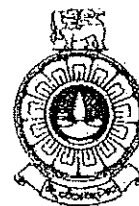


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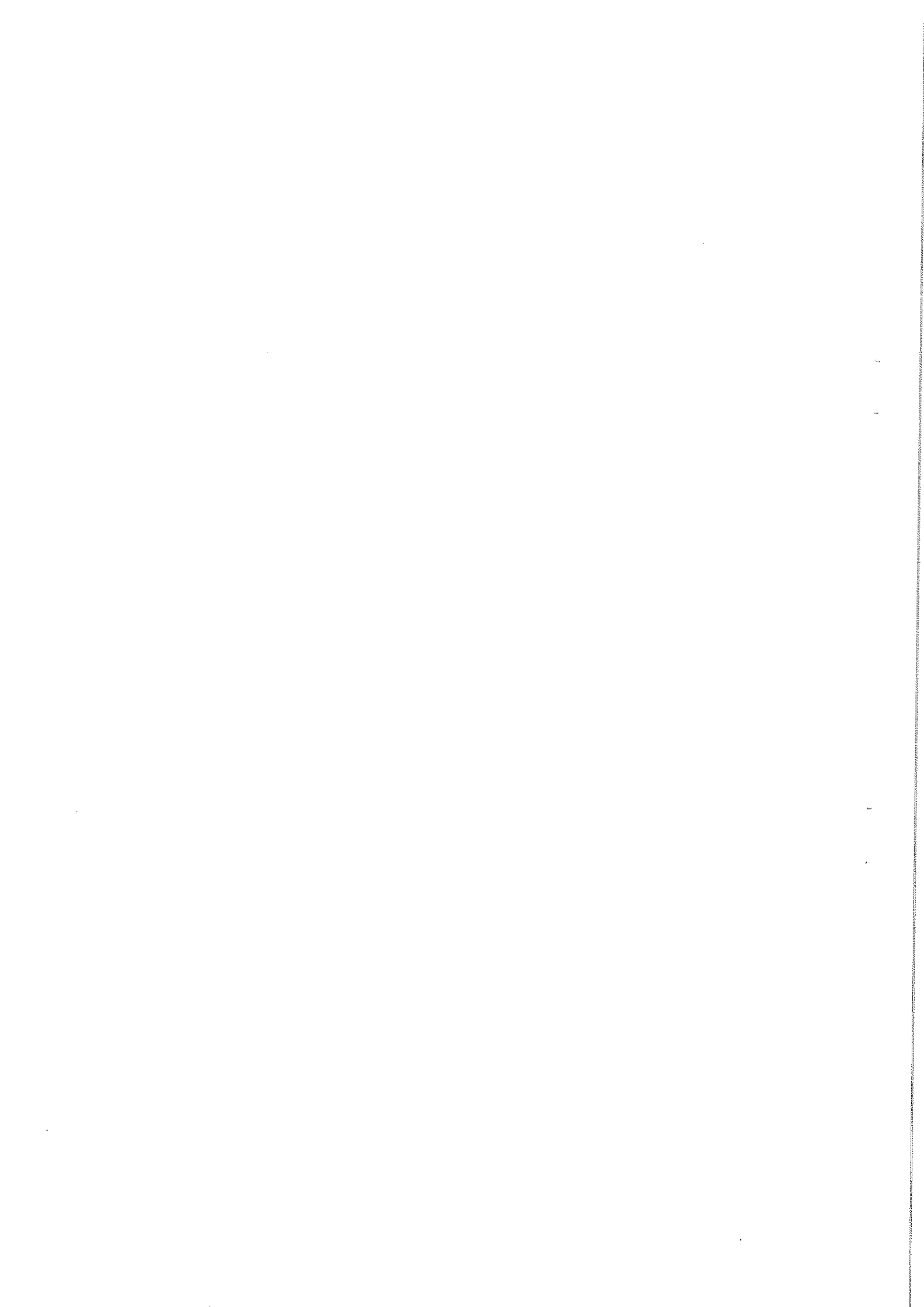
THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF MEDICAL LABORATORY SCIENCES
ACADEMIC YEAR 2018/2019 – SEMESTER I



BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS
MDU4307 - VIROLOGY & MYCOLOGY – LEVEL 4
FINAL EXAMINATION
DURATION: THREE HOURS

DATE: 13th MARCH 2019

TIME: 09.30AM – 12.30 PM



Part B: Structured Essay Questions (40 marks)**Q 1.**

1.1 All types of viral hepatitis have the same clinical characteristics. Identifying the specific viral cause of illness requires laboratory testing. Elevated biochemical markers and presence of specific serological markers (virus/ antibody) are useful to deferentially diagnose the each suspected hepatitis virus.

a) What are the biochemical and serological markers for diagnosis of hepatitis B infection? (02 marks)

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b) Briefly discuss the laboratory criteria (virus/ antibody) for diagnosis of acute and chronic hepatitis B infections. (03 marks)

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1.2 Infection with influenza virus induces the body to produce antibodies to the strain(s) of virus encountered. Antibodies against the haemagglutinin are the most important for protecting us against influenza virus infection. These antibodies may become less effective and the person can get sick again throughout their lifetime. This is mainly due to the antigenic drift occurs in influenza virus. Briefly explain this incident with your knowledge about the antigenic drift. (05 marks)

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(Total – 10 marks)

Q 2.

2.1 Briefly discuss the role of NS1 in diagnosis of **primary** dengue infection. (04 marks)

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2.2 Outline the laboratory testing methods available for diagnosis of genital herpes simplex infection. (03 marks)

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2.3 Outline the prevention and control measures of mumps. (03 marks)

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(Total – 10 marks)

Q 3.

3.1 Dermatophytes are a closely related group of filamentous fungi and cause dermatophyte infections in humans and animals. The term tinea refers to superficial dermatophytic infection of the skin, hair, and nails. Tinea infections are commonly caused by fungi belonging to three genera.

a) What are the three (03) genera that commonly cause tinea infections in humans? (02 marks)

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b) Why are these fungi called dermatophytes? (01 mark)

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c) Briefly explain endothrix and exothrix fungal infections. (02 marks)

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3.2 *Cryptococcus neoformans* is a significant human pathogen causing localized and disseminated infections which can be acute or chronic. Cryptococcal infections in humans are commonly caused by two varieties of *C. neoformans*. Direct microscopy of India ink preparation is widely used in laboratory for identification of *C. neoformans*

a) What are the two (02) varieties of *C. neoformans* that commonly cause infections in humans? (02 marks)

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b) How do you identify *C. neoformans* in a direct microscopy of India ink preparation? (03 marks)

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(Total – 10 marks)

Q 4. Write short notes on following.

a) Dermatiaceous fungi (05 marks)

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b) Dimorphic fungi

(05 marks)

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(Total – 10 marks)

Part C: Essay Questions (30 marks)

1. Explain the replication cycle of an enveloped virus. (15 marks)
2. Explain the specimen collection, transport and storage of a nail scrapings/clippings obtained from a patient suspected with Onymycosis. (15 marks)