DEPARTMENT OF BIOLOGICAL SCIENCES
2024 1 EXAMINATION

COURSE CODE: BIO415
COURSE TITLE: Virology and Tissue culture
CREDIT UNIT: 3

TIME ALLOWED:3 HOURS

INSTRUCTION: ANSWER QUESTION ONE (1) AND ANY OTHER THREE (3) QUESTIONS

1a. What is a Defective virus? (2mrks)
1b. You are in a laboratory with a viral samples and asked to visualize the samples.
(i).Mention the instrument you will use to visualize your sample. (2mrks)
(ii). State a cogent reason for using the instrument. (2mrks)
1c. Describe the factors to be considered in classification of viruses in to families (10mrks)
1d. Distinguish between the mechanisms of cell entry by envelope and non-envelope virus. (4mrks)
1e. List the most recent ICTV proposed classification of viruses. (5mrks)

2a. Deduce the reason why Viral Taxonomy is dynamic and subject to change (2mrks)
2b. Account for the Genomic Trasnformational Process that leads to provirus. (10 mrks)
2c. How are Poxviridae transmitted? (3mrks)

3a. 4b. Give the full meaning of the following viruses; HPIV, HTLV, MLVs and IPNV. (4mrks)
3b. Describe the recent genera of the family Adenoviridae, citing their target organisms. (8mrks)
3c. Infer reasons why a virus can not synthesize its own components. (3mrks)

4a. What is viral Eclipse period? (3mrks)
4b. Describe how a virus be detected in a cell culture? (7mrks)
4c. Highlight the variables to be considered for Neutralization test (Nt-test)? (6mrks)

5a. Define vaccination. (2mrks)
5b. Distinguish between vaccination and inoculation (4mrks)
5c. In a tabular form write down the Source of vaccine, Condition of virus, and Route of administration of the following viruses; Yellow fever, Hepatitis B, Adenovirus 6, and Japanese B encephalitis. (9mrks)