Chittagong Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 3rd Year 1st Semester Final Examination, 2014
Subject: Food Bio-Technology (Theory)
Course Code: FBT-301(T)

Full Marks: 70 **Time: 3 hours**

(Figures in the right margin indicate full marks. Answer **four (4)** questions from each section where question no. **1 and 6 are compulsory**. Use separate answer scripts for each section. Split answer is discouraged.)

SECTION: A

1 a) Mention the cardinal rules for designing fermenter. 5

2. a) Define enzyme. Highlight the properties of enzyme with net sketch. 4

b) Derive Michaelis-Manten equation. 6

3. a) The following moisture adsorption equilibrium data were obtained for ground, precooked, freeze dried beef at 50°C. Use BET equation to evaluate the molecular layer moisture content and energy constant. 5

p_v/p_s	% m.c.(db)
0.1	7.7
0.2	10.6
0.3	12.1
0.4	13.7

b) How replication of DNA is completed?-briefly explain. 5

4. a) Establish mass balance equation for steady state continuous cultivation in single vessel with no recycling. 5

b) Draw a typical bacterial cell mentioning the composition and functions of cell structure. 5

5. a) Derive the relationship between Ea and Z. 5

b) Write short notes on: i) Genetic Code and Codon, ii) Sorption Isotherm. 5

SECTION: B

6. a) Differentiate between-i) DNA and RNA, 2.5x2=5
ii) Batch operation and Continuous operation.

7. a) How microbial death rates are determined experimentally? 4

b) Prove that $no_2' = (2D/d)\vec{a}\, n\, \bar{c}$ and determine no_2' when molecular diffusivity is 10^{-5} cm^2/sec, diameter of microbe is $2x10^{-4}$ cm, no. of cell is 10^8/ml and dissolve O_2 concentration in bulk liquid is 6 ppm. 6

8. a) Elaborately describe mechanical agitation. 4

b) Dimensions of a fermenter equipped with two sets of standard flat–blade turbine and four baffle plates are – 6
Fermenter diameter 3 m,
Impeller diameter 1.5 m,
Baffle plate width 0.3 m,
Liquid depth 5m,
Density of broth 1200 kg/m^3 ,
Viscosity of the broth 0.02 kg/msec,
Rotational speed of impeller 60/ rpm,
Aeration rate 0.4 vvm,
N_{Re}= 1.35 x 10^5, Np=6,
Correction factor 0.9,
p_g/p_{total}=0.7,
Calculate –i) power requirements for ungassed system,
ii) power requirement for aerated system,
iii) Volumetric co-efficient of O_2 transfer.

a) How does protein synthesis occur in a living cell? 6

b) Represent a stirred tank reactor with schematic diagram. 4

10. a) What is mutation? Classify mutation and identify the causes of mutation. 5

b) The influence of temperature on death rate of bacterial spores is illustrated by the following experimental data: 5

Temperature(°F)	Rate constant (1/min)
220	0.04
225	0.07
230	0.13
235	0.25
240	0.46

Determine activation energy and frequency factor.

Chittagong Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 3rd Year 1st Semester Final Examination, 2014
Subject: Basic Electrical and Electronic Engineering(Theory)
Course Code: EEE-301

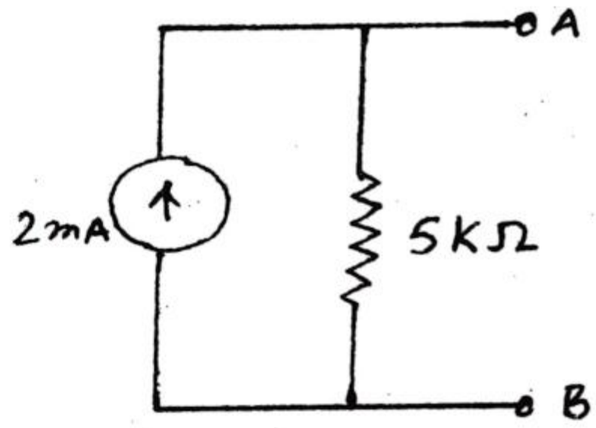
Full Marks: 55 **Time: 3 hours**

(Figures in the right margin indicate full marks. Answer **Four (4)** questions from each section where question **1** & **6** are compulsory. Use separate answer script for each section. Split answer is discouraged.)

