

3. (a) Attempt any two of the following :-
- (i) Give the six major classes of enzymes and their functions. 4
 - (ii) Explain enzyme specificity with respect to - 4
 - (A) Group specificity
 - (B) Linkage specificity.
 - (iii) What is inhibition of enzyme activity ? Explain what is competitive inhibition. 4
 - (iv) Discuss the mechanism of chymotrypsin-catalyzed hydrolysis of a peptide bond. 4
- (b) Attempt any one of the following :-
- (i) Explain Fischer's Lock and Key model for the study of enzymatic activity. 4
 - (ii) How does substrate concentration affect the enzyme catalyzed reaction ? 4
4. (a) Attempt any two of the following :-
- (i) Explain acetate pathway. 4
 - (ii) How is mevalonic acid biosynthesized ? 4
 - (iii) Give the general principles involved in the biosynthesis of steroids. 4
 - (iv) Give the biosynthesis of ephedrine. 4
- (b) Attempt any one of the following :-
- (i) How is shikimic acid biosynthesized ? 4
 - (ii) Give the biosynthesis of citronellol from mevalonic acid. 4
5. Attempt any four of the following :-
- (a) Explain why solubility is a very important factor in drug action. 3
 - (b) What is the relevance of structure activity relationship studies in 'lead modification' ? 3
 - (c) Give the structure and importance of adenosine triphosphate. 3
 - (d) Write the structures of the four nucleosides in DNA and write the primary structure of the DNA molecule. 3
 - (e) Explain the role of acid-base catalysis in an enzymatic process. 3
 - (f) How does strain or distortion affect enzyme catalyzed reactions ? 3
 - (g) Explain the following terms :- 3
 - (i) Biogenesis
 - (ii) Secondary metabolites.
 - (h) Give the general principles involved in the biosynthesis of amino acids. 3
