

ST. JOSEPH'S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM

Time: 4 Hrs/Week

FOOD MICROBIOLOGY

Max. Marks: 100

Objectives: To enable the student to understand –

1. the nature of microorganisms involved in food spoilage, food infections and intoxicants.
2. the importance of microorganisms in food microbiology.
3. the principles of various methods used in prevention and control of the microorganisms in foods.

Course:

Unit I : Brief history of food microbiology and introduction to important micro organisms in foods. Cultivation of microorganisms – nutritional requirements of micro organisms, types of media used and methods of isolation.

Unit II: Primary sources of micro organisms in foods, physical and chemical methods used in the destruction of microorganisms (Sterilisation and disinfection).

Unit III: Fundamentals of control of microorganisms in foods. Extrinsic and intrinsic parameters affecting growth and survival of microbes, use of high and low temperatures, dehydration, freezing and freeze drying, irradiation and preservatives in food preservation.

Unit IV: Importance of sanitation and hygiene in kitchen, food plants, food handling, employees' health, food contamination, infection, poisoning and intoxication. Indices of food, milk and water sanitary quality.

Unit V: Microbes in food preparation, fermentation, benefits, probiotics etc.

REFERENCES:

1. Fundamental principles of Bacteriology (1974) A.J.Salle. Mc.Graw Hill Publications, New Delhi.
2. Bacteriology (1961) – R.E.Buchanna and E.D.Buchanan. Mac Millan Publishers, New Delhi.
3. Fair brother's Text book of Bacteriology – (1964) Ed.R.L.Vollum, D.G.Jamieson and C.S.Cummins William Heinemann, New York.
4. Microbiology (2000) – A.K.Joshua. Popular Book Depot, Chennai.
5. Food Microbiology (1995) – W.G.Frazier, McGraw Hill Publications, New Delhi.
6. Food Microbiology (2005) – R. Ananthanarayan and C.K.Jayaram Orient Longmans, Hyderabad.
7. Microbiology – M.J.Pelczar, R.D Reid and Scham (1993) TATA McGraw Hill Publications, New Delhi.

ST.JOSEPH'S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM

Time: 2 Hrs/Week

**MICROBIOLOGY
PRACTICALS**

Max. Marks: 50

Unit I: Preparation of common laboratory media for cultivation of bacteria, yeast and moulds.

Unit II: Isolation of microorganisms by pour plate method (Dilution), spread plate and streak plate method.

Unit III: Morphological identification of important molds and yeast in foods (slides & cultures).

Unit IV: Sampling of air, water, dust, soil, food handlers to study the various sources of transmission of microorganisms in foods

Unit V: Demonstration of microbiological analysis of water, milk and food for enumeration of standard plate count and coliform count. Assessment of kitchen surfaces sanitation by swab rinse methods.

REFERENCES:

1. Fundamental principles of Bacteriology (1974) A.J.Salle.Mc.Graw Hill Publications, New Delhi.
2. Bacteriology (1961) – R.E.Buchanna and E.D.Buchanan. Mac Millan Publishers, New Delhi.
3. Fair brother's Text book of Bacteriology – (1964) Ed.R.L.Vollum, D.G.Jamieson and C.S.Cummins William Heinemann, New York.
4. Microbiology (2000) – A.K.Joshua. Popular Book Depot, Chennai.
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