VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)
B.Sc. Part- I (Statistics) (Sem-I)
Unit Test
Subject: Descriptive Statistics -I

9/10

Date: 16/08/2024 **Marks: 10**

Name of the Student: Powar Anushka Bhimrao Roll No. 7262

1. All the partition values can be estimated graphically from …….
   a) Frequency curve b) Frequency polygon
   c) Ogive curve d) Histogram
2. Which of the following scale is best scale in measurement of data?
   a) Nominal scale b) Interval scale
   c) Ordinal scale d) Ratio scale
3. Group of individuals according to income such as poor, middle class and rich is an example of ….
   a) Nominal scale b) Interval scale
   c) Ordinal scale d) Ratio scale
4. Algebraic sum of deviations taken from the respective mean is ….
   a) 0 b) 2 c) 1 d) None of these
5. If the constant value 50 is subtracted from each observation of set, the mean of the set is ……
   a) Increased by 50 b) Decreased by 50
   c) Not affected d) 50 times the original value
6. For a symmetric frequency distribution first quartile is 142 and Q.D is 18 then mean is ….
   a) 160 b) 140 c) 120 d) 110
7. Mean square deviation (M.S.D.) is minimum when the deviations are taken from ….
   a) Mean b) Median c) Mode d) Q1
8. The first order moment about mean is …..
   a) Zero b) One c) Mean d) Variance
9. The most repeated observation in data set is called as…….
   a) Mean b) median c) mode d) all of these
10. Two ogive curves, less than type or greater than type, intersect at point --------
   a) (N/2,mean) b) (N/2,median) c) (N/2,mode) d) (median, N/2)

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VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

B.Sc. Part- I (Statistics) (Sem-I)

Unit Test

Subject: Descriptive Statistics -I

09/10

Date: 16/08/2024 Marks: 10

Name of the Student: Godane Poonam Sachin Roll No. 7312

1. All the partition values can be estimated graphically from …….

a) Frequency curve b) Frequency polygon

~~c)~~ Ogive curve d) Histogram

2. Which of the following scale is best scale in measurement of data?

a) Nominal scale ~~b)~~ Interval scale

c) Ordinal scale d) Ratio scale

3. Group of individuals according to income such as poor, middle class and rich is an example of ….

a) Nominal scale b) Interval scale

~~c)~~ Ordinal scale d) Ratio scale

4. Algebraic sum of deviations taken from the respective mean is ….

~~a)~~ 0 b) 2 c) 1 d) None of these

5. If the constant value 50 is subtracted from each observation of set, the mean of the set is ……

~~a)~~ Increased by 50 b) Decreased by 50

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6. For a symmetric frequency distribution first quartile is 142 and Q.D is 18 then mean is ….

~~a)~~ 160 b) 140 c) 120 d) 110

7. Mean square deviation (M.S.D.) is minimum when the deviations are taken from ….

a) Mean ~~b)~~ Median c) Mode d) Q1

8. The first order moment about mean is …..

~~a)~~ Zero b) One c) Mean d) Variance

9. The most repeated observation in data set is called as…….

a) Mean b) median ~~c)~~ mode d) all of these

10. Two ogive curves, less than type or greater than type, intersect at point --------

a) (N/2,mean) b) (N/2,median) c) (N/2,mode) ~~d)~~ (median, N/2)

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Vivekanand College Kolhapur (Empowered Autonomous)

B.Sc. I Semester I

Unit Test

Paper: Elementary Probability Theory

Date: 13/08/2024 **Total Marks: 10M**

Instructions:

Attempt all questions

Each question carries 2 Marks

Q. Define the following terms & give example of each

1. Sample space
2. Event
3. Elementary event
4. Complementary event
5. Impossible event

Unit test : 01

10/10

13/08/2024

Name :- Samina Rajekhan Nayakwadi
Subject :- Elementory Probablity Theory

Que. 1] Define the following terms and give example of each.

a) sample space :
Sample space is a set of all possible distinct outcomes of a random experiment.
e.g. Rolling a die.
Sample space $\Omega = \{1, 2, 3, 4, 5, 6\}$

b) Event
Event is a subset of sample space is called event.
e.g. Tossing a coin
$S = \{H, T\}$
Event A : getting a head
$A = \{H\}$

e) Impossible event
An event which does not contain any sample point of a sample space is called as Impossible event.
e.g. Rolling a die.
$S = \{1, 2, 3, 4, 5, 6\}$
Event A : getting a no. is greater than 6
$A = \{\ \} = \emptyset$

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d) Complement of an event

Suppose event A, the some elements of sample space present in A and some elements are not present in A but they present in sample then is called Complement of A

e.g Tossing coin

$S = \{H, T\}$

Event A :- getting a ~~coin~~ Head

$A = \{H\}$

$\therefore A' = \{T\}$

c) Elementory event

An event which contain only one sample point of a sample space then is called as elementory event

e.g Rolling a die

$S = \{1, 2, 3, 4, 5, 6\}$

Event A :- getting a no. is less than 2

$A = \{1\}$

Name - Ashwini Baburao Patil
Sub. - Elementory prob. Theory.

