

Chattogram Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 4th Year 1st Semester Final Examination-2021
Course Title: Extension Communication Management (Theory)
Course Code: ECM-401 (T)

Full Marks: 35

Time: 2 hours

(Figures in the right margin indicate full marks. Answer **THREE** questions from each section where Question No. **5 is mandatory**. Use separate answer script for each section. Split answer is strongly discouraged.)

Section- A

1. a) What do you mean by extension, teaching and learning? 03
b) Why extension is important for the development of food sector? 03
2. a) Why communication is needed in extension services? 03
b) Briefly discuss the steps of extension communication process. 03
3. a) Mention the name of some teaching organization in Bangladesh. Write the characteristics of an ideal teaching organization. 03
b) Discuss on effective extension teaching methods with its limitations. 03
4. a) Write the approaches of extension in context of Bangladesh. 03
b) "Extension is a two way channel"-Justify. 03

Section- B

5. a) Illustrate leader and leadership. Write the forms and qualities of a leader. 03
b) Distinguish between professional leader and local leader. 02
6. a) Define monitoring and evaluation. Write the types of evaluation. 03
b) Classify extension training with example. 03
7. a) What do you mean by innovation? Write the characteristics of an innovation. 03
b) Show the adopter categories of farmers based on their innovativeness. 03
8. **Write short notes on the following (any two)** 03x2
=06
 - a) Berlo's extension communication model
 - b) Steps of extension program building
 - c) Role of NGO in agricultural extension services.

Chattogram Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 4th Year 1st Semester Final Examination, 2021
Course Title: Poultry Products Technology (Theory)
Course Code: PPT- 401(T)

Full Marks: 35

Time: 2 hours

(Figures in the right margin indicate full marks. Answer any three (3) questions from each section in which question number five(5) is compulsory. Split answer is strongly discouraged.)

Section-A

- | | | | |
|----|----|--|-----|
| 1. | a) | Write down the nutritional composition of chicken egg. | 2.0 |
| | b) | Illustrate the factors that affect egg quality. | 4.0 |
| 2. | a) | List the food products made from egg. | 2.0 |
| | b) | Describe the making process of two common egg recipes. | 4.0 |
| 3. | a) | Define food additive. | 2.0 |
| | b) | Make a list of common food additive with their mechanism of action, uses and examples. | 4.0 |
| 4. | a) | Breast meat of broiler is the best meat - justify. | 2.0 |
| | b) | Differentiate dark meat from white meat of broiler. | 2.0 |
| | c) | Enlist meat cuts, edible or inedible organs of broiler chicken. | 2.0 |

Section B

- | | | | |
|----|---------------------------------|---|----------------|
| 5. | a) | Enlist various methods for the preservation of poultry meat and meat products. | 2.0 |
| | b) | What is curing? Discuss sweet pickle curing method for preservation of poultry meat. | 3.0 |
| 6. | a) | Sketch an ideal poultry meat processing plant. | 2.0 |
| | b) | State briefly the steps followed for the processing of live broiler chicken. | 4.0 |
| 7. | a) | Show the egg processing techniques in a flowchart. | 2.0 |
| | b) | What is pasteurization? Mention five approved process for the pasteurization of liquid egg white. | 2.0 |
| | c) | Enlist uses and utilization of various forms of egg in food products. | 2.0 |
| 8. | White short notes on (any four) | | 1.5×4
= 6.0 |
| | a) | Scalding | |
| | b) | GMP | |
| | c) | Smoking of meat | |
| | d) | Pink meat in poultry | |
| | e) | Carrageenan | |

Chattogram Veterinary and Animal Sciences University

Faculty of Food Science and Technology

BFST 4th Year 1st Semester Final Examination-2021

Course Title: Leadership and Food Entrepreneurship Development (Theory)

Course Code: FED-401(T)

Full Marks: 35

Time: 2 hours

(Figures in the right margin indicate full marks. Answer **THREE** questions from each section where Question No. 5 is **mandatory**. Use separate answer script for each section. Split answer is strongly discouraged.)

