

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

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2020/2021**

**SUPPLEMENTARY/SPECIAL EXAMINATION FOR THE DEGREE OF BACHELOR**

**MMB 2301: ANTI-MICROBIAL RESISTANCE**

**DATE: MARCH 2021 TIME: 2 HOURS**

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

**QUESTION ONE: 30 MARKS**

a. State the natural causes of anti-microbial Resistances. (6 marks)

b. Explain how gene transfer influence anti-microbial resistance. (6 marks)

c. What is the role of enteric pathograns in anti-microbial resistance. (6 marks)

d. Briefly describe mutation in relation to anti-microbial resistance. (6 marks)

e. Explain how gender and sex influence anti-microbial resistance. (6 marks)

**QUESTION TWO: 20 MARKS**

Discuss the epidemiology of microbial disease in the local resource countries.

**QUESTION THREE: 20 MARKS**

Discuss the predisposing factors to anti-microbial resistance.

**QUESTION FOUR: 20 MARKS**

Discuss the significance of anti-microbial resistance.