

II/ BIO-CHEM (ii)

2 0 1 4

(2nd Semester)

BIOCHEMISTRY

Paper No. : BC-2

(Physiological Chemistry and Metabolism—I)

Full Marks : 55

Time : 2 hours

(PART : B—DESCRIPTIVE)

(Marks : 35)

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

- 1. Discuss in brief the process of digestion and absorption of carbohydrates. $3\frac{1}{2}+3\frac{1}{2}=7$**

Or

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

(a) Biochemistry of blood

(b) Regulation of respiration

- 2. Explain in brief the mechanism of urine formation.**

7

Or

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

(a) Regulation of water balance

(b) Synaptic transmission

3. Classify hormones based on their mechanism of action. 7

Or

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

(a) Epinephrine

(b) Thyroid hormones

4. Define glycolysis. Explain the metabolic steps involved in the generation of ATP in glycolysis. $2+5=7$

Or

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

(a) Lactic acid fermentation

(b) Energetics of TCA cycle

5. Explain the steps involved in activation of fatty acid and their transport to mitochondria. $5+2=7$

(3)

Or

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

(a) Reactions of FAS complex

(b) Regulation of fatty acid synthesis

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(2nd Semester)

BIOCHEMISTRY

Paper No. : BC-2

(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. During blood coagulation, thromboplastin is released by

(a) RBC ()

(b) blood plasma ()

(c) leucocytes ()

(d) clumped platelets and damaged tissues ()

2. The function of the urinary system is to

- (a) maintain homeostasis ()
- (b) excrete waste products ()
- (c) secrete a hormone that stimulates production of red blood cells ()
- (d) maintain fluid and electrolyte balance and pH ()

3. Local hormones are

- (a) short-lived ()
- (b) prostaglandins ()
- (c) act near their point of synthesis ()
- (d) All of the above ()

4. NAD^+ is a/an

- (a) enzyme ()
- (b) coenzyme ()
- (c) active site ()
- (d) high-energy bond ()

5. How many molecules of acetyl-CoA are produced in oxidation of palmitic acid (C_{16}), which involves seven rounds of oxidation?

(a) 6 ()

(b) 7 ()

(c) 8 ()

(d) 9 ()

SECTION---B

(Marks : 15)

3×5=15

Write short notes on the following :

1. Oxygen transport of hemoglobin

2. Structure of nephron

3. Hormones of hypothalamus

4. Cori cycle

(8)

8. Neurons

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