2015/16 YEAR 1ST SEMESTER DENTISTRY
PROGRAM OF BIOCHEMISTRY

WEEK	DATE	LECTURE	PRACTICE
1	Aug 31- Sept 4.	Proteins and bioenergetics: structure and function of proteins, thermodynamics of living systems	
2	September 7-11.	Enzymology: enzyme classes, coenzymes, characterisation of enzymes, isoenzymes, multienzyme systems	General information, work safety, principles of lab work Determination of protein concentration
3	September 14-18.	Enzymology: molecular mechanism of catalysis, enzyme kinetics, modulation and regulation of enzyme activity	Substrate specificity and temperature optimum of amylase enzyme activity
4	September 21-25.	Carbohydrate metabolism: Digestion and absorption of carbohydrates, glycolysis, pyruvate dehydrogenase enzyme complex, gluconeogenesis	
5	Sept 28- October 2.	Carbohydrate metabolism: Fructose and galactose metabolism, glycogen metabolism, pentose phosphate cycle and glucuronide shunt	Assay of activity of alkaline phosphatase
6	October 5-9.	Carbohydrate metabolism: regulation of blood glucose level, glycoproteins	
7	October 12-16.	Lipid metabolism: Eicosanoids, digestion and absorption of lipids, lipoprotein metabolism	Determination of glucose-6-phosphatase activity
8	October 19-22.	Lipid metabolism: lipid mobilisation, oxidation of fatty acids, ketone bodies, diabetes mellitus **1st MTO** (separate timing)	
9	October 26- 30	Lipid metabolism: Synthesis of fatty acids, synthesis of triacyl glycerols and phospholipids, sphingolipids, cholesterol and steroid metabolism	
10	November 2-6.	Amino acid metabolism: Digestion and absorption of proteins, catabolism of essential amino acids, fate of amino group, urea cycle	Determination of triacyl glycerol and cholesterol

11	November 9-13.	Amino acid metabolism: metabolism of non-essential amino acids, fate of carbon skeleton of amino acids, one-carbon units, glutathione Synthesis of hem and porphyrine, enterohepatic circulation of hem degradation products	
12	November 16-20.	Nucleotide metabolism: synthesis and degradation of purine and pirimidine nucleotides, salvage pathways, synthesis of deoxyribonucleotides	
13	November 23-27.	Citric acid cycle: steps and regulation of the cycle, relationship between the cycle and other metabolic pathways	Investigation of the oxygen consumption of isolated mitochondria
14	Nov 30- Dec 4	Mitochondrial transport systems, mechanism of respiratory chain and oxidative phosphorylation	Nucleotide metabolism Determination of uric acid concentration