

INDIRA GANDHI UNIVERSITY, MEERPUR-REWARI, HARYANA-122502

(A State University Established under Haryana Act No.29 of 2013)

(Recognized u/s 12(B) & 2(f) of UGC Act, 1956)

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Scheme of Examination for Chemistry Subject in Under Graduate Programmes

as per NEP 2020

**Curriculum and Credit Framework for Undergraduate Programmes
(Multiple Entry-Exit, Internships and Choice Based Credit System LOCF)**

With effect from the session 2026-27 (in phased manner)

Department of Chemistry

Indira Gandhi University

Meerpur-Rewari (122502)

Haryana, India

Details of Approvals

Council/Board	Date	Remark
Staff Council		
Board of Studies		
Faculty		
Academic Council		
Year of implementation		

Chairperson
(Signature with Stamp)

VISION AND MISSION OF THE UNIVERSITY

VISION

To be a globally renowned university, recognized for excellence in teaching, innovative research, and welfare of the society, imbining the spirit of “*Vasudhaivkutumbkam*”.

MISSION

- To introduce and implement innovation in teaching and learning process matching up the global standards to strengthen academic delivery through curriculum design, teaching pedagogy and usage of ICT.
- To develop a mechanism that attracts talented, qualified and experienced faculty from across the globe for pursuing their academic and research careers at the University.
- To offer academic programs at UG, PG, doctoral, Post-Doctoral levels which are learner-centric, industry focused, and adhere to outcome based international models.
- To create an ambiance that is conducive for undertaking sponsored research, innovation and consultancy services to a wide spectrum of societal and industrial requirements while encouraging interdisciplinary approach of learning, team work, and research.
- To establish state of art centres of excellence in frontier areas of research and design innovation through industry collaboration to innovate and incubate the products and services.
- To establish smart campus and promotee-governance activities in the university for the digitally empowered society and knowledge economy.
- To provide a hygienic, modern, environment friendly and vivacious campus at tuned to the urgent needs of Green Technology.
- To consider and implement norms, metrics, standards, procedures and benchmarks for assessing and improving the quality in every aspect of University system and achieve quality certifications by National and International bodies.
- To make society self-reliant by organizing various programmes including literacy, gender sensitization, health awareness, and dissemination of information about livelihood generation.

VISIONAND MISSION OF THE DEPARTMENT

VISION

To develop highly competent educators, researchers, and professionals who contribute effectively to the chemical and allied industries and society, and to be recognized globally as a premier centre of excellence in chemical sciences through quality education, innovative research, and academic leadership.

MISSION

1. To promote excellence in chemical sciences through high-quality teaching, innovative research, and scientific advancement.
2. To develop competent and skilled professionals equipped with strong theoretical knowledge and practical expertise to meet the needs of academia, research organizations, and the chemical and allied industries.
3. To provide a student-centred learning environment that fosters intellectual growth, critical thinking, ethical values, creativity, and holistic personality development.
4. To strengthen academic and research excellence by encouraging summer training, internships, research projects, and experiential learning opportunities.
5. To establish smart classrooms and state-of-the-art laboratories that support quality teaching, advanced research, innovation, and continuous academic improvement.
6. To nurture self-reliant, innovative, and socially responsible students and researchers by organizing workshops, seminars, national and international conferences, educational tours, industrial visits, and other skill-development programmes.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO1	Core Competence & Practical Application	Graduates will actively contribute to scientific, industrial, or educational sectors by applying their foundational knowledge, technical data management skills, and practical lab techniques to support ongoing projects and resolve standard operational challenges.
PEO2	Continued Education & Professional Growth	Graduates will continue to build upon their undergraduate foundation by successfully pursuing higher education (such as Master's or professional degree programs), specialized certifications, or continuous workplace training.
PEO3	Teamwork & Technical Communication	Graduates will function effectively as collaborative and dependable team members in diverse environments, assisting in the execution of technical projects and clearly communicating scientific results to peers and supervisors.
PEO4	Professional Ethics & Social Awareness	Graduates will uphold ethical standards and professional integrity in their daily tasks, maintaining an awareness of how their scientific practices and technical contributions impact the environment and local communities.