Section-A

1. a) Draw the V-I characteristics of current source and Voltage source to identify the ideal and practical behaviors and explain the reason of discrepancy between the behaviors for both. 3

   b) Convert the constant current source below to its equivalent voltage source. 1



2. a) State Thevenin's theorem and justify this theorem for a relevant network. 6

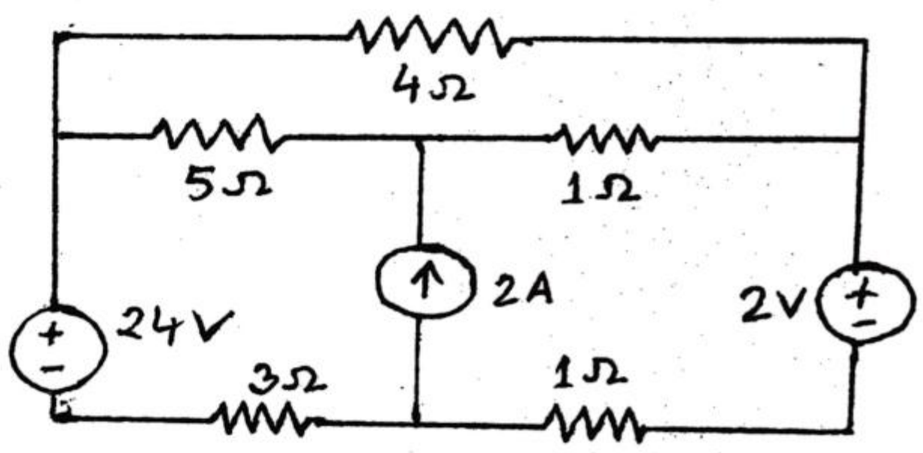
   b) State Ohm's law for both electrical and magnetic circuits. 2

3. a) What do you mean by single crystalline solids? 2

   b) What do you mean by the term "Co-ordination number" of an atom in crystalline solids? Calculate Co-ordinatic number of a given atom in crystalline for its 3
      i) Simple cubic structure
      ii) Body centered cubic Structure
      iii) Face centered cubic structure

   c) Mention different types of crystal systems and their unit cell characteristics. 3

4. a) Obtain the mesh currents of the circuit below using mesh analysis: 4



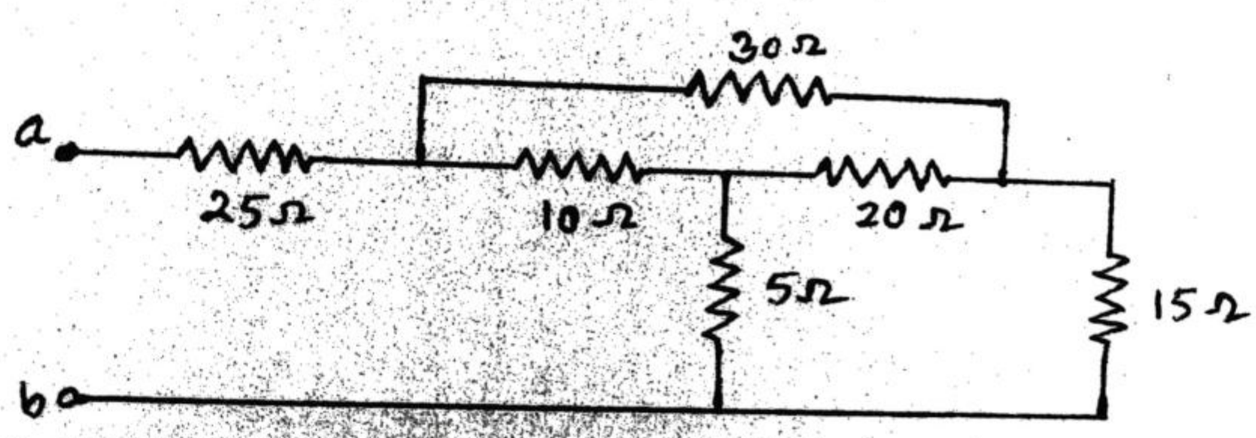
   b) What do you mean by real power and apparent power? Establish a relationship between real, apparent and power factor for an electrical network. 4

5. a) Derive an expression for the e.m.f equation of a transformer. Give the structural concept of step-up and step-down Transformer on the basis of the equation. 4

   b) What is a p-n junction? Discuss the behavior of a p-n junction under forward and reversed biasing condition. 4

Section-B

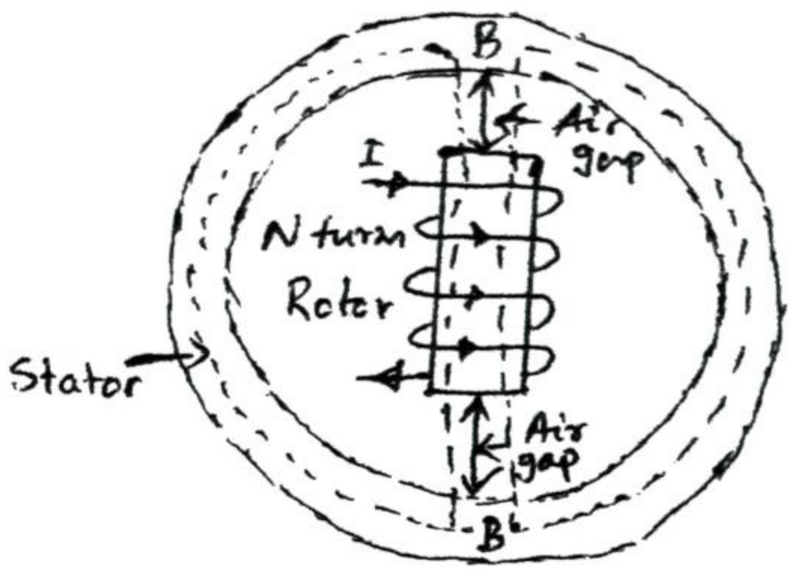
6. a) Obtain the equivalent resistance at the terminals a-b of the circuit shown: 3



