

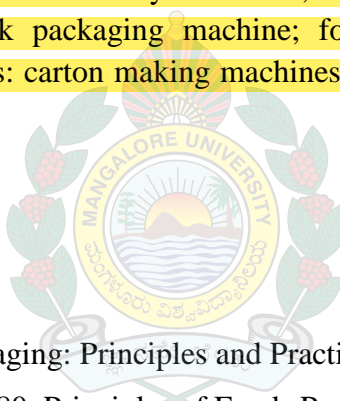
**Course outcome:**

- Describe the objectives of food packaging and packaging material.
- Classify the different types of packaging material depending on food type.
- Write down the different packaging equipment and machinery.
- Identify the importance of modified atmospheric packaging.

**Unit I:** Food packaging: Definitions, objectives and functions of packaging and packaging materials. Packaging requirements and selection of packaging materials; Types of packaging materials. Sanitation and hygiene, GMP, GLP.

**Unit II:** Food packaging systems: Different forms of packaging such as rigid, semi-rigid, flexible forms and different packaging system for (a) dehydrated foods (b) frozen foods (c) dairy products (d) fresh fruits and vegetables (e) meat, poultry and sea foods.

**Unit III:** Packaging equipment and machinery: Vacuum, CA and MA packaging machine; gas packaging machine; seal and shrink packaging machine; form and fill sealing machine; aseptic packaging systems; bottling machines: carton making machines. Smart packaging systems for bacterial spoilage, water activity.

**REFERENCES**

- Robertson, G.L. 2006. Food Packaging: Principles and Practice (2<sup>nd</sup> Ed.), Taylor & Francis
- Sacharow, S. and Griffin, R.C. 1980. Principles of Foods Packaging (2<sup>nd</sup> Ed.), Avi, Publication Co. Westport, Connecticut, USA.
- Rooney, M.L. (1995), Active Food Packaging - Blackie Academic & Professional, Glasgow, UK.
- Food Packaging Technology Handbook, 2003. NIIR Board, National Institute of Industrial Research,
- Ahvenainen, R. (Ed.), 2003. Novel Food Packaging Techniques, CRC Press
- Han, J.H. (Ed.) 2005. Innovations in Food Packaging, Elsevier Academic Press