



GANDHI INSTITUTE OF TECHNOLOGY AND MANAGEMENT (GITAM)

(Declared as Deemed to be University u/s 3 of UGC Act, 1956)

Visakhapatnam | Hyderabad | Bengaluru

Accredited by **NAAC** with **A++** Grade

Website: www.gitam.edu

GITAM SCHOOL OF SCIENCE

Department of Microbiology & Food Science and Technology

PhD in Science: Food Science and Technology

PhD Entrance Test Syllabus - 2024-2025

PhD in Science: Food Science and Technology

UNIT I

Technology of foods: Plant foods: Composition, structure, nutritive value, Post-harvest technology of -cereals, pulses, fruits & vegetables, milling technology, processed fruits and vegetable products. Animal foods: Milk- Composition, physico-chemical properties, processing of milk, types and milk products. Structure, composition, functional properties and processing of - egg, poultry, meat & marine foods.

UNIT II

Food spoilage, preservation and packaging: Microorganisms causing spoilage, spoilage of perishable and non- perishable foods, canned foods, fermented foods. Probiotics and prebiotics. Principles and methods of food preservation, additives and preservatives, Advanced food processing techniques. Flexible and rigid packaging materials and properties, smart packaging. Nutrition labeling, nutrition and health claims.

UNIT III

Dietetics and clinical Nutrition: Carbohydrates, lipids & proteins: Classification, structure & properties. Vitamins:-sources, occurrence, structure, functions in food systems, effect of processing. Food groups, RDA, Nutrient deficiency disorders, principles of diet therapy, diet in diabetes, obesity, hypertension, cancer. Functional foods, nutraceuticals, Antioxidant rich foods.

UNIT IV

Food Product development, safety and quality assurance: classification and scale-up, launching of a new product, test marketing and commercialization, plant layout. Scope and principles behind entrepreneurship development, entrepreneurial qualities. PFA, AGMARK, FPO, MPO, BIS, ISI, FSSAI, GMP, GHP, GAP, HACCP, CODEX Alimentarius, Risk assessment