PROGRAMME LEARNING OUTCOMES (POs)

PLO1	Disciplinary Knowledge	Apply fundamental concepts, principles, and theories of the discipline to understand phenomena and their applications.
PLO2	Effective Communication	Communicate ideas, methods, and results effectively through oral, written, graphical, and digital formats
PLO3	Teamwork & Collaboration	Function effectively as an individual, team member, or leader in multidisciplinary and collaborative environments.
PLO4	Social Responsibility & Ethical Awareness	Apply methods and reasoning appropriate to the discipline to assess issues related to society and the consequent responsibilities relevant to professional practice.
PLO5	Lifelong Learning	Engage in self-directed learning and adapt to emerging knowledge, technologies, and professional demands throughout life.
PLO6	Integrity & Professional Ethics	Demonstrate integrity, ethical conduct, and professional responsibility in academic, research/practice, and professional activities.
PLO7	Scientific Inquiry and Research Skills	Apply the scientific method to identify problems, conduct experiments or theoretical investigations, collect and analyze data, and interpret results using appropriate scientific approaches.
PLO8	Problem Solving	Identify, analyze, and solve scientific problems using logical reasoning, quantitative methods, and appropriate scientific tools and techniques.
PLO9	Critical and	Evaluate scientific information critically, interpret experimental

	Analytical Thinking	data, and draw evidence-based conclusions using analytical reasoning.
PLO10	Scientific Tools & Techniques	Use and learn scientific instruments, techniques, skills, and modern tools relevant to physical sciences practice.
PLO11	Application & Project Management	Apply knowledge and understanding of the principles of physical sciences and undertake basic projects.

Indira Gandhi University, Meerpur, Rewari

Scheme of Examination for the Chemistry Subject in Under Graduate Programmes

as per NEP 2020 Curriculum and Credit Framework for Undergraduate Programmes

(Multiple Entry-Exit, Internships and Choice Based Credit System LOCF) with effect from the session 2026-27 (in a phased manner)

Semester-1

Course Type	Applicable Scheme	Course Code	Nomenclature of the Course	Credits			Contact hours L: Lecture P: Practical T: Tutorial				Internal Assessment Marks		End term Examination Marks		Total Marks	Examination hours	
				Total	Theory (Th)	Practical (P)	L	T	P	Total	Th	P	Th	P		Th	P
CC-1 MCC-1	Scheme A, B & C	26L4.5-CHE-101	Chemistry-I	4	3	1	3	0	2	5	25	5	50	20	100	3	2
MCC-2	Scheme C	26L4.5-CHE-102	Physical Chemistry-I	4	3	1	3	0	2	5	25	5	50	20	100	3	2
*CC-M1	Scheme A,B & D	26L4.5-CHE-103	Minor Chemistry-I	2	2	0	2	0	0	2	15	0	35	0	50	2	0
CC-M1	Scheme C	From Available CC-1/MCC-1 of 4 credits as per NEP															
MDC 1	Scheme A, B & C	From Available pool of Multidisciplinary Courses from a subject of different discipline as per NEP.															
AEC-1	A, B & C	From Available pool of Ability Enhancement Courses as per NEP															
SEC-1	A, B & C	From Available pool of Skill Enhancement Courses as per NEP															
VAC-1	A, B & C	From Available pool of Value Added Courses as per NEP															

***For students who opt _____ as a minor subject**

Semester-2

Course Type	Applicable Scheme	Course Code	Nomenclature of the Course	Credits			Contact hours L: Lecture P: Practical T: Tutorial				Internal Assessment Marks		End term Examination Marks		Total Marks	Examination hours	
				Total	Theory (Th)	Practical (P)	L	T	P	Total	Th	P	Th	P		Th	P
CC-2 MCC-3	Scheme A, B & C	26L4.5-CHE-201	Chemistry-II	4	3	1	3	0	2	5	25	5	50	20	100	3	2
DSEC-1	Scheme C	26L4.5-CHE-202	Chemistry Skill-I	4	3	1	3	0	2	5	25	5	50	20	100	3	2
*CC-M2	Scheme A, B & D	26L4.5-CHE-203	Minor Chemistry-II	2	2	0	2	0	0	2	15	0	35	0	50	2	0
CC-M2	Scheme C	From Available CC-2/MCC-3 of 4 credits as per NEP															
MDC-2	A, B & C	From Available pool of Multidisciplinary Courses from a subject of different discipline as per NEP															
AEC-2	A, B & C	From Available pool of Ability Enhancement Courses as per NEP															
SEC-2	A, B & C	From Available pool of Skill Enhancement Courses as per NEP															
VAC-2	A, B & C	From Available pool of Value Added Courses as per NEP															
Internship	A, B & C		Internship of 4 Credits of 4-6 weeks duration after 2 nd Semester (Mandatory in case of exit)												100		

