



RASHIDA IQBAL FINANCIAL AID **ORGANIZATION**

GUIDELINES OF BIOCHEMISTRY – 2ND YR

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

CARBOHYDRATE METABOLISM:-

****** PREPARE FROM LIPPINCOTT AND DO WATCH DR NAJEEB'S LECTURES ... THIS WILL HELP A LOT THE WHOLE METABOLISM WILL BE DONE IN 45 MINUTES IF U WATCH THOSE LECTURES AND APPROACH IT CONCEPTUALLY .CERTAIN TOPICS OR QUESTIONS CANNOT BE MARKED ON THE BASIS OF THEIR IMPORTANCE TO APPEAR IN EXAMINATION STILL SOME ARE REPEATED ... THE MOST REPEATED QUESTIONS ARE LISTED BELOW BUT ONE NEEDS TO PREPARE EVERYTHING IN METABOLISM-

- CYANIDE POISONING
- RBC SHUNT
- REGULATION OF GLYCOLYSIS
- ENERGY YEILD FROM GLYCOLYSIS (BOTH AEROBIC AND ANAEROBIC)

- FLOURIDE POISONING
- EFFECT OF RAT POISON
- REGULATION OF TCA CYCLE
- COMPONENTS OF DEHYDROGENASE COMPLEX ALONG WITH CO ENZYMES AND EFFECT OF NIACIN AND THYMININE DEFICIENCY –
- ENERGY YIELDING STEPS OF TCA CYCLE
- THE ADDITIONAL STEPS OF GLUCONEOGENESIS
- REGULATION OF GLYCOGEN SYNTHESIS AND GLYCOGENOLYSIS
- NADPH USES (V IMP).
- ENERGY YIELD FROM A SINGLE MOLECULE OF GLUCOSE
- INSULIN AND GLUCAGON EFFECT ON CHO MET
- GLYCOGEN STORAGE DISEASES NAMES AND ENZYMES DEFICIENT

LIPID METABOLISM :-

PREPARE FROM LIPPINCOTT CERTAIN TOPICS OR QUESTIONS CANNOT BE MARKED ON THE BASIS OF THEIR IMPORTANCE TO APPEAR IN EXAMINATION STILL SOME ARE REPEATED ... THE MOST REPEATED QUESTIONS ARE LISTED BELOW BUT ONE NEEDS TO PREPARE EVERYTHING IN METABOLISM

- CARNITINE SHUTTLE
- BETA OXIDATION
- OXIDATION OF EVEN AND ODD NO FATTY ACIDS
- KETONE BODIES * (VERY IMP NAMES....GENESIS ..LYSIS...DIABETIC KETO ACIDOSIS)
- RDS(RESPIRATORY DISTRESS SYNDROME)
- CHOLESTROL SYNTHESIS REGULATION
- COMMON STEPS IN CHOL SYNTHESIS AND KETONE BODIES SYNTHESIS
- SMITH-LEMIL-OPTIZ-SYNDROME(SLOS)
- PHAGOCYTOSIS (HDL)
- ENUMERATING APOLIPOPROTEINS AND FUNCTION OF EACH
- TANGIER'S DISEASE

- HDL SHUNT

ENDOCRINOLOGY:-

THE ENDO OF PHYSIO WOULD DO BUT IF YOU HAVE ENOUGH TIME DO GIVE A READ TO SATYA (ONLY 30 PAGES ARE WRITTEN THERE I THINK) THIS WILL HELP U TO BE CONFIDENT ABOUT THIS TOPIC AS WELL. GENRALLY EASY QUESTIONS THAT CAN BE SOLVED USING PHYSIOLOGY KNOWLEDGE ARE ASKED. SOME QUESTIONS ARE LISTED BELOW:

- THYROID HORMONES SYNTHESIS
- CATECHOLAMINE SYNTHESIS
- THYROTOXICOSIS

** FOR MCQS ONE MUST REMEMBER SOME REALLY IMPORTANT POINTS THAT ARE LISTED BELOW

- GH=191 AMINO ACIDS GH HAS 1 POLY PEPTIDE CHAIN WITH 2 INTRA CHAIN DI-SULPHIDE BONDS
- PROTEIN KINASE C IS ACTIVATED BY DAG
- INSULIN RECEPTOR IS A TETRAMER => 2 ALPHA + 2 BETA
- G PROTEIN IS TRIMER
- OXYTOCIN=>IP3 AND 2ND MESSENGER SYSTEM
- ANP=>cGMP
- PROLACTIN=198 AMINO ACIDS
- ACTH PRECURSOR =PRO-OPIO-MELANO-CORTIN
- ACTH=39 A.a
- CRH= 41 A.a
- hCG RESEMBLES LH
- IN THYROXINE TYROSINE RESIDUES ARE IODINATED AT POSITIONS 4 AND 6
- AMINO ACIDS THAT ARE RESPONSIBLE FOR ACTIVITY OF PTH= N-TERMINAL 34 AMINO ACIDS
- T1/2 OF PTH = FEW MINUTES
- CALCITONIN= 32 AMINO ACIDS
- INSULIN = ALPHA CHAIN (21 AA) + BETA CHAIN (30 AA)

