

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**MD (MEDICAL VIROLOGY) EXAMINATION**  
**JANUARY 2012**

Date: 16<sup>th</sup> January 2012

Time : 1.00 p.m.- 4.00 p.m.

**PAPER I**

**Answer all five (05) questions.**

**Answer each question in a separate book.**

1. The Ministry of Health has requested your advice in establishing a Biosafety Level 3 Laboratory (BSL 3) for Sri Lanka. Outline the principles and requirements for establishing a BSL 3 containment laboratory for viral diagnosis. Briefly describe how you would validate this laboratory. (100 marks)
  
2. Describe the methods of action of different classes of antiretroviral drugs that are used in the management of Human Immunodeficiency Virus (HIV) infection, giving examples of each class. Illustrate your answer using the life cycle of HIV. (60 marks)  
Briefly discuss the resistance mechanisms and monitoring of antiviral drug resistance in HIV infection. (40 marks)
  
3. Write on,
  - a. Epidemiology, clinical presentation and management of human hantavirus infections. (50 marks)
  - b. Novel viruses causing respiratory tract infection. (50 marks)
  
4. You have been appointed as the chairperson of the newly formed infection control committee in a tertiary care hospital. Discuss the steps you would take in planning the infection control aspects in the hospital for the next 3 years. (100 marks)
  
5.
  - a. Describe the immunopathogenesis of dengue haemorrhagic fever. (50 marks)
  - b. Discuss the potential options available in producing a vaccine against dengue virus infection. (50 marks)