

Department of Biochemistry

| Vocabulary of the curriculum of the dept. of Biochemistry for the academic year 2011-2012 | | | |
|---|-------------|-------|-------------|
| Lecture | No. of Hour | | No. of Unit |
| | Theo. | Prac. | |
| 1 st Stage | 60 | 60 | 6 |
| 3 rd Stage | 90 | 60 | 8 |
| Total | 150 | 120 | 14 |

| Vocabulary of the curriculum of dept. of Biochemistry 1 st stage for the academic year 2011-2012 | | | | |
|---|-------------|-------|-------------|---|
| Lecture | No. of Hour | | No. of Unit | Article |
| | Theo. | Prac. | | |
| Inorganic and analytical chemistry | 15 | 15 | 1.5 | 1.Radioactivity and medical uses of radioactive isotopes 2.Acids,bases and salts of medical interests 3.The pH concept,acid-base balance. 4.Solutions and methods of expressing concentrations 5.Buffers and buffer systems of physiological importance 6.Colloidal Chemistry and biological systems, dialysis and living systems 7.Ions in living system and :ther importance |
| Organic Chemistry | 15 | 15 | 1.5 | 1.Isomerism ,stereoisomerism chirality (optical isomerism and geometrical isomerism). A relationship to medical activity of organic compounds and living system. 2.Alcohols(Oxidation and toxicity to(human) 3.The chemistry of carbonyl compounds (aldelydes &ketons) 4.Carboxylic acids and some of thir derivatives (urea,amides,esters...etc) 5.Sulphur compounds (sulpha drugs) |
| Biochemistry | 6 | 10 | 0.7 | 1- Carbohydrates Biological importance of carbohydrates The three dimensional structures of monosaccharides. Disaccharides . Mucopolysaccharides and connective tissues Bacterial cell walls. |
| | 6 | 10 | 0.7 | 2.lipids Biological roles of lipids. Fatty acid ,classification and reactions Prostaglandins ,thromboxanes and leukotrienes Phospholipids . |

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| | | | | Steroids ,sex hormones and oral contraceptives Plasma lipoproteins and membranes |
| | 6 | 10 | 0.7 | 3. Proteins and amino acids Titration curves of amino acids Reactions of amino acids . Biological activity of peptides . Determination of amino acids sequences of polypeptides Structural levels of proteins . Globular and fibrous proteins. |
| | 4 | 0 | 0.3 | 4. Nucleic Acids Classification . Role of nucleic acids in protein synthesis Nucleic acids and viruses. |
| | 8 | 0 | 0.6 | 5. Enzymes Definition and classification Factors affecting enzymatic reactions Enzymes specificity . Enzymes kinetics and mechanism of action . Regulation of metabolic pathways. Enzymes inhibition. Enzymes in clinical diagnosis Enzymes and genetic diseases. |
| Total | 60 | 60 | 6 | |

| Vocabulary of the curriculum of dept. of Biochemistry 1 st stage for the academic year 2011-2012 | | | | |
|---|-------------|-------|-------------|---|
| Lecture | No. of Hour | | No. of Unit | Article |
| | Theo. | Prac. | | |
| Vitamins and Coenzymes | 8 | 6 | 0.7 | general aspects of vitamin nutrition vitamin deficiency, toxicity and therapeutic use physiological actions of fat soluble vitamins vitamin A , D,E,K metabolism physiological actions of water soluble vitamins vitamin B complex metabolism vitamin C |
| Digestion and Absorption | 6 | 6 | 0.7 | carbohydrate proteins fats |
| Minerals and Trace Elements | 4 | 8 | 0.7 | Ca, P, Mg Fe, iron deficiency anemia Cu, Zn, Se |
| Biochemistry of Hormones | 8 | 14 | 1 | classification of hormones biochemical actions of hormones mechanisms of hormonal action regulation of hormonal secretion regulation of hormonal actions hormone resistance types of endocrine dysfunction |
| Metabolism of Carbohydrates | 14 | 8 | 1 | glycolysis and gluconeogenesis glycogen synthesis and glycogenolysis biological oxidation, citric acid cycle oxidative phosphorylation, respiratory chain |

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|---|----|----|-----|---|
| | | | | hexose monophosphate shunt hexose monophosphate shunt and favism factors maintaining blood glucose level types of hypoglycemia types and diagnosis of diabetes mellitus glycogen storage disease lactic acidosis |
| Metabolism of Lipid | 10 | 6 | 0.9 | classification of lipids B-oxidation and fatty acid biosynthesis ketogenesis and ketoacidosis phospholipid metabolism cholesterol metabolism lipoprotein metabolism bile acid metabolism and gall stones |
| Metabolism of Lipid Metabolism of Amino acids and Proteins | 10 | 4 | 0.8 | amino acids classifications general properties of proteins catabolism of amino acids and urea cycle catabolism of phenylalanine and tyrosine inborn errors of amino acid metabolism chemistry of neurotransmitters porphyrin metabolism and porphyria |
| Nucleic acid Metabolism | 14 | 4 | 1.1 | general properties of nucleic acids metabolism of purine and pyrimidine types and functions of nucleic acids protein synthesis and genetic code hyperuricemia and gout |
| special topics | 16 | 4 | 1.1 | clinical enzymology liver function test renal function test |
| Total | 90 | 60 | 8 | |

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