BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF SCIENCE AND ENGINEERING

DEPARTMENT: HEALTH SCIENCES

BACHELOR OF SCIENCE HONOURS DEGREE IN NURSING SCIENCE (NURSING EDUCATION)

NOV 2024

STUDENT REGISTRATION NUMBER: | | | | | | | | |

COURSE CODE: NS108 (2): MICROBIOLOGY AND PARASITOLOGY

DURATION: 3 HOURS TOTAL MARKS: 100 MARKS

INSTRUCTIONS TO CANDIDATES: Answer ALL questions

Section A: Multiple Choice (25 Marks)

Indicate whether the following statements are True or False by encircling True (T) or False (F) against each answer using a BLUE/BLACK pen.

1. The following infections are transmitted by vectors:
   a) Onchocerciasis (T) (F)
   b) Schistosomiasis (T) (F)
   c) Malaria (T) (F)
   d) Rabies (T) (F)
   e) Cholera (T) (F)

2. **The following are examples of the body's first line of defense:**

a) Antimicrobials (T) (F)

b) Vaccines (T) (F)

c) Tears (T) (F)

d) Skin (T) (F)

e) Sneezing (T) (F)

3. **Transmission-based precautions are indicated for:**

a) A case from Democratic Republic of Congo (DRC) with suspected viral haemorrhagic fever (T) (F)

b) A diabetic patient with Methicillin Resistant *Staphylococcus aureus* (MRSA) colonization (T) (F)

c) All HIV positive patients (T) (F)

d) Confirmed Extra-pulmonary TB patient (T) (F)

e) Hepatitis B carrier in need of haemodialysis (T) (F)

4. **The first antibody produced against invading microorganisms is:**

a) IgA (T) (F)

b) IgD (T) (F)

c) IgE (T) (F)

d) IgG (T) (F)

e) IgM (T) (F)

5. **Microorganisms of medical importance have the following characteristics:**
   a) Viruses always have DNA and RNA (T) (F)
   b) Fungi have chitin in their cell wall (T) (F)
   c) Protozoa are Metazoa (T) (F)
   d) Bacteria have 80S size ribosomes (T) (F)
   e) Viruses have a nucleus surrounded by a capsid (T) (F)

SECTION B: 75 marks

INSTRUCTIONS: Answer ALL questions

1. (a) Explain how the chain of transmission of infection can be broken using an example of any pathogen. **(17 Marks)**

   (b) Fill the following paragraphs using the following: **Decreased, Spreading, Infection, transferred, Infection, Dying, Hand-washing and Solution**

   According to Ignaz Semmelweis, _____ drastically reduced the number of women _____after childbirth. Late in the 1800s, surgeons did not scrub up causing _____ to be _____ from one patient to another. Finding a _____ for the _____ of bacteria _____the number of women dying after birth due to_____. **(8 Marks)**

2. (a) Describe how bacteria of medical importance are classified. **(20 Marks)**

   (b) Distinguish the terms parasitism and commensalism using Examples in each case. **(5 Marks)**

3. (a) Describe the classification of protozoa of medical importance giving One (1) example of a protozoan pathogen for each category. **(10 Marks)**

   (b) i. Outline the different ways SARS-CoV-2 may be transmitted

in a healthcare setting. **(6 Marks)**

ii. Describe the strategies used to prevent and control the transmission of SARS-CoV-2 in healthcare settings. **(9 Marks)**

END OF PAPER