

SYLLABI AND COURSES FOR MASTERS IN DEPARTMENT OF CHEMISTRY, EXAMINATION, 2019-21

SEMESTER: I

SCHEME OF TEACHING & EXAMINATION

| NATURE OF COURSE | COURSE CODE | Course Name/Title | SCHEDULE OF TEACHING(HOURS PER WEEK) | | CREDITS | MARKS | | |
|---------------------|-------------|--|--------------------------------------|-----------|-----------|------------|---------------------|--------------------------|
| | | | LECTURE | PRACTICAL | | INTERNAL | MCQ /PRACTICAL FILE | END SEMESTER EXAMINATION |
| Core Course | CHM06C101 | Symmetry and Group Theory in Chemistry | 4 | - | 4 | 20 | 20 | 60 |
| Core Course | CHM06C102 | Organic Reaction Mechanism and Stereochemistry | 4 | - | 4 | 20 | 20 | 60 |
| Core Course | CHM06C103 | Spectroscopy-I: Molecular Spectroscopy | 4 | - | 4 | 20 | 20 | 60 |
| Core Course | CHM06C104 | Advanced Topics in Quantum Chemistry | 4 | - | 4 | 20 | 20 | 60 |
| Laboratory Course-I | CHM06L101 | Inorganic Chemistry Lab-I | - | 6 | 3 | 10 | 10 | 30 |
| | CHM06L102 | Organic Chemistry Lab-I | - | 6 | 3 | 10 | 10 | 30 |
| | | TOTAL | 16 | 12 | 22 | 100 | 100 | 300 |

SEMESTER: II**SCHEME OF TEACHING & EXAMINATION**

| NATURE OF COURSE | COURSE CODE | COURSE NAME/TITLE | SCHEDULE OF TEACHING (HOURS PER WEEK) | | CREDITS | MARKS | | |
|-----------------------|-------------|---|---------------------------------------|-----------|-----------|------------|---------------------|--------------------------|
| | | | LECTURE | PRACTICAL | | INTERNAL | MCQ /PRACTICAL FILE | END SEMESTER EXAMINATION |
| Core Course | CHM06C201 | Organic Reaction and Rearrangements | 4 | - | 4 | 20 | 20 | 60 |
| Core Course | CHM06C202 | Electrochemistry and Chemical Dynamics | 4 | - | 4 | 20 | 20 | 60 |
| Core Course | CHM06C203 | Spectroscopy-II: Applications of Spectroscopy | 4 | - | 4 | 20 | 20 | 60 |
| Core Course | CHM06C204 | Advanced Co-ordination Chemistry | 4 | - | 4 | 20 | 20 | 60 |
| Laboratory Course -II | CHM06L201 | Organic Chemistry Lab-II | - | 6 | 3 | 10 | 10 | 30 |
| | CHM06L202 | Physical Chemistry Lab-I | - | 6 | 3 | 10 | 10 | 30 |
| | | TOTAL | 16 | 12 | 22 | 100 | 100 | 300 |

SEMESTER: III**SCHEME OF TEACHING & EXAMINATION**

| NATURE OF COURSE | COURSE CODE | COURSE NAME/TITLE | SCHEDULE OF TEACHING (HOURS PER WEEK) | | CREDITS | MARKS | | |
|------------------------|-------------|--|---------------------------------------|-----------|-----------|------------|---------------------|--------------------------|
| | | | LECTURE | PRACTICAL | | INTERNAL | MCQ /PRACTICAL FILE | END SEMESTER EXAMINATION |
| Core Course | CHM06C301 | Organic Synthesis | 4 | - | 4 | 20 | 20 | 60 |
| Core Course | CHM06C302 | Advanced Organometallic Chemistry | 4 | - | 4 | 20 | 20 | 60 |
| DSE | | Choose any two* | 4 | - | 4 | 20 | 20 | 60 |
| DSE | | | 4 | - | 4 | 20 | 20 | 60 |
| Laboratory Course –III | CHM06L301 | Advanced Inorganic Chemistry Practical | - | 6 | 3 | 10 | 10 | 30 |
| | CHM06L302 | Advanced Physical Chemistry Practical | - | 6 | 3 | 10 | 10 | 30 |
| | | TOTAL | 16 | 12 | 22 | 100 | 100 | 300 |

*Students can select following Discipline Specific Courses:

- 1.CHM06E301 Advanced Topics in Heterocyclic Chemistry
- 2.CHM06E302 Special Topics in Inorganic Chemistry
- 3.CHM06E303 Inorganic spectroscopy
- 4.CHM06E304 Medicinal Chemistry
- 5.Dissertation

SEMESTER: IV**SCHEME OF TEACHING & EXAMINATION**

| NATURE OF COURSE | COURSE CODE | COURSE NAME/TITLE | SCHEDULE OF TEACHING (HOURS PER WEEK) | | CREDITS | | MARKS | |
|---------------------------------------|-------------|---|---------------------------------------|-----------|-----------|------------|---------------------|--------------------------|
| | | | LECTURE | PRACTICAL | | INTERNAL | MCQ /PRACTICAL FILE | END SEMESTER EXAMINATION |
| Core Course | CHM06C401 | Photochemistry and Pericyclic Chemistry | 4 | - | 4 | 20 | 20 | 60 |
| Core Course | CHM06C402 | Bio-Chemistry | 4 | - | 4 | 20 | 20 | 60 |
| DSE | | Choose any two* | 4 | - | 4 | 20 | 20 | 60 |
| DSE | | | 4 | - | 4 | 20 | 20 | 60 |
| Laboratory Course – IV/Dissertation** | CHM06L401 | Advanced Organic Quantitative Estimations | - | 6 | 3 | 10 | 10 | 30 |
| | CHM06L402 | Instrumentation Chemistry Laboratory | - | 6 | 3 | 10 | 10 | 30 |
| | | TOTAL | 16 | 12 | 22 | 100 | 100 | 300 |

* Students can select following Discipline Specific Courses:

1. CHM06E401 Supramolecular Chemistry
2. CHM06E402 Chemistry of Natural Product
3. CHM06E403 Nanoscience and its Environmental Applications
4. CHM06E404 Asymmetric Synthesis

**Dissertation may be an optional subject for students instead of these courses.