	Utech
Name :	
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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.

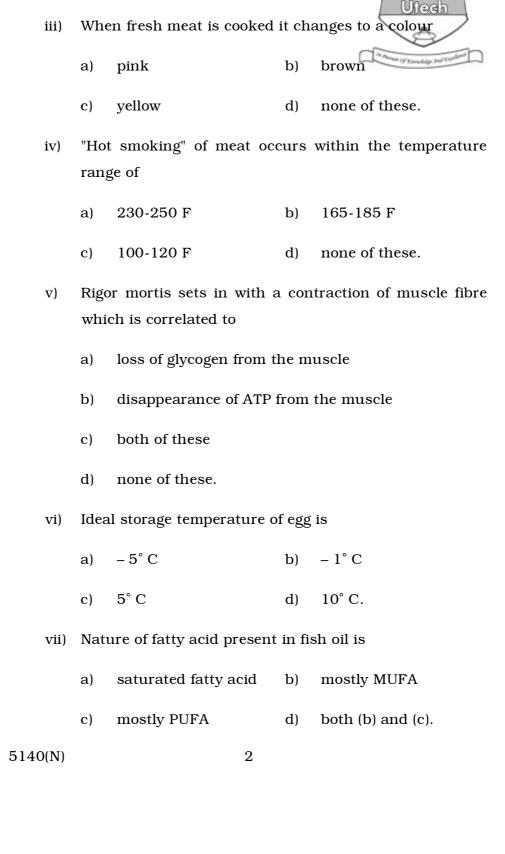
GROUP - A

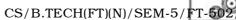
(Multiple Choice Type Questions)

- 1. Choose the correct alternatives for any ten of the following: $10 \times 1 = 10$
 - 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.

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viii) In chill-storage technology, temperature of fish muscle should be

- a) $0-4^{\circ}C$
- b) 8 10°C
- c) $-4 0^{\circ}$ C
- d) $10 15^{\circ}$ C.

ix) Value-added fish product from low-value fish is

- a) fish meal and FPC
- b) fish liver oil
- c) Surimi and minced fish
- d) all of these.

x) Most of the water present in fish muscle is

- a) free water
- b) frozen water
- c) bound water
- d) gelling water.

xi) Meat is a good source of dietary

- a) calcium
- b) magnesium

c) iron

d) zinc.

xii) Lecithin is present at

- a) egg white
- b) egg yolk
- c) egg shell
- d) not at all present in egg.

- 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.

 $3 \times 5 = 15$

- 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 fishmuscle? How to prevent drip-loss?
- 6. "Ice is the ideal refrigerant for fresh fist." 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. $3 \times 15 = 45$

- 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?
 - b) How sausage can be defined? What are the different type of sausages? Describe briefly the stages in making a sausage.
- 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?

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- 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?
- 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. $7\frac{1}{2} + 7\frac{1}{2}$

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- 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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