

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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**University Examinations 2015/2016**

THIRD YEAR, FIRST SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE BIOCHEMISTRY

**SHC 3300: ENZYMOLOGY**

**DATE: NOVEMBER, 2015 TIME:** $2 $**HOURS**

**INSTRUCTIONS:** *Answer question* ***one COMPULSORY*** *and any other* ***two*** *questions.*

**QUESTION ONE – (30 MARKS)**

1. Explain the meaning of the following terms; (4 Marks)
2. Non competitive inhibition
3. Competitive inhibition
4. Iso-enzyme
5. Zymogens
6. Explain what modulators in enzymes are. (3 Marks)
7. Outline four common features of active sites in all enzymes. (2 Marks)
8. List down the four assumptions of Michaeli’s –menten hypothesis. (2 Marks)
9. Explain six evidence proving the existence of an $ε$s complex. (3 Marks)
10. List the subunt composition of human haemoglobin. (3 Marks)
11. Explain the biological significance 2,3,Bisphoglycerate. (2 Marks)
12. State the difference between haemoglobin and myoglobin. (2 Marks)
13. Outline how certain metal ions brings about activation mechanism in enzymes.(5 Marks)
14. Write explanatory notes on the following; (2 Marks)
15. Ping pong reactions
16. Sequential reactions
17. Outline the mechanism action of chymotrypsin. (2 Marks)

**QUESTION TWO (20 MARKS)**

1. Derive Michaelis-menten equation. (20 Marks)

**QUESTION THREE (20 MARKS)**

Discuss any five class of enzymes classification under international union for Biochemistry and molecular Biology rules. (20 Marks)

**QUESTION FOUR (20 MARKS)**

Discuss inherited diseases relating to haemoglobin. (20 Marks)