

APPLIED PAPER – II – FOOD AND DAIRY MICROBIOLOGY

UNIT – I

Introduction: Importance of food and dairy Microbiology – Types of microorganisms in food – Source of contamination (primary sources) – Factors influencing microbial growth in foods (extrinsic and intrinsic)

UNIT – II

Food fermentations: Cheese, bread, wine, fermented vegetables – methods and organisms used. Food and enzymes from microorganisms – single cell protein, production of enzymes.

UNIT – III

Contamination, spoilage and preservation of different kinds of foods, cereals and cereal products – sugar and sugar products – vegetable and fruits – meat and meat products – fish and other sea foods – eggs and poultry – dairy and fermentative products (ice cream/milk/bread/wine).

UNIT – IV

Food Poisoning : food borne infections (a) Bacterial: Staphylococcal, Brucella, Bacillus, Clostridium, Escherichia, Salmonella (b) Fungal : Mycotoxins including aflatoxins, (c) Viral: Hepatitis, (d) Protozoa – Amoebiasis.

UNIT – V

Food preservation : Principles of food preservation – methods of preservation. a. Physical (irradiation, drying, heat processing, chilling and freezing, high pressure and modification of atmosphere) b. Chemical (Sodium benzoate Class I & II) . Food Sanitation: Good manufacturing practices – Hazard analysis, Critical control points, Personnel hygiene.

Text Book Recommended:

1. Adams, M.R. and Moss, M.O.1995. Food Microbiology, The Royal Society of Chemistry, Cambridge.
2. Frazier, W.C. and Westhoff, D.C.1988. Food Microbiology, TATA McGraw Hill Publishing company ltd., New Delhi.
3. Jay, J.M.1987. Modern Food Microbiology. CBS Publishers and distributors, New Delhi.
4. Atlas, R.M. 1989. Microbiology, A Fundamentals and Applications, Macmillian Publishing company.

Reference:

1. Banwart, G.J.1989. Basic Food Microbiology, Chapman & Hall New York.
2. Board, R.C.1983. A Modern Introduction to Food Microbiology, Blackwell Scientific Publications, Oxford.
3. Robinson, R.K.1990. Dairy Microbiology, Elsevier Applied Science, London.
4. Hobbs, B.C. and Roberts, D.1993. Food Poisiong and Food Hygiene, Edward Arnold (A division of Hodder and Stoughton), London.