

**B.E. FOOD TECHNOLOGY AND BIOCHEMICAL ENGINEERING  
THIRD YEAR SECOND SEMESTER SUPPLEMENTARY EXAM 2023**

**Food Packaging Technology**

Time: 3 hrs.

Full Marks : 100

**Part – I**

[Answer any four questions, 12.5 x 4 = 50 ]

1. What do you mean by the term ‘ packaging ’ ? Citing example elaborate ‘primary packaging’ and ‘secondary packaging’. Write the basic objectives of food packaging. Give examples of ‘rigid’ and ‘flexible’ packaging materials. Write the full form of ‘PET’. Mention the symbols used for indicating ‘Veg’ and ‘Non-Veg’ foods. (2+3+2.5+2+1+2)
2. What should be the characteristics of ideal packaging material. Mention the information to be supplied as labelling on a package. What do you mean by ‘use by’ and ‘best before’ dates mentioned on packages. Write the advantages and disadvantages of using Aluminium as packaging material. Write short note on : Tetra Pak aseptic carton system. (3+2+2+2.5+3)
3. With the help of neat sketch show the different sections of a glass container. Mention the advantages and disadvantages of using glass as packaging material. Name one colouring agent used for manufacturing of each of brown glass , green glass and red glass. State why soda ash and lime stone are used as ingredients for glass manufacture? (4+3+3+2.5)
4. With the help of flow sheet show the operations followed during manufacturing of glass. What is ‘annealing lehr’ and what is its use in glass manufacturing? describe how the surface of freshly manufactured glass container is treated ? (3+4+5.5)
5. Show the composition of the wall tin plate can . Why canning is called ‘commercial sterilization process’ ? Classify different food products in terms of pH and also give example of each class. Why ‘exhausting’ is an important step during canning of vegetables. What are ‘two piece can’ and ‘three piece can’? (3+2+3+2+2.5)

[ Turn over

Ref. No. Ex/FTBE/PC/B/T/322/2023(S)

**B.E (FTBE) 3<sup>RD</sup> YEAR, 1<sup>ST</sup> SEMESTER SUPPLEMENTARY EXAMINATION 2023**

**FOOD PACKAGING TECHNOLOGY**

**PART- II (50 MARKS)**

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**Q1. Comparatively evaluate the following with examples (any 4):**

**4 × 5 = 20**

- a. Counter pressure method vs. Differential pressure method of retorting
- b. Al foil pouch vs. Al foil trays
- c. Retort technology vs. *Sous vide* technology for vegetable curry
- d. Packaging of cocoa Beans vs. cocoa Powder
- e. Absorption type vs. Generation type of sachets
- f. Packaging of Regular milk vs. Long life milk

**Q2. Discuss the packaging laminate composition and the packaging technologies involved (with block/schematic diagrams, flow sheets etc.) wherever applicable when fresh small white prawns are subjected to (any 5):**

**5 × 6 = 30**

- a. Retorting
- b. Retorting in brine
- c. Gas-packaging
- d. FFS packaging
- e. Smart packaging (to indicate bacterial spoilage to consumers)
- f. Active packaging to prevent blackening