B.Sc. S.Y. (CBCS Pattern) Sem-IV

USBCTC-07 - 1 - Biochemistry Paper-I : Enzymology

P. Pages : 2 **GUG/W/22/11998**

Time : Three Hours * 0 6 8 1 * Max. Marks : 50

Note : All questions are compulsory and carry equal marks.

1. Write a note on **10**

i) Classification & nomenclature system of Enzyme.

ii) Covalent Catalysis

iii) Acid – base catalysis

OR

a) Explain metal ion catalysis. **2½**

b) Explain specificity of enzyme with lock & key model. **2½**

c) Explain induce fit theory. **2½**

d) What is regulatory enzyme? Give two example of regulatory enzyme. **2½**

2. Discuss in detail mechanism of action of chymotrypsin. **10**

OR

a) How enzyme concentration affects the rate of reaction? **2½**

b) How temperature affect the enzyme action? **2½**

c) Explain the role of riboflavin as a co-enzyme in metabolic pathway. **2½**

d) What is temperature quotient? Explain with example. **2½**

3. Discuss in detail Michaelis – Menten equation of enzyme Kinetics. **10**

OR

a) Discuss competitive inhibition. **2½**

b) Explain Ping – Pong mechanism for bi–substrate enzymatic reaction. **2½**

c) Explain effects of pH on enzyme action. **2½**

d) Write a note on non – competitive Inhibition. **2½**

4. Discuss the methods of isolation & purification method of enzymes. **10**

OR

a) Describe the medicinal application of enzymes. **2½**

b) What is specific activity? **2½**

c) Write note on enzyme immobilization. **2½**

d) What is mean by enzyme assay? Give its significance in research. **2½**

5. Attempt **any ten** of following.

a)	Define cofactor.	1
b)	What is orientation effect?	1
c)	Define active site.	1
d)	Give two example of coenzyme.	1
e)	Give example for downward curvature.	1
f)	Name the Vitamin which contain flavin nucleotide	1
g)	Define V_{max}	1
h)	Define turnover number.	1
i)	What is ordered sequential mechanism?	1
j)	Give one application enzyme immobilization.	1
k)	Define Katal.	1
l)	What is mean by homogeneity of enzyme?	1

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