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(Pre-CBCS)

(5th Semester)

ZOOLOGY

SEVENTH PAPER

(Biochemistry)

Full Marks : 55

Time : 2½ hours

(PART : A—OBJECTIVE)

(*Marks : 20*)

The figures in the margin indicate full marks for the questions

SECTION—A

(*Marks : 5*)

Tick (✓) the correct answer in the brackets provided :

1×5=5

1. Glycogen and starch are

- (a) homoglycans ()
- (b) heteroglycans ()
- (c) conjugated glycans ()
- (d) monosaccharides ()

2. Vitamin D is commonly known as

- (a) ascorbic acid ()
- (b) cholesterol ()
- (c) calciferol ()
- (d) retinol ()

3. The net gain of ATP in glycolysis is

- (a) 2 ()
- (b) 4 ()
- (c) 32 ()
- (d) 36 ()

4. Complex II (Succinate–Q Reductase) of electron transport chain receives electrons from

- (a) NADH ()
- (b) NADH₂ ()
- (c) NADPH₂ ()
- (d) FADH₂ ()

5. Ornithine cycle occurs in

- (a) kidney ()
- (b) liver ()
- (c) muscle ()
- (d) pancreas ()

SECTION—B

(Marks : 15)

Write short notes on the following in 5–8 sentences each :

3×5=15

- 1.** Significance of lipids
- 2.** Ribozymes
- 3.** Gluconeogenesis
- 4.** TCA cycle
- 5.** Nucleic acids

(PART : B—DESCRIPTIVE)

(Marks : 35)

The figures in the margin indicate full marks for the questions

1. What are carbohydrates? Describe the different types and significance of carbohydrates. 7

OR

What are peptides? Explain the structure and properties of peptides. 7

2. Derive Michaelis–Menten equation. 7

OR

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

(a) Coenzymes

(b) Vitamins

3. What is glycolysis? Explain various steps in glycolysis. 7

OR

What is glycogenolysis? Explain various steps in glycogenolysis. 7

4. Briefly explain various complexes in the mitochondrial electron transport chain. 7

OR

Give an account of HMP shunt. 7

5. Explain various steps of urea cycle. 7

OR

What is lipogenesis? Explain various steps involved in lipogenesis. 7

★ ★ ★