*For students who opt----- as a minor subject

Semester-3

Course Type	Applicable Scheme	Course Code	Nomenclature of the Course	Credits			Contact hours L: Lecture P: Practical T: Tutorial				Internal Assessment Marks		End term Examination Marks		Total Marks	Examination hours	
				Total	Theory (Th)	Practical (P)	L	T	P	Total	Th	P	Th	P		Th	P
CC-3 MCC-4	Scheme A, B & C	26L5.0-CHE-301	Chemistry-III	4	3	1	3	0	2	5	25	5	50	20	100	3	2
MCC-5	Scheme B & C	26L5.0-CHE-302	Inorganic Chemistry-I	4	3	1	3	0	2	5	25	5	50	20	100	3	2
MCC-2	Scheme B	26L4.5-CHE-102	Physical Chemistry-I	4	3	1	3	0	2	5	25	5	50	20	100	3	2
CC-M3	Scheme A & C	From Available CC-3/MCC-4 of 4 credits as per NEP															
CC-M3(V)	Scheme B	From Available pool of Minor (Vocational) Courses VOC-1															
MDC 3	Scheme A, B & C	From Available pool of Multidisciplinary Courses from a subject of different discipline as per NEP															
AEC-3	Scheme A, B & C	From Available pool of Ability Enhancement Courses as per NEP															
SEC-3	Scheme A, B & C	From Available pool of Skill Enhancement Courses as per NEP															
VAC-3	Scheme C only	From Available pool of Value Added Courses as per NEP															

Semester-4

Course Type	Applicable Scheme	Course Code	Nomenclature of the Course	Credits			Contact hours L: Lecture P: Practical T: Tutorial				Internal Assessment Marks		End term Examination Marks		Total Marks	Examination hours	
				Total	Theory (Th)	Practical (P)	L	T	P	Total	Th	P	Th	P		Th	P
CC-4 MCC-6	Scheme A, B & C	265.0-CHE-401	Chemistry-IV	4	3	1	3	0	2	5	25	5	50	20	100	3	2
MCC-7	Scheme B & C	26L5.0-CHE-402	Organic Chemistry-I	4	3	1	3	0	2	5	25	5	50	20	100	3	2
MCC-8	Scheme B & C	26L5.0-CHE-403	Physical Chemistry-II	4	3	1	3	0	2	5	25	5	50	20	100	3	2
DSE-1(Choose One)	Scheme B & C	26L5.0-CHE-404	Elective Chemistry-I	4	3	1	3	0	2	5	25	5	50	20	100	3	2
		OR															
		26L5.0-CHE-405	Elective Chemistry-II	4	3	1	3	0	2	5	25	5	50	20	100	3	2
		OR															
		26L5.0-CHE-406	Elective Chemistry-III	4	3	1	3	0	2	5	25	5	50	20	100	3	2
CC-M4(V)	A, B & C	From Available pool of Minor (Vocational) Courses VOC-2															
AEC-4	A, B & C	From Available pool of Ability Enhancement Courses as per NEP															

VAC-3	A & B	From Available pool of Value Added Courses as per NEP														
VAC-4	C	From Available pool of Value Added Courses as per NEP														
Internship	A, B & C		Internship of 4 Credits of 4-6 weeks duration after 4th Semester (Mandatory in case of exit if not done after 2 nd Semester)												100	

Semester-5

Course Type	Applicable Scheme	Course Code	Nomenclature of the Course	Credits			Contact hours L: Lecture P: Practical T: Tutorial				Internal Assessment Marks		End term Examination Marks		Total Marks	Examination hours	
				Total	Theory (Th)	Practical (P)	L	T	P	Total	Th	P	Th	P		Th	P
CC-5 MCC-9	Scheme A, B & C	26L5.5-CHE-501	Chemistry-V	4	3	1	3	0	2	5	25	5	50	20	100	3	2
MCC-10	Scheme B & C	26L5.5-CHE-502	Inorganic Chemistry-II	4	3	1	3	0	2	5	25	5	50	20	100	3	2
DSE-2	Scheme B & C (Select One)	26L5.5-CHE-503	Elective Chemistry-IV	4	3	1	3	0	2	5	25	5	50	20	100	3	2
		OR															
		26L5.5-CHE-504	Elective Chemistry-V	4	3	1	3	0	2	5	25	5	50	20	100	3	2
		OR															
		26L5.5-CHE-505	Elective Chemistry-VI	4	3	1	3	0	2	5	25	5	50	20	100	3	2

