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PAP-003-001529

Seat No. _____

B. Sc. (Sem. V) (CBCS) Examination

October / November - 2018

Biochemistry : Paper - 501

(Enzymology)

Faculty Code : 003

Subject Code : 001529

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 Answer the following questions : **1×20=20**

(1) The site of the enzymic protein which is involved in biochemical reaction is known as?

(2) The enzyme where catalysis involves the transfer of functional group are named as?

(3) Define Isoenzymes.

(4) What is complete enzyme including the prosthetic group is called as?

(5) Name the model proposed by Koshland.

(6) Name the coenzymes used by Dehydrogenase.

(7) Which metal ion out of Na, Fe^{+3}, K, Zn, is more important in the enzyme catalysis?

(8) E. C. 4 : 1 : 2 : 1 is the enzyme no. in which 4 stands for?

(9) Define specific activity.

(10) Which technique is used to separate a protein that binds strongly to its substrate?

(11) To separate enzyme based on the isoelectric pH the technique used is?

(12) Define Salting out process

(13) Give effect of competitive inhibitor on Km and Vmax.

(14) Define First order reaction.

(15) How will you differentiate whether enzyme is allosteric or Non Allosteric?

(16) Enzyme Tranaminase follows which type of bisubstrate reaction.rection?

(17) Name the enzyme raised in first five days is of acute pancreatitis.

(18) Which enzyme gets elevated in disease of biliary tract ?

(19) Which fungus is used to prepare blue cheese?

(20) Define question 10.

2 Answer the following questions :

(a) Give answers of any **three** questions : **2×3=6**

(1) Define : Ribozyme.

(2) What do you understand from absolute specificity? (With example)

(3) Why one should isolate and purify enzyme?

(4) Why do we get hyperbola curve of v Vs [S]?

(5) How sweetening agents are prepared from corn starch?

(6) Write about Dye-ligand chromatography.

(b) Give answers of any **three** questions : **3×3=9**

(1) Write a note on multi enzyme complex with suitable example.

(2) Write a note on acid base catalysis.

(3) Write various methods of enzyme immobilization.

(4) Giving example explain ordered single displacement reaction.

(5) Briefly explain use of lipase enzyme for diagnostic purposes.

(6) Write the differences between chemical and biological catalyst.

(c) Give answers of any **two** questions : **2×5=10**

(1) Discuss different methods used for enzyme assay.

(2) Write a detailed note on Lactate dehydrogenase as an example of Isoenzyme.

(3) Explain the process of cheese making and bread making.

(4) Derive MM equation of enzyme catalyzed reaction.

(5) Write a note on different methods used for separation of enzyme on basis of Size or Mass.

3 Answer the following questions :

(a) Give answers of any **three** questions : **2×3=6**

(1) Define with example: Metalloenzyme.

(2) Differentiate endopeptidases with exopeptidases with examples.

(3) Write in brief about biosensor.

(4) Define Km and give its significance.

(5) Write various isoenzyme of creatine kinase and write their uses in diagnosis of various diseases.

(6) Explain how enzyme deficiency leads to PKU.

(b) Give answers of any **three** questions : **3×3=9**

(1) Explain chemical as well as enzymatic method for uric acid determination.

(2) Write a note on cofactors.

(3) Discuss difference between affinity chromatography and affinity elution.

(4) State effect of competitive and non competitive inhibition on Km and Vamx of reaction.

(5) How alcoholic beverages are prepared?

(6) State important characteristics of allosteric enzymes.

(c) Give answers of any **two** questions : **2×5=10**

(1) Write a detailed note: Role of I.U.B. in the scheme of enzyme classification.

(2) Briefly describe the enzyme characteristics :

(a) Colloidal nature

(b) Geometric specificity.

(3) Describe the role of alkaline phosphatase in the diagnosis of various diseases.

(4) Giving example explain positive and negative regulation of allosteric enzyme.

(5) Explain any two methods of enzyme purification which is based on charge.