Test - I

10/10

Q.1] Define the following terms & give examples of each.
a] Sample space
b] Event
c] Elementary event
~~d] Elementary event.~~
d] complement of an event
e] Impossible event.

Ans. ⟹

a] Sample space :
The possible outcoms of the random experiment is called as sample space.
Ex.,
(1) One coin tossed then,
sample space is, $\Omega = \{H, T\}$

b] Event :
The subset of the sample space is called as an 'Event'.
Ex.,
1] A die trown then
$\Omega = \{1, 2, 3, 4, 5, 6\}$
A : The group of getting even no.
$\therefore A = \{2, 4, 6\}$
Here, A be the event of sample ~~of~~ space Ω

c] Elementary Event :

It is an event which contain only one element is called as Elementary Event.

Ex.,

1] A Coin tossed then

$\Omega = \{H, T\}$

A : getting head.

$A = \{H\}$

Here, A be the elementary event.

d] Complement of an event :

The complement of an event ~~is~~ which ~~The element~~ contains elements from sample but not from Event.

Ex.,

1] A die thrown then

$\Omega = \{1, 2, 3, 4, 5, 6\}$

A : Getting an odd no.

$A = \{1, 3, 5\}$

$A' = \{2, 4, 6\}$

e] Impossible event :

It is an event which contains no elements or zero elements is called as impossible event.

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Ex.

1] A die thrown then,

$\Omega = \{1, 2, 3, 4, 5, 6\}$

A : getting the no. which is divisible by 7

$A = \{\}$

Vivekanand College Kolhapur (Empowered Autonomous)

B.Sc. II Semester IV

Unit Test

Paper: Introduction to Reliability Theory & Testing of Hypothesis

Date: 30/01/2025 **Total Marks: 20M**

Instructions:

1. **Attempt all questions**
2. **Each question carries 5 marks**

---

1 Define the terms:

a) Composite hypothesis

b) Critical region

2. Define test statistic. Explain general steps in procedure of testing of hypothesis.

3. Explain the procedure of testing significance between two population mean in normal population.

4. Explain the procedure of testing significance of population correlation coefficient & sample correlation coefficient in normal population.

1

$\frac{19}{20}$

Name: Miss. Parimal Chandrashekhar Kadam.

Std: BSc-II (Major) Roll no. 7754.

Q.1. Define the terms:

a) Composite hypothesis:

The hypothesis which do not completely specify the population parameter or the probability distribution of population is called as composite hypothesis.

e.g. $H_0: \mu \neq \mu_0$

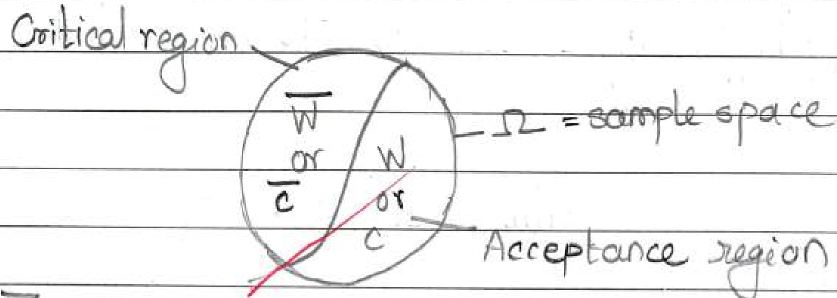
$H_0: \mu = \mu_0, \sigma > \sigma_0^2$

$H_1: \mu > \mu_0,$

$H_1: P < P_0$

b) Critical region:

The region in which the null hypothesis H_0 gets rejected is called as critical region. It is also known as rejection region. It is denoted by $\overline{W}$ or $\overline{C}$.



$W \cup \overline{W} = \Omega$

$W \cap \overline{W} = \phi$

5

Q.2. Define test statistic. Explain general steps in procedure of testing of hypothesis.

Test statistics:

A statistic used for testing null hypothesis is called as test statistic.

OR.

The constant of sample values / estimator used for testing null hypothesis is called as test statistic.

General steps in procedure of testing of hypothesis:

i) Set up the null hypothesis H_0 & alternative hypothesis H_1.

ii) Consider the level of significance (l.o.s) α.

iii) ~~Calculate~~ Find the test statistic Z.

