B.Sc. BIOTECHNOLOGY
FOURTH SEMESTER (REPEAT)
ENZYMOLOGY
BBT-404
[USE OMR SHEET FOR OBJECTIVE PART]

SET
A

Duration: 3 hrs.

Full Marks: 70

[Objective]

Time: 30 mins.

Marks: 20

Choose the correct answer from the following:

1 ×20=20

1. Enzymes can be extracted from……………..
   a. Cytoplasm
   b. Mitochondria
   c. Nucleus
   d. From all sources

2. SDS PAGE is a method of enzyme………….
   a. Separation
   b. Quantification
   c. Extraction
   d. Identification

3. Enzyme catalysis is effected by………….
   a. Substrate concentration
   b. Temperature
   c. Soil
   d. Both a and b

4. At steady rate……………….
   a. Rate of forward reaction=Rate of reverse reaction
   b. Rate of forward reaction>Rate of reverse reaction
   c. Rate of forward reaction<Rate of reverse reaction
   d. Rate of forward reaction≤Rate of reverse reaction

5. The plot is straight in case of………….. experiment.
   a. Michaelis
   b. Line weaver
   c. Menten
   d. Michaelis and Menten

6. In the Michaelis equation, the value of Menten constant is in the……….
   a. Denominator
   b. Numerator
   c. Proportional
   d. Not proportional

7. In competitive enzymatic reaction inhibitor binds…………site.
   a. At active site
   b. Other than substrate
   c. At substrate
   d. Both a and c

8. In …………reaction the end product itself blocks the reaction.
   a. Enzyme catalyzed
   b. Forward
   c. Feedback
   d. Reverse

9. Enzyme substrate reaction is intermediate at……………
   a. Initial state
   b. Final state
   c. Steady state
   d. Towards end

10. S is ....when rate of the reaction reaches to its half of its maximum rate.
    a. Vmax
    b. Vo
    c. K1+K2
    d. Km

11. The non protein part of enzyme is.............
    a. Allozyme
    b. Apoenzyme
    c. Ribozyme
    d. Cofactor

12. In enzyme catalysis.................. is studied.
    a. Reaction rate
    b. Structure
    c. Function
    d. All are correct

13. ....energy is lowered in case of enzyme catalyzed reaction.
    a. Threshold
    b. Activation
    c. Gibbs
    d. All are correct

14. Spectrophotometry is a method of enzyme............
    a. Function
    b. Structure
    c. Catalysis
    d. Assay

15. The reaction rate is fastest in case of................. catalyzed reaction.
    a. Ion
    b. Enzyme
    c. Metal
    d. Non metal

16. Choose non protein nature of the biomolecule.
    a. Enzyme
    b. Apoenzyme
    c. Ribozyme
    d. Polypeptide

17. Organic non protein part of enzyme is............
    a. Apoenzyme
    b. Cofactor
    c. Metal ion
    d. Coenzyme

18. Vitamins can act as...........
    a. Coenzymes
    b. Energy rich compound
    c. Both are correct
    d. Immune boost

19. The molecule which acts directly on an enzyme to lower its catalytic rate is
    a. Repressor
    b. Inhibitor
    c. Modulator
    d. Regulator

20. K is...........
    a. Rate of the reaction
    b. Reaction rate constant
    c. Forward rate of reaction
    d. Reverse rate of reaction

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(Descriptive)

[Answer question no.1 & any four (4) from the rest]

1. Derive Michaelis Menten equation.   10

2. What is coenzyme? Compare the roles of vitamins as coenzyme.   4+6=10

3. What do you mean by catalysis? Explain the nature of cofactors used   10
   in enzyme catalysis.

4. Write a note on the concept of enzyme classification.   10

5. Write a note on the industrial uses of enzymes taking into   5+5=10
   consideration any two examples.

6. Explain in detail the factors responsible for effecting enzyme activity.   10

7. What do you mean by enzyme activity? Illustrate the ways in which   3+7=10
   enzyme assay is done.

8. What are allosteric enzymes? Differentiate the reactions of   2+8=10
   competitive and non competitive enzyme catalysis.

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