

**First Year Post Basic B.Sc Nursing Supplementary Examinations  
October 2017  
(2010 Scheme)**

**BIOCHEMISTRY AND BIOPHYSICS**

**Time: 3 Hours**

**Total Marks: 75**

- Answer all questions. 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: 103011      Section A - BIOCHEMISTRY      Marks: 37½**

**Essay: (10)**

1. Discuss the diagnostic and therapeutic importance of enzymes with examples

**Short notes: (4x5=20)**

2. Mention the normal levels of cholesterol. Name products synthesized by it. Mention the causes of increased cholesterol level.
3. Discuss the role of RNAs in protein synthesis
4. Glucose tolerance test
5. Outline steps of urea synthesis

**Answer briefly: (3x2 ½ =7 ½)**

6. Name the proteolytic enzymes
7. Mention the normal levels of sodium. Mention its functions
8. Mention the functions of cytosol

**QP CODE: 104011      Section B- BIOPHYSICS      Marks: 37½**

**Essay: (10)**

1. Define voltage, current and resistance. Explain Ohm's Law. Add a note on membrane potential.

**Short notes: (4x5=20)**

2. Define isotopes, isobars and isomers and mention suitable examples.
3. What is meant by artificial pacemaker and add a note on its clinical significance.
4. Explain the applications of heat in medical field.
5. Mention the types of ultrasound. Explain the biomedical applications of ultrasound.

**Answer briefly: (3x2½=7½)**

6. Give the advantages and disadvantages of MRI scanning.
7. Define speed, velocity and acceleration.
8. Define the relative humidity and specific heat.