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**First P.B. B.Sc. Nursing Examination, Winter (Phase - III All
Other Remaining UG/PG Course) - 2019
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) ✓ Explain structure and function of mitochondria.
 - b) ✓ Discuss importance of biochemistry for nursing.
 - c) ✓ Define ketosis. Mention two conditions causing ketosis.
 - d) ✓ Essential amino acids.
 - e) ✓ Role of liver in fat metabolism- fatty liver.
 - f) Diagnostic significance of enzymes.

2. Long answer questions (any two out of three) : [2 × 5 = 10]
- Outline the pathway of glycolysis.
 - Lipoproteins and its functions.
 - When and how glucose tolerance test is performed?
3. Short answer questions (any two out of three) : [2 × 5 = 10]
- Explain difference between DNA and RNA.
 - Discuss important physiological functions of potassium. List the sign and symptoms of hyperkalemia.
 - Biologically important polypeptides.

SECTION - "B" (30 Marks)**Biophysics**

4. Short answer questions (any four out of five) : [4 × 5 = 20]
- Explain the units of length, weight, mass, time and velocity.
 - Application of lever, pulley traction in Nursing.
 - Explain different types of fluid motion.
 - Write the differences between Electricity and Electromagnetism.
 - Write the biological effects of light.
5. Long answer question (any one out of two) : [1 × 10 = 10]
- Discuss the effect of heat on matter and write its application in nursing practice.
 - Define hydrostatic pressure. Describe in detail the principles and the methods of measurement of arterial and venous pressure.



First P.B.B.Sc. Nursing Examination, Winter 2018
BIOCHEMISTRY AND BIOPHYSICS

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- 1) Use **blue/black** ball point pen only.
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 - 7) Use a common answerbook for all sections.

SECTION – A (45 Marks)
 (Biochemistry)

1. Short answer question (**any five** out of six) : (5×5=25)
 - a) Digestion of Proteins.
 - b) Classification of Carbohydrates with suitable examples.
 - c) Types and functions of Lipoproteins.
 - d) Structure and functions of Mitochondria.
 - e) Balanced diet.
 - f) Glucose Tolerance test.
2. Long answer question (**any two** out of three) : (2×5=10)
 - a) Describe various steps of TCA cycle.
 - b) Describe the role of enzymes in clinical diagnosis.
 - c) Describe the steps of Krebs cycle.
3. Short answer question (**any two** out of three) : (2×5=10)
 - a) Water and Electrolyte balance.
 - b) Essential amino acids.
 - c) Fatty liver.



SECTION – B (30 Marks)
(Biophysics)

4. Short answer question (**any four** out of five) : (4×5=20)
- a) List the basic units of mass and weight in SI system. Why does an object weigh more at sea level than that on a high mountain ?
 - b) Explain the types of motion. Give its applications in nursing.
 - c) What is center of gravity ? Explain the importance of principles of gravity in health care practices.
 - d) Why does a patient lying in bed for a long time develop sores? State the law that explains it.
 - e) Barium sulfate is used to outline organs.Explain.
5. Long answer question (**any one** out of two) : (1×10=10)
- a) What are types of Electricity? Human body is a good conductor of electricity. Discuss.
 - b) Explain the significance of Pascal's law of hydrostatic pressure in day to day life as well as in health care.

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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

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- 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) : (5×5=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) : (2×5=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.



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First P.B.B.Sc. Nursing Examination, Winter 2016
BIOCHEMISTRY AND BIOPHYSICS

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Total Marks : 75

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- 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) : (5x5=25)
 - a) Types and Functions of RNA.
 - b) Electrolyte balance and imbalance.
 - c) Digestion and absorption of lipids.
 - d) Atherosclerosis.
 - e) Nitrogen Balance.
 - f) Urea cycle.

2. Long answer question (any two out of three) : (2x5=10)
 - a) Describe various mechanisms for regulation of Blood Sugar levels.
 - b) Describe role of enzymes in clinical diagnosis and their applications.
 - c) Describe steps involved in beta oxidation of Fatty acids.

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

(2×5=10)

- a) Gluconeogenesis.
- b) Esseential Amino acids.
- c) Electron Transport chain.

Section-B (30 marks)

(Biophysics)

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

(4×5=20)

- a) Explain laws of reflection.
- b) Describe ECG.
- c) Uses of ultrasound.
- d) Effect of electricity on human body.
- e) Effect of positive \underline{G} ^{force} on human body.

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

(1×10=10)

- a) Describe in detail application of radioactive isotopes in medical science.
 - b) Describe the principle of measurement of body fluids with example.
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