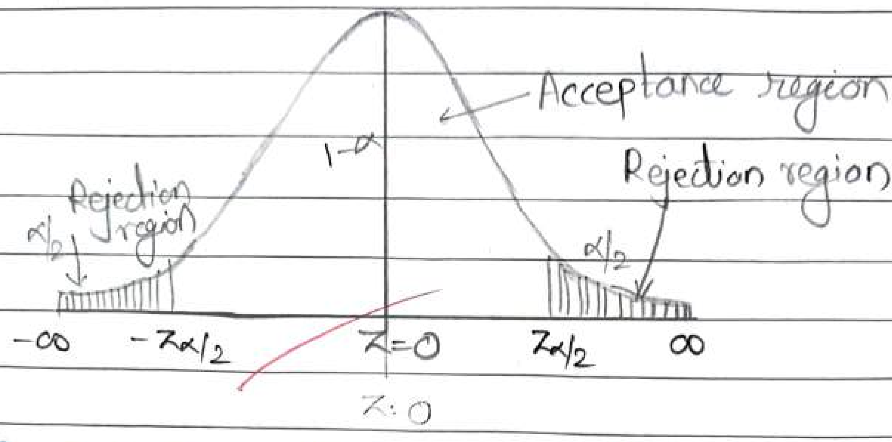
iv) Calculate Z & $Z_{\alpha/2}$ for two sided alternative hypothesis H_1 & Z_α for ~~two~~ one sided alternative hypothesis H_1.

v) Compare the values of Z & $Z_{\alpha/2}$ or Z & Z_α

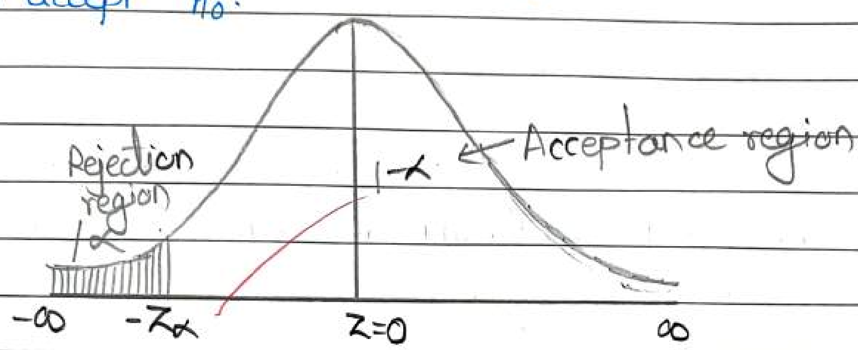
vi) State the solution for claim made in the problem.

A] If $|Z| \geq Z_{\alpha/2}$ then we reject H_0 at $\alpha\%$ l.o.s.

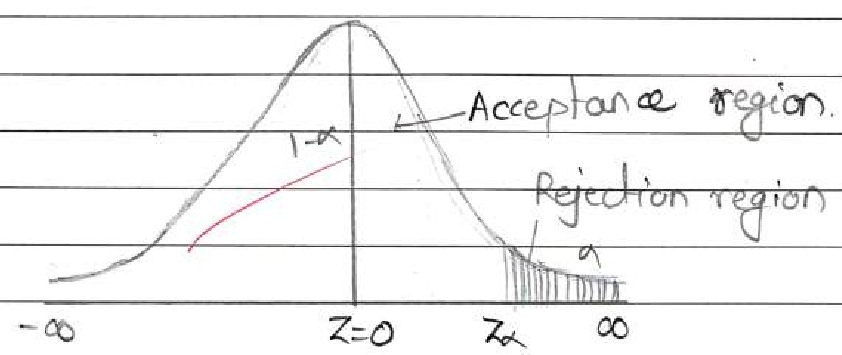
otherwise we accept H_0.



B] If $Z < -Z_{\alpha}$ then we reject H_0 at $\alpha\%$ l.o.s. o.w. accept H_0.



C] If $Z \geqslant Z_{\alpha}$ then we reject H_0 at $\alpha\%$ l.o.s o.w. we accept H_0.



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Q.3. Explain the procedure of testing significance between two population means in normal population.

Let $\overline{x_1}$ be the mean of sample of size n_1 (large) drawn from a normal population with mean μ_1 & known variance σ_1^2.

Let $\overline{x_2}$ be the mean of sample of size n_2 (large) drawn from a normal population with mean μ_2 & known variance σ_2^2.

We have to test,

$H_0 : \mu_1 = \mu_2$

i.e. There is no significant difference between two popula means.

OR

i.e. The sample is drawn from two population with same population mean.

V/S $H_1 : \mu_1 \neq \mu_2$ (or $\mu_1 > \mu_2$ or $\mu_1 < \mu_2$)

Using CLT,

$Z = \overline{X} -$

Here,

$$\overline{x_1} \sim N\left(\mu_1, \frac{\sigma_1^2}{n_1}\right)$$

$$\& \quad \overline{x_2} \sim N\left(\mu_2, \frac{\sigma_2^2}{n_2}\right)$$

Using CLT,

$$Z_0 = \frac{\overline{x_0} - E(\overline{x_0})}{\sigma_0/\sqrt{n}} \sim N(0,1).$$

Miss Parimal Chandrashekhar Kadam

$$\therefore z_1 - z_2 \sim N\left(\mu_1 - \mu_2 , \frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}\right)$$

