

RUFAIDA COLLEGE OF NURSING
JAMIA HAMDARD
POST BASIC B.Sc NURSING 1st YEAR, MARCH 2023
PAPER CODE-BSN PB 103
BIOCHEMISTRY AND BIOPHYSICS

Time: 3 Hours

Maximum marks: 75

PART A (38 MARKS)
BIOCHEMISTRY

Q1: Define the following terms: (ANY 5)

(5X2=10)

- 1) GTT
- 2) Lipoproteins
- 3) Calcium homeostasis
- 4) Neoglucogenesis
- 5) Ketone bodies
- 6) Hormones

Q2:a) Illustrate the mechanism of enzyme action.

b) Analyze various factors influencing digestion and absorption.

(3+4=7)

OR

Justify the importance of enzymes in carbohydrate digestion.

Appraise diagrammatically about TCA cycle.

(3+4=7)

Q3:a) Illustrate water and fluid balance in the body.

b) Interpret the normal and abnormal values of electrolytes in the body.

(3+3=6)

Q4: Write short notes: (ANY 3)

(3X5=15)

- a) Importance of biochemistry in Nursing
- b) pH of blood and its regulation
- c) Genetic disorders of protein and amino acid metabolism
- d) Urea cycle

PART B (37 MARKS)
BIOPHYSICS

Q1: Define the following terms: (ANY 5)

(5X2=10)

- 1) Pacemaker
- 2) EMG
- 3) Osmotic pressure
- 4) principles of Archimedes
- 5) Body mechanics
- 6) Centre of gravity

Attempt ANY TWO (in Q2 to Q4)

Q2: Appraise various pressures in the human body and their clinical application. (2+4=6)

Q3: Illustrate the principles of physics applied behind i) suction process and ii) BP measurement using sphygmomanometer

(3+3=6)

Q4: Illustrate i) principles of physics applied in hearing in human being and ii) principles of gravity in health and nursing.

(3+3=6)

Q5: Write short notes: (ANY 3)

(3x5=15)

- 1) Use of heat for sterilization
- 2) Use of light in phototherapy
- 3) Application of traction
- 4) Application of radioactivity in medicine