



# 2019/TDC/ODD/SEM/BTCSEC-301T/245

**TDC (CBCS) Odd Semester Exam., 2019**

## BIOTECHNOLOGY

**( 3rd Semester )**

Course No. : BTCSEC-301T

**( Enzymology )**

Full Marks : 50

Pass Marks : 20

Time : 3 hours

*The figures in the margin indicate full marks  
for the questions*

### UNIT—I

1. Answer any *three* of the following : 1×3=3

- (a) Define enzymes.
- (b) Name the classes of enzymes.
- (c) What is prothrombin?
- (d) Give an example of a protease.

2. (a) Write briefly about isolation of enzymes. 2

Or

(b) Give a short account of lyases. 2



(2)

(3)

3. (a) Write a note on isomerases. Add a note on purification of enzymes. 2+3=5

Or

(b) Give a detailed account of methods of enzyme analysis. 5

UNIT—II

4. Answer any three of the following : 1×3=3

(a) Define  $K_m$ .

(b) What do you mean by  $V_{max}$ ?

(c) Define active site.

(d) Who proposed the induced fit theory?

5. (a) State the significance of activation energy. 2

Or

(b) Write about the concept of E-S complex. 2

6. (a) Give an account of Michaelis-Menten equation and explain the hyperbolic saturation kinetics. 5

Or

(b) Describe various factors affecting the rate of enzyme action. 5

UNIT—III

7. Answer any three of the following : 1×3=3

(a) What is RNase?

(b) Define lysozyme.

(c) What is the function of carboxypeptidase?

(d) What is aldolase?

8. (a) Write a note on ping-pong mechanism of enzyme action. 2

Or

(b) Write about chymotrypsin action. 2

9. (a) Describe the types of enzyme inhibition with necessary examples. 5

Or

(b) Give a detailed account of the mechanism of action of enzymes following M-M kinetics. 5

UNIT—IV

10. Answer any three of the following : 1×3=3

(a) Define allosteric enzymes.

(b) What is phosphofructokinase-I?

( 4 )



<http://www.elearninginfo.in>

( 5 )

- (c) Define coenzyme.
- (d) What is lactate dehydrogenase?
11. (a) Write a note on ribozymes. 2
- Or
- (b) Give a short account on protein ligand binding. 2
12. (a) Give a detailed account of isoenzymes with suitable examples. 5
- Or
- (b) Give an illustrated account of multienzyme complexes. 5

UNIT—V

13. Answer any *three* of the following : 1×3=3
- (a) Define immobilized enzymes.
- (b) Name two enzymes used in industry.
- (c) What do you mean by soluble enzymes?
- (d) What is protein sequencing?
14. (a) Write a note on site-directed mutagenesis. 2

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( Continued )

Or

- (b) Write a note on structure-function relationship of enzymes. 2
15. (a) Describe various methods for immobilization of enzymes. 5
- Or
- (b) Give an account of delivery systems used in protein pharmaceuticals. 5

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