

# THE UNIVERSITY OF BURDWAN

B.Sc. Semester-IV Examination, 2022 (CBCS)

Subject: PHYSIOLOGY

Paper: CC8 (Energy Balance, Metabolism and Nutrition)

Candidates are required to give their answers in their own words as far as practicable and submit the photograph or scanned copy of their answer script within 30 min after the completion of the examination through the email.

Time: 2 Hours

Full Mark: 40

1. Answer any **five** of the following questions: (5X2=10)
    - a) What is glycemic index?
    - b) Compare deamination and transamination.
    - c) Explain thermic effect of foods.
    - d) Explain complementary values of protein with examples.
    - e) Define balanced diet.
    - f) What are free radicals?
    - g) Mention the interrelationship between tryptophan and niacin.
    - h) What relationship does iron have with ascorbate?
  
  2. Answer any **two** of the following questions: (2X5=10)
    - a) Discuss the factors affecting Basal metabolic rate. (5)
    - b) Explain in brief absorption and metabolism of riboflavin. (5)
    - c) Discuss the spectrum of iodine deficiency disorders. (5)
    - d) What significant role do lipoproteins play in transport and storage of lipids? (5)
  
  3. Answer any **two** of the following questions: (2X10=20)
    - a) Give the detailed role of enzymes and organelles in the formation of urea. Can kidneys and brain synthesize urea - justify. (10)
    - b) Discuss the components functions of fatty acid synthase complex. Mention the sources of NADPH for fatty acid synthesis. (10)
    - c) Discuss the irreversible stage of Hexose monophosphate(HMP)shunt pathway. Outline the metabolic significance of HMP pathway. (10)
    - d) Give a brief idea about mitochondrial electron transport chain(ETC). How is ETC related to reactive oxygen species generation? (10)
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