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**JOMO KENYATTA UNIVERSITY**

**OF**

**AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2020/2021**

 **FIRST YEAR FIRST SEMESTER EXAMINATIONS FOR THE DEGREE OF MASTER OF SCIENCE IN GENETICS AND DEGREE OF MASTER OF SCIENCE IN MICROBIOLOGY**

**SBT 3128: ADVANCED CELL BIOLOGY**

**DATE: MAY 2021 TIME: 3 HOURS**

**INSTRUCTIONS: ANSWER ANY FOUR QUESTIONS**

**QUESTION ONE (25 MARKS)**

Discuss cellular signaling pathways in eukaryotes and prokaryotes.

**QUESTION TWO (25 MARKS)**

Discuss techniques that are used to identify cell lines in the laboratory.

**QUESTION THREE (25 MARKS)**

Discuss methods that can be used to monitor growth of cells in culture. What tests can be conducted to determine viability of cells in culture.

**QUESTION FOUR (25 MARKS)**

Discuss techniques that can be used to introduce foreign DNA into mammalian cells.

**QUESTION FIVE (25 MARKS)**

Membranes play essential and varied roles in cells. Discuss.

**QUESTION SIX (25 MARKS)**

Discuss the hybridoma cell technology and its applications.