BACHELOR OF SCIENCE (GENERAL)

5th SEMESTER

SKILL ENHANCEMENT COURSE (SEC)

BT520S: BIOTECHNOLOGY: FOOD TECHNOLOGY

CREDITS: THEORY – 2, PRACTICAL – 2 (2+2)

THEORY (2 CREDITS: 30 HOURS) **MAXIMUM MARKS: 30, MINIMUM MARKS: 12**

Objective: This course is aimed to provide insight into food quality and control.

Unit-1 (15 HOURS)

Introduction to Food technology; Food preservation technologies- blanching, pasteurization, sterilization, canning, dehydration, irradiation, ultrafiltration; Spoilage of food products (fruit, vegetables, meat, milk and cereal products); Food borne diseases - infections and intoxications; Food adulteration - common food adulterants; detection of food adulteration; Food additives - colour, flavour, vitamins, antioxidants, preservatives; Food safety and standards act 2006 and regulation 2011.

Unit-2 (15 HOURS)

Functional foods (brief idea);G.M Foods - advantages, safety evaluation, allergenicity, public attitudes; G.M. Crops -Bt Corn, BtBrinjal& Golden Rice; Probiotics - its health benefits; Fermented milk and vegetable products; Single cell proteins (SCP).

PRACTICALS (2 CREDITS: 60 HOURS) **MAXIMUM MARKS: 30, MINIMUM MARKS: 12**

1. Heat preservation of foods.
2. Detection of adulteration of milk and milk products.
3. Preparation of fermented products (dahi, cheese, sauerkraut, vegetable pickle).
4. Spoilage detection and isolation of any food borne bacteria from food products.
5. Visit to food processing industries.

BOOKS RECOMMENDED

1. Food Science, Norman N Portter and JH Hotchkiss - CBS Publishers.
2. Food Biotechnology principles & Practices,Joshi, V. K. and Sing., R.K.
3. Modern Food Microbiology James M. Jay, - CBS Publishers Delhi.

Expected Learning Outcomes:

1. Understanding of different food preservation techniques and detection of food adulteration.
2. Basic concept of GM foods, GM crops and public attitudes towards them.