SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
EVEN SEMESTER
2025 - 26

Name of the Faculty : **Lieut. (Dr.) Kameshwar Sharma YVR, Assistant Professor (AL-12)**
Department : Biochemistry
Semester : Even Semesters (II, IV, VI)

Month		Topics	Course	Paper Code/ Name
January	**Theory**	• **Mobilization of TG** • **Metabolism of Glycerol** • **Beta Oxidation of Saturated FA, Mono – Unsaturated FA and Poly-Unsaturated FA; Even and Odd Chain FA**	B.Sc. Hons. Biological Science	UG Sem IV Metabolism and Integration
	Tutorial			
	Practical	1. **Estimation of Glucose – GOD POD method** 2. **OGTT Experiment** 3. **TG Estimation and Lipid Profile**		
	Theory	**NCC General** **Aims and Objectives** **Incentives for NCC Cadets** **Duties of NCC Cadets** **Types of Camps and Conducts**	**VAC II**	**Paper: VAC II** **National Cadet Crops**
	Tutorial			
	Practical	**Drill** **Squad Drill** **Positions**		
	Theory	Overview of Bioinformatics and its applications in biology.	**PGDiploma in Molecular and Biochemical Technology** **I/Sem II**	**PGDMB 201** **Biophysical Techniques -II**
	Tutorial			
	Practical	Introduction to Bioinformatics · J mol/Pymol and Java		

February	**Theory**	• **Ketogenesis and Significance** • **Biosynthesis of C-16 Palmitic Acid**	B.Sc. Hons. Biological Science	**Paper:** Sem IV Metabolism and Integration
	Tutorial			
	Practical	Estimation of SGOT and SGPT Estimation of Urea and Uric Acid		
	Theory	**National Integration** **Importance and Necessity** **Unity in Diversity**	**VAC II**	**Paper: VAC II** **National Cadet Crops**
	Tutorial			
	Practical	**Field Craft and Battle Craft**		
	Theory	Databases & types of biological databases. · Structure and Sequence Databases with examples	**PGDiploma in Molecular and Biochemical Technology** **I/Sem II**	**PGDMB 201** **Biophysical Techniques -II**
	Tutorial			
	Practical	Primary sequence analyses (Protparam) and Secondary structure prediction (GOR, nn Predict). · Tertiary structure prediction (SWISSMODEL). Protein structure evaluation - Ramachandran map (PROCHECK)		
March	**Theory**	**Amino Acid Metabolism** ✓ **Transamination and Deamination** ✓ **Urea Cycle**	B.Sc. Hons. Biological Science	**Paper:** Sem IV Metabolism and Integration
	Tutorial			
	Practical	Estimation of TG, HDL, LDL and Cholesterol · Estimation of Serum Creatinine		
	Theory	**Personality Development Factors, Self-awareness and Empathy**	**VAC II**	**Paper: VAC II**

				National Cadet Crops
	Tutorial			
	Practical	**DST practice and Salute (Right and Left), SSCD Activities**		
	Theory	**Squad Drill** **DST, Rifle details**	**VAC NCC IV**	**VAC NCC-IV**
	Tutorial			
	Practical	**Squad Drill** **DST** **And Positions**		
	Theory	Bioinformatics Sequence alignment & phylogeny · Similarity, identity and homology. · Concept of Alignment – local and global alignment, pairwise and multiple sequence alignments, · amino acid substitution matrices (PAM and BLOSUM), BLAST and CLUSTALW, · Definition of phylogeny and its importance, · Methods of Phylogenetic tree generation, Phylip	**P G Diploma in Molecular and Biochemical Technology**	**Biophysical Techniques -I**
	Tutorial			
	Practical	BLAST suite of tools for pairwise Alignment · Multiple sequence alignment (CLUSTALW/TCoff ee) and construction of guide trees Gene prediction using GENSCAN/GLIMMER		
	Internal Class Test	Class Test	**B.Sc(H) Biological sciences - Sem III**	Paper: **SBS DSC-302 Protein structure and Enzymology**
	Internal Class Test	Class Test		
	Internal Class Test			
April	**Theory**	• **Glucogenic and Ketogenic Amino acids**	B.Sc. Hons.	**Paper:**

		• **Secondary Metabolites from Amino acids** **Nucleotide Metabolism** • **De novo and Salvage Pathways and Degradation** • **Inborn Errors of Metabolism** • **Phenylketonuria** • **Alkaptnuria** • **Maple Syrup** • **Lesch-Nyhan Syndrome** Overview and Metabolic Integration: Starved feed cycle, Metabolic shifts in absorptive, post absorptive, fasting and starvation states.	Biological Science	Sem IV Metabolism and Integration
	Tutorial			
	Practical	1. **Estimation of Urea and uric acid**		
	Theory	**SSB preparatory training by experts and interactive sessions.**	**VAC II**	**Paper: VAC -II** **National Cadet Crops**
	Tutorial			
	Practical	**DST practice and Salute (Right and Left), SSCD Activities Conduct of Continuous assessment**		
	Theory	**Map Reading and Outreach Activity**	**VAC NCC IV**	**VAC NCC-IV**
	Tutorial			
	Practical	**DST Practice and Outreach SSCD Activities**		
	Theory	Genomics · Introduction to genomics, comparative and functional genomics, · gene structure in prokaryotes and eukaryotes, · Genome annotation, gene prediction approaches and tools	**PGDiploma in Molecular and Biochemical Technology** **I/Sem II**	**PGDMB 201** **Biophysical Techniques -II**
	Tutorial			
	Practical	Revision or Repeat of practical exercises		

Signature of the teacher
26-04-2026