

PD - 578  
(612) M.Sc. BIOTECHNOLOGY (SECOND SEMESTER)

Examination June - 2021

Paper - MACROMOLECULES AND ENZYMOLOGY

Time : Three Hours]

[Maximum Marks : 080

[Minimum Pass Marks :

नोट:- दोनों खण्डों से निर्देशानुसार उत्तर दीजिए। प्रश्नों के अंक उनके दाहिनी ओर अंकित हैं।

Note: Answer From Both the Section as Directed. The Figures in the right-hand margin indicate marks.

SECTION-A

Q1. Answer the following question

(1x10 =10)

- What are the site for DNA replication and other specialized enzymatic Reactions in prokaryotes?
- Which proteins in outer membrane of mitochondria make it permeable?
- How fetal haemoglobin is different from adult haemoglobin?
- Which is the most abundant protein in mammals required for holding cells together?
- What are the common reagents used for N-terminal analysis in Edman degradation method of protein sequencing?
- The disulfide bonds in the protein are broken by reduction with which reagents?
- What was the key component of Induced fit model?
- Succinate dehydrogenase uses succinate as its substrate and is competitively inhibited by which molecule?
- Which type of inhibitor binds reversibly at a site other than the active site and leads to a decrease in catalytic activity?
- What is  $K_m$ ?

Q2. Answer the following question

(2x5 =10)

- Why allosteric enzymes show sigmoidal curve?
- What are the four arm of t RNA.
- How  $pH$  affects enzyme activity.
- What are glycoproteins.
- What are Ribozymes.

SECTION-B

Answer the following question

(15x4 =60)

Q 3. Give an account of structure of t RNA, RNA and r RNA.

OR

What are supra molecular assemblies. Explain with the help of suitable example?

Q 4. Describe the mechanism of protein folding.

OR

Derive Michaelis-Menten equation for enzyme kinetic study?

Q 5. Differentiate between Competitive and non-competitive with suitable examples?

OR

What are different methods used for immobilization of enzymes?

Q 6. Explain regulation of enzyme activity and feedback mechanism.

OR

What are coenzymes. Discuss role of coenzymes in the catalytic activity of enzymes.