

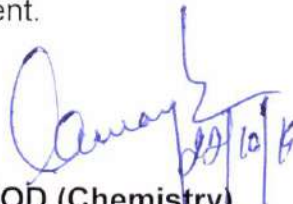
SANT LONGOWAL INSTITUTE OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF CHEMISTRY

Ref. No. SLIET/CHY/2019/ 434

Dated: 22/10/19

From : HOD (Chemistry)
To : Coordinator, IQAC
Subject : **Copy of the academic audit report 2018-19.**

With reference to letter No. SLIET/IQAC/4/5/237-248 dated 18.10.2019, please find enclosed herewith a copy of academic audit report 2018-19 by the Chemistry Department.


HOD (Chemistry)

"Proud to Be Part of Team SLIET"

"Together We Can Make A Difference"

ACADEMIC AUDIT



DEPARTMENT OF CHEMISTRY

SANT LONGOWAL INSTITUTE OF ENGINEERING

& TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

LONGOWAL (SANGRUR, PUNJAB)

SANT LONGOWAL INSTITUTE OF ENGINEERING & TECHNOLOGY

PROFORMA OF ASSESSMENT

1. **NAME OF THE DEPARTMENT** : **Chemistry**

2. **YEAR OF ESTABLISHMENT** : **1991**

3. **REVIEWER(S)** :

- Dr. Ajat Shatru, Prof. & Dean (Acad.) – External member
- Dr. V.K. Jain, Prof. – External Member
- Dr. Harish Kumar Chopra, Prof., Dean (P&D) & Registrar – Internal member
- Dr. Sanjeev Garg, AsP & HOD (Civil) – External member
- Dr. Damanjit Singh, HOD – Convener

4. **DATE OF REVIEW** : **16.05.2019**

5. **COURSES OFFERED:** (Branch and specialization, year of start:

ICD: 2013 (Certificate/ Diploma: 1991)

UG (3 Year): 1993 UG (4 Year): 2013 (Admission in 2014)

PG: 2011

PhD: 2007

ICD	UG	PG	Ph.D
CY-111 (Chemistry-I) 1 st Sem	BSCH-401 (Theory) 1 st & 2 nd Sem Annexure-A	Master of Chemistry AC- 810* 1 st Sem AC-820* 2 nd Sem	Doctorate of Philosophy AC-1080* (Course work subject)
CY-121 (Chemistry-II) 2 nd Sem	BSCH-402 (Practical) 1 st & 2 nd Sem Annexure-A	AC- 910* 3 rd Sem AC-920* 4 th Sem (Syllabus attached)	Research Methodology (RM-10000) Annexure-A

6. **INTAKE OF THE COURSE:**

Name of Courses/Branch		Admitted	Graduated	Admitted	Graduated	Admitted	Graduated
		2015-16		2016-17		2017-18	
ICD		563	--	595	--	630	--
UG		204	--	117	--	127	--
PG		15	15	18	18	15	15
Ph.D.	Full Time	01	01	03	03	NIL	01
	Part Time	NIL	03	NIL	03	NIL	01

7. LABORATORY FACILITY:

Sr. No.	Name of the lab	Status of Lab (Quite modernized/Need to be modernized)	Status of Lab Equipment (Functioning properly/ Need maintenance/ up gradation)	No of experiments (Adequate /Need to be increased)
1	Chemistry Lab-I	Quite modernized	Functioning properly	Adequate
2	Chemistry Lab-II	Quite modernized	Functioning properly	Adequate
3	Chemistry Lab-III	Quite modernized	Functioning properly	Adequate
4	Research Lab-I	Quite modernized	Functioning properly	Adequate
5	Research Lab-II	Quite modernized	Functioning properly	Adequate
6	PG Lab	Quite modernized	Functioning properly	Adequate
7	Sophisticated Instrument Lab	Quite modernized	Functioning properly	Adequate
8	Computational Lab	Quite modernized	Functioning properly	Adequate
9	Sophisticated Instrument room I	Quite modernized	Functioning properly	Adequate
10	Sophisticated Instrument room II	Quite modernized	Functioning properly	Adequate

- Number of laboratories: Adequate/Need addition –Need additional Labs. [01(PG) & 02 (Ph.D)] and modernization of existing labs.

8. RESEARCH GROUP(S)/ INTERDISCIPLINARY GROUP(S):

Research Groups (Broad Area of Research)	Name of Faculty Involved
Coordination, Nano and Computational Chemistry	Dr. B. K. Kanungo, Prof.
Nano and Environmental Chemistry	Dr. Dhiaj Sud, Prof.
Organic, Green and Food Chemistry	Dr. Harish Chopra, Prof.
Heterocyclic Chemistry and Organic Synthesis	Dr. Ram Pal Chaudhary, Prof.
Natural Products and Organic Synthesis	Dr. Damanjit Singh, AsP
Coordination Chemistry/Nano Chemistry	Dr. Hemant Kumar, AP
Organic Synthesis	Dr. Himanshu Rani, AP
Catalyst Development and Polymer Synthesis	Dr. Payal Malik, AP

