

## II/ BIO-TECH (ii)

2014

( 2nd Semester )

### BIOTECHNOLOGY

Paper : BT-II

( **Biochemistry** )

Full Marks : 55

Time : 2 hours

( PART : B—DESCRIPTIVE )

( Marks : 35 )

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

1. What is enzyme? Explain the different factors affecting enzyme action. 1+6=7

Or

Classify enzymes based on types of reaction.  
Give one example each. 7

2. Write an account on glycolysis. 7

Or

Write an account on oxidative phosphorylation.

14G—100/450a

( Turn Over )

3. Explain the major pathway for biosynthesis of purines. 7

Or

Write an account on the salvage pathway of pyrimidines.

4. Explain the feedback mechanism on amino acid glycolysis. 7

Or

Write the process of assimilation of ammonia into amino acid.

5. Write an account on membrane phospholipid. 7

Or

Write an account on fatty acid biosynthesis. Add a note on its regulation. 5+2=7

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( 2nd Semester )

**BIOTECHNOLOGY**

Paper : BT-II

( **Biochemistry** )

( PART : A—OBJECTIVE )

( Marks : 20 )

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

SECTION—A

( Marks : 5 )

Put a Tick (✓) mark against the correct answer in the brackets provided : 1×5=5

1. The major effect of catalyst reaction is

- (a) lower equilibrium constant ( )
- (b) raise equilibrium constant ( )
- (c) raise activation energy ( )
- (d) lower activation energy ( )

2. The precursor to glycogen in glycogen synthase reaction is

- (a) glucose-1-P ( )
- (b) glucose-6-P ( )
- (c) UDP glucose ( )
- (d) UTP glucose ( )

3. The enzymes for citric acid cycle are found in

- (a) ribosomes ( )
- (b) nucleus ( )
- (c) Golgi complex ( )
- (d) mitochondria ( )

4. What materials serve as starting compound for synthesis of uric acid?

- (a) Purine base ( )
- (b) Pyrimidine base ( )
- (c) Amino acids ( )
- (d) Carbohydrates ( )

5. Fatty acids cross the mitochondrial membrane in association with

- (a) alcohol ( )
- (b) carnitine ( )
- (c) glycine ( )
- (d) bile salts ( )

SECTION—B

( Marks : 15 )

Answer the following in short :

3×5=15

1. Write a note on Fisher's Lock and Key theory.

2. Differentiate between anabolism and catabolism.

association with

(a) alcohol

(b) carnitine

(c) glycine

(d) bile salts

3. Write the function of nucleoside phosphorylase.

( Marks : 15 )

Answer the following in short :

3×5=15

1. Write a note on Fisher's lock and key theory.

4. Write a short note on different pathways of biosynthesis of amino acid.

( 2nd Semester )

**BIOTECHNOLOGY**

Paper : BT-II

( Biochemistry )

( PART : A—OBJECTIVE )

( Marks : 30 )

The figures in the margin indicate full marks for the question.

**SECTION—A**

( Marks : 5 )

Put a Tick (✓) mark against the correct answer in the brackets provided : (5×5)

1. The major effect of catalyst reaction is

- (a) lower equilibrium constant
- (b) raise equilibrium constant
- (c) raise activation energy
- (d) lower activation energy

5. Write a short note on ketone bodies.

(a) glucose-1-P

(b) glucose-6-P

(c) UDP glucose

(d) UTP glucose

3. The enzymes for citric acid cycle are found in

(a) cytosol

(b) nucleus

(c) Golgi complex

(d) mitochondria

4. What materials serve as starting temperature for synthesis of urea cycle?

(a) Purine base

(b) Pyrimidine base

(c) Amino acids

(d) Carbohydrate

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