SECTION- A

1. a) Define entrepreneur and entrepreneurship. Write the comparison between entrepreneur and manager. 1+2=3
- b) What types of characteristics of a food entrepreneur should be carryout? 3
2. a) What is the role of agri-entrepreneurship in the development of a nation? 2
- b) Would you support if government announces a subsidy program to promote agri-entrepreneurship in Bangladesh? Why and why not? 4
3. a) Define entrepreneurial growth. What factors hinder the entrepreneurial growth in context of Bangladesh? 1+3=4
- b) Write the sources of financing of an enterprise. Differentiate between share and debenture. 1+1=2
4. a) What characteristics do make one an ideal rural leader? 3
- b) Do you think that leadership and entrepreneurship are linked? Explain. 3

SECTION-B

5. a) Distinguish between entrepreneurial competencies and mobility. What factors influence the entrepreneurial mobility? 2+1=4/ 3
- b) Write the limitations of Small Scale Industries in context of Bangladesh. 2
6. a) What do you mean by rural entrepreneurship? Write the ways to develop rural entrepreneurship? 1+3=4
- b) Point out the limitations of rural entrepreneurship. 2
7. a) Do you think that there are gender-based discriminations in entrepreneurship development in Bangladesh? Give evidences in support of your answer. 3
- b) Give the picture of women involvement in rural entrepreneurship in Bangladesh. 3
8. Write short notes on the following (any three) 3x2=6
(i) Imitative entrepreneur; (ii) Opinion leadership; (iii) Comparison between professional leaders and local leaders; (iv) Role of NGO in rural entrepreneurship development.

Chattogram Veterinary and Animal Sciences University

Faculty of Food Science and Technology

BFST 4th year 1st Semester Final Examination-2021

Subject: Epidemiology and Public Health (Theory)

Course Code: EPH-401

Full Marks: 70

Time: 3 hours

(Figures in the right margin indicate full mark. Answer 4 (Four) questions from each section where question no. one (1) and six (6) are compulsory. Split answer is not allowed.)

Section-A

- | | | |
|----|--|-----|
| 1. | a) Define epidemiology with its term elaboration. | 3.5 |
| | b) Enlist the core functions of epidemiology. | 1.5 |
| 2. | a) Explain sufficient component causes model with example. | 6 |
| | b) How host susceptibility influences on occurrence of disease? -Explain. | 4 |
| 3. | a) Define carriers in epidemiology. | 1 |
| | b) Characterize the different types of carriers in infectious diseases. | 4 |
| | c) Demonstrate the modes of transmission of different agent to a new host. | 5 |
| 4. | a) What do you mean by ethics? Discuss the principles of ethics. | 1+4 |
| | b) Define validity and reliability. | 2 |
| | c) Analyze that all valid data are reliable but all reliable data are not valid. | 3 |
| 5. | a) Briefly describe the aims of experimental studies. | 3 |
| | b) Design a randomized controlled trial for a new therapy/drug. | 7 |

Section-B

- | | | |
|-----|--|---|
| 6. | a) Define confounding factor with example. | 2 |
| | b) Which methods are applied to control the confounding factor? | 3 |
| 7. | a) Define sample and population. | 2 |
| | b) Generalized the steps in sampling design. | 4 |
| | c) Describe the stratified and cluster sampling. | 4 |
| 8. | a) Elaborate the main steps in outbreak investigation. | 6 |
| | b) Identify Epidemic, Endemic, Sporadic and Pandemic conditions in public health diseases. | 4 |
| 9. | a) What is error in epidemiology? | 1 |
| | b) Describe the types of information bias. | 5 |
| | c) Define sensitivity and specificity of a test. | 4 |
| 10. | a) What do you mean by snow ball sampling? Calculate the sample size of a population-based survey. | 5 |
| | b) Mention the steps necessary for descriptive studies. | 5 |

Chattogram Veterinary and Animal Sciences University

Faculty of Food Science and Technology

BFST 4th year 1st Semester Final Examination 2021

Subject: Food Quality Control and Assurance (Theory)

Course Code: FQA-401 (T)

