



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

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

THIRD SEMESTER – NOVEMBER 2017

**16PBT3ID01 - PRINCIPLES OF FOOD PROCESSING**

Date: 13-11-2017  
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

**PART-A**

**(20 marks)**

**Answer all the questions**

**I. Choose the best answer:**

**(5 x 1 = 5 marks)**

- Which among these is a factor for processed food in India?  
a) Changing lifestyles                      b) Food habits  
c) Organized food retail                  d) All of the mentioned
- The reason for blanching vegetables before freezing is  
a) maintain colour                          b) improve texture  
c) prevent microbial activity              d) denature enzymes
- One of which is not a product of soy bean  
a) Okara                      b) Tofu                      c) Surimi                  d) Miso
- Insoluble rice glutelin  
a) Albumin                      b) Globulin              c) Oryzenin                  d) Casein
- Fat-free milk or skim milk has \_\_\_\_\_ fat.  
a) >1%              b) <0.5%              c)  $\geq 3.25\%$               d) <2%

**II. State whether the following are true or false**

**(5 x 1 = 5 marks)**

- Homogenisation of milk reduces aggregation of milk particles.
- Enzymes are proteins that act as catalyst.
- UV radiation has low penetrating power than other radiations\_\_\_\_\_.
- Decortication is a process of removing the outer covering from pulses.
- Mollusk is an invertebrate animal with a segmented body covered by an exoskeleton consisting of a hard upper shell and a soft under shell.

**III. Complete the following:**

**(5 x 1 = 5 marks)**

- The microorganisms of concern in refrigerated foods are \_\_\_\_\_.
- The temperature required to bring tenfold change in thermal death time is called \_\_\_\_\_.
- The enzyme present in egg white is \_\_\_\_\_.
- The activity of the \_\_\_\_\_ in fresh rice is probably responsible for its sticky consistency after cooking.
- Centrifugal separation of microorganisms from milk is called \_\_\_\_\_.

**IV. Answer the following, each within 50 words only**

**(5 x 1 = 5marks)**

- What is controlled atmosphere storage?
- Write the principle behind high pressure processing
- Classify fermented milk products.
- What is malting?
- Mention the various fruit based enzymes used in the tenderization of meat.

**PART – B**

**Answer the following each within 500 words**

**(5×8 = 40 marks)**

**Draw diagrams wherever necessary.**

21. (a) Give a brief account of food preservation by heat  
**OR**  
(b) Write briefly on the filtration techniques employed in food processing.
22. (a) Discuss the different methods of pasteurization.  
**OR**  
(b) Write short notes on membrane concentration of liquid foods.
23. (a) Write on homofermentative pathway  
**OR**  
(b). Give an account of the preparation of yoghurt.
24. (a) Bring out the processing involved in the transformation of cocoa into chocolates.  
**OR**  
(b) Explain the postharvest physiological changes in fruits and vegetables.
25. (a) Draw the market form of fish and explain the preservation techniques of seafoods.  
**OR**  
(b) Discuss the various methods used to ascertain the quality of egg.

**PART – C**

**Answer any TWO of the following, each within 1500 words**

**(2×20 = 40 marks)**

**Draw diagrams wherever necessary.**

26. Write in detail on the principles of HACCP. Add a note on the functioning of HACCP team.
27. Explain the use of any four enzymes in food processing.
28. Write short notes on  
(a) Pulsed Electric Field  
(b) Processing of cereal grain into flour.
29. How are crude oils refined? Describe the various steps involved in the refining process.

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