

S-469

Total Pages : 3

Roll No.

MSCCH-603

Bio-Inorganic Bio-organic Bio-Physical Chemistry

M.Sc. Chemistry (MSCCH)

3rd Semester Examination, 2022 (Dec.)

Time : 2 Hours]

Max. Marks : 70

Note : This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

SECTION-A

(Long Answer Type Questions)

Note : Section 'A' contains Five (05) long answer type questions of Nineteen (19) marks each. Learners are required to answer any Two (02) questions only.

(2×19=38)

1. Write note on the following :

- (a) Structure of hemoglobin.
- (b) Biological role of hemoglobin.
- (c) Function of hemoglobin in human body.
- (d) Properties of hemoglobin.

[19]

2. What is carboxypeptidase A ? Discuss about the structure and mechanism of action of carboxypeptidase A. [19]
3. Discuss DNA polymerisation in brief. Give structure and biological significance of DNA. [19]
4. Write note on the following :
 - (a) Chymotrypsin.
 - (b) Allosteric enzyme.
 - (c) Co-enzymes. [19]
5. Write note on:
 - (a) Structure of Hemoglobin
 - (b) Mode of action of nitrogenase

SECTION-B

(Short Answer Type Questions)

Note : Section 'B' contains Eight (08) short answer type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only. (4×8=32)

1. Give the mechanism of action of enzyme carboxypeptidase A. [4]
2. What is immobilization of enzyme ? Explain various methods immobilization. [4]

3. Discuss the process of ATP hydrolysis. [4]
 4. How will you determine the size of biopolymers ? Mention any two methods. [4]
 5. Define osmosis and membrane equilibrium. [4]
 6. Give relationship between equilibrium constant and Gibb's free energy. [4]
 7. Give a detail note on use of enzyme in recombinant DNA technology. [4]
 8. Why are co-enzymes necessary. Explain. [4]
-