9. CONTRIBUTION OF FACULTY AND STAFF (Last three years):

Name of Faculty/ Staff	Designation /Qualification/Status	Contribution in Teaching (punctuality/ innovation/ use of ICT)	Contribution in B.Tech or ICD projects	Contribution in Research (Publications/ Projects/Ph.D. & M Tech guidance/ Consultancy/ Patent)	Other (Department/ Institute/ National/ International)
Dr. B. K. Kanungo, Prof	Professor	Punctual/Lab Manuals & teaching materials	NA	Publications: 11 Projects: -- Ph.D Guided: 02	Ex- Dean R&C; Ex- HOD

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				M.Sc Guided:06 Consultancy: -- Patent: --	
Dr. Dhiraj Sud, Prof	Professor	--do--	--do--	Publications: 10 Projects: -- Ph.D Guided: 03 M.Sc Guided:07 Consultancy: -- Patent: --	Ex- Dean Academics; Ex- HOD, Chairman DRC
Dr. Harish Chopra, Prof	Professor	--do--	--do--	Publications: 14 Projects: -- Ph.D Guided: 02 M.Sc Guided:07 Consultancy: -- Patent: --	Registrar and Dean P & D; Ex- Chairman, SET; Ex- HOD
Dr. Ram Pal Chaudhary, Prof	Professor	--do--	--do--	Publications: 04 Projects: -- Ph.D Guided: 02 M.Sc Guided:07 Consultancy: -- Patent: --	Co-chairman, SET; Ex- HOD
Dr. Damanjit Singh, AsP	Associate Professor	--do--	--do--	Publications: 04 Projects: -- Ph.D Guided: 01 M.Sc Guided:07 Consultancy: -- Patent: --	HOD, Chairman Cultural Committee, Chairman – TECH Fest ,Madhuram
Dr. Hemant Kumar, AP	Assistant Professor	--do--	--do--	Publications: 02 Projects: -- Ph.D Guided: -- M.Sc Guided:06 Consultancy: -- Patent: --	Department lab Incharge
Dr. Himanshu Rani, AP	Assistant Professor	--do--	--do--	Publications: 02 Projects: -- Ph.D Guided: -- M.Sc Guided: 01 (ongoing) Consultancy: -- Patent: --	Incharge Repository, Exam Coordinator, Time Table Incharge
Dr. Payal Malik, AP	Assistant Professor	--do--	--do--	Publications:01 Projects: -- Ph.D Guided: -- M.Sc Guided:05 Consultancy: -- Patent:--	Core Committee member (TEQIP-III) Hostel warden

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Mr. Rajeev Bagoria, AP	Assistant Professor	--do-	--do--	Publications:01 Projects: -- Ph.D Guided: -- M.Sc Guided:-- Consultancy: -- Patent: --	--
Mr. Gurjit Singh	Lab attendant	NA	--do--	--	
Ms. Shalinder Kaur	Lab attendant	NA	--do--	--	--
Mr. Harpreet Singh	Lab Technician	NA	--do--	--	--
Ms. Devki Devi	MTS	NA	--do--	--	--

Publications category wise- Conference, SCI, other Scopus, refereed: **Attached as Annexure B.**
Departmental charges attached

S.No.	Academic Year / Semester	Name of Faculty	Class	Subject code	No of Students	Pass %age
1	2015-16 Odd Semester	Dr. B. K. Kanungo, Prof	M.Sc	AC-9107 AC-8104 AC-8153 AC-9152 (I)	03 18 18 03	100% 94% 94% 100%
			ICD	CY-111CPPT A Lab	27	96%
2	--do--	Dr. Dhiraj Sud, Prof	M.Sc	AC-9103 AC-8102 AC-9151(I)	07 18 03	100% 94% 100%
			ICD	CY-111 CEN A Lab	30	96%
3	--do--	Dr. Harish Kumar Chopra, Prof	M.Sc	AC-9105 AC-9102 AC-9151 (O)	04 07 04	100% 100% 100%
			ICD	CY-111 CSMM A Lab	25	100%
4	--do--	Dr. Ram Pal Chaudhary, Prof	M.Sc	AC-9106 AC-9152 (O)	04 04	100% 100%
			Diploma	AC-3101 DEC/DIN AC-3151 DEC Lab	20 10	99% 100%
5	--do--	Dr. Damanjit Singh, AsP	M.Sc	AC-8103 AC-9101 AC-8151 LAB	18 07 18	94% 100% 94%
6	--do--	Dr. Hemant Kumar, AP	M.Sc Diploma	AC-9108 AC-3101 DCT/DFP AC-8152 Lab AC-3151 DCT Lab	03 10 18	100% 100% 94%
7	--do--	Dr. Himanshu Rani, AP	Degree ICD Diploma	CY-511 GWT CY-111CTV CY-111 CTD Lab AC-3151 DIP Lab	83 27 27 20	98% 96% 96% 100%

