

BACHELOR OF SCIENCE (CBCS-2018 COURSE)
T. Y. B. Sc. Sem-V : WINTER :- 2021
SUBJECT: MICROBIOLOGY : ENZYME KINETICS & REGULATION

Day : Saturday
Date 29-01-2022

W-18434-2021

Time : 02:00 PM-05:00 PM
Max. Marks: 60

N.B.

- 1) All questions are **COMPULSORY**.
 - 2) All questions carry **EQUAL** marks.
 - 3) Figures to the right indicate **FULL** marks.
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Q.1 Attempt any **TWO** of the following: **(12)**

- a) Discuss with a proper example the characteristics and structure of monomeric enzyme.
- b) Describe the structure and functions of glutamine synthetase enzyme.
- c) What is enzyme kinetics? Discuss the concept and use of initial velocity.

Q.2 Attempt any **TWO** of the following: **(12)**

- a) What are oligomeric enzymes? Discuss with an example.
- b) Explain the structure of Thiamine coenzymes. Discuss the various reactions catalyzed by it.
- c) What is feedback inhibition? Discuss the concerted and isofunctional feedback inhibition.

Q.3 Attempt any **TWO** of the following: **(12)**

- a) Explain the various steps of reactions involved in Pyruvate dehydrogenase complex system.
- b) Discuss the Brigg's and Haldane modification of Michaelis – Menten equation.
- c) Discuss the various methods used in immobilization of enzymes by covalent coupling.

Q.4 Attempt any **THREE** of the following: **(12)**

- a) Define allosteric enzymes and discuss the structure with a suitable example.
- b) Explain the cross linking method used for immobilization of enzymes.
- c) What are biosensors? Discuss with example.
- d) Discuss with a suitable example the production of enzymes on a large scale.

Q.5 Write short notes on any **FOUR** of the following: **(12)**

- a) KNF model
- b) Zymogens
- c) Eadie Hofstee plot
- d) Competitive inhibition
- e) Biochips