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Daffodil International University

Department of Nutrition and Food Engineering
Faculty of Health and Life Sciences
B.Sc. in Nutrition and Food Engineering
Midterm Examination Summer 2026

Course Code: 0231-111 **Course Title:** Communicative English
Level and Term: L-1, T-1 **Section:** 262 All **Course Teacher Initials:** NC, RIS, SML
Time: 1 hour and 30 minutes **Total Marks:** 25

Maintaining the order of the questions is highly encouraged

Marks

1. Grammer Section: [CLO1, PLO10, C3] **5**

A. Complete the following sentences using 1st, 2nd, 3rd and Zero conditional sentence structures. Kindly write the **full sentence** in the answer script. **0.5 x 5=2.5**

i) If milk is left at room temperature, _____.
ii) _____, they will maintain better health and concentration.
iii) If I were a clinical nutritionist, _____.
iv) If the patient had reduced sugar intake earlier, _____.
v) _____, you will make healthier food choices.

B. Fill in the gaps with the correct prepositions [in, at, to, on, with, of]: **0.5 x 5=2.5**

i) The food-engineering students have a practical class ____ Monday morning.
ii) The research meeting will start _____ 9:00 a.m.
iii) The researcher mixed the ingredients _____ a special machine.
iv) The samples are kept _____ the refrigerator to maintain freshness.
v) The students presented their report ____ the head of the nutrition department.

2. Reading Comprehension: [CLO2, PLO10, C3] **15**

The Future of Functional Foods: A New Era in Nutrition

In recent decades, the relationship between food and health has become a major focus of scientific research. While traditional foods primarily provide energy and essential nutrients, a growing category known as functional foods offers additional health benefits beyond basic nutrition. These foods contain biologically active compounds that may help prevent diseases, improve physiological functions, and enhance overall well-being. As consumers become increasingly health-conscious, the demand for functional foods continues to rise worldwide.

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The concept of functional foods originated in Japan during the 1980s when researchers and policymakers sought ways to improve public health through diet. Since then, the idea has expanded globally. Functional foods include naturally nutrient-rich products such as fruits, vegetables, nuts, and whole grains, as well as foods that have been fortified or enriched with beneficial ingredients. Examples include yogurt containing probiotics, orange juice fortified with calcium, and cereals enriched with vitamins and minerals.

One of the most widely studied categories of functional foods is probiotic-containing products. Probiotics are live microorganisms that provide health benefits when consumed in adequate amounts. They are commonly found in fermented foods such as yogurt, kefir, and certain cheeses. Research suggests that probiotics can support digestive health by maintaining a balanced gut microbiota. A healthy gut microbiota plays a crucial role in digestion, nutrient absorption, and immune system function. Scientists are also investigating whether probiotics may help reduce the risk of certain gastrointestinal disorders and improve mental well-being through the gut-brain connection.

Another important group of functional foods includes products rich in antioxidants. Antioxidants are compounds that protect cells from damage caused by free radicals, which are unstable molecules produced during normal metabolic processes and exposure to environmental pollutants. Excessive free radical activity has been linked to aging and various chronic diseases, including cardiovascular disease and certain types of cancer. Fruits such as berries, grapes, and citrus fruits are particularly rich in antioxidants. As a result, many consumers actively seek foods with high antioxidant content as part of a healthy diet.

Advances in food engineering have significantly contributed to the development of functional foods. Modern technologies enable manufacturers to incorporate bioactive compounds into food products without compromising taste, texture, or shelf life. Microencapsulation, for example, is a technique used to protect sensitive ingredients such as probiotics, vitamins, and omega-3 fatty acids from degradation during processing and storage. This technology ensures that these beneficial components remain effective until they are consumed.

Despite their potential benefits, functional foods also present certain challenges. One concern involves consumer misunderstanding of health claims. Some individuals may believe that consuming functional foods alone can compensate for poor dietary habits or an unhealthy lifestyle. Nutrition experts emphasize that functional foods should complement, rather than replace, a balanced diet rich in diverse nutrients. Regulatory agencies in many countries have established strict guidelines regarding health claims on food labels to prevent misleading information and protect consumers.

Sustainability is another important consideration in the functional food industry. Manufacturers are increasingly exploring environmentally friendly methods of producing functional ingredients. Researchers are investigating the use of agricultural by-products, such as fruit peels and seed residues, as sources of valuable bioactive compounds. This approach

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not only reduces food waste but also contributes to the development of more sustainable food systems.

As scientific knowledge continues to expand, functional foods are likely to play an increasingly important role in global nutrition. Future innovations may lead to personalized functional foods designed to meet individual nutritional needs based on genetic, physiological, and lifestyle factors. Although challenges remain, the integration of nutrition science, food engineering, and consumer education offers promising opportunities for improving public health through diet.

A. Briefly write the **Main Idea** of the text. Do not copy directly from the text **2.5 x 1=2.5**
[Write not more than 60words]

B. Apply your comprehension skills to make judgments to the following statements: **0.5 x 5=2.5**

Write **only** True/False/ Not given.

True- If the statement is aligned with the information given.

False- If the statement contradicts the given information.

Not Given- If no such information is given in the text.

1. Functional foods provide health benefits beyond basic nutrition and are becoming increasingly popular worldwide.
2. The concept of functional foods was first introduced in Europe before spreading to other parts of the world.
3. Probiotics are beneficial microorganisms commonly found in fermented foods such as yogurt and kefir.
4. Antioxidants are linked to protecting the body from damage caused by free radicals.
5. Functional foods are always more effective than medicines in treating chronic diseases.

C. Answer to the following questions, explain if needed: **1 x 5 =5**

1. How did Japan contribute to the development of modern functional foods?
2. In what way do probiotics support human health, and where are they commonly found?
3. Why are antioxidants considered important in protecting the human body?
4. How does microencapsulation improve the quality and stability of food products?
5. How might future functional foods be designed to suit individual consumers?

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D. Read the text again and complete the paragraph by using one word in each gap. [Fill in the Gap Activity] **1 x 5 =5**

Functional foods are a growing area of interest in modern nutrition because they provide benefits beyond basic nutri (1). The idea was first developed in Japan (2) during the 1980s to improve public health through diet. These foods include naturally rich sources as well as products that are _____ (3) with additional nutrients. Certain foods such as yogurt contain beneficial microorganisms known as pro (4), which help maintain a healthy digestive system. Another important group of compounds called antioxidants protect the body from damage caused by free (5), which are linked to ageing and several diseases.

3. A **Listening Test** will be conducted section wise. [CLO2, PLO10, C4] 0.5 x 10 =5

Students will be provided answer script and audio tape will be played. Students will listen to the audio carefully and write the correct answers. **The test will be taken on the later date.**

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