

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

**2 0 1 8**

**( October )**

**BIOCHEMISTRY**

**( Honours )**

**( Intermediary Metabolism )**

**(BCHEM-501)**

**Marks : 56**

**Time : 3 hours**

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

**Answer any four questions**

1. (a) Detail the various reactions leading to the production of NADH from acetyl-CoA via TCA cycle. 10
- (b) Discuss the role of PFK-2 in regulation of glycolysis. 4
2. (a) Why gluconeogenesis is not a reversal of glycolysis? Discuss. 7
- (b) Describe the oxidative phase of pentose phosphate pathway. 7

3. Why is  $\beta$ -oxidation so called? Describe the different steps involved in  $\beta$ -oxidation of palmitic acid. How many ATPs are yielded in  $\beta$ -oxidation of a 16-C fatty acid?  $2+10+2=14$
4. Where does urea cycle operate in a cell? Describe the cycle in detail. How is urea cycle regulated?  $1+9+4=14$
5. Discuss any *two* of the following :  $7 \times 2 = 14$
- (a) Purine salvage pathway
  - (b) Biosynthesis of pyrimidine nucleotides
  - (c) Degradation of purine nucleotides
6. Discuss in detail tryptophan biosynthesis and its regulation. 14
7. Write notes on any *two* of the following :  $7 \times 2 = 14$
- (a) Glycogenolysis
  - (b) Alcoholic fermentation
  - (c) Biosynthesis of triglycerides

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