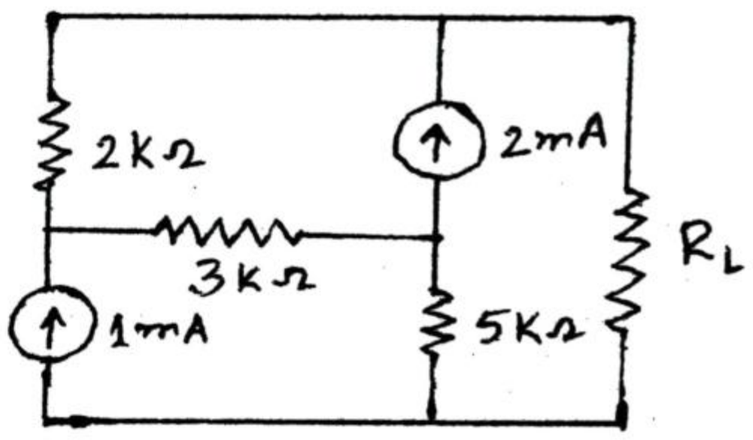
7. a) Draw the hysteresis loop for ferromagnetic materials to explain the terms magnetic saturation, retentivity and coercivity. 3

b) The figure below shows the synchronous machine in which the air gap length between stator and rotor of pole face area 0.2 m^2 is 1 cm. If 10A current flows through a coil of 1000 turns, then determine 5

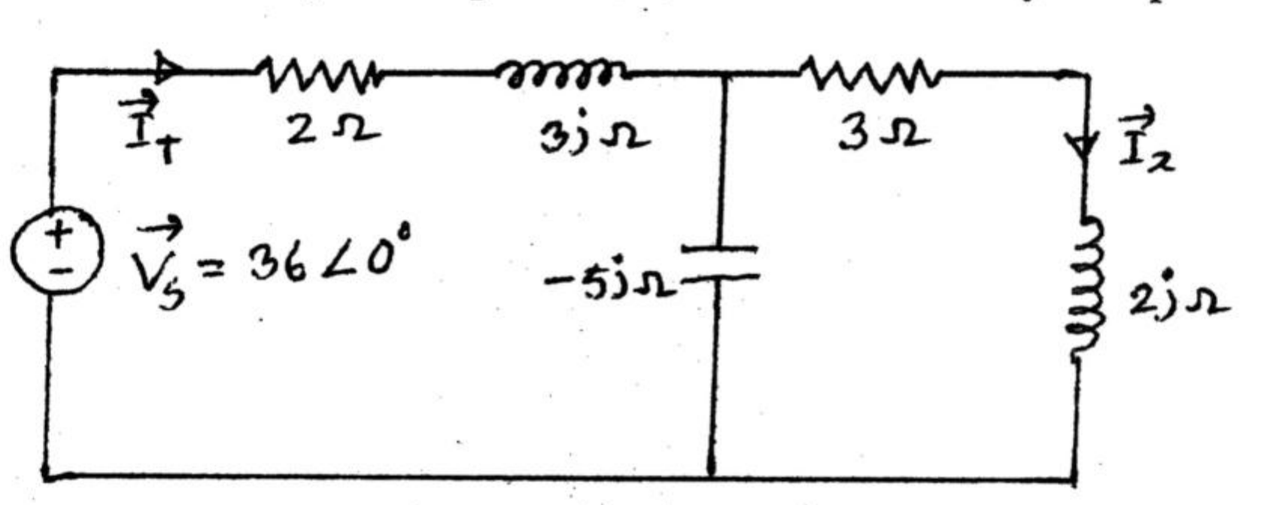
i) magneto-motive force in the magnetic circuit
ii) the reluctance of each air gap
iii) the magnetic flux density in each gap[Assume the rotor and stator to have negligible reluctance]



8. a) Find the value of R_L for maximum power transfer and the maximum power that can be transferred in the network shown: 4

