

Government Degree College Baramulla

SEMESTER 1st

MULTIDISCIPLINARY

Subject: Food Science and Technology

Title: FOOD PRESERVATION

CREDITS: THEORY: 03

Code: BFS22M103

CONTACT HOURS: 48 T

Course Objectives:

- *To introduce the students to 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.*

Learning 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

(16 hours)

- Introduction to Food groups – Cereals, legumes, fruits, vegetables, milk, meat, spices, and plantation crops.
- Classification of foods on basis of pH, origin and shelf-life.
- Hazards in foods – physical, chemical and microbiological
- Different types of food spoilage – physical, biochemical and microbiological.
- Food quality – definition, consumer concept of quality.
- Quality control laboratory

Unit II: Thermal processing

(16 hours)

- High temperature processing – Pasteurization and Sterilization
- Canning – Principle and steps involved
- Low temperature processing – Refrigeration and Freezing.
- Different types of freezers, cryogenic freezers and thawing.

Unit III: Non-thermal processing**(16 hours)**

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

Books Recommended:

1. Food Science by N. N. Potter
2. Food: Facts and Principles by Shakuntala Manay
3. Food Chemistry by O. R. Fennema.
4. Food Processing Technology by P.J. Fellows
5. Physical principles of Food Preservation by M. Karel, O.R. Fenema and D.B. Lurd.
6. Food Packaging Science and Technology by D. S. Lee, K. L. Yam and L. Piergiovanni