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				CY-111CSME	28	100%
				AC-9151	03	100%
8	--do--	Dr. Payal Malik, AP	M.Sc	AC-8105 B	18	94%
				CY-411 GEC	13	85%
			ICD	CY-411 GIN	09	89%
			Degree	CY-111 CAC LAB	61	90%
				AC-9151(O)	03	100%
				CY-111 CEN	61	85%
9	--do--	Mr. Rajeev Bagoria, AP	M.Sc	AC-8101	18	94%
			Degree	EV-6101 GCS	204	99%
			ICD	CY-511 GFT (A)	30	90%
				CY-511 GFT B Lab	28	100%
				AC-3151 DMP LAB	28	100%
				MC-411 GME/GWT		
1	2015-16 Even Semester	Dr. B. K. Kanungo	M.Sc	AC-9201 (I)	07	100%
				AC-8205	16	94%
				AC-8252 Lab	16	94%
2	--do--	Dr. Dhiraj Sud, Prof	M.Sc	AC-8202	16	94%
				AC-9202 (D)	03	100%
			ICD	CY-121 CDE(C+D) Lab	59	92%
				CY-121 CFP(A) Lab	24	92%
3	--do--	Dr. Harish Kumar Chopra, Prof	M.Sc	AC-8203	16	94%
				AC-9201 (A)	04	100%
			ICD	CY-121 CEN (A+B)LAB	58	94%
				CY-121 CDE(B) LAB	28	96%
4	--do--	Dr. Ram Pal Chaudhary, Prof	M.Sc	AC-8201	16	94%
				AC-9201 (D)	04	100%
				AC-8251 LAB	16	94%
5	--do--	Dr. Damanjit Singh, AsP	M.Sc	AC-9201 (B)	04	100%
				AC-8204	16	94%
				AC-8251 LAB	16	94%
			ICD	CY-121 CTD Lab	26	93%
				CY-121 CSMM B Lab	25	93%
6	--do--	Dr. Hemant Kumar, AP	M.Sc	AC-9202 (C)	03	100%
				CY-421GFT/ CY-421GCT	10	100%
			Degree	CY-521 GCS AB	17	100%
				CY-421 GCT LAB	59	97%
				CY-421 GFTLAB	17	100%
				CY-421 GFTLAB	10	96%
				CY-521 (CD) LAB	62	94%
7	--do--	Dr. Himanshu Rani, AP	Degree	CY-421 GME/ CY-421 GWT	31	97%
				CY-521GCS CD	23	100%
			ICD	CY-521GCS CD	59	88%
				CY-121CWG	30	80%

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				CY-421GWTLAB CY-521 GCS CD LAB CY-121 CFF	23 59 30	100% 88% 70%
8	--do--	Dr. Payal Malik, AP	M.Sc Degree ICD	AC-9202 (A) CY-521 GEC CY-121CBM CY-521 GIN Lab CY-121 CBM LAB CY-121CTD	03 61 27 54 27 26	100% 95% 96% 94% 100% 88%
9	--do--	Mr. Rajeev Bagoria, AP	Degree ICD	CY-521 GIN CY-121CSE CY-121 CSME LAB CY-121CSME CY-121CTV	54 118 27 27 25	100% 85% 100% 92% 88%
1	2016-17 Odd Semester	Dr. B. K. Kanungo, Prof	M.Sc	AC-8104 AC-9107 AC-9155(I) LAB AC-8153LAB	18 07 07 18	100% 100% 100% 100%
2	--do--	Dr. Dhiraj Sud, Prof	M.Sc	AC-9108 AC-9103 AC-9151(I) LAB AC-8152 LAB	07 15 07 18	100% 100% 100% 100%
3	--do--	Dr. Harish Kumar Chopra, Prof	M.Sc	AC-8103 AC-9102 AC-8151 LAB	18 15 18	100% 100% 100%
4	--do--	Dr. Ram Pal Chaudhary, Prof	M.Sc ICD	AC-9106 AC-9152 (O) LAB CY-111CWGLAB CY-111 CTD LAB	08 08 31 31	100% 100% 93% 93%
5	--do--	Dr. Damanjit Singh, AsP	M.Sc	AC-9101 AC-9105 AC-9151 (O) LAB CY-111CSE(D)	15 08 08 30	100% 100% 100% 86%
6	--do--	Dr. Hemant Kumar, AP	M.Sc Degree	AC-8152 LAB CY-411 GEC CY-411 GIN CY-411 GIN (LAB) CY-511 GCT CY-511 GCT(A) LAB CY-111 ICDCAF LAB	18 15 08 08 53 26 29	100% 100% 88% 87% 100% 100% 100%
7	--do--	Dr. Himanshu Rani, AP	--	--	--	--

