



**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**

**M.Sc. DEGREE EXAMINATION – BIOTECHNOLOGY**

THIRD SEMESTER – NOVEMBER 2016

**FP 3875 - FOOD PROCESSING TECHNOLOGY**

Date: 14-11-2016  
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

**PART – A (20 marks)**

**Answer all the questions**

**1. Choose the best answer: (5 x 1 = 5 marks)**

- (1) Yogurt is produced using the culture  
(a) *Bacillus subtilis* (b) *Lactobacillus delbrueckii*  
(c) *Saccharomyces cerevisiae* (d) *Pediococcus pentosaceus*
- (2) This prevents rancidity in modified atmospheric packaging  
(a) N<sub>2</sub> (b) O<sub>2</sub> (c) CO<sub>2</sub> (d) CO
- (3) Temperature used for pasteurization is \_\_\_\_\_  
(a) 171.5°C (b) 191.0°C (c) 40.0°C (d) 71.5°C
- (4) Enzyme used in baking industry  
(a) Lysozyme (b) Transglutaminase (c) Amylase (d) amylopectin
- (5) One of the following does not participate in cocoa fermentation to chocolate  
(a) Yeasts (b) Lactic acid bacteria (c) *Bacillus coagulans* (d) Acetic acid bacteria

**II. State whether the following are true or false, if false give reason (5 x 1 = 5 marks)**

- (6) Living organisms that cause biodeterioration are called biodetergents.  
(7) IQF stands for intermediate quotient foods.  
(8) Thermoplastic polymers are heavy in weight.  
(9) Freeze concentration of liquid foods enables a very low retention of volatile aroma.  
(10) Yoghurt is a fermented milk product fermentated from *Lactobacillus bulgaricus* and *Streptococcus thermophilus* strains.

**III. Complete the following: (5 x 1 = 5 marks)**

- (11) \_\_\_\_\_ is a microbe associated with the ripening of cheeses.  
(12) Color changes in fruits and vegetables are brought about by enzymes like \_\_\_\_\_.  
(13) Nicholas Appert developed the process called \_\_\_\_\_.  
(14) The \_\_\_\_\_ is the international symbol indicating a food product has been irradiated.  
(15) Cereal Adjuncts are used in \_\_\_\_\_ making.

**IV. Answer the following, each within 50 words only (5 x 1 = 5marks)**

- (16) What is meant by biofouling?  
(17) Define freeze concentration.  
(18) Mention the temperature used for sterilizing ready-to-eat foods.  
(19) Define senescence?  
(20) What is candling?

**PART – B**

**Answer the following questions, each in about 500 words only.**

**(5×8 = 40 marks)**

**Draw diagrams wherever necessary.**

- (21) (a) Write notes on i) Biodeterioration **(6 marks)**  
ii) Sauerkraut **(2 marks)**

**OR**

- (b) Explain the any four unit operations in food processing.

- (22) (a) Write a note on factors affecting food quality during freezing process.

**OR**

- (b) What are the different freezing methods used in preserving foods?

- (23) (a) Briefly discuss retort processing and its importance in food industry

**OR**

- (b) What are the applications of infra-red microwaves?

- (24) (a) Write short notes on the role of enzymes in fruit and vegetable processing.

**OR**

- (b) How are oils refined? Explain the process with an illustration.

- (25) (a) Highlight the various products of cereal processing

**OR**

- (b) Classify seafoods and mention the different market forms of fish.

**PART – C**

**Answer any TWO of the following questions, each in about 1500 words;  
Draw diagrams wherever necessary.**

**(2×20 = 40 marks)**

- (26) Write a detailed account on fermentation biochemistry.

- (27) Give an account on the thermal processing of foods.

- (28) Write short notes on

(a) Membranes used for concentrating liquid foods **(10 marks)**

(b) Food Irradiation **(10 marks)**

- (29) Describe the following processes involved in dairy industry

(a) Receiving of raw milk **(5 marks)**

(b) Pasteurization **(5 marks)**

(c) Membrane filtration **(5 marks)**

(d) Homogenization **(5 marks)**

\*\*\*\*\*