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ID = 16290

Program = Bs(OT) of
section "B"

Subject = Biochemistry.

Q No = 1

Ans::

Beta oxidation::

"Beta oxidation means in which fatty acid molecule are broken down to produce energy."

⇒ In eukaryotic cell it take place in mitocondsial matsix.

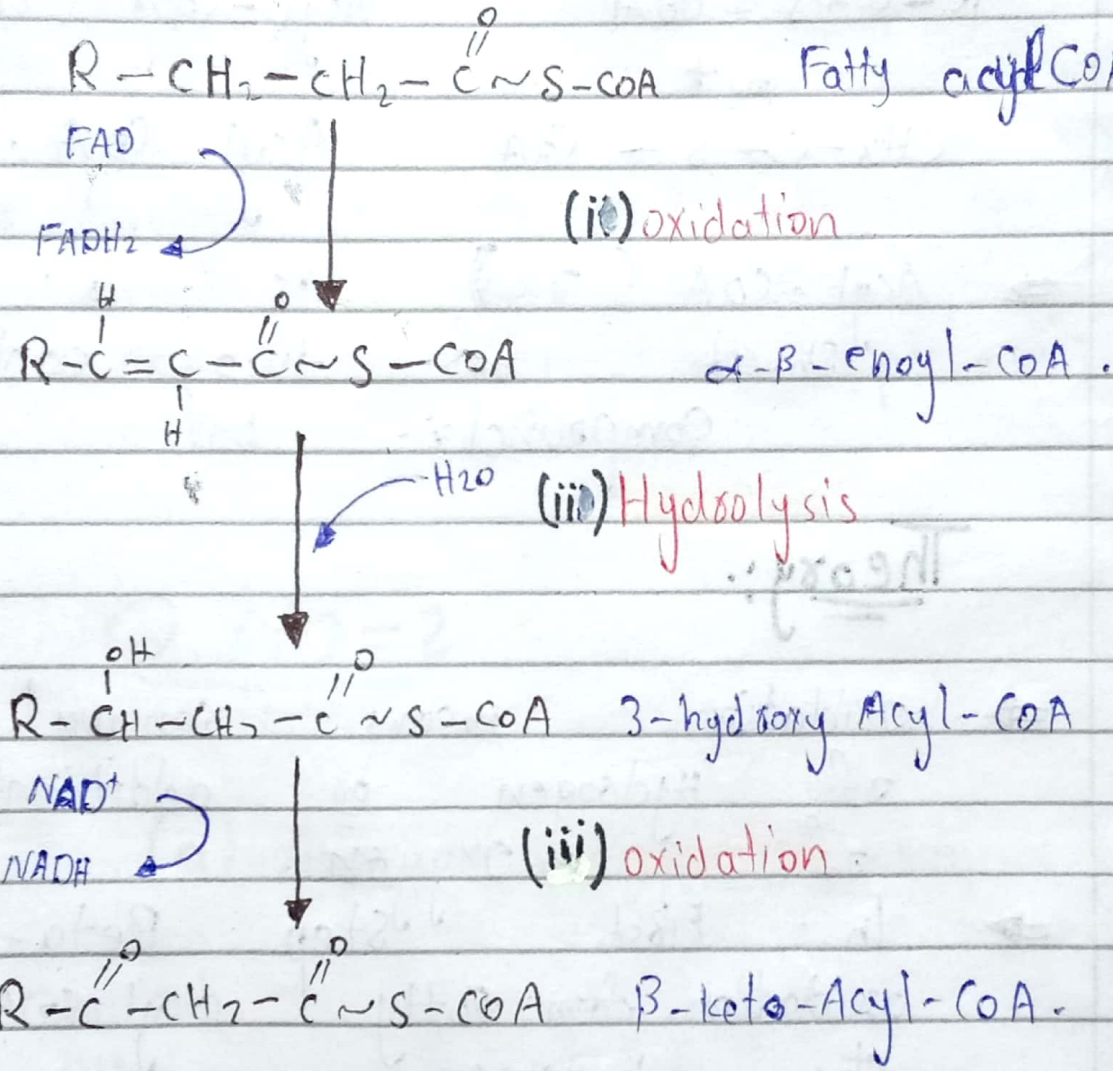
⇒ In Prokaryotic cell it happens in the Cytosol.

⇒ This oxidation take place on Beta carbon (2nd carbon) of fatty Acid.