Under, H_0 test statistic is,

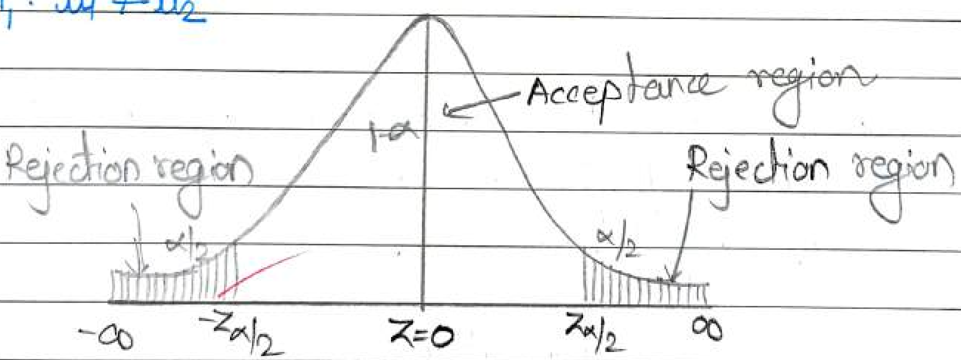
$$z_1 - z_2 = \frac{\overline{x_1} - \overline{x_2} - (\mu_1 - \mu_2)}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}} \sim N(0,1)$$

$$= \frac{\overline{x_1} - \overline{x_2}}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}} \sim N(0,1)$$

Conclusion:

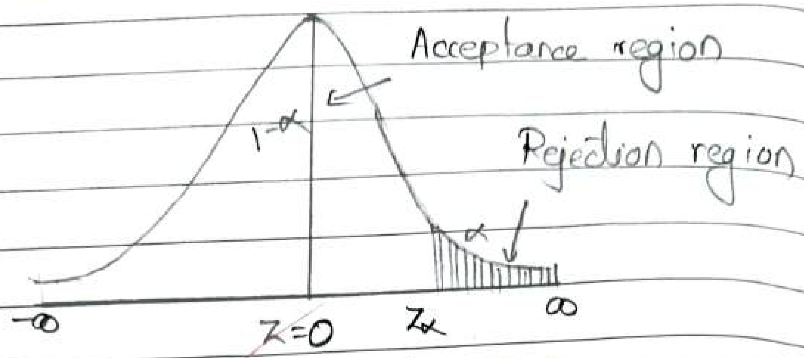
1] Let α be the level of significance.
Z_α be the critical value at α% l.o.s for one sided alternative hypothesis H_1.
$Z_{\alpha/2}$ be the critical value at α% l.o.s for two sided alternative hypothesis H_1.

i] $H_1 : \mu_1 \neq \mu_2$



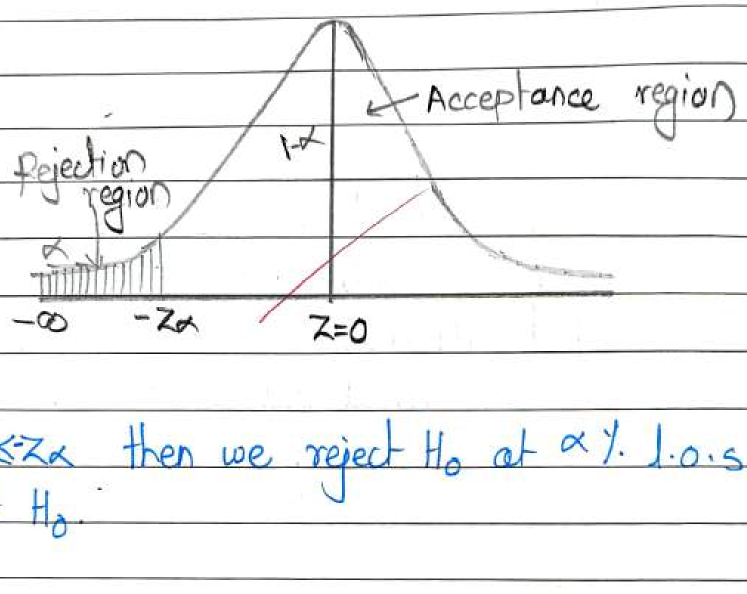
If $|Z| \geq Z_{\alpha/2}$ then we reject H_0 at α% l.o.s.
o.w. we accept H_0 at α% l.o.s.

2] $H_1: \mu_1 > \mu_2$



If $Z \geq Z_\alpha$ then we reject H_0 at α% l.o.s. o.w. we accept H_0

3] $H_1: \mu_1 < \mu_2$



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If $Z \leq -Z_\alpha$ then we reject H_0 at α% l.o.s o.w. we accept H_0.

Q.4. Explain the procedure of testing significance of population correlation coefficient & sample correlation coefficient in normal population.

Let ρ be the population correlation coefficient of bivariate normal population ~~of size n~~ (large). Let r be the sample correlation coefficient of sample of n

ρ = population correlation coefficient.

r = sample correlation coefficient.
n = sample size.
ρ_0 = specified value of correlation coefficient.

We have to test,
$H_0 : \rho = \rho_0$

i.e. There is no significant ~~diffegen~~ difference between population correlation coefficient & specified value ρ_0.

v/s $H_1 : \rho \neq \rho_0$ (or $H_1 : \rho > \rho_0$ or & $H_1 : \rho < \rho_0$).