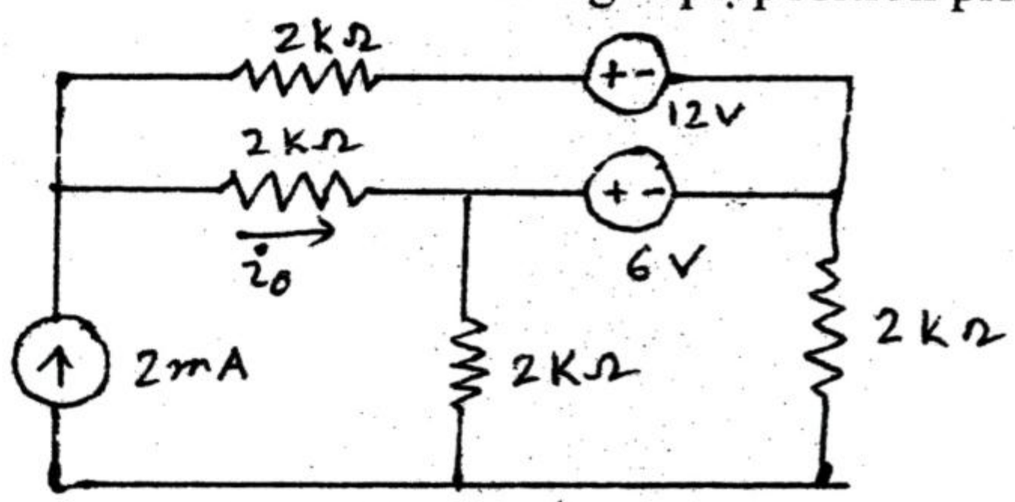


b) Find the current $\mathbf{I_x}$ in the 2jΩ impedance and hence verify reciprocity theorem. 4

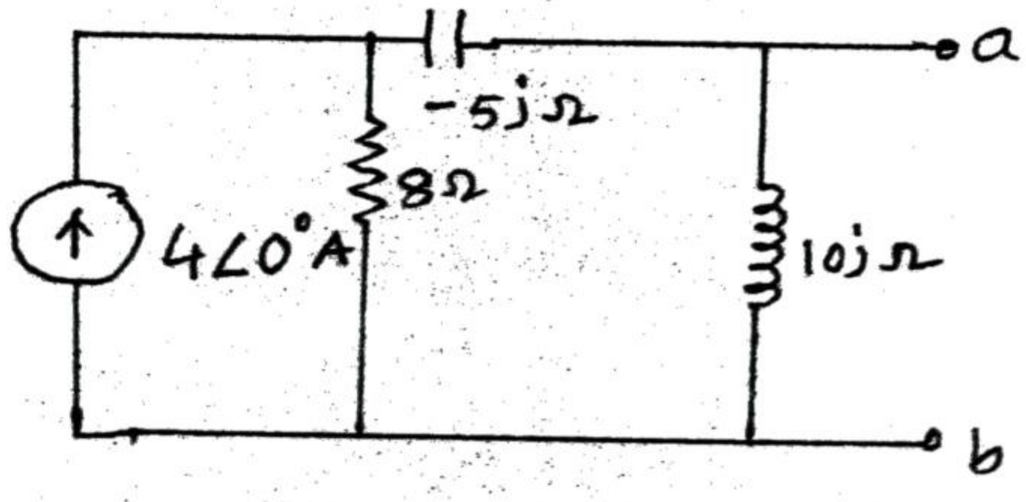


9. a) Explain the working principle of a p-n junction diode as rectifier. Derive an expression for the efficiency of a full wave rectifier. 5
b) Draw the common emitter configuration of n-p-n transistor with symbol and proper identification of current. 1
c) How can you distinguish JFET from BJT? 2

10. a) Find $\mathbf{i_0}$ in the network shown using superposition principle: 4



b) Find the Thevenin and Norton equivalent circuits at the terminals a-b for the circuit below: 4



Chittagong Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 3rd Year 1st Semester Final Examination, 2014
Subject: Computer Applications in Food Technology (Theory)
Course Code: CFT-301

Full Marks: 70 **Time: 3 hours**

(Figures in the right margin indicate full marks. Answer **Four (4)** questions from each section where question **1** & **6** are compulsory. Use separate answer script for each section. Split answer is discouraged.)

Section-A

1. State whether the following statements are true or false. 5

a) main() is where the program begins its execution.
b) In C language , lower case letters are significant.
c) A scanf() function can be used to read only one value at a time.
d) The keyword "void" is a data type in c.
e) Individual words and punctuation marks are called tokens.

2. a) What is an operator? Describe different types of operators that are included in C. 4
b) How can the value of an expression be converted to a different data type? What is this called? 2
c) Suppose the integers a, b and c contain the values 8, 3, -5, respectively. Determine the value of each of the following expressions: 4

i) a+b+c iv) a/c vii) (a*c)%b
ii) a/b v) a*b/c viii) a *(c%b)
iii) a%b vi) a*(b/c)

3. a) What is identifier? Write the rules of identifiers? 3
b) Identify syntax errors in the following program. After corrections what output would you expect when you execute it? 7

```
# define PI 3.14159
main()
{
int R,C;            /* R radius of a circle*/
float perimeter     /*cicumference of circle*/
float area;         / *area of a circle*/
C=PI
R=5;
perimeter=2.0*C*R;
Area= C*R*R;
printf ("%f","%d",  &perimeter, &area);
```

