

UNIVERSITY COLLEGE LONDON

University of London

EXAMINATION FOR INTERNAL STUDENTS

For The Following Qualifications:-

B.Sc. B.Sc. (Intercal)

Virology C308: Molecular Virology

COURSE CODE : VIRLC308

UNIT VALUE : 0.50

DATE : 06-MAY-05

TIME : 10.00

TIME ALLOWED : 3 Hours

IMMNC308 MOLECULAR VIROLOGY

Candidates must answer Sections A and B.

Each question must be answered in a separate book.

All questions carry equal weighting.

Section A: 135/180 (essay, 3 from 6)

Section B: 45/180 (short answers, 1 from 2)

TURN OVER

IMMNC308 MOLECULAR VIROLOGY

SECTION A

Answer THREE questions

1. Using HIV and herpesviruses as examples, discuss the reasons for the limitations of current antiviral therapy, and how these may be overcome by drugs against new viral targets?
2. Discuss the place of genome detection in the diagnosis of human viral infections giving examples of several techniques and their clinical applications.
3. Virus replication in cells can trigger translational arrest and induction of interferons. Discuss cellular mechanisms that induce these changes and show with examples how viruses avoid them.
4. Describe the retroviral life cycle focusing only on those steps that lead to establishment of the proviral state. Explain how the host cell can restrict this part of the viral life cycle.
5. Using the Baltimore classification scheme show how different viral genome types and replication strategies can facilitate grouping of different virus families.
6. Viruses with a DNA component to their life cycle can cause cancer. Name TWO human tumour viruses and describe how genes from these viruses can cause uncontrolled cellular proliferation.

SECTION B

Answer ONE of the following two questions

1. Write short notes on the role of the following viral products in immune modulation:
 - a. Adenovirus Virus Associated RNA
 - b. Cytomegalovirus UL40
 - c. Herpes simplex virus ICP47
2. Write short notes on the following aspects of cell mediated viral immunity:
 - a. New methods to identify virus-specific CD8 cells ex vivo
 - b. Cytolytic and non-cytolytic role of CD8 cells in viral control
 - c. Shared and contrasting features of Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV)

END OF PAPER