



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF HEALTH SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
COMMUNITY HEALTH
2ND YEAR 2ND SEMESTER 2022/2023 ACADEMIC YEAR
KISUMU CAMPUS

COURSE CODE: HCB 2311

COURSE TITLE: DISEASE SURVEILLANCE AND OUTBREAK INVESTIGATION

DATE:

TIME:

TIME: 2 HOURS

Instructions:

1. Answer ALL questions in Section A and B and ANY other TWO questions in Section C



Registration No.....

SECTION A: 20 Marks (Each question carries 1 mark)

NB: For these questions the candidate is supposed to write whether the statement is TRUE or FALSE.

1. 'Disease surveillance' is an outcome of 'Outbreak Investigation'
2. Case definitions need to be standardized for comparison of surveillance data
3. Community Health Workers have little role in disease surveillance
4. 'Sentinel' surveillance refers to the use of 'Secondary data' for surveillance.
5. Death registries form part of 'Vital Statistics' for surveillance.
6. A sovereign government has no obligation to report notifiable disease occurrences to international bodies.
7. Feedback serves to motivate actors involved in disease surveillance.
8. Not all 'Rumours' concerning disease outbreaks should be investigated.
9. Dissemination involves suggesting improvement to the surveillance system
10. Not all diseases are of Public Health Importance
11. Climate change and new human settlements contribute to emergence of new epidemics.
12. A "Probable" case is one with typical clinical features but without a laboratory confirmation
13. Outbreak investigation teams should be multidisciplinary in nature
14. Spot maps form part of the analytical phase of an outbreak investigation
15. Disease outbreaks are controlled only after the offending causative agent has been identified.
16. Integrated surveillance approach is more cost-effective
17. Sales data from pharmacies and school attendance registers are useful for disease surveillance
18. An outbreak setting can be a training opportunity for upcoming community health workers.
19. 'Joint surveillance' is synonymous with 'integrated surveillance' system.
20. Syndromic surveillance is of value when timeliness is key



Registration No.....

1. SECTION B: 30 Marks

Attempt all questions in this section. Answers must be precise and concise.

1. The data below was compiled from a food-borne outbreak investigation at “Lwang’ni” canteen.

Student ID	Sick	Bloody diarrhea	Incubation (hrs)	Kachumbari	Nyama-Choma
1001	Yes	Yes	0.5	Yes	Yes
1002	Yes	Yes	1	Yes	Yes
1003	Yes	Yes	2	No	Yes
1004	Yes	Yes	4	No	Yes
1005	Yes	Yes	6	No	No
1006	No			Yes	No
1007	No			Yes	No
1008	No			No	Yes
1009	No			No	Yes
1010	No			No	No

Answer the following questions using the data above. (Show all work your workings and calculation)

- Summarize this information in a 2x2 table (5 Marks)
- What percentage of cases experienced bloody diarrhea? (1 marks)
- What is the median incubation period of this disease? (1 mark)
- Calculate the attack rate in those who ate kachumbari (2 marks)
 - Calculate the attack rate for those who did not eat kachumbari (2marks)
- Calculate the relative risk of sickness associated with kachumbari (2 marks)
- Calculate the attack rate in those who ate Nyama-choma (2 marks)
 - Calculate the attack rate in those who did not eat Nyama-choma (2marks)
- Calculate the relative risk of sickness associated with Nyama-choma (2 marks)
- Which of the two food items is the most likely cause of the outbreak? (1 mark)



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2. Discuss the advantages and disadvantages of using “Social Media” for surveillance (10 marks)

SECTION C:20 Marks

There are a total of three (3) questions. Answer any **two (2)** questions.

1. Discuss ten attributes of an optimal surveillance system (10 marks)
2. How would you handle missing data during an outbreak investigation (10 marks)
3. Suggest measures through which “under-reporting” can be minimized within a surveillance platform (10 marks)