



WI-2-60-1-6

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
University Examinations 2023/2024
YEAR I SEMESTER I EXAMINATION FOR THE DEGREE OF MASTER OF
SCIENCE IN MOLECULAR MEDICINE

TIM 3101: CELL STRUCTURE AND FUNCTION

DATE: AUGUST, 2024

TIME: 3 HOURS

INSTRUCTIONS: Answer ANY FOUR questions. Each question is 25 Marks

Question One

Malfunctioning of the cell and its organelles is associated with some medical and pathological human conditions. Discuss this statement with reference to any cell organelles (25 Marks)

Question Two

Describe the structural adaptation of endoplasmic reticulum that enables it to perform its diverse functions (25 Marks)

Question Three

DNA replication is said to be semi-conservative in bacteria and eukaryotes. Discuss (25 Marks)

Question Four

Citing examples, discuss the application of stem cell technology in modern medicine (25 Marks)

Question Five

Give an account of the modulators involved in the apoptotic and necrotic pathways (25 marks)

Question Six

Explain how the bacterial chromosomes appears to be extensively compacted, more dynamic and irregular in structure than eukaryotic chromatin (25 Marks)