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8	--do--	Dr. Payal Malik, AP	M.Sc Degree	AC-8102 AC-8105 (B) CY-411 GCS AB CY-511 GFT CY-511 GCT B LAB	18 13 33 32 27	100% 100% 94% 91% 100%
9	--do--	Mr. Rajeev Bagoria, AP	Degree ICD	CY-411 GEE CY-411 GEC(LAB) CY-111CDE AC-8101	16 15 129 18	87% 100% 81% 83%
1	2016-17 Even Semester	Dr. B. K. Kanungo, Prof.	M.Sc	AC-8205 AC-9201(I) AC-8252 LAB	18 15 18	100% 100% 100%
2	--do--	Dr. Dhiraj Sud, Prof	M.Sc	AC-8202 AC-9202 (D) CY-121 CDE C LAB CY-121 CTD LAB	18 07 29 30	100% 100% 89% 100%
3	--do--	Dr. Harish Kumar Chopra, Prof	M.Sc	AC-9201 (A) AC-8203 CY-521 GCS C LAB CY-121 CPT A Lab	08 18 29 30	100% 100% 97% 90%
4	--do--	Dr. Ram Pal Chaudhary, Prof	M.Sc	AC-9201 (D) AC-8251 LAB CY-121 CEN(B)	08 18 30	100% 100% 80%
5	--do--	Dr. Damanjit Singh, AsP	M.Sc	AC-8204 AC-9201 (A) CY-121 CTV LAB CY-521 GIN B LAB CY-121 CEN A	18 08 28 22 30	100% 100% 100% 86% 80%
6	--do--	Dr. Hemant Kumar, AP	M.Sc Degree	AC-9202 (C) CYT-421GCT CYT-421 GFT CYT-421 ME CYT-421 WT CYP-421GCT/FT LAB CY-521 GIN CY-121 CAC LAB CY-521 GCS A LAB	07 11 04 19 11 15 44 29 29	100% 100% 100% 100% 100% 100% 89% 90% 100%
7	--do--	Dr. Himanshu Rani, AP	--	--	--	--
8	--do--	Dr. Payal Malik, AP	M.Sc Degree	AC-9201 (D) CY-521 GCS AB CY-121 CFPB LAB CY-521 GEC A LAB CY-521 GEE A LAB	07 58 29 30	100% 98% 96% 90%

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9	--do--	Mr. Rajeev Bagoria, AP	M.Sc ICD	AC-8201 CY-121 CDE CY- 121 CAF LAB CY-521 GEC LAB CY-521 GCS LAB CY-121 CDE (A)	18 120 28 30 59 30	100% 75% 89% 100% 98% 100%
1	2017-18 Odd Semester	Dr. B. K. Kanungo, Prof.	M.Sc	AC-8104 AC-9105 AC-9151 (I) LAB AC-8153	15 07 07 15	100% 100% 100% 100%
2	--do--	Dr. Dhiraj Sud, Prof	M.Sc	AC-9106 AC-8102 CY-111 CPT LAB AC-8152 LAB	07 15 30 15	100% 100% 96% 100%
3	--do--	Dr. Harish Kumar Chopra, Prof	M.Sc	AC-8103 AC-9103 AC-8151 LAB CY- 111 CTV LAB	15 11 15 31	100% 100% 100% 100%
4	--do--	Dr. Ram Pal Chaudhary, Prof	M.Sc	AC-9104 AC-8151LAB AC-9151 (O) CY-111 CBM LAB	11 15 11 31	100% 100% 100% 100%
5	--do--	Dr. Damanjit Singh, AsP	M.Sc	AC-9101 AC-8105 (B) AC-9151(O) LAB CY-111 CEN LAB CY-111 CFP LAB	18 13 11 28 30	100% 100% 100% 100% 96%
6	--do--	Dr. Hemant Kumar, AP	M.Sc Degree	AC-9102 CYT-411 GEE CYP-411 GEC GIN CY-111 CEN LAB CY-111 CDE C LAB CY- 111 CFP B LAB	18 25 21 01 30 25 28	100% 88% 95% 100% 94% 100% 98%
7	--do--	Dr. Himanshu Rani, AP	Degree ICD	CYT-411 GCS CYP-411 GEE CY-111 CSMM/CPT CY-111 CSMM A LAB	46 25 62 28	89% 96% 51% 88%
8	--do--	Dr. Payal Malik, AP	M.Sc Degree	*AC-9204(C) CYT-411GEC CYT-411GIN CYP-411 GCS B LAB CY-111 CFF LAB CYP-411 GCS A LAB	18 21 01 30 25 30 30	100% 95% 100% 100% 95% 100% 86%

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9	--do--	Mr. Rajeev Bagoria, AP	M.Sc ICD	AC-8101 CY-111 CDE CY-111 CDE D LAB CY-111 CDE A LAB CY-111 CDE B LAB	15 125 28 30 30	100% 82% 100% 95% 98%
1	2017-18 Even Semester	Dr. B. K. Kanungo, Prof.	M.Sc	AC-8205 AC-9201 (I) CY-121 CBM LAB AC-8252 LAB	15 18 30 15	100% 100% 100% 100%
2	--do--	Dr. Dhiraj Sud, Prof	M.Sc ICD	AC-8202 AC-9202 (D) CY- 121 CPT A LAB CY-121 CTD LAB CY-121 CDE A LAB	15 07 28 30 29	100% 100% 100% 96% 100%
3	--do--	Dr. Harish Kumar Chopra, Prof	M.Sc	AC-8203 AC-9201 A CY – 121 CSME LAB CY-121 CTV LAB	15 11 30 29	100% 100% 90% 89%
4	--do--	Dr. Ram Pal Chaudhary, Prof	M.Sc ICD	AC-9201 D AC-8251 LAB CY-121 CFP	11 15 58	100% 100% 89%
5	--do--	Dr. Damanjit Singh, AsP	M.Sc Degree ICD	AC-8204 CYP-421 GME LAB CY-121CEN CY-121 CFP B LAB CY-121 CAC LAB CY-121 CDE LAB	15 17 62 32 29 29	100% 100% 74% 90% 100% 96%
6	--do--	Dr. Hemant Kumar, AP	Degree ICD	CYT-421GCT CYT-421 GWT CYT-421 GME CYP-421GWT CYP-421GCT CY-121 CSME CY-121 CTV CY-121 CWG LAB	09 08 17 08 09 30 29 31	100% 100% 100% 100% 100% 83% 90% 87
7	--do--	Dr. Himanshu Rani, AP	ICD	CY-121 CTD CY-121 CBM CY-121 CPT CY-121 CSMM AB LAB	30 30 57 57	93% 70% 82% 93%
8	--do--	Dr. Payal Malik, AP	M.Sc ICD	AC-9202 (B) CY-121 CWG CY-121 CFF CY-121 CDE C CY-121 CPT B CY-121 CEN B CY-121 CAF LAB	07 62 31 29 29 30 30	100% 85% 94% 100% 82% 100% 96%

