

**2023**  
**B.A./B.Sc.**  
**Fourth Semester**  
**CORE – 10**  
**ZOOLOGY**  
*Course Code: ZOC 4.31*  
(Biochemistry of Metabolic Processes)

*Total Mark: 70*  
*Time: 3 hours*

*Pass Mark: 28*

*Answer five questions, taking one from each unit.*

**UNIT-I**

1. Explain intermediary metabolism and the regulatory mechanism of intermediary metabolism. 7+7=14
2. (a) Explain why ATP is called the energy currency of cell. 7  
(b) Write a note on the compartmentalisation of metabolism. 7

**UNIT-II**

3. With the help of a schematic diagram explain the various steps involved in glycolysis. Add a note on its regulation. 10 +4 =14
4. Describe the various steps of citric acid cycle. 14

**UNIT-III**

5. Write an account on the  $\Omega$  oxidation of fatty acids. Add a note on the biological significance of  $\Omega$  of fatty acids. 10+4= 14
6. (a) Explain the biosynthesis of triglycerides. 7  
(b) Differentiate between oxidation of saturated fatty acids with even and odd number of carbon atoms. 7

## UNIT-IV

7. Where does urea cycle occur? With a neat labelled diagram explain the steps involved in urea cycle. Mention the source of nitrogen in the urea cycle. 2+10+2= 14
8. Giving appropriate examples explain transamination and deamination. 14

## UNIT-V

9. Define redox reaction. Discuss the different types of redox reaction with examples. 2+12= 14
10. Discuss mitochondrial respiratory chain. 14
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