BSS 554 NUTRITIONAL BIOLOGY

39hrs

Course Outcomes:

After successful completion of the course, students will be able to:

CO 1. Understand the basics of nutrition science and its practical applications in day to day life.
CO 2. Describe the nutritional requirement and challenges of differ age groups through life cycle.
CO 3. Explain the role of proper nutrition during pregnancy and lactation.
CO 4. Describe the physiological changes which take place through lifecycle
CO 5. Understand the types of food safety hazards and its mitigation measures.

Unit I: Introduction to nutrition science: Composition of food (carbohydrates, proteins, fats, vitamins, minerals, fiber and water), balanced diet, food groups (The 11 food groups), RDA, factors affecting RDA, determination of RDA of different nutrients, reference man andwoman, practical application of RDA, current diet and nutrition scenario, common nutrition problems (Starvation, Protein Energy Malnutrition, Nutritional anaemia).

Unit II: Life span nutrition: Nutritional requirements for adults (reference man and woman), infants, pre-school children, school children, adolescent children. Geriatric nutrition.
Nutrition for expectant and Lactating women: Preconceptual nutrition, physiological changes during pregnancy, nutritional requirements for pregnant women, physiology of lactation, nutritional requirements of a nursing mother.

Unit III: Food safety hazards: Biological hazards (bacteria, molds, parasites), chemicalhazards (Food additives, pesticides/agricultural product residues, veterinary drug residues) physical hazards (natural and unnatural), allergic hazards (Milk, egg, nuts, wheat, shellfish), food adulteration hazards (types and mitigation measures).

References:

1. Srilakshmi B. (2021) Nutrition Science, 7th edition, New Age International Publishers.
2. Shrilakshmi B. (2019) Dietetics, 8th edition, New Age International Publishers,
3. Sharma A. (2017) Principles of therapeutic nutrition and dietetics, CBS Publishers and distributers Pvt. Ltd.
4. Lawley R, Curtis L, and Davis J. (2012) Food Safety Hazard Guidebook, RSC publishing, 2nd edition,
5. Shubhangini A. J. (2017) Nutrition and dietetics, McGraw Hill Education, 4th edition.
6. Longval T., Ananthan R., Bhaskarachary K. and Venkaiah K. (2017) Indian Food Composition Tables. ICMR- National Institute of Nutrition, Telangana, India.
7. A Report of the Expert Group. Nutrient Requirements for Indians. (2020) ICMR-National Institute of Nutrition, Telangana, India.