



Name :

Roll No. :

Invigilator's Signature :

CS/B.TECH(FT)(N)/SEM-5/FT-502/2012-13

2012

**FOOD PROCESS TECHNOLOGY-II
(Fish, Meat and Poultry)**

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following : 10 × 1 = 10

- i) The artificial casing in the sausage preparation is
 - a) plastic material b) cellulosic material
 - c) collagen d) all of these.
- ii) PSE (pale, soft and exudative) meat is produced due to
 - a) accelerated glycolysis
 - b) slower glycolysis
 - c) both of these
 - d) none of these.



- iii) When fresh meat is cooked it changes to a colour
- a) pink b) brown
- c) yellow d) none of these.
- iv) "Hot smoking" of meat occurs within the temperature range of
- a) 230-250 F b) 165-185 F
- c) 100-120 F d) none of these.
- v) Rigor mortis sets in with a contraction of muscle fibre which is correlated to
- a) loss of glycogen from the muscle
- b) disappearance of ATP from the muscle
- c) both of these
- d) none of these.
- vi) Ideal storage temperature of egg is
- a) -5°C b) -1°C
- c) 5°C d) 10°C .
- vii) Nature of fatty acid present in fish oil is
- a) saturated fatty acid b) mostly MUFA
- c) mostly PUFA d) both (b) and (c).



xiii) Curing agent responsible to increase the water binding capacity of meat is

- a) Nitrite/Nitrate b) Phosphate
- c) MSG d) Ascorbate.

xiv) An example of crustaceans is

- a) crab b) tuna
- c) shrimp d) none of these.

xv) Fish protein hydrolysate is used to make

- a) surimi
- b) kamaboko
- c) crab analogues product
- d) animal feed.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. What do you mean by meat and meat products ? Mention the different by-products obtained from meat industries and their utilization.
3. How fresh meat can be stored ? What is Modified Atmosphere packaging ? How it helps in storing meat ?
4. Why egg-white gets discoloured during dehydration and how this can be prevented ? Enumerate briefly.



5. Define Drip-loss. How is it related to the quality of fish-muscle ? How to prevent drip-loss ? 2 + 3
6. "Ice is the ideal refrigerant for fresh fish." Discuss. Why chill storage is more suitable for tropical-water fish. 2 + 3
7. Discuss the process of smoking of fish.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

8. What is the major component of fish muscle ? How is it related to the preservation of the same ? Discuss the role of handling on bacterial spoilage of fish. Explain the microbiology of fish. 2 + 3 + 5 + 5
9. a) Why grading of meat is essential ? What are the factors grading of meat depend upon ? Mention the recently developed technique for grading a meat. How beef can be graded in order of decreasing quality ? 8
- b) How sausage can be defined ? What are the different type of sausages ? Describe briefly the stages in making a sausage. 7
10. a) Enumerate the nutritional value of poultry-meat and justify why it has nutritional advantages over red meat ? What is self-basting bird and how it can contribute the quality and convenience during cooking ? 8



- b) Name the particular group of bacteria commonly found in poultry eggs and how this can be taken care of ?
What is gelation of egg-yolk and how this can be prevented ?

7

11. With a flow diagram discuss the process for production of fish-meal and fish oil. What are the different methods of extraction of fish liver oil ? Mention any two suitable methods. Briefly mention the utility of fish-meal and fish-liver oil.

8 + 5 + 2

12. Canning is a long-term preservation method for fish —justify. Describe with a neat flow-sheet canning of tuna fish. What are the different problems associated with fish-canning ? Mention them with proper preventive measures.

2 + 7 + 6

13. Discuss about the different types of by-products obtained after slaughtering of animals. Describe about the gas stunning method. What are the post mortem changes occur in meat muscle ?

6 + 3 + 6

14. Discuss the process for production of surimi and kamaboko. Write a short notes on fish sauce.

$7\frac{1}{2} + 7\frac{1}{2}$



15. Discuss the method of freezing of prawn. What is freezer burn ? What is glazing of frozen fish ?

16. Write short notes on any *three* of the following : 3 × 5

- a) Fish meal
 - b) Air blast freezing
 - c) Micro flora of shrimp
 - d) Fish lipids
 - e) Salting and fermentation of fish
 - f) Non-food items from fish processing wastes
 - g) IQF shrimp
 - h) Cuts of beef.
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