



# UNIVERSITY OF EMBU

2018/2019 ACADEMIC YEAR

SECOND SEMESTER EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE  
IN BIOCHEMISTRY

SBC 102: INTRODUCTION TO BIOCHEMISTRY

DATE: APRIL 8, 2019

TIME: 11:00 AM – 1:00 PM

INSTRUCTIONS:

Answer Question ONE (Compulsory) and ANY Other TWO Questions

QUESTION ONE (30 MARKS)

- a) Briefly describe five biologically important sugar derivatives. (5 marks)
- b) Describe the structure and function of starch. (5 marks)
- c) Draw the Fischer projections of the two optical isomers of glucose and label all their chiral carbons. (5 marks)
- d) Proteins play an important biological and medical role in living systems. Elaborate with relevant examples. (5 marks)
- e) Outline the organization of the living components of life in ascending order. (5 marks)
- f) Describe the salient features of the DNA double helix. (5 marks)

QUESTION TWO (20 MARKS)

Discuss the properties of monosaccharides.

QUESTION THREE (20 MARKS)

Discuss the secondary structures of proteins.



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*Knowledge Transforms*



ISO 9001:2015 Certified

**QUESTION FOUR (20 MARKS)**

Give a diagrammatic representation of the process of glycolysis.

**QUESTION FIVE (20 MARKS)**

Discuss the following types of lipids: Fats and oils, saturated and unsaturated fatty acids and waxes.

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