



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc.DEGREE EXAMINATION – BIOTECHNOLOGY

THIRD SEMESTER – APRIL 2018

16PBT3ID01- PRINCIPLES OF FOOD PROCESSING

Date: 21-04-2018
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)

- The reason for blanching vegetables before freezing is
 - maintain colour
 - improve texture
 - prevent microbial activity
 - denature enzymes
- Rapid freezing employs
 - fluorocarbon
 - still air
 - liquefied gas
 - chilled airAppertization is a process associated with
- use of starter culture
 - preservation of foods in containers
 - preservation of foods by freezing
 - heating of food to high temperature
- Volatile components are removed by _____ which uses steam injection under a high vacuum and temperature
 - Saponification
 - Bleaching
 - Deodorization
 - Centrifugation
- The major whey protein of cow
 - Lactalbumin
 - Lactoglobulin
 - Casein
 - serum albumin

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

- Enzymes are proteins that act as catalyst.
- UV radiation has low penetrating power than other radiations _____.
- Evaporation is one of the applications of ohmic heating.
- Cyanogenic glycosides in pulses cannot be inactivated by thermal processing.
- Sorbic acids are used in curing meats to inhibit the growth of *Clostridium botulinum*.

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

- The enzyme _____ is used in the treatment of fruit pulp to facilitate juice extraction and for clarification and filtration of fruit juice.
- Conversion of cellulose waste to fermentable feedstock for ethanol is by the enzyme _____.
- The microorganisms of concern in refrigerated foods are _____.
- _____ is a process of soaking paddy in water at 65° - 70° C for 3 – 4 hours
- A egg-grading process in which the egg is inspected by penetrating light is called _____.

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

- Define radappertization
- Write the principle behind high pressure processing.
- List the uses of enzymes in food industry.
- Mention the equipment used in the processing of cereals.

20. Name any three processed products of fish.

PART-B

(5×8 = 40 marks)

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

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) Write a short note on filtration and membrane separation.

OR

(b) Discuss the role of class I and class II preservatives in food preservation.

(23) (a) Write a short note on heterofermentative pathway

OR

(b) Explain ethanol production from molasses.

(24) (a) Bring out the processing involved in the refining oil

OR

(b) Classify the various products of fruits and vegetables.

(25) (a) Explain the tenderization techniques of meat.

OR

(b) Highlight the high temperatures treatments and membrane concentration involved in milk processing.

PART – C

Answer any TWO of the following questions, each in about 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) Write in detail on the different methods followed for strain selection.

(28) Write short notes on

(a) Irradiation

(b) Processing of cocoa bean

(29) How are soybean processed? What are the various products of soybean?

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