



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – FOOD CHEMISTRY AND FOOD PROCESSING

SECOND SEMESTER – APRIL 2017

16PFP2ES01- FUNCTIONAL FOODS AND NUTRACEUTICALS

Date: 28-04-2017
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

Part A

Answer all the questions.

10 x 2 = 20 marks

1. What is meant by health claims?
2. List the any two absolute health claims.
3. Define nutraceuticals.
4. List the bioactive components in two Indian spices.
5. Draw the structure of glucosamine and coenzyme Q10
6. Mention any four factors affecting the bioavailability of isoflavones.
7. What are the etiological factors of respiratory diseases?
8. List any four functional foods prescribed for bone health.
9. What is nutri-genetics?
10. Define synergy.

Part B

Answer any eight questions.

8 x 5 = 40 marks

11. Discuss the potential health effects of non-nutritive food components in humans.
12. Briefly explain the different FDA models of health claims that meet the significant scientific agreement standard.
13. Write short notes on Non-Flavonoid Polyphenolics.
14. Draw and discuss the metabolism and pharmacokinetics of carnitine and acetyl carnitine.
15. Describe the main nutraceutical components present in tea.
16. Write a note on nutraceutical property of creatine and resveratrol.
17. Discuss the role of probiotics in disease alleviation with suitable literature.
18. Explain the role of nutraceuticals in sporting performance.
19. Bring out the usefulness of functional foods as hypolipidemic agents.
20. Discuss the pathophysiology of psychiatric problems.
21. Highlight the drug-nutraceuticals interactions of any two nutraceuticals.
22. Describe the synergistic interaction of nutraceuticals with anti-oxidants.

Part C

Answer any four questions.

4 x 10 = 40 marks

23. Write short notes on

- a) Relationship between functional foods and nutraceuticals with other fields of science.
- b) Grape seed proanthocyanidin extract.

24. Write a detailed note on extraction, isolation and characterization of bioactive components from plant material.

25. Describe and classify nutraceuticals based on its purported physiological properties.

26. Describe the nutraceuticals interaction of piperine and glycoaminoglycan with drugs.

27. Ms. C is a 42-year-old woman with a 7-year history of hypertension first diagnosed during her last pregnancy. Her family history is positive for hypertension. At physician, visit one, Ms. C presented with complaints of headache and general weakness. She reported that she has been taking many medications for her hypertension in the past, but stopped taking them because of the side effects. Despite this antihypertensive regimen, her blood pressure remains elevated. Discuss the etiological factors, pathophysiology and role of functional foods and nutraceuticals in hypertension.

28. Explain how diet modulates the expression of genes through the application of high-through put genomic tools.

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