By using fisher's z-transformation,

$$z = \frac{1}{2} \log_e \left(\frac{1+r}{1-r} \right)$$

&

$$\cancel{\xi} = \frac{1}{2} \log_e \left(\frac{1+\xi}{1-\xi} \right)$$

$$\xi = \frac{1}{2} \log_e \left(\frac{1+\rho}{1-\rho} \right)$$

Here,
$$z \sim N\left(\xi_0 , \frac{1}{n-3} \right)$$

By using C.L.T.

$$z = \frac{\bar{x} - E(\bar{x})}{S.E.(\bar{x})} \sim N(0,1)$$

Here,
~~$z = \bar{x} - \xi_0$~~

$$U = \frac{z - \xi_0}{\sqrt{\frac{1}{n-3}}} \sim N(0,1)$$

$$\xi_0 = \frac{1}{2} \log_e \left(\frac{1+\rho_0}{1-\rho_0} \right)$$

$\therefore U = \sqrt{n-3}\,(z - \xi_{\rho_0})$

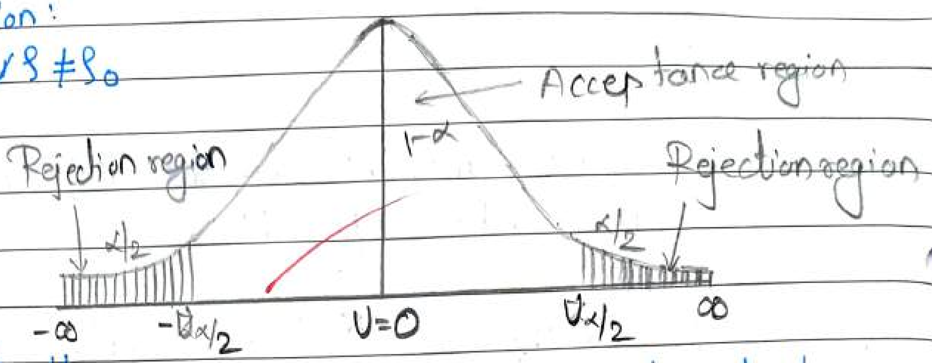
Let α be the l.o.s.

$U z_\alpha$ be critical value at $\alpha\%$ l.o.s for one sided H_1

& $U z_{\alpha/2}$ be critical value at $\alpha\%$ l.o.s for two sided H_1

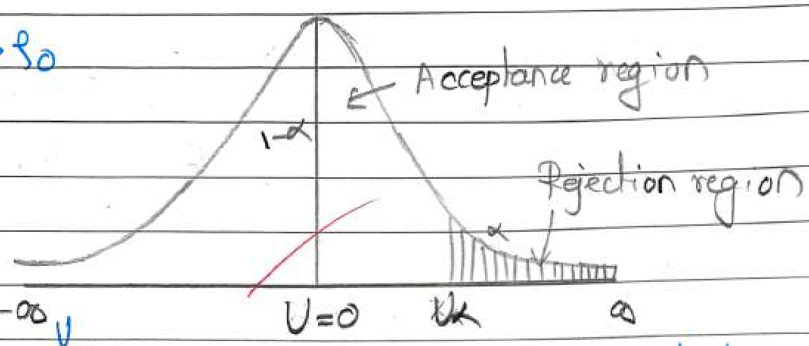
Conclusion:

1] $H_1 : \rho \neq \rho_0$



If $|\overset{U}{z}| \geq \overset{U}{z}_{\alpha/2}$ then we reject H_0 at $\alpha\%$ l.o.s o.w we accept it.

2] $H_1 : \rho > \rho_0$



If $\overset{U}{z} \geq \overset{U}{z}_\alpha$ then we reject H_0 at $\alpha\%$ l.o.s o.w we accept H_0.

3] $H_1 : \rho < \rho_0$

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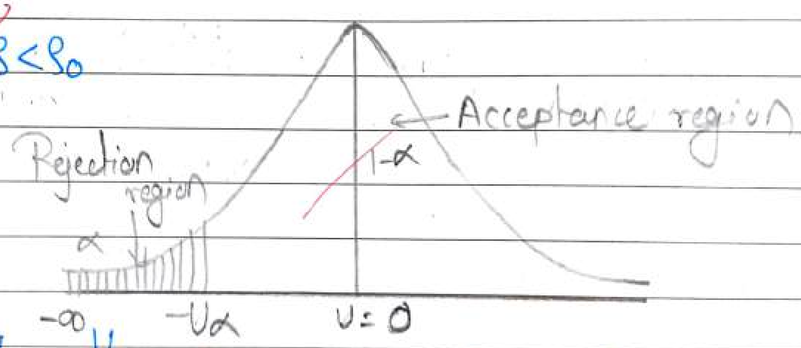


If $\overset{U}{z} \leq -\overset{U}{z}_\alpha$ then we reject H_0 at $\alpha\%$ l.o.s o.w. we accept H_0.

B.Sc. : statistics II
Name : krushna Balavant Mane.
Roll. No. : 7755

19/20

1] Define

a) composite hypothesis-

A hypothesis in which does not completly specifies is called as composite hypothesis.

