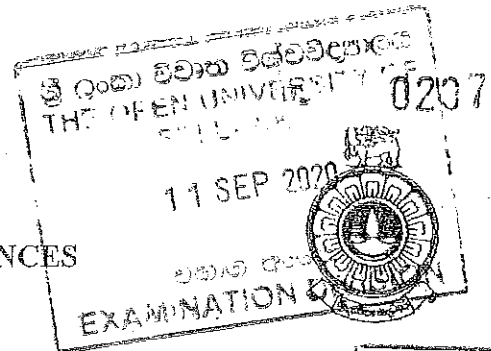


THE OPEN UNIVERSITY OF SRI LANKA  
FACULTY OF HEALTH SCIENCES  
DEPARTMENT OF MEDICAL LABORATORY SCIENCES  
ACADEMIC YEAR 2019/2020 – SEMESTER I



BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS  
MDU4307 – VIROLOGY AND MYCOLOGY  
FINAL EXAMINATION

DURATION: 3 HOURS



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DATE: 11<sup>TH</sup> SEPTEMBER 2020

TIME: 2.00 PM – 5.00 PM

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**PART B – Structured Essay Questions (40 Marks)**

1.0 Viruses are obligate intracellular parasites. Therefore, culture and isolation of viruses require special techniques.

1.1 List two (02) methods of virus cultivation stating the advantages and disadvantages of each method? (06 marks)

Method.....

Advantages.....

.....

Disadvantages.....

.....

Method.....

Advantages.....

.....

Disadvantages.....

.....

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.....

1.2 Explain the term 'cytopathic effect' giving two (02) examples. (04 marks)

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**(Total: 10 Marks)**

2.0 A one-year old child attending a day care presents with severe watery diarrhoea and dehydration. Viral gastroenteritis is suspected.

2.1 Name a possible pathogen for the above condition. (01 mark)

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2.2 Briefly outline the appropriate specimen and diagnostic techniques to arrive at a microbiological diagnosis for the above condition. (03 marks)

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2.3 Outline three (03) prevention and control methods for viral gastroenteritis. (06 Marks)

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(Total: 10 Marks)

3.0

3.1 Name three (03) medically important yeasts causing infections in humans. (03 marks)

- i).....
- ii).....
- iii).....

3.2 Name one (01) infection caused by each of the organism you mentioned in 3.1. (03 marks)

- i).....
- ii).....
- iii).....

3.3 Name one sample (01) which can be used to confirm each diagnosis stated in 3.2. (1.5 Marks)

- i).....
- ii).....
- iii).....

3.4 Describe the morphological appearance of one of these organisms, as seen by direct microscopy. Name the stain used. (2.5 Marks)

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**(Total: 10 Marks)**

4.0 You receive a call from the ENT ward of a General Hospital, asking about the available diagnostic tests for a patient suspected to have Maxillary sinus mucormycosis. Answer the following queries from the ward, assuming you are in a Mycology Reference Laboratory.

4.1 What is the best sample they can send? (02 marks)

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4.2 What is the container they should use for the above sample? (02 marks)

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4.3 What are the tests that can be done on the sample stated in 4.1? (02 marks)

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.....

4.4 What other tests can be done for this patient besides mycology diagnostics? (02 marks)

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4.5 How would you differentiate the sample send for the investigations stated in 4.4 from the sample for investigations stated in 4.3? (02 marks)

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(Total: 10 Marks)

**PART C – Essay Questions (30 marks)**

1.0 Outline the laboratory diagnosis and prevention of HIV infection. (15 marks)

2.0 A 45-year-old farmer presents with a subcutaneous pustular lesion on his front part of the left leg. The Dermatologist suspected a fungal infection, and asks to send the necessary samples. Describe the steps that should be taken to optimize the laboratory diagnosis in this patient. (15 marks)