



W1-2-60-1-6

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**  
**UNIVERSITY EXAMINATIONS 2024/2025**  
**EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE MEDICAL**  
**MICROBIOLOGY**

**TMM 3100: PATHOGENIC MICROBIOLOGY I I**

**DATE: DECEMBER, 2024**

**TIME: 3 HOURS**

THE INSTRUCTIONS:

Answer any Four (4) questions.

Each question carries 25 marks

1. No matter the pathogen, there are six points at which the chain of infection can be broken, in reference to any one disease of medical significance in Kenya, describe the six links of chain of infection. **(5 Marks)**
2. Molecular diagnostics of infectious diseases, in particular, nucleic-acid-based methods, are the fastest growing field in clinical laboratory diagnostics. Describe any 4 such techniques. **(5 Marks)**
3. Vaccines are biological products that protect against pathogens by eliciting an immune response, describe any four types of vaccines **(5 Marks)**
4. Enteral Route of Medication is by far, the most common route of administration for medications and supplements, Discuss any four such routes of medication. **(5 Marks)**
5. Concentration in diagnostic reagents can be expressed in physical units or chemical units. Describe 4 commonly used chemical units to express quantity of solutes in a solution. **(5 Marks)**
6. Quality control and quality assurance jobs are all about ensuring medicines have been manufactured correctly, have the desired effects and are safe for use. Though these words are used interchangeably in pharmaceutical settings, they are different. Bring out this difference. **(5 Marks)**