Full Marks: 70

Time: 3 hours

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

Section-A

1. a) Draw a chart for different types of quality characteristics of foods. 2
b) Construct a flow chart for different criteria of consumers towards quality evaluation. 3
2. a) Mention various methods used for the determination of quality of food. 3
b) Write down the common physical tests used for food products. 4
c) Assemble the factors influencing quality of food. 3
3. a) Briefly describe the principle of UV-Visible spectroscopy. 2
b) Explain instrumentation and working details of double-beam UV-Visible spectrophotometer with schematic diagram. 6
c) Write down the applications of UV-Visible spectroscopy. 2
4. a) What do you mean by the Deming cycle? 2
b) Write down the advantages of auditing. 3
c) Define the terms: 3
 i) Certification.
 ii) Accreditation.
d) Classify the types of control charts. 2
5. Write short notes on:
a) Acceptance sampling. 3
b) ISO 9000:2008 4
c) Cultural factors influencing quality of food. 3

Section-B

6. a) Describe the functions of QA department. 3
b) Mention the types of food adulteration. 2
7. a) What is the basic concept of rheology? Why is food rheology important? 5
b) What is misbranding of product? What are the common food adulterants? 5
8. a) Make a table for common marine toxins mentioning their illness, toxins and sources. 3
b) Differentiate between natural and synthetic colorants. 3
c) How will you analyze food colorants? 3
d) What is E number? 1
9. a) What do you mean by sensory evaluation? 2
b) Mention the five senses for sensory analysis. 2
c) How sound/hearing is a part of sensory evaluation? 3
d) Why sensory analysis in the food industry is very important? 3
10. a) What are the principles of total quality management? What is food legislation? 4
b) Why is standardization important in an organization? What is BSTI license? 6
What is the purpose of Codex Alimentarius Commission?

Faculty of Food Science and Technology
BFST 4th year 1st Semester Final Examination, 2021
Subject: Refrigeration, Air-Conditioning in Food Processing (Theory)
Course Code: RAP-401 (T)

Full Marks: 70

Time: 3 hours

(Figures in the right margin indicate full marks. Answer any **four** questions from each section, where question no. **1 and 6 are compulsory**, Split answer is not allowed)

Section-A

1. Briefly describe the application of refrigeration in- 5
 - i) Food Processing, Preservation and distribution system.
 - ii) Comfort Air Conditioning System.

2. a) What is refrigeration and how it is classified? 3
b) Differentiate between refrigeration and heat pump system. Mention the application of heat pump. 4
c) Describe the source of trouble in a refrigeration unit and give suggestions of their remedies. 3

3. a) Draw a simple vapour compression refrigeration system and describe the principles of operation. What are the thermodynamic processes involved in the system-explain. 6
b) Define refrigerant. What are the desirable properties of a refrigerant must possess? 4

4. a) Describe the following psychrometric processes: 2.5x4=10
 - i) Cooling and Humidification,
 - ii) Heating and Humidification,
 - iii) Adiabatic saturation,
 - iv) Heating and dehumidification.

5. a) What is understood by Human Comfort? How human comfort can be expressed in terms of effective temperature. 5
b) How refrigeration load is determined? Prepare a list of factors involved in calculating heating and cooling loads estimation in refrigeration and air conditioning system. 5

Section-B

6. Enumerate in brief the comparisons between vapour compression and vapour absorption system with figure. 5

7. a) "Ozone depletion and global warming potential"- Explain about it. 5
b) Write down the working principle of a cascade refrigeration system. 5

8. a) Design and represent with psychrometric process of following summer air-conditioning process: i) For hot and dry outdoor conditions, 2.5x2=5
ii) With single cooling coil and by-pass mixing.
b) Mention the factors which are influenced by building acoustics. Also mention the characteristics of sounds. 5

9. a) Summarize the initial cooling methods for cold storage preservation and describe the forced air cooling method for preservation chamber. 6
b) Explain the following terms: i) Reverberation time, 2x2=4
ii) Noise Nuisance.

10. a) Develop an expression for overall heat transfer co-efficient for steady state combined heat transfer through a composite pipe. 5
b) Define steady-state heat transfer. Calculate the heat loss per unit length from a 16 cm steel pipe of 4mm thickness, carrying saturated steam and insulated with 4cm thick layer of asbestors and 2cm thick outer layer of magnesia. The inside film co-efficient is 3000 kcal/m²-hr-°C and outside film co-efficient is 12 kcal/m²-hr-°C.
K(Pipe)=300 kcal/m-hr-°C, K(Asbestors)=20 kcal/m-hr-°C, K(Magnesia)=15 kcal/m-hr-°C. The ambient and steam temperature are 35°C and 250°C. 5

