

B.Sc. (Hons) FNS Sem.-6 Examination**FNS 323****Nutraceuticals & Functional Foods****Time : 2.30 Hours]****May-2025****[Max. Marks : 70**

Instructions: Illustrate your answers with neat diagrams wherever necessary.

Q.1 Write the following

- (i) Describe the mechanisms by which nutraceuticals exert their health benefits, with relevant examples. (7 Marks)
- (ii) Explain the health benefits of probiotics. Discuss their role in gut health. Outline factors influencing their bioavailability. (7 Marks)

OR

- (i) Elaborate on lycopene and isoflavones. Detail their sources and health benefits. Discuss factors affecting their bioavailability. (7 Marks)
- (ii) Discuss resveratrol as a nutraceutical. Include its potential health benefits and its mechanisms of action. (7 Marks)

Q.2 Write the following

- (i) What is the role of nutraceuticals in diabetes? How do they affect blood sugar and insulin? (7 Marks)
- (ii) Explain the role of nutraceuticals in cancer prevention and management. (7 Marks)

OR

- (i) Which key nutraceuticals contribute to joint health, and what are their mechanisms of action? (7 Marks)
- (ii) How do various nutraceuticals aid in the prevention of obesity? (7 Marks)

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Q. 3 Write the following

- (i) List the Analytical tests and other tests to be performed for Nutraceuticals. (7 Marks)
- (ii) What are several factors that influence the shelf life of food products? (7 Marks)

OR

- (i) Define Intelligent Product-Delivery Systems (IPDS) in detail. (7 Marks)
- (ii) Explain the principles of HACCP in brief. (7 Marks)

Q. 4 Write the following

- (i) List down the Challenges in Functional Food and Nutraceutical Market. (7 Marks)
- (ii) What are the potential health benefits observed by using Spices. (7 Marks)

OR

- (i) List down salient features of the Food Safety and Standard Act 2006. (7 Marks)
- (ii) What are the Motivators of Functional Foods and Nutraceutical Market? (7 Marks)

Q 5. Attempt any seven out of twelve

(14 Marks)

- (i) How do probiotics benefit gut health?
- (ii) What is one regulatory body that oversees nutraceuticals in Europe?
- (iii) What is a key health benefit associated with Omega-3 fatty acids?
- (iv) What is the role of zinc in improving eye health?
- (v) Explain briefly how glucosamine and chondroitin are thought to aid in cartilage repair
- (vi) What is the significance of Epigallocatechin Gallate (EGCG) in health?
- (vii) What are the two ways of performing stability tests?
- (viii) What are "Health claims" and "Nutritional claim"?
- (ix) What is Importance of Food testing in Nutraceuticals?
- (x) What is Lycopene? Give it sources and health benefits.
- (xi) What are Functional foods?
- (xii) Give four examples for Functional foods, Bioactive component it contains and health benefits attached to that Functional food.