

**Sardar Patel Mahavidyalaya, Chandrapur**  
**Post Graduate Department of Chemistry**

*Subject: Spectroscopy Chemistry,*  
*Internal Assignment Distribution for M.Sc. – Sem.IV*

*Session - 2018-19*

<b>Sr. No.</b>	<b>Name of Student</b>	<b>Internal Assignment Topic</b>
1	BURHAN JUHI V.	Scattering of neutrons by solids and liquids, magnetic scattering, measurement techniques, elucidation of structure of magnetically ordered unit cell.
2	CHOUDHARI DARSHANA P.	Variation of the coupling constant with dihedral angle, electronegativity, Karplus equation.
3	DHAKATE ASHVINI D.	Classification of molecules as AX, AX <sub>2</sub> , AMX, A <sub>2</sub> B <sub>2</sub> , Shift reagents.
4	DHODARE PUJA D.	Factor affecting chemical shift PMR spectra for different types of organic molecules, effect of deuteration, complex spin interaction (1 <sup>st</sup> order spectra).
5	DURATKAR PRANJALI A.	Application of NMR spectroscopy: FT-NMR, advantages of FT-NMR, use of NMR in medical diagnosis.
6	GAOTURE ANKITA K.	Structure determination of organic molecules by NMR spectroscopy.
7	GHAROTE PRIYANKA D.	Problems based on structure determination of organic molecules by using combined spectral techniques.
8	GHUGGUSKAR RAJKUMAR S.	NMR studies of <sup>13</sup> C, chemical shift in aliphatic, olefinic, alkyne, aromatic compounds.
9	HAKIM JASMIN J.	Scattering intensity Vs scattering angle, Wierl equation, measurement techniques, elucidation of structure of simple gas phase molecule.
10	KALE NILIMA R.	<sup>19</sup> F, <sup>31</sup> P, structure determination of organic molecules by NMR spectroscopy, applications.
11	KHAN SIMRAN H.	X-ray diffraction: Bragg's condition, Miller Indices, Laue method, Bragg method.
12	KHOBRADE SUJATA S.	Beer-Lambert Law, limitations, Frank-Condon principle, various electronic transitions.
13	MOTAMWAR RAKSHA P.	Structure of simple of simple lattice and X-ray intensity, structure factor and its relation to intensity and electron density, absolute configuration of molecules.
14	PRADHAN SUNITA K.	Debye Scherrer method, identification of unit cells from systematic absences in diffraction pattern.
15	RANDIVE PRIYANKA B.	Different electronic transitions and Effect of solvent and conjugation on electronic transitions.
16	SHARMA NIRAJ R.	Photoelectron spectroscopy: Basic principles, photoelectric effect, ionization process, Koopman theorem.
17	SHARMA SRIYA V.	NMR instrumentation chemical shift spin-spin interaction, shielding effect.
18	SHEIKH NIDA MOHD J.	Fiesher Woodward rules for dienes, aldehyde and ketone.
19	SINGH PRITEE K.	Quadrapole nuclei, qudrapole moment, electricfield gradient, coupling constant, splitting, applications.
20	TAJNE ASHWINI D.	Debye Scherrer method, various electronic transitions, Koopman theorem, shielding effect.

Miss. Saroj B. Yadao  
 Subject In-Charge

Dr. S.V. Madhamshettiwar  
 Head, Department of Chemistry

**Sardar Patel Mahavidyalaya, Chandrapur**  
**Post Graduate Department of Chemistry**  
**Subject: Organic Chemistry Special-I Internal Assignment**  
**M.Sc-Sem IV Session 2018-19**

