

BINDURA UNIVERSITY OF SCIENCE EDUCATION
FACULTY OF COMMERCE
DEPARTMENT OF ECONOMICS
MASTER OF SCIENCE DEGREE IN HEALTH ECONOMICS
EPIDEMIOLOGY MEC 520 (1)
EXAMINATION DURATION 3 HOURS

NOV 2023

INSTRUCTIONS

1. This paper carries six questions
 2. Answer any four (4) questions.
 3. Each question carries 25 marks.
 4. Cell phones are not allowed in the examination room.
 5. A calculator is allowed in the examination room.
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QUESTION 1

John Snow is often described as the father of epidemiology. Describe John Snow's contribution to the field of epidemiology. [25 marks]

QUESTION 2

In the detection of an outbreak indicator-based surveillance is better than event based surveillance. Discuss [25 marks]

QUESTION 3

The Tuskegee experiment was a dark cloud in experimental research. Describe the experiment highlighting the key ethical transgressions and the rectifications that have been done to date. [25 marks]

QUESTION 4

You are an epidemiologist in the national office, and you receive reports of a district facing an outbreak of cholera, which appears to have started in an overcrowded and underserved refugee camp and has spilled over to the host community.

For now, it appears to have largely affected children under 15 years but is affecting some older adults. Even without in-depth analysis of the data, the affected populations appear to be

those who are religious decliners or living in hard-to-reach areas with limited access to health services.

While the District Health Team acknowledges that the situation is concerning, they are in the middle of a twice postponed mass measles campaign and say they are unable to spare the manpower to investigate. Partners exist in the district; however, their support is focused on nutrition activities.

Please describe your priority response actions, including who you would collaborate with to address this unfolding emergency, what strategies you would use, and what you would be aiming for.

[25 marks]

QUESTION 5

When Covid-19 pandemic emerged then was a flurry of activities to mitigate its effects. Key to control was the development of vaccines. Develop a study design for the development of a vaccine.

[25 marks]

QUESTION 6

A sample of 20 men presented in an outpatient's department for their routine hypertension clinic visits and had their cholesterol checked and recorded as below:

296; 179; 282; 184; 186; 248; 189; 241; 237; 246; 238; 196; 206; 192; 203; 227; 204; 222; 219; 211

Using the above information

- Create a frequency table for the above data
- Calculate Variance
- Calculate Standard deviation
- Describe the measures of central tendency.
- Describe the distribution of the data.

[25 marks]

END OF PAPER