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9	--do--	Mr. Rajeev Bagoria, AP	M.Sc	AC-8201	15	100%
				CY-121CDE	179	75%
			ICD	CY- 121 CDE D	29	86%
				CY-121 CFP A	30	100%

10. INFRASTRUCTURE:

Special Facilities in the Department (if any)	HPCL,GC-MS,CHN Analyzer, UV spectrophotometer, IR spectrophotometer, Rota evaporator, Conductivity meter, pH meter, Ion meter, microwave synthesizer, ultrasonicator
Unique features of the department	Dedicated , versatile & motivated Faculty and Staff; Adequately -equipped UG and PG lab, Sophisticated Instrumentation facility, Computational lab, Smart classroom,
Shortage in department (if any)	Assistant Professor in Physical Chemistry, Technical Staff, Research & PG Laboratories

11. ANNUAL BUDGET OF THE DEPARTMENT (Allocated and Expenditure in lacs):

	2015-16	2016-17	2017-18	2018-19	2019-20
Equipments	20	20	15	18	--
Chemical & Glassware	05	07	10	09	09
Maintenance	--	--	--	00.50	00.50
Tour & Training	--	--	--	00.50	00.50
STTP	--	--	--	--	01
Research & Development	--	--	--	25 (from HEFA)	--

12. NO. OF SEMINARS/CONFERENCES/SHORT TERM COURSES ATTENDED/ORGANIZED (last 3 years):

	2015-16	2016-17	2017-18
Details of Seminars/Conferences organized by the faculty in the institute	List enclosed as Annexure-C		
Details of Seminars/Conferences attended by the faculty outside the institute	List enclosed as Annexure-D		

13. RESEARCH PUBLICATIONS IN THE DEPARTMENT/CENTER:

	2015-16	2016-17	2017-18
SCI/SCIE Journals	Annexure-B		
Scopus Indexed			
Peer reviewed			
Indexed conferences	--	--	--
National Conferences	--	--	--
International Conferences	05	--	02
Books Published	--	--	--
Any other	--	--	--

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14. STUDENTS PERFORMANCE IN NATIONAL LEVEL COMPETITIVE EXAMS (Gate/NET etc.)

	2015-16	2016-17	2017-18
GATE	01	04	01
CAT	NA	NA	NA
Any other NET	02	03	00

15. DETAILS OF STUDENT ACTIVITIES

(Workshops/ seminars/industrial tours/ Delivery beyond syllabi/ innovative practices/ remedial activities/ Tutor-Guardian scheme implementation):-

- Conference /Seminar/ Guest lecture: **Annexure- C**
- Industrial tour: MOREPEN Laboratories Ltd, Baddi (Himachal Pradesh) on dated 11.10.2018.
- Remedial classes for ICD students from 23.11.2018 to 28.11.2018.
- TGS implemented (Tutor-Guardian scheme)

16. (a) **NEW FACILITIES CREATED IN LAST 3 YRS:** Smart classroom, PG Lab, computational Lab.

(b) **NEW EQUIPMENTS PROCURED IN LAST 3 YRS (BASIC EQUIPMENTS):**

- UV spectrophotometer, Rota evaporator, Conductivity meter, pH meter, deep freezer, 15 Desk top computer system.

(c) **PROCUREMENT OF SOME ADVANCED EQUIPMENTS** (for research and consultancy):

- Pore size analyzer (Purchase in possess)

17. REQUIREMENT FOR BETTERMENT :

1. Faculty members (Physical Chemistry etc.)

2. Technical Staff

3. Lab facility

4. Equipments, Raman spectrometer, Life time fluorescence spectrometer, (ICPMS), Multinuclear NMR (600 MHz), Diffuse reflectance spectrophotometer, Cyclic voltammeter, Flame photometer& Flash chromatography

18. STRENGTH OF THE DEPARTMENT:

- a) Dedicated and flexible faculty and staff
- b) Adequately equipment laboratories
- c) Research publications in high impact factor journals
- d) Dissertation work in M.Sc.
- e) Result of M.Sc. 100%
- f) Smart Class room
- g) Intra department collaborative research
- h) Internship in-house facilities
- i) Industrial exposure to student through educational tour and internship
- j) Books authored by faculty members

WEAKNESS OF THE DEPARTMENT:

