DISCIPLINE: Biotech	SEMESTER: 5th	NAME OF THE TEACHING FACULTY: SWETANGINI NAIK
SUBJECT: (Th-4) Biochemistry	NO. OF DAYS/ PER WEEK CLASS ALLOTTED: 04	FROM DATE: 14-07-2025 TO DATE: 15-11-2025 NO. OF WEEKS: 15
WEEK	**CLASS DAY**	**THEORY TOPICS**
1st	1st	About organic Chemistry
	2nd	Basics of Biochemistry
	3rd	Functions of Carbohydrates
	4th	Structure and function of monosaccharides
2nd	1st	Structure and function of disaccharides
	2nd	Structure and function of polysaccharides
	3rd	Proteoglycans
	4th	Glycoprotein with glycolipids
3rd	1st	Some commercially important carbohydrates
	2nd	Amino acids, Peptides and proteins
	3rd	Structure and function of amino acids
	4th	Classification of amino acids
4th	1st	Functional group of amino acids
	2nd	Biological activity of small peptides
	3rd	Biosynthesis of amino acids
	4th	Structure and function of protein
5th	1st	Different types of protein with respect to their structure and function
	2nd	Nucleotides and Nucleic Acid
	3rd	Structure and function of nucleotides
	4th	Properties of nucleotide bases that affect the structure of nucleic acid
6th	1st	Chemistry of nucleic acid
	2nd	Structure of nucleic acid
	3rd	Lipids and Fats
	4th	Storagelipids.
7th	1st	Structurallipids
	2nd	Lipids with specific biological activities
	3rd	Lipid Bilayer
	4th	Amphipathicnature of membrane lipids that form the bilayer.
8th	1st	Role of lipid in plasma membrane
	2nd	Function of protein
	3rd	Nucleotide and nucleoside formation
	4th	About DNA structure
9th	1st	DNA synthesis
	2nd	RNA structure
	3rd	RNA synthesis
	4th	Protein synthesis
10th	1st	Chemistry of nucleic acid
	2nd	Properties of nucleotide bases
	3rd	Structure of nucleic acid
	4th	Test 1

11th	1st	Storage lipid & Distructural lipids
	2nd	Biological function of lipid
	3rd	Test 2
	4th	Plasma membrane structure
12th	1st	Plasma membrane functions
	2nd	Cell and biosynthesis
	3rd	Amphipathic nature of membrane
	4th	Adipose tissuer
13th	1st	Fat biosynthesis
	2nd	Mono- glycerides & Di-glyceride structure
	3rd	Lipid bilayer & Lipid biosynthesis
	4th	Determination of pH color comparison pH meter determination of PKa value
14th	1st	Qualitative tests on carbohydrates and proteins
	2nd	Estimation of total sugar by anthrone method
	3rd	Estimation of reducing sugar by Benedict's test
	4th	Fatty acid titration
15th	1st	Verification of Beer Lambert's law
	2nd	Determine iodine value of different fat samples
	3rd	Quantify amino acid using ninhydrin reaction
	4th	Test 3