

# TEACHING PLAN FOR THE ACADEMIC YEAR: 2023-24

DEPARTMENT: Biochemistry

S. No	Faculty Name	Name of the paper	Sem	Month	Topics/Units	Proposed plan	Executed
1	Dr. Abhijeet Mishra	Immunology	VI	January	Unit I	10 %	10 %
				February	Unit II and Partial Unit III	20%	20%
				March	Unit III and Unit IV	40%	40%
				April	Unit V and Unit VI Test and Assignment	30%	30%
				January	Partial Unit I	20%	20%
				February	Unit I	15%	15%
				March	Unit II	35%	35 %
				April	Unit VI Test and Assignment	30%	30%

**TEACHING PLAN FOR THE ACADEMIC YEAR: 2023-24****DEPARTMENT: Biochemistry**

S. No.	Faculty Name	Name of the paper	Semester	Month	Topics/Units	Proposed plan	Executed
1	Dr. Usha Yadav	Gene Organization, Replication and Repair	IV	Jan	Unit 1	30	Covered as planned
				Feb	Unit 2	30	Covered as planned
				Mar	Unit 3	20	Covered as planned
				Apr	Unit 4 Tests and assignments will be conducted simultaneously. Previous years Question papers will be discussed.	20	Covered as planned
		Advanced Methodologies (Sharing one fourth paper)	VI	Jan	Unit 2	40	Covered as planned
				Feb	Unit 2	30	Covered as planned
				Mar	Unit 2	30	Covered as planned
				Apr	Revision of Unit 2	100	Covered as planned



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					Tests and assignments will be conducted simultaneously. Previous years Question papers will be discussed.		
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**ICT Tools used: PowerPoint presentations, Blackboard teaching, YouTube videos of related topics.**



TEACHING PLAN FOR THE ACADEMIC YEAR:

DEPARTMENT Biochemistry, Shivaji College  
Even Semester 2023-24

S. No.	Faculty Name	Name of the paper	Semester	Month	Topics/Units	Proposed plan	Executed
	Dr. Jayale Thakur	Genetic Engineering & Biotechnology	VI	January	Unit 1 Complete	16.6%	16.6%
				February	Unit 2 complete Unit 3 begin	33.3%	33.3%
				March	Unit 3 complete Unit 4 begin	33.3%	33.3%
				April		16.6%	16.6%
				May		Review	Review
		Ayurveda & Nutrition (VAT)	II	January	Unit I Begin	13.3%	13.3%
				February	Unit I Complete Unit II Begin	33.3%	33.3%
				March	Unit II Complete	20%	20%
				April	Unit III Complete	33.4%	33.4%
				May	Review		

Jay

TEACHING PLAN FOR THE ACADEMIC YEAR:

DEPARTMENT Biochemistry, Shivaji College  
Even Semester 2023-24

S. No.	Faculty Name	Name of the paper	Semester	Month	Topics/Units	Proposed plan	Executed
	Dr. Jayla Thakur	Basic Concepts of Cell Biology	II	January	Unit I Complete	25%.	25%.
				February	Unit II Complete	25%.	25%.
				March	Unit III Complete	25%.	25%.
				April	Unit IV Complete	25%.	25%.
				May	Revise		
		Advanced Methodology	VI	January	Begin Unit I	25%.	25%.
				February	Complete Unit I Complete Unit II	40%.	40%.
				March	Begin Unit II (partial)	15%.	15%.
				April	Complete Unit II (partial)	20%.	20%.
				May	Revise		

Jayla

**TEACHING PLAN FOR THE ACADEMIC YEAR 2023-24 (EVEN SEMESTER)****DEPARTMENT: BIOCHEMISTRY**

S. No.	Faculty Name	Name of the paper	Semester	Month	Topics/Units	Proposed plan	Executed
01	Renu Baweja	Hormone Biochemistry and Function	IV	January	Partial Unit I	10%	10%
				February	Partial Unit I and Unit II	20%	20%
				March	Partial Unit II and Partial Unit III	40%	40%
				April	Partial Unit III and Unit IV Test and Assignment	30%	30%



TEACHING PLAN FOR THE ACADEMIC YEAR: 2023-24 (Even Semester)