- Additional smart classrooms for PG Students.
- Additional Laboratories with proper infrastructure for PG and Ph.D
- Augmentation of existing sophisticated instrumentation facility
- Chemical waste disposal unit
- Specified grant of chemicals for PhD/PG students.
- Regular Physical Chemistry faculty
- Regular technicians for Laboratories
- Regular office assistant/Incharge
- Reading room/common room/computer room for PhD/PG students.
- Subscription of Journals and eBooks

19. **INTERNATIONAL EXPOSURE** (in the form of visiting professor or academic associates):- Nil

20. FACULTY ATTENTIVENESS

- Course File Preparation: Yes
- Attendance Register: Yes
- Display of attendance alert: Yes
- Preparation of model answer: Yes
- Makeup classes: Yes

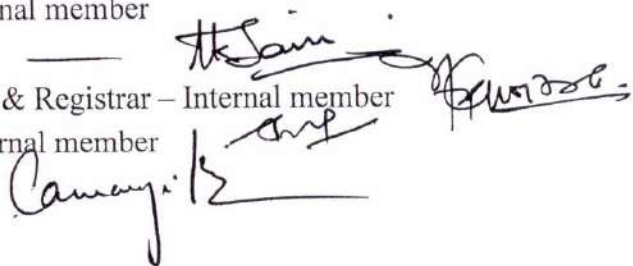
Outcomes

		Details
1	Placements i. Placement of ICD ii. Placement of B.Tech iii. Placement of Masters Student iv. Placement of Ph.D Students	List enclosed Annexure-E (PG & PhD students)
2	Average No. of Ph.D.s Awarded per Year	03
3	Publications per Faculty in Indexed Journals/Year (Average of last three years)	06
4	Average Citations per Faculty/Year) (Web of Science/Scopus)	627
5	Recognitions; Awards(National/International) to Faculty/Students (last three years)	Faculty -- -- Student – Annexure- F
6	Consultancy and Externally Funded Projects	--
7	No. of Ph.D. graduates who took Academics as Career (Last 5 Years)	13

Signature of Reviewer(S)

- Dr. Ajat Shatru, Prof. & Dean (Acad.) – External member
- Dr. V.K. Jain, Prof. – External Member
- Dr. Harish Kumar Chopra, Prof., Dean (P&D) & Registrar – Internal member
- Dr. Sanjeev Garg, AsP & HOD (Civil) – External member
- Dr. Damanjit Singh, HOD – Convener





Degree - BSCH-401/402 (Basic Science Chemistry)

1st Semester

- GFT (Food Technology)
- GCT (Chemical Engineering)
- GME (Manufacturing Engineering)
- GWT (Welding Technology)

2nd Semester

- GCS (Computer Science & Engineering)
- GIN (Instrumentation & Control Engineering)
- GEC (Electronic & Communication Engineering)
- GEE (Electrical Engineering)

Ph.D

- AC-10801 (Advanced Spectroscopic Techniques)
- AC-10802 (Newer Methods in Organic Synthesis)
- AC-10803 (Advances in Environmental Chemistry)
- AC-10804 (Computational Chemistry)
- AC-10805 (Supramolecular Chemistry)
- RM-10000 (Research Methodology)

M.Sc (CHEMISTRY)**SEMESTER – I**

S. No.	Code No.	Subject	L	T	P	Credits
1.	AC 8101	Physical Chemistry- I	4	0	0	4
2.	AC 8102	Inorganic Chemistry-I	4	0	0	4
3.	AC 8103	Organic Chemistry-I	4	0	0	4
4.	AC 8104	Computer for Chemists	2	0	0	2
5.	AC 8105 A/B	Mathematics for Chemists/Biology for Chemists*	2	0	0	2
6.	AC 8151	Organic Chemistry Lab	0	0	6	3
7.	AC 8152	Inorganic Chemistry Lab	0	0	6	3
8.	AC 8153	Computer Lab	0	0	2	1
Total			16	0	14	23

* Mathematics for chemists for students of B.Sc. (medical) and Biology for chemists for students of B.Sc. (Non-medical)

SEMESTER – II

S.No.	Code No.	Subject	L	T	P	Credits
1.	AC 8201	Physical Chemistry- II	4	0	0	4
2.	AC 8202	Inorganic Chemistry-II	4	0	0	4
3.	AC 8203	Organic Chemistry-II	4	0	0	4
4.	AC 8204	Group theory and spectroscopy	3	0	0	3
5.	AC 8205	Analytical Chemistry	3	0	0	3
6.	AC 8251	Physical Chemistry Lab.	0	0	6	3
7.	AC 8252	Analytical Chemistry Lab.	0	0	6	3
Total			18	0	12	24

SEMESTER – III

S.No.	Code No.	Subject	L	T	P	Credits
1.	AC 9101	Spectroscopic Techniques	5	0	0	5
2.	AC 9102	Environmental Chemistry-I	4	0	0	4
3.	AC 91*	Elective – I*	4	0	0	4
4.	AC 91*	Elective – II*	4	0	0	4
5.	AC 91*	Elective – III*	4	0	0	4
6.	AC 9151	Advanced Lab. Techniques – I*	0	0	6	3
Total			21	0	06	24

* The student shall be required to select elective subjects from the list of subjects offered (depending upon the availability of the concerned faculty) during this semester under his/her specialization.

