

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

<b>Class: B. Sc.VI Semester    LESSON PLAN (Theory): 2024-25    Subject : Chemistry</b> <b>Course (CHE-304) : Organic Synthesis B &amp;</b> <b>Course (CHE-305) : Chemical Energetics &amp; Radiochemistry</b>				
DATE	LECTURE	TEACHER'S NAME	CHAPTER	TOPIC
16/01/2025	1	Mrs. Priyanka Mishra	CHE-304, Unit-II, Organometallic Compounds	Organomagnesium compounds
17/01/2025	2	Mrs. Namrata Mishra	CHE-304, Unit-IV, Organic Synthesis via Enolates	Acidity of $\sigma$ - hydrogens
18/01/2025	3	Dr. R. Sahay	CHE-305, Unit-I, Thermodynamics-I	Statement , definition of internal energy and enthalpy
20/01/2025	4	Mrs. Divya Dubey	CHE-305,Unit-III, Electrochemistry	Specific conductance molar and equivalent conductance
20/01/2025	5	Mrs. Priyanka Mishra	CHE-304, Unit-II, Organometallic Compounds	Grignard reagents
21/01/2025	6	Mrs. Divya Dubey	CHE-305,Unit-III, Electrochemistry	Measurement of equivalent conductance
21/01/2025	7	Dr. R. Sahay	CHE-305, Unit-I, Thermodynamics-I	Heat capacity, heat capacities at constant volume and pressure and their relationship
22/01/2025		<b>Dr. S. K. Vernwal</b>	<b>CT</b>	<b>Class Teaching</b>
23/01/2025	8	Dr. S. K. Vernwal	CHE-304, Unit-I, Reagents in Organic Synthesis	A detailed study of the following reagents in organic transformations, oxidation with $\text{SeO}_2$
24/01/2025	9	Mrs. Namrata Mishra	CHE-304, Unit-IV, Organic Synthesis via Enolates	Alkylation of diethyl malonate and ethyl acetoacetate
25/01/2025	10	Dr. R. Sahay	CHE-305, Unit-I, Thermodynamics-I	Joule's law Joule- Thomson coefficient and inversion temperature
27/01/2025	11	Mrs. Divya Dubey	CHE-305,Unit-III, Electrochemistry	Measurement of equivalent conductance
27/01/2025	12	Mrs. Priyanka Mishra	CHE-304, Unit-II, Organometallic Compounds	Formation, structure and chemical reactions
28/01/2025	13	Mrs. Divya Dubey	CHE-305,Unit-III, Electrochemistry	Variation of molar, equivalent and specific conductances with dilution
28/01/2025	14	Dr. R. Sahay	CHE-305, Unit-I, Thermodynamics-I	Joule's law Joule- Thomson coefficient and inversion temperature
29/01/2025		<b>Dr. S. K. Vernwal</b>	<b>ME</b>	<b>Monthly Evaluation</b>
30/01/2025	15	Mrs. Priyanka Mishra	CHE-304, Unit-II, Organometallic Compounds	Organolithium compounds
31/01/2025	16	Mrs. Namrata Mishra	CHE-304, Unit-IV, Organic Synthesis via Enolates	Alkylation of diethyl malonate and ethyl acetoacetate
01/02/2025	17	Dr. R. Sahay	CHE-305, Unit-I, Thermodynamics-I	Standard state, standard enthalpy of formation
04/02/2025	18	Mrs. Divya Dubey	CHE-305,Unit-III, Electrochemistry	Variation of molar, equivalent and specific conductances with dilution
04/02/2025	19	Dr. R. Sahay	CHE-305, Unit-I, Thermodynamics-I	Hess's law of heat summation and its applications
05/02/2025	20	Dr. S. K. Vernwal	CHE-304, Unit-I, Reagents in Organic Synthesis	Jones oxidation
06/02/2025		<b>Dr. S. K. Vernwal</b>	<b>CT</b>	<b>Class Teaching</b>

