

**B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING THIRD YEAR  
FIRST SEMESTER – 2019**

**Subject: FOOD PROCESS TECHNOLOGY-I      Time: Three Hours      Full Marks: 100**

**Use Separate Answer Scripts for Part I and Part II**

**Part I (Marks-50)**

**Group A**

Answer any **two** from Group A 10+10=20

1. How quality of fish is assessed by chemical methods? Why purity of salt is important in curing process? 7+3=10

2. What is fish meal? How fish meal is produced? What are the uses of fish meal? 1+7+2=10

3. How onboard handling, processing and storage are done to keep the freshly caught fish in good quality? 3+3+4=10

**Group B**

Answer any **two** from Group B 15+15=30

4. Draw and explain the working principle of any one type of deboning machine. What are the different types of Kamaboko products? 10+5=15

5. How Surimi differs from Fish protein isolate? What type of quality changes occur in fish during drying-explain. 5+10=15

6. How smoke gives preservative effect to fish during smoking? What types of bacterial spoilage are found in canned fish products? What are the causes and remedies of these type of spoilages?

5+5+5=15

Ref. No. : Ex/FTBE/T/313/2019

Name of the Examinations: B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL  
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TECHNOLOGY- I

Time : 3 Hrs

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**Part II**

Use Separate Answer scripts for each Part.

Answer Question no. 5 and any two from the rest.

1.(a) With a neat diagram show the major cuts of pork. How is water holding capacity of meat explained by the Net Charge Effect Theory? 6+4

(b) What are the principal protein constituents of deboned meat with respect to type, percentage and main active components? What is the difference in mode of formation and colour of the following ptgments of blood: nitric oxide metmyoglobin and metmyoglobin nitrite? What are the three stages of fat deposition in animals? 5+2+3

2.(a) Name any three curing agents and their effects on meat. Describe the different stages of Wiltshire Curing of meat along with the composition of brine used for the purpose. 3+7

(b) State the primary purposes of smoking of meat and explain how the individual components of smoke contribute to the purpose. 10

3(a) What are the general ingredients used in the preparation of sausage? What is meant by offal? How are fresh sausages prepared? 4+2+4

(b) Which type of sausage has the longest shelf life? Describe how it is prepared. 1+9.

4(a) With a labelled neat diagram show the different parts of an egg. What are the different reasons for spoilage of eggs. 10+10

5. Write short notes on any two of the following: (5 × 2 = 10)

(a) Connective tissue proteins in meat

(b) Toxic effect of nitrite on meat

(c) Vacuum curing of meat

(d) Nutritive value of egg (in tabular form only)