SEMESTER – IV

S.No.	Code No.	Subject	L	T	P	Credits
1.	AC 92*	Elective – IV	3	0	0	3
2.	AC 92*	Elective –V	3	0	0	3
3.	AC 92*	Elective – VI	3	0	0	3
4.	AC 9251	Dissertation*	0	0	22	11
Total			9	0	22	20

* The dissertation work shall be undertaken on daily basis. Each student has to give SEMINAR to defend his/her dissertation in the department.

In addition, Students are encouraged to undergo:

- (i) Summer training of 4-6 weeks after 2nd Semester in summer vacations [in Industry or IIT's or IISER's or National research laboratories or National/State universities of Repute]
- (ii) Industrial/Educational tour

LIST OF ELECTIVE SUBJECTS AS PER SPECIALIZATION

Students are required to select any six(I-VI) of the following elective papers as per the specialization allotted during the start of 2nd year.

1. ORGANIC CHEMISTRY

Elective -I

AC- 9103 Bio-organic Chemistry

Elective -II

AC-9104 Chemistry of Natural Products

Elective –III (Common)

AC-9109A Chemistry of Materials

AC-9109B Supramolecular Chemistry

AC-9109C Instrumental Methods of Analysis

Elective – IV-VI

AC-9201A Organic Synthesis-I

AC-9201B Organic Synthesis-II

AC-9201C Organic synthesis - III

AC-9201D Heterocyclic Chemistry

AC-9201E Green Chemistry

AC-9201F Polymer Chemistry

AC-9201G Organic Photochemistry

AC-9201H Medicinal Chemistry

AC-9201 I Molecular Modeling in Chemistry

2. INORGANIC CHEMISTRY

Elective -I

AC-9105 Advanced Coordination Chemistry

Elective –II

AC-9106 Bio-inorganic Chemistry

Elective –III (Common)

AC-9109A Chemistry of Materials

AC-9109B Supramolecular Chemistry

AC-9109C Instrumental Methods of Analysis

Elective – IV-VI

AC-9202A Inorganic Photochemistry

AC-9202B Organometallic Chemistry

AC-9202C Physical Methods in Inorganic Chemistry

AC-9202D Special Topics in Inorganic Chemistry

AC-9201 I Molecular Modeling in Chemistry

3. PHYSICAL CHEMISTRY

Elective -I

AC-9107 Statistical Mechanics

Elective -II

AC-9108 Quantum Mechanics

Elective –III (Common)

AC-9109A Chemistry of Materials

AC-9109B Supramolecular Chemistry

AC-9109C Instrumental Methods of Analysis

Elective – IV-VI

AC-9203A Macromolecules and Surface Chemistry

AC-9203B Advanced Statistical Thermodynamics

AC-9203C Physical Methods in Chemistry

AC-9203D Electrochemistry and Chemical Kinetics

AC-9203E Photo-physical Chemistry

AC-9203F Molecular Reaction Dynamics

AC-9203G Biophysical Chemistry

Annexure-B

Sr. No.	Name of Faculty	Designation	Publications in last 3 years		
			Web of Sciences	Scopus	Publications in Referred E-Journals/Proceedings
1	B.K. Kanungo	Prof.	-	13	-
2	Dhiraj Sud	Prof.	10	10	1
3	Harish Kumar Chopra	Prof.	13	13	-
4	RamPal Chaudhary	Prof.	-	4	-
5	Damanjit Singh	AsP	-	-	4
6	Hemant Kumar	AP	-	-	2
7	Himanshu Rani	AP	2	-	-
8	Payal Malik	AP	1	-	-
9	Rajeev Bagoria	AP	-	1	-
		TOTAL	26	40	7

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Details of Seminars/Conferences organized by the faculty in the institute

- National Conference on “ Nascent Innovations in Chemical Sciences” NICS-16 was held UNDER TEQIP-II from 21-22 Oct., 2016
- Special lecture by Prof. N.R. Dhamiwal, from Punjabi University Patiala (2015)
- Invited lecture by Prof. B.K. Patel, from IIT Guwahati (2016)
- Expert lectures on Quantum Chemistry by Dr. Vikas Gulia, Scientist, from Global Centre for Nuclear Energy Partnership (GNCEP), Bahadurgarh (Delhi) (2017)
- Seminar on “Bispidine Coordination Chemistry-Ligands for Medicinal Chemistry, Bioinorganic Modeling and Oxidation Catalysts” was held on September 21, 2017 by Prof. Peter Comba, University of Heidelberg, Germany.
- Guest lecture on “Language of stereo Chemistry & spectroscopy” by Prof.P. S. Kalsi, Punjab Agriculture University, Ludhiana on 29.04.2019 .

