

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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**University Examinations 2016/2017**

FIRST YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN PUBLIC HEALTH, BACHELOR OF SCIENCE IN COMMUNITY HEALTH DEVELOPMENT.

**SHV 3150: INTRODUCTION TO BIOCHEMISTRY I**

**DATE: DECEMBER, 2016 TIME: 2 HOURS**

**INSTRUCTIONS: -** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE (30 MARKS)**

1. Outline the four unusual properties of water which are of physiological importance (2 marks)
2. Draw the structures of; (2 marks)
3. B-D glucose
4. Cellbiose
5. List the chemical composition of bradford reagents (2 marks)
6. Describe the characteristics of milk proteins (2 marks)
7. Differentiate between inulin and pectin (2 marks)
8. Outline the law of biocryetic (3 marks)
9. Draw the structure of fatty acids (2 marks)
10. List the chemical composition of waxes (2 marks)
11. Draw the structures of the two pentose sugars (2 marks)
12. Explain how nucleosides analogues are used as drugs, giving relevant examples (2 marks)
13. List the functions of prostaglandins (2 marks)
14. Describe the important features of myoglobins (2 marks)
15. Outline the characteristics of ribonucleases (2 marks)
16. Differentiate between aleorphilins and ceruloplasmins (2 marks)

**QUESTION TWO (20 MARKS)**

1. Discuss the classification of proteins based on biological functions (15 marks)
2. Describe haemoglobin protein (5 marks)

**QUESTION THREE (20 MARKS)**

1. Discuss artificial or synthesis sweeteners. (15 marks)
2. Explain the Bohr effect. (5 marks)

**QUESTION FOUR (20 MARKS)**

1. Describe the chemistry and functions of five heleropolysaccharides. (15 marks)
2. Outline the biological significance of fat. (5 marks)