

**Foods Science & Nutrition [P.G.]**

[CBCS]

**M.Sc. Fourth Semester End Examinations-2024**

**[Regular & Supplementary Paper]**

**PAPER- MFSN 403**

*Full Marks: 40*

*Time: 02 Hrs*

*The figures in the right hand margin indicate marks.*

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

*Illustrate the answers wherever necessary.*

**Group A**

**1. Answer any five questions of the following: 5x2= 10**

- a. Write the name of any two plant or agriculture based toxin.
- b. What do you mean by red tide, aquatic biotoxins?
- c. Define 'Food Fortification'.
- d. Name two foods that can be used for fortification with Iron and vitamin A respectively.
- e. Define GMO. Give one example of GMO.
- f. What are the types of xenobiotics?
- g. What are furocoumarins?
- h. What are 'NOEL and GRAS'?

(2)

**Group B**

2. Answer any four questions of the following:  $4 \times 5 = 20$
- a. Explain the toxicity, source and side effects of aflatoxin.  $2+1+2$
  - b. What is the 'analog of origin' and how does it effect the physiological system of human beings? 5
  - c. How does GMO help in improvement of fruits and vegetables and in their organoleptic properties?  $3+2$
  - d. What are mycotoxins? Mention any three toxic effects of mycotoxins.
  - e. What is HACCP? Write down any four major principles of HACCP.
  - f. Explain in detail the different phases of 'Biotransformation' Why is it so important to ensure food safety?

**Group C**

3. Answer any one question of the following:  $1 \times 10 = 10$
- a. i) What are the objectives of food fortification?
  - ii) Enumerate the steps involved in 'Fortification programme Design'.
  - iii) What are the advantages of food fortification?
  - iv) Write in brief on ISO.  $2+1+4+3$

(3)

- b. i) What is the difference between detoxification and intoxication?
- ii) What do you mean by goitrogens? Give two examples of goitrogenic food.
- iii) Write down relative health hazards associated with food as per the recommendation of US Food and Drug Administration (FDA).
- iv) Write any two categories of GM traits.  $2+(1+1)+4+2$