

B.Sc. Second Year CBCS Pattern Semester-IV
USBCT-C07 - Biochemistry Paper-I : Enzymology

P. Pages : 2

Time : Three Hours



GUG/W/23/11998

Max. Marks : 50

Notes : 1. All questions are compulsory and carry equal marks.

1. Discuss the classification system of enzymes. **10**

OR

a) Give the properties of regulatory enzyme. **2½**

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

c) Explain induced fit theory. **2½**

d) Write a note on Glycogen phosphorylase. **2½**

2. Write a note on- **10**

i) Mechanism of action of lysozyme.

ii) Biotin as a coenzyme.

OR

a) Draw the structure of riboflavin and give its two functions as coenzyme. **2½**

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

c) Explain the Bi-substrate reactions. **2½**

d) Write a note on active site. **2½**

3. Discuss in detail Michaelis-Menten equation with the significance of initial velocity. **10**

OR

a) Give graphical representation of competitive inhibition. **2½**

b) Give Lineweaver-Burk plot for uncompetitive inhibition. **2½**

c) Explain the significance of $\frac{1}{2} V_{\max}$. **2½**

d) Write a note on double reciprocal plot. **2½**

4. Discuss the isolation and purification (Fractionation) of enzymes. **10**

OR

a) Write about industrial application of enzyme immobilization in brief. **2½**

b) Discuss the methods of enzyme immobilization (any two) **2½**

c) Discuss different method for assay of enzyme. **2½**

d) Write a note on Ammonium sulphate fractionation. **2½**

5. Attempt **any ten** of following. **10**

a) Define cofactor? Give one example.

b) What is Prosthetic group?

c) Define enzyme.

d) Give two example of coenzyme.

e) Give one function of niacin.

f) Name the enzyme utilizing pyridoxal phosphate as coenzyme.

g) Define V_{max}

h) Define turnover number.

i) In Michaelis Menten equation K_m is called as-----

j) Give one application of enzyme immobilization in medicine.

k) Define katal.

l) Define specific activity of enzyme?
