

**MAHARANA PRATAP MAHAVIDYALAYA, JUNGLE DHUSAN, GORAKHPUR**  
**Chemistry Department**

| Class : B. Sc. II Semester                                                                  |         | LESSON PLAN (Theory) : 2024-25 |                                             | Subject : Chemistry                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------|---------|--------------------------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Course Code : CHE-103                                                                       |         |                                |                                             |                                                                                                                                                                                                   |
| Course Title : Basic Organic Chemistry, Solid State and Chemistry of s and p-Block Elements |         |                                |                                             |                                                                                                                                                                                                   |
| DATE                                                                                        | LECTURE | TEACHER'S NAME                 | CHAPTER                                     | TOPIC                                                                                                                                                                                             |
| 16/01/2025                                                                                  | 1       | Dr. S. K. Vernwal              | Unit-III, Stereochemistry                   | Concept of isomerism, Types of isomerism                                                                                                                                                          |
| 17/01/2025                                                                                  | 2       | Dr. Ram Sahay                  | Unit-IV, Liquid State                       | Intermolecular forces                                                                                                                                                                             |
| 18/01/2025                                                                                  | 3       | Dr. Ram Sahay                  | Unit-IV, Liquid State                       | Intermolecular forces                                                                                                                                                                             |
| 20/01/2025                                                                                  | 4       | Dr. S. K. Vernwal              | Unit-III, Stereochemistry                   | Optical isomerism: Chirality; elements of symmetry                                                                                                                                                |
| 21/01/2025                                                                                  | 5       | Mrs. Priyanka Mishra           | Unit-I, Chemistry of Alkenes                | Methods of formation of alkenes                                                                                                                                                                   |
| 22/01/2025                                                                                  | CT      | Mrs. Divya Dubey               | CT                                          | Class Teaching                                                                                                                                                                                    |
| 23/01/2025                                                                                  | 6       | Mrs. Priyanka Mishra           | Unit-I, Chemistry of Alkenes                | Methods of formation of alkenes                                                                                                                                                                   |
| 24/01/2025                                                                                  | 7       | Dr. Ram Sahay                  | Unit-IV, Liquid State                       | Structure of liquids (a qualitative description)                                                                                                                                                  |
| 25/01/2025                                                                                  | 8       | Mrs. Divya Dubey               | Unit-V, General Studies of s-Block Elements | Group wise discussion of s-block elements with respect to electronic configuration, ionisation potential, electron affinity, electronegativity, atomic and ionic radii and their oxidation states |
| 27/01/2025                                                                                  | 9       | Dr. S. K. Vernwal              | Unit-III, Stereochemistry                   | Optical isomerism of compounds containing one asymmetric carbon (lactic acid)                                                                                                                     |
| 28/01/2025                                                                                  | 10      | Mrs. Priyanka Mishra           | Unit-I, Chemistry of Alkenes                | Elementary treatment of mechanism of addition of hydrogen                                                                                                                                         |
| 29/01/2025                                                                                  | ME      | Mrs. Divya Dubey               | ME                                          | Monthly Evaluation                                                                                                                                                                                |
| 30/01/2025                                                                                  | 11      | Dr. S. K. Vernwal              | Unit-III, Stereochemistry                   | Optical isomerism of compounds containing two asymmetric carbons (tartaric acid)                                                                                                                  |
| 31/01/2025                                                                                  | 12      | Dr. Ram Sahay                  | Unit-IV, Liquid State                       | Structural differences between solids, liquids and gases                                                                                                                                          |
| 01/02/2025                                                                                  | 13      | Dr. Ram Sahay                  | Unit-IV, Liquid State                       | Liquid crystals                                                                                                                                                                                   |
| 04/02/2025                                                                                  | 14      | Mrs. Priyanka Mishra           | Unit-I, Chemistry of Alkenes                | Mechanism of addition of halogens                                                                                                                                                                 |
| 05/02/2025                                                                                  | 15      | Mrs. Divya Dubey               | Unit-V, General Studies of s-Block Elements | Group wise discussion of s-block elements with respect to electronic configuration, ionisation potential, electron affinity, electronegativity, atomic and ionic radii and their oxidation states |
| 06/02/2025                                                                                  | CT      | Mrs. Priyanka Mishra           | CT                                          | Class Teaching                                                                                                                                                                                    |
| 07/02/2025                                                                                  | 16      | Dr. Ram Sahay                  | Unit-IV, Liquid State                       | Difference between liquid crystal, solid and liquid                                                                                                                                               |
| 08/02/2025                                                                                  | 17      | Mrs. Divya Dubey               | Unit-V, General Studies of s-Block Elements | Group wise discussion of s-block elements with respect to electronic configuration, ionisation potential, electron affinity, electronegativity, atomic and ionic radii and their oxidation states |
| 10/02/2025                                                                                  | 18      | Dr. S. K. Vernwal              | Unit-III, Stereochemistry                   | Methods of racemisation and resolution                                                                                                                                                            |
| 11/02/2025                                                                                  | 19      | Mrs. Priyanka Mishra           | Unit-I, Chemistry of Alkenes                | Mechanism of addition of halogen acids                                                                                                                                                            |
| 13/02/2025                                                                                  | 20      | Dr. S. K. Vernwal              | Unit-III, Stereochemistry                   | Methods of racemisation and resolution                                                                                                                                                            |
| 14/02/2025                                                                                  | CT      | Dr. Ram Sahay                  | CT                                          | Class Teaching                                                                                                                                                                                    |

