****

**W1-2-60-1-6**

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2019/2020**

**FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN MEDICAL MICROBIOLOGY**

**MMB 2109: BACTERIAL PHYSIOLOGY**

**DATE: APRIL, 2020 TIME: 2 HOURS**

**INSTRUCTIONS: ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS**

**QUESTION ONE: 30 MARKS**

a. i. Define metabolism. (1 mark)

ii. State the functions of metabolism. (4 marks)

b. Describe the importance of microorganism in physiology. (5 marks)

c. Describe microbial growth in a continuous culture. (5 marks)

d. State the medical importance of bacterial spores. (5 marks)

e. Differentiate aerobic and anaerobic respiration. (5 marks)

f. State the features of fermentation. (5 marks)

**QUESTION TWO: 20 MARKS**

Discuss structure, formation and functions of ATP in a cell.

**QUESTION THREE: 20 MARKS**

Discuss Nutrient uptake methods in bacterial cells.

**QUESTION FOUR: 20 MARKS**

Discuss the pentose phosphate pathway.