Paper Code-030501

B.Sc. Nursing 2nd Semester Annual University Examination

Subject-Applied Biochemistry and applied Nutrition & Dietetics

Time Allowed: Three Hours **Maximum Marks:-75**

Note:

- The candidates must limit their answers to the answer book (40 pages) issued to them. No supplementary Continuation answer sheet shall be provided.
- Illustrate your answers with suitable diagrams, graphs and flow charts.
- Attempt MCQ in OMR Sheets.
- OMR Sheets shall be collected 15 minutes after starting of Examination.

Section-A (MCQ on Applied Biochemistry & Applied Nutrition & Dietetics) 12X1=12 Marks

1.1. Mixing of brick powder in red chillies is example of

a) Food fortification b) Food additives c) Food adulteration d) Food faddism

1.2. Storage form of iron is

a) Ferritin b) Transferrin c) Apoferritin d) None of the above

1.3. Maximum absorption of food takes place in

a) Colon b) Stomach c) Small Intestine d) Rectum

1.4. Poor man meat is known as

a) Chicken b) Pulses c) Mutton d) All the above

1.5. Daily requirement of protein is

a) 1gm/Kg b) 2gm/Kg c) 1.5gm/Kg d) 2.5gm/kg

1.6. Folic acid is

a) Vit B5 b) Vit B3 c) Vit B6 d) Vit B9

1.7. Milk is lacking of

a) Vit A b) Iron c) Vit C d) Both a and C

1.8. Which enzyme helps for the digestion of fat after emulsification?

a) Renin b) Amylase c) Lipase d) Trypsin

1.9. Richest source of triglycerides in blood is

a) HDL b) LDL c) VLDL d) Chylomicrons

1.10. The base not present in DNA is

a) Adenine b) Guianine c) Uracil d) Thymine

1.11. Niacin is synthesized from

a) Phenylalaine b) Tyrosine c) Tryptophan d) Methionine

1.12. Grave's disease is due to

a) Hyperthyroidism b) Hyporthyroidism c) Hyperkalemia d) Hypercalcemia

Section-B (Applied Nutrition & Dietetics) **Total=32 Marks**

Q2. a) Define therapeutic diet. **(1+3+6)=10**

b) Write down the purposes of Therapeutic Diet

c) Plan a menu of therapeutic diet for patient of chronic kidney disease.

Q3. Short Answer Type Questions **(4X5) =20**

a) Role of nurse in nutritional programmes.

b) Safe food handling.

c) Protein Energy Malnutrition

d) Prevention of food adulteration act, 1954

Q4. Very short Answer Type Questions **(6X2)=12**

a) Macro and micro nutrients

b) Under nutrition and over nutrition

c) Balanced Diet

d) Functions of protein

e) Hypervitammiosis A

f) Food preservation

Section-C (Biochemistry) **Total- 21 Marks**

Q5. Short Answer Type Question **(3X5) =15**

a) Describe Kreb's cycle (TCA cycle).

b) Types and functions of plasma proteins.

c) Diagnostic importance of different enzymes in liver diseases.

Q6. Very short Answer Type Questions **(3X2) =6**

a) Difference between metabolic acidosis and metabolic alkalosis

b) List the names of essential amino acids.

c) Causes of proteinuria.

Paper Code – 030501

B. Sc. Nursing 2nd Semester University Examination

Subject – Applied Biochemistry and Applied Nutrition & Dietetics

Time Allowed: Three Hours **Maximum Marks = 75**

Note:

- The candidate must limit their answers to the answer book (60 pages) issued to them. No supplementary continuation answer sheet will be provided.
- Illustrate your answers with suitable diagrams, graphs and flow charts.
- Attempt MCQs in OMR sheet.
- OMR sheet shall be collected 15 minutes after starting of examination.

