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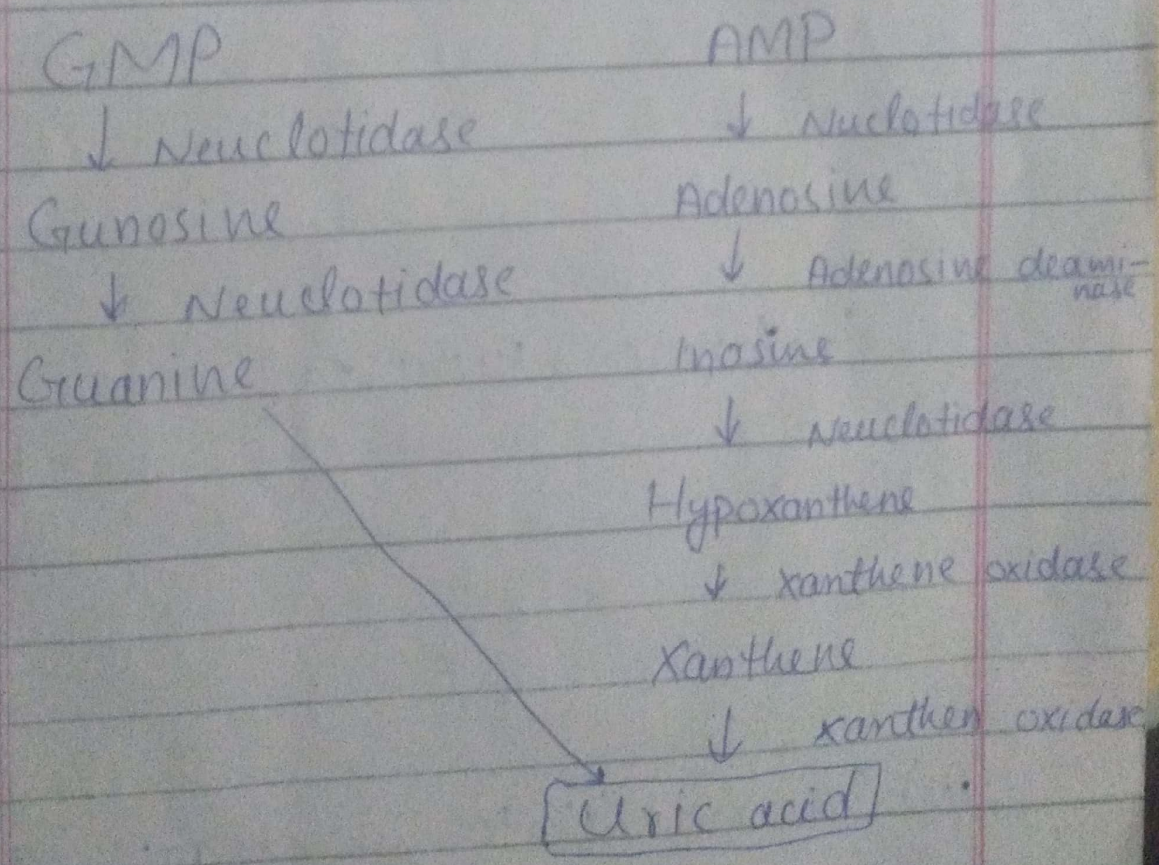
Section: B.

Q1 Write steps involve in uric acid formation.

ANS Uric Acid:-

Uric acid is a waste byproduct. It's formed when your body breaks down purines, which are found in some foods. Purines show up when cells die and get taken apart.

Step involve in uric acid formation:-



Uric acid is formed by

the breakdown of GMP and AMP ~~By~~ the which is shown in the above diagram.

Q2 Write down clinical significance of the following enzymes.

- i) Alkaline phosphate.
- ii) Creatinine Kinase.
- iii) Gamma-Glutamyl transperase:

ANS i) Alkaline phosphate:-

→ Use to show liver functions tests.

→ Indication of bone formation.

ii) Creatinine Kinase:-

→ Show myocardial infarction (heart attack).

→ Severe muscle breakdown.

→ Muscular dystrophy.

iii) Gamma-Glutamyl transperase:-

→ Use for liver function

test.