4. a) What is the purpose of *if-else* statement? 1
b) What is the purpose of *for* statement? How does it differ from the *while* statement and the *do-while* statement? 3
c) Write a program to determine whether a given number is odd or even and print the message *Number is EVEN* or *Number is ODD* 6

i) without using else option and
ii) with else option

5. a) What do you mean by user defined function? Describe the elements of user defined function. 5
b) Explain the scenario of *"functions with arguments and one return value"* with example. 5

Section-B

6. Fill in the blanks with appropriate words. 5

a) A variable declare inside a function is called .....
b) The ..... operator is true only when both the operands are true.
c) An expression that combines two or more relational expressions is termed as ..... expression.
d) A *for* loop with no test condition is known as ..... .loop.
e) An array can be initialized either at compile time or at .....

7. a) What is structure? How does a structure differ from an array? 2
b) How is an array of structures initialized? 2
c) Define a structure consisting of two floating point numbers. called real and imaginary. Include the tag complex with in the definition. 3
d) What is union? How does a union differ from a structure? 3

8. a) What is a pointer? How is a pointer initialized? 3
b) Explain the effects of the following statements: 4
   i) int a*b=&a;
   ii) int p, *p;
   iii) int **p;
c) What are the primary advantages of using a data file? 3

9. a) What are the common uses of "fopen()" and "fclose()" functions? 3
b) What is the significant of EOF? 2
c) Give the definition of recursion? Write a C program to calculate the factorial value using recursion. 5

10. a) What is Object Oriented Programming (OPP)? Write the Properties of OPP. 4
b) Compare in terms of their functions, the following pairs of statements: 6
   i) Break and Continue
   ii) Actual and formal arguments
   iii) %s and %C specifications for reading

Chittagong Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 3rd Year 1st Semester Final Examination, 2014
Subject: Fish Processing Technology (Theory)
Course Code: FPT-301(T)

Full Marks:70 **Time: 3 hours**

(Figures in the right margin indicate full marks. Answer **Four (4)** questions from each section where question no. **1 and 6 are compulsory**. Use separate answer scripts for each section. Split answer is discouraged.)

SECTION: A

1. a) Define Fish Protein concentrate, Heavy salt and Medium salt. Draw a layout of a good smoker and show its basic components. 5

2. a) Give a brief list for fishery products, by products and cured products. Illustrate the objectives of fish processing. 5
   b) Describe the factors that influence the kind and rate of spoilage in fish. Name some spoilage causing bacteria species that can grow at different temperature in fish. 5

3. a) Do you think the fish and fishery products are perishable?-justify your answer. 2
   b) Enumerate the different factors that may affect the chemical composition of fish. 4
   c) Define Bio factors. Write down the sources of edible nitrogenous materials and minerals in fish with their functions. 4

4. a) With diagram briefly describe the different market stages (channels) of fish. 5
   b) Describe the features which lead to deteriorations in qualities of fish during marketing. 5

5. a) "Fish rigor is accelerated at 0°C compared to 10°C" –Explain with examples. 3
   b) With graphical representation write down the characteristic pattern of changes in eating quality of fish stored in ice. 4
   c) Define Gaping. What are the preservative methods usually practiced for controlling rigor mortis? 3

SECTION: B

6. a) "All the bio factors of fish are reasonably higher in processed fish except the moisture"–Explain the statement. 5

7. a) Draw a typical flow diagram of marketing steps of Hilsa fishery. How will you control beetles and mites in dried fish? 5
   b) Give a brief list for improvement of traditional sun drying fish preservation method in Bangladesh. 5

8. a) Distinguish between specific heat and latent heat. Compare the temperature profile of freezing fish by typical fish freezing curve. 5
   b) Describe Air blast freezer, Fluidized bed freezer and Immersion freezer with their advantages and disadvantages. 5

9. a) Enumerate the changes that occur during freezing (cold storage) of fish. 5
   b) What are the major requirements of packing for frozen fish? 5

10. a) Differentiate between salting, smoking and curing. Illustrate the effect of salting on the chemical constituents of fish. 6
    b) Write short notes on Modified Atmosphere Packaging, Controlled Atmosphere Packaging and Vacuum Packaging. 4

Chittagong Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 3rd Year 1st Semester Final Examination, 2014
Subject: Fish and Sea Food Technology (Theory)
Course Code: FSF-301(T)

Full Marks:70 **Time: 3 hours**

(Figures in the right margin indicate full marks. Answer **Four (4)** questions from each section where question no. **1 and 6 are compulsory**. Use separate answer scripts for each section. Split answer is discouraged.)

