



**CRAWFORD UNIVERSITY**  
**FAITH CITY, IGBESA, OGUN STATE**  
**2021/2022 FIRST TERM EXAMINATIONS (HND CONVERSION)**  
**COLLEGE: NATURAL AND APPLIED SCIENCES**  
**DEPARTMENT: BIOLOGICAL SCIENCES**  
**PROGRAMME: MICROBIOLOGY**                      **COURSE CODE: MCB 313**  
**COURSE TITLE: INTRODUCTION TO VIROLOGY**  
**COURSE UNIT: 2**  
**INSTRUCTION: ANSWER ANY FOUR QUESTIONS**  
**TIME ALLOWED: 2 HRS**

1a. Draw a well labeled diagram of an enveloped virus **5mks**

b. Discuss the basis for classifying viruses **10mks**

2 Write short note on the general characteristics of plants, animal and bacterial viruses-  
**10mks**

b. Define all these terms: **5mks**

i. Capsid

ii: Capsomers

iii Envelope

iv Nucleocapsid

v. Virion

3a. What is viral replication? **1mks**

b. Extensively discuss the steps involved the replication of viruses **12mks**

c. What does the term 'viral spread' refer to? **2mks**

4. Explain the Isopycnic density gradient centrifugation technique employed in the purification of viruses **15mks**

5. As a virologists what are the likely three methods would you employ to cultivate viruses?  
**3mks**

b. Explain the process of culturing viruses using embryonated eggs **5mks**

c. Write four (4) advantages and three (3) disadvantages of embryonated egg inoculation.  
**7mks**

6. What is a bacteriophage? **1mks**

b. List the mechanism by which bacteriophages multiply **2mks**

c. Describe the lysogenic cycle **4mks**

d. Explain any four (4) applications of animal cell culture **8mks**