Section –A **12x1=12 Marks**

MCQ

Q 1.1 Richest source of Vitamin –D is
a) Sunlight
b) Fish liver Oil
c) Egg
d) Milk

Q 1.2 Lathyrism occur due to intake of :
a) Green Gram
b) Cauliflower
c) Khesari Dal
d) Bangalgramareis

Q 1.3 Marasmus occur due to deficiency of:
a) Calorie
b) Protein
c) Both a&b
d) None

Q 1.4 Maximum absorption of food takes place in :
a) Colon
b) In stomach
c) Small intestine
d) Rectum

Q 1.5 Formula for body mass indexing is:
a) Height divided by weight
b) Weight divided by Height
c) Weight divided by Height squared
d) Height divided by weight squared

Q 1.6 Which of the following food is rich in Vitamins:
a) Milk
b) Tomato
c) Green leafy vegetables
d) Egg

Q 1.7 Daily requirement of protein is :
a) 1 gm/kg
b) 2gm/kg
c) 1-5gm/kg
d) 2.5gm/kg

Q 1.8 Pernicious anemia occurs due to the deficiency of :
a) Vitamin-A
b) Vitamin-C
c) Vitamin-K
d) Vitamin-B

Q 1.9 Complete metabolism of One (1) molecule of Glucose provide:
a) 6 ATP
b) 24 ATP
c) 12 ATP
d) 36 ATP

Q 1.10 Osmosis is opposite to
a) Diffusion
b) Affusion
c) Effusion
d) Coagulation

Q 1.11 HDL is synthesized and secreted from:

a) Kidney
b) Liver
c) Muscles
d) Pancreas

Q 1.12 Lipid stores are mainly present in:

a) Liver
b) Brain
c) Muscles
d) Adipose tissue

Section-B (Applied Nutrition & Dietetics) **Total = 42 Marks**

Q2. a) Define Nutrient. **(1+3+6=10)**

b) Discuss briefly the relationship of nutrition with health and Nursing.

c) Explain factors affecting food and nutrition intake or nutritional status.

Q3. Short Answer Type Questions **(4x5=20)**

a) Carbohydrate
b) Write note on Vitamin –A
c) Role of food handlers in food borne diseases.
d) Dietary sources of protein

Q4. Very Short Answer Type Questions **(6x2=12)**

a) Functions of Fat
b) Define food additives
c) Define Osteomalacia
d) Define Weaning
e) Comparison between kwashiorkor & Marasmus
f) Name the Diseases occur due to deficiency of Iron & Iodine

Section- C (Biochemistry) **Total= 21 Marks**

Q5. Short Answer Type Questions **(3x5=15)**

a) Digestion & Absorption of protein
b) Vitamins and their functions
c) Enzymes of diagnostic importance in Myocardial Infarction

Q6. Very Short Answer Type Questions. **(3x2=6)**

a) ABG-Normal value
b) Hypoglycemia & hyperglycemia
c) Functions of Calcium

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Paper Code – 030501

B.Sc. Nursing 2nd Semester Supplementary University Examination

Subject – Applied Biochemistry and Applied Nutrition & Dietetics

Time Allowed: Three Hours **Maximum Marks 75**

Note:

- The candidate must limit their answers to the answer book (50 pages) issued to them. No supplementary continuation answer sheet will be provided.
- Illustrate your answers with suitable diagrams, graphs and flow charts.
- Attempt MCQs in OMR sheet.
- OMR sheet shall be collected 15 minutes after starting of examination.

Section –A (12x1=12)

MCQ:

1.1. The example of macronutrients is :
a) Proteins
b) Fats
c) Carbohydrates
d) All of the above

1.2. Peptides are the source of :
a) Water
b) Energy
c) Fat
d) carbohydrates

1.3. Which of the following is fibrous protein
a) Collagen
b) Elastin
c) Keratin
d) all of above

1.4. Beri-Beri disorder is caused by deficiency of following vitamin
a) Vitamin B_{12}
b) Vitamin B_2
c) Vitamin B_1
d) Vitamin k

1.5 Which of the following is not a major mineral :-
a) Chlorine
b) Iron
c) Magnesium
d) Both b and c

1.6kwashiorkor occurs due to deficiency of :
a) Iron
b) Calorie
c) Protein
d) Essential fatty acid

1.7 The international unit of energy is:
a) Calorie
b) Joule
c) Kilo joule
d) Mg

1.8 Dietary fibers prevent :
a) Anemia
b) Goiter
c) Constipation
d) Diarrhea

1.9 Normal blood pH is:
a) 6.8-7.0
b) 7.0- 7.12
c) 7.35- 7.45
d) 7. 55- 7.

1.10 Deficiency of folic acid:
a) Megaloblastic anemia
b) Rickets
c) Beriberi
d) Delay healing

1.11 Glycogenesis is the process of:
a) Sugar formation
b) Protein Formation
c) Glucose formation
d) Lipid formation

1.12 Which of the following is abnormal constituent of urine?
a) Creatinine
b) Glucose
c) Urea
d) Ammonia

Section-B (Applied Nutrition & Dietetics) **Total = 42 Marks**

Q2. Explain
a) Define and classify proteins. **(2+4+4=10)**
b) Explain the function of proteins.
c) Explain the process of digestion of proteins.

