



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Home Science
Choice Based Credit System (CBCS) in Light of NEP-2020
B. Sc. Food and Nutrition Sem V (2021 - 2024)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam (60%)	Two Term Exam (20%)	Teacher Assessment (20%)	End Sem University Exam (60%)	Teacher Assessment (40%)				
GUFN501	GE	Nutraceuticals and Health Supplements	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The students will

- **CEO 1:** develop comprehensive understanding of different nutraceuticals and functional foods.
- **CEO 2:** identify phytochemical components and its management on health and diseases.

Course Outcomes (COs): Student should be able to

- **CO1:** understand the basicity of functional food and Nutraceuticals and its application in the development of Dietary supplements.
- **CO2:** differentiate different sources of functional food and its impact on health.
- **CO3:** classify various types of functional foods and associated factors and challenges with respect to its marketing.
- **CO4:** memorize various nutrition, health and functional claims and role of biotechnology.
- **CO5:** develop profound understanding for Nutraceutical compounds.

Unit I

- Functional foods and Nutraceuticals - Definitions, sources, Health benefits, bioactive components of functional foods.
- Dietary supplements and fortified foods- need, health benefits adverse effects.

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Unit II

- Functional foods of animal origin: Dairy products, sea foods, egg,
- Functional foods of plant origin: fruits, vegetables, nuts, spices, cereals, beverages.
- Probiotics, prebiotics and symbiotic as functional foods and its effects on health.

Unit III

- Types of functional foods: whole foods, enriched foods, enhanced foods, fortified foods, modified foods.
- Market of functional foods, Challenges for Functional food delivery, Factors affecting consumer interest.

Unit IV

- Food component – approved health claims, labeling considerations for functional ingredients.
- Permissible and impermissible functional claims.
- Role of biotechnology in the development of functional foods.

Unit V

- Nutraceutical compounds – Phytochemicals, phytosterols and other bioactive compounds.
- Probiotics, prebiotics and symbiotic as functional foods and its effects on health.

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Reference Books:

- N. Shakuntala manay and M. Shadaksharaswam, *Food Facts and Principles*, 3/e, New Age International, 2008.
- L. Branen, P. M. Davidson and S. Salminen, *Food Additives*. 2/e, Marcel Dekker, 2001.
- B. George, *Encyclopedia of Food and Color Additives*, Vol. III, CRC Press, 1996.
- A. B. George. Fenaroli's *Handbook of Flavor Ingredients*. 5/e,. CRC Press, 2004.
- D. L. Madhavi, S. S. Deshpande and D. K. Salunkhe, *Food Antioxidants: Technological, Toxicological and Health Perspective*. CRC press, 1995.
- I. D. Morton and A. J. Macleod, *Food Flavours*, Part C, Elsevier, 1990

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