

Curriculum plan (Even Semester 2022-23)

Teacher Name: Dr. K. Vandana Rani

Paper name: ZH Core course X: Biochemistry of Metabolic Processes

Class type: Theory

Paper shared with: NA

Unit to be taken	Allocated lectures	Month wise schedule to be followed	Tests/ Assignments/ Revision/ Presentations etc
Unit 1: Carbohydrate Metabolism Sequence of reactions and regulation of i) glycolysis, ii) Citric acid cycle, iii) Phosphate pentose pathway, iv) Gluconeogenesis, v) Glycogenolysis and vi) Glycogenesis	9	i) 6.08.2024/ 7.08.2024 ii) 13.08. 202/ 14.08.2024 iii) 20.08.2024/21.08.2024 iv) 27.08.2024 v) 28.08.2024 vi) 3.09.2024	
Unit2: Lipid Metabolism i) β -oxidation and omega -oxidation of saturated fatty acids with even and ii) odd number of carbon atoms; iii) Biosynthesis of palmitic acid; iv) Ketogenesis	7	i) 4.09.2024 ii) 10.09.2024-11.09.2024 iii) 17.09.2024-18.09.2024 iv) 24.09.2024	Tests/ assignment
Unit 3: Protein Metabolism i) Transamination ii) Deamination iii) Urea Cycle	4	i) 25.09.2024 ii) 1.10.2024 iii) 15.10.2024-16.10.2024	
Unit 4: Oxidative Phosphorylation i) Review of electron Transport Chain ii) Basics of electron transfer reactions iii) Universal electron acceptors iv) Electron flow through complexes v) Chemoosmotic theory vi) Basics of ATP synthesis	7	i) 22.10.2024-23.10.2024 ii) 05.11.2024-06.11.2024 iii) 12.11.2024 iv) 13.11.2024	Tests/ presentation
Unit 5: Liver as metabolic Hub i) Interconnection of Glucose 6 P ii) Pyruvate and Acetyl CoA, iii) Fates of amino acids fatty acids and Glucose in liver cells iv) Cascades of metabolic events in Fasting and Starvation	3	i) 19.11.2024 ii) 20.11.2024 iii) 26.11.2024 Revision: 27 st Nov 2024 onwards	

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Signature

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Paper name: ZH Core course X: Biochemistry of Metabolic Processes

Class type: Practical (G1+G2)

Paper shared with: Dr. Shikha Rani

Unit to be taken	Allocated lectures	Month wise schedule to be followed G2 Group	Tests/Assignments/ Revision/ Presentations etc
1. Estimation of total protein in given solutions by Lowry's method	4	05.08.2024	
2. Detection of SGOT and SGPT or in serum/ tissue	4	12.08.2024/02.09. 2024	
3.Detection of GST and GSH in serum/ tissues	4	09.09.24/16.09.24-	
4. To study the enzymatic activity of Lipase	4	23.09.2024/30.09.24	Presentation
5. Study of biological oxidation (SDH) [goat liver]	4	07.10.24/14. 10.24	
6. To perform the Acid and Alkaline phosphatase assay from serum/ tissue.	4	21.10.2024	
7. Dry Lab: To trace the labelled C atoms of Acetyl-CoA till they evolve as CO ₂ in the TCA cycle	4	04. 11.24	Viva
MOC exam & Revision		11.11.2024/18-25. 01.12.24	File Evaluation

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