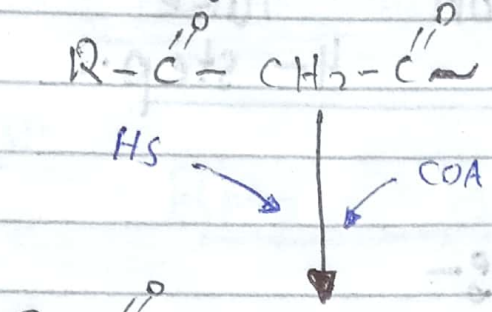
⇒ This take place on Four step.

Beta oxidation take place in 4- step:.

(i) Oxidation:-



(iv) Thiolysis:-



R-C(=O)~S-CoA Acyl-CoA (2c).

+

CH3-C(=O)~S-CoA Acyl CoA.

⇒ Acyl-CoA (2c) is a Short of two carbon Compound.

Theory:-

⇒ oxidation means removal of Hydrogen or addition of oxygen.

⇒ In First step Beta-oxidation from Fatty acyl CoA the hydrogen are remove from Beta Carbon. and then FAD is converted into $FADH_2$. So it converted into α-β enoyl CoA.

⇒ in second step Hydrolysis take place of α-β enol CoA

into 3-hydroxy Acyl CoA.

⇒ in 3rd step again oxidition take place of 3-hydroxy Acyl CoA. and NADH formation take place

⇒ Finally β-keto Acyl CoA are converted into Acyl CoA the called thiolysis. proceses

Q NO=2

Ans:.

(a) Alkaline phosphatase:.

Clinical Significance of Alkaline phosphatase are under below.

⇒ ALP is an enzyme Found in the liver and bone and is important for breaking down proteins.

⇒ if ALP is higher than normal range of the body than they cause Liver damage or disease. Such is blocked duct of Bile or Certain bone disease.

⇒ The body uses ALP for a wide range of process, and it play a particularly important role in liver function and bone development.

(b) Creatine kinase:

⇒ Creatin kinase (CK) is an enzyme found in the heart, brain, skeletal muscle, and other tissues.

⇒ Increased amount of CK are released into the blood when there is muscle demage. this

test measures the amount of creatine in the blood.

⇒ The Small amount of ck that is normally in the blood comes primarily from skeletal muscles. Any condition that damage muscle with interfers production energy Can use increase an diseases muscles high level of ck. by

(c) Gamma-glutamyl Transferase:-

⇒ Diagnosing and monitoring hepatobiliary disease, it is currently the most sensitive enzymatic indicator of liver disease.

⇒ Ascertaining whether observed elevation of alkaline phosphatase are due to skeletal

disease or reflect the presence of hepatobiliary disease.

⇒ A screening test for occult alcoholism.

⇒ The GGT test may be used to determine the cause of elevated alkaline phophatase. Both ALP and GGT are elevated in disease of the bile duct and in some liver disease, but only ALP will be elevated in bone disease.

Q No=3

Ans: In Electron transpost chain cotain various protein are involved. But these we define only 4- protein.

(i) FMN (Flavoprotein).
(ii) Fe.S (iron, sulphur protein).
(iii) Ubiquinone Q.
(iv) Cytochrome (cytochrome a, a^3, b, c)

