

II/BIO-CHEM (ii)

2015

(2nd Semester)

BIOCHEMISTRY

Paper : BC-2

(Physiological Chemistry and Metabolism—I)

Full Marks : 55

Time : 2½ hours

(PART : B—DESCRIPTIVE)

(Marks : 35)

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

- 1. Discuss in detail the mechanism of O₂ and CO₂ transport within cells.** **3½+3½=7**

Or

Write brief notes on the following : **3½×2=7**

(a) Blood cell types

(b) Homeostatic mechanisms

- 2. Describe the structure and functions of kidney.**

7

Or

Write brief notes on the following : $3\frac{1}{2} \times 2 = 7$

- (a) Sliding filament theory
- (b) Neurotransmitters

3. What are hormones? Explain the role of cAMP in hormonal action. $2 + 5 = 7$

Or

Explain the biochemical role of the following : $3\frac{1}{2} \times 2 = 7$

- (a) Insulin hormone
- (b) Sex hormones

4. Discuss the reaction steps involved in Gluconeogenesis from pyruvate. 7

Or

Write brief notes on the following : $3\frac{1}{2} \times 2 = 7$

- (a) Significance of HMP shunt
- (b) Regulation of Glycolysis

5. Explain the reaction steps involved in the biosynthesis of palmitic acid by FAS complex. 7

Or

Write brief notes on the following : $3\frac{1}{2} \times 2 = 7$

- (a) Carnitine shuttle
- (b) Energetics of β -oxidation

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BIOCHEMISTRY

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(Physiological Chemistry and Metabolism—I)

(PART : A—OBJECTIVE)

(Marks : 20)

The figures in the margin indicate full marks for the questions

Answer all questions

SECTION—A

(Marks : 5)

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

1×5=5

1. Which of the following hormones increases Na-reabsorption in the kidney?

(a) Thyroxine ()

(b) Anti-diuretic hormone ()

(c) Atrial natriuretic peptide ()

(d) Aldosterone ()

2. Hemophilia is due to the absence of

- (a) Platelets ()
- (b) Factor VIII ()
- (c) Calcium ()
- (d) Factor XIII ()

3. Which of the following is called emergency hormone?

- (a) Epinephrine ()
- (b) Norepinephrine ()
- (c) Glucagon ()
- (d) None of the above ()

4. Fermentation

- (a) does not require O_2 ()
- (b) requires lactic acid ()
- (c) produces more energy than glycolysis and TCA cycle ()
- (d) takes place in all cells ()

5. Enzymes required for β -oxidation occur in

(a) cytoplasm ()

(b) nucleus ()

(c) ribosome ()

(d) mitochondria ()

(4)

SECTION—B

(Marks : 15)

3×5=15

Write short notes on the following :

1. Role of bile salts in lipid digestion

2. Glomerular filtration

3. Alcoholic fermentation

4. Transport of acetyl CoA from mitochondria

(8)

5. Growth hormone

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