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2811N862

Candidate's Seat No :_____

B.Sc Sem.-5 Examination

CC 303

Biochemistry

November-2024

Time : 2-30 Hours] **[Max. Marks : 70**

Q1 a) Write a detailed note on: Zymogens **(08)**

b) Define: 1. Holoenzyme 2. Activation Energy. Name the two models of enzyme action and list the differences between them. **(06)**

Q1 a) Discuss Enzyme specificity in detail with examples. **(08)**

b) Write a note on Active site and discuss its significance **(06)**

Q2 Define & discuss Isoenzymes in detail with LDH as an example. How do Isoenzymes vary from each other? (14)

OR

Q2 a) What is a Membrane Bound Enzyme? Discuss its role in transmission of signal across the membrane with G-protein-Adenylate Cyclase example. (08)

b) Discuss what are the advantages of a Multienzyme Complex with appropriate examples. (06)

Q3 Explain in detail the 4 digit classification of enzymes giving suitable examples. (14)

OR

Q3 a) Discuss the effect of substrate concentration on rate of enzyme catalyzed reactions. (07)

b) Name the coenzyme form of Niacin & state its role in enzyme catalyzed reactions with an example. (07)

Q4 a) Write a note on Allosteric enzymes. Name the allosteric modulators PFK-I & ATCase. (08)

b) Describe how Glycogen Synthase is regulated by Covalent modulation. (06)

OR

Q4 a) Discuss different mechanisms of two substrate enzyme reactions mechanisms with proper examples. (14)

(P.T.O)

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Q.5 **: Attempt any 7:** **(14)**

1 List two important differences between biological catalyst and chemical catalyst
2 Define :1. Coenzymes2. Ribozymes
3 What happens in proximity catalysis? Give example.
4 What is the difference between Metalloenzymes & Metal activated enzymes?
5 Give one clinical importance of Isoenzyme.
6 Give two roles of metals in mettaloenzymes.
7 Name the coenzyme form of Riboflavin & write their full forms.
8 Define Km & Vmax.
9 Name the enzyme having EC No. 1.1.1.1 & 1.1.1.27
10 Name allosteric modulators of Fructose 1,6 Bisphophatase. Write the reaction catalyzed by it.
11 Give two differences between allosteric enzymes & non-regulatory enzymes.
12 Which are the 4 groups that are involved in covalently modulated enzymes?