CONFERENCES ATTENDED BY FACULTY MEMBERS (2014-18)

Sr. No.	Name of faculty member	Title of paper	Conference/Seminar	Venue	Date
1.	Prof.DhirajSud	Studies on visible light responsive photocatalyst for environmental applications	SESTEC , 2014	BARC, Mumbai	Feb. 25-27, 2014
2.	Prof. B.K. Kanungo	Design of Polydentate Chelates for Lanthanide Sensitization	7 th International Symposium on nano& supramolecular Chemistry (ISNSC)	Busan, South Korea	Aug 14-17, 2015
3.	Prof. Harish Chopra	Synthesis and characterization of chiral ionic liquids from natural precursors	45 th World Chemistry Congress (IUPAC-2015)	Busan, South Korea	Aug 09-14, 2015
4.	Prof.DhirajSud	Synthesized Doped TiO ₂ photocatalyst for mineralization of Quinalphos from aqueous streams.	17 International Conference on Chemistry and Material Science	Zurich Switzerland	July 29-30 2015
5.	Prof. Ram Pal Chaudhary	Regioselective Synthesis, X-ray and DFT studies of new Indazolyl-thiazole derivatives	The 25 th ISHC Congress	University of California	Aug. 23-28, 2015
6.	Prof. Ram Pal Chaudhary	Synthesis, structural characterization and biological studies of new benzo[f]thiazolo-quinazoline	International conference on Nascent developments in Chemical Sciences (NDCS-2015)	BITS, Pilani	Oct. 16-18, 2015

		derivatives			
7.	Prof. Ram Pal Chaudhary	Synthetic, DFT and X-ray diffraction studies on new condensed thiazolidin-4-one derivatives	National conference On organic synthesis and catalysis (NCOSC-2016)	GJU, Hisar	February 17-18, 2016
8.	Prof. B.K. Kanungo	Theoretical Prediction of Formation constants of Some Bio-relevant Mixed Chelates of Divalent Copper Containing Bipyridyl and N-H, N-O and O-O Donor Ligands	American Conference on Theoretical Chemistry	Boston University at Boston, U.S.A	July 16-21, 2017
9.	Prof.DhirajSud	Ecofriendly Synthesis of nanosized Ru – N codoped TiO ₂ for Solar photocatalysis	13 th International conference on Materials chemistry (MC-13)	ACC Liverpool, U.K	July 10-13, 2017
10.	Prof. Ram Pal Chaudhary	Experimental and Theoretical Investigations on Acid Catalysed Stereoselective Synthesis of new Indazpy-thiazole derivatives	XIVth international Conference on Molecular Spectroscopy, ICMS-2017	Poland	Sep 3-9, 2017
11.	Prof. Dhiraj Sud	Acrylic acid grafted biopolymer Chitosan/TiO ₂ based nanocomposite for application in solar light induced photocatalytic degradation	Polymer Congress-2018 by EuroSciCon	London, U.K	04-05 June, 2018

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Placement of PG Students

Company Name	Discipline	Qualifying Degree	No. of students placed
RALSON INDIA LIMITED, LUDHIANA	Chemistry	M.Sc	6
IOL CHEMICAL & PHARMACEUTICALS LIMITED (TRIDENT GROUP)	Chemistry	M.Sc	2
Kandhari Beverages PVT. LTD. (Coca-Cola)	Chemistry	M.Sc	3

Placement of Research Scholars

Name of Research Scholars	Institute	Designation
Preeti Bansal	YICO, Talwandi Sobbo	Assistant Professor
Sunita Mittal	Guru Kashi University	Assistant Professor
Nidhi Shrotri	Palampur University	Assistant Professor
Bhupinder Kaur	Akal Degree College, Mastuana	Assistant Professor
Avtar Singh	Central University, Rajsthan	Research Asscciate
Sauran Puri	Oil and Natural Gas Corporation	Senior Chemist
Navneet Kaur	Chandigarh University Gharun, Mohali	Assistant Professor
Ajay Sharma	Chandigarh University Gharuan, Moholi	Assistant Professor
Garima	Defence Research and Development Organization	Research Associate
Abhinandan	RKS Ser. Sec. Public School (Moga)	Lecturer
Simerpreet Kaur	Dashmesh Khalsa College, Zirakpur	Assistant Professor
Garima Mahajan	Bhai Gurdas College, Sangrur	Assistant Professor
Parmjeet Kaur	DAV College, Jalandhar	Assistant Professor
Deepka Gautam	Baba Bhag Singh University	Assistant Professor
Poonam Gautam	Noyda School	School Teacher
Rifat Akbar	Engineering College	Lecturer
Sanjit Kumar Kar	Trident Group	Manager
Suban K.Sahoo	NIT Surat	Assistant Professor
Rati kanta Bera	Indian Military, Dehradoon	Assistant Professor
Sushil Kansal	Punjab University Chandigarh	Associate Professor
Rohini Verma	Thaper University, Patiala	Research Associate

Awards (National/International) students (Ph.D) (Last Three Years)

1. **Mr. Dibyajit Dash, RS** – Best Poster award on Research Scholar day under Science week – 2019.
2. **Ms. Rohini, RS** – Best oral presentation award on Research Scholar day under Science week- 2018.
3. **Ms. Rohini, RS** – Best Poster award on International conference Feb, 2018 at NIT Kurukshetra.
4. **Ms. Madhvi** 1st prize in oral presentation (Session 1) Slietcon 2019 Venue- National Institute of Technical Teachers Training and Research (NITTTR), sec 26, Chandigarh March 2, 2019
5. **Ms. Arshpreet kaur** 2nd prize in poster presentation Sliet con 2019 Venue- National Institute of Technical Teachers Training and Research (NITTTR), sec 26, Chandigarh March 2, 2019