

QUESTION 1 [COMPULSORY]

- (a) Describe **five (5)** unique features of functional food. (10 Marks)
- (b) With the help of sketch, explain the stages in functional food product design. (10 Marks)
- (c) Discuss the challenges with respect to labelling and regulatory aspects of functional foods. (10 Marks)
- (d) Outline the negative effects of high percentages of soy in bread making (10 Marks)

[TOTAL MARKS = 40]**QUESTION 2**

- (a) Explain the following: (20 Marks)
- i. Micro-encapsulation
 - ii. Probiotics
 - iii. Dietary fiber
 - iv. Prebiotic
 - v. Refined grain
- (b) Describe the components of soy used in functional food development and outline their health benefit. (10 Marks)

[TOTAL MARKS = 30]**QUESTION 3**

- (a) Explain the mechanisms by which encapsulated bioactive ingredients are released. (12 Marks)
- (b) Explain the advantage of enriching bread with a dietary fibre isolate over bran. (8 Marks)
- (c) Mention **five (5)** important considerations during the development of micro-encapsulated products. (10 Marks)

[TOTAL MARKS = 30]

QUESTION 4

- (a) Describe dairy ingredients in functional food development. (10 Marks)
- (b) Explain a symbiotic functional product and outline the steps in formulating such a product. (10 Marks)
- (c) List **five (5)** therapeutic effects of consuming tea. (10 Marks)

[TOTAL MARKS = 30]