



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF HEALTH AND APPLIED SCIENCES**

**DEPARTMENT OF HEALTH SCIENCES**

<b>QUALIFICATION:</b> BACHELOR OF MEDICAL LABORATORY SCIENCES	
<b>QUALIFICATION CODE:</b> 08BMLS	<b>LEVEL:</b> 7
<b>COURSE CODE:</b> MMB711S	<b>COURSE NAME:</b> MEDICAL MICROBIOLOGY 3
<b>SESSION:</b> JULY 2019	<b>PAPER:</b> THEORY
<b>DURATION:</b> 3 HOURS	<b>MARKS:</b> 100

<b>SUPPLEMENTARY / SECOND OPPORTUNITY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER(S)</b>	Ms. V. Tjijenda
<b>MODERATOR:</b>	Prof C. Simango

<b>INSTRUCTIONS</b>
1. Answer ALL the questions. 2. Write clearly and neatly. 3. Number the answers clearly.

**PERMISSIBLE MATERIALS**

None

**THIS QUESTION PAPER CONSISTS OF 4 PAGES (including this front page)**

## SECTION A (20)

### QUESTION 1

[15]

Write short notes on:

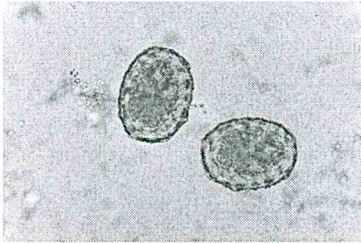
- 1.1 Herpes Simplex virus 1 (3)
- 1.2 *Aspergillus spp.* (3)
- 1.3 Chloroquine (3)
- 1.4 *Cryptococcus neoformans* (3)
- 1.5 *Candida albicans* (3)

### QUESTION 2

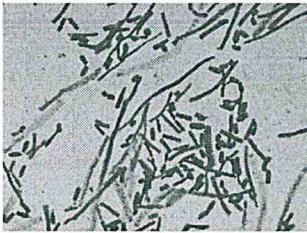
[5]

Identify the disease/infection that is associated with the following:

- 2.1 Ring form trophozoites found on the blood smear of a patient who has a history of travelling to Ohangwena region for a holiday. (1)
- 2.2 Hallucination and paralysis seen in a patient who was bitten by a wild rabid dog while on an adventure. (1)
- 2.3 Microscopy results from a stool specimen. (1)



- 2.4 Microscopy results obtained from a hair sample. (1)



- 2.5 A patient presents with persistent cough, fever and weight loss. Results obtained from the sputum analysis shows 1+ acid fast bacilli, growth on culture within one week and negative for Xpert MTB/RIF. (1)

## SECTION B (52)

### QUESTION 3

[10]

- 3.1 Differentiate between the two forms of Hansen disease. (5)
- 3.2 Lowenstein-Jensen media is a selective medium for TB. Defend this statement. (3)
- 3.3 Define multi-drug resistant TB. (2)

### QUESTION 4

[11]

- 4.1 Compare and contrast a yeast and a mold. (5)
- 4.2 Discuss four methods used for diagnosis of fungal infections. (4)
- 4.3 Mention the use of cornmeal agar and the expected results. (2)

### QUESTION 5

[10]

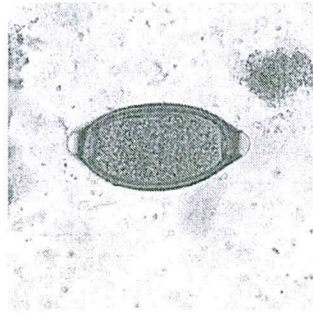
- 5.1 Infant botulism is a rare but serious gastrointestinal condition in babies.
  - 5.1.1 Identify the causative agent of this infection. (2)
  - 5.1.2 Which food product is commonly associated with this infection. (1)
  - 5.1.3 Briefly describe the pathogenesis of infant botulism. (3)
- 5.2 Define a coliform. (2)
- 5.3 Name 2 specific enzymes that are broadly used for the identification of indicator organisms. (2)

### QUESTION 6

[11]

- 6.1 *Trichomonas vaginalis* is a pathogen of the urogenital tract in men and women.
  - 6.1.1 Explain the clinical manifestation of this infection in women. (3)
  - 6.1.2 Provide the antimicrobial used to treat this infection. (1)
  - 6.1.4 Provide the laboratory diagnosis of this infection in women. (2)

6.2



- 6.2.1 The pathogen above is isolated from a stool sample. Identify the pathogen. (1)
- 6.2.2 Summarize the life cycle of this pathogen. (4)

**QUESTION 7**

**[10]**

- 7.1 Explain the structure of HIV 1 virus and their function. (4)
- 7.2 Immunity to Influenza is long-lived. How is it then possible to be infected by the influenza virus year after year? (2)
- 7.3 Mention four similarities between measles and rubella viruses. (4)

**SECTION C (28)**

**QUESTION 8**

**[28]**

- 8.1 Discuss the statement "TB is a curable and preventable disease". (10)
- 8.2 Write an essay on the Western sleeping sickness. (10)
- 8.3 Discuss EHEC. (8)

**END OF EXAMINATION!**

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