Q3 How many proteins are involve in electron transport chain and how do electron move in the electron transport chain?

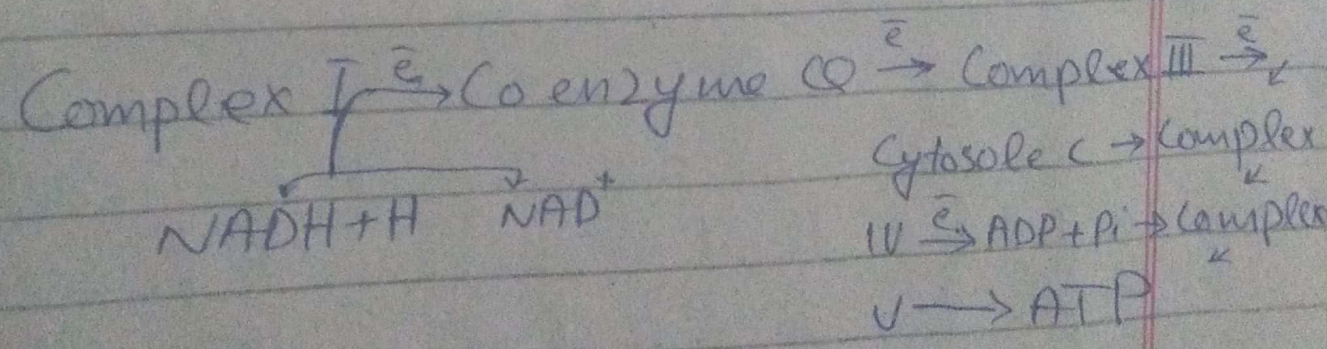
ANS Proteins involve in the Electron transport chain are in the form of complexes. There are 4 complexes.

Complex I \rightarrow NADH dehydrogenase

Complex II \rightarrow Succinate dehydrogenase

Complex III \rightarrow Ubiquinone - Cytochrome c reductase.

Complex IV \rightarrow Cytochrome oxidase.



(Q4) Write down the four steps involved in beta oxidation.

1st Dehydrogenation:

In the first step acyl CoA is ~~oxidized~~ oxidized by enzyme acyl CoA dehydrogenase.

A double bond is formed between the second and

third carbons (C_2 and C_3)

of the acyl-CoA chain entering the beta oxidation cycle.

The end product of this reaction is trans enoyl CoA

(Trans delta enoyl CoA)

Hydration

∴ In the second step the double bond between C_2 and C_3 of trans Δ enoyl CoA

is hydrated forming the end product β hydroxyl group

(OH) in C_3 . In place the double bond the reaction is

catalyzed by other enzymes.

(iii) Oxidation:

\therefore hydroxyl group
In C_2 of β -LB hydroxyl CoA
by NAD^+ in a reaction
that is catalyzed by β -hydroxyl-CoA dehydrogenase.
The end product \rightarrow Catalyzed
are β -ketoacyl CoA and
 $NADH + H^+$

(4) Thiolysis

\therefore finally in the 4th step
 β -ketoacyl CoA is cleaved
by thiol group (SH) of another
The enzyme that cleaved by
takes place b/w C_2 and C_3

Fatty acid

① ATP
AMP

↓ acyl Co-A Synthase
Acyl CoA

② FAD
FADH₂

↓ Acyl CoA dehydrogenase

③ →

enol CoA & Enol CoA hydrate
H₂O → ↓

3-Hydroxy acyl CoA

NAD
NADH

↓ hydrogenase
3-ketoacyl CoA

④ →

thiolase
↓
Acyl CoA Acyl CoA

25 How uric acid formation take place.

ANS Uric acid formation:

Uric acid is a waste product produce by metabolic waste product of purine. Base that is GMP and AMP.

"Xanthine oxidase is the main enzyme" involved in the uric acid formation and then uric acid is excreted in urine.

"Excessive production of uric acid in some abnormal condition cause Gout disease and kidney stone.

Normal unit of uric acid
is : 2.4 - 6.0 mg/dl (Female)
3.4 - 7.0 mg/dl (Male)