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**UNIVERSITY OF KABIANGA**

**UNIVERSITY EXAMINATIONS**

**2014/2015 ACADEMIC YEAR**

**THIRD YEAR FIRST SEMESTER EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOCHEMISTRY**

**COURSE CODE: BIO 312**

**COURSE TITLE: MICROBIAL BIOCHEMISTRY**

**DATE: 1/12/2014**

**TIME: 2.00 P.M-5.00 P.M**

**INSTRUCTIONS TO CANDIDATES:**

*Answer* ***ALL*** *questions*.

1. Explain the criteria for identifying and classifying bacteria according to Bergey’s manual. (10 marks)
2. Fungi differ from bacteria in certain biochemical requirements. Explain using examples. (10 marks)
3. Using examples, explain **five** classes of mycoses. (5 marks)
4. A) Using structures, describe the butanediol fermentation pathway used by bygenus *kiebsiella*.

B) State the biomedical importance of the butanediol pathway. (10 marks)

 5. A) Using structures, describe the biosynthesis of peptidoglycan, a component of a bacterial cell wall. (10 marks)

 B) Briefly, describe the mode of inhibition of the synthesis of peptidoglycan. (5 marks)

 6. Describe the reductive acetyl CoA pathway used by some of the microorganisms to synthesis acetyl CoA from Co2