SECTION: A

1. a) What do you mean by aquaculture, Mari culture and IMTA? 3
   b) Write down the factors to be considered to set up an ideal fish farm. 2

2. a) What type and content of proteins and lipids do we get in fish muscle and are they good for us and why? 5
   b) Why omega -3 fatty acids are good for us and which fish are good sources of omega -3 fatty acids? 5

3. a) What are the terms pelagic and demersal meant for? Is it true that eating prawns are bad for cholesterol levels in humans? Mention the reasons for rigor mortis? What are the roles of rigor mortis in fish preservation? 5
   b) How does seaweed play a vital role in the prevention of enlargement of thyroid glands? What is the potential downside of eating sea food? 5

4. a) What do you mean by fishing techniques? How fish is handled on board? 4
   b) How does spoilage occur in fish and how it can be prevented? 6

5. a) Give a brief description on any four of the following: i) MAP, ii) HPP, iii) SSD, iv) Shell fish, v) crustaceans. 4
   b) Define food infection and food intoxication. Name few naturally occurring marine microorganisms. Give an overview about the heat inactivation characteristics of important bacteria of food poisoning that are encountered during sea food processing? 6

SECTION: B

6. a) Define halophiles, food by products and non-food by products. 3
   b) Write shorts note on: Curing and Chilling. 2

7. a) Classify marinades. Illustrate the preparation of cold marinades by using herring. 5
   b) Categorize the fermented products of fish. How will you prepare" Belachan". 5

8. a) How does salt preserve fish? How should fish be prepared for salting? Briefly discuss the methods of salting of fish. What are the signs of spoilage in salted and dried fish? 7
   b) Write down the aims of fish smoking. Mention the steps applied during smoking of fish. 3

9. a) Narrate the methods of glazing. How can you differentiate between pesticide-used and pesticide-free dried fish? 5
   b) What is a solar dryer and how does it work? Give a flow chart for drying of fish on a solar dryer. 5

10. a) Enumerate a list of commercially important seaweeds used in food industry. Briefly describe the processing of crabs. How will you ensure HACCP in a frozen fish processing plant? 6
    b) What do you mean by freezing point depression? Why does it occur? 31.65 gm of sodium chloride is added to 220.0 ml of water at 34^0 C. How will this affect the freezing point of the water? Assume the sodium chloride completely dissociates in the water. Given: density of water at 35^0 C= 0.994 g/ml, Kf water=1.86^0 C kg/ml. 4

Chittagong Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 3rd Year 1st Semester Final Examination, 2014
Subject: Oil and Fat Technology (Theory)
Course Code: OFT-301

Full Marks: 55 **Time: 3 hours**

(Figures in the right margin indicate full marks. Answer any **four (4)** questions from each section where question **1** & **6** are compulsory. Use separate answer script for each section. Split answer is discouraged.)

Section-A

1. a) What do you mean by oil and fat? 1
   b) What are the sources of oil and fat? 2

2. a) What is saponification value? How do you measure saponification value of oil or fat? 4
   b) Define acid value, iodine value, peroxide value and Reichert-Meissel value. 4

3. a) Write down the flow chart of palm oil production. 3
   b) Write down the basic steps of oil refining process. 2
   c) Explain acid degumming process of oil. 3

4. a) Discuss briefly homogenous and heterogeneous catalysis during hydrogenation of oil. 6
   b) What is the significance of hydrogenation of oil? 2

5. a) Write a short note on butter. 3
   b) Discuss the role and minimum desirable intake of oil and fat. 5

Section-B

6. Write down the name of different types of fat and discuss about margarine. 4

7. a) What is organic refining of oil? Explain. 3
   b) With a neat flow diagram, discuss oil yield consideration for water degumming process of oil. 3
   c) Discuss about enzymatic degumming process of oil. 2

8. a) What is interesterified fat? Write down the chemistry of interesterification. 5
   b) Discuss about health effect of interesterified fat. 3

9. a) With a neat flow diagram, discuss about cold refining process. 4
   b) What is fractionation of oil and fat? 2
   c) What is winterization and deodorization of oil? 2

10. Write a short notes on any three of the following: 8
    a) Omega-3 fatty acid
    b) Omega-6 fatty acid
    c) Trans Fat
    d) Cholesterol

Chittagong Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 3rd Year 1st Semester Final Examination, 2014
Subject: Technology of Fruits and Vegetables Products (Theory)
Course Code: FVP-301(T)

Full Marks: 70 **Time: 3 hours**

(Figures in the right margin indicate full marks. Answer **four (4)** questions from each section where question no. **1 and 6 are compulsory**. Use separate answer scripts for each section. Split answer is discouraged.)

