

(3)

FOOD SCIENCE AND TECHNOLOGY

SEMESTER II UG FSc. T17202:
INTRODUCTORY FOOD MICROBIOLOGY

UNIT I:

Introduction to Microbiology:

- History and scope of microbiology
- Distribution of micro organisms
- Microbial growth curve
- Factors affecting microbial growth – extrinsic and intrinsic factors

UNIT II:

Introduction to microbes:

- Bacteria: structure and classification
- Fungi : structure and classification
- Viruses : structure and classification
- Economical importance of bacteria, fungi and viruses
- Mycotoxins

UNIT III:

Microbial spoilage of foods:

- Microbial spoilage of fresh foods – fruits , vegetables, cereals, pulses
 - Spoilage of meat and milk
 - Microbial spoilage of canned foods
 - Microbiological hazards associated with foods – Salmonellosis, Botulism
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UNIT IV:
Industrial microbiology:

- Industrial microbiology : scope and development
- Fermented foods and their benefits: sauerkraut, yoghurt, cheese, miso, tempah
- Industrial production of enzymes and single cell protein
- Probiotics and their health benefits

PRACTICAL:

- Microscope : types and working of microscope.
- Cleaning and sterilization of glassware
- Inoculation techniques
- Gram staining
- Identification of bacteria on basis of : cultural characteristics, morphological characteristics
- Demonstration and identification of permanent slides
- Enumeration of micro organisms - TPC

REFERENCES

1. Food microbiology by Frazier
2. Modern Food Microbiology by James J.
3. A textbook of microbiology by Dubey