

*Total number of printed pages-4*

**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  $\beta$  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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