- PRO INSULIN=78-86 AA
- PRE PRO INSULIN=105 AA INSULIN
- CRYSTALLIZATION OCCURS IN Zinc PRESENCE
- INSULIN DECREASES PEP CARBOXYCINASE SYNTHESIS
- GLUCAGON=29 AA
- CHIEF METABOLITE OF CATECHOLAMINES=VMA (VINYL MANDELIC ACID)
- NO 2ND MESSENGER FOR GLUCOCORTICOIDS
- SPIRONOLACTONE IS AGONIST OF ALDOSTERONE
- DIHYDROTESTOSTERONE IS MORE POWERFUL THAN TESTOSTERONE
- PROGESTERONE IS TRANSPORTED BY TRANSCORTIN
- GASTRIN=17 AA
- SECRETIN=27 AA
- GASTRIN ACTIVITY =>4 C TERMINAL AA
- GABA BINDS BRAIN AND INCREASES CHLORIDE PERMEABILITY
- INCREASED VMA LEVELS IN URINE INDICATOR OF PHEOCHROMOCYTOMA
- PHOSPHOLIPASE C ACTIVATED BY Gq PROTEINS

AIDS AND CANCER :-

THESE ARE TO BE PREPARED FROM SATYA JUST GIVE BOTH OF THEM.
THINGS THAT ARE ASKED ARE :-

- MODE OF AIDS TRANSMISSION
- AIDS TREATMENT
- AIDS MODE OF SPREAD
- STRUCTURE OF AIDS VIRUS IN CANCER
- DIFFERENCES B/W NORMAL AND CANCEROUS CELLS
- TUMOR MARKERS

WATER AND PH :- -

GIVE A READ FROM SATYA THE CAUSES OF BOTH METABOLIC AND RESPIRATORY ACIDOSIS AND ALKALOSIS ARE ASKED MORE OFTEN AND ALSO THE TABLE IN WHICH THE RELATION OF ACIDOSIS AND ALKALOSIS TO CO₂ AND HCO₃ RENAL BUFFERING OF ACIDOSIS AND ALKALOSIS IS VERY IMPORTANT (REPEATED MANY TIMES)

PROTEIN METABOLISM :-

THE CHAPTER OF UREA CYCLE SHOULD BE DONE FROM LIPPIN AND ALSO THE DISORDERS AND REST FROM SATYA (THE DISORDERS SHOULD ALSO BE DONE FROM SATYA)

- DRAWAING UREA CYCLE
- REGULATION OF UREA CYCLE
- AMMONIA TOXICITY (SIGNS SYMPTOMS AND MECHANISM) - GLUTATHIONE SYNTHESIS
- ALL DISORDERS FROM LIPPIN ESP THE FOLLOWING *PKU *ALKAPTONURIA *MALIC ACID DISEASE * ALBINISM
- CATECHOLAMINE SYNTHESIS
- THYROID HORMONE SYNTHESIS
- THE FATE OF DIFFERENT AMINO ACIDS *
- PRODUCTS OF GLYCINE
- PRODUCTION OF SPERMINE , SPERMIDINE AND PUTRESCINE AND THE FULL MECHANISM OF METHYLATION THAT IS REPRESENTED IN A DIAGRAM BEFORE IN SATYA

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GENETICS :-

DO THIS FROM LIPPIN ,THE FIRST 3 CHAPTERS ARE TO BE DONE COMPLETE AND FROM THE NEXT 2 YOU JUST NEED TO GO THROUGH PCR , LAC-OPERON , THE LAST TABLE IN LAST CHAPTER .ANY THING CAN BE ASKED FROM THE FIRST 3 CHAPTERS DO THE DEFINITIONS REALLY

WELL THE PROCESSES OF TRANSLATION, TRANSCRIPTION, DNA REPLICATION CAN BE ASKED IN WHOLE .

SOME OTHER QUESTIONS :- .

- PRE-PRIMING COMPLEX .
- DNA POLYMERASE TYPES .
- DNA REPAIR* .
- PROOF READING ACTIVITY .
- RNA POLYMERASE UNITS .MUTATIONS * .
- ADVANTAGES OF PCR .
- PRIMOSOME .
- POST TRANSCRIPTIONAL MODIFICATIONS ** .
- POST TRANSLATIONAL MODIFICATIONS

NUCLEOTIDE METABOLISM:-

THIS IS TO BE DONE FROM LIPPIN .SOME IMP QUESTIONS ARE LISTED BELOW :-

- PRPP SYNTHESIS
- GOUT
- LEISH-NYHAN SYNDROME

GIVE A READ TO THE REST , MAINLY THESE 3 QUESTIONS ARE ASKED .. MOSTLY DISORDERS

GIT :-

THE GIT OF PHYSIOLOGY WOULD BE MORE THAN ENOUGH JUST GIVE A READ TO THE COMPOSITIONS AND FUNCTIONS OF GI SECRETIONS AND ONE MORE THING, DO REMEMBER TO READ THE DIGESTION OF LIPID PROTEINS AND CHO IN GIT AN THEIR ABSORPTION SINCE IT IS MOSTLY SKIPPED IN PHYSIO

BIOENERGETICS AND OXIDATIVE METABOLISM :- -

ALL THE COMPLEXES NAMES -DRAWING FLOW CHART OF COMPLEXES
WITH THE INHIBITORS OF EACH -ATP SYNTHASE INHIBITORS -
UNCOUPLING PROTEINS -CHEMIOSMOTIC THOERY

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

