M. Sc. (Biochemistry) (Sem. I) (CBCS) Examination

November / December – 2017

CBC - 3 : Enzymology

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

1   Answer briefly any seven of the following questions :   **14**

   (a)   Define Kcat.

   (b)   What is group specificity and stereo specificity of enzyme?

   (c)   Explain cofactor and coenzyme with example .

   (d)   Give the limitation of Lock and key model.

   (e)   Explain cooperativity.

   (f)   State the properties of enzyme.

   (g)   Define strain and distortion theory.

   (h)   What is Partial inhibition?

   (i)   Define active site and binding site.

   (j)   State the Laws of Thermodynamics.

2   Answer any **two** of the following questions :   **14**

   (a)   Explain in detail the significance of L.B. plot and derive the equation of Lineweever-Burk from M. M. theory.

   (b)   Give the classification of enzyme along with examples.

   (c)   Explain in detail the mechanism of chymotrypsin.

3   (a) Explain: Cooperative oxygen-binding by hemoglobin.   **7**

     (b) Explain in detail about Biosensor.   **7**

                              OR

3   (a) Explain various ping-pong and bi-bi reaction   **7**
          mechanism.

     (b) Give a detailed note on enzyme engineering.   **7**

4   Answer the following questions :   **14**

     (a) Write a note on enzyme inhibition: Reversible and
          Irreversible inhibition.

     (b) Which are various methodologies for immobilization
          of enzyme?

5   Answer the following questions : (any **two**)   **14**

     (a) Explain and derive the M.M. equation.

     (b) Discuss the strategy of MWC model act as an allostery.

     (c) Explain in detail about mechanism of enzyme catalysis.

     (d) Write a note on scope of enzymology.

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