

# Chemistry

## (A) Major Core Courses

Sl. No.	Sem	Type of Course	Name of Course	Credits	Marks
1.	I	MJC-1	Inorganic Chemistry I: Atomic Structure & Chemical Bonding	6	100
2.	II	MJC-2 (T)	Physical Chemistry I: States of Matter & Ionic Equilibrium (T)	4	100
3.	II	MJC-2 (P)	Physical Chemistry I: States of Matter & Ionic Equilibrium (P)	2	100
4.	III	MJC-3	Organic Chemistry I: Basics and Hydrocarbons	5	100
5.	III	MJC-4 (T)	Physical Chemistry II: Chemical Thermodynamics and its Applications (T)	3	100
6.	III	MJC-4 (P)	Physical Chemistry II: Chemical Thermodynamics and its Applications (P)	1	100
7.	IV	MJC-5 (T)	Inorganic Chemistry II: s- and p Block Elements (T)	3	100
8.	IV	MJC-5 (P)	Inorganic Chemistry II: s- and p Block Elements (P)	2	100
9.	IV	MJC-6 (T)	Organic Chemistry II: Oxygen Containing Functional Groups (T)	3	100
10.	IV	MJC-6 (P)	Organic Chemistry II: Oxygen Containing Functional Groups (P)	2	100
11.	IV	MJC-7	Physical Chemistry III: Phase Equilibria and Electrochemical Cells	5	100
12.	V	MJC-8 (T)	Inorganic Chemistry III: Coordination Chemistry (T)	3	100
13.	V	MJC-8 (P)	Inorganic Chemistry III: Coordination Chemistry (P)	2	100
14.	V	MJC-9	Organic Chemistry III: Heterocyclic Chemistry	5	100
15.	VI	MJC-10 (T)	Physical Chemistry IV: Conductance & Chemical Kinetics (T)	3	100
16.	VI	MJC-10 (P)	Physical Chemistry IV: Conductance & Chemical Kinetics (P)	1	100
17.	VI	MJC-11 (T)	Organic Chemistry IV: Biomolecules (T)	3	100
18.	VI	MJC-11 (P)	Organic Chemistry IV: Biomolecules (P)	2	100
19.	VI	MJC-12	Physical Chemistry V: Quantum Chemistry & Spectroscopy	5	100
20.	VII	MJC-13	Inorganic Chemistry IV: Organometallic Chemistry	5	100
21.	VII	MJC-14	Research Methodology	5	100
22.	VII	MJC-15	Organic Chemistry V: Spectroscopy	6	100
23.	VIII	MJC-16 (T)	Analytical Methods in Chemistry (T)	3	100

Sub Total = 80

## (B) Minor Courses to be offered by the Department for students of other Departments of Science

Sl. No.	Sem	Type of Course	Name of Course	Credits	Marks
1.	I	MIC-1	Inorganic Chemistry I: Atomic Structure & Chemical Bonding	3	100

2.	II	MIC-2	Physical Chemistry I: States of Matter & Ionic Equilibrium	3	100
3.	III	MIC-3	Organic Chemistry I: Basics and Hydrocarbons	3	100
4.	IV	MIC-4	Physical Chemistry II: Chemical Thermodynamics and its Applications	3	100
5.	V	MIC-5	Inorganic Chemistry II: s- and pBlock Elements	3	100
6.	V	MIC-6	Organic Chemistry II: Oxygen Containing Functional Groups	3	100
7.	VI	MIC-7	Physical Chemistry III: Phase Equilibria and Electrochemical Cells	3	100
8.	VI	MIC-8	Inorganic Chemistry III: Coordination Chemistry	3	100
9.	VII	MIC-9	Organic Chemistry III: Heterocyclic Chemistry	4	100
10.	VIII	MIC-10	Physical Chemistry IV: Conductance & Chemical Kinetics	4	100

**Sub Total = 32**

**Note:** The Department may reduce the syllabus of the Minor Courses as per the credit distribution. The Department concerned may also decide practical courses.

### (C) Multidisciplinary Courses to be offered

Sl. No.	Sem	Type of Course	Name of Course	Credits	Marks
1.	I	MDC-1	To be selected from the basket	3	100
2.	II	MDC-2	To be selected from the basket	3	100
3.	III	MDC-3	To be selected from the basket	3	100

**Sub Total = 09**

### (D) Ability Enhancement Courses to be offered

Sl. No.	Sem	Type of Course	Name of Course	Credits	Marks
1.	I	AEC-1	MIL	2	100
2.	II	AEC-2	Environmental Science	2	100
3.	III	AEC-3	Disaster Risk Management	2	100
4.	IV	AEC-4	NCC/NSS/NGOs/Social Service/ Scout and Guide/Sports	2	100

**Sub Total = 08**

### (E) Skill Enhancement Courses to be offered

Sl. No.	Sem	Type of Course	Name of Course	Credits	Marks
1.	I	SEC-1	To be selected from the basket	3	100
2.	II	SEC-2	To be selected from the basket	3	100
3.	III	SEC-3	To be selected from the basket	3	100

**Sub Total = 09**

### (F) Value Added Courses to be offered

Sl. No.	Sem	Type of Course	Name of Course	Credits	Marks
1.	I	VAC-1	To be selected from the basket	3	100
2.	II	VAC-2	To be selected from the basket	3	100

**Sub Total = 06**

Sl. No.	Sem	Type of Course	Name of Course	Credits	Marks
1.	v	INT-1	Summer Internship	4	100