Q3. Short Answer Type Questions **(4x5=20)**
a) Nutrients.
b) Mid-day meal programme.
c) Classification of minerals and functions of minerals.
d) Major Nutritional problems in India.

Q4. Very Short Answer Type Questions **(6x2=12)**

a) Balanced diet.
b) Organic & Inorganic Nutrients
c) Naturopathy
d) Weaning
e) PEM
f) Saturated & unsaturated fats

Section- C (Biochemistry) **Total= 21 Marks**

Q5. Short Answer Type Questions **(3x5=15)**
a) Diagnostic applications of enzymes
b) Vitamins and their functions
c) Write about different types of jaundice

Q6. Very Short Answer Type Questions. **(3x2=6)**
a) Hypoglycemia & hyperglycemia
b) Functions and sources of fat
c) ABG-Normal value

Paper Code – 030501

B. Sc. Nursing 2nd Semester Supplementary University Examination August, 2024

Subject – Applied Biochemistry and Applied Nutrition & Dietetics

Time Allowed: Three Hours | Maximum Marks-75

Note:

- The candidate must limit their answers to the answer book (60 pages) issued to them. No supplementary continuation answer sheet will be provided.
- Illustrate your answers with suitable diagrams, graphs and flow charts.
- Attempt MCQs in OMR sheet and Section B & C in the answer sheet of 60 pages.
- OMR sheet shall be collected 15 minutes after starting of examination.

Section - A (MCQ) (12x1=12 Marks)

1.1 How much calories per gram are provide by carbohydrates?

(a) 4 cal/gm (b) 9 cal/gm
(c) 13 cal/gm (d) 16 cal/gm

1.2 Which of the following vitamin is responsible for wound and bone healing?

(a) Vitamin A
(b) Vitamin D
(c) Vitamin C
(d) Vitamin E

1.3 BMI of 26 is classified in which of the following category?

(a) Normal
(b) Overweight
(c) Class 1 obesity
(d) Class 2 obesity

1.4 Which of the following is an example of moist cooking heat methods?

(a) Broiling
(b) Grilling
(c) Poaching
(d) Baking

1.5 Which of the following is the ideal temperature of the refrigerator for the storage of food?

(a)-40°C (b) 0°C
(c) 25°C (d) 37°F

1.6 Which of the following is the cheapest and most effective way to treat dehydration?

(a) Oral clear fluids
(b) Oral rehydration therapy
(c) Intravenous fluid therapy
(d) Zinc supplementation

1.7 Which of the following is the objective method of assessing the nutritional status of a person?

(a) Anthropometric Measurements
(b) 24-hour recall diary
(c) Nutrition Log
(d) Nutritional History

1.8 Which of the following should be avoided in a diet of a person suffering from celiac sprue?

(a) Cakes
(b) Fruits and Vegetables
(c) Eggs
(d) Legumes

1.9 How many ATP are produced directly per molecule of glucose after aerobic glycolysis.

(a) ATP (b) 2 ATP
(c) 18 ATP (d) 38 ATP

1.10 Which of the following is the main buffering system in blood and circulating cells?

(a) Carbonic anhydrase
(b) Proteins
(c) Bicarbonate-carbonic acid buffer system
(d) Phosphate buffers

1.11. Which of the following enzyme is found in higher concentration in pancreatic juice?

(a) Lactase
(b) Amylase
(c) Protease
(d) Pepsin

1.12 Which of the following is the richest source of cholesterol?

(a) Low-density lipoproteins
(b) High-density lipoproteins
(c) Very-low density lipoproteins
(d) Chylomicrons

Section-B (Applied Nutrition & Dietetics) (Total = 42 Marks)

Q1. a) Define any two methods of cooking. (4+2+4=10 Marks)
b) What is food preservation?
c) List down methods of food preservation.

