

1499

4

(c) What are the differences between Cofactors and Coenzymes? (5,5,5)

6. (a) Explain and write the reaction of the following ?

(i) Transferases.

(ii) Hydrolases

(b) Write short note on following

(i) Turnover number vs Catalytic efficiency

(ii) Specificity of enzyme

(c) What is allosteric inhibition? Give its mechanism. (5,5,5)

(1000)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1499

I

Unique Paper Code : 2173522009

Name of the Paper : DSE : Biomolecules II

Name of the Course : **B.Sc. (Prog)**

Semester : V

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **four** questions in all.
3. **All** questions carry equal marks.

P.T.O.

1. (a) How ninhydrin is used for the identification of amino acids? Write its chemical reaction.
(b) Write short notes on any two of the following :
 - (i) Fibrous and Globular protein
 - (ii) Essential and Non essential amino acids
 - (iii) Secondary structure of protein(c) Give the Edman's method for determination of N-terminal residue analysis of a peptide. (5,5,5)
2. (a) Explain the drug action-receptor theory?
(b) What is the difference between Catabolism and anabolism ?
(c) Write down the structure activity relationships (SAR) of Drug Molecules ? Explain the Binding Role of $-OH$, $-NH_2$ groups. (5,5,5)
3. (a) Define the caloric value of food, and how it is determined ? Explain its significance in human nutrition.

- (b) What is the purpose of conversion of glucose into lactic acid and alcohol under anaerobic conditions ? Explain the various steps involved in alcoholic fermentation of glucose.
(c) What are ketone bodies, and why are they produced in the body ? Describe the significance of ketone bodies. (5,5,5)
4. (a) How do you synthesize a dipeptide Gly-Val?
(b) Explain the role of DCC, in the formation of peptide linkage with one example.
(c) Give the classification of amino acids based on their chemical structure. (5,5,5)
5. (a) Describe the role of NAD^+ and FAD in biological redox systems.
(b) Calculate the amount of energy from the metabolism of per glucose molecule in cellular respiration in kilocalorie (kcal). Write the three major roles of enzymes in metabolism.