Sr. No	Name of Students	Internal assignment topic
1.	BURHAN JUHI VINOD	Organozinc reagents: Preparation and applications, Reformatsky reaction, Simon-Smith reaction.
2.	CHOUDHARI DARSHANA P.	Organocopper reagents: Preparation and applications in C-C bond forming reaction, mixed organocuprates, Gilman's reagent. Organo Hg and Cd reagents in organic synthesis.
3.	DHAKATE ASHVINI DILIP	Protection and deprotection of functional groups like, hydroxyl, amino, carbonyl and
4.	DHODARE PUJA DEWAJI	Protection and deprotection of functional groups like, carboxylic acids groups, Solid phase peptide synthesis.
5.	DURATKAR PRANJALI A.	Conformation of sugars, monosaccharides, disaccharides, mutarotation,
6.	GAOTURE ANKITA KISHOR	Recapitulation of Stereochemical concepts- enantiomers, diastereomers, homotopic and heterotopic ligands, Chemo-, regio-, diastereo- and enantio-controlled approaches;
7.	GHAROTE PRIYANKA D.	Stereoselective addition of nucleophiles to carbonyl group: -Re-Si face concepts, Cram's rule, Felkin Anh rule, Houk model, Cram's chelate model.
8.	GHUGGUSKAR RAJKUMAR S.	Asymmetric synthesis use of chiral auxiliaries, asymmetric hydrogenation, asymmetric epoxidation and asymmetric dihydroxylation,
9.	HAKIM JASMIN JAHIRUDDIN	Wilkinson, Noyori, Knowls catalyst of Ruthenium and Rhodium – synthesis and uses its use in hydrogenation reactions-deallylation, C-C, C-O, C-N bond cleavages.
10.	KALE NILIMA RAMCHANDRA	Olefin metathesis by Ist and IInd generation catalyst, reaction mechanism and application in the synthesis of homo and heterocyclic compounds
11.	KHAN SIMRAN HAFIZ	An introduction to synthons and synthetic equivalents, disconnection approach, functional group inter-conversions, the importance of the order of events in organic synthesis, one group C-X
12.	KHOBRAGADE SUJATA SUNIL	Disconnection Approach:- two group C-X disconnections, chemoselectivity, reversal of polarity, cyclisation reactions, amine synthesis
13.	MOTAMWAR RAKSHA P.	One Group C-C Disconnections: Alcohols and carbonyl compounds, regioselectivity, alkene synthesis, use of acetylenes and aliphatic nitro compounds in organic synthesis
14.	PRADHAN SUNITA KAVIRAJ	C)Two Group C-C Disconnections: Diels-Alder reaction, 1,3-difunctionalised compounds, $\alpha,\beta$ -unsaturated carbonyl compounds, control in carbonyl condensations,
15.	RANDIVE PRIYANKA BABAN	Two Group C-C Disconnections:- 1,5-difunctionalised compounds, Michael addition and Robinson annelation, Methods of ring synthesis
16.	SHARMA NIRAJ RAJKUMAR	Stereochemistry of Grignard addition to carbonyl compounds, o-metallation of arenes using organolithium compounds.
17.	SHARMA SRIYA V.	Applications of $\text{Co}_2(\text{CO})_8$ , $\text{Ni}(\text{CO})_4$ , $\text{Fe}(\text{CO})_5$ in organic synthesis.
18.	SHEIKH NIDA MOHD JAKIR	Two Group C-C Disconnections: Diels-Alder reaction, 1,3-difunctionalised compounds, $\alpha,\beta$ -unsaturated carbonyl compounds, control in carbonyl condensations
19.	SINGH PRITEE K.	One Group C-C Disconnections: Alcohols and carbonyl compounds, regioselectivity, alkene synthesis, use of acetylenes and aliphatic nitro compounds in organic synthesis
20.	TAJNE ASHWINI DAMODAR	1,5-difunctionalised compounds, Michael addition, and Robinson annelation, Methods of ring synthesis

**Sardar Patel Mahavidyalaya, Chandrapur**  
**Post Graduate Department of Chemistry**  
**Subject: Organic Chemistry Special II**  
**Internal Assignment**  
**M.Sc-Sem IV Session 2018-19**