Q2. Attempt all the questions. (4X5 Marks =20)

a) Factors affecting BMR
b) Role of nurse in nutrition education
c) Difference between kwashiorkor and Marasmus
d) One day sample menu for an obese patient with hypertension

Q3. Attempt all the questions. (6X2 Marks=12)

a) Balanced Diet
b) ICDS
c) Hypervitaminosis
d) Saturated fats
e) Dietary Sources of Carbohydrates
f) Differentiate Macro and Micro –nutrients.

Section- C (Biochemistry) Total= 21 Marks

Q4. Attempt all the questions. 3X5 Marks =15

a) What are lipids? How are they classified? List functions of cholesterol in body.
b) What are enzymes? Discuss clinical significance of any four enzymes in body.
c) Discuss blood glucose regulation in body.

Q5. Write briefly the about following: (3X2 Marks =6)

a) Immunoglobulin IgG
b) Essential Amino Acids
c) ELISA

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Paper Code : 030501

B. Sc. Nursing 2nd Semester regular/reappear University Examination March 2025

Applied Biochemistry and Applied Nutrition and Dietetics

Time : 03 Hours **Maximum Marks : 75**

Instructions :

- **The candidate must limit their answers to the answer book (60 pages) issued to them. No supplementary continuation answer sheet will be provided.**
- **Illustrate your answers with suitable diagrams, graphs and flow charts.**
- **Attempt Section A (MCQs) in OMR sheet and Section B in 60 pages answer book.**
- **OMR sheet shall be collected 15 minutes after starting of examination.**

MCQ **(Section A)** **(12x1 Mark=12)**

Q1. The Process of converting unsaturated fat to saturated fat is called:

(a) Degradation
(b) Decomposition
(c) Hydrogenation
(d) Saturation

Q2. The Major Source of energy in the diet

(a) Carbohydrates
(b) Proteins
(c) Water
(d) Vitamins

Q3. Which Vitamin is necessary for coagulation?

(a) Vitamin B
(b) Vitamin C
(c) Vitamin K
(d) Vitamin E

Q4. A Balanced diet will help to prevent:

(a) Illness
(b) Appetite
(c) Growth
(d) Nutrition

Q5. Which of the following disease is linked to a diet high in saturated fats

(a) Kidney failure
(b) Bulimia
(c) Anorexia
(d) Cardiovascular

Q6. Which food item should be avoided in diet if client is suffering from gout:

(a) Liver
(b) Broccoli
(c) Chocolate
(d) Carrot

Q7. What is BMI score for Obesity?

(a) 20 to 25
(b) More than 15
(c) More than 30
(d) Less than 18.

Q8. Beriberi is due to the deficiency of:

(a) Niacin
(b) Thiamin
(c) Riboflavin
(d) Vitamin B12

Q9. Richest source of Trigyceride in blood is:

(a) HDL
(b) LDL
(c) VLDL
(d) Chylomicrons

Q10. Transamination of aspartate Forms:

(a) Pyruvate
(b) Acetyle CoA
(c) Oxaloacetate
(d) Alanine

Q11. Glycogen is stored in:

(a) Skin
(b) Liver
(c) Heart
(d) Brain

Q12. IgM molecule consists of :

(a) 2 subunits
(b) 3 subunits
(c) 4 subunits
(d) 5 subunits

(Section B) **(Total = 63 Marks)**

Q1. Define Vitamins and explain fat soluble Vitamins in Detail. [10.0]

Q2. Explain: [20.0]

2.1. Mid-Day Meal Programme [5.0]
2.2. Anemia in pregnancy [5.0]
2.3. Describe integrated Child development services [5.0]
2.4. Electrolyte Imbalance [5.0]

Q3. Very short type [12.0]

3.1. Micronutrient and Macronutrient [2.0]
3.2. Malnutrition [2.0]
3.3. Food Adulteration [2.0]
3.4. Diet Plan for Lactating Mother [2.0]
3.5. Classification of minerals [2.0]
3.6. Food safety [2.0]

Q4. Short Answer [15.0]

4.1. Causes & Consequences of Hypoglycemia [5.0]
4.2. Functions of Plasma Protein [5.0]
4.3. Factors affecting Calcium absorption [5.0]

Q5. Very Short Question [6.0]

5.1. HbAIc [2.0]
5.2. Proenzymes [2.0]
5.3. Urea Cycle [2.0]

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