DEPARTMENT Biochemistry

S. No.	Faculty Name	Name of the paper	Semester	Month	Topics/Units	Proposed plan	Executed
	Dr Shvetanki	Metabolism of Carbohydrates	II	January	Unit - I	15%	15%
				February	Unit - I	24%	24%
				March	Unit - II Unit - III	33%	33%
				April	Unit - IV	28%	28%
		Molecular Basis of Infectious Diseases	VI	January	Unit - III	15%	15%
				February	Unit - III	35%	35%
				March	Unit - V	40%	40%
				April	Unit - VI	10%	10%

Shvetanki

**TEACHING PLAN FOR THE ACADEMIC YEAR: 2023-24 (Jan. - Jun., 2024) B.Sc. (Hons.) Biochemistry-SEM II & VI**

**DEPARTMENT: BIOCHEMISTRY**

S. No.	Faculty Name	Name of the paper	Semester	Month	Topics/Units	Proposed plan	Executed
1.	Dr. Sunita Singh	Advanced Methodologies (BCH DSE-6)	SEM VI	Jan, 2024	UNIT IV: Cell Biology techniques-Cell culture and transfection, Immunohistochemistry.	30%	Completed 30%
				Feb, 2024	Immunofluorescence, Flow cytometry, FACS, TUNEL assay, Non-invasive scanning of soft tissue.  <b>Test and Assignment</b>	27%	Completed 27%
				March, 2024	UNIT V: Labeling methods-Radioactive and Non-radioactive labeling: DNA, Proteins, Whole cells.  <b>Presentations</b>	25%	Completed 25%
				April, 2024	Fluorescent labeling:DNA, Proteins, bacteria, living cells; Metabolic labeling, Pulse chase analysis.  <b>Revision, Test and Assignment</b>	18%	Completed 18%
		BCH-DSC-201: ENZYMES	SEM II	Jan. 2024	<b>Unit I:</b> Introduction to enzymes and features of catalysis, General characteristics, Ribozymes, apoenzyme, holoenzyme, Cofactor and prosthetic group. Classification & Types Features of enzyme	20%	Completed 20%



**TEACHING PLAN FOR THE ACADEMIC YEAR: 2023-24 (Jan. - Jun., 2024) B.Sc. (Hons.) Biochemistry-SEM II & VI**

**DEPARTMENT: BIOCHEMISTRY**

					catalysis, factors Affecting, Catalysis, reaction rates. Catalytic power and specificity of enzymes, Fischer's lock and key hypothesis, Koshland's induced fit hypothesis. Metal activated enzymes and metalloenzymes.		
				Feb. 2024	<b>Unit II: Enzyme kinetics and inhibition:</b> Relationship between initial velocity and substrate concentration, equilibrium constant, steady state kinetics, mono-substrate reactions. Derivation of Michaelis-Menten equation; other enzyme plots Determination of $K_m$ $V_{max}$ and $K_{cat}$ , specificity constant. Types of bisubstrate reactions, Reversible inhibition (competitive, uncompetitive, non-competitive and mixed) and irreversible inhibition. Structural analogs.  <b>Test and Assignment</b>	35%	<b>Completed 35%</b>
				March, 2024	<b>Unit III: Mechanism of action of enzymes and Regulation of enzyme activity:</b> General features - proximity and orientation, strain and distortion, acid-base and covalent catalysis (chymotrypsin). Coenzymes in enzyme catalyzed	30%	<b>Completed 30%</b>

# TEACHING PLAN FOR THE ACADEMIC YEAR: 2023-24 (Jan. - Jun., 2024) B.Sc. (Hons.) Biochemistry-SEM II & VI

## DEPARTMENT: BIOCHEMISTRY

					reaction, Control of activities of single enzymes and metabolic pathways, feedback inhibition, allosteric modulation, regulation by covalent modification, Zymogen Isoenzymes properties and physiological significance.		
					<b>Presentation, Test and Assignment</b>		
				April, 2024	<b>Unit IV: Applications of enzymes:</b> Enzymes as reagents, Marker enzymes in diagnostics, Enzyme linked immunoassay; Enzyme therapy; Enzymes in research. Immobilized enzymes.	15%	<b>Completed 15%</b>
					<b>Revision, Test and Assignment</b>		

**Dr. Sunita Singh**

Department of Biochemistry

Shivaji College, University of Delhi