



UNIVERSITY EXAMINATIONS

FOURTH YEAR EXAMINATION FOR THE AWARD OF THE DEGREE OF BACHELOR OF SCIENCE IN APPLIED AQUATIC SCIENCES

SECOND SEMESTER 2023/2024

[JAN - APRIL, 2024]

AQUA 464: WATER BORNE AND WATER RELATED DISEASES

STREAM: Y4 S2

TIME: 2 HOURS

DAY: FRIDAY, 9:00 - 11:00 A.M.

DATE: 19/04/2024

INSTRUCTIONS

- 1. Do not write anything on this question paper.**
- 2. Answer question ONE in section A (Compulsory) and any other TWO questions from section B.**

SECTION A: 40 MARKS

QUESTION ONE

Name the diseases caused by the following parasites.

- | | |
|---------------------------------|----------|
| a. <i>Schistosoma mansoni</i> | (1 mark) |
| b. <i>Giardia lamblia</i> | (1 mark) |
| c. <i>Plasmodium falciparum</i> | (1 mark) |
| d. <i>Entamoeba histolytica</i> | (1 mark) |
| e. <i>Vibrio cholerae</i> | (1 mark) |

QUESTION TWO

State any five organs in man which *Entamoeba histolytica* infects (5 marks)

QUESTION THREE

Describe the differences between cell mediated immunity and humoral immunity in man (5 marks)

QUESTION FOUR

Describe the life cycle of Urogenital Schistosomiasis (5 marks)

QUESTION FIVE

Write brief explanatory notes on specific features of the life cycle of *Plasmodium falciparum* (5 marks)

QUESTION SIX

What is meant by the phrase “reticulo-endothelial system (RES)” and describe four types of macrophagic cells in the RES in mammals (5 marks)

QUESTION SEVEN

With an aid of a well labelled diagram describe the general morphology of *Schistosoma mansoni* (5 marks)

Question Eight

Describe five main characteristics of acute inflammatory response to parasitic infection in man (5 marks)

SECTION B 30 MARKS

QUESTION NINE

Discuss the control mechanisms of water borne and water related diseases and the challenges faced in controlling of water borne and water related disease (15marks)

QUESTION TEN

Discuss the various types of hypersensitivity reactions in mammals (15 marks)

QUESTION ELEVEN

Discuss the theories of antibody synthesis (15 marks)