

MS in Applied Human Nutrition and Dietetics
July-December Semester Final Examination, 2024
Course Title: Advanced Micronutrients
Course Code: ADN-502 (Theory)

Full Marks: 40,

Time: 2 hours

Answer any Four (4) out of the Five (5) questions. All questions carry equal marks.

1. a) What is vitamin? Provide its definition and classification. 01+02
b) Explain the biochemical role of vitamin A in Wald's Visual Cycle. 07
2. a) Give a summary of the process of vitamin D activation in the body. 06
b) Mention the food sources and RDA of vitamin B₁, vitamin B₂, and vitamin C at different age groups. 04
3. a) List the factors influencing iron absorption in the body. 04
b) Discuss the causes and clinical features of iron deficiency anemia in detail. 06
4. a) Briefly state the effects of heavy metals-induced toxicity on human health. 05
b) How does hypervitaminosis of fat-soluble vitamins affect human health? 05
Summarize your opinions regarding this.
5. Write down short notes of the following ~ 2.5X4
 - a) Clinical manifestations of VADDs
 - b) The role of vitamin D in calcium's metabolism
 - c) Pellagra
 - d) Disorders of calcium deficiency among geriatric people

Chattogram Veterinary and Animal Sciences University
MS in Applied Human Nutrition & Dietetics
July-December Semester Final Examination-2024
Course Title: Nutrition in Emergency
Course Code: NUE-502

Full Marks:40

Time: 2 hours

Answer any **four (4)** questions. Figures in the right margin indicate full marks. **Split answer is strictly discouraged.**

1. a) What is meant by nutritional emergency? What are the primary causes that contribute to nutritional emergencies? (Consider natural, man-made and social/environmental factors in your answer) 05
b) What strategies should be employed to manage nutritional emergencies? 05
2. a) What is an early warning system and what does Bangladesh's disaster model entail? 05
b) How do government and non-governmental organizations contribute to preventing nutrient deficiencies in disaster-prone regions? 05
3. a) What is the Community Preparedness Plan (CPP) and what steps are involved in managing a sudden-onset disaster? 05
b) Write down the name of different hazards and how do they affect our country? 05
4. a) Define nutritional relief and why is it crucial during disaster situations? 05
b) What is the nutritional survey and what are the key steps involve in conducting nutritional survey? 05
5. a) Discuss the historical context of disaster situations in Bangladesh and their impact on food security and nutrition. 05
b) Can you briefly explain the nutritional assessment system and how it operates? 05

MS in Applied Human Nutrition and Dietetics
July-December Semester Final Examination-2024
Course Title: Nutritional Problems, Survey and Surveillance
Course Code: NPS -502

Full Marks: 40

Time: 2 hours

Answer any **four (4)** questions. Figures in the right margin indicate full marks. **Split answer is strictly discouraged.**

1. a) Define Anthropometry. Illustrate the current scenario of nutritional problems in Bangladesh. 1+4
b) What is Obesity and Overweight? How do you identify overweight and obesity among people of different ages? explain 2+3
2. a) What are the policies taken by WHO to reduce dental caries 4
b) Write down some key broad strategy for Salt Reduction 4
c) Define Dietary assessment. 2
3. a) List the sites used to measure the skinfold thickness. What are the building blocks of anthropometry indices? Explain. 1+4
b) What is Z score? Explain some feature of the Z score. 2+3
4. a) What is nutrition transition? Describe the patterns of nutrition transition. 1+3
b) Demonstrate the strategies taken by transnational food companies to encourage the consumption of processed food. 4
c) Discuss the simple random sampling technique. 2
5. a) Differentiate Survey and Surveillance. 3
b) Write down the different types of nutritional surveillance. 3
c) Classify different dietary survey methods with example 4

MS in Applied Human Nutrition and Dietetics
July-December Semester Final Examination-2024
Course Title: Medical Nutrition Therapy
Course code: MNT-502

Time: 2 hours

Full marks: 40

Answer any **four (04)** questions. Figures in the right margin indicate full marks. Splitting answers is strictly discouraged.

1. a. Define malnutrition. Tabulate Fredrickson classification of hyperlipidemia. 1+4
 b. Hyperlipidemia leads to atherosclerosis --- Justify your comment. 05
2. a. “Autism is considered as spectrum disorder” --summarize the statement. 03
 b. Compare an autistic brain from a healthy brain. 03
 c. Plan a diet and therapies for an autistic child. 04
3. a. What is food Allergy? Name four different types of allergies occur in human body. 1+3
 b. Sketch the pathophysiology of food Allergy. 03
 c. Summarize the dietary management of allergy. 03
4. a. Why type 2 diabetes is called diabetes mellitus? 02
 b. Interpret the association between pancreatitis and diabetes mellitus. 03
 c. “Lifestyle modification and proper drug can lead a diabetic patient a healthy life”—
 recommend your opinion. 05
5. Mr. Abidur Rahman, a banker, has been diagnosed with a body mass index of 30 and has a
 combination of hepatic and fat cells. According to the doctor, he also has a disruption in his
 food metabolism. Again, clinical reports showed the fat wrapping in the intestinal lining of
 Mr. Rahman.
 a. What are inborn errors of metabolism? 01
 b. Compile the causes behind Abidur Rahman’s current body condition. 02
 c. How can you diagnose intestinal fat wrapping in Mr. Rahman’s body and from which
 disease he suffers? 04
 d. Outline a healthy lifestyle and diet modification for Mr. Abidur Rahman. 03