Sl. No.	Sem	Type of Course	Name of Course	Credits	Marks
1.	VIII	RP-1	Research/Dissertation	12	100

Grand Total = 160 Credits

**(G) Basket for Multidisciplinary Courses (MDC)**

To be decided by Respective Department

**(H) Basket for Skill Enhancement Courses (SEC)**

See at the end of structure (this booklet)

**(I) Basket for Value Added Courses (VAC)**

See at the end of structure (this booklet)

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## Course Structure common to all Programme

### Semester-I

SINo.	Name of Course	Type of Course	L-T-P	Credit	Marks
1	Major Core 1	MJC-1	6-1-0	6	100
2	Minor Course 1	MIC-1	3-1-0	3	100
3	Multidisciplinary Course 1	MDC-1	3-1-0	3	100
4	MIL	AEC-1	2-1-0	2	100
5	Skill Enhancement Course	SEC-1	3-0-3	3	100
6	Value Added Course	VAC-1	3-0-3	3	100
<b>Total Credit- 20</b>					

### Semester-II

SINo.	Name of Course	Type of Course	L-T-P	Credit	Marks
1	Major Core 2	MJC-2	6-1-0	6	100
2	Minor Course 2	MIC-2	3-1-0	3	100
3	Multidisciplinary Course 2	MDC-2	3-1-0	3	100
4	Environmental Science	AEC-2	2-1-0	2	100
5	Skill Enhancement Course	SEC-2	3-1-0	3	100
6	Value Added Course	VAC-2	3-0-3	3	100
<b>Total Credit- 20</b>					

### Semester-III

SINo.	Name of Course	Type of Course	L-T-P	Credit	Marks
1	Major Core 3	MJC-3	5-1-0	5	100
2	Major Core 4	MJC-4	4-1-0	4	100
3	Minor Course 3	MIC-3	3-1-0	3	100
4	Multidisciplinary Course 3	MDC-3	3-1-0	3	100
5	Ability Enhancing Course (Course on Disaster Risk Management)	AEC-3	2-1-0	2	100
6	Skill Enhancement Course	SEC-3	3-1-0	3	100
<b>Total Credit- 20</b>					

### Semester-IV

SINo.	Name of Course	Type of Course	L-T-P	Credit	Marks
1	Major Core 5	MJC-5	5-1-0	5	100
2	Major Core 6	MJC-6	5-1-0	5	100
3	Major Core 7	MJC-7	5-1-0	5	100
4	Minor Course 4	MIC-4	3-1-0	3	100

5	Ability Enhancing Course (Course on NCC/NSS, NGOs/Social Service/Scout & Guide/Sports)	AEC-4	2-1-0	2	100
<b>TotalCredit- 20</b>					

**Semester –V**

SINo.	Name ofCourse	Type ofCourse	L-T-P	Credit	Marks
1	Major Core 8	MJC-8	5-1-0	5	100
2	Major Core 9	MJC-9	5-1-0	5	100
3	Minor Course 5	MIC-5	3-1-0	3	100
4	Minor Course 6	MIC-6	3-1-0	3	100
5	Internship	INT-1	-	4	100
<b>TotalCredit- 20</b>					

**Semester–VI**

SINo.	Name ofCourse	Type ofCourse	L-T-P	Credit	Marks
1	Major Core 10	MJC-10	4-1-0	4	100
2	Major Core 11	MJC-11	5-1-0	5	100
3	Major Core 12	MJC-12	5-1-0	5	100
4	Minor Course 7	MIC-7	3-1-0	3	100
5	Minor Course 8	MIC-8	3-1-0	3	100
<b>TotalCredit- 20</b>					

**Semester–VII**

SINo.	Name ofCourse	Type ofCourse	L-T-P	Credit	Marks
1	Major Core 13	MJC-13	5-1-0	5	100
2	Major Core 14	MJC-14	5-1-0	5	100
3	Major Core 15	MJC-15	6-1-0	6	100
4	Minor Course 9	MIC-9	4-1-0	4	100
<b>TotalCredit- 20</b>					

**Semester–VIII**

SINo.	Name ofCourse	Type ofCourse	L-T-P	Credit	Marks
1	Major Core 16	MJC-16	4-1-0	4	100
2	Minor Course 10	MIC-10	4-1-0	4	100
3	Research Project /Dissertation	RP-1	-	12	
<b>TotalCredit- 20</b>					

- **Subject / Courses having 6, 5 & 4 credits may be split into theory and Practical where ever required with following credit and LTP.**

- For 6 Credit Course / Subject –**
  - Theory – 4-1-0, 4 Credit, 100 Marks**
  - Practical 0-0-4, 2 Credit, 100 Marks**
- For 5 Credit Course / Subject –**
  - Theory – 3-1-0, 3 Credit, 100 Marks**
  - Practical 0-0-4, 2 Credit, 100 Marks**
- For 4 Credit Course / Subject –**
  - Theory – 3-1-0, 3 Credit, 100 Marks**
  - Practical 0-0-2, 1 Credit, 100 Marks**

**Abbreviation:**

**LTP:** Lecture/Tutorial/Practical (number of classes per week)

**MIL:** Modern Indian

**Type of the Course**

**Name of the Course**

**Credit**

MJC :	Major Core Course	80
MIC :	Minor Core Course	32
MDC :	Multidisciplinary Course	09
AEC :	Ability Enhancement Course	08
SEC :	Skill Enhancement Course	09
VAC :	Value Added Course	06
INT :	Summer Internship	04
RP :	Research Project /Dissertation	12

**Total= 160**