

	TABASSUM NIKE	2020	Per Year	Free-ship-	Central University of Himachal Pradesh
20.	SHIWANI	2020	Per Year	Free-ship-	Central University of Himachal Pradesh
21.	SAHIL	2020	Per Year	Free-ship-	Central University of Himachal Pradesh
22.	ARUN SHARMA	2020	Per Year	Free-ship-	Central University of Himachal Pradesh
23.	SHAGUN	2020	Per Year	Free-ship-	Central University of Himachal Pradesh
24.	JEENAT THAKUR	2020	Per Year	Free-ship-	Central University of Himachal Pradesh
25.	SAHIL KUMAR	2020	Per Year	Free-ship-	Central University of Himachal Pradesh
26.	SUNIL KUMAR	2020	Per Year	Free-ship-	Central University of Himachal Pradesh
27.	NANCY	2020	Per Year	Free-ship-	Central University of Himachal Pradesh
28.	SAURAV SHARMA	2020	Per Year	Free-ship-	Central University of Himachal Pradesh
29.	AKANKSHA DHIMAN	2020	Per Year	Free-ship-	Central University of Himachal Pradesh
30.	PRYANKA RANA	2020	Per Year	Free-ship-	Central University of Himachal Pradesh
31.	SANDEEP KUMAR	2020	Per Year	Free-ship-	Central University of Himachal Pradesh
32.	NIDHI	2020	Per Year	Free-ship-	Central University of Himachal Pradesh
S.N.	Name of the Fellow	Year of Enrolment	Duration of the fellowship	Type of the fellowship	Granting agency
1	Purnima	2021	2 years	JRF	DST

	Justa				
2	Pooja Kumari	2021	4 years	University research fellow	Central University of Himachal Pradesh
3	Manisha Chadha	2021	4 years	University research fellow	Central University of Himachal Pradesh
4	Ishani Saini	2021	4 years	University research fellow	Central University of Himachal Pradesh
5	Kirna Devi	2021	4 years	University research fellow	Central University of Himachal Pradesh
6	Abhishek Soni	2022	4 years	University research fellow	Central University of Himachal Pradesh
7	Deeksha Gautam	2022	4 years	University research fellow	Central University of Himachal Pradesh
8	Divya Thakur	2022	4 years	University research fellow	Central University of Himachal Pradesh
9	Manisha	2022	4 years	University research fellow	Central University of Himachal Pradesh
10	Manjeeta Kumari	2022	4 years	University research fellow	Central University of Himachal Pradesh
11	Namita Singh Patel	2022	4 years	CSIR-JRF fellow	Central University of Himachal Pradesh
12	Nancy Jaswal	2022	4 years	University research fellow	Central University of Himachal Pradesh
13	Neha	2022	4 years	University research fellow	Central University of Himachal Pradesh
14	Priya	2022	4 years	University research fellow	Central University of Himachal Pradesh
15	Priyanka	2022	4 years	University research fellow	Central University of Himachal Pradesh
16	Sahil	2022	4 years	University research fellow	Central University of Himachal Pradesh
17	Shazia Hussain	2022	4 years	University research fellow	Central University of Himachal Pradesh
18	Tabassum Nike	2022	4 years	University research fellow	Central University of Himachal Pradesh
19	Vishal Bharti Jaryaal	2022	4 years	University research fellow	Central University of Himachal Pradesh

a) Does the faculty take initiative in curriculum development process?

Sr. No.	Name of the Faculty	Type of curriculum development
1	Dr. Neeraj Gupta	CCS 514
2	Dr. Neeraj Gupta	CCS 517
3	Dr. Neeraj Gupta	CCS 526
4	Dr. Neeraj Gupta	CCS 703
5	Dr. Neeraj Gupta	CCS 705
6	Dr. Pramod Kumar	CCS 513
7	Dr. Pramod Kumar	CCS 518
8	Dr. Pramod Kumar	CCS 527
9	Dr. Pramod Kumar	CCS 523
10	Dr. Pramod Kumar	CCS 701
11	Dr. Shiwani Berry	CCS 700

b) Is curriculum suitable to make students globally competitive in the subject? If yes, substantiate.

