

B.TECH FOOD TECHNOLOGY
VI Semester Examination 2019
Course Code- BFTC-601
Course Title - Food Packaging and Handling

Max. Marks: 70

TIME: 3 hours

Note: 1. It is compulsory to answer all the questions of Section-A.
2. Answer any four questions in Section- B.

Section-A (5*6=30)**(3x2=6M)****Q1. Write short notes on the following:**

- (a) Laminated plastic materials
 (b) Edible coatings used for packaging

Q2. Select the most appropriate answer in the following**(6M)**

- a) FSSAI has issued an advisory banning the use of which material for wrapping and packaging of food items?
 i. Newspaper ii. Plastic iii. Polythene iv. None of the above
- b) ASTM stands for:
 i. African Society for Testing & Manufacturing ii. American Society for Testing & Materials
 iii. Australian Society for Testing & Materials iv. None of these
- c) Which one of the following is the technical function of package?
 i. To promote the product ii. To display information
 iii. To protect the product iv. To motivate the consumer
- d) Now-a-days bread is usually packed in
 i. HDPE bags ii. LDPE bags iii. Polystyrene iv. None of the above
- e) China clay is used in paper manufacture as
 i. Bleaching agent ii. Sizer iii. Filler iv. None of these
- f) What has been banned for tea bag products by FSSAI from 2018?
 i. Use of stapler pins ii. Thread for dipping
 iii. Cloth bag containing the tea leaves iv. Herbal tea leaves

(1x6=6M)**Q3. Answer in about 20-30 words**

- (a) Define stress concentrator in terms of a glass?
 (b) What is BOPP?
 (c) Define LD₅₀?
 (d) What does ASTM stand for?
 (e) Give the flowsheet showing the effect of fumigant application in a grain storage godown.
 (f) Name the layers with their use in the making of a Tetra Pak?

Q4. Explain in detail the tinning process used in manufacture of metal cans for packaging of different food products?**(6M)****Q5. What is aseptic packaging? Which chemicals are used to sterilize packaging material before aseptic packaging?****(6M)****Section- B (4*10=40)****Q1. Define active packaging? Explain with examples the active packaging techniques used in food packaging systems and their respective food applications?****(10M)****Q2. Write short notes on any four of the following****(2.5x4=10)**

- (a) Bucket Elevator
 (b) Centrifugal Pump
 (c) Piston Filler
 (d) Metal can Corrosion process
 (e) Biodegradable Packaging Materials

Q3. Give in detail the classification of TTI's? List out the requirements for TTI's to be used in the food industry?**(10M)****Q4. Write short notes on the following (any 2):****(2x5=10M)**

- (a) Antimicrobial food packaging
 (b) Paper manufacturing process
 (c) Quality indicators(Intelligent Packaging)
 (d) Vacuum Packaging

Q5. Draw a well labeled diagram of a glass bottle? Briefly explain the manufacturing process of a glass bottle?**(10M)****Q6. Explain in detail the insecticides used in insect pest management of grains stored in godown?****(10M)**