HALDIA INSTITUTE OF TECHNOLOGY

Value Added Courses

Name of the Department: Food Technology

Sl. No.	Name of the Course	Course Code	Year of offering	Semester (Odd/Even) during which it is offered	Offered to	No. of students enrolled
1	Integrated approach on preventive nutrition	VAC-FT 001	AY 2021-2022	Odd	3rd year	19
2	Anti diabetic potential of underutilized fruits in India :Measurements and analyses	VAC-FT 002	AY 2021-2022	Even	3rd year	24
3	Food and Mental Health	VAC-FT 003	AY 2022-23	Odd	3rd year	64
4	Sensory Science	VAC-FT 004	AY 2022-23	Even	3rd year	64

Syllabus of the Value Added Courses

A. Course name: **Integrated approach on preventive nutrition**

Course code: VAC-FT 001

Credit points: 3

Contact hours: 30 h (27 hours: Teaching, 3 hours: Assessment and evaluation)

Module 1: Fundamentals of holistic and preventive nutrition; Therapeutic nutrition-definition, benefits and application; Food as medicine and dietetics; Diet therapy.

Module 2: Basic of nutritional association with fitness; Nutrition in daily basis on a family; Maternal and child nutrition; Nutritional aspects on life span of elderly; Neutraceuticals and functional formulations on daily diet; Community nutrition.

Module 3: Introduction to Food safety; Nutritional ethics; Nutrition and public health; Guidelines of WHO and Governments in enhancing immunity through nutrition; Contribution of nutrition in preventing life threatening diseases- case study.

B. Course name: **Anti diabetic potential of underutilized fruits in India: Measurements and analyses**

Course code: VAC-FT 002

Credit points: 3

Contact hours: 30 h (17 hours: Theory, 10 hours: Practical, 3 hours: Assessment and Evaluation)

Module 1: Definition and types of diabetes; implication of diabetes on the human lifestyle; role of different food components on acceleration or prevention of diabetes: dietary fibre, reducing and non-reducing sugars, amylase activity, presence or absence of bioactive compounds.

Module 2: India: the fruit basket of the world; The underutilized fruits of India and the reason behind their low consumption; Proximate composition and phytochemical reserve of underutilized fruits of India: jamun, amla, bael, rambutan, jackfruit, bilimbi and kokum; Anti-diabetic potential of underutilized fruits of India: jamun, amla, bael, rambutan, jackfruit, bilimbi and kokum – case studies; Novel measures for increasing cultivation, shelf-life and scope of utilization of anti-diabetic underutilized fruits of India.

Module 3: Estimation of starch, dietary fibre, reducing and non-reducing sugars, glucose, total phenolics content, total flavonoids content, glycemic index, α-amylase inhibition activity and glucose retardation index of food using various *in vitro* laboratory methodologies.

C. Course name: **Food and Mental Health**

Course code: VAC-FT 003

Credit points: 3

Contact hours: 30 h (27 hours: Theory, 3 hours: Assessment and Evaluation)

Module 1: Basic nutrients in food: carbohydrates, proteins, fats, vitamins and minerals. Their structure, classification and functions. Structure of human brain. Function of different parts of human brain. Role of nutrition and cognitive performance.

Module 2: Food and neurotransmitters. Influence of carbohydrates, proteins (especially amino acids) and fats on brain responses.

Module 3: Effect of geographical location and cultural practices on food and mood: Lifestyle, Comfort foods, Stress hormone (Epinephrine), Serotonin theory, Effect of carbohydrate and protein consumption on serotonin synthesis. Effect of consumption of fruits, vegetables and omega-3 fatty acids (Anti-inflammatory Explanation) on mental health, Role of chocolate and caffeine in elevation of human mood.

D. Course name: **Sensory Science**

Course code: VAC-FT 004

Credit points: 3

Contact hours: 30 h (27 hours: Theory, 3 hours: Assessment and Evaluation)

Module 1: Definition of sensory science. Its philosophy and uniqueness. History of sense perception. The integrating aspect of sensory science. Application of sensory science in: society, food industry, research. The food pairing theory.

Module 2: Biology of sensory evaluation. Components of sensory evaluation: Color, Texture and sound, Flavor and aroma. Effect of these components on consumer preference.

Module 3: Instrumental evaluation. Relationship between instrumental and sensory measurements. Hedonic Scale study. Fuzzy logic. Novel digital technologies used in sensory science: electronic noses and tongues, Gnathosonics.