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|------------|-----------|--------------------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15/02/2025 | 21        | Dr. Ram Sahay            | Unit-IV, Liquid State                       | Classification, structure of nematic and cholesteric phases                                                                                                                                       |
| 17/02/2025 | 22        | Dr. S. K. Vernwal        | Unit-III, Stereochemistry                   | Relative configuration, D-L nomenclature                                                                                                                                                          |
| 18/02/2025 | 23        | Mrs. Priyanka Mishra     | Unit-I, Chemistry of Alkenes                | Mechanism of addition of halogen acids                                                                                                                                                            |
| 19/02/2025 | 24        | Mrs. Divya Dubey         | Unit-V, General Studies of s-Block Elements | Group wise discussion of s-block elements with respect to electronic configuration, ionisation potential, electron affinity, electronegativity, atomic and ionic radii and their oxidation states |
| 20/02/2025 | 25        | Mrs. Priyanka Mishra     | Unit-I, Chemistry of Alkenes                | Mechanism of addition of water                                                                                                                                                                    |
| 21/02/2025 | <b>ME</b> | <b>Dr. Ram Sahay</b>     | <b>ME</b>                                   | <b>Monthly Evaluation</b>                                                                                                                                                                         |
| 22/02/2025 | 26        | Mrs. Divya Dubey         | Unit-V, General Studies of s-Block Elements | General trend of their compounds                                                                                                                                                                  |
| 24/02/2025 | 27        | Dr. S. K. Vernwal        | Unit-III, Stereochemistry                   | Absolute configuration, R-S nomenclature                                                                                                                                                          |
| 25/02/2025 | 28        | Mrs. Priyanka Mishra     | Unit-I, Chemistry of Alkenes                | Mechanism of addition of sulphuric acid                                                                                                                                                           |
| 27/02/2025 | 29        | Dr. S. K. Vernwal        | Unit-III, Stereochemistry                   | Absolute configuration, R-S nomenclature                                                                                                                                                          |
| 28/02/2025 | 30        | Dr. Ram Sahay            | Unit-IV, Liquid State                       | Classification, structure of nematic and cholesteric phases                                                                                                                                       |
| 01/03/2025 | <b>CT</b> | <b>Dr. Ram Sahay</b>     | <b>CT</b>                                   | <b>Class Teaching</b>                                                                                                                                                                             |
| 03/03/2025 | 31        | Dr. S. K. Vernwal        | Unit-III, Stereochemistry                   | Geometrical isomerism                                                                                                                                                                             |
| 04/03/2025 | 32        | Mrs. Priyanka Mishra     | Unit-II, Chemistry of Alkenes               | Mechanism of hydroboration                                                                                                                                                                        |
| 05/03/2025 | 33        | Mrs. Divya Dubey         | Unit-VII, p-Block Elements                  | Comparative study (including diagonal relationship) of groups 13-17 elements                                                                                                                      |
| 06/03/2025 | 34        | Mrs. Priyanka Mishra     | Unit-II, Chemistry of Alkenes               | Mechanism of epoxidation                                                                                                                                                                          |
| 07/03/2025 | 35        | Dr. Ram Sahay            | Unit-IV, Liquid State                       | Thermography and seven segment cell                                                                                                                                                               |
| 08/03/2025 | <b>CT</b> | <b>Mrs. Divya Dubey</b>  | <b>CT</b>                                   | <b>Class Teaching</b>                                                                                                                                                                             |
| 10/03/2025 | 36        | Dr. S. K. Vernwal        | Unit-III, Stereochemistry                   | Maleic and fumaric acid and methods for determination of their configurations                                                                                                                     |
| 11/03/2025 | 37        | Mrs. Priyanka Mishra     | Unit-II, Chemistry of Alkenes               | Mechanism of ozonolysis                                                                                                                                                                           |
| 17/03/2025 | 38        | Dr. S. K. Vernwal        | Unit-III, Stereochemistry                   | E-Z nomenclature                                                                                                                                                                                  |
| 18/03/2025 | 39        | Mrs. Priyanka Mishra     | Unit-II, Chemistry of Alkenes               | Mechanism of hydroxylation                                                                                                                                                                        |
| 19/03/2025 | 40        | Mrs. Divya Dubey         | Unit-VII, p-Block Elements                  | Comparative study (including diagonal relationship) of groups 13-17 elements                                                                                                                      |
| 20/03/2025 | <b>ME</b> | <b>Dr. S. K. Vernwal</b> | <b>ME</b>                                   | <b>Monthly Evaluation</b>                                                                                                                                                                         |
| 21/03/2025 | 41        | Dr. Ram Sahay            | Unit-VI, Solid State                        | Definition of space lattice and unit cell                                                                                                                                                         |
| 22/03/2025 | 42        | Dr. Ram Sahay            | Unit-VI, Solid State                        | Laws of crystallography: (i) Law of constancy of interfacial angles                                                                                                                               |
| 01/04/2025 | 43        | Mrs. Priyanka Mishra     | Unit-II, Chemistry of Alkynes               | Methods of formation of alkynes                                                                                                                                                                   |
| 02/04/2025 | 44        | Mrs. Divya Dubey         | Unit-VII, p-Block Elements                  | Compounds like hydrides, oxides, oxyacids and halides of groups 13-16                                                                                                                             |
| 03/04/2025 | 45        | Mrs. Priyanka Mishra     | Unit-II, Chemistry of Alkynes               | Elementary treatment of mechanism of addition reactions of carbon-carbon triple bond                                                                                                              |
| 04/04/2025 | <b>CT</b> | <b>Dr. Ram Sahay</b>     | <b>CT</b>                                   | <b>Class Teaching</b>                                                                                                                                                                             |

