

Name:- Maaz Rahim

ID:- 15182

Final term

Marks 50

Attempt the following questions each carries equal marks

- 1) Write brief note on steroid hormone?

Ans1:- **Definitions**:- steroid hormones are steroids that act as hormones

Main classification

1. corticosteroids

2. sex steroids

On base of receptors classified as

1. glucocorticoids

2. mineralcorticoids

3) androgens

4. progesterones

Function:

Control metabolism

Has immune function

Development of sexual characteristics

Salt and water balance

Has ability to withdraw illness and energy

Mechanism:

Unbound steroids hormones are biologically active released and target site and enter cell due to hydrophilic nature

And inside cell steroid hormones are bind to intracellular receptors

.....
2) What is deamination and transamination?

Ans2:-**Transamination** :- it involves the transfer of amino group from an amino acid to a keto acid

For example..glutamate to alpha keto glutrate

The transfer of amino acid is catalyzed by a family of enzyme called transaminases

Transaminases are of two types

1)Alanine transaminase

2)aspartate transaminase

Significance of transaminase

1)are intracellular enzymes

2.)raised ALT level that is diagnostic for liver disease

3.)raised serum AST level that is diagnostic for cardiac diseases

Deamination:-

it means the removal of amino group from amino acid

The removed amino group is liberated as free ammonia

The amino acid from which amino group is removed is converted to its corresponding keto acid

It occurs mainly in liver

Types :

Oxidative deamination:-

Reactions are catalyzed by enzymes called amino acid oxidases in presence of oxygen

2) non oxidative deamination

These reactions do not require oxygen

.....
3) Write down the metabolism of protein?

Ans3:- **Definitions** :- various biochemical process responsible for synthesis of proteins and amino acids and breakdown of proteins by catabolism

Synthesis of protein:-

Take place in 2 steps

1.transcription it is transfer of genetic instructions in DNA to mRNA in nucleus

Steps involve are initiation elongation and termination

2.Translation

Steps in catabolism

Stage of digestion

Stage of energy released

Stage of energy stored

Catabolism involve 2 pathways .

1.glycolysis

2.citric acid cycle

Biochemical reactions in protein metabolism

1.transamination

2.deamination

3 transmethylation

4.transpeptidation

5.deamidation

6.decarboxylation

7.intraconversion of amino acid
.....

- 4) Explain briefly translation of DNA in eukaryotes?

Ans4:-**Definitions** :- it is the process that involve translating the sequence of a messenger RNA molecule to a sequence of amino acid during protien synthesis

Translation of DNA in eukaryotic take place in cytoplasm

Steps of DNA translation

1. Initiation ribosomes assemble around target mRNA, First tRNA attach at first codon

2. Elongation..the tRNA transfer amino acid to tRNA correspond to next codon

3. Termination..when tRNA encounter a stop codon then ribosomes folds polypeptide into a final structure

Importance of DNA translation

Spreading new information knowledge and ideas across the world

End product of translation is protien

-
- 5) Write down clinical significance of cholesterol?

Ans5:-1. it is the most abundant animal sterol

2. main component of cell membrane

3. it modulate membrane fluidity over range of physiological temperature

4. it maintain cell hemostatus

5. Maintain cell membrane rigidity

6. help in Vitamin d synthesis

7. it is precursor of bile acids and hormones

8. it is precursor of sex hormones and mineralcorticoids

9. it synthesis cholic acid which take part in synthesis of bile salts

10. under the skin 7-dehydro cholesterol is present which is converted to D3 by action of uv rays

11.its excess in body leads to following diseases

Atherosclerosis

Stroke

Heart attack

Hypothyroidism

Diabetes mellitus

Nephrotic syndrome