

5/H-64 (v) (Syllabus-2015)

2022

(November)

BIOCHEMISTRY

(Honours)

(BCHEM-501)

(**Intermediary Metabolism**)

Marks : 56

Time : 3 hours

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

Answer any four questions

1. How does pentose phosphate pathway counter the damaging effects of oxygen? Describe the non-oxidative phase of pentose phosphate pathway. 4+10=14
2. (a) Explain why gluconeogenesis is not a complete reversal of glycolysis. 7
(b) What are anaplerotic reactions? Discuss their importance taking examples from TCA cycle. 7

3. (a) Give an account of activation and entry of fatty acids into mitochondria. 5
- (b) Discuss β -oxidation of palmitic acid and calculate the number of ATP yield from breakdown of one molecule of palmitic acid. 9
4. (a) Name the amino acids degraded to acetyl CoA. 3
- (b) Describe biosynthesis of glutamine and its regulation in detail. 11
5. Write notes on the following : $7 \times 2 = 14$
- (a) Regulation of pyrimidine biosynthesis
- (b) Degradation of purine
6. (a) Give a brief description of respiratory electron transport chain. 8
- (b) What is chemiosmotic hypothesis? What are the main features of chemiosmotic hypothesis? 6
7. Write notes on any *two* of the following : $7 \times 2 = 14$
- (a) Uncoupler of oxidative phosphorylation
- (b) Regulation of cholesterol biosynthesis
- (c) Transamination
- (d) Regulation of urea cycle
