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**First P.B.B.Sc. NURSING Examination, Summer 2017  
BIOCHEMISTRY AND BIOPHYSICS**

Total Duration : Section A + B = 3 Hours

Total Marks : 75

**SECTION – A & SECTION – B**

- Instructions :**
- 1) Use **blue/black** ball point pen only.
  - 2) **Do not** write anything on the **blank portion of the question paper**. If written anything, such type of act will be considered as an attempt to resort to unfair means.
  - 3) **All** questions are **compulsory**.
  - 4) The number to the **right** indicates **full** marks.
  - 5) Draw diagrams **wherever** necessary.
  - 6) Distribution of syllabus in Question Paper is only meant to cover entire syllabus within the stipulated frame. The Question paper pattern is a mere guideline. Questions can be asked from any paper's syllabus into any question paper. Students cannot claim that the Question is out of syllabus. As it is only for the placement sake, the distribution has been done.
  - 7) **Use** a common answerbook for **all** Sections.

**SECTION – A (45 Marks)  
(Biochemistry)**

1. Short answer questions (any five out of six) : (5×5=25)
  - a) Define enzymes. Enumerate factors affecting enzyme activity.
  - b) Give outline and importance of Tricarboxylic acid cycle (Kreb's cycle).
  - c) Phospholipids of biological importance.
  - d) What are the causes and consequences of Dehydration?
  - e) Classify carbohydrates with suitable examples.
  - f) Structure and function of t-RNA.
  
2. Long answer question (any two out of three) : (2×5=10)
  - a) Electron transport chain and its inhibitors.
  - b) What is ketosis? Write down the causes of ketosis and about detection of ketosis.
  - c) Explain in detail urea cycle with its significance and energetics.

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3. Short answer question (any two out of three) :

(2x5=10)

- Functional classification of proteins.
- Atherosclerosis.
- Gluconeogenesis.

**SECTION – B (30 marks)**  
**(Biophysics)**

4. Short answer questions (any four out of five) :

(4x5=20)

- What are the modes of heat transfer ? Explain with one example.
- What is osmotic pressure ? Enumerate its uses in human body.
- Explain principle of wax bath.
- Why synthetic cloth dresses are not allowed in operation theaters ?
- Explain the defibrillator.

5. Long answer question (any one out of two) :

(1x10=10)

- Discuss lever systems of body.
- Explain the biological effects of light. Describe uses of light in therapy.

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First P.B. B.Sc. Nursing Examination, Winter 2017  
BIOCHEMISTRY AND BIOPHYSICS



Total Duration : Section A + B = 3 Hours

Total Marks - 75

SECTION - A & SECTION - B

- Instructions :**
- 1) Use **blue/black** ball point pen only.
  - 2) Do not write anything on the **blank portion of the question paper**. If written anything, such type of act will be considered as an attempt to resort to unfair means.
  - 3) **All questions are compulsory.**
  - 4) The number to the **right** indicates **full marks**.
  - 5) Draw diagrams **wherever necessary**.
  - 6) Distribution of syllabus in Question Paper is only meant to cover entire syllabus within the stipulated frame. The Question paper pattern is a mere guideline. Questions can be asked from any paper's syllabus into any question paper. Students cannot claim that the Question is out of syllabus. As it is only for the placement sake, the distribution has been done.
  - 7) Use a common answerbook for **all Sections**.

SECTION - A (45 Marks)

(Biochemistry)

1. Short answer question (**any five** out of six) : (5x5=25)
  - a) Plasma proteins and their functions.
  - b) Electrolyte distribution, its functions and imbalance in body.
  - c) Classify carbohydrates with suitable examples.
  - d) Fatty Liver - its causes and prevention.
  - e) Structure and functions of DNA.
  - f) Structure and functions of cell membrane.
2. Long answer question (**any two** out of three) : (2x5=10)
  - a) Define Enzymes. Describe various factors affecting Enzyme activity.
  - b) Describe Ketone body formation and their utilization in the body. Add a note on ketosis.
  - c) Describe various steps of Krebs cycle. Add a note on its energetics.

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3. Short answer question (**any two** out of three) :

(2×5=10)

- a) Balanced Diet.
- b) Uric acid formation.
- c) Glycogenesis.

**SECTION – B (30 Marks)**

**(Biophysics)**

4. Short answer question (**any four** out of five) :

(4×5=20)

- a) Explain Newton's third law of motion.
- b) Write in brief on uses of light in therapy.
- c) Enumerate the effect of linear acceleration on human body.
- d) Ventilator.
- e) Uses of heat sterilization.

5. Long answer question (**any one** out of two) :

(1×10=10)

- a) Describe in detail various Lever mechanisms in body.
- b) Define electromagnetism. Describe its application in medical science.