



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Tech.(Food Engg.) 2015 Admission**  
**VII Semester Final Examination-January-2019**

**Fdpr.4105**

**Food Packaging Technology (2+1)**

**Marks: 50**  
**Time:2 hours**

**I Fill in the Blanks (10x1=10)**

- 1 Factors affecting the shelf life of a food product depends upon \_\_\_\_\_ and \_\_\_\_\_ factors.
- 2 Specialized proteins called \_\_\_\_\_ catalyze biochemical relations leading to the deterioration of a food product.
- 3 Information about the food product may be obtained from the \_\_\_\_\_ of the packaged food.
- 4 PE is made by addition \_\_\_\_\_ of ethylene gas in a high temperature and pressure reactor.
- 5 Packaging is a means of ensuring \_\_\_\_\_ delivery of food to the ultimate consumer in sound condition at optimum cost

**State True or False**

- 6 A carton filled with jam bottles is an example of tertiary packaging.
- 7 The total oxygen content is kept below 12% in packaging where chances of rancidity are there.
- 8 Metal cans can preserve food up to six months.
- 9 Gas permeability rate through plastic packaging material depends upon the surrounding temperature.
- 10 Paperboard may be coated with plastic to increase its desired packaging properties.

**II Write Short notes on any FIVE of the following (5x2=10)**

- 1 Effect of water activity value on the shelf-life a food product.
- 2 How oxidation affect the shelf-life of a food product?
- 3 Benefits of using plastic as packaging material for food.
- 4 Differentiate the Psychrotrophic and Psychrophilic micro-organisms affecting the shelf life of food
- 5 Use of aluminium in food packaging.
- 6 Role of packaging in brand competition.
- 7 Standard for testing shear test of the plastic packages.

**III Answer any FIVE of the following. (5x4=20)**

- 1 How do the physical and physico-chemical processes affect the shelf life of a food product?
- 2 Explain how the modified atmospheric packaging extends the shelf life of a food product.
- 3 Explain the process of biodegrading of food product during storage and the major factors responsible for the biodegradation.
- 4 Explain the migration process of packaging materials to food with their advantages and disadvantages. Also explain the migration of plastic to food.

**P.T.O**

- 5 What is the importance of testing of a food package. Explain the relevant test code for distribution performance testing.
- 6 Working principle of form fill seal machine.
- 7 Advantages and disadvantages of using glass as packaging material.

**IV Answer any ONE of the following (1x10=10)**

- 1 Explain the concept of REUSE, RCYCLE and DISPOSE with respect to the packaging materials used in food processing sector.
- 2 Explain the role of plastic in food packaging along with its advantages and disadvantages. Also explain the various types of plastics used in the food packaging along with the additives used to make it desirable in terms of strength, barrier properties and seal and printability.

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