



# UNIVERSITY OF EMBU

2019/2020 ACADEMIC YEAR

SECOND SEMESTER EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE MASTER OF SCIENCE IN PLANT  
BREEDING AND BIOTECHNOLOGY

ACB 606: BREEDING FOR BIOTIC AND ABIOTIC STRESSES

DATE: OCTOBER 27, 2020

TIME: 2:00 AM – 5:00 PM

INSTRUCTIONS:

Answer ANY FOUR Questions

QUESTION ONE (25 MARKS)

Discuss any five (5) types of defence mechanisms used by plants to counter stresses.

QUESTION TWO (25 MARKS)

- Explain using examples how you would choose the best applicable method for breeding for disease resistance based on the source of resistance (10 marks)
- Demonstrate how you can apply marker assisted selection in breeding for resistance against coffee berry disease that is controlled by a major gene in the T loci (15 marks)

QUESTION THREE (25 MARKS)

Discuss five (5) factors that have to be fulfilled for a disease to become an epidemic

QUESTION FOUR (25 MARKS)

- Discuss any five non-preference resistance mechanisms used by cotton against bollworms (15 marks)
- Demonstrate clearly the difference between the two types of host resistance (10 marks)



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**QUESTION FIVE (25 MARKS)**

Discuss the safety and environmental risks associated with genetically modified crops

**END**



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