



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**UNIVERSITY VILLAGE, PLOT 91 CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESS WAY, JABI**  
**- ABUJA.**

**FACULTY OF SCIENCE**  
**Department of Pure and Applied Sciences**

**June 2021 Examination** <sup>1234</sup>

**BIO 318: Immunology and Immunochemistry III**

**TIME: 2½ Hours**

**Credit Units: 3**

**INSTRUCTION: Answer question ONE (1) and any other FOUR (4) questions**

1a. Give two functions each of the following components of the Myeloid cell

- I. Macrophages (2 marks)
- II. Dendritic cells (2 marks)
- III. Mast cells (2 marks)

1b. State the mechanism of action and side effects of the drug Nifurtimox in the treatment of Chagas Disease (6 marks)

1c. Discuss the mode of action of the antibiotic Penicillin (10 marks)

2. In a tabular form, distinguish between innate and acquired immunity using the following characteristics :(12 marks)

- a. Order of defence
- b. The cells involved
- c. Response time
- d. Anatomic and physiological barriers
- e. Immunological memory
- f. Specificity

3a. What are lymphocytes? (2 marks)

3b. In a tabular form, differentiate between the T and B lymphocytes using the following characteristics: (10 marks)

- i. Site of Maturation
- ii. Type of active cells
- iii. Abundance
- iv. Type of immunity
- v. Antibody production

4. Explain the following terms in relation to structure - function relationship of antibodies

- a. Specificity (3 marks)
- b. Diversity (3 marks)
- c. Affinity (3 marks)
- d. Avidity (3 marks)

5a. Explain the term Pharmacokinetics (4 marks)

5b. Write briefly on the effect of the following factors on the absorption of drugs

- i. Physicochemical properties of the drug (2marks)
- ii. Route of administration (4 marks)
- iii. Physiological properties (2marks)

6. Give a brief account of the treatment of Hodgkin's disease Chemotherapy ( 12 marks)