



MAJ-003-001529

Seat No. _____

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

October / November – 2016

Biochemistry - 501

(Enzymology)

Faculty Code : 003

Subject Code : 001529

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

1 Select the correct answer for the questions from the given 20 choices :

- (1) Which two enzymes are used to break the fungal cell wall?
- (2) Define salting in and salting out.
- (3) What is ampholytes?
- (4) Name two dyes which are used to separate dehydrogenase.
- (5) Which enzyme is elevated in prostatic carcinoma?
- (6) Fructose bis phosphate aldolase is used for the diagnosis of which disease?
- (7) Give the name of inhibitor of xanthine oxidase.
- (8) Give the name of enzyme and substrate used in ELISA.
- (9) Which enzyme is used in detergent making?
- (10) Name the enzymes used to prepare sugar syrup.
- (11) Define Unit of enzyme.
- (12) What do you understand by artificial substrate?
- (13) Define Kcat.
- (14) Define enzyme kinetics.
- (15) Give example of random single displacement reaction.
- (16) Name two models for allosteric enzymes.

- (17) Which amino acid plays important role in covalent modification?
- (18) Giving example define irreversible inhibition.
- (19) How does pH affect enzyme activity.
- (20) Define Q10.

2 (a) Answer any three of the following questions : **2×3=6**

- (1) What are isoenzymes and its significance?
- (2) Define Holoenzyme
- (3) Define V_0 and V_{max}
- (4) Define K_i
- (5) What is dialysis and how it helps in enzyme purification?
- (6) Enlist various diseases in which enzyme alkaline phosphatase is increased.

(b) Answer any three of the following questions : **3×3=9**

- (1) Explain about the classification of enzyme.
- (2) Extraction of enzymes from animal cell.
- (3) Explain about L.B. plot.
- (4) What is the significance of M.M. Equation?
- (5) Explain about lock and key model of enzyme substrate complex.
- (6) Use of enzymes in therapy.

(c) Answer any two of the following questions : **5×2=10**

- (1) Explain about monomeric, oligomeric and multienzyme complexes.
- (2) Explain in detail about TPP and biotin dependent enzyme mechanism.
- (3) Give detail note on acid base and metal ion catalysis.
- (4) Give short note on Gel permeation chromatography.
- (5) Summarize the comparative chart of characterization of enzymes.

- 3 (a) Answer any three of the following questions : $2 \times 3 = 6$
- (1) First order reaction.
 - (2) Allosteric enzymes.
 - (3) Orientation effect on enzyme activity.
 - (4) Define feedback inhibition
 - (5) What is the difference between affinity chromatography and affinity elution?
 - (6) Write in brief about use of enzymes in process of brewing.
- (b) Answer any three of the following questions : $3 \times 3 = 9$
- (1) Why activation and free energy is necessary for enzyme activity?
 - (2) How temperature affects the activity of enzyme?
 - (3) What are biosensors and its use?
 - (4) Explain about the extraction of membrane bound enzymes.
 - (5) Explain about multi substrate reaction mechanism of enzyme.
 - (6) What are the differences between reversible and irreversible inhibition?
- (c) Answer any two of the following questions : $5 \times 2 = 10$
- (1) Give detail note of different methods of immobilization of enzyme and its application.
 - (2) How different enzymes are applied in dairy, food and leather industries?
 - (3) Draw the diagram of glucose oxidase electrode and explain its functioning.
 - (4) Explain about uncompetitive and non-competitive enzyme inhibition.
 - (5) How ion exchange chromatography is used in purification of enzyme?