SECTION: A

1 a) What are the basic difference between fruits and vegetables? 2
b) Classify fruits based on their respiration pattern. 3

2. a) What are the typical percentage compositions of edible portion of carrots? Mention the structural unit of edible portion of most fruits and vegetables? Draw a diagrammatic figure of a parenchyma cell. 5
b) Describe the pigments and colour precursors found in fruits and vegetables. 5

3. a) State the function of ethylene during ripening of banana. What changes are observed in fruits and vegetables during ripening? 5
b) What are curing techniques? Narrate the different methods of pre-cooking. 5

4. a) Define maturity indices. State the maturity indices for citrus fruits, store fruits and avocado. Give an over view about the different methods of determination of harvest maturity indices. 6
b) By graphical representation show the time course changes in the fruits growth and respiration and ethylene evolution rates of climacteric and non-climacteric fruits. 4

5. a) Illustrate the different browning reactions occur in fruits and vegetables during processing. Differentiate between food additives and preservatives. 7
b) Mention some surface active agents and artificial colour and flavours used in fruits and vegetables during processing. What is brominated vegetable oil? 3

SECTION: B

6. a) What types of problems are encountered during storage of dehydrated products? 2
b) Write down the principles of food preservation. 3

7. a) What are the functions of exhaustion during canning? Give an account of different types of spoilage that may occur in canned foods. 5
b) Distinguish between food adulterants and misbranding. What do you mean by mycotoxin in foods? Draw a flow chart and describe the process for making lime pickles. 5

8. a) What is rehydration ratio? Calculate the rehydration-co-efficient and present of water in the rehydrated material, if the drained weight of 10 gm of dried sample containing 5% moisture after rehydration is 70 gm and the fresh sample before drying contained 90% moisture. 5
b) Why freezing is better than all other preservation methods? How does a freeze-dryer work? 5

9. a) How can you differentiate between soft drinks and hard drinks? Which preservatives are permitted in ready-to-serve fruits drink? Why blanching treatment is applied prior to freezing and canning? Which types of apples are selected for the preparation of cider? 6
b) During fermentation whether aerobic, anaerobic or partial aerobic environment is maintained –Justify your answer. 4

10. a) Enumerate the name of chemicals used for ripening and senescence stage. Give an outline scheme of vinegar production. Why mature fruits are selected for the preparation of jam and jelly? Describe the problems observed in jam and jelly making and how can they be overcome? 7
b) Suggest any four preservation methods that would be appropriate for tomato. 3

Chittagong Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 3rd Year 1st Semester Final Examination, 2014
Subject: Waste Management and Environmental Science (Theory)
Course Code: WME-301

Full Marks: 55 **Time: 3 hours**

(Figures in the right margin indicate full marks. Answer **Four (4)** questions from each section where question **1** & **6** are compulsory. Use separate answer script for each section. Split answer is discouraged.)

Section-A

1. a) What are the main byproducts of fish? 2
   b) What are primary pollutants? 1

2. a) What are aerobic treatment processes? Discuss the distinguishing features of activated sludge process. 4
   b) Give an outline of the mode of solid waste disposal. 3
   c) What is BOD? 1

3. a) What is recycling? What is made from recyclable materials? 3
   b) Why is composting important? What can be done to stop the foul smell sometimes emitted by a compost pile? Can earthworms help in the composting process? 5

4. a) Describe a typical sanitary landfill mentioning all its components? 6
   b) What is pyrolysis of solid wastes and give some advantages of municipal solid waste pyrolysis. 2

5. Write short notes on 8
   a) Bhopal disaster
   b) Chernobyl disaster

Section-B

6. a) Give a list of typical toxic wastes. 2
   b) Give an account of Air Quality Standards of primary air pollutants. 2

7. a) Describe the byproducts from plantation crops and how can you utilize them? 6
   b) Describe short note on rotary kiln incinerator. 2

8. a) Describe functional elements and different methods of solid waste management. 8

9. a) Briefly describe the waste produced from nuclear power plant. 4
   b) What are anaerobic treatment processes? Show the breaking down process of organic waste matter. 4

10. Write short notes on (any two) 8
    i) NO_x monitor
    ii) Control of NO_x emission
    iii) Control of SO_x emission

Chittagong Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 3rd Year 1st Semester Final Examination, 2014
Subject: Market Milk Processing Technology (Theory)
Course Code: MMP-301(T)

Full Marks: 55 **Time: 3 hours**

(Figures in the right margin indicate full marks. Answer **any three (3)** questions from each section where question no. **1 and 5 are compulsory**. Use separate answer scripts for each section. Split answer is discouraged.)

SECTION: A

1. a) Define market milk. 1
   b) What are the common tests that are usually done by individual market milk processing plant? 4
   c) Briefly describe the steps that are involved during processing of fluid milk chronologically. 5

2. a) Briefly discuss the steps that are involved during proceeding for grading of milk. 3
   b) Briefly discuss the physico-chemical properties of milk. 4
   c) Give an overview of the ranges of different milk products. 2

3. a) Differentiate reconstituted milk from recombined milk. 2
   b) Describe the causes of flavor defects in milk with their remedies. 4
   c) Briefly state the effects of metallic utensil on milk quality. 3

4. Write short notes (any three) 3x3=9

   a) Pricing of milk; b) Milk transportation; c) Milk-borne illness; d) LP system for milk preservation; e) Judging milk; and f) Cleaning agents.

