**UNIVERSITY OF KABIANGA**

**UNIVERSITY EXAMINATIONS**

**2017/2018 ACADEMIC YEAR**

**SECOND YEAR FIRST SEMESTER EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOCHEMISTRY**

**COURSE CODE: BIO 205**

**COURSE TITLE: NUCLEIC ACID BIOCHEMISTRY**

**DATE: 1/2/2018**

**TIME: 2.00 P.M- 5.00 P.M**

**INSTRUCTIONS TO CANDIDATES:**

Answer **ALL** Questions in **section A** and any other **TWO** in **section B**.

**SECTION A**

1. Write short notes on:

 a. Gout. (2 marks)

 b. Allopurinol. (2 marks)

 c. Synthesis of deoxyribonucleotides. (2 marks)

 d. DNA denaturation. (2 marks)

2. Distinguish between:

 a. Nucleoside and nucleotide. (2 marks)

 b. Denaturation and renaturation. (2 marks)

 c. Ribonucleotide and deoxyribonucleotide. (2 marks)

 d. Nucleotides in RNA and DNA. (2 marks)

3. State the functions of nucleotides. (8 marks)

4. State the different types of RNA and their functions. (8 marks)

5. Discuss the hydrogen bonding patterns in purines and pyrimidines in base pair formation. (8 marks)

**SECTION B**

1. Describe the **two** stages involved in pyrimidine synthesis. (15 marks)

2. Discuss the important differences between DNA and RNA. (15 marks)

3. Discuss the common structural features of RNA. (15 marks)