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3 (Sem-4/CBCS) ZOO HC 3

2021

ZOOLOGY

(Honours)

Paper : ZOO-HC-4036

(Biochemistry of Metabolic Processes)

Full Marks : 60

Time : Three hours

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

GROUP-A

1. Answer the following as directed : $1 \times 5 = 5$

(a) Enzymes of glycolysis are present in :

(i) Inner mitochondrial membrane

(ii) Outer mitochondrial membrane

Contd.

(iii) Mitochondrial matrix

(iv) Cytosol

(Choose the correct one)

(b) Total number of ATP formed in complete oxidation of one molecule of glucose is _____.
(Fill in the blank)

(c) _____ is the principal form in which carbohydrate is stored in higher animals.
(Fill in the blank)

(d) What are glucogenic amino acids ?

(e) Waxes are esters of fatty acids with higher alcohol other than glycerol.
*(State True **or** False)*

2. Give brief answers to the following questions : 2×5=10

(a) What is Ketogenesis ?

(b) What is Gluconeogenesis ?

(c) What is meant by protein denaturation ?

(d) Differentiate between anabolism and catabolism.

- (e) What is meant by redox potential ?
3. Answer the following : **(any three)** $5 \times 3 = 15$
- (a) ATP as the “Energy Currency of Cell”.
Explain the statement.
- (b) State the fate of amino acids in the body.
- (c) Write a note on the biological importance of carbohydrate in the body.
- (d) Write briefly on the structure of proteins.
- (e) How is palmitic acid synthesized ?

GROUP-B

4. Answer the following questions : **(any three)**
 $10 \times 3 = 30$
- (a) Describe the process of Glycolysis with diagram.
- (b) Write the process of β oxidation of fatty acid.

- (c) What is urea ? Describe its formation in human body.
 - (d) Enumerate on the significance of Citric acid cycle.
 - (e) Discuss the Electron Transport System.
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