JV-003-1015029 Seat No. _____

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

October - 2019

Biochemistry : Paper - 501

(Enzymology)

Faculty Code : 003

Subject Code : 1015029

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

1 (a) Write the correct answers for the questions : **4**

(1) Define significance of four digits nomenclature.

(2) Which type of specificity is followed by Glucokinse ?

(3) Full form of IUBMB.

(4) At which pH acid and alkaline phosphatase works best ?

(b) Write the answers in brief : (any **1** out of 2) **2**

(1) Short note on oxidoreductase and lyases.

(2) What is group specificity of enzyme ? Explain with example.

(c) Write the answers in detail : (any **1** out of 2) **3**

(1) Differentiate Enzyme and chemical catalysts.

(2) Short note on thermostability of the enzyme.

(d) Write the short notes in detail : (any **1** out of 2) **5**

(1) Explain lock and key model.

(2) What is Isoenzyme ? Explain in detail.

2 (a) Write the correct answers for the questions : **4**

(1) Give example of metalloenzyme.

(2) Define prosthetic group.

(3) Give full form of NADPH.

(4) Which bond is present between cofactor and enzyme ?

(b) Write the answers in brief : (any **1** out of 2) **2**

(1) Explain coenzyme.

(2) What is electrophile and nucleophile ?

(c) Write the answers in detail : (any **1** out of 2) **3**

(1) What is cofactor and explain it.

(2) Explain properties of FAD.

(d) Write the short notes in detail : (any **1** out of 2) **5**

(1) Explain covalent catalysis with diagram.

(2) Metal ion catalysis.

3 (a) Write the correct answers for the questions : **4**

(1) Which solvent is used for precipitation of enzymes ?

(2) Calculation of fold purification.

(3) Use of SDS- PAGE in purification.

(4) Give example of ionic and non ionic polymer.

(b) Write the answers in brief : (any **1** out of 2) **2**

(1) Isolation of membrane bound enzymes.

(2) Explain the purification of enzyme by salting in and out.

(c) Write the answers in detail : (any **1** out of 2) **3**

(1) Differentiate isoelectric focussing and chromatofocussing.

(2) Explain about the affinity and gel exclusion chromatography.

(d) Write the short notes in detail : (any **1** out of 2) **5**

(1) Explain ion exchange chromatography for enzyme purification.

(2) Give detailed note on electrophoresis and capillary electrophoresis.

4 (a) Write the correct answers for the questions : **4**

(1) List the different groups involved in chemical modification of enzyme.

(2) Example of competitive inhibition.

(3) Example of regulator of glycogen phosphorylase.

(4) What is single displacement reaction ?

(b) Write the answers in brief : (any **1** out of 2) **2**

(1) Significance of Q10.

(2) Explain about turnover number.

(c) Write the answers in detail : (any **1** out of 2) **3**

(1) Draw the different plots of MM and LB plots with Km and Vmax.

(2) Explain in detail about properties of allosteric enzymes.

(d) Write the short notes in detail : (any **1** out of 2) **5**

(1) Discuss Relax and Tense state of enzyme.

(2) Write a short note on reversible inhibition.

5 (a) Write the correct answers for the questions : **4**

(1) List the Polymers used in enzyme immobilization.

(2) Name the enzyme used in brewing.

(3) Name the enzymes responsible for galactosaemia.

(4) Explain role of bromelain and papain ?

(b) Write the answers in brief : (any **1** out of 2) **2**

(1) Role of enzyme in dissolution of blood clots.

(2) Short note on biosensor.

(c) Write the answers in detail : (any **1** out of 2) **3**

(1) Explain industrial use of enzyme.

(2) Which enzymes are involved in enzyme deficiencies.

(d) Write the answers in detail : (any **1** out of 2) **5**

(1) Use of enzymes for the diagnosis of various liver disorders.

(2) Explain process of cheeze making.
