

B.E (FTBE) THIRD YEAR, 1ST SEMESTER SUPPLEMENTARY EXAM-2017

FOOD PACKAGING TECHNOLOGY

PART - I (50 MARKS)

Answer Q1 and Any Two from the rest

- Q1. a. Explain the process of retorting and its advantages over canning. 10
- b. How is fruit juice packaged aseptically? 10

Q2. What packaging would you recommend for the following food products (any three)? Provide justification. 3 × 5 = 15

- a. Fatty fish
- b. Snack biscuits
- c. Ginger-garlic paste
- d. Apple
- e. Tomato juice

Q3. Comparatively evaluate the following (any three): 3 × 5 = 15

- a. O₂ scavenging films and O₂ emitting films
- b. Static and Rotary retorts
- c. Packaging composite for Frying oils and Repeat-frying oils
- d. Retorting and *Sous vide* technology for vegetable curry
- e. Gas packaging and Vacuum packaging

Q4. Write short notes on (any three): 3 × 5 = 15

- a. CO₂ absorbers and emitters
- b. 'Ageless eye'
- c. Retorting of prawns
- d. UHT milk
- e. Antimicrobial films

BACHELOR OF ENGINEERING (F.T.B.E) EXAMINATION, 2016

(3rd Year -1st Semester Supplementary)

Food Packaging Technology

Time: 3 hrs.

Full Marks : 100

Part-II

[Answer any five questions, Marks 50 (5 x 10)]

1. Classify different food products in terms of pH and also give example of each class. With the help of neat sketch show different components of a double seam arrangement in can. Give two example s of lacquering materials. Why blanching is an important step during canning of vegetables. (3+4+1+2)
2. Mention the advantages and disadvantages of using glass as packaging material. With the help of neat sketch show the different sections of a glass container. State why soda ash and lime stone are used as ingredients for glass manufacture? What is 'cullet' and what is its use? (3+4+2+1)
3. What do you mean by 'gob'? Name two different types of moulds used as glass container forming machine. State the objective of passing glass containers through 'annealing lehr' during the manufacturing process. What do you mean by 'hot end' surface treatments for glass containers? Name one colouring agent used for manufacturing blue glass and one for amber glass. (2+2 +2+2+2)
4. What is a 'reclaim layer' in plastics packaging material ? What would be your choice between PVDC and EVOH as a barrier layer in plastics packaging and why ? Name two types of moulding techniques used for plastics packaging . What is 'TOR' process used during Lamipac containers packaging? Write merits of Lamicon bottles? (2+2+2+2+2)
5. Write short note on (any two) : (a) Collapsible tube (b) Tetra Pak aseptic carton system (c) Step can. What are the functions of the 'screw' and the 'die' in an extruder used for manufacturing plastics packaging material. (3 x 2 + 4)
6. What do you mean by 'freezer burn' and how can you avoid it ? What is the full form of 'ffs' technique used for plastics packaging ? How can you avoid rancidity to occur for a high oil / fat product in packaged condition ? Propose suitable packaging protocol for the following items : (a) dried vegetable soup (b) fresh vegetable product. (3 +1+2+2x2)
7. Name different methods of polypropylene container manufacturing process . Write the full forms of 'PET', 'PVDC' and 'EVOH' . Mention the types of plastics containers generally used for heat processed foods and write short note on any of those types of containers. (2 +3+5)
8. Write the steps involved in canning process. Why canning is called 'commercial sterilization process' ? What is DRD can ? What do you mean by 'cold point' in a can? Give example of a depolarizer. (3+2+2+2+1)