



Avinashilingam Institute for Home Science and Higher Education for Women

Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD (now MoE)

Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC

Coimbatore - 641 043, Tamil Nadu, India

Master's Degree Examination – May 2025

II Semester

Class : I P.G.

Major : Food Service Management and Dietetics

Time: 3 Hours

Max. Marks: 100

23MFDC08 Nutraceuticals and Nutrigenomics

Course Outcomes:

CO1: Identify Nutraceuticals in food and supplements for health and diseased conditions

CO2: Comprehend nutrient gene interactions and their impact on health

CO3: Apply knowledge gained in designing diets incorporating functional foods and Nutraceuticals

CO4: Undertake research in role of nutraceuticals in medical nutrition therapy (MNT) and product development

CO5: Offer counselling in the use of nutraceutical rich foods in disease management and Prevention

Part A

10 x 1 = 10

Choose the Correct Answer

- Which of the following is an example of polyphenolic nutraceutical?
a. Prebiotic b. Resveratrol c. Proiotics d. Vitamin C CO1K1
- Specify the nutraceutical component present in greens. CO1K1
a. Proteins b. Carbohydrates c. Chlorophyll d. Fibre
- Food, or parts of food, that provide medical or health benefits, including the prevention and treatment of disease refers to CO2K2
a. Nutraceuticals b. Functional Foods c. Dietary supplements d. Pharmaceuticals
- Identify the components of Public Health Nutrition CO2K2
a. Dietary guidelines b. Nutritional epidemiology c. Fortification of foods d. All the above
- Which forms of flavonoids are also known as phyto-oestrogens? CO3K1
a. Flavanols b. Flavones c. Isoflavones d. Anthocyanidins
- An example for a protein constituent in bones is CO3K1
a. Glutathione b. Melatonin c. Carnitine d. Collagen
- The primary functional property of yoghurt is CO4K2
a. Oxidation b. Probiotics c. Antikypertensive d. Phyto chemicals
- Which of the following enhances gut functioning? CO4K2
a. Phytoestrogens b. Probiotics c. Antioxidants d. Omega 3 fatty acids
- A catalog of all species of genes transfer including mRNA and non coding RNA refers to CO5K1
a. Transcriptomic b. Metabolomics c. Proteomics d. Genomics
- Which of the following is PUFA? CO5K1
a. Linolenic acid b. Oleic acid c. Linoleic acid d. Arachidonic acid

Part B

5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

- 11.a. Define functional foods and nutraceuticals. CO1K2
- (or)
- 11.b. Illustrate the classification of functional foods and brief. CO1K2

- | | |
|---|-------|
| 12.a. Explain designer foods. | CO2K3 |
| (or) | |
| 12.b. Write a note on probiotics and prebiotics. | CO2K3 |
| 13.a. Recollect the importance of protein synthesis. | CO3K3 |
| (or) | |
| 13.b. Highlight the significance of personalized nutrition. | CO3K3 |
| 14.a. Sketch the role of nutraceuticals in the management of obesity. | CO4K3 |
| (or) | |
| 14.b. Outline on the functional foods to control hyperglycemia. | CO4K4 |
| 15.a. Explicate the role of national regulatory board on certifying functional foods. | CO5K4 |
| (or) | |
| 15.b. What are biomarkers? Write on their significance. | CO5K4 |

Part C

5 x 12 = 60

Answer ALL questions

Each answer should not exceed 800 words or four pages

- | | |
|---|-------|
| 16.a. Appraise on the significance of nutrigenomics. | CO1K3 |
| (or) | |
| 16.b. Describe the recent trends in nutraceutical foods industry. | CO1K5 |
| 17.a. Interpret the role of functional components in nutrition and health. | CO2K5 |
| (or) | |
| 17.b. Elaborate on the functional importance of omega -3,6 fatty acids and dietary fibre. | CO2K5 |
| 18.a. Discuss the importance of protein synthesis. | CO3K3 |
| (or) | |
| 18.b. Illicit on trascryptomics and metabolomics. | CO3K4 |
| 19.a. Explain the concept of nutrigenomics links to chronic diseases. | CO4K5 |
| (or) | |
| 19.b. Give an account on nutraceuticals in the prevention of Diabetes mellitus. | CO4K5 |
| 20.a. Enumerate in detail on the ICMR guidelines for probiotics. | CO5K4 |
| (or) | |
| 20.b. Give a detailed review on the research frontiers in functional foods. | CO5K4 |