Chattogram Veterinary and Animal Sciences University
MS in Applied Human Nutrition & Dietetics
July-December Semester Final Examination-2024
Course Title: Evidence-Based Management of Public Health Programs
Course Code: EMP-502

Full Marks:40

Time: 2 hours

Answer any **four (4)** questions. Figures in the right margin indicate full marks. **Split answer is strictly discouraged.**

1. a) Define Evidence-Based Management and Public Health? 2
b) List different public health programs in Bangladesh. 2
c) Construct Team STEPP's plan to mitigate infant mortality worldwide. 6
2. a) State logic model. Draw the logic model of managing tuberculosis. 1+3
b) what is cost benefit analysis? How will you conduct a CBA for arranging a nutritional campaign? 1+3
c) List the advantages and disadvantages of CBA. 02
3. a) Define population and sampling? 02
b) Discuss different sampling techniques. 04
c) write the importance of sampling in epidemiology. 04
4. a) Show the graphical representation of endemic, epidemic, pandemic situation. 03
b) Elaborate the emerging public health issues in the world. 05
c) Describe the key characteristics of evidence-based decision making. 02
5. Write short notes (any four) 2.5*4=10
 - a) Zoonotic disease
 - b) Domains of evidence-based decision making
 - c) Evidence-based management of covid 19
 - d) Program Evaluation
 - e) Analytical tools of EMP

Chattogram Veterinary and Animal Sciences University
MS in Applied Human Nutrition and Dietetics

July-December Semester Final, 2024

Course: Advanced Dietetics

Course Code: ADD-502

Full Marks: 40 Time: 2 hours

Answer any **four (4)** questions. Figures in the right margin indicate full marks. **Split answer is strictly discouraged.**

1. a) What is sickle cell anemia? Give an algorithm of causes, pathology, and management of iron deficiency anemia. 1+4
b) Briefly describe the types of eating disorders 5
2. a) What is drug interaction? Describe the mechanisms of food taken with drug (any four). 1+4
b) What do you mean by Qualitative modification of diet? Explain diet modification for several disease condition. 2+3
3. a) A seven-day-old girl admitted to the pediatric metabolism clinic with a suspicion of phenylketonuria (PKU) after newborn screening program. She was born at 40 weeks of gestation with a 2300-gram birth weight and hospitalized for 2 days. Her parents were first degree cousins and the family history was unremarkable for an inherited metabolic disease, however them other had two miscarriages. Physical examination revealed microcephaly, mild facial dysmorphism, and cardiac murmur in addition to intrauterine growth retardation. Her blood phenylalanine level was 1140 $\mu\text{mol/dL}$. As a ventricular septal defect was detected with echocardiography, the mother's blood Phe concentration was measured. Surprisingly her blood Phe level was 1614 $\mu\text{mol/dL}$. The mother was a 25 years old woman be able to graduate from primary school and complained about only concentration problems and forgetfulness. She had also blond hair and blue eyes on physical examination. 5

Answer the following:

- I. What level of phenylalanine (Phe) should be maintained in early childhood that results in near normal IQ?
 - II. Which enzyme is used in enzyme enhancement therapy for PKU?
 - III. What is the name of the test that is used to PKU diagnosis?
 - IV. Which enzyme activity is deficient in PKU?
 - V. What is the proposed mechanism by which Large Neutral Amino Acids (LNAAs) interfere with the transport of phenylalanine?
 - A) By breaking down phenylalanine in the bloodstream.
 - B) By competing for the same transport systems across the intestine and blood-brain barrier.
 - C) By preventing the synthesis of phenylalanine in the body.
 - D) By blocking the enzymes responsible for phenylalanine metabolism.
- b) Discuss on management for Phenylketonuria along with the diagnosis. 5
4. a) What is the meaning of “enteral”? Write down the categories of enteral formula. 1+3
- b) Write a short note on -Refeeding syndrome, Weaning pattern for an infant, and Acquired Metabolic Diseases 3×2
5. a) What are the mental conditions caused by nutritional problems? Tabulate the advantages and disadvantages of Enteral Nutrition. 1+4
- b) Define Apgar score. Explain Parenteral feeding for premature infant. 1+4