



Department of Nutrition and Food Engineering
Faculty of Health and Life Sciences
B.Sc. in Nutrition and Food Engineering
Final Examination Fall 2025

Course Code: 0511-1105
Level and Term: L-1, T-1
Time: 2 hours

Section: 253 All

Course Title: Basic Human Nutrition
Course Teacher Initials: FA, MMS, TA
Total Marks: 40

Splitting any answer is strictly prohibited

- | | | Marks |
|---|--|-------|
| 1 | (a) Why some ω -3 (EPA, DHA) fatty acids are <u>considered</u> conditionally essential fatty acids and find out the metabolic pathways involved in their <u>conversion</u> . [CLO3,PLO1,C1] | 2+2 |
| | (b) Explain the progressive changes with <u>consequences</u> in the arteries that lead to <u>artery narrowing</u> and <u>impaired blood flow</u> . [CLO3,PLO1,C3] | 4 |
| 2 | (a) A 6-year-old child and a 16-year-old teenager both weigh 40 kg. Using the <u>DRI</u> protein recommendations, which person needs more grams of <u>protein</u> per day, and <u>by how much</u> ? [CLO3,PLO1,C1] | 4 |
| | (b) Why is mutual supplementation of protein important for certain groups of people? Use two examples to explain this. [CLO3,PLO1,C3] | 2+2 |
| 3 | (a) Explain the role of retinol in the visual cycle and illustrate the process with a labeled diagram. [CLO4,PLO1,C1] | 4 |
| | (b) Describe how calciferol deficiency leads to <u>skeletal</u> deformities in the upper <u>extremities</u> . [CLO4,PLO1,C2] | 4 |
| 4 | (a) Interpret how niacin deficiency leads to the 4 <u>Ds</u> and evaluate the impact of this disease on human health. [CLO4,PLO1,C4] | 4 |
| | (b) Describe sources of folic acid and the impact of <u>folate</u> deficiency on a pregnant woman. [CLO4,PLO1,C4] | 2+2 |
| 5 | (a) Write the functions of iodine in body with its deficiency symptoms. [CLO4,PLO1,C1] | 4 |
| | (b) Mention the functions of <u>calcium</u> and phosphorus <u>apart</u> from their roles in <u>bone and teeth formation</u> . [CLO4,PLO1,C4] | 2+2 |

Derivative