No.	Information of the subject	
1.	Unit name:	Biochemistry I
2.	Code:	Bio T 31012
3.	Classification:	Core subject
4.	Credit value:	3.5
5.	Semester/Year Offered:	1/3
6.	Pre-requisite:	Bio T 21011& Bio T 22011
7.	Mode of delivery:	Presentations, Lectures
8.	Assessment system and breakdown of marks:	Practical, Classwork, Exams
	Participation in Practical, Classwork and discussion	30%
	Mid-term exam	35%
	Final exam	35%
9.	Academic staff teaching unit:	Department of Biotechnology
10.	Course outcome of unit: After completion of this course, students will be able to 1. Understand the importance of high energy compounds, electron transport chain and apply basic principles of chemistry to biological systems and molecular biology 2. Explain biological mechanisms, such as the processes and control of bioenergetics and metabolism, as chemical reactions for synthesis of ATP under aerobic and anaerobic conditions 3. Describe the synthesis and breakdown of glycogen and how the processes are regulated 4. Acquire knowledge related to the role of TCA cycle in central carbon metabolism 5. Learn basic concepts of Bioenergetics, mechanisms of oxidative phosphorylation and substrate level phosphorylation.	
11.	Synopsis of unit: The course includes basic concepts of Bioenergetics by studying overview of metabolism, the provision of metabolic fuels and synthesis of ATP under aerobic and anaerobic conditions. This course also provides the basic principles of biochemistry in metabolism including the role of glycolysis and gluconeogenesis; the citric acid cycle and oxidative phosphorylation.	
12.	Topics 1. Introduction to Metabolism 2. Glucose Catabolism 3. Glycogen Metabolism and Gluconeogenesis 4. Citric Acid Cycle 5. Electron Transport and oxidative phosphorylation	
13.	Main reference: • Donald Voet, Judith G. Voet, Charlotte W. Pratt, '**Fundamentals of Biochemistry'**, 4th Edition, John Wiley & Sons, Inc.	
14.	Additional references: • David L. Nelson and Michael M. Cox, **'Principles of Biochemistry'**, 6th Edition, W. H. Freeman and Company, New York	