



Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)
Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

Master's Degree Examination – June / July 2021
II Semester

Class : I PG
Major : Food Service Management and Dietetics

Time : 3 Hours
Max. Marks : 100

20MFDC08 Nutraceuticals and Nutrigenomics

Part A
Choose the Correct Answer

10 x 1 =10

1. Where did functional foods originate from? CO1K1
a. America b. Japan c. Europe d. China
2. Which forms of flavonoids are also known as phyto-oestrogens? CO1K2
a. Flavanols b. Flavones c. Isoflavones d. Anthocyanidins
3. Which of the following is a part of the usual definition for a functional food? CO2K1
a. It is consumed as part of a normal food pattern
b. It is not a pill, a capsule or any form of dietary supplement
c. It has physiological benefits and/or reduces the risk of chronic disease beyond basic nutritional requirements
d. All the above
4. Grapes are considered functional foods because they contain these substances: CO2K1
a. Proteins b. Carbohydrates
c. Phytochemicals d. None of the above
5. Mutual interactions between nutrients and genes are broadly studied under _____ CO3K2
a. Nutritional Genomics b. Nutrigenetics
c. Metabolomics d. Metagenomics
6. Key genetic enabler of nutrigenomics is _____ CO3K3
a. Single Nucleotide Polymorphism b. Mutation
c. Transcription factors d. Plasmids
7. Omega-3 fatty acids are naturally high in salmon. Therefore, salmon can be classified as this type of food? CO4K3
a. Fortified food b. Functional Food
c. Dietary supplement d. Nutraceutical
8. Diets high in fibre have been proposed to protect against colorectal cancer by which one of the following mechanisms? CO4K4
a. Antioxidant effect, which quenches free radicals b. Increased repair of damaged DNA
c. Increased induction of detoxifying enzymes d. More rapid removal of potential carcinogens
9. Which of the following is Probiotic? CO5K1
a. Bifidobacterium species b. Lactobacillus species
c. Yogurt d. All the above
10. What does the MTT assay reveal about a functional food ingredient? CO5K1
a. Measure cell toxicity
b. Measures cellular viability and identifies toxic fractions
c. Measures cellular viability
d. Determines if the substance has anti-obesity properties

Part B

5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

- 11.a. Define nutraceutical and bring out its association with health. CO1K1
(or)
- 11.b. Describe the concept of nutrigenomics and molecular research. CO1K2
- 12.a. Explain the functional components of some indigenous foods. CO2K3
(or)
- 12.b. Compare and contrast pre and probiotics. CO2K2
- 13.a. Recall the steps in protein synthesis. CO3K1
(or)
- 13.b. Enumerate on how diet affect gene expression CO3 K1
- 14.a. Describe the concept of nutraceutical in disease prevention. CO4K2
(or)
- 14.b. Explain the benefits of using a nutraceutical in disease management. CO4K3
- 15.a. Brief on the regulatory challenges of nutraceuticals in India CO5K2
(or)
- 15.b. Explain the ICMR guidelines for probiotics. CO5K2

Part C

5 x 12 = 60

Answer ALL questions

Each answer should not exceed 800 words or four pages

- 16.a. Describe the current status and legal aspects of nutraceuticals. CO1K2
(or)
- 16.b. Explain how nutrigenomics work and the future hold of nutrigenomics. CO1K3
- 17.a. Describe the various stages involved in the development of functional food. CO2K2
(or)
- 17.b. Classify nutraceuticals with suitable examples. CO2K4
- 18.a. Explain the working and future of various ohmic sciences. CO3K3
(or)
- 18.b. Criticize the pros and cons of personalized nutrition CO3K4
- 19.a. Appraise the role of nutraceutical in preventing and management of obesity. CO4K5
(or)
- 19.b. Summarise the role of nutraceuticals in prevention and management of cancer. CO4K5
- 20.a. Interpret the regulation of claims pertaining to nutraceuticals in India. CO5K3
(or)
- 20.b. Define a biomarker? Explain the criteria's of an efficient biomarker and its application in assessing the efficiency of a functional ingredient. CO5K1
