

2019

B.Sc. (Hons)

4th Semester Examination

PHYSIOLOGY

Paper - C8T

Full Marks : 40

Time : 2 Hours

*The figures in the margin indicate full marks.  
Candidates are required to give their answers  
in their own words as far as practicable.  
Illustrate the answers wherever necessary.*

1. Answer any *five* questions from the following :

5×2=10

- (a) Why muscles cannot add glucose to blood? 2
- (b) What is NPU? 2
- (c) Differentiate between glucogenic and ketogenic amino acids. 1+1
- (d) Name the complex I and one of its inhibitor of Electron Transport Chain. 2

[ Turn Over ]

- (e) Write down the biological value of protein. 2
- (f) What is transamination? 2
- (g) Define reactive oxygen species with example. 2
- (h) What are eicosanoids? Give one physiological significance. 1+1

2. Answer any *four* questions from the following :

$$4 \times 5 = 20$$

- (a) State the oxidative phase of pentose phosphate pathway. Write the biological significance of it. 3+2
- (b) What is glycogenin? What role does it play in glycogen synthesis? 1+4
- (c) Why Phosphofructokinase but not hexokinase is the main regulating enzyme of glycolysis? State the reaction of glycolysis catalyzed by phosphoglycerate mutase. Mention the allosteric modulators of phosphofructo kinase I. 3+1+1
- (d) Classify lipoproteins. What are the physiological roles of LDL and HDL? 3+2

- (e) Describe the ornithine cycle in ureotelic organisms. What do you mean by SDA? 4+1
- (f) Discuss the role of vitamin E as an antioxidant vitamin. Briefly write the role of vitamin D in calcium metabolism. 3+2

3. Answer any *one* question from the following :

10×1

- (a) What do you mean by nutrigenomics? State the role of dietary fat in metabolic health. What is RQ? State the fate of pyruvate after glycolysis pathway. What is meant by biological oxidation? (2+3)+(1+3)+1
- (b) Discuss the steps of oxidation of palmitate with complete energetics. State the function of superoxide dismutase. (5+3)+2
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