Ex., $H_0 : \mu = \mu_0$

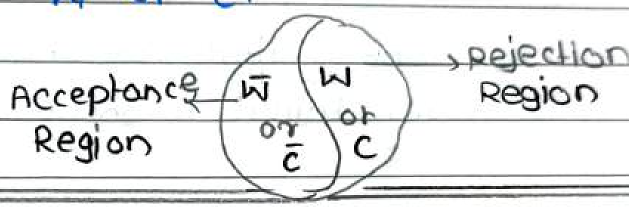
$H_0 : \sigma^2 = \sigma_0^2$

$H_0 : \mu = \mu_0 , \sigma^2 > \sigma_0^2$.

b) Critical Region-

A Region in which null hypothesis H_0 is Rejected it is called as critical or Rejection Region.

It is denoted as w or c.



Test statistic- A function of sample values for test of null hypothesis H_0 is called as test statistic.

Procedure-

i] Set up null hypothesis H_0 and alternative hypothesis H_1.

ii] choose the appropriate level of significance α.

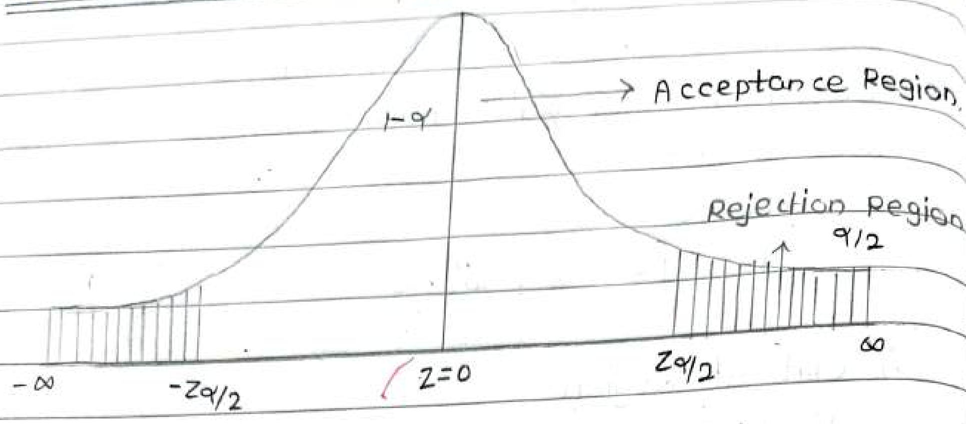
iii] compute the test statistic z, under null hypothesis H_0.

iv] compute the value of $z_{\alpha/2}$ for two sided alternative hypothesis and z_α for one sided level of significance.

v] compair $z_{\alpha/2}$ or z_α to take a decession of wheather to Reject H_0 or Accept H_0.

vi] state conclusion about a claim mode in a problem.

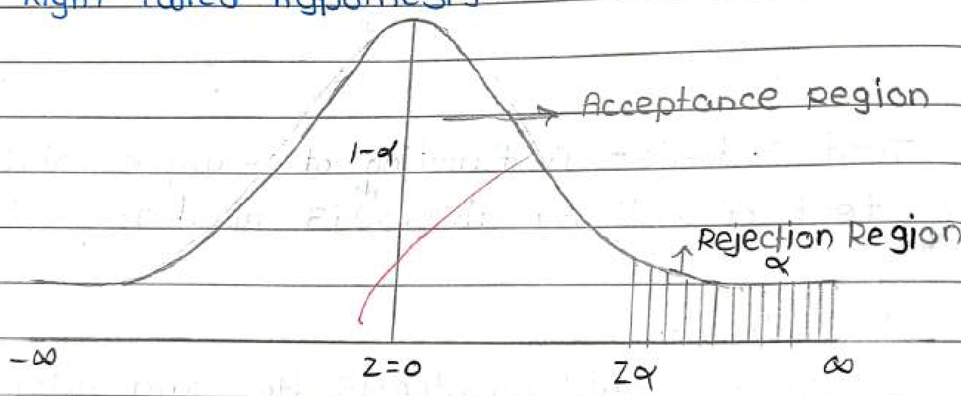
For two tailed hypothesis:-



If $|Z| \geq Z_{\alpha/2}$ then we reject H_0 at α % Level of significance otherwise we accept H_0.

For one tailed Hypothesis-

i] Right tailed hypothesis-



If $Z \geq Z_\alpha$ then we reject H_0 at α % Level of significance. otherwise we accept H_0.

Krushna Balavant More
Roll. No : 7755

4)

Let, ρ be the population correlation coefficient from bivariate normal population with specified value ρ_0.

