



# **SOUTH EASTERN KENYA UNIVERSITY**

## **UNIVERSITY EXAMINATIONS 2017/2018**

### **FIRST SEMESTER EXAMINATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOCHEMISTRY AND MOLECULAR BIOLOGY**

**BCH 307: MEDICAL BIOCHEMISTRY I**

**DATE: 15<sup>TH</sup> DECEMBER, 2017**

**TIME: 4.00-6.00 P.M**

#### **INSTRUCTIONS TO CANDIDATES**

- (a) Answer ALL the Questions in Section A**
  - (b) Answer ANY TWO Questions in Section B**
  - (c) Illustrate your answers with well labeled diagrams where appropriate**
- 

#### **SECTION A (30 marks)**

1. List the probable causes of fatty liver. **(5marks)**
2. Briefly discuss the role of the following enzymes in clinical diagnosis:
  - a) Lipase **(1 mark)**
  - b)  $\alpha$ -Amylase **(1 mark)**
  - c) Alkaline Phosphatase **(1 mark)**
3. Briefly describe the structure and synthesis of insulin. **(6 marks)**
4. Define the following medical terms:
  - a) Dermatitis **(1 mark)**
  - b) Hypervitaminosis **(1 mark)**
  - c) Glossitis **(1 mark)**

- d) Hyponatraemia (1 mark)
- e) Hyperkalaemia (1 mark)
5. Differentiate between type 1 and 2 forms of diabetes mellitus. (6 marks)
6. Write briefly on the myopathic forms of glycogen storage disease (5 marks)

**SECTION B (40 marks)**

6. Discuss the molecular and clinical manifestations of sickle cell anemia. (20 marks)
7. Give an account of the metabolic defects arising from deficiencies of fat soluble vitamins. (20 marks)
8. Describe the functions of iron and the disorders arising from its defective metabolism. (20 marks)
9. Describe in detail synaptic signal transmission and the biosynthesis of catecholamines. (20 marks)