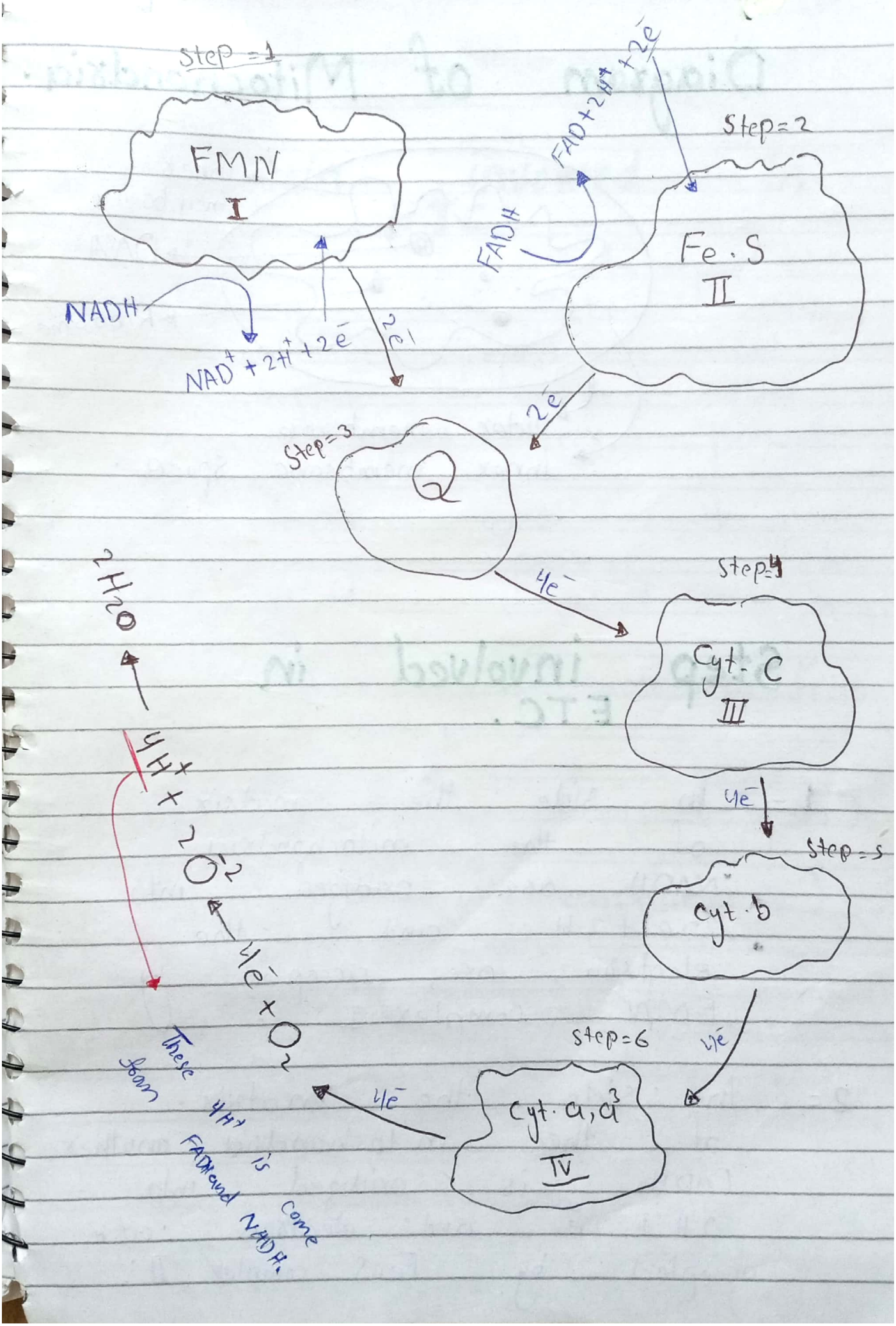
⇒ These protein are called complex and these divided into 4-complex.

How electron move in ETC

There are many way to define electron motion in ETC but we define him in some other way.

1 = In side the matrix of the mitochondria NADH ase oxidized into $2\bar{e} + 2H$ and the electron ase accepted by FMN complex I.

2 = In side the matrix of the mitochondria another $FADH_2$ is oxidized into $2H + 2\bar{e}$ and electron ase accepted by Fe.S complex II.



3 = Both from FMN and Fe-S two two electoon are accepted by ubiquinone

4 = These 4$\bar{e}$ are Fuothe accepted by Complex III cytochoome C

5 = These 4$\bar{e}$ are accepted by "cyt. b" which is come from "cyt. c".