SECTION B

5. a) Briefly state the conception of "Pasteurization". Briefly describe the HTST milk pasteurization. 5
   b) Define homogenization of milk with its effect during milk storage. 2
   c) Describe the effects of homogenization on milk products. 2

6. a) Define milk standardization. 1
   b) If a dairy has 160 kg of 40% cream and wishes to standardize it to 32%, how much skim milk is needed to be added? 4
   c) Diagrammatically present the automatic milk standardization process with brief explanation. 4

7. a) Make a plan for establishing a market milk processing plant. 5
   b) Sketch a milk processing plant. 4

8. Write short notes (any three) 3x3=9

   a) History of market milk; b) Factors affecting shelf-life of pasteurized milk; c) Chronological changes occurred during keeping milk at room temperature for a couple of weeks; d) Platform tests; e) CIP; and f) Cleansing agents.

Chittagong Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 3rd Year 1st Semester Final Examination, 2014
Subject: Communicative English(Theory)
Course Code: ENG-301

Full Marks: 35 **Time: 2 hours**

(Figures in the right margin indicate full marks. Answer **ALL** the questions from each section. Use separate answer script for each section. Split answer is discouraged.)

SECTION: A

1. Use the right form of verb in the following sentences: 5x1= 5
   a. If it had not rained, I (go) to the university.
   b. He behaves as if he (be) a doctor.
   c. I (read) a book, when the phone rang last night.
   d. When I was a child, I used to (listen) to the radio.
   e. Look someone (quarrel) with your sister.

2. Complete the following sentences: 5x1= 5
   a. I would rather die----------tell a lie.
   b. I will help you providing that ----------
   c. Would that he ----------
   d. Keep the doctor ----------
   e. --------- without thinking more.

3. Change the voice of the following sentences: 5x1= 5
   a. The children laughed at the beggar.
   b. The dog was hit with a stick.
   c. The boy was climbing the cliff.
   d. Wealth is desired by all but acquired by some.
   e. Will you ever forget those happy days?

4. Turn the following into indirect speech: 3

   "I have come to Dhaka this morning. I sent you a message before starting from Comilla" he said. "Did you receive it in time? he asked. "No", I replied.

SECTION: B

5. Join the following sentences as directed. 5x1= 5
   a. He is young, and yet he intelligent.(Complex)
   b. He is not only a rouge, but also a fool.(Simple)
   c. I respected him because he was a great scholar (Compound)
   d. I wish I had never born. (Explanatory)
   e. Your offence can not be forgiven.(Affirmative)

6. Write a paragraph on any one of the following- 5
   i. Food adulteration
   ii. How to keep fit.

7. Suppose you are impressed by the usefulness of internet but at the sametime you are also concerned about harmful side of it. Now write a letter to the editor of an English daily expressing your feeling. 7

Chittagong Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 3rd Year 1st Semester Final Examination, 2014
Subject: Clinical Nutrition (Theory)
Course Code: CLN-301

Full Marks: 55 **Time: 3 hours**

(Figures in the right margin indicate full marks. Answer **three (3)** questions from each section where question 1 & 5 are compulsory. Use separate answer script for each section. Split answer is discouraged.)

Section-A

1. a) What is gout? Describe the signs and symptoms of gout. 2
   b) Describe the nutritional management for preventing gout. 5

2. a) Define Diarrhea. Write the composition of Oral Rehydration Salts (ORS). Why rice based ORS is better than the other solutions? 4
   b) What do you mean by BRAT diet? Why BRAT diet is not the best option for children? 2
   c) According to WHO, describe the clinical management of one year old acute diarrheal patient with signs of moderate dehydration. 4

3. a) What is protein energy malnutrition (PEM)? How can you classify it? 3
   b) Briefly state the nutritional management for a two years old child suffering from Marasmus. 7

4. a) What is Obesity? Classify obesity according to BMI. 4
   b) A 22 years old woman with height of 148 cm is on approximately constant weight of 70 kg after her last child birth 1 year ago. She is continuing to breast feed her child up to satiety. Is she suffering from any nutritional problem? If so, what is it? What dietary and behavioral advice will improve her condition? 6

Section-B

5. a) Classify allergy. How can you detect food allergy. 4
   b) What types of foods act as allergens and how will you manage it? 4

6. a) Describe the classes of vitamin A deficiency disorders (VAD) 2
   b) Describe the supplementation schedule of vitamin A to prevent VAD 4
   c) What doses of vitamin A should be administered to treat Xeropthalmia? 4

7. a) What are the main causes of mineral deficiency and how it can be prevented? 3
   b) What are Hyponatremia and Hypokalemia? Mention the signs and symptoms of hyponatremia and hypokalemia. 4
   c) What is nutritional anemia? Describe the causes and management of nutritional anemia. 3

8. a) List the names of different B vitamins with their molecular functions and food sources. 10