3 (Sem–5) ZOO M2

2021

(Held in 2022)

ZOOLOGY

(Major)

Paper : 5·2

(Biochemistry and Bioenergetics)

Full Marks : 60

Time : Three hours

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

1. Answer the following questions : 1×7=7

   (a) What is glycosidic bond ?

   (b) Define pH and pK.

   (c) What is entropy ?

   (d) Write the name of *two* fibrous proteins.

   (e) What is NADH ?

(f) Write the name of the bond formed between two amino acids.

(g) Define enzyme.

2. Answer ***any four*** : 2×4=8

(a) What is ribosome? Write the importance of ribosome in protein synthesis.

(b) Describe about the polyunsaturated fatty acids with example.

(c) Write the difference between essential amino acids and non-essential amino acids.

(d) How does protein associate with chromosome?

(e) Distinguish between homopolysaccharide and heteropolysaccharide.

3. Write short notes on : ***(any three)*** 5×3=15

(a) Describe β oxidation of fatty acid.

(b) Write the mechanism of enzyme action. State the factors influencing the activity of the enzyme.

(c) What is monomer? Write briefly about the monomer of protein.

(d) Describe the role of cytochrome system in energy production.

4. What is glycolysis? Write about the role of mitochondria on ATP production. 5+5=10

Or

Describe about the molecular structure of plasma membrane. 10

5. "Glucose is an aldehyde derivative." Explain the statement. Describe the biological significance of carbohydrate. 5+5=10

Or

What is redox reaction? Write about the free energy production in redox reaction. 5+5=10

6. What is ornithine ? State briefly about the urea formation in the liver. 2+8=10

Or

Write about the theories of oxidative phosphorelation. 10