RASHIDA IQBAL FINANCIAL AID ORGANIZATION

GUIDELINES FOR THE SUBJECT OF BIOCHEMISTRY -1ST YR PROFESSIONAL EXAMS

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IMPORTANT QUESTIONS AND TOPICS FOR MBBS 1ST PROFESSIONAL PART-I (BIOCHEMISTRY)

CARBOHYDRATES :-

- DEFINITION,
- CLASSIFICATION,
- OPTICAL ISOMERISM, EPIMERISM WITH EXAMPLES,
- STEREO ISOMERISM,
- MUTA ROTATION ,
- REDUCTION OF SUGARS FORMING ALCOHOL AND ITS USE,
- FORMATION OF GLUCONIC GLUCURONIC AND GLUCARIC ACID ,
- LEVOROTATION ,

- LEVULOSE ,STARCH AND CELLULOSE STRUCTURES ,
- DEXTRANS ,
- ANY GAG CAN APPEAR IN THE EXAM ,
- HEPARIN ,
- PROTEOGLYCANS V/S GLYCOPROTEINS

PROTEINS :-

- CLASSIFICATION OF AMINO ACIDS ,
- 21ST AMINO ACID ,
- NON STANDARD AMINO ACIDS,
- PEPTIDE BOND ,
- COLLAGEN V/S ELASTIN ,
- OSTEOGENESIS IMPERFECTA ..
- MARFAN'S SYNDROME...
- ELHER DANLOS SYNDROME ,
- FUNCTIONAL CLASSIFICATION OF PROTEINS,
- STRUCTURE OF PROTEINS (IN DETAIL) ,
- FACTORS MAINTAINING TERTIARY STRUCTURE OF PROTEIN,
- DIFFERENCES BETWEEN HELIX AND BETA SHEETS,
- BENCE JONES PROTEINS ,
- AMYLOIDOSES,PRION

LIPIDS :-

- CLASSIFICATION OF FA,
- OMEGA 3 AND OMEGA 6 FA ,
- SAPONIFICATION ,
- RANCIDITY ,
- SAPONIFICATION NUMBER ,
- IODINATION NUMBER ,
- TRIGLYCERIDES (IN DETAIL) ,
- GLYCOSPHINGOLIPIDS ,
- RDS AND SURFACTANT ,
- STRUCTURE OF CHOLESTEROL ,

- FUNCTIONS OF CHOLESTEROL ,EICOSANOIDS,-SAPONIFICATION NO ,
- IODINE NO ,
- ESSENTIAL FA,
- CHOLESTROL ESTER,
- PG WITH INDIVIDUAL FUNCTIONS *CONSULT DR FARMAN'S NOTES

ENZYMES :-

- DEFINITION,
- PROPERTIES OF ENZYMES,
- TURNOVER RATE ,
- CLASSIFICATION OF ENZYMES ,
- INDUCTION AND REPRESSION OF ENZYME SYNTHESIS,
- ISOZYMES (IMPORTANT),
- FACTORS EFFECTING ENZYME ACTIVITY ,
- ALLOSTERIC ACTIVATION AND INHIBITION,
- TABLE 6-3 IN MUSHTAQ VOL 1 ,
- DISEASES AASSOCIATED ,
- INHIBITORS AND THEIR TYPES ,
- ELEVATION OF DIFFERENT ENZYMES IN MI,
- MICHELLIS MENTON EQUATION ,
- ALL MODELS

*NO NEED TO DO THE CO ENZYMES ... JUST REMEMBER THEIR NAMES

VITAMINS :-

- THE TABLE OF VITAMINS FROM LIPPIN MUST BE MEMORIZED,
- THE TABLE OF VITAMIN DEFICIENCIES FROM MUSHTAQ VOLUME 2 ,
- HYPERVITAMINOSIS A AND D ,
- MECHANISM OF ACTION OF VITAMIN A,
- DIFFERENCE BETWEEN RICKETS AND OSTEOMALACIA,
- VITAMIN A VISION CYCLE,
- VITAMIN D ACTIVE FORM (MCQS),

- MOST TOXIC VITAMIN (VITAMIN D) AND LEAST TOXIC (VITAMIN E),FUNCTIONS OF VITAMIN D,
- ANTIOXIDANT ROLE OF VITAMINS,
- PELLAGRA (MOST IMPORTANT)*,
- BIOTIN DEFICIENCY *,
- FOLATE TRAP *,
- DEFICIENCY SYMPTOMS OF B 12,SCURVY , BERI BERI ,
- NIGHT BLINDNESS ,
- EFFECT OF VIT D ON CALCIUM METABOLISM

