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SEAT No. _____

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SARDAR PATEL UNIVERSITY

T.Y.BSc 5TH SEMESTER EXAMINATION OCTOBER 2018

BIOCHEMISTRY:USO5CBCH02

Title: ENZYMOLOGY

Date: 24/10/18
Wednesday

Time: 10:00 AM TO 1:00 PM TOTAL MARKS: 70

Q.1 Select proper option from following MCQ.

[10]

1. Regulation of enzyme by _____.
a) transcription b) translation c) feedback mechanism d) all of these
2. Enzymes are _____.
a) organic chemical catalyst b) protein biocatalist
c) non colloidal d) all of these
3. The rate of enzyme reaction is directly proportional to all of the following except _____.
a) enzyme concentration b) substrate concentration
c) optimum temperature d) product concentration
4. _____ enzyme present in endoplasmic reticulum.
a) carnitine acyltransferase b) glyceryl phosphate acyl transferase
c) Adenosine triphosphatase d) all of these
5. Protein disulphide isomerase is present in _____.
a) SER b) RER c) Golgi d) all of these
6. Which one of the following method based on
a) ion exchange chromatography b) electrophoresis
c) hydrophobic interaction d) all of these
7. _____ represent the strength of binding.
a) S_0 b) V_0 c) V_{max} d) K_m
8. High K_m value indicate _____ affinity
a) high b) low c) no effect d) remain constant
9. LDH₅ is elevated in patients with _____.
a) acute viral hepatitis b) myocardial infarction
c) bone disease d) pancreatitis
10. One of the following serum enzyme is significantly elevated in myocardial infarction.
a) amylase b) creatine kinase
c) alkaline phosphatase d) acid phosphatase

(1)

(P.T.O.)

Q.2 Answer the following in short (Any ten)

[20]

1. Define enzyme activity.
2. What is co-factor write example of enzyme require Mn^{+2} as a co-factor?
3. Define international unit of enzyme.
4. List enzymes present in mitochondria.
5. Enzyme present in lysosome.
6. Write steps involve in enzyme purification in form of chart.
7. What are the features of competitive inhibition?
8. What is significance of K_m value?
9. Give example of competitive inhibition.
10. Give example of industrial application of immobilized enzyme .
11. Write uses of proteases.
12. Give example of prodrugs and their activating enzymes .

Q.3 Write short note on:

- a. Catalytic activity of enzyme. **[5]**
- b. Regulation of enzyme. **[5]**

OR

- a. Effect of Enzyme concentration and Substrate concentration on enzyme activity. **[5]**
- b. Effect of temperature and pH on enzyme activity **[5]**

Q.4 Write short note on:

- a. Dialysis and ultrafiltration. **[5]**
- b. Affinity chromatography. **[5]**

OR

- a. Moving boundary electrophoresis. **[5]**
- b. Method based on change in solubility. **[5]**

Q.5 Derive M.M. equation. **[10]**

OR

Q.5 Explain competitive inhibition with M.M plot and equation . **[10]**

Q.6 Explain

- a) Use of glucose oxidase in enzyme electrodes **[5]**
- b) Use of microorganism in production of organic chemicals. **[5]**

OR

Q.6 Write note on: **[5+5]**

- a. SGPT.
- b. SGOT