



# The Islamia University Of Bahawalpur,

## BAHAWALNAGAR CAMPUS DEPARTMENT OF EDUCATION MID TERM EXAMINATION

Subject: Statistics

Course Code: EDU-02009

Semester: 2<sup>nd</sup>

Session: 2019-23 (Fall)

Program BS Education

Teacher: Dr. Rafaquat Ali

Student Name	Roll No	Signature
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Part First (Time 30 Minutes)

Marks=20

Q No. 1: Circle the appropriate option from provided options against each question/statement.

- If scale of measurement is nominal, it is preferred to use ----- measure of central tendency.
  - mean
  - median
  - mode
  - none of a, b & c
- The difference between the highest and lowest scores in a data set is called -----.
  - variance
  - range
  - mean deviation
  - standard error
- In statistics, the normal curve is ----- shaped.
  - bell
  - skewed
  - square
  - circular
- The arithmetic mean of the deviations of the scores from the mean or the median is called-----.
  - variance
  - range
  - standard deviation
  - mean deviation
- The mean, median and mode are equal or same in -----shaped frequency.
  - normal
  - skewed
  - negative skewed
  - square
- There will be no ----- if there is no common value in the data.
  - mean
  - median
  - mode
  - range
- A ----- error occurs when a researcher rejects a null hypothesis that is actually true.
  - type II
  - type III
  - type IV
  - type I
- If it is preferred to use -----if the nature of the population distribution from which samples are drawn is not known to be normal.
  - t-test
  - Chi square
  - ANOVA
  - none of a, b & c
- A ----- statistic is used to calculate the relationship between two categorical (non-numerical) variables,
  - t-test
  - Chi square
  - ANOVA
  - none of a, b & c
- If we have one independent (grouping) variable which has three or more levels (groups), and there is one dependent continuous variable, then we will use ----- test.
  - t-test
  - Chi square
  - ANOVA
  - none of a, b & c
- The ----- test which is a non-parametric test is used to fit one categorical variable to a distribution.
  - t-test
  - chi-square test for independence
  - ANOVA
  - chi-square goodness of fit
- Generally, a p-value (significance level) of ----- is needed to reject the null hypothesis.

- a. less than 5% ( $p < .05$ )                      b. greater than 5% ( $p < .05$ )  
 c. less than 20% ( $p < 2$ )                      d. none of a, b & c
13. The ----- assumption assumes that the distribution in the population have the same shapes, means, and variances.  
 a. Homogeneity of Variance                      b. Normality  
 c. independence                      d. none of a, b & c
14. The ----- measures the relationship between variables measured on an ordinal scale of measurement.  
 a. Lassen correlation                      b. Pearson correlation  
 c. f-correlation                      d. Spearman correlation
15. Which of the following values indicates the highest possible correlation between variables?  
 a. +0.5                      b. +1  
 c. +4                      d. +7
16. ----- is used to compare changes in the scores of the same group tested at two different occasions.  
 a. Independent sample t-test                      b. Converged sample t-test  
 c. Paired sample t-test                      d. Both a & c
17. ----- tells us about the amount and direction of the variation of the data set.  
 a. Skewness                      b. Kurtosis  
 c. ANOVA                      d. Chi-square
18. Fifty percent of the scores are above the mean, and 50% are below the mean in ----- distribution.  
 a. positive skewed                      b. normal  
 c. negative skewed                      d. none of a, b & c
19. ----- is most effected by extreme values in the data set.  
 a. Median                      b. Mean  
 c. Mode                      d. none of a, b & c
20. If we have one independent (grouping) variable which has three or more levels (groups), and there is one dependent continuous variable, then we will use ----- test.  
 a. t-test                      b. Chi square  
 c. ANOVA                      d. none of a, b & c



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Part Second (Time 35 Minutes)

Marks=14

Q No. 2: Answer the following questions briefly

Marks 14

- Define the term inferential statistics.
- What are the underlying assumptions for ANOVA?
- What is range?
- What is variance?
- What are the underlying requirements for not applying parametric tests?
- Write briefly about two types of t-test?
- What are the advantages of ANOVA?
- What is regression?

Part Third (Time 55 Minutes)

Marks=16

Q NO. 3: What is chi-square distribution? Discuss types and uses of chi-square test in detail. 8

Q No. 4: What is hypothesis testing? Discuss different steps involved in hypothesis testing in detail. 8