- Yes, the curriculum is suitable for making students competitive globally. They are provided with relevant laboratory skills and undertake a project in the final semester. The project makes them proficient for getting an industrial job. Also, the content is at par with the latest content in chemistry worldwide, so that they can seek admissions into any Ph.D course globally. Moreover, the curriculum provides them the exposure to all the basic concepts required to clear NET and other chemistry job related exams in India and abroad.

c) Does the department offer program with sufficient no. of electives options. Yes

d) While framing curriculum, is feed-back taken from stakeholder's viz. Students/Alumni/Parents/Employers considered? Yes

e) What is the frequency of curriculum revision? (Less than 4 Years)

f) Does the curriculum have emerging thrust areas, including interdisciplinary areas? (If yes, elaborate). Yes

- The curriculum has all the thrust areas including the interdisciplinary courses. The department is teaching courses such as Nanotechnology and Green Chemistry. These two fields offer cutting edge research to tackle the environmental issues such as "global warming" and "sustainable biomass conversion". The other courses such as "retrosynthetic synthesis" make the students ready to take challenging job in pharmaceutical sector. The courses on biochemistry and material chemistry bridges the chemistry courses with other field such as life sciences and physics.

48. Teaching-Learning, Evaluation: 2017-21

- Number of teachers preparing & following Academic Teaching plan: NO

S. No.	Name of the Faculty	Curriculum plan submitted (Yes/No)

- The details of teachers who use the following teaching methods:

- Interactive lecture method using blackboard, Group discussions, Problem solving, Seminars.
- Use ICT methods to support lectures.

S. No.	Name of the Faculty	Method of teaching
1	Dr. Rajender Kumar	1. Interactive lecture method using blackboard, Group discussions, Problem solving, Seminars. 2. ICT methods
2.	Dr. Neeraj Gupta	1. Interactive lecture method using blackboard, Group discussions, Problem solving, Seminars. 2. ICT methods
3	Dr Manish Kumar	1. Interactive lecture method using blackboard, Group discussions, Problem solving, Seminars. 2. ICT methods
4	Dr. Pramod Kumar	1. Interactive lecture method using blackboard, Group discussions, Problem solving, Quiz etc. 2. ICT methods.
5	Dr. Shiwani Berry	1. Interactive lecture method using blackboard, Group discussions, Problem solving, Seminars. 2. Use ICT methods

- Does the Department have Peer review processes? If yes, are the suggestions effectively used to improve the teaching quality? Other University
- Does the department have any mechanism to ensure that entire syllabus is completed? Enclose relevant documents.

Teachers ensure the timely completion of the syllabus. Student feedback is taken regarding curriculum completion aspect beside other parameters. (Representative Feed Back forms for year 2020-21 is attached as Annexure I)

- **Do you offer Bridge/Remedial courses? If yes, Give details. Yes (Copy of time table for year 2020-21 Attached)**
- **What is the method for conducting internal evaluation?**
 1. Mid Term Examinations
 2. Quiz/Class test
 3. Assignments
 4. Presentations

49. Teacher Performance: 2019-20

- **Whether the performance of the teacher assessed by the students? If yes, are The feedback reports analysed and suggestions communicated to teachers? Yes**
- **Number of teachers getting a) Very Good remarks from students.**
- **Whether suggestion boxes are kept in the department to get suggestions from students on infrastructural facilities available in the department? YES**
- **Are the suggestions received from students used for improvement of facilities? Yes**
- **Do teachers submit Self-Appraisal Reports? Are these reports appraised by TIC and forwarded to the Principal Office with comments? YES**
- **What is the Departmental average API = 566? How many teachers have API > Average API = 02**
- **What is the individual faculty wise h index?**

S. No.	Name of the Faculty	h index
1.	Dr. Rajender Kumar	20
2.	Dr. Neeraj Gupta	13
3.	Dr Manish Kumar	4
4.	Dr. Pramod Kumar	5
5.	Dr. Shiwani Berry	5

- Give details of “beyond syllabus scholarly activities” of the department.
 - NET Classes (Time Table Proof)
 - 2 educational Tour
 - 3. Webinars
 - 4 Fresher’s party