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07/02/2025	21	Mrs. Namrata Mishra	CHE-304, Unit-III, Organic Synthesis via Enolates	Synthesis of ethyl acetoacetate
08/02/2025	22	Dr. R. Sahay	CHE-305, Unit-I, Thermodynamics-I	Heat of reaction at constant pressure and at constant volume
10/02/2025	23	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Variation of molar, equivalent and specific conductances with dilution
10/02/2025	24	Mrs. Priyanka Mishra	CHE-304, Unit-II, Organometallic Compounds	Formation and chemical reactions
11/02/2025	25	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Variation of molar, equivalent and specific conductances with dilution
11/02/2025	26	Dr. R. Sahay	CHE-305, Unit-I, Thermodynamics-I	Enthalpy of neutralization
13/02/2025	27	Mrs. Priyanka Mishra	CHE-304, Unit-II, Organometallic Compounds	Formation and chemical reactions
14/02/2025		<b>Mrs. Namrata Mishra</b>	<b>CT</b>	<b>Class Teaching</b>
15/02/2025	28	Dr. R. Sahay	CHE-305, Unit-I, Thermodynamics-I	Bond dissociation energy and its calculation from thermo-chemical data
17/02/2025	29	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Variation of molar, equivalent and specific conductances with dilution
17/02/2025	30	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Nomenclature and structure of the carbonyl groups
18/02/2025	31	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Variation of molar, equivalent and specific conductances with dilution
18/02/2025	32	Dr. R. Sahay	CHE-305, Unit-I, Thermodynamics-I	Kirchhoff's equation
19/02/2025	33	Dr. S. K. Vernwal	CHE-304, Unit-I, Reagents in Organic Synthesis	PCC, PDC
20/02/2025	34	Dr. S. K. Vernwal	CHE-304, Unit-I, Reagents in Organic Synthesis	NaBH <sub>4</sub>
21/02/2025		<b>Mrs. Namrata Mishra</b>	<b>ME</b>	<b>Monthly Evaluation</b>
22/02/2025	35	Dr. R. Sahay	CHE-305, Unit-II, Thermodynamics-II	Second Law of Thermodynamics
24/02/2025	36	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Variation of molar, equivalent and specific conductances with dilution
24/02/2025	37	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Synthesis of aldehydes and ketones with particular reference to the synthesis of aldehydes from acid chlorides
25/02/2025	38	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Variation of molar, equivalent and specific conductances with dilution
25/02/2025	39	Dr. R. Sahay	CHE-305, Unit-II, Thermodynamics-II	Need for the law, different statements of the law, Carnot cycle and its efficiency
27/02/2025	40	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Synthesis of aldehydes and ketones with particular reference to the synthesis of aldehydes from acid chlorides
28/02/2025	41	Mrs. Namrata Mishra	CHE-304, Unit-III, Organic Synthesis via Enolates	Claisen condensation
01/03/2025		<b>Dr. R. Sahay</b>	<b>CT</b>	<b>Class Teaching</b>
03/03/2025	42	Mrs. Divya Dubey	Unit-I, Chemistry of Carbohydrates	Variation of molar, equivalent and specific conductances with dilution
03/03/2025	43	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Physical properties