Chittagong Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 4th year 1st Semester Final Examination, 2021
Subject: Renewable Energy in Food Processing (Theory)
Course Code: RFP-401(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 & 6** are compulsory. Use separate answer script for each section. **Split answer is strongly discouraged.**)

SECTION-A

1. a) Why should we choose renewable energy instead of fossil fuels? Is it efficient than fossil fuels? – explain. 3
b) How could you implement renewable energy efficiently for food processing in Bangladesh? 2
2. a) Briefly explain how an electron-hole pair generates in a solar cell with the help of band diagram. 5
b) Draw the equivalent circuit of the solar cell and form the equation of current produced by the solar cell. 5
3. a) List the limitations in the effective conversion of solar energy into mechanical power. 2
b) Draw the block diagram of the photovoltaic water pumping system. 4
c) Describe the three broad categories of PV power system. 4
4. a) What is the principle of solar thermal energy collection? Also, explain the ways of heat gain and loss in a solar thermal energy system. 3+3= 6
b) List the components and materials used for making a box type solar cooker. 4
5. a) Describe the operation of a solar distillation system. 6
b) List the components of a solar still and their specifications. 4

SECTION-B

6. a) Categorize water based on percentage of salts dissolved in water. 2
b) Write down the parameters that affect solar still performance. 3
7. a) For attaining 450°C temperature, what type of solar cooker is suitable? Explain its working principle with a neat diagram. 6
b) Design a solar cooker that is suitable for cooking by boiling. 4
8. a) Define wind energy and give an idea of nature of wind. 3
b) Derive an expression for available power density of wind energy. 4
c) Write the principles of Aerodynamics. 3
9. a) Write down the advantages and disadvantages of biomass energy. 2
b) Why conversion of biomass is required? Discuss the types of conversion process. 4
c) Draw the schematic diagram of a biogas plant and briefly describe its operation. 4
10. a) Write down some properties of geothermal fluid. 2
b) Discuss the construction details of a binary power plant. 4
c) Give the concept of a hybrid model named “Combined Heat and Power (CHP)”. Properly design a CHP plant that would effectively utilize all the waste heat. 4

Chattogram Veterinary and Animal Sciences University
Faculty of Food Science and Technology
BFST 4th Year 1st Semester Final Examination 2021
Course Title: Marketing of Food products and Business Management(Theory)
Course Code: MFP-401 (T)

Full Marks: 70

Time: 3 hours

(Figures in the right margin indicate full marks. Answer **THREE** questions from each section where Question No. **1 and 5 are mandatory**. Use separate answer script for each section. Split answer is strongly discouraged.)

Section- A

1. a) Explain the statement "Marketing adds value" 03
b) Identify four (4) pillars of marketing concept. 04
c) Identify and give examples of different types of utilities. 04
2. a) "Leader is a change maker". Justify the statement. 04
b) Outline the steps in the strategic management process. 04
c) Compare the characteristics of Sole Proprietorship, Partnership and Corporation. 04
3. a) Illustrate the purpose of business planning. 02
b) What are the different types of plans? Narrate the factors to be considered in formulating a sound plan. 05
c) Is there any importance of communication in food marketing? Justify your answer. 05
4. Suppose you are working as Marketing Manager at Meghna Meat, a new company in the processed meat industry. They are planning to launch their product in Chattogram market. Based on this, answer the following management queries.
a) Propose Mission and Vision statement for Meghna meat. 04
b) Develop three SMART marketing objectives for the company. 04
c) Show the 4Ps of marketing for the hypothetical company. 04

Section- B

5. a) Explain the Agribusiness System. 03
b) Mention a few principles of management proposed by Fayol. 04
c) Describe the general functions of management. 04
6. a) Elaborate the elements of a typical business plan. 06
b) Develop a hypothetical SWOT analysis of a company of your choice. 06
7. a) Define "Marketing Mix". Why is "Marketing Mix" very important for the success of a marketing manager? 04
b) Illustrate some marketing opportunities for food industries in Bangladesh. 04
c) Predict the market challenges for 'ready to eat' food in Bangladesh. 04
8. Suppose you are a newly recruited Production Manager of a food company.
a) Explain the factors you will consider while hiring the machine operators. 04
b) Propose some ideas on how to keep the machine operators motivated for their job. 04
c) Describe how you will direct them so that the company can achieve its targets. 04