

**UNIVERSITY OF FORT HARE**

**IMMUNOLOGY, ANTIMICROBIAL CHEMOTHERAPY, AND VIROLOGY**  
**MIC 312**  
**QUESTION PAPER**

**Examination**  
**June 2023**

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**Time: 3 HRS**

**Subject: IMMUNOLOGY, ANTIMICROBIAL CHEMOTHERAPY, AND VIROLOGY**

**Marks: 100**

**This paper consists of 2 pages including the cover page**

**Internal Examiners**

**Dr N Nontongana**

**External Examiners**

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**INSTRUCTIONS**

**Answer all questions**

### **Question 1**

1.1 Generally, the virulence of pathogenic bacteria is directly related to the ability of the organism to produce one or more toxins. However, the virulence of viruses is not well defined. What factors contribute to the pathogenicity of a particular strain of virus?

(12)

1.2 What factors contribute to the pathogenicity of animal viruses?

(10)

### **Question 2**

2.1 With an aid of a well-labeled diagram, illustrate how monoclonal antibodies are produced.

(25)

### **Question 3**

3.1 List 4 antiviral agents and explain their mechanism of action. (11)

3.2 Explain the principle of each of the listed laboratory methods on antibiotic action

a) Stokes Controlled Sensitivity Test

b) Disk diffusion Test

c) Broth Dilution Method

(09)

3.3 Differentiate between intrinsic and acquired resistance and give an example of intrinsic resistance. (05)

### **Question 4**

4.1 Define clonal selection and give 3 pathways by which we can account for the diversity of antibodies via clonal selection.

(17)

4.2 Give the 8 characteristics of a clinically suitable antimicrobial agent.

(08)

**Total (100)**