

**B.Sc. 4<sup>th</sup> Semester (Honours) Examination, 2021**

**PHYSIOLOGY**

**Course ID: 42511**

**Course Code: SH/PHY/401/C-8(T)**

**Course Title: Energy Balance, Metabolism and Nutrition**

**Time: 1 Hour 15 Minutes**

**Full Marks: 25**

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**1. Answer any five questions from the following: 1×5=5**

- (a) What is SDA? Write the SDA value of mixed food.
- (b) What do you mean by antioxidant vitamins?
- (c) Name any one inhibitor of TCA cycle.
- (d) What do you mean by RDA.
- (e) What is neoglucogenesis?
- (f) Name any two ketogenic amino acids.
- (g) Mention the formula for calculation of biological value of proteins.
- (h) Define deamination.

**2. Answer any two questions from the following: 5×2=10**

- (a) What are ketone bodies? Discuss the biosynthesis of ketone bodies. 1+4= 5
- (b) Name one pentose sugar. What is the significance of HMP shunt pathway? 1+4=5
- (c) What is the source of iron in our body? Mention its nutritional value. 2+3=5
- (d) State the Cori cycle. Give the significance of Cori cycle 3+2=5

**3. Answer any one question from the following: 10×1=10**

- (a) What do you mean by  $\beta$ -oxidation of fatty acids? Write the steps of  $\beta$ -oxidation of palmitic acid and compute its energy generation. 1+6+3 =10
- (b) Write the sources, daily requirement and functions of vitamin D in our body. Mention briefly the deficiency symptoms of vitamin D. 2+2+4+2=10