



**TECHNICAL UNIVERSITY OF MOMBASA
FACULTY OF APPLIED AND HEALTH SCIENCES**

**DEPARTMENT OF ENVIRONMENT AND HEALTH SCIENCES
UNIVERSITY EXAMINATION FOR THE DIPLOMA IN COMMUNITY HEALTH
(DCHM18M, DEHS 18S)**

APH 2202: FUNDAMENTALS OF EPIDEMIOLOGY

SEMESTER EXAMINATION

AUGUST 2019

2 HOURS

INSTRUCTIONS TO CANDIDATES

*This paper consists of **FIVE** questions*

*Answer question **ONE** (compulsory) and any other **TWO** questions*

*This paper consists of two **PRINTED** pages*

QUESTION ONE

(a) Define the following terms (8 marks)

- i.** Endemic
- ii.** Sporadic
- iii.** Environment
- iv.** Epidemiology

(b) State FIVE disadvantages of cross sectional studies (5 marks)

(c) Name FOUR stages in the natural history of a disease (4 marks)

(d) Distinguish between incidence rate and prevalence rate (4 marks)

(e) In 2016 the total number of children under 5 years of age was 10,000 in “Zone C”. In the same year 200 children under five years of age died. Calculate the under five-mortality rate (U5MR) (4 marks)

(f) Name **TTT Diseases Targeted for Eradication and Elimination (3 marks)**

(g) Explain the term Active surveillance (2 marks)

QUESTION TWO

- a. Name the major variables in descriptive epidemiology (3 marks)
- b. Give six (6) key steps in conducting a field investigation for an epidemic (12 mark)

QUESTION THREE

Define the term Epidemiology and explain major components of the definition (15marks)

QUESTION FOUR

- (a) Explain the features of a good surveillance (7 marks)
- (b) Discuss uses of Epidemiology (8 marks)

QUESTION FIVE

The following information is about Village X which was collected for the year 2016:

- a. Total average population = 40,000
- b. Total number of live births = 4000
- c. Total number of deaths = 400
- d. Total number of deaths before the age of 28 days = 50
- e. Total number of infant deaths = 200
- f. Number of women who died from pregnancy related causes = 160
- g. New cases of tuberculosis = 100
- h. All cases of tuberculosis = 300
- i. Deaths from tuberculosis = 60

Based on the above information calculate the following (15 marks)

1. The incidence rate of tuberculosis.
2. The period prevalence rate of tuberculosis.
3. The case fatality rate of tuberculosis.

4. The Neonatal mortality rate.
5. The maternal mortality ratio