SARDAR PATEL UNIVERSITY
Programme: B.Sc (Home Science)
Semester: IV
(Food & Nutrition)
Syllabus with effect from: November/December-2012

Theory

Objectives:

This course will enable students to:

- Understand the nature of microorganisms involved in food spoilage, food infections, and intoxication.
- Understand the importance of microorganism in biotechnology.
- Understand the principles of various methods used in the prevention and control of the microorganisms in food.
- Understand the criteria for microbiological safety in various food operations to avoid public health hazards due to contaminated foods.

Paper Code:UH04CFDN06	**Total Credit: 2**
Title Of Paper: Food Microbiology	

Unit	Description in detail	Weighting (%)
I	Brief history of microbiology and introduction to important microorganisms in foods. Cultivation of microorganisms, nutritional requirements of Microorganisms, types of media used and methods of isolation	15%
II	Fundamentals of control of microorganisms in food. Extrinsic and intrinsic parameters affecting growth and survival of Microbes, physical and chemical methods used in destruction of Microorganisms. Use of high and low temperature, dehydration, Freeze drying, irradiation and disinfectants.	25%
III	**Food spoilage:** Contamination and microorganism involved in the spoilage of Different kind of foods and their prevention. Cereal and cereal products Vegetable and fruits Fish and other sea foods Meat products Egg and poultry Milk and milk products Sugar and sugar products Canned food	35%
IV	Public health hazards due to contaminated food: food borne infections and intoxication- symptoms, mode and sources of transmission and methods of prevention.	15%
V	Microbes used in food biotechnology, fermented foods and their benefits.	5%
VI	Indices of food, milk and water sanitary qualities, microbiological criteria of foods, water and milk testing.	5%

Basic Text & Reference Books

- Frazier, W.C. and Westhoff, D.C. (1988): fourth edition,
- Food microbiology, Mc Graw Hill Inc, Jay James M. (1986) Third Edition
- Modern Food Microbiology, Van Nostrand Reinhold company Inc. Pelzar, M.T. and Reid, R.D. (1978): Microbiology, Mc Graw Hill book company, New York.
- Benson Harold J. (1990): Microbiological applications Wn. C. Brown Publishers U.S.A.
- Collins C.H. and Layne, P.M. (1996) microbiological methods Buttersworth London