2017

(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)* Why is glycolysis considered a primitive pathway? Discuss the regulation of glycolysis. 2+7=9

(b) What is Warburg effect? 5

2. Write notes on any *two* of the following : 7×2=14

(a) Physiological significance of pentose phosphate pathway

(b) Alcoholic fermentation

(c) Regulation of TCA cycle

3. *(a)* How are fatty acids transported into mitochondria? 4

   (b) Describe the synthesis of palmitic acid starting from acetyl CoA. 5

   (c) Discuss the ATP yield from the oxidation of palmitate vis-à-vis glucose. 5

4. Discuss the biosynthesis and regulation of glutamine. 14

5. *(a)* Discuss transamination, oxidative deamination and decarboxylation reactions with respect to amino acid metabolism. 9

   (b) How is urea cycle linked to TCA cycle? 5

6. Discuss any *two* of the following : 7×2=14

   (a) Uncouplers of oxidative phosphorylation

   (b) Degradation of pyrimidine

   (c) Inhibitors of oxidative electron transport chain

7. Discuss photosynthetic electron transport chain and briefly mention photo-phosphorylation. 14

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