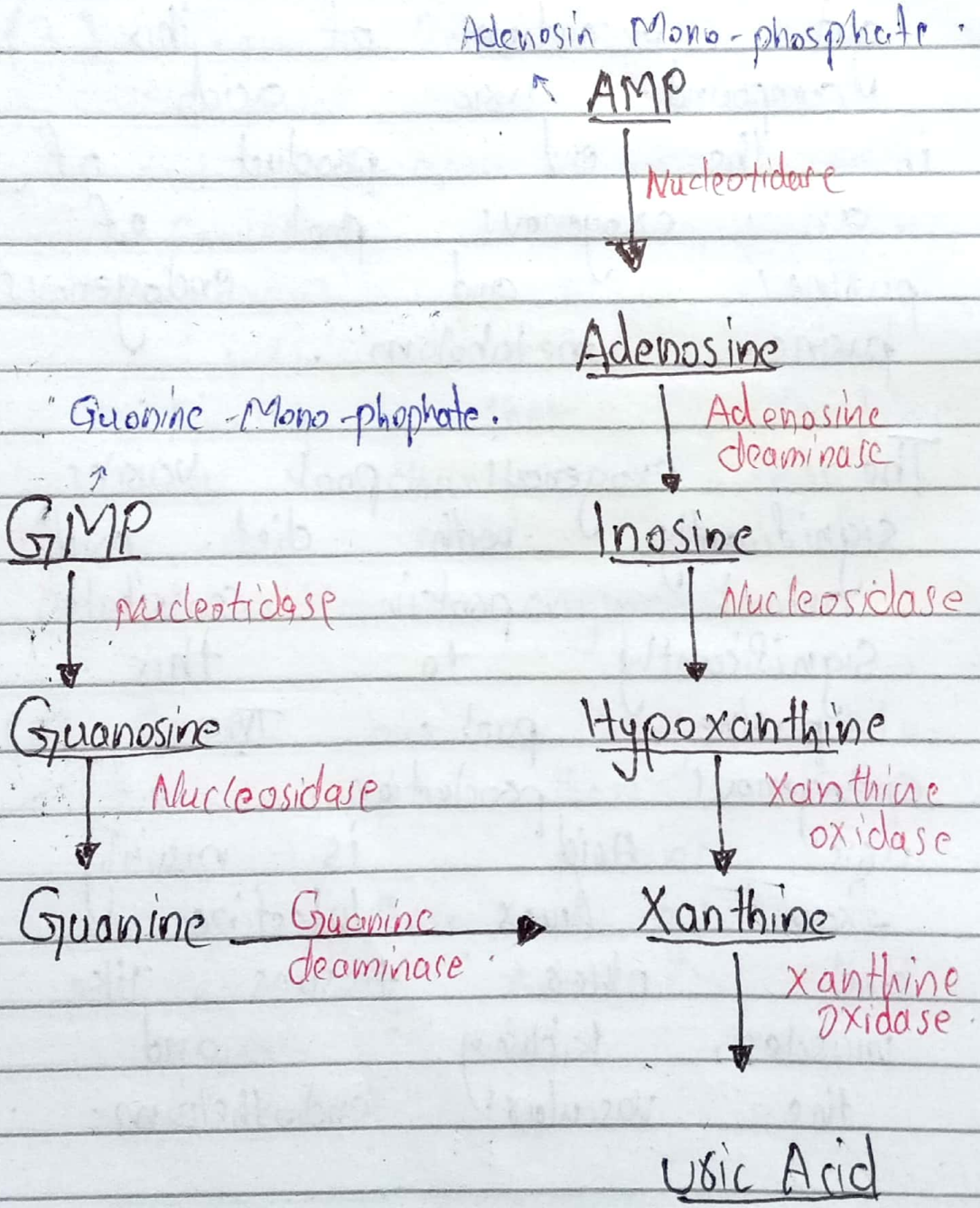
6 = From "cyt b" electoon are accepted by complex IV" by "cyt. a, a^{3}"

7 = These 4-electoon are accepted by one oxygen molecule and ceate negetive sigue on the oxygen. and these oxygen molecule are reduced by 4 H^{+} which is come from oxidized NADH and $FADH_2$. and than finally Two water molecule formation take place.

Q No = 4

Ans:

Step involved in Uric Acid formation:



Explanation:-

Uric acid production and metabolism are complex process involve various factors that regulate production. as well as renal and gut excretion of this compound. Uric acid is the end product of an exogenous pool of purines and endogenous purine metabolism.

The exogenous pool varies significantly with diet. and animal protein contribute significantly to this purine pool. The endogenous production of uric Acid is mainly from liver, intestine and other tissues like muscles, kidney and the vascular endothelium.

(1) AMP and GMP are purine.

(2) AMP are change into Adenosine by the action of enzyme in the liverse.

(3) Then Adenosin are Converted into inosine and these inosine are Converted into ipoxantine. ipoxantine are converted into Xantine and Finally is these Xantine change into usic Acid by the action enzyme.

(4) GMP are change into guanosine. these change into guanine and these guanine change xanthine and Finally into usic Acid.

⇒ usic Acid is more toxic than urea.

Q No = 5

Ans: The compound which is formed from Uric Acid is called purine.

⇒ Uric Acid is the last product of purine metabolism in humans.

⇒ The formation of Uric acid is through the enzyme xanthine oxidase, which oxidize oxypurines.

Normal range of uric Acid in human body

Normal Level of uric Acid is in

⇒ Male: 3.4 – 7.0 mg/dL

⇒ Female: 2.4 – 6.0 mg/dL

⇒ These normal values will very from Laboratory Also important to blood uric Acid levels are purines.

⇒ Most of it excreted in your urine or passes through your intestine to regulate "normal" level.