CLUSTER UNIVERSITY SRINAGAR

SYLLABUS (FYUP UNDER NEP2020)

Offered By Department of FOOD SCIENCE & TECHNOLOGY

Semester 1st to 3rd (Multi-Disciplinary Course)

Course Title: Introduction to Food Science and Technology - I

Course Code: UGFST22D101 **Max. Marks: 75**
Credits: 3 **External: 55; Min Marks: 22**
Contact Hrs: 45 **Internal (Continuous Assessment): 20 Marks, Min Marks: 08**

Objective:

- To acquaint the students with basic concepts of foods, their classification and quality parameters.
- To acquaint the students with various hazards associated with foods.
- To acquaint the students with various methods of food preservation.

Course outcome:

After completing the course, the students will be able to:

1. Apply the scientific method to study the characteristics of foods and the problems associated thereof.
2. Apply different techniques of preservation for shelf-life extension of foods.

Unit I: Introduction to Foods **(15 Hrs)**

- Introduction to Food groups – Cereals, legumes, fruits, vegetables, milk, meat, spices, plantation crops.
- Classification of foods on basis of pH, origin and shelf-life.
- Hazards in foods – physical, chemical and microbiological
- Food quality – definition, consumer concept of quality.
- Difference between quality control and quality assurance

Unit II: Thermal processing **(15 Hrs)**

- Different types of food spoilage – physical, biochemical and microbiological.
- High temperature processing – Pasteurization and Sterilization
- Canning – Principle and steps involved
- Low temperature processing – Principle of freezing, slow and fast freezing.
- Dehydration of foods – principle, advantages and disadvantages

Unit III: Non-thermal processing **(15 Hrs)**

- Preservation of foods by sugar and salt
- Fermentation – principle, types and advantages
- Packaging of foods – Definition and functions
- Modified atmospheric packaging
- Controlled atmosphere storage

REFERENCES:

i. Food Science by N. N. Potter
ii. Food: Facts and Principles by Shakuntala Manay
iii. Food Chemistry by O. R. Fennema.
iv. Food Processing Technology by P.J. Fellows
v. Physical principles of Food Preservation by M. Karel, O.R. Fenema and D.B. Lurd.
vi. Food Packaging Science and Technology by D. S. Lee, K. L. Yam and L. Piergiovanni