



BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – B.Sc. Nursing-2023/B.Sc. Nursing-2024

Course Name – Applied Biochemistry and Applied Nutrition & Dietetics

Course Code - BIOC 135 & NUTR 140

(Semester II)

Full Marks : 75

Time : 3:0 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable. Write answer of Section – A and Section –B in separate Answer booklet.]

Section : A (Applied Biochemistry)

Marks : 25

Group-A

(Multiple Choice Type Question)

4 x 1=4

1. Choose the correct alternative from the following :

(i) Choose the following confirmed values meet the diagnostic threshold for diabetes:

- | | |
|---|---|
| a) Fasting blood glucose ? 140 mg/dl | b) Random glucose > 160 mg/dl |
| c) 2 hour post prandial glucose \geq to 126 mg/dl | d) Fasting blood glucose \geq 126 mg/dl |

(ii) Identify the outcome of the accumulation of acetyl-CoA in the mitochondria of the liver:

- | | |
|--|--------------------------------------|
| a) It forms ketone bodies | b) It is used as an energy source |
| c) It has broken down in to free fatty acids | d) It gets converted to oxaloacetate |

(iii) Select the correct answer of normal pH of human blood is:

- | | |
|--------------|-------------|
| a) 7-7.1 | b) 7.25-7.3 |
| c) 7.35-7.45 | d) 7.5-7.55 |

(iv) Identify the normal range of HDL (High density lipoprotein)-

- | | |
|-----------------|-----------------|
| a) 40-60mg/dl | b) 60-80mg/dl |
| c) 100-120mg/dl | d) 80-100 mg/dl |

Group-B

(Short Answer Type Questions)

3 x 5=15

2. What is the significance of the HbA1c test in diabetes management? (5)
3. Explain briefly the role of enzymes in the process of digestion in human beings. (5)
4. Write a short note on Blood gases (5)

Group-C
(Very Short Answer Type Questions)

3 x 2 =

5. Classify PUFA (Poly unsaturated fatty acid)
6. What is a coenzyme?
7. What is the function of the hormone glucagon?

(2)

(2)

(2)

Section : B
(Applied Nutrition and Dietetics)

Marks : 50

Group-A
(Multiple Choice Type Question)

8 x 1=8

8. Choose the correct alternative from the following

(i) What is the calorie value of one gram of fat?

a) 4 kcal

b) 6 kcal

c) 9 kcal

d) 12 kcal

(ii) Which of the following is a symptom of dehydration?

a) Increased energy

b) Reduced urine output

c) Weight gain

d) Improved concentration

(iii) Name the disease for which a low-GI diet is particularly beneficial

a) Hypertension

b) Diabetes Mellitus

c) Renal disease

d) Anemia

(iv) Which of the following is a good source of insoluble fiber?

a) Oats

b) Beans

c) Whole wheat bread

d) Apples

(v) Which of these is a function of the mineral magnesium?

a) Oxygen transport

b) Nerve and muscle function

c) Blood clotting

d) Vision

(vi) What is the purpose of the ICDS program?

a) To provide health insurance

b) To improve the nutritional and health status of children and mothers

c) To provide financial aid to families

d) To promote adult education

(vii) Which of the following is a symptom of Vitamin B12 deficiency?

a) Scurvy

b) Megaloblastic Anemia

c) Goiter

d) Rickets

(viii) Which of the following is a sign of an electrolyte imbalance?

a) High blood pressure

b) Normal appetite

c) Muscle cramps

d) Clear urine

Group-B
(Long Answer Type Questions)

1 x 10=1

9. Explain the classification and functions of carbohydrates. Describe the clinical significance of carbohydrate intolerance (e.g., lactose intolerance).

(5+5=10)

OR

Describe the metabolism of alcohol and its effects on the liver.

(5+5=10)

(Short Answer Type Questions)

4 x 5=20

10. Classify protein energy malnutrition (PEM) and identify its main causes.
11. Apply the principles of food safety in the storage of food items.
12. Describe the factors Affecting basal metabolic rate .
13. Describe the deficiencies of vitamin A.

(5)

(5)

(5)

(5)

OR

Write a short essay on Viamin K

(5)

Group-D

(Very Short Answer Type Questions)

6 x 2=12

14. What is the role of antioxidants in the body?
15. Mention two primary functions of Calcium in the body.
16. What is a trace element? Give two examples.
17. What is the difference between anorexia and bulimia?
18. What is the purpose of food fortification?
19. What is a food handler?

(2)

(2)

(2)

(2)

(2)

(2)
