

Reg. No:.....

**First Year Post Basic B.Sc Nursing Degree Regular/Supplementary  
Examinations April 2022**

**Biochemistry & Biophysics  
(2016 Scheme)**

**Time: 3 Hours**

**Total Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary • Write section A and section B in separate answer books (32 pages). Do not mix up questions from section A and section B.*

**QP Code: 113011**

**Section A – Biochemistry**

**Marks: 40**

**Short Essays:**

**(2x7=14)**

1. Glucose tolerance test.
2. Describe the reactions of formation of uric acid. Mention the causes of gout (4+3)

**Short Notes:**

**(2x5=10)**

3. Discuss the effect of substrate and enzyme concentration on enzyme activity.
4. Enlist the biological importance of lipids with suitable examples

**Answer briefly:**

**(4x4=16)**

5. State the normal reference range for serum albumin. Mention the causes of hypoalbuminemia. (1+3)
6. Discuss the role of rennin angiotensin system in water and electrolyte balance
7. Name the defect and manifestations of steatorrhea, Hartnup's disease
8. Draw a neat labelled diagram of cell. Mention one function of sub cellular organelles each.

**QP Code: 114011**

**Section B- Biophysics**

**Marks: 35**

**Short Essays:**

**(3x7 = 21)**

1. Define resistance, effort and efficiency of a machine. Briefly explain different kinds of simple machines. (2+5)
2. What is the principle of ECG. Explain how ECG is taken and tracings are interpreted. (2+5)
3. Explain radioactivity. Write the uses of radioactive isotopes in medicine. (2+5)

**Short Notes:**

**(2x4 = 8)**

4. What is osmosis. Explain osmotic pressure.
5. Explain any two applications of gravity in nursing.

**Answer Briefly:**

**(2x3 = 6)**

6. What are different uses of ultrasonic waves
7. Why does ice float on the surface of water

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