50. List the distinguished alumni of the department (maximum 10): 2019-20 NIL

S. No.	Name of the Alumina	Current Status/Position

51. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts. 2019-21 (NIL)

S. No.	Name of the Programme	Name of external expert	Designation and Institute
1.	Invited Lecture	Dr. S.S.V. Ramashastry	Associate Professor IISER-Mohali, India
2.	Online Webinar	Md. Atiqullah ,	Assistant Controller of Patents and Designs Ministry of Commerce & Industry-DPIIT Patent Office, Boudhik Sampada Bhavan Plot No 32, Sector 14, Dwarka New Delhi - 110078(INDIA)

52. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored? Student Feedback forms

53. Highlight the Special facilities (if, any) of the Department. Nil

54. Highlight the unique features of the department.

- The department is able to produce good research papers irrespective of the meagre resources and limited space. The department has taken the lead to start the research program by introduction of Ph.D program. We aim to strengthen the research facilities in near future.

55. State the Innovative practices adopted in the department.

1. Implementation of research project to the MSc students.
2. Assignments in the form of publications by master students (M.Sc)
3. Exposure of the students by providing visits to the established research centres in the nearby area.

56. Highlight the participation of students and faculty in extension activities.

- Faculty and students have participated in excursion and official visits to research centres in the nearby areas.

57. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

a. Strengths:

1. Optimum strength of the students in all courses
2. Good track record of research publication in terms of numbers.
3. Good track record of research publication in terms of impact factor. Publication with IF 15 achieved in the year 2020.
4. Starting of the Ph.D. courses irrespective of limited resources. This was done to attain the timely research output for future growth
5. Availing the research projects to strengthen.
6. One research instrument (UV spectrophotometer) in the laboratory.

b. Weaknesses:

1. Availability of only one research laboratory for all the graduate, postgraduate and research students.
2. No advanced instrumentation facility is available in the department.
3. No sitting place is available for the students.
4. No separate faculty cabins are present for faculty.
5. No seed money is granted for research.
6. No working hoods are installed in the laboratory.

c. Opportunities:

1. Availing more research funds.
2. Purchasing new instruments
3. Purchasing new software's for theoretical research

d. Challenges:

1. Increasing the class rooms for the students.
2. Increasing the research laboratories for the students.
3. Providing the research facilities to the student.
4. Initiating the purchase of sophisticated instruments in the department.
5. Providing the separate working place to the faculty.

58. Future plans of the department: 2019-20

a. Long term plans:

First and foremost plan of the department is to establish a separate place for its functioning and provide the world class infrastructure to the students.

b. Mid term plans :

Department will aim to strengthen the research facility in the near future once the basic infrastructure for all the students is secured.

c. Short term plans :

Addressing the immediate demands of students such as supply of chemicals and addressing the requirement of their working place. Moreover, department aims to strengthen the basic infrastructure to establish the research by individual faculty.

Declaration by the Head of the Department/In-charge

The information given in this report is verified and true to the best of my knowledge and I am aware that the above information provided by the department will be validated by the AAA committee during the visit.

Date:

Head of the Department/In-charge

Supplement to the Academic audit

1. Does the department prepare/maintain academic calendar? enclose the copy. Yes
2. Is Faculty-wise Academic Plan maintained at department level? Yes
3. Is Departmental Meeting verified, Minutes recorded and maintained? Yes
4. Are Classes being held regularly; as per designated time-slot; and full period is utilized as per the timetable Yes
5. Department ensure that long gaps are not given in Students Timetable : Yes
6. Proper justice is done to the whole syllabus; Course completion report is kept : Yes
7. Does the department conduct Field Visit/Excursion trips? Please provide the detailed report. : Yes
8. Does the department have developed any mechanism of Student Mentoring? If yes Please provide the list of mentor and mentee and relevant point if any to be mentioned here. : Yes
9. Departmental Activities Report is maintained; Duties are assigned properly : Yes
10. Departmental activities are distributed equally in both semesters : Yes
11. What is the process of Evaluation of Students' performance? :
 1. Mid Term Examinations
 2. Quiz/Class test
 3. Assignments
 4. Presentations
5. Does any record of Non-performing Students is maintained? Yes