DSE-3	Scheme B & C (Select One)	26L5.5-CHE-506	Elective Chemistry-VII	4	3	1	3	0	2	5	25	5	50	20	100	3	2
		OR															
		26L5.5-CHE-507	Elective Chemistry-VIII	4	3	1	3	0	2	5	25	5	50	20	100	3	2
		OR															
		26L5.5-CHE-508	Elective Chemistry-IX	4	3	1	3	0	2	5	25	5	50	20	100	3	2
CC-M5(V)	A & C	From Available pool of Minor (Vocational) Courses VOC-1															
Internship	A, B& C		Internship of 4 Credits of 4-6 weeks duration (After 4 th Semester)												100		

Semester-6

Course Type	Applicable Scheme	Course Code	Nomenclature of the Course	Credits			Contact hours L: Lecture P: Practical T: Tutorial				Internal Assessment Marks		End term Examination Marks		Total Marks	Examination hours	
				Total	Theory (Th)	Practical (P)	L	T	P	Total	Th	P	Th	P		Th	P
CC-6 MCC-11	Scheme A, B & C	26L5.5-CHE-601	Chemistry-VI	4	3	1	3	0	2	5	25	5	50	20	100	3	2
MCC-12	Scheme B & C	26L5.5-CHE-602	Organic Chemistry-II	4	3	1	3	0	2	5	25	5	50	20	100	3	2
DSE-4	Scheme B & C (Select	26L5.5-CHE-603	Elective Chemistry-X	4	3	1	3	0	2	5	25	5	50	20	100	3	2
		OR															

	one)	26L5.5-CHE-604	Elective Chemistry-XI	4	3	1	3	0	2	5	25	5	50	20	100	3	2
		OR															
		26L5.5-CHE-605	Elective Chemistry-XII	4	3	1	3	0	2	5	25	5	50	20	100	3	2
DSE-5	Scheme B & C (Select One)	26L5.5-CHE-606	Elective Chemistry-XIII	4	3	1	3	0	2	5	25	5	50	20	100	3	2
		OR															
		26L5.5-CHE-607	Elective Chemistry-XIV	4	3	1	3	0	2	5	25	5	50	20	100	3	2
		OR															
		26L5.5-CHE-608	Elective Chemistry-XV	4	3	1	3	0	2	5	25	5	50	20	100	3	2
CC-M6	A	From Available CC-6/MCC-11 of 4 credits as per NEP															
CC-M5(V)	B	From Available pool of Minor (Vocational) Courses VOC-3															
CC-M6(V)	C																
CC-M7(V)	A																
SEC-4	C	From Available pool of Skill Enhancement Courses as per NEP															

Semester-7 (Honours/Honours with Research)

Course Type	Applicable Scheme	Course Code	Nomenclature of the Course	Credits			Contact hours L: Lecture P: Practical T: Tutorial				Internal Assessment Marks		End term Examination Marks		Total Marks	Examination hours	
				Total	Theory (Th)	Practical (P)	L	T	P	Total	Th	P	Th	P		Th	P

CC-H1	Scheme B & C	26L6.0-CHE-701	Physical Chemistry-III	4	4	0	4	0	0	4	30	0	70	0	100	3	0
CC-H2	Scheme B & C	26L6.0-CHE-702	Inorganic Chemistry-III	4	4	0	4	0	0	4	30	0	70	0	100	3	0
CC-H3	Scheme B & C	26L6.0-CHE-703	Organic Chemistry-III	4	4	0	4	0	0	4	30	0	70	0	100	3	0
DSE-6	Scheme B & C (Select One)	26L6.0-CHE-704	Advanced Chemistry-I	4	4	0	4	0	0	4	30	0	70	0	100	3	0
		OR															
		26L6.0-CHE-705	Advanced Chemistry-II	4	4	0	4	0	0	4	30	0	70	0	100	3	0
		OR															
		26L6.0-CHE-706	Advanced Chemistry-III	4	4	0	4	0	0	4	30	0	70	0	100	3	0
PC-H1	Scheme B & C	26L6.0-CHE-707	Practical Chemistry	4	0	4	0	0	8	8	0	30	0	70	100	0	3
CC-HM1	B & C	From Available Core Courses in Minor Subject of 4 credits as per NEP															

Semester-8 (Honours)

