

**UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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**University Examinations 2014/2015**

SECOND YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOCHEMISTRY.

**SBC 2204: BASIC METABOLISM II**

**DATE: APRIL 2015 TIME: 2 HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *in section A**and any other* ***two*** *questions in section B*

**SECTION A**

**QUESTION ONE (30 MARKS)**

1. Summarize the biochemical and physiological functions of heme (3 marks)
2. Explain the connection between vitamin B6 deficiency and microcytic anaemia (2 marks)
3. Explain the mode of action of cytochrome p450 enzyme (3 marks)
4. Describe the mode of action of the antiviral drugs dideoxyadenosine and acyclovir ( 2 marks)
5. Outline the synthesis of inosine minophosphate (IMP) (4 marks)
6. state reasons why we need minimum amount of protein in the diet (2 marks)
7. List down four metabolic significance of amino acids (2 marks)
8. Explain the major therapeutic strategies for lowering LDL cholesterols ( 2 marks)
9. Explain how the AcetylcoA needed for fatty acid synthesis is exported from the mitochondria to the cytosol (2 marks)
10. Give an outline of ketone body metabolism (2 marks)
11. Give the rationale and application of phototherapy in newborns (2 marks)
12. Draw the structure of salicyclic acid (2 marks)
13. List four functions of cholesterol (2 marks)

**SECTION B**

**QUESTION TWO (20 MARKS)**

Describe and illustrate the urea cycle

**QUESTION THREE (20 MARKS)**

Describe the synthesis of cholesterol

**QUESTION FOUR (20 MARKS)**

Discuss the causes pathogenesis, diagnosis and treatment of pheny/ketonuria

**QUESTION FIVE (20 MARKS)**

Discuss in details the clinical significance of diets and drugs in promotion of gout diseases