

**M.VOC. 1<sup>ST</sup> SEMESTER EXAMINATION-2021**

**Department of Food Technology and Nutrition, Mugberia Gangadhar Mahavidyalaya)**

**PAPER-ADVANCES IN FOOD BIO-CHEMISTRY AND NUTRITION(MVFTNMS15T)  
[THEORY]**

**Full Marks: 30      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.*

1. Answer any five questions. 5x2
  - a. What is NPU?
  - b. Write the source of vitamin A and vitamin C.
  - c. Define relative humidity.
  - d. What is Richert-Meissl value and iodine value?
  - e. Write any two functions of carbohydrate.
  - f. Write any two advantages of microwave cooking.
  - g. What is conduction method for heat transfer?
  - h. Write any two disadvantages of trans fatty acid.
  
2. Answer any two questions 2x5
  - a. What is rancidity? Describe the causes of rancidity and its management. (1+2+2)
  - b. What is enzyme? Write the types of enzymes. Describe enzyme specificity with proper example. (1+2+2)
  - c. Write the structure of protein. What do you understand by the term essential amino acid? Give one example of essential and other for non-essential amino acids. (3+2+1)
  - d. Write a short note on hydrogenation. (5)
  
3. Answer any one question. 10x1
  - a. What is denaturation? Write the causes of denaturation. Define water activity with example. Discuss briefly about starch gelatinization and retro gradation. (1+3+1+2.5+2.5)
  - b. Write short notes on (5+5)
    - i. Caramelization
    - ii. Millard reaction