



**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)
Re-accredited with 'A++' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India
Continuous Internal Assessment- II, April 2025**

Class: I PG

Max Marks: 60

Major: Food Service Management and Dietetics

Time : 2 hours

23MFDC08 Nutraceuticals and Nutrigenomics

Course Outcome:

1. Identify Nutraceuticals in food and supplements for health and diseased conditions
2. Comprehend nutrient gene interactions and their impact on health
3. Apply knowledge gained in designing diets incorporating functional foods and Nutraceuticals
4. Undertake research in role of nutraceuticals in medical nutrition therapy (MNT) and product development
5. Offer counselling in the use of nutraceutical rich foods in disease management and prevention

Part – A

6x 1= 6

Answer the following

Circle the correct answer

1. The term that refers to the study of how nutrients affect gene expression is CO2K2
a. Genomics b. Epigenetics c. Proteomics d. Metabolomics
2. The country leading in nutrigenomics research globally is CO4K2
a. UK b. USA c. India d. Netherlands
3. Deficiency of which of the following nutrient interferes with the DNA replication CO4K2
a. Vitamin D b. Folic Acid c. Fibre d. Vitamin A
4. The kind of Bacteria that are used all over the world in industrial food fermentations CO5K3
a. Staphylococcus b. Lactic acid c. Saccharomyces d. Cocci
5. The collection of observable characteristics of organisms is known as CO2K2
a. Genotype b. Penetrance c. Phenotype d. Dominant
6. The critical element to the overall success of a functional food is the CO4K2
a. fortify b. enrich c. food vehicle is d. genome vehicle

Part B

Answer ALL Questions

Each answer should not exceed 200 words or one page 3x 6 = 18

- 7.a Briefly explain the codons and building process of genes. CO2K2
or
- 7.b. Write a note on nutrigenetics. CO3K2
- 8 a. Differentiate essential and non essential nutrients and its role in the body with examples. CO4K3
or
- 8 b. Brief on the benefits of concept of personalized nutrition ? CO5K2
- 9.a. Explain the steps involved at In vitro tests to screen potential strains. CO4K4
or
- 9.b Write a note on evaluation of safety of probiotics for human use. CO4K5

Part C

3x12=36

Answer ALL questions

Each answer should not exceed 600 words or three pages

- 10 a. Explain any five biomarkers developed to indicate efficacy of a functional ingredient in food. CO4K4
or
- 10 b. Discuss the salient findings of the Human Genome Project. CO2K4
- 11 a. Explain the nutrition and gene interactions. CO2K2
or
- 11 b. Explain the role of functional foods in the management of cardiovascular diseases. CO3K3
- 12.a. Elaborate the ICMR guidelines for probiotics CO3K2
or
- 12.b. Enumerate on the salient features and role of FSSAI in ensuring safety of functional foods and nutraceuticals. CO5K3

Number of copies: 23

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