



**GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY,
GUNUPUR, ODISHA**

B. Sc. Nursing Second Semester Examinations, JULY' 2025
BIOC135, NUTR140 - Applied Biochemistry and Applied Nutrition & Dietetics

Time: 3 hrs

Maximum: 75 Marks

Section - A : Applied Biochemistry (25 Marks)

PART – A: (Multiple Choice Questions)

(4 x 1 = 4 Marks)

Q. 1 Answer ALL questions

- What is the main function of lipoproteins?
 - To store glucose
 - To transport lipids in the bloodstream
 - To break down triglycerides
 - To synthesize fatty acids
- Which cycle is involved in the conversion of lactate to glucose?
 - TCA cycle
 - Cori's cycle
 - Glycolysis
 - Pentose phosphate pathway
- Enzymes are made up of:
 - Fats
 - Proteins
 - Nucleic acids
 - Vitamins
- Which of the following is the primary marker used to assess kidney function?
 - Creatinine
 - Urea
 - BUN
 - Urine protein

PART – B: (Very Short Answer Questions)

(3 x 2 = 6 Marks)

Q.2. Answer ANY THREE questions

- How does the body respond to low carbohydrate intake?
- How does diet influence the progression of fatty liver disease?
- What is the normal range for blood pH?
- How many ATP molecules are produced in glycolysis?

PART – C: (Short Answer Questions)

(3 x 5 = 15 Marks)

Q.3. Answer ANY THREE questions

- Discuss the various steps in gluconeogenesis
- Explain the different steps of protein absorption in human.
- Describe various mechanisms for maintenance of blood pH.
- Explain ketone bodies

Section - B : APPLIED NUTRITION (50 Marks)

PART – D: (Multiple Choice Questions)

(8 x 1 = 8 Marks)

Q. 4 Answer ALL questions

- Which mineral is essential for bone health?
 - Iron
 - Potassium
 - Calcium
 - Sodium

- b. What is the primary function of proteins in the body?
 (i) provide energy (ii) Regulating body temperature
 (iii) Building and repairing tissue (iv) Aiding digestion
- c. Which type of carbohydrate is found in fruits and vegetables?
 (i) Simple carbohydrates (ii) Fiber
 (iii) Complex carbohydrates (iv) None of the above
- d. Which vitamin is known as the "sunshine vitamin"?
 (i) Vitamin A (ii) Vitamin K
 (iii) Vitamin D (iv) Vitamin C
- e. What is the primary cause of Kwashiorkor?
 (i) Protein deficiency (ii) Fat deficiency
 (iii) Carbohydrate deficiency (iv) Vitamin deficiency
- f. What is the primary goal of a therapeutic diet?
 (i) Weight loss (ii) Management of disease
 (iii) Weight gain (iv) Improve strength
- g. What is the primary cause of Microcytic Anemia?
 (i) Iron deficiency (ii) Folate deficiency
 (iii) Vitamin B12 deficiency (iv) Vitamin A deficiency
- h. Which diet is recommended for patients with diabetes?
 (i) High-carbohydrate diet (ii) Low-carbohydrate diet
 (iii) Balanced carbohydrate diet with monitoring (iv) High-fat diet

PART – E: (Very Short Answer Questions)

(6 x 2 = 12 Marks)

Q.5 Answer ALL questions

- Define pro-vitamins.
- BMI
- Foodborne Illness
- AGMARK Standard
- Nutritional assessment
- Beri Beri

PART – F: (Short Answer Questions)

(4 x 5 = 20 Marks)

Q.6. Answer ANY FOUR questions

- Discuss in detail about nurses role in food and nutrition.
- Classification of proteins
- ICDS
- Anthropometric measurement
- Enumerate the function and dietary sources and deficiency of iron.

PART – G: (Long Answer Questions)

(10 x 1 = 10 Marks)

Answer ALL questions

- | | |
|--|-------|
| 7.a. Define fat. | Marks |
| b. Explain the composition and classification of Fat. | 2 |
| | 8 |
| (OR) | |
| c. Define vitamin. What are water soluble vitamins? | 5 |
| d. Write a note on functions and deficiency of Thiamine(B1). | 5 |

--- End of Paper ---