

Reg. No:.....

**First Year Post Basic B.Sc Nursing Degree Supplementary Examinations
January 2022**

**Biochemistry & Biophysics
(2016 Scheme)**

Time: 3 Hours

Total Marks: 75

QP Code: 113011

Section A – Biochemistry

Marks: 40

- 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.

Short Essays: (2x7=14)

1. What is gluconeogenesis. What are the substrates of gluconeogenesis. Describe the steps of gluconeogenesis. (1+2+4)
2. Describe the effect of factors affecting enzyme activity

Short Notes: (2x5=10)

3. Discuss the role of insulin and glucagon on plasma glucose regulation.
4. Enlist the biological importance of polyunsaturated fatty acids with suitable examples

Answer briefly: (4x4=16)

5. Discuss the mechanism of oxidative phosphorylation.
6. State the reference range for serum potassium. Mention the causes of hyperkalemia.
7. Ketone body formation
8. Briefly describe urea cycle

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Section B- Biophysics

Marks: 35

Short Essays: (3x7 = 21)

1. Describe different types of thermometers and their uses. Explain why mercury is a preferred thermometer liquid. (4+3)
2. State Newton's Law of gravitation. Explain the effects of gravity on human body. (2+5)
3. Define the terms current, voltage and resistance and write their units of measurement. State and briefly explain ohm's law. (4+3)

Short Notes: (2x4 = 8)

4. Explain the effects of electricity on human body.
5. What are the defects of vision. How they are rectified

Answer Briefly: (2x3 = 6)

6. What is relative humidity.
7. Define speed and velocity.