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|------------|-----------|-----------------------------|----------------------------------|--------------------------------------------------------------------------------------------------|
| 05/04/2025 | 46        | Mrs. Divya Dubey            | Unit-VII, p-Block<br>Elements    | Compounds like hydrides, oxides, oxyacids and halides of groups 13-16                            |
| 07/04/2025 | 47        | Dr. S. K. Vernwal           | Unit-III,<br>Stereochemistry     | Newmann projection formula                                                                       |
| 08/04/2025 | 48        | Mrs. Priyanka Mishra        | Unit-II, Chemistry of<br>Alkynes | Mechanism of hydrogenation                                                                       |
| 09/04/2025 | 49        | Mrs. Divya Dubey            | Unit-VII, p-Block<br>Elements    | Hydrides of boron-diborane and higher boranes, borazine, borohydrides                            |
| 11/04/2025 | 50        | Dr. Ram Sahay               | Unit-VI, Solid State             | (ii) Law of rationality of indices and (iii) symmetry elements in crystals and law of symmetry   |
| 12/04/2025 | <b>CT</b> | <b>Dr. Ram Sahay</b>        | <b>CT</b>                        | <b>Class Teaching</b>                                                                            |
| 15/04/2025 | 51        | Mrs. Priyanka Mishra        | Unit-II, Chemistry of<br>Alkynes | Mechanism of halogenation                                                                        |
| 16/04/2025 | 52        | Mrs. Divya Dubey            | Unit-VII, p-Block<br>Elements    | Fullerenes, carbides, fluorocarbons, silicates (structure principle), tetrasulphur tetra nitride |
| 17/04/2025 | 53        | Dr. S. K. Vernwal           | Unit-III,<br>Stereochemistry     | Sawhorse projection formula                                                                      |
| 19/04/2025 | 54        | Mrs. Divya Dubey            | Unit-VII, p-Block<br>Elements    | Basic properties of halogens, interhalogens and poly halides                                     |
| 21/04/2025 | 55        | Dr. S. K. Vernwal           | Unit-III,<br>Stereochemistry     | Conformations of ethane                                                                          |
| 22/04/2025 | <b>CT</b> | <b>Mrs. Priyanka Mishra</b> | <b>CT</b>                        | <b>Class Teaching</b>                                                                            |
| 23/04/2025 | 56        | Mrs. Divya Dubey            | Unit-VII, p-Block<br>Elements    | Chemistry of noble gases: Chemical properties of the noble gases                                 |
| 24/04/2025 | 57        | Mrs. Priyanka Mishra        | Unit-II, Chemistry of<br>Alkynes | Mechanism of hydration reaction                                                                  |
| 25/04/2025 | 58        | Dr. Ram Sahay               | Unit-VI, Solid State             | X-ray diffraction by crystals, Derivation of Braggs equation                                     |
| 26/04/2025 | 59        | Dr. Ram Sahay               | Unit-VI, Solid State             | Determination of crystal structure of NaCl and KCl                                               |
| 28/04/2025 | 60        | Dr. S. K. Vernwal           | Unit-III,<br>Stereochemistry     | Conformations of n-butane                                                                        |
| 29/04/2025 | <b>ME</b> | <b>Mrs. Priyanka Mishra</b> | <b>ME</b>                        | <b>Monthly Evaluation</b>                                                                        |
| 30/04/2025 | 61        | Mrs. Divya Dubey            | Unit-VII, p-Block<br>Elements    | Chemistry of xenon, structure and bonding in xenon compounds                                     |

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