~~P = Population Proportion~~

we ~~kno~~ have to test,

$H_0: \rho = \rho_0$

ie. There is no significant difference betn two popln correlation coefficient and ρ_0

or

The samples ~~has~~ been drawn from the bivariate normal population with popln correlation coefficient and ρ_0.

v/s

$H_1: \rho \neq \rho_0$ or ($H_1: \rho > \rho_0$, $H_1: \rho < \rho_0$).

by using fisher's z transformation,

$$z = \frac{1}{2} \log_e \frac{(1+r)}{(1-r)} \quad \& \quad \xi = \frac{1}{2} \log_e \frac{(1+\rho)}{(1-\rho)}$$

for large n, $z \sim N(\xi, \frac{1}{n-3})$

using central limit theorem,

$$Z = \frac{\cancel{z} - \xi}{\sqrt{\frac{1}{n-3}}} \sim N(0,1)$$

under, H_0 test statistic is,

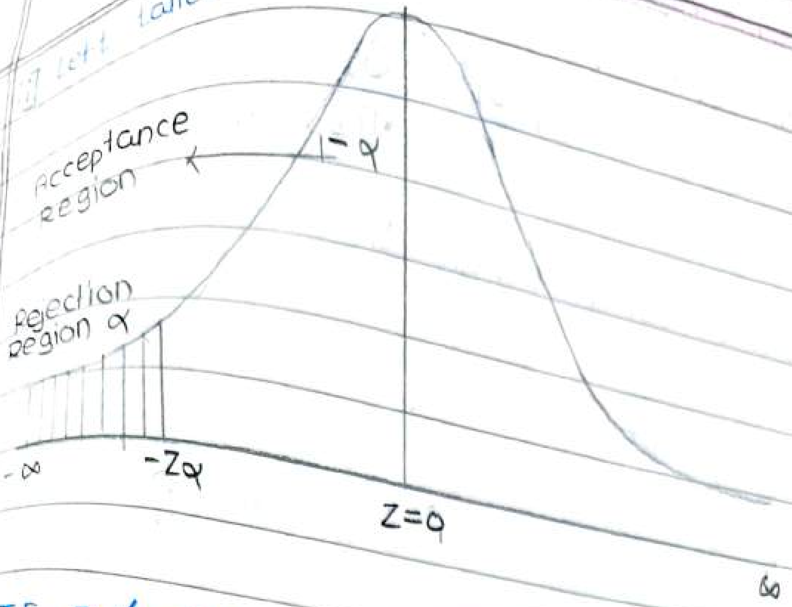
$$Z = \frac{z - \xi_0}{\sqrt{\frac{1}{n-3}}} \sim N(0,1)$$

$\sqrt{n-3}\,(Z-\xi_0) \sim N(0,1)$ for large n,

Let α be L.o.S

If $Z_{\alpha/2}$ be the critical value at α% L.o.S for two sided alternative hypothesis H_1. and Z_α be the critical value at α% L.o.S for one sided Alternative hypothesis.

ii) Left tailed test:



If $Z < -Z_\alpha$ then we reject H_0 at α% level of significance. otherwise we accept H_0.

3)

Let, $\overline{X}_1$ be the mean of sample of size n_1(large) from population with mean μ_1 and known variance σ_1^2. Also $\overline{X}_2$ be the mean of sample of size n_2(large) from population with μ_2 and known variance σ_2^2.

We have to test,

$H_0: \mu_1 = \mu_2$

i.e. There is no significant differance betn two popln means.

or

The samples are drawn from popln with same population means.

v/s

$H_1: \mu_1 \neq \mu_2$ or ($H_1: \mu_1 < \mu_2$, $H_1: \mu_1 > \mu_2$)

for large n_1 & n_2

$\overline{X}_1 \sim \left(\mu_1, \frac{\sigma_1^2}{n_1}\right) \sim N(0,1)$

$\overline{X}_2 \sim \left(\mu_2, \frac{\sigma_2^2}{n_2}\right) \sim N(0,1)$

$\bar{x}_1 - \bar{x}_2 \sim \left(\mu_1 - \mu_2 , \frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2} \right)$ [∵ samples are independent]

by using central limit theorem,

~~$z = (\bar{x}_1 - \bar{x}_2)$~~

$$z = \frac{(\bar{x}_1 - \bar{x}_2) - E(\bar{x}_1 - \bar{x}_2)}{S.E.(\bar{x}_1 - \bar{x}_2)} \sim N(0,1)$$

$$z = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}} \sim N(0,1)$$

under H_0 test statistic is,

$$z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}} \sim N(0,1)$$

Let, α be the Level of significance.

If $z_{\alpha/2}$ be the critical value at α% level of significance. for two sided Alternative hypothesis H_1.

and

z_α be the critical value at α% level of significance for one sided Alternative hypothesis H_1.

