

**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034****M.Sc. DEGREE EXAMINATION – FOOD CHEMISTRY AND FOOD PROCESSING****SECOND SEMESTER – APRIL 2023****PFP2ME01 – FUNCTIONAL FOODS AND NUTRACEUTICALS**

Date: 10-05-2023

Dept. No.

Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

SECTION A – K1 (CO1)**Answer ALL the questions****(5 x 1 = 5)****1. Answer the following**

- a) Define phytochemicals
- b) Give four reasons for consumption of nutraceutical supplements.
- c) State any four functional foods that can be used for the prevention of cancer.
- d) Define systemic reviews.
- e) Recall any two structure and function claim.

SECTION A – K2 (CO1)**Answer ALL the questions****(5 x 1 = 5)****2. Match the following**

- a) Melatonin - Astaxanthin
- b) Phenolic acids - Sleep wake cycle
- c) Oats - Resveratrol
- d) Skin of grapes - Flavonoids
- e) Red Carotenoids - Reduce plasma cholesterol

SECTION B – K3 (CO2)**Answer any THREE of the following in 300 words****(3 x 10 = 30)**

- 3. Classify functional foods with suitable examples.
- 4. Outline the metabolism, bioavailability and health benefits of lutein and zeaxanthin.
- 5. Examine the role of nutraceuticals in bone health.
- 6. Determine the interactions between nutraceuticals and drugs.
- 7. Illustrate the criteria for healthy foods according to FDA.

SECTION C – K4 (CO3)**Answer any TWO of the following in 500 words****(2 x 12.5 = 25)**

- 8. Examine the role of dietary fiber in gut health.
- 9. Analyse the usefulness of functional foods and nutraceuticals in enhancing the sports performance.
- 10. “Dietary supplements pose real dangers to patients”. Critique the statement.
- 11. Develop six health claims for different products available in the market and justify your statement with research findings.

SECTION D – K5 (CO4)

Answer any ONE of the following in 750 words (1 x 15 = 15)

12. Explain the various processes that are required for obtaining the natural bioactive components from microbes, plants and animal sources.
13. a. What are the various types of phytochemicals? (5 marks)
b. Formulate a food product that will enhance the bioavailability of lycopene and interpret the factors that has improved the bioavailability in this formulation (10 marks).

SECTION E – K6 (CO5)

Answer any ONE of the following in 1000 words (1 x 20 = 20)

14. Summarize the properties and mode of action of probiotics in mental health of a person.
15. Propose a detailed plan of functional foods and nutraceuticals that can be consumed by Ms. C who is a 52-year-old Indian woman with a 7-year history of diabetes mellitus. Her family history is positive for hypertension-related cardiovascular disease (CVD). In addition, both her maternal and paternal grandparents had CVD.

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