



OFFICE OF THE DEPUTY PRINCIPAL
ACADEMICS, STUDENT AFFAIRS AND RESEARCH

UNIVERSITY EXAMINATIONS

2020 /2021 ACADEMIC YEAR

FOURTH YEAR FIRST SEMESTER MAIN EXAMINATION

FOR THE DEGREE OF BACHELOR OF SCIENCE IN MICROBIOLOGY

COURSE CODE: MIC 413

COURSE TITLE: VIROLOGY

DATE: 12TH MARCH 2021

TIME: 9.00 A.M – 12.00 P.M

INSTRUCTIONS TO CANDIDATES

- SEE INSIDE

THIS PAPER CONSISTS OF 3 PRINTED PAGES

PLEASE TURN OVER

REGULAR – MAIN EXAM**MIC 413: VIROLOGY****STREAM: BSc. Microbiology****DURATION: 3 Hours****INSTRUCTION TO CANDIDATES**

- i. Answer **ALL** questions from section A and any **THREE** from section B.
- ii. Diagrams should be used whenever they serve to illustrate the answer.
- iii. Do not write on the question paper.

SECTION A (24 MARKS)**Question One**

- a) Fill blank spaces in the Table provided below. (5 Marks)

Virus	Genome Type	Cancer
Human herpes virus 8 (HHV8)		
Epstein-Barr virus (EBV)		
Hepatitis B virus		
Hepatitis C virus		
Human Papilloma virus (HPV)		

- b) Describe six unique characteristics of a virus. (6 Marks)
- c) What is latent virus infection? (1 Mark)

Question Two

- a) Give an account for three modes of transmission of viruses in plants. (6 Marks)
- b) Describe the structural composition of:-
- i. A viral genome (3 Marks)
 - ii. Viral Capsid (3 Marks)

SECTION B (36 MARKS)

Question Three

- a) Describe four major approaches by which viruses may be purified. (8 Marks)
- b). Explain two ways in which animal viruses may be cultivated. (4 Marks)

Question Four

- a) Define the term virion. (2 Marks)
- b) Discuss five characteristics of viruses used in classification. (10 Marks)

Question Five

- a) Give an account of four functions of viral envelope proteins. (4 Marks)
- b) Compare the life cycles of virulent phages and temperate phages. (8 Marks)

Question Six

- a) Describe two indirect methods used to enumerate viruses. (4 Marks)
- b) Discuss the current understanding of how oncoviruses cause cancer. (8 Marks)

Question Seven

Describe the six steps common to the life cycles of all viruses. (12 Marks)
