

Course Number & Title: BT1101 Biochemistry	
L-T-P-C: 3-0-0-6	
Type of Letter Grading (Regular Letter Grades / PP or NP Letter Grades): Regular Letter Grades	
Kind of Proposal (New Course / Revision of Existing Course): New course	
Offered as (Compulsory / Elective): Compulsory	
Offered to: BTech in BSBE	
Offered in (Odd/ Even / Any): Any	
Offered by (Name of Department/ Center): BSBE	
Pre-Requisite: Nil	
Preamble / Objectives (Optional):	
Course Content/ Syllabus	
Structure and function of biomolecules : Protein, carbohydrate, lipid; Enzymes: structure, mechanism and reaction kinetics; Basic concept and design of metabolism; carbohydrate metabolism: glycolysis, gluconeogenesis, citric acid cycle, pentose phosphate pathway, glycogen metabolism, oxidative phosphorylation; photosynthesis; Nitrogen fixation; fatty acid metabolism; protein: synthesis, targeting and turnover; biosynthesis of amino acids and nucleotides; Integration of metabolisms; hormones; Introduction to signal transduction pathways	
Texts:	
1.	D.L.Nelson and M.M.Cox, Lehninger, Principles of Biochemistry, 8th Ed., W H Freeman & Co., 2021.
2.	J. L. Tymoczko, J. M. Berg and L. Stryer, Biochemistry, 10th Ed., W. H. Freeman, 2023.
References:	
1.	W. W. Parson, D. E. Vance and G.L.Zubay, Principles of Biochemistry, Wm. C. Brown Publishers, 1995.
2.	K. Murray, D. K. Granner, P.A. Mayes and V. W. Rodwell, Harper's Biochemistry, 30th Ed McGraw Hill, 2015.