BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF SCIENCE AND ENGINEERING

DEPARTMENT: HEALTH SCIENCES

BACHELOR OF SCIENCE HONORS IN NURSING SCIENCES (NURSING EDUCATION)

NS210 (2): BIOSTATISTICS AND EPIDEMIOLOGY

DURATION: 3 HOURS   TOTAL MARKS: 100

1- JUN 2023

INSTRUCTIONS TO CANDIDATES

Answer all questions

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1. Describe the following terms

   a. Convenience sampling   [5 marks]

   b. Epidemiology   [5 marks]

   c. Prevalence   [5 marks]

   d. Incidence   [5 marks]

   e. Experimental studies   [5 marks]

2. Outline the steps of outbreak investigation   [25 marks]

3. The following are ages of patients seen by the doctor for a broken bone in the past month:

   15 17 20 14 16 15 17 22 18 13 15 14 16 18 20

   Use the data to answer the following questions:

   a. What is the mean age of the patients?   [2 marks]

   b. What is the median age of the patients?   [2 marks]

   c. What is the modal age of the patients?   [2 marks]

   d. Which measure is the most representative of the sample?   [3 marks]

   e. Explain the following terms

    i. Range [2 marks]

    ii. Interquartile Range [2 marks]

    iii. Variance [5 marks]

    iv. Standard deviation [5 marks]

4. You want to determine the mean blood pressure among government employees. In order to do this, you measure the blood pressure of 200 employees.

n = 200

x = 127 mm Hg

s = 13

    a. Use the descriptive statistics below to determine a 95% confidence interval around the mean. [10 marks]

    b. Find the lower limit of the 95% confidence interval [5 marks]

    c. Find the upper limit of the 95% confidence interval [5 marks]

    d. Interpret the 95% confidence interval [5 marks]

END OF PAPER