

ACADEMIC YEAR 2012 – 2013 ONWARDS

EXTRA DISCIPLINARY PAPERS (BIOCHEMISTRY AND MEDICAL BIOCHEMISTRY)

PAPER- I BIOCHEMISTRY IN HUMAN HEALTH

HOURL:4

CREDIT: 4

UNIT – I

Carbohydrate – Source of carbohydrates, Importance of carbohydrates in living organisms, Normal level of sugar in humans, Diabetes mellitus and its complications in human .Control and prevention of diabetes mellitus .Mucopolysaccharidosis,Lactose and Fructose intolerance.

UNIT – II

Proteins –Sources of proteins and amino acids. Importance of proteins in living organisms. Normal level of proteins in human. Protein deficiency disease-Kwashiorkor and Merasmus Protein quality .Inborn error of amino acids metabolism.

UNIT – III

Fatty acids - Source of fats and importance of fats and lipids in living organism and. Role of LDL, VLDL, HDL and chylomicrons in human body. Normal levels of cholesterol Hypercholesterolemia and role of cholesterol in Blood pressure. Atherosclerosis and Heart attack. Prevention and control of heart related diseases

UNIT – IV

Vitamins –Source of water soluble and fat soluble vitamins. Deficiency disorders of Vitamins and importance of vitamins in humans.

UNIT – V

Minerals – Source and deficiency disorders of calcium, magnesium, sodium, potassium, phosphorus, Iron, Iodine in humans. Prevention and control of Anemia.

REFERENCE BOOKS

- Text book of Medical Physiology –Guyton.A.C
- Human Physiology by Chatterjee
- Food facts and principles,Shakuntala Manay
- Deb .A.C., Fundamentals of Biochemistry, Books and allied (p) Ltd,2002.
- Essentials of Biochemistry Sathyanarayanan.U. Books and allied (p) Ltd,2002
- Biochemistry Ambika shanmugam

PAPER -II HUMAN PHYSIOLOGY AND NUTRITION

HOURL:4

CREDIT: 4

UNIT – I

Nervous and Muscular system:

Outline of nervous system, structure of neuron, types of neuron, neurotransmitters. Conduction of nerve impulse transmission, synaptic transmission. Muscle –Biomedical importance, Unit of muscle, Actin, Myosin. Neuro muscular junction. Reflex action.

UNIT – II

Respiratory and Circulatory system:

Types of respiration. Outline of respiratory system, respiratory pigments, Transport of O₂ and CO₂. Factors affecting oxygen dissociation curve and Carbon dioxide dissociation curve. Chloride shift..

Circulatory organs, composition of blood, systemic, portal and pulmonary circulation, Heart beat, Cardiac cycle, origin and conduction of heart beat, Regulation of heart beat, human heart, coronary circulation, ischemic heart disease, ECG, Blood pressure and Cardiac output.

UNIT – III

Introduction on Nutrition:

Food factors for human being. Nutritional classification, foods, protein and energy requirements. Nutritive value of protein. Protein calorie malnutrition in children. Determination of energy value of foods. Physiological energy value and gross energy value of foods.

Basal metabolism: Definition, determination of basal metabolic rate (BMR). Standards of BMR. Factors affecting BMR, Specific dynamic action (SDA) and respiratory quotient.

UNIT – IV

Digestive and Excretory system:

Outline of digestive system. Mechanical digestion, Buccal, gastric and Intestinal digestion. Role of liver in digestion. Intestinal glands, hormonal control of digestion. Absorption and assimilation.

Structure of kidney and ultra structure of nephron. Formation and composition of urine. Outline of excretory system. Micturition.

UNIT – V

Nutritional consequences and Dietary Allowances.

Protein malnutrition, Deficiency Disease of Vitamins and Minerals (Iron, sodium, potassium, fluoride, magnesium and calcium.)

Infant nutrition, nutrition for preschool children, school children, adolescents, pregnant and lactating mothers. Industrial workers. Geriatric nutrition and Lathyrism. Obesity: Aetiology and occurrence, physiological regulation of foods intake assessment, complication, treatment and prevention of obesity. Therapeutic diets.

REFERENCE BOOKS

- Food Science ,Potter
- Text book of Medical Physiology –Guyton.A.C
- Human Physiology by Chatterjee
- Food facts and principles,Shakuntala Manay
- Modern nutrition in Health and disease ,Robert S.Goodhart,Maurice ,E.Shils
- Review of Medical Physiology by Ganong .W.F
- Concise Human Physiology ,Sukkar.M.y,EI-Munshid.H.Aand Ardawi.M.S.M.
- Human nutrition and dietetics,S.Davidson and J.R.Passmore
- Modern nutrition in health and disease,Whol& Good hart
- Human nutrition and dietetics I.S. Garraw ,W.P.T.James

PAPER - III HOSPITAL MANAGEMENT AND MEDICAL CODING

HOURL:4

CREDIT: 4

UNIT – I

Introduction on Hospital management: Eligibility and personal skills required for Hospital management .Job opportunities in Hospital management. Important hospital management Institutes in India and World . Hospital management. Concept of Modern Hospital & Privatization in Health Sector, Public Sector Hospitals and Level of care / offered facilities, Effects of Globalization in Health care,□ Concept of Corporate Hospital in developing countries,□ Infrastructure and lay out of an ideal corporate hospital,□ Functioning of modern hospitals & changing need of patients

Hospitality in Hospital Care,□ Invasive and non-invasive diagnostic facilities in modern hospital

Care offered in Specialty and Super specialty Hospitals,

UNIT – II

Hospital management system : Benefits of Hospital management systems ,Modules of Hospital management system .Interfacing of analyzer Pathology lab management.Radiology ,Blood Bank ,Pharmacology management softwares

UNIT – III

History of Medical Transcription: Drawbacks of MRP system, Advent of Medical Transcription .Web friendly operating system, Market information on companies.

What Medical Transcription does? Benefits in a nut shell. Planning on Medical Transcription set up .Induction and orientation

UNIT – IV

Impact of Medical Transcription: Medical Transcription impact on its stack holders .Impact during the implementation process.Impact on Departments,Organisation as whole ,Employment ,Nature of job ,Information access and Individual employees.Advantages in corporate entity ,Disadvantages .

UNIT – V

Medical Transcription implementation : Medical Re engineering ,Choosing appropriate transcription ,Customise to suit the changes . Medical Transcription : Best practices ,Costs,Failure ,Gap analysis. Implementation ,Life cycle . Medical Transcription- Trouble and their solutions.

REFERENCE BOOKS

Hospital Management module II- NIHFWS, New Delhi
Hospital Administration – G. D. Kunders
Hospital Administration - Tabish