



UNIVERSITY OF RUHUNA – FACULTY OF MEDICINE

Allied Health Sciences Degree Programme

Second Bpharm Part 1 Examination - November 2012

PH 2153 – Pharmaceutical Microbiology

Short Essay Questions

INDEX NO:

2 hours

INSTRUCTIONS

Answer all questions. Use labeled diagramme whenever necessary.

Part A

1.

1.1. Classify organisms according to three domains and five kingdoms.

Domains – (2 marks)

Kingdoms – (2 marks)

1.2. Mention three structural differences between Archaea and Bacteria. (6 marks)

Archaea

Bacteria

1.

2.

3.

1.3. “Arrangement of bacterial cells in colonies is a distinctive character”, mention the main reason for this and provide three types. (5 marks)

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1.4. Name three major differences between Gram’s positive and Gram’s negative cell walls of bacteria. (6 marks)

Gram’s Positive

Gram’s Negative

1.

2.

3.

1.5. What are plasmids? Give three functions.

(22 marks)

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1.6. Name three virulence factors of bacterial pathogens which responsible for damaging the host. (9 marks)

1.
2.
3.

1.7. State three differences between endotoxins and exotoxins of pathogenic microorganisms. (15 marks)

Endotoxins	Exotoxins
1.
2.
3.

1.8. What is toxigenecity in terms of pathogenicity of microorganisms?

(3 marks)

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1.9. What are toxoids? State practical applications of toxoids giving an example.

(3 marks)

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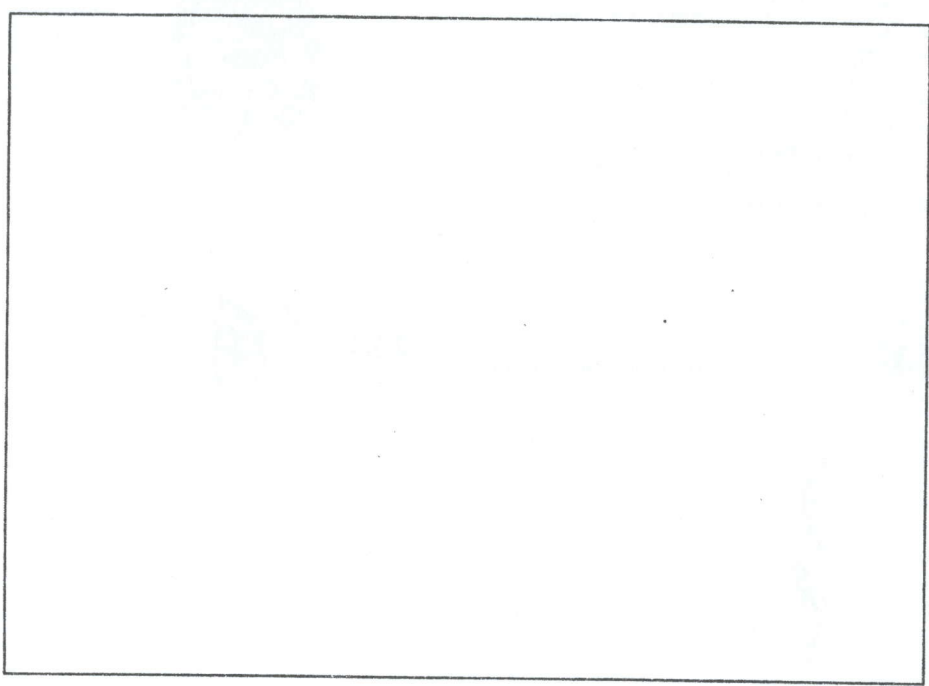
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1.10 Categorize viruses according to the arrangement of their genome. (15 marks)

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1.11 With a schematic diagram outline the transcription strategies of viruses (detail description is not expected). (12 marks)



Part B

2 Define the following terms.

2.1. Definitive Host (10 marks)

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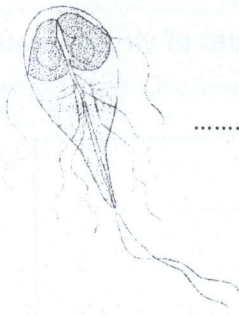
2.2. An Ectoparasite


(10 marks)


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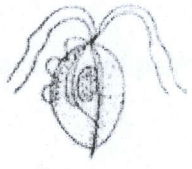
2.3. Match the diagram with the parasite.


(30 marks)

2.3.1 

2.3.2 

2.3.3 

2.3.4 

2.3.5 

- a) *Balantidium coli*
- b) *Entamoeba coli*
- c) *Giardia lamblia*
- d) *Trichomonas vaginalis*
- e) *Trypanosoma brucei*
- f) *Leishmania tropica*
- g) *Entamoeba histolytica*
- h) *Trichomonas hominis*

2.4 Discuss in brief the common symptoms caused by the infection of *Ascaris lumbricoides*.

(30 marks)

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2.5. List four diagnostic techniques used for the detection of filariasis. (20 marks)

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Part D

4.

4.1 Define thermal death point.

(10 marks)

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4.2 Define thermal death time.

(10 marks)

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4.3 Name three physical agents used for microbial control in a pharmaceutical industry.

(15 marks)

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4.4. Briefly indicate the microbiological properties of *Pseudomonas aeruginosa*.

(20 marks)

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4.5 Name three virulent factors of *Pseudomonas aeruginosa*.

(15 marks)

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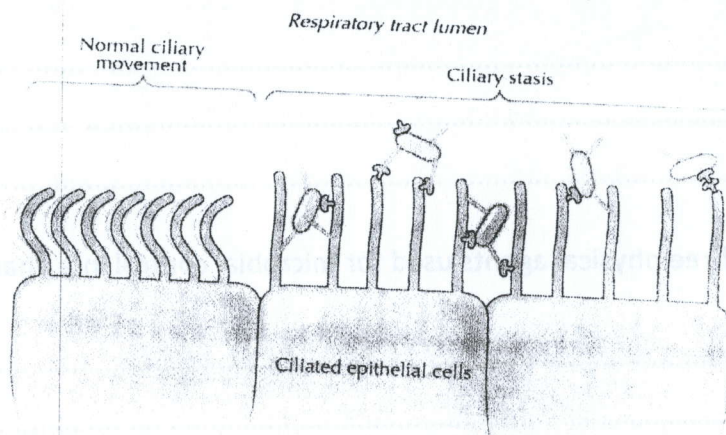
4.6 Name the three distinct stages of *Pseudomonas* infection in a human. (10 marks)

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4.7 Name the bacteria producing respiratory tract infection with ciliary binding of mucosal epithelial cells. Indicate the clinical disease caused by this organism. (20 marks)



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.....The end.....