

Chattogram Veterinary and Animal Sciences University
Department of Applied Chemistry and Chemical Technology
M.S. in Food Chemistry & Quality Assurance (July-December, 2020)
Subject: Food Quality Assurance
Course Code: FQA-502

Full Marks: 40

Time: 02 hours

[Figures in the right margin indicate full marks. Answer four (4) questions. Split answer is not allowed.]

1. a) Elaborate five key factors to ensure food safety 05
b) How extraneous matters do harm to food safety? Elaborate ways to be applied to ensure food safety from insects and insects fragment. 05
2. a) What do you mean by sensory evaluation? Discuss about Hedonic scale. 04
b) How do following physical attributes do matter for quality and safety of food? 06
Color, viscosity and consistency, size and shape
3. a) What is chromatographic analysis? Write down principles and application of chromatographic analysis. 05
b) Write down principles and application of gas chromatography 05
4. a) Enlist challenges and barriers in food processing sector in Bangladesh. 05
b) Discuss in brief prospect of food sector in Bangladesh. 04
5. Write a short note on the following: 2.5X4=10
GMP, HPLC, Titrimetric Analysis, Food Quality Management ✓

Chittagong Veterinary and Animal Sciences University
Department of Applied Chemistry and Chemical Technology
M.S. in Food Chemistry & Quality Assurance (July-December, 2020)
Subject: Food Safety and Risk Analysis
Course Code: FSA-502

Full Marks: 40

Time: 02 hours

[Figures in the right margin indicate full marks. Answer four (4) questions. Split answers are discouraged.]

1. a) What do you mean by ISO-22000 and ISO-22000:2005? 02
b) What are the requirements and benefits of ISO-22000? 04
c) Describe two principles of food safety management system. 04
2. a) What is HACCP? Draw a logic sequence for the application of HACCP. 05
b) What are benefits of applying HACCP in food industries? 05
3. a) Define risk management. 02
b) Draw a model for risk management. 04
c) How to develop a risk profile? Describe. 04
4. a) Define risk communication. 03
b) What are the goals of risk communication? 03
c) Write down the elements of an effective risk communication. 04
5. Write a short note on the following: 10
 - i) Food adulteration in Bangladesh
 - ii) Current challenges of food safety

Chattogram Veterinary and Animal Sciences University
Department of Applied Chemistry and Chemical Technology
M.S. in Food Chemistry & Quality Assurance (July-December, 2020)
Course Title: Product Development and Project Management
Course Code: PDM- 502

Full Marks: 40

Time: 02 hours

[Figures in the right margin indicate full marks. Answer four (4) questions. Split answers are discouraged.]

- 1 a) Suppose you are a director of World Food Programme project funded by United Nations. 07
Now, how do you briefly discuss the principles of project management?
- b) Different between project leader and project manager. 03

- 2 a) Discuss about the stages of product development. 06
- b) Explain the drivers of innovative products. 04

- 3 a) "Market research can be used at all stages of in product life cycle"- explain it. 05
- b) Elaborate the merits of stage-gate process. 05

- 4 a) List the roles of a project manager. 03
- b) Design the phases and principles of project management. 07

- 5 a) Elaborate the basic steps of stakeholder analysis. 05
- b) How do you evaluate a project by SWOT? 05

Chattogram Veterinary and Animal Sciences University
Department of Applied Chemistry and Chemical Technology
M.S. in Food Chemistry & Quality Assurance (July-December, 2020)
Subject: Applied Engineering Chemistry
Course Code: AEC-502

Full Marks: 40

Time: 02 hours

[Figures in the right margin indicate full marks. Answer four (4) questions. Split answer is not allowed.]

1. An aqueous solution of sodium hydroxide contains 20% NaOH by mass. It is desired to produce a 5% NaOH solution by diluting a stream of the 20% solution with a stream of pure water. 10
 - a) Calculate the ratios (g H₂O/g feed solution) and (g product solution/g feed solution).
 - b) Determine the feed rates of 20% solution and diluting water needed to produce 2500 kg/min of the 5% solution.

2.
 - a) What do you mean by material and energy balance? 4
 - b) Discuss the principle of general balance equation. 6

3.
 - a) Why we use series & parallel connections in pump operations? 4
 - b) Write the working principle of centrifugal pumps. What are the advantages of it? 6

4.
 - a) Discuss about NPSH and pump efficiency. 6
 - b) What is cavitation? What are the main causes of cavitation & how we can prevent this? 4

5.
 - a) Why heat exchangers are normally used in industries. 4
 - b) Draw a schematic of 2, 4- Shell & Tube heat exchanger. 6

Chittagong Veterinary and Animal Sciences University
Department of Applied Chemistry and Chemical Technology
M.S. in Food Chemistry & Quality Assurance (July-December, 2020)
Subject: Research Methodology and Case Studies
Course Code: RMS-502

Full Marks: 40

Time: 02 hours

[Figures in the right margin indicate full marks. Answer four (4) questions. Split answers are discouraged.]

1. a) Mention the difference between research methods and research methodology. 05
b) Define Sample. Write the types of sample with a chart. 05
2. a) What do you mean by literature survey? Write some advantages of literature survey. 05
b) Briefly describe the data processing operations. 05
3. a) Write down the difference between a concept and a variable. List out some examples of concepts, indicators and variables. 05
b) What is development? Discuss about the 3 categories of research and development. 05
4. a) Describe a complete process for writing a research proposal. 06
b) Define: i) Copyright ii) Patent 04
5. Write short notes on: 10
 - a) Questionnaire.
 - b) Observation.

Chattogram Veterinary and Animal Sciences University
Department of Applied Chemistry and Chemical Technology
M.S. in Food Chemistry & Quality Assurance (July-December, 2020)
Course Title: Food Quality Control
Course Code: FQC- 502

Full Marks: 40

Time: 02 hours

[Figures in the right margin indicate full marks. Answer four (4) questions. Split answers are discouraged.]

- 1 a) What is quality? Write down principles of quality control. 05
b) Define Total Quality Management. Mention its principles and application. 05

- 2 a) Define Spectroscopy. State the principles of spectroscopic analysis. 05
b) Design the working principle of UV-spectrophotometer. 05

- 3 a) Design the working principle of Atomic Absorption Spectrophotometer (AAS). 05
b) Discuss different types of atomization technique in AAS 05

- 4 a) What is Deming Cycle? Write down in brief Deming Management Program. 05
b) Discuss about general awareness and role of management practices in quality control. 05

- 5 Write a Short note on the following: 2.5X4=10
Good Hygienic Practices, National Food Safety Laboratory, BSTI, ISO: 22000