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04/03/2025	44	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Variation of molar, equivalent and specific conductances with dilution
04/03/2025	45	Dr. R. Sahay	CHE-305, Unit-II, Thermodynamics-II	Carnot theorem. Thermodynamic scale of temperature
05/03/2025	46	Dr. S. K. Vernwal	CHE-304, Unit-I, Reagents in Organic Synthesis	LiAlH <sub>4</sub>
06/03/2025	47	Dr. S. K. Vernwal	CHE-304, Unit-I, Reagents in Organic Synthesis	DIBAL-H
07/03/2025	48	Mrs. Namrata Mishra	CHE-304, Unit-III, Organic Synthesis via Enolates	Keto-enol tautomerism of ethyl acetoacetate
08/03/2025		<b>Dr. R. Sahay</b>	<b>CT</b>	<b>Class Teaching</b>
10/03/2025	49	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Migration of ions and Kohlrausch law
10/03/2025	50	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Mechanism of nucleophilic additions to carbonyl group with particular emphasis on benzoin
11/03/2025	51	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Migration of ions and Kohlrausch law
11/03/2025	52	Dr. R. Sahay	CHE-305, Unit-II, Thermodynamics-II	Concept of Entropy, Entropy as a state function
17/03/2025	53	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Migration of ions and Kohlrausch law
17/03/2025	54	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Aldol, Perkin and Wittig reaction Oxidation of aldehydes
18/03/2025	55	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Migration of ions and Kohlrausch law
18/03/2025	56	Dr. R. Sahay	CHE-305, Unit-II, Thermodynamics-II	Entropy as a function of V & T, entropy as a function of P & T Entropy change in
19/03/2025	57	Dr. S. K. Vernwal	CHE-304, Unit-IV, Carboxylic acids and their Functional Derivatives	Nomenclature and classification of aliphatic and aromatic carboxylic acids
20/03/2025		<b>Mrs. Priyanka Mishra</b>	<b>ME</b>	<b>Monthly Evaluation</b>
21/03/2025	58	Mrs. Namrata Mishra	CHE-304, Unit-III, Heterocyclic chemistry	Molecular orbital picture and aromatic characteristics of pyrrole, furan
22/03/2025	59	Dr. R. Sahay	CHE-305, Unit-II, Thermodynamics-II	Entropy as a function of V & T, entropy as a function of P & T Entropy change in
01/04/2025	60	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Variation of molar, equivalent and specific conductances with dilution
01/04/2025	61	Dr. R. Sahay	CHE-305, Unit-II, Thermodynamics-II	Ideal gases and mixing of gases Gibbs and Helmholtz Functions Gibbs function (G)
02/04/2025	62	Dr. S. K. Vernwal	CHE-304, Unit-IV, Carboxylic acids and their Functional Derivatives	Nomenclature and classification of aliphatic and aromatic carboxylic acids
03/04/2025	63	Dr. S. K. Vernwal	CHE-304, Unit-IV, Carboxylic acids and their Functional Derivatives	Preparation of carboxylic acids
04/04/2025		<b>Mrs. Namrata Mishra</b>	<b>CT</b>	<b>Class Teaching</b>
05/04/2025	64	Dr. R. Sahay	CHE-305, Unit-II, Thermodynamics-II	Helmholtz function (A) as thermodynamic quantities
07/04/2025	65	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Variation of molar, equivalent and specific conductances with dilution
07/04/2025	66	Mrs. Priyanka Mishra	CHE-304, Unit-III,	Clemmensen, Wolff-Kishner
08/04/2025	67	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Arrhenius theory of electrolyte dissociation and its limitations

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08/04/2025	68	Dr. R. Sahay	CHE-305, Unit-II, Thermodynamics-II	A&G as criteria for thermodynamic equilibrium and spontaneity, their advantage over entropy change,
09/04/2025	69	Dr. S. K. Vernwal	CHE-304, Unit-IV, Carboxylic acids and their Functional Derivatives	Acidity (effect of substituents on acidity) and salt formation
11/04/2025	70	Mrs. Namrata Mishra	CHE-304, Unit-III, Heterocyclic chemistry	Molecular orbital picture and aromatic characteristics of thiophene and pyridine
12/04/2025		<b>Dr. R. Sahay</b>	<b>CT</b>	<b>Class Teaching</b>
15/04/2025	71	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Arrhenius theory of electrolyte dissociation and its limitations
15/04/2025	72	Dr. R. Sahay	CHE-305, Unit-II, Thermodynamics-II	A&G as criteria for thermodynamic equilibrium and spontaneity, their advantage over entropy change,
16/04/2025	73	Dr. S. K. Vernwal	CHE-304, Unit-IV, Carboxylic acids and their Functional Derivatives	Reactions of carboxylic acids
17/04/2025	74	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Mechanisms of nucleophilic substitution in and their reductions in acidic, Picric acid, S mixture of primary
19/04/2025	75	Dr. R. Sahay	CHE-305, Unit-II, Thermodynamics-II	A&G as criteria for thermodynamic equilibrium and spontaneity, their advantage over entropy change,
21/04/2025	76	Mrs. Divya Dubey	CHE-305, Unit-IV, Colligative Properties	Ideal and non-ideal solutions, methods of expressing concentrations of solutions, activity and activity coefficient
21/04/2025	77	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	An introduction to a,b – unsaturated aldehyde and ketones
22/04/2025	78	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Arrhenius theory of electrolyte dissociation and its limitations
22/04/2025		<b>Dr. R. Sahay</b>	<b>CT</b>	<b>Class Teaching</b>
23/04/2025	79	Dr. S. K. Vernwal	CHE-304, Unit-IV, Carboxylic acids and their Functional Derivatives	Reactions of carboxylic acids, Mechanism of reduction, substitution in alkyl or aryl group,
24/04/2025	80	Dr. S. K. Vernwal	CHE-304, Unit-IV, Carboxylic acids and their Functional Derivatives	Stereospecific addition to maleic and fumaric acids, Preparation and reactions of acid chlorides, acid anhydrides
25/04/2025	81	Mrs. Namrata Mishra	CHE-304, Unit-III, Heterocyclic chemistry	Methods of synthesis and chemical reactions with particular emphasis on the mechanism of electrophilic substitution
26/04/2025	82	Dr. R. Sahay	CHE-305, Unit-II, Thermodynamics-II	A&G as criteria for thermodynamic equilibrium and spontaneity, their advantage over entropy change,
28/04/2025	83	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Arrhenius theory of electrolyte dissociation and its limitations
28/04/2025	84	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Chemical reactions of nitroalkanes
29/04/2025	85	Mrs. Divya Dubey	CHE-305, Unit-IV, Colligative Properties	Dilute solution, colligative properties, Raoult's law, relative lowering of vapour pressure, molecular weight determination
29/04/2025		<b>Dr. R. Sahay</b>	<b>ME</b>	<b>Monthly Evaluation</b>
30/04/2025	86	Dr. S. K. Vernwal	CHE-304, Unit-IV, Carboxylic acids and their Functional Derivatives	Preparation and reactions of amides and esters, Acid and alkaline hydrolysis of esters, Trans-esterification

