

**TECHNICAL UNIVERSITY OF MOMBASA**

**FACULTY OF APPLIED AND HEALTH SCIENCES**

DEPARTMENT OF ENVIRONMENT AND HEALTH SCIENCES

University examination for Master of public health degree

**Code: APH 5116 Disease Surveillance**

**Instruction: Question one is compulsory. Answer any other 3 questions**

**Question one**

- a) Considerable efforts are directed towards use of standard case definition in disease surveillance system. Discuss the reasons behind these efforts (8 marks)
- b) Organizing and analyzing data is an important function of surveillance. Discuss the significance of data analysis in disease surveillance (6 marks)
- c) Health facilities are the most important source of disease surveillance information. As the sub county disease focal person, in what ways do you motivate the staff in these facilities during the supervisory visits? (12 marks)
- d) Every surveillance system should be evaluated periodically to ensure that it is serving a useful public health function and is meeting its objectives. Describe the facets that are considered during the evaluation of a surveillance system (5 marks)

**Question two**

- a) Thresholds are markers that indicate when something should happen or change. They help surveillance and program managers answer the question, "When should I take action, and what will that action be?"
  - i. Explain the two main sources of thresholds (6 marks)
  - ii. Discuss the two types of thresholds (9 marks)
- b) In the last five years, health authorities in Migori County have noted substantial increase in the burden of a disease Y. Migori County health authorities have requested you determine if there is a justification to establish a new surveillance system targeting disease Y. Discuss the criteria that you shall use to arrive at the decision on whether a new disease surveillance system should be established for disease Y (15 marks).

**Question three**

Other than underreporting, surveillance systems usefulness is compromised by a number of other limitations. Discuss these other limitations of some of the present disease surveillance systems (30 marks)

**Question four**

A health center in your sub county has reported a suspected case of cholera to the subcounty.

- a) What case definition should the health center use to report the suspected case? (8 marks)
- b) In what ways can the community help in identifying possible cholera cases within the community? (12 marks)
- c) How should the specimen collected in (b) above have been prepared, stored and transported? (10 marks)

**Question five**

- a) When a suspected outbreak of disease occurs, case reporting information should be recorded for at least the first five cases and for all those whose laboratory specimen will be taken. Discuss the information that surveillance personnel should record on cases when the disease does not have an already existing case reporting form (15 marks)
- b) Investigating outbreaks requires human, logistic and financial resources. When a suspected outbreak or event is reported, promptly verify that the information is accurate and reflects conditions suggesting a true outbreak or event. This will help to ensure that resources are used effectively. Explain the factors to consider when verifying information a suspected outbreak or event (15 marks)

**Question six**

Plague outbreak in Malikini village, from 1 to 14 September, 2008

Date	Cases	Deaths
1-09-08	2	1
2-09-08	2	1
3-09-08	8	0
4-09-08	4	0
5-09-08	5	0
6-09-08	3	0
7-09-08	0	0
8-09-08	1	0
9-09-08	4	0
10-09-08	2	0

11-09-08	5	0
12-09-08	5	0
13-09-08	5	0
14-09-08	2	0
<b>Total</b>	<b>48</b>	<b>2</b>

- a) Draw a line graph to show epidemic of plague in Malikini using the data provided in table above(5 marks)
- b) Review the graph you created in (a) above. Describe what the graph shows, beginning with the onset of the first case (5 marks)
- c) What was the case fatality rate in the first 2 days? (6 marks)
- d) What was the overall case fatality rate after the outbreak? Explain the apparent difference (8 marks)
- e) Why do you think there is a difference between the two periods? (6 marks)