



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

REGINA PACIS INSTITUTE OF HEALTH SCIENCES

MAIN EXAMINATION

JANUARY – APRIL 2018 TRIMESTER

FACULTY OF SCIENCES

DEPARTMENT OF COMMUNITY HEALTH AND DEVELOPMENT

REGULAR PROGRAMME

CHD 125: MEDICAL MICROBIOLOGY AND PARASITOLOGY

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Date: APRIL 2018

Duration: 3 Hours

INSTRUCTIONS: This paper has Section A and B. Section A is Compulsory and has 40 marks. In Section B, Answer ANY THREE questions, 20 Marks each (Total = 60 marks)

SECTION A (40 marks)

- Q1. Define the following terms **(10marks)**
- | | |
|----------------------------|------------------|
| a) Microorganism” | f) Infection |
| b) Pathogen | g) Sterilization |
| c) Opportunistic pathogens | h) Toxin |
| d) Primary pathogens | i) Virulence |
| e) Latent infection | j) Pathogenicity |
- Q2. Differentiate between
- | | |
|---|------------------|
| a) Intracellular bacteria and Extracellular bacteria. | (2 marks) |
| b) Gram positive and gram negative bacteria | (2 marks) |
| c) Aerobic and anaerobic bacteria | (2 Marks) |
| d) Local and systemic infection | (2 Marks) |
| e) Vertical and horizontal transmission | (2 marks) |
- Q3. Outline the Koch's postulates used in diagnosis of disease. **(5 marks)**
- Q4. As a health worker, you will frequently encounter clients with the following infections? Indicate the causative agent for each of the following **(10 Marks)**

- a) Whooping cough
- b) Cryptococcosis
- c) Gonorrhoea
- d) Cholera
- e) Malaria
- f) AIDS
- g) Syphilis
- h) Measles
- i) Burkitt's lymphoma
- j) Cervical Cancer

Q5. Briefly describe the gram staining. **(5 marks)**

SECTION B: Answer ANYTHREE Questions.(60 marks)

Q1. As a technical officer with LVCT program in Homa-Bay County, your work entails talking to HIV positive patients so that they appreciate the need for adherence to Anti-Retroviral therapy.

- a) Draw a general structure of a virus that you would use to make your audience understand a virus. **(3 marks)**
- b) Briefly describe the classification of viruses and show the identity of the HIV virus. **(7 Marks)**
- c) Briefly describe the process of HIV virus replication in the human body. **(5 marks)**
- d) Explain the consequences of viral infection in a human body **(5 marks)**

Q2. The National Malaria Control Program has contracted you as a program officer, and part of your work involves training Village Health Teams (VHTs) in Kwale County to improve community malaria prevention.

- a) Outline the vector, hosts, modes of transmission and parasites responsible for causing malaria **(10 marks)**
- b) Describe the life cycle of the causative agent of malaria. **(10 marks)**

Q3. Discuss the methods of sterilization as a control for microorganisms in community or hospital settings. **(20 marks)**

- Q4. A microbiologist is concerned with identification of microorganisms so as to give a definitive diagnosis for a disease. Outline the methods for identification and classification of bacteria. **(20 Marks)**
- Q5. Mycology is the study of fungi, which are classified into different categories. Discuss the different classifications of fungi with examples. **(20 marks)**

END