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Extra *				
*	87	Mrs. Priyanka Mishra	CHE-304, Unit-III,	
*	88	Mrs. Priyanka Mishra		Mechanisms of nucleophilic substitution in acid and their reductions in acidic
*	89	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Neutral and alkaline media
*	90	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	
*	91	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Secondary and tertiary amines
*	92	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Structural features effecting basicity of amines
*	93	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Gabriel- phthalimide reaction
*	94	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Hofmann bromamide reaction
*	95	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Reactions of amines
*	96	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Electrophilic aromatic substitution in arylamines
*	97	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Electrophilic aromatic substitution in arylamines
*	98	Mrs. Priyanka Mishra	CHE-304, Unit-III, Organic compounds of Nitrogen	Reactions of amines with nitrous acid
*	99		CHE-304, Unit-III, Heterocyclic chemistry	Mechanism of nucleophilic substitution reaction in pyridine derivatives
*	100	Mrs. Namrata Mishra	CHE-304, Unit-III, Heterocyclic chemistry	Comparison of basicity of pyridine
*	101	Mrs. Namrata Mishra	CHE-304, Unit-III, Heterocyclic chemistry	Piperidine and pyrrole
*	102	Mrs. Namrata Mishra	CHE-304, Unit-III, Heterocyclic chemistry	Mechanism of nelectrophilic substitution reactions of indole
*	103	Mrs. Namrata Mishra	CHE-304, Unit-III, Heterocyclic chemistry	Mechanism of electrophilic substitution reactions of quinoline and isoquinoline
*	104	Mrs. Namrata Mishra	CHE-304, Unit-III, Heterocyclic chemistry	Mechanism of electrophilic substitution reactions of isoquinoline
*	105	Mrs. Divya Dubey	CHE-305, Unit-IV, Colligative Properties	Elevation of boiling point and depression of freezing
*	106	Mrs. Divya Dubey	CHE-305, Unit-IV, Colligative Properties	Thermodynamic derivation of relation between molecular weight and elevation in boiling point
*	107	Mrs. Divya Dubey	CHE-305, Unit-IV, Colligative Properties	Thermodynamic derivation of relation between molecular weight depression in freezing point.
*	113	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Weak and strong electrolytes
*	114	Mrs. Divya Dubey	CHE-305, Unit-III, Electrochemistry	Weak and strong electrolytes
*	115	Mrs. Divya Dubey	CHE-305, Unit-IV, Colligative Properties	Osmosis, law of osmotic pressure and its measurement

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*	116	Mrs. Divya Dubey	CHE-305,Unit-III, Electrochemistry	Ostwald's dilution law, its uses and limitations
*	117	Mrs. Divya Dubey	CHE-305,Unit-III, Electrochemistry	Ostwald's dilution law, its uses and limitations
*	118	Mrs. Divya Dubey	CHE-305, Unit-IV, Colligative Properties	Determination of molecular weight from osmotic pressure