9/10

VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)
B.Sc. Part- II (Statistics) (Sem-III) MINOR
Unit Test
Subject: Predictive Modelling

Date: 17-9-24 **Marks: 10**

Name of the Student: Desai Atharv Ashok Roll No. 7803

Q. 1. Select correct alternative. **[08]**

1) The maximum value of Corr (X_1, aX_2+bX_3+c) is -------
   A) $R_{1.23}$ B) $R_{2.13}$
   C) $R_{3.12}$ D) $r_{12.3}$

2) The Multiple regression coefficient is invariant under the change of ......
   A) origin B) scale
   C) neither origin nor scale D) both origin and scale

3) The order of residual $X_{1.234}$ is.......
   A) 0 B) 1
   C) 2 D) 3

4) The three regression planes coincides if -----, where |R| is the determinant of simple correlation coefficients
   A) $|R| = 0$ B) $|R| = 1$
   C) $|R| > 0$ D) $|R| < 0$

5) In regression analysis the difference between observed value and estimated value of a variable is called.......
   A) error of estimate B) residual
   C) neither a nor b D) both a and b

6) In time series seasonal variations can occur within a period of ....
   A) Four years B) Three years
   C) One year D) Nine years

7) With usual notations, $\Sigma X_2 X_{1.23}$ = ---
   A) 0 B) 1
   C) infinity D) none of these

8) In time series analysis the method of moving averages, is used to estimate......
   A) seasonal variation B) trend
   C) Cyclic variation D) Irregular variation

9) The maximum value of Corr (X_1, aX_2+bX_3+c) is -----
   A) $R_{1.23}$ B) $R_{2.13}$
   C) $R_{3.12}$ D) $r_{12.3}$

10) Mean of any order residual is always ....
   A) 0 B) 1
   C) infinity D) none of these

10/10

VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)
B.Sc. Part- II (Statistics) (Sem-III) MINOR
Unit Test
Subject: Predictive Modelling

Date: 17/9/24 **Marks: 10**

Name of the Student: Bhosale Rajlaxmi Udaysinh Roll No. 7801

Q. 1. Select correct alternative. **[08]**

1) The maximum value of Corr (X_1, aX_2+bX_3+c) is -------
   A) $R_{1.23}$ B) $R_{2.13}$
   C) $R_{3.12}$ D) $r_{12.3}$
2) The Multiple regression coefficient is invariant under the change of ......
   A) origin B) scale
   C) neither origin nor scale D) both origin and scale
3) The order of residual $X_{1.234}$ is.......
   A) 0 B) 1
   C) 2 D) 3
4) The three regression planes coincides if -----, where |R| is the determinant of simple correlation coefficients
   A) $|R| = 0$ B) $|R| = 1$
   C) $|R| > 0$ D) $|R| < 0$
5) In regression analysis the difference between observed value and estimated value of a variable is called.......
   A) error of estimate B) residual
   C) neither a nor b D) both a and b
6) In time series seasonal variations can occur within a period of ....
   A) Four years B) Three years
   C) One year D) Nine years
7) With usual notations, $\Sigma X_2 X_{1.23}$ = ----
   A) 0 B) 1
   C) infinity D) none of these
8) In time series analysis the method of moving averages, is used to estimate......
   A) seasonal variation B) trend
   C) Cyclic variation D) Irregular variation
9) The maximum value of Corr (X_1, aX_2+bX_3+c) is -----
   A) $R_{1.23}$ B) $R_{2.13}$
   C) $R_{3.12}$ D) $r_{12.3}$
10) Mean of any order residual is always ....
   A) 0 B) 1
   C) infinity D) none of these

VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)
B.Sc. Part- II (Statistics) (Sem-IV) MINOR
Unit Test
Subject: Applied Statistics

7/10

Date: 11/02/2025

Marks: 10

Name of the Student: Desai Atharv Ashok

Roll No. 7803

1) Index numbers measure the average ...
   A) Relative changes
   B) Percentage increases
   C) Absolute changes
   D) Proportionate changes

2) Base year of index number is ...
   A) Any convenient year
   B) Year of stability
   C) Preceding year
   D) Succeeding year

3) Price index number needs ...
   A) Price in Rs. per unit
   B) Price in fixed number of units
   C) Quantities in same units
   D) No restrictions on units of either prices or quantities

4) If price index number is 150 then the interpretation is ...
   A) Price of each commodity increases by 50 Rs.
   B) Price of each commodity increases by 50%
   C) Average rise in prices by 50%
   D) Average rise in prices is by 50 Rs.

5) Index numbers are called as ...
   A) Economic thermometer
   B) Social barometer
   C) Economic barometer
   D) Social thermometer

6) Laspeyre's index numbers suffers from ...
   A) Upward bias
   B) Either upward or downward bias
   C) Downward bias
   D) No bias

7). Statistical quality control is based on the theory of
   (a) probability (b) sampling (c) both (a) and (b) (d) neither (a) nor (b)

8). Variations in the quality characteristic of a product is due to
   (a) chance causes (b) assignable causes (c) both (a) and (b) (d) neither (a) nor (b)

9). Chance variation in respect of quality control of a product is
   (a) uncontrollable
   (b) not effecting the quality of a product
   (c) tolerable
   (d) all the above

10). Faults due to assignable causes:
   (a) can be removed
   (b) can't be removed
   (c) can sometimes be removed
   (d) all the above

VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

B.Sc. Part- II (Statistics) (Sem-IV) MINOR

Unit Test

Subject: Applied Statistics

10/10

Date: 11-2-25

Marks: 10

Name of the Student: Bhosale Rajlaxmi Udaysinh

Roll No. 7801

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