

# I – Academic Planner

## A. Teaching Plan (Year: 2021-2022 Semester: Odd)

Teacher's Name: Mr. Deepak Kumar

Department: Chemistry

Sl. No.	UPC	Paper Name	Core/AECC/GE/SEC	Topic/Unit	Start Date	End Date
1.	42177925	B.Sc (Prog.) Physical Science Sem IV(Theory)	Chemistry of d-Block Elements, Quantum Chemistry and Spectroscopy (DSC-11)	Brief discussion with examples of types of ligands, denticity and concept of chelate.	15/09/2021	
		Same	Same	IUPAC system of nomenclature of coordination compounds (mononuclear and binuclear) involving simple monodentate and bidentate ligands.	16/09/2021	
		Same	Same	Structural and stereoisomerism in complexes with coordination numbers 4 and 6	29/09/2021	
		Same	Same	Valence Bond Theory (VBT): Salient features of theory, concept of inner and outer orbital complexes of Cr, Fe, Co and Ni. Drawbacks of VBT.	06/10/2021	
		Same	Same	Splitting of d orbitals in octahedral symmetry. Crystal field effects for weak and strong fields. Crystal field stabilization energy (CFSE), concept of pairing energy		
		Same	Same	Factors affecting the magnitude of $\Delta$ . Spectrochemical series. Splitting of d orbitals in tetrahedral symmetry. Comparison of CFSE for octahedral and tetrahedral fields.		
		Same	Same	tetragonal distortion of octahedral geometry, Jahn-Teller distortion, square planar coordination		
2.	42177915/16	B.Sc (Prog.) Analytical Chemistry Sem IV(Theory)	Analytical Biochemistry DSC-1	Basic understanding of the structures and properties of carbohydrates, biological importance of carbohydrates,	16/09/2021	
		Same	Same	Monosaccharides: Constitution and absolute configuration of glucose and fructose, epimers	17/09/2021	
		Same	Same	anomers, mutarotation, Haworth projections and conformational structures; Structure elucidation of glucose and fructose (Fischer's proof) Interconversions of aldoses and ketoses	30/09/2021	
		Same	Same	Fischer synthesis and Ruff degradation	07/10/2021	
		Same	Same	Disaccharides – Structure elucidation of maltose, lactose and sucrose, Polysaccharides – Elementary treatment of starch, cellulose and glycogen	14/10/2021	
		Same	Same	$\alpha$ -Amino Acids - Classification and characterization, Zwitterions, pKa values, isoelectric point and electrophoresis;	21/10/2021	
		Same	Same	Proteins: Classification, Primary, secondary and tertiary structures of proteins, test for proteins, isolation, characterization, biological importance; denaturation of proteins.	28/10/2021	
		Same	Same	Enzymes: Nomenclature, classification, characterization, mechanism of enzyme action, factors	04/11/	11/11/



**B. Outstation Field visits for students**

<b>Project Name / Paper Name</b>			
<b>Destination</b>		<b>Travel Mode</b>	
<b>Departure Month</b>		<b>Return</b>	
<b>Faculty-in-Charge</b>		<b>Number of Students going</b>	

**C. Internal Assessment: House Exam (Test/Presentation etc.) & Assignment\***

<b>Course Code</b>	<b>Course Name</b>	<b>Unique Paper Code</b>	<b>Topic Name</b>	<b>Day and Date</b>	<b>Date/s of Exhibiting the Assessment Sheet to students, Discussing the marks, Returning/Retaining</b>

\*Marks of the Internal Assessment to be submitted to the College 15 days before the last working day of every semester