



RAJARATA UNIVERSITY OF SRI LANKA

FACULTY OF APPLIED SCIENCES

B.Sc. (Special) Degree in Applied Biology

Third Year Semester I Examination – Oct. / Nov. 2015

MIB 3203 – VIROLOGY

Time: Two (02) hours

Index No. ....

Answer ALL (04) questions.

1. Use only the space provided.

a) Where do you find a piece of evidence for a viral disease in early history?

(10 Marks)

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b) Mention the contribution by Hershey and Chase (1952) in elucidation of structure of viruses.

(15 Marks)

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c) Label the following schematic representation of a viral capsid to illustrate the special features.

(25 Marks)



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- d) Interpret the advantage of having such an arrangement as in (c) above for the economy of a virus. (15 Marks)

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- e) Explain the Dracula's way of propagation found in prions. (15 Marks)

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- e) Name a theory of origin of viruses and justify your choice. (20 Marks)

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2. a) Schematically illustrate how Baltimore Classification of viruses is founded. (60 Marks)
- b) Compare and contrast the mechanism of mRNA formation in ssRNA virus and ssDNA virus. (40 Marks)
3. a) Justify the need for sequential gene expression in  $\lambda$  phages. (40 Marks)
- b) Describe how the phages take control of host metabolic system. (30 Marks)
- c) Comment on the phage mechanisms behind sequential gene expression. (30 Marks)
4. a) Design a leaflet to educate general public on AIDS. (50 marks)
- b) List important regulatory and accessory proteins of retro viruses and comment on their functions (50 Marks)

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