



# KISII UNIVERSITY

## UNIVERSITY EXAMINATIONS

**FIRST YEAR EXAMINATION FOR THE AWARD OF THE  
DEGREE OF BACHELOR OF EDUCATION  
IN EARLY CHILDHOOD EDUCATION  
SECOND SEMESTER, 2021/2022  
(FEBRUARY - JUNE, 2022)**

**EPSC 123: STATISTICAL METHODS IN EDUCATION**

**STREAM: Y1 S2**

**TIME: 2 HOURS**

**DAY: WEDNESDAY, 3:00 – 5:00 P.M.**

**DATE: 25/05/2022**

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### **INSTRUCTIONS**

- 1. Do not write anything on this question paper.***
- 2. Answer ALL the questions.***

1. A hypothesis differs from a theory in that;
  - a. It is testable
  - b. It is true
  - c. It's more speculative
  - d. It is more abstract
2. A researcher asks: Are men or women more likely to become depressed?  
The dependent variable is \_\_\_\_\_ and the independent variable is \_\_\_\_
  - a. Women, men
  - b. Depressed, not depressed
  - c. Sex, depression
  - d. Depression, sex
3. Suppose I am studying why some men drop out of high school and others don't. Dropping out of high school is a(n) \_\_\_\_\_ and sex is a(n) \_\_\_\_
  - a. Constant, variable
  - b. Variable, constant

- c. Independent variable, dependent variable
  - d. Dependent variable, independent variable
4. The values “tallest in class”, “second tallest in class” and “shortest in class” suggest the use of;
- a. A nominal level
  - b. An ordinal level
  - c. A rank order
  - d. A ratio level
5. Investigators studying arguments in marriage rated them as minor, intermediate or major. What kind of data are we dealing with?
- a. Nominal
  - b. Ordinal
  - c. Rank-order
  - d. Interval/ratio
6. The portion of the population that is selected for analysis is called:
- a. a sample
  - b. a frame
  - c. a parameter
  - d. a statistic
7. A summary measure that is computed from only a sample of the population is called:
- a. a parameter
  - b. a population
  - c. a discrete variable
  - d. a statistic
8. The height of an individual is an example of a:
- a. discrete variable
  - b. continuous variable
  - c. categorical variable
  - d. constant
9. The body style of an automobile (sedan, coupe, wagon, etc.) is an example of a:
- a. discrete variable
  - b. continuous variable
  - c. categorical variable
  - d. constant
10. Statistical inference occurs when you:

- a. compute descriptive statistics from a sample
- b. take a complete census of a population
- c. present a graph of data
- d. take the results of a sample and draw conclusions about a population

11. The human resources director of a large corporation wants to develop a dental benefits package and decides to select 100 employees from a list of all 5,000 workers in order to study their preferences for the various components of a potential package. All the employees in the corporation constitute the \_\_\_\_\_.

- a. sample
- b. population
- c. statistic
- d. parameter

12. The human resources director of a large corporation wants to develop a dental benefits package and decides to select 100 employees from a list of all 5,000 workers in order to study their preferences for the various components of a potential package. The 100 employees who will participate in this study constitute the \_\_\_\_\_.

- a. sample
- b. population
- c. statistic
- d. parameter

13. Based on the results of a poll of 500 registered voters, the conclusion that the Republican candidate for U.S. president will win the upcoming election is an example of:

- a. inferential statistics
- b. descriptive statistics
- c. a parameter
- d. a statistic

14. A summary measure that is computed to describe a characteristic of an entire population is called:

- a. a parameter
- b. a population
- c. a discrete variable
- d. a statistic

15. You were working on a project to look at the value of the American dollar as compared to the English pound. You accessed an Internet site where you obtained this information for the past 50 years. Which method of data collection were you using?

- a. Published sources
- b. Experimentation
- c. Surveying

16. Which of the following statistics are measures of central tendency?
- median
  - range
  - standard deviation
  - all of these
  - none of these
17. Which of the following statistics is not a measure of central tendency?
- mean
  - median
  - mode
  - range
18. Which of the following statements about the median is not true?
- It is less affected by extreme values than the mean
  - It is a measure of central tendency
  - It is equal to the range
  - It is equal to the mode in bell-shaped “normal” distributions.
19. Which of the following statements about the mean is not true?
- It is more affected by extreme values than the median
  - It is a measure of central tendency
  - It is equal to the median in skewed distributions
  - It is equal to the median in symmetric distributions.
20. Which of the following measures of variability is dependent on every value in a set of data?
- range
  - standard deviation
  - each of these
  - neither of these
21. In a five-number summary, the following is not included:
- median
  - third quartile
  - mean
  - minimum (smallest) value
22. If two events are mutually exclusive, what is the probability that both occur at the same time?
- 0
  - 0.50
  - 1.00
  - Cannot be determined from the information given

23. If the outcome of event A is not affected by event B, then events A and B are said to be:

- a. mutually exclusive
- b. statistically independent
- c. collectively exhaustive
- d. None of the above

24. A type II error is committed when:

- a. you reject a null hypothesis that is true
- b. you don't reject a null hypothesis that is true
- c. you reject a null hypothesis that is false
- d. you don't reject a null hypothesis that is false

25. A type I error is committed when:

- a. you reject a null hypothesis that is true
- b. you don't reject a null hypothesis that is true
- c. you reject a null hypothesis that is false
- d. you don't reject a null hypothesis that is false

26. Weight is to the scale of measurement as political affiliation is to the scale of measurement.

- a. ratio; ordinal
- b. ratio; nominal
- c. interval; nominal
- d. ordinal; ratio

27. Personal interview surveys have the concern of but have the advantage of.

- a. low return rate; eliminating interviewer bias
- b. interviewer bias; high return rate
- c. sampling bias; eliminating interviewer bias
- d. both b and c

28. Find the mode of the call received on 7 consecutive day  
11,13,13,17,19,23,25

- a. 11
- b. 13
- c. 17
- d. 23

29. If the probability that an object dropped from a certain height will strike the ground is 80 percent and if 12 objects are dropped from the same place, find the mean and variance.

- a. 9.6,1.92
- b. 8.6,1.92
- c. 9.6,1.82
- d. 8.6,1.82

30. Find the variance of the given data set: 3, 9,5,6,7
- 1
  - 2
  - 3
  - 4
31. Find the variance of the given data sets 7, 47,8,42,47,95,42,96,3
- 1028.78
  - 1018.78
  - 1029.78
  - 1019.78
32. What is one of the distinctions between a population parameter and a sample statistic?
- A population parameter is only based on conceptual measurements, but a sample statistic is based on a combination of real and conceptual measurements.
  - A sample statistic changes each time you try to measure it, but a population parameter remains fixed.
  - A population parameter changes each time you try to measure it, but a sample statistic remains fixed across samples.
  - The true value of a sample statistic can never be known but the true value of a population parameter can be known
33. Which one of the following variables is not categorical?
- Age of a person.
  - Gender of a person: male or female.
  - Choice on a test item: true or false.
  - Marital status of a person (single, married, divorced, other)
34. Absolute zero exists in
- Nominal scale
  - Interval scale
  - Ordinal scale
  - Ratio scale
35. Which of the following statements is true about the collection of data?
- The data that is collected from the place of origin is known as primary data
  - The data that is collected from the place of origin is known as secondary data
  - The data that is collected from the place of origin is known as tertiary data
  - None of the above