S. No.	Name and roll no. of the student	Course	Paper

	KRISHNA DEVI CUHP21CCS13	M.Sc Chemistry	CCS512 CCS513 CCS519 CCS518 CCS516 CCS514
2.	AJAY CUHP21CCS39	M.Sc Chemistry	CCS512 CCS516

6. Whether Attendance is recorded/ done?

Name of faculty	Attendance done online (Y/N)
Dr. Rajender Kumar	N
Dr. Neeraj Gupta	N
Dr. Manish Kumar	N
Dr. Pramod Kumar	N
Dr. Shiwani Berry	N

7. Does department maintain record of short of Attendance? Due to COVID-19, attendance was not recorded.
8. Does department have Mini Library and is properly maintained? No
9. Are Record of circulation of books/material/syllabus, Guidelines etc. preserved? Yes
10. Stock register/Issue Register and other record maintained in Department? Yes
11. Does Departmental prepare any study material/data that which can be submitted to the Institutional Repository? If yes, please give the details. No
12. Brief introduction of department (history, relevance, research highlights, career opportunities etc.) is updated on college website. Yes
13. Student's achievements maintained at department? Yes
14. Department prepare/release any Newsletter/Journals (If applicable) (provide soft copy): Yes

15. Contribution of the department to Corporate Life of the College (Only Convener/Coordinator/Adviser). Nasha Mukti (Dr. Rajender Kumar Coordinator)

16. Participation of department in Institutional Social responsibilities. Yes

17. Does department have any Industrial/Research institution Collaboration/Linkage. NO

18. Visibility Check

Visibility Check		Yes/No/ Not Applicable	Faculty member Responsible
A	Wall Magazine	No	
B	Department Display Board.	Yes	
C	College Website	Yes	
D	e-Resources	Yes	

Overall Report by AAA team:

Name of the Department: Department of Chemistry and Chemical Science

Academic Audit Report on PG Programme

2020-2021

Name of the Department: Department of Chemistry and Chemical Science

I. Curriculum aspect

STRENGTH:

- Highly designed curriculum is taught which suits the requirement to fetch jobs in the job market and also for pursuing higher studies in the reputed higher ordered institutes
- Well-trained faculty
- moderately good physical infrastructure
- reasonable number of publications

Weakness:

- Limited space
- Possibility for doing good research at lower levels of funding
- Lack of instruments
- Seems to be exhaustive

Specific Areas for Improvement:

- Curriculum may be so designed that it offers hands-on training to students in handling the instruments
- high-end research equipments for identification / characterization of species
- More classrooms in very soothing ambit are required
- Space for lab work

Recommendations:

- Curriculum may be revamped in accordance with the syllabus of competitive examinations like GATE/CSIR-NET
- Recruitment of more faculty members
- involvement in setting up a Facility for Sophisticated Instruments at the University level

II Syllabus

➤ Strength:

- Overall the pedagogic and examinations processes are progressing
- It covers the entire range of topics in chemistry suitable at P.G. level which goes from understanding level to application level
- Syllabus is challenging and properly sequenced

Weakness:

- Syllabus is found to have a lot of basic concepts in certain papers that should be removed in due course of time with more advanced research oriented concepts.

Specific Areas for Improvement:

- It may be revamped based on UGC-CSIR GATE examination. Also, few research oriented concepts will be introduced.

Recommendations:

- Same of the units in certain papers (core) could be removed, so that the students can find it comfortable.

III Teaching Methodologies

Strength:

- Many teachers are well versed in blended teaching methodologies.
- Guest Lectures.
- Students are very much satisfied about the teaching methodologies adopted.
- Coaching classes for NET and competitive examinations can be arranged by the department.

Weakness:

- Inadequate in demonstration of scientific instruments involving Spectroscopic and Chromatographic techniques

Specific Areas for Improvement:

- More demonstrators of instruments related to Spectroscopy and Chromatography may be carried out.
- Computer simulation and models can be shown to students for their better understanding of subjects like Quantum Mechanics and Group Theory.
- Students should be encouraged to present and publish papers in reputed journals.

Recommendations:

- Students can be taken on Industrial tours and instrumentation centers.

IV. Learning Methodologies & Learning Environment

Strength:

- Ambient conditions for learning
- Problem Based Learning
- Conducive classroom environment for learning.
- Student centric learning, Experiential Learning, Participative Learning.

