

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

POSTGRADUATE DIPLOMA IN MOLECULAR MEDICINE (E II)
EXAMINATION – JULY 2014

Date :- 9th July 2014

Time :- 9.00 a.m. – 12.00 noon

SEQ PAPER
(MOLECULAR IMMUNOLOGY & PATHOLOGY – MODULE III)

Answer all **six (06)** questions.

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

1.

- 1.1. Describe the role of anatomical barriers in the innate immunity. (40 marks)
- 1.2. Describe the processing of antigens by the MHC class I pathway. (30 marks)
- 1.3. Briefly discuss superantigens (30 marks)

2.

- 2.1. Using diagrams, briefly describe the different types of MHC molecules. (30 marks)
- 2.2. Describe the role of T helper 1 cells in graft rejection. (30 marks)
- 2.3. Briefly discuss immunologically privileged sites. (40 marks)

3.

- 3.1. Briefly discuss monoclonal antibodies. (30 marks)
- 3.2. Briefly discuss the use of monoclonal antibodies in radioimmunotherapy for treatment of cancers. (30 marks)
- 3.3. Briefly discuss the four phases of the primary antibody response. (40 marks)

Contd.../2-

4.

- 4.1. Briefly discuss the role of telomerase in cellular senescence (aging).
(40 marks)
- 4.2. Briefly discuss the molecular basis in the recognition of microbes and dead tissue by leucocytes in inflammation.
(60 marks)

5.

- 5.1. Briefly discuss the types of cellular adaptations giving examples for each type.
(40 marks)
- 5.2. Briefly explain the sequence of events in relation to haemostasis that take place in response to a cut injury.
(60 marks)

6.

6.1.

- 6.1.1. Name two (02) tumour suppressor genes and outline their functions.
(30 marks)
- 6.1.2. List four (04) tumours associated with mutations of one of the genes mentioned in 6.1.1.
(10 marks)
- 6.2. Discuss the mechanism and molecular basis of tumour metastasis.
(60 marks)