

PAPER -403

Long Question :

1. Write a note on synthesis of amino acids from PEP erythrose -4 -phosphate precursor family.
2. Write a note on synthesis of amino acids from Alpha keto glutarate precursor family.
3. Describe briefly the feedback control of amino acid biosynthesis.
4. Describe briefly the mechanism of biological nitrogen fixation and add a note on nodule formation in leguminous plants.
5. Explain the mechanism of sulphur uptake , assimilation and reduction.
6. Describe the regulation of enzyme activity.
7. What is Michaelis -menten equation ? Explain the Michaelis -menten equation with the determination of Km value.
8. What is enzyme inhibition ? Describe the mechanism of different types of enzyme inhibition with the determination of inhibition constant.
9. Write a note on synthesis of amino acids from 3 phosphoglycerate precursor family.
10. Write the feedback control of amino acid biosynthesis
11. Mechanism of action of lysozyme . mechanism of action of ribonuclease
12. Briefly describe the immobilization of enzymes.
13. Mechanism of single and bisubstrate catalyst.
14. Describe the mechanism of action of Lysozyme.
15. Describe the mechanism of action of Ribonuclease.
16. Write a summary on ubiquitin-proteases pathway.
17. Describe the activity of regulatory enzymes by reversible covalent modification.
18. What is Zymogen? What is the important role of zymogen? Describe the mechanism for activation of pancreatic zymogens.
19. Give an account of important properties of enzymes and explain the mechanism of enzyme action.

20. List some of the important factors which influence rate of enzyme reaction. Also explain as to how does this occur.

Short Question :.

(2mark /3 mark)

1. cumulative feedback control.
2. un-competitive inhibitors
3. Nif gene.
4. Nitrate assimilation
5. Ubiquitin-proteosome pathway.
6. Bi-substrate analysis
7. Covalent modification.
8. Mechanism of action of lysozyme.
9. What are Apoenzymes & coenzymes?
10. Enlist the functions of the enzymes?
11. What are the Isoenzymes?
12. Give the functions of the enzyme in any biochemical reaction.
13. Definition of enzymes and add a note on its types.
14. What is the optimum temperature and the optimum pH of an enzyme?
15. What are coenzymes? Explain their characteristics.
16. What are the activators?
17. What are the Ribonucleases?
18. Write short note on allosteric compounds.
19. Write short note on allosteric modulation.

Fill in the Blanks :

1. The equation of Line weaver -Burk is ____.
2. The rate determining step of Michaelis menten kinetics is ____.
3. The molecules which acts directly on an enzyme to lower it's catalytic rate is ____.
4. DIPF is an example of _____ inhibitor.
5. The catalytic efficiency of two distinct enzymes can be compared based on ____ factor.
6. The conformational change in an enzyme after the substrate is bound that allows the chemical reaction to proceed can be explained by ____.
7. NADH would function as a co-factor for ____ enzyme.
8. _____ amino acid is considered as both Ketogenic and glucogenic.
9. 3- phosphoglycerate is not the metabolic precursor for _____.
10. Pyruvate is the precursor for _____.
11. _____ is a non-essential amino acid.
12. _____ is the first stable product of nitrogen fixation in the root nodules of leguminous plants.
13. An aquatic fern that perform nitrogen fixation is _____
14. _____ prevent the inactivation of nitrogenase by oxygen
15. _____ element plays a key role in nitrogen fixation.
16. How many molecules of ATP is required to fix one molecule of nitrogen _____.
17. Anabena N₂ fixer is present in the root pockets _____
18. Conversion of nitrites to nitrates is called _____
19. _____ is known as oxygen scavenger.
20. The reaction of glutamate and NH⁴⁺ to yield glutamine is catalysed by _____
21. Coenzyme Q is involved in electron transport _____.
22. During electron transport the protons are pumped out of the mitochondria at each of the measure site except for _____

23. The nitrogen fixation is controlled by _____ gene and by _____ enzymes
24. The nod factor is recognized by special plant protein is know as _____
25. Which hormone stimulates the growth of nodulation factor _____

Multiple choice questions

- Enzymes are -----in nature.
 - Acidic
 - Proteinous
 - Basic
 - Neutral
- Enzymes are categorized in to -----type.
 - 1
 - 3
 - 2
 - 4
- The enzymes are classified into----- major groups.
 - 5
 - 6
 - 10
 - 12
- Enzyme shows maximum activity at temperature-----
 - 370-450°C
 - 600-750°C
 - 100-200°C
 - 850-950°C
- Ligases enzyme are also called as-----
 - Lysases
 - Cellulase
 - Proteases
 - Synthetase
- is the Unit of enzyme activity
 - Gm
 - Farady
 - ketal
 - S
- Enzymes are also called as-----
 - Biocatalyst
 - activators
 - Key of life
 - all the above
- In 1833 the word enzyme use by -----
 - Buchner
 - KUHNE
 - James sumner
 - Duclax
- Enzyme from fungi & plants are active in-----condition.
 - Basic
 - Acidic
 - Neutral
 - Alkaline
- Optimum temperature for most of the enzyme is between -----
 - 40°- 42°c
 - 30°- 35°c
 - 40°-45°c
 - 50°-52°c