Weakness:

- No general comments received from the students and from the staff as well.

Specific Areas for Improvement:

- More reference books and textbooks can be provided
- Besides classroom learning, students should be encouraged to participate in seminars and conferences conducted by other city colleges.
- Advanced Learners and Slow learners can be identified and special coaching to be given for slow learners.

Recommendations:

- More interaction is required between the teachers and learners both in the real classroom environment and e-platform as well.

V. Evaluation

Strength:

- Evaluation is done unbiased.
- Good proportion between internal and external components
- Students are very much satisfied with the existing evaluation system.

Weakness:

- Some questions in some subjects seems to be vague and ambiguous.
- Teachers should be provided an induction programme exclusively for setting up of a standard question paper in their respective subjects.

Specific Areas for Improvement:

- Teachers should be provided an induction programme exclusively for setting up of a standard question paper in their respective subjects.

Recommendations:

- Question papers set by external experts is advised

(Kindly **Tick** whatever you feel relevant and right, based on your interactions with staff and students)

Kindly provide specific reasons for the instances of the lowest score on the scale:

Academics:

Statement	Excellent	Good	Satisfactory	Poor
Core Courses				
The Courses taught are useful for various skill development	✓			
The Courses taught are useful for employment		✓		
The Courses taught are useful to go for higher studies	✓			
Inter Departments Courses				
The Courses taught are useful for various skill development		✓		
The Courses taught are useful for employment	✓			
The Courses taught are useful to go for higher studies		✓		
Life Skills Programme & Internship				
Statement	Excellent	Good	Satisfactory	Poor
Useful for various Skill development	✓			
Useful for employment		✓		

Text Books and Reference Books

Prescribed Text book/Reference Book for the Courses	Standard-Covering all units of prescribed syllabus	Standard-But not covering all units of prescribed syllabus	Not updated edition	Substandard

Learning Environment

Statement	Excellent	Good	Satisfactory	Poor
The University has facilities to help learning-Library, Digital Library, E-Journal		✓		
Lab Facilities	✓			
Classrooms Facilities	✓			
Campus maintenance	✓			
ICT Provisions	✓			
Provision for Collaboration with other Departments/Institutions		✓		
Research Orientations & Project Work	✓			
Extension Activities	✓			

Teaching

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
The course teacher complete the portions completely		✓		
Most of the teachers encourage the students participation in the class	✓			
Most of the teachers take extra efforts to make all the students understands the subjects	✓			
Teacher's knowledge, expertise, teaching and communication ability		✓		
Staff are knowledgeable and proficient in using the online teaching methodologies	✓			

Evaluation

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
Evaluation primarily tests: Mid Term Exam		✓		
Evaluation primarily tests: Analytical Skills	✓			
Evaluation primarily tests: Quiz/Creativity/originality	✓			
Evaluation primarily tests: Communication	✓			
An objective system of evaluation in place	✓			

Question Papers

Internal Papers	High Standard	Moderate Standard	Low Standard	Expected and already discussed in the class	From the text book only	Out portion of
✓		✓				

CIA(Tick if agreed)

Continuous Internal Assessment performed	Continuous evaluation	Assignment	Quiz	Regular Evaluation in Class
	✓			

List out five major areas of concern which need immediate attention:

1. Some elective papers should be converted into core papers.
2. Question papers pattern has to be revamped.
3. Uniform distribution of teaching hours to be given for all units in a core/elective paper.
4. External evaluation may be reintroduced.
5. Demonstration of analytical instruments rather than studying theoretically

Suggest some of the new subjects/courses which may be considered for inclusion in the proposed restructured curriculum:

Already the syllabus is loaded heavily hence no more additional subject can be introduced.

Your overall opinion/comments on the restructured curriculum, teaching learning and evaluation methodologies followed in the department.

Department is in a stage of development. We have established basic facilities but taking them to advanced level is still required. We need more space, more laboratories, more classroom and all the basic characterization facilities for conducting world class research. Once, these things are established only then more emphasis could be offered to practical works and laboratory skills in comparison to the emphasis on theoretical concepts.

Signature of the chair person and members of the AA team