

**RAN-1806000701030001**

First Year Post Basic Bachelor of Science (Nursing) Examination September - 2025
Bio Chemistry and Bio Physics

Time: 3 Hours]**[Total Marks: 75****સૂચના : / Instructions**

- (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
 Fill up strictly the above details on your answer book

Seat No.:

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Student's Signature

SECTION - I (Bio Chemistry)**Q. 1. Short answer question (Any 8)****(08×01=08)**

1. Define: Hyperglycemia
2. Normal value of sodium in human body
3. Catabolism
4. Protein Synthesis
5. Normal value of blood Ph
6. Osmolality
7. Endoplasmic reticulum
8. Osmotic pressure
9. Keton bodies.

Q. 2. Write short notes (Any 4)**(04×05=20)**

1. Importance of bio-chemistry in nursing
2. Define enzyme and its classification
3. Functions of electrolytes in body
4. Urea cycle
5. Glycolysis

Q. 3. Write any one long essay type question.**(01×10=10)**

1. Explain in details about formation of urine and its characteristics.

(10)**OR**

2. Define cell.

(2+5+3)

Explain Structure of cell

Function of mitochondria, Ribosomes, and cell membrane.

SECTION - II (Bio - Physics)

- Q. 4. Define the following. (Any 7) (07×01=07)**
1. Radioactive isotope
 2. What is sterilization.
 3. Define Energy.
 4. Enlist heat loss mechanisms of body.
 5. Difference between conduction and convection
 6. Expand MRI.
 7. What is intensity and velocity.
 8. Expand EEG & ECG.
- Q. 5. Write Short Notes. (ANY 4) (04X05=20)**
1. What is pacemaker? Explain its type and function.
 2. Define Vector and Scalar quantities. Explain difference between them.
 3. What is machine. Explain principles of machines in details.
 4. Discuss Regulation of Body temperature.
 5. Define the words Force, Work and Energy. Write their units of measurement.
 6. Explain uses of Light in therapy.
- Q. 6. Answer the following. (Any One) (01×10=10)**
1. Describe the various types of pulleys and explain the lever mechanism in the human body.
 2. Define Gravity. Enlist the Principles of Gravity. Explain the application of gravity principle in nursing.
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