CELL MEMBRANE :-

- STRUCTURE OF CELL MEMBRANE,
- FUNCTIONS OF CELL MEMBRANE ,
- DRUGS THAT EFFECT MOVEMENT OF IONS ACROSS CELL MEMBRANE,
- DIFFUSION V/S FACILITATED DIFFUSION,
- DIFFUSION V/S ACTIVE TRANSPORT,
- TYPES OF ACTIVE TRANSPORT ,
- CYSTIC FIBROSIS,
- DEFINING OSMOSIS ,OSMOTIC PRESSURE ETC. ,
- DONNAN'S EQUILIBRIUM ,
- HYPER VISCOCITY SYNDROME (NOT IMP BUT CAN BE ASKED)

SIGNAL TRANSDUCTION :-

- DEFINITION,
- INTRACELLULAR SIGNALLING PATHWAYS AND MECHANISM OF EACH
- CAMP IS THE MOST IMPORTANT
- BIO MEDICAL IMPORTANCE OF SIGNALLING MECHANISMS

NUTRITION AND OBESITY :-

- ALL STANDARD DEFINITIONS AND THEIR NORMAL VALUES,
- DEFINITION OF BALANCED DIET,
- BODY FAT DEPOSITION ,
- ANDROID AND PEAR SHAPED OBESITY ,
- BMI ,
- NUTRITIONAL DISEASES ,
- KWASHIORKAR V/S MARASMUS,
- STATIN DRUGS
- GOOD AND BAD FAT,
- DYSLIPIDEMIA,
- GLYCEMIC INDEX CURVES

NUCLEOTIDES AND NUCLEIC ACIDS :-

- NUCLEOTIDE,
- NUCLEOSIDE,
- DNA STRUCTURE,
- RNA STRUCTURE,
- DNA V/S RNA ,
- WATSON CRICK MODEL ,
- DNA TYPES,
- RNA TYPES ,
- PURINES V/S PYRIMIDINES,
- CHARGAFF RULE

BLOOD :-

- DRUGS EFFECT ON ALA SYNTHASE ACTIVITY ,
- PORPHYRIAS (VERY IMPORTANT)
- FIG 21.8 ,
- IN WHICH PORPHYRIA PATIENTS AREN'T PHOTOSENSITIVE,
- JAUNDICE,
- TYPES OF JAUNDICE,
- NEONATAL JAUNDICE AND WHY? ,

- VAN DEN BERGH REACTION,
- T AND R FORM OF HAEMOGLOBIN,
- ALLOSTERIC EFFECTS *
- IMPORTANT * ,2,3 BPG IN TRANSFUSED BLOOD, HB A2, HBA1C(IMP) , THALLASEMIAS IN DETAIL , OXYGEN DISSOCIATION CURVE , SICKLING , VARIABLES INCREASING SICKLING , HEMOSIDERIOSIS,WHY SICKLE CELL ANEMICS ARE LESS SUSCEPTIBLE TO MALARIA ?

MINERALS :-

- ANTIOXIDANT ROLE OF SELENIUM ,
- ZINC ,
- IRON TRANSPORT (THE ONE IN PHYSIO WOULD DO) ,
- IRON , CALCIUM, MAGNESIUM ,POTTASIUM ,
- THE DEFICIENCY OF WHICH MINERAL CAUSES IMPOTENCE

SEPARATION TECHNIQUES :-

- ELECTROPHORESIS,
- ELECTROPHORESIS OF PROTEINS ,
- ION ECHANGE RESINS,
- CHROMATOGRAPHY AND ITS TYPES

ACID BASE BUFFERS :-

- RESPIRAORY BUFFER SYSTEM ,
- PROTEIN BUFFERING ,
- ACIDOSIS ALKALOSIS (BOTH METABOLIC AND RESPIRATORY) THESE SHOULD BE DONE IN DETAIL .... GIVEN IN MUSHTAQ VOLUME 2 ,
- ANION GAP CELL :- THE CELL THAT YOU HAVE STUDIED IN PHYSIOLOGY WOULD DO ... NO NEED TO STRESS ABOUT IT

JAZZAKALLAH UL KHAIR FOR ALL YOUR SUPPORT AND TRUST
DONATE GENEROUSLY ... HELP THE ONES WHO NEED IT THE MOST
WE WILL BE HAPPY TO SERVE YOU ALL IN FUTURE.
DO REMEMBER EVERYONE IN YOUR PRAYERS

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