



UNIVERSITY OF EMBU

2017/2018 ACADEMIC YEAR

SECOND SEMESTER EXAMINATIONS

**FIRST YEAR EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN
APPLIED MICROBIOLOGY**

**JPM 641: MOLECULAR BIOLOGY IN INDUSTRIAL AND ENVIRONMENTAL
MICROBIOLOGY**

DATE: APRIL 12, 2018

TIME: 2: 00 – 5:00PM

INSTRUCTIONS:

Answer ANY FOUR Questions

QUESTION ONE (25 MARKS)

Describe the experiment that proved DNA replicates semi-conservatively.

QUESTION TWO (25 MARKS)

Site-directed mutagenesis is a powerful tool in gene manipulation experiments. Discuss this statement

QUESTION THREE (25 MARKS)

Give an account of DNA repair mechanisms used by microorganisms to cope with DNA damage.

QUESTION FOUR (25 MARKS)

Genetically engineered microbes are a powerful tool for bioremediation. Discuss this statement.

QUESTION FIVE (25 MARKS)

Explain how pollutant degrading bacteria are harnessed from polluted sites.

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