Course Type	Applicable Scheme	Course Code	Nomenclature of the Course	Credits			Contact hours L: Lecture P: Practical T: Tutorial				Internal Assessment Marks		End term Examination Marks		Total Marks	Examination hours	
				Total	Theory (Th)	Practical (P)	L	T	P	Total	Th	P	Th	P		Th	P
CC-H4	Scheme B & C	26L6.0-CHE-801	Physical Chemistry-IV	4	4	0	4	0	0	4	30	0	70	0	100	3	0
CC-H5	Scheme B & C	26L6.0-CHE-802	Inorganic Chemistry-IV	4	4	0	4	0	0	4	30	0	70	0	100	3	0
CC-H6	Scheme B & C	26L6.0-CHE-803	Organic Chemistry-IV	4	4	0	4	0	0	4	30	0	70	0	100	3	0
DSE-7	Scheme B & C (Select One)	26L6.0-CHE-804	Advanced Chemistry-IV	4	4	0	4	0	0	4	30	0	70	0	100	3	0
		Or															
		26L6.0-CHE-805	Advanced Chemistry-V	4	4	0	4	0	0	4	30	0	70	0	100	3	0
		OR															
		26L6.0-CHE-806	Advanced Chemistry-VI	4	4	0	4	0	0	4	30	0	70	0	100	3	0
PC-H2	Scheme B & C	26L6.0-CHE-807	Practical Chemistry	4	0	4	0	0	8	8	0	30	0	70	100	0	3
CC-HM2	B & C	From Available Core Courses in Minor Subject of 4 credits as per NEP															

Semester-8 (Honours with Research)

Course Type	Applicable Scheme	Course Code	Nomenclature of the Course	Credits			Contact hours L: Lecture P: Practical T: Tutorial				Internal Assessment Marks		End term Examination Marks		Total Marks	Examination hours	
				Total	Theory (Th)	Practical (P)	L	T	P	Total	Th	P	Th	P		Th	P
CC-H4	Scheme B & C	26L6.0-CHE-801	Physical Chemistry-IV	4	4	0	4	0	0	4	30	0	70	0	100	3	0
CC-H5	Scheme B & C	26L6.0-CHE-802	Inorganic Chemistry-IV	4	4	0	4	0	0	4	30	0	70	0	100	3	0
Research	Scheme B & C	26L6.0-CHE-809	Project/Dissertati on in Chemistry	12								300		300			
CC-HM2	B & C		From Available Core Courses in Minor Subject of 4 credits as per NEP														

Scheme of MDC, VAC, SEC, AEC and VOC courses
offered in the University Pool
by the
Department of Chemistry

Scheme of MDC, VAC, SEC and VOC courses																		
Seme ster	Course Type	Applicable Scheme	Course Code	Nomenclature of the Course	Credits			Contact hours L: Lecture T: Tutorial P: Practical				Internal Assessment Marks		End term Examination Marks		Total Marks	Exam. Hours	
					Total	Theory (T)	Practical (P)	L	T	P	To tal	T	P	T	P		T	P
1	MDC-1	Scheme A, B, C & D	26L4.5- MDC- 101	Introductory Chemistry-I	3	2	1	2	-	2	4	15	5	35	20	75	2	2
2	MDC-2	Scheme A, B, C & D	26L4.5- MDC- CHE- 201	Introductory Chemistry-II	3	2	1	2	-	2	4	15	5	35	20	75	2	2
3	MDC-3	Scheme A, B, C & D	26L5.0- MDC- CHE- 301	Introductory Chemistry-III	3	2	1	2	-	2	4	15	5	35	20	75	2	2
3	VAC-3	Scheme C only			2											50		
4	VAC-3	Scheme A, B & D	26L5.0- VAC- CHE- 401	Chemistry in everyday life	2	2	0	2	0	0	2	15	0	35	0	50	2	0
4	VAC-4	Scheme C only	26L5.0- VAC- CHE- 401	Chemistry in everyday life	2	2	0	2	0	0	2	15	0	35	0	50	2	0

2	SEC-2	Scheme A, B, C & D	26L4.5- SEC CHE- 205	Analytical Chemistry	3	2	1	2	-	2	4	15	5	35	20	75	2	2
3	SEC-3	Scheme A, B, C & D	26L5.5- SEC CHE- 301	Food Adulteration Testing	3	2	1	2	-	2	4	15	5	35	20	75	2	2
6	SEC-4	Scheme C only			2	2	0	2	0	0	2	15	0	35	0	50	2	0
7	AEC-1	Scheme A, B, C & D			2											50		

Add or Delete the rows as per the requirement