

MFT303 Food Packaging and Labelling

Teaching Scheme	Examination Scheme
Lectures: 3 hrs./week Tutorials: 1 hr./week Credits: 4	Internal Assessment Marks [IAM]: 30 [Class Test: 12, Teachers assessment: 6, Attendance: 12] End Semester Marks [ESM]: 70

Course Objective:

1. To acquaint the students with packaging methods, packaging materials, packaging machineries, modern packaging techniques, food labeling guidelines as well. etc.

Detailed Syllabus

Module 1
Introduction to packaging. Packaging operations, package-functions and design. Principles of protective packaging. Deteriorative changes in foodstuff. Shelf life of packaged foodstuff, packaging methods to extend shelf-life. Packaging materials: origin, types, chemistry, morphology and physical characteristics, advantages, defects and risks.
Module 2
Food containers: Rigid containers, corrosion of containers (tin plate). Flexible packaging materials and their properties. Food packages-bags, pouches, wrappers, carton and other traditional packages. Containers-wooden boxes, crates, plywood and wire bound boxes, corrugated and fibre board boxes, textile and paper sacks.
Module 3
Challenges in food packaging, considerations in the packaging of perishable and processed foods. Evaluation of packaging material and package performance, WVTR, GTR, bursting strength, tensile strength, tearing strength, drop test, puncture test, impact test. Packaging equipment, package standards and regulation.
Module 4
Shrink packaging. Bar coding, aseptic and retortable pouches. Flexible and laminated pouches, Aluminum as packaging material. Biodegradable packaging. Active packaging, smart packaging and intelligent packaging.
Module 5
FSSAI regulations of food labeling - CAC guidelines for food labeling. FOSHU Nutritional labeling and education act 1990- mandatory nutritional labeling, nutrient content claims, health claims, national uniformity for food act, 2005.

Suggested Readings
1. Robertson GL, Food Packaging – Principles and Practice, CRC Press Taylor and Francis Group, 2012
2. Coles R, McDowell D and Kirwan MJ, Food Packaging Technology, CRC Press, 2003
3. Paine FA and Paine HY, A Handbook of Food Packaging, Blackie Academic and Professional, 1992.

Course Outcomes

After completing the course, students will be able to:

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| 1. Will be able to know basics of packaging, its functions and shelf life of various food stuffs. |
| 2. To understand about packaging materials, methods and their applications in food industry. |
| 3. Evaluation methods of packaging materials |
| 4. To understand the shrink wrapping, bar coding and biodegradable packaging |
| 5. To understand the regulations related to food labeling |

