Biostatistics

Archive

FAINAL EXAM

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$\mathcal{B}$iostatistics

1-(N-1) is known as ?
A - Test of significance
B - CV
c- sum of square
d- Range
E- degree of freedom

Answer: E- degree of freedom

2-The importance of using a random sample, including All the following except?
A- to give everyone in the population the same probability.
B- to eliminate selection bias of selection
c- To make Data representation to the population.
D- To minmize sample size
e-to have suitable sample for significance result.

Answer: D- To minmize sample size

3-One of the following is correct decision regarding hypothesis:
A- accept null hypothesis while it is true
B. Reject the null hypothesis when it is true.
C. Accept the alternative hypothesis when the p-value is greater than 0.05.
D. Reject the alternative hypothesis when the p-value is less than 0.05.
E. Always accept the null hypothesis when the sample size is large.

Answer: A- accept null hypothesis while it is true

4-One of the following is not correct about paired t-test:
A. Independence of the samples.
B. Assumes normality of the differences between paired observations.
C. Used for comparing means of two related groups.
D. Requires equal variances in the two groups being compared.
E. Assumes that the observations are paired or matched.

Answer: A. Independence of the samples

5-Regarding Continuous variable, which of the following is not true:
A. Using chi-square for testing hypotheses.
B. Can be measured on a scale with meaningful distances between values.
C. Allows for calculations of means and standard deviations.
D. Can be analyzed using parametric tests like t-tests and ANOVA.
E. Typically includes variables like height, weight, and temperature.

Answer: A. Using chi-square for testing hypotheses.

6-. In two tailed t- test at alpha = 0.01 and total subjects = 25. The critical t value is:
A. 2.787
B. 2.492
C. 2.576
D. 2.819
E. 2.658

Answer: D. 2.819

7-To cover 99% of population under the NDC we have to?
A. Use a z-score of ±1.96
B. Use a z-score of ±2.33
C. Use a z-score of ±3.00
D. Use a z-score of ±1.28
E. Use a z-score of ±2.58

Answer:E. Use a z-score of ±2.58

8-The distance between one standard deviation in both side :
A- 68%
B- 99%
C- 95%
D- 34%

Answer: A- 68%

9-There is 13 babies if 6 babies are above 2.5 kg and 6 bellow 2.5 kg, so 2.5 is :
A- Median
B- Mode
C- S.D
D- S.E

ANSWER: A- Median

10-The measurement that affect by extremes and skewness is:
A- Mode
B- Median
C- Mean
D- Mean and mode
E- Mean and median

Answer: C- Mean

11-What is the type 2 error :
A. Accept the null hypothesis while it is false.
B. Reject the null hypothesis while it is true.
C. Accept the alternative hypothesis while it is false.
D. Reject the alternative hypothesis while it is false.
E. Fail to detect an effect that is actually present.

Answer: A. Accept the null hypothesis while it is false.

12-When alpha is 0.01 ...it is considered statically not significant when :
A. p {value} = 0.005
B. p {value} = 0.009
C. p {value} = 0.007
D. p {value} = 0.013

Answer: D. p {value} = 0.013

13-All true about p value except?
A. Probability of observing the data given that the null hypothesis is true.
B. A measure of the strength of evidence against the null hypothesis.
C. Can be used to determine statistical significance by comparing it to a significance level (α).
D. Provides the probability of a Type I error occurring.
E. Does not measure the probability of the null hypothesis being true.

Answer: D. Provides the probability of a Type I error occurring.

39. according to the prescribed antibiotic therapy as well as the treatment outcome

Treatment Outcome	Prescribed Antibiotic			Total
	TMP- SMX	Amoxicillin	Cyclacillin	
Cured	110	60	130	300
Improved	105	150	210	465
Not cured	35	90	110	235
Total	250	300	450	1000

The degree of freedom of the test statistics is:

a. 997
b. 1
c. 4
d. α
e. 6

Answer: c. 4

40. The following table presents the distribution of 1000 women suffering from cystitis according to the prescribed antibiotic therapy as well as the treatment outcome

Treatment Outcome	Prescribed Antibiotic			Total
	TMP- SMX	Amoxicillin	Cyclacillin	
Cured	110	60	130	300
Improved	105	150	210	465
Not cured	35	90	110	235
Total	250	300	450	1000

The expected value for those who have been cured by amoxicillin is:

a. 18
b. 60
c. 90
d. 70.5
e. 139.5

Answer: c. 90