

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2023****Subject Code:3171404****Date:08-12-2023****Subject Name: Food Packaging Technology****Time: 10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) Define the following terms. **03**
i) Packing
ii) Cullet
iii) Degree of polymerization
- (b) What are facts to be known to develop a successful package? **04**
- (c) Discuss the functions of food packaging. **07**
- Q.2** (a) Enlist the advantages of aluminum in food packaging. **03**
(b) Why are silicones and fluoro-carbon gas treatment carried out during glass manufacturing? **04**
(c) Compare the characteristics of food packaging with packing. **07**
- OR**
- (c) Define Plastics. Differentiate between thermoplastics and thermosets. **07**
- Q.3** (a) What is RFID tag? State its applications in food packaging. **03**
(b) State the advantages and limitations of glass in food packaging. **04**
(c) Define blister packaging. Classify blister packaging along with salient features. What are advantages of blister packaging? **07**
- OR**
- Q.3** (a) What do you understand by aluminum series 5000 and 3000 containers? **03**
(b) State the requirements of edible film used for food packaging. **04**
(c) Define Active Packaging. Explain the different active packaging films with active components. **07**
- Q.4** (a) Differentiate between kraft paper and glassine paper. **03**
(b) State the functions of the followings in paper manufacturing. **04**
i) Digestion of wood pulp
ii) Beating
(c) What do you mean by CFB Box? Explain the different components of CFB Box along with the functions. **07**
- OR**
- Q.4** (a) Differentiate between gravitational filling and volumetric filling. **03**
(b) Briefly explain the half value period method to estimate the shelf life of packaged dehydrated food product. **04**
(c) Explain the characteristics and food packaging applications of polypropylene. **07**
- Q.5** (a) Enlist the characteristics/requirements of an ideal packaging material. **03**
(b) Develop a relationship among true density, bulk density and porosity. **04**

- (c) Sketch out piston type filling system for liquid food product. Explain the principle, working and limitations of this system. **07**

OR

- Q.5** (a) Why are plastics widely used for food packaging? **03**
(b) What precautionary measures to be taken to reduce tinplate container corrosion during processing and storage? **04**
(c) Packaging means 'PAISE' to all stakeholders. Justify the statement. **07**