<b>Sr. No</b>	<b>Name of Students</b>	<b>Internal Assignment topic</b>
1.	BURHAN JUHI V.	INTRODUCTION & HISTORICAL PERSPECTIVE, CHEMICAL & BIOLOGICAL CATALYSIS, REMARKABLE PROPERTIES OF ENZYME LIKE CATALYTIC POWER, SPECIFICITY, & REGULATION, NOMENCLATURE & CLASSIFICATION.
2.	CHOUDHARI DARSHANA P.	EXTRACTION & PURIFICATION, FISCHER'S LOCK & KEY & KOSHLAND'S INDUCED FIT HYPOTHESIS, CONCEPT & IDENTIFICATION OF ACTIVE SITE BY THE USE OF INHIBITORS.
3.	DHAKATE ASHWINI D.	AFFINITY LABELLING & ENZYME MOIFICATION BY SITE- DIRECTED MUTAGENESIS. BAKER'S YEAST , APPLICATION OF ENZYMES IN FOOD & DRUG CHEMISTRY.
4.	DHODARE PUJA D.	TRANSITION STATE – STATE THEORY, ORIENTATION & STERIC EFFECT, ACID –BASE CATALYSIS, COVALENT CATALYSIS, STRAIN OR DISTORTION.
5.	DURATKAR PRANJALI A.	EXAMPLE OF SOME TYPICAL ENZYME MECHANISMS FOR CHYMOTRYPSIN, RIBONUCLEASE, LYSOZYME,& CARBOXYPEPTIDASE A.
6.	GAOTURE ANKITA K.	CO-FACTOR AS ERIVE FROM VITAMINS, COENZYMES, PROSTHETIC GROUP, APOENZYMES. STRUCTURE & BIOLOGICAL FUNCTIONS OF COENZYMES A, THIAMINE PYROPHOSPHATE.
7.	GHAROTE PRIYANKA D.	PYRIDOXAL PHOSPHATE, $NAD^+$ , $NADP^+$ , FMN, FAD, LIPOIC ACID, VITAMIN B <sub>12</sub> .
8.	GHUGGUSKAR RAJKUMAR S.	SYNTHESIS OF PYRAZOLE, ISOTHIAZOLE & ISOXAZOLE, NUCLEOPHIC & ELECTROPHILIC SUBSTITUTIONS REACTION.
9.	HAKIM JASMIN J.	SYNTHESIS OF IMIDAZOLES, THIAZOLES , & OXAZOLES. NUCLEOPHILIC & ELECTROPHILIC REACTION.
10.	KALE NILIMA R.	SYNTHESIS OF INDOLE, BENZOFURAN & BENZO- THIOPHENE. NUCLEOPHILC, ELECTROPHILIC & RADICAL SUBSTITUTIONS.
11.	KHAN SIMRAN H.	SYNTHESIS OF QUINOLINE, ISOQUINOLINE,NUCLEOPHILIC ELECTROPHILIC & RADICAL SUBSTITUTIONS. ADDITION REACTION; INDOLE RINGS IN BIOLOGY.
12.	KHOBRADE SUJATA S.	STRUCTURAL & CHEMICAL PROPERTIES SYNTHESIS OF PYRIDAZINES, PYRIMIDINES, PYRAZINES; NUCLEOPHIC & ELECTROPHILIC SUBSTITUTIONS.
13.	MOTAMWAR RAKSHA P.	PRIMARY, SECONDARY & TERTIARY STRUCTURE OF DNA; DNA REPLICATION & HEREDITY.
14.	PRADHAN SUNITA K.	STRUCTURE & FUNCTION OF MRNA, T-RNA, rRNA.
15.	RANDIVE PRIYANKA B.	PURINES & PYRIMIINE BASES OF NUCLEIC ACIDS & THEIR PREPARATION.
16.	SHARMA NIRAJ R.	FATTy ACIDS, ESSENTIAL FATTY ACIDS, STRUCTURE & FUNCTIONS OF TRIGLYCEROLS, GLYCOPHOSPHO LIPDS.
17.	SHARMA SRIYA V.	SPINGOLIPIDS, LIPOPROTEIN, COMPOSITION & FUNCTION, ROLE OF ATHEROSCLEROSIS. PROPERTIES OF LIPID AGGREGATES, MICELLS , BILAYERS, LIPOSOME & THEIR BIOLOGICAL FUNCTIONS.
18.	SHEIKH NIDA MO. J.	BIOLOGICAL MEMBRANES, FLUID MOSAIC MODEL OF MEMBRANE STRUCTURE, LIPID METABOLISM, B- OXIDATION.
19.	SINGH PRITEE K.	STRUCTURE DETERMINATION, SYNTHESIS & BIOSYNTHESIS OF VITAMIN A, E,H.
20.	TAJNE ASHWINI D.	SYNTHESIS & APPLICATION OF BENZOCAINE , METHYL DOPA , DILANTIN.

**Sardar Patel Mahavidyalaya, Chandrapur**  
**Post Graduate Department of Chemistry**  
**Subject: Polymer Chemistry,**  
**Internal Assignment Distribution**  
**M. Sc. – Sem.IV Session-2018-2019**

<b>Sr. No.</b>	<b>Name of Student</b>	<b>Internal Assignment topic</b>
1.	Burhan Juhi V.	Addition chain polymerization, free radical, ionic polymerization
2.	Choudhari Darshana p.	Step polymerization electro polymerization, ring opening polymerization
3.	Dhakate Ashwini D.	Technique of polymerization -emulsion suspension and bulk polymerization
4.	Dhodare Puja D.	Coordination polymerization, mechanism of Ziegler Natta polymerization
5.	Duratkar Pranjali D.	Steriospecific polymerization interfacial polycondensation mechanism of polymerization
6.	Gaoture Ankita K.	Electronic, IR, NMR, spectral methods for characterization of polymer (block and graft)
7.	Gharote Priyanka D.	Thermal method –TGA, DTA ,DSC, thermomechanical and X-ray diffraction
8.	Ghughuskar Rajkumar S.	Block and graft copolymer , random ,block, graft copolymer and method of copolymerization
9.	Hakim Jasmin J.	Biomedical polymer -contact lens
10.	Kale Nilima R.	Biomedical polymer -Dental polymer artificial heart
11.	Khan Simran H.	Biomedical polymer -Kidney and skin
12.	Khobragade Sujata S.	Inorganic polymer -synthesis and application of silicone, phosphorus and sulphur containing polymer
13.	Motamwar Raksha P.	Coordination polymer synthesis and application of coordination polymer
14.	Pradhan Sunita K.	Addition chain polymerization, free radical, ionic polymerization
15.	Randive Priyanka B.	Step polymerization electro polymerization, ring opening polymerization
16.	Sharma Niraj R.	Technique of polymerization -emulsion suspension and bulk polymerization
17.	Sharma Sriya V.	Coordination polymerization, mechanism of Ziegler Natta polymerization
18.	Sheikh Nida J.	Steriospecific polymerization interfacial polycondensation mechanism of polymerization
19.	Singh Pritee K.	Electronic, IR, NMR, spectral methods for characterization of polymer (block and graft)
20.	Tajne Ashwini D.	Thermal method –TGA, DTA ,DSC, thermomechanical and X-ray diffraction