Memory Test - Biostatistics_Class Test_Foundation_1

Total Mark: 100
Time: 90 Min

1. Central tendency
A) Mean
B) Median
C) Mode
D) Range
E) Percentile
Answer: T, T, T, F, F
Discussion:
Reference:

2. Clinical trial
A) Includes only healthy individuals
B) Includes both healthy and diseased individual
C) There should be always a placebo
D) Those who undergoing trial should not know anything about it
E) Informed written consent is taken
Answer: F, T, T, F, T
Discussion:
Reference:

3. Cohort study
A) Longitudinal
B) Interventional
C) Analytical
D) Good Rare disease
E) Simple to conduct
Answer: T, F, T, F, F
Discussion:
Reference:

4. In student's test
A) Variable should be qualilatitive
B) Number of sample>30
C) Variables distributed normally
D) Random sample used
E) Compares mean
Answer: F, F, T, T, T
Discussion:
Reference:

5. Measures of dispersion are
A) SD
B) Range
C) Median
D) Co-efficient of variation
E) Harmonic mean
Answer: T, T, F, T, F
Discussion:
Reference:

6. Normal curve
A) Pyramid shape
B) Dome shape
C) Bell shaped
D) Mean, median & mode coincide
E) Bilaterally symmetrical
Answer: F, F, T, T, T
Discussion:
Reference:

7. Precondition for Z test
A) Qualitative data
B) Sample size more than 30
C) Data in normal distribution
D) Comparison between two means of two dependent group
E) Alternative to unpaired T-test
Answer: F, T, T, F, F
Discussion:
Reference: [Ref: ABC research methodology ,3rd edition P-269

8. Regarding sensitivity
A) Not affected prevalence
B) A sensitive test rarely misses the individual with disease
C) Sensitivity-1=False negative rate
D) Test positioning among the disease positive
E) Percentage of all test result that are correct
Answer: T, T, F, T, F
Discussion:
Reference: [Ref: ABC research methodology ,3rd edition P-248]

9. Scales used in biostatistics
A) Normal scale
B) Ratio scale
C) Continuous scale
D) Intervening scale
E) Interval scale
Answer: F, T, F, F, T
Discussion:
Reference:

10. Standard deviation
A) Measures of dispersion from the mean value
B) Very simple to estimate
C) Square root of the variance
D) Most commonly used measure of spread
E) Relative measures of disperse
Answer: T, T, T, T, F
Discussion:
Reference:

11. Performance of a test can be measured
A) Specificity
B) Sensitivity
C) Predictive value
D) Likelihood ratio
E) Validity
Answer: T, T, T, T, F
Discussion:
Reference:

12. Followings are the significance tests for quantitative variable
A) Chi-squared test
B) Z test
C) T test
D) Correlation
E) Man-whietny
Answer: F, T, T, F, F
Discussion:
Reference:

13. Graphical presentation of quantitative data are
A) Frequency polygon
B) Histogram
C) Scattered diagram
D) Multiple bar diagram
E) Pie chart
Answer: T, T, T, F, F
Discussion:
Reference:

14. In T-test for statistical analysis
A) Data is qualitative
B) Sample is random
C) Sample size is more than 30
D) Variable is normally distributed
E) Compares two mean
Answer: F, T, T, T, T
Discussion:
Reference:

15. P value <0.5 means
A) Low probability of the result to occur under null hypothesis
B) Result is unlikely to occur out of sampling error
C) Null hypothesis is rejected
D) Result is not significant
E) Result is likely to occur out of by chance
Answer: F, F, F, T, T
Discussion:
Reference:

16. Principal of ethics
A) Justice
B) beneficence
C) Malficience
D) Consent is optional
E) Study can be done among specific ethnic group
Answer: T, T, T, F, F
Discussion:
Reference:

17. Probability sampling includes
A) Quota sampling
B) Simple sampling
C) Systematic sampling
D) Stratified sampling
E) Multi-phase sampling
Answer: F, T, T, T, T
Discussion:
Reference:

18. Quantitative data of continuous type graphically represented by
A) Pie chart
B) Histogram
C) Frequency polygon
D) Line chart
E) Ogive chart
Answer: F, T, T, F, F
Discussion:
Reference:

19. Quantitative variable includes
A) Body weight
B) Hospital pt. number
C) Sex
D) Emotion
E) Age
Answer: T, T, F, F, T
Discussion:
Reference:

20. ST depression on the ECG measured in mm is
A) Categorical type of data
B) Ordinal type of data
C) Qualitative data
D) Quantitative type of data
E) Measured in ratio scale
Answer: F, F, F, T, F
Discussion:
Reference:

21. The followings are the examples of non random sampling
A) SRS sampling
B) Quota sampling
C) Purposive sampling
D) Cluster sampling
E) Snowball sampling
Answer: F, T, T, F, T
Discussion:
Reference:

22. Variable is
A) Character that cannot be measured
B) Can be ordered
C) Can be dependent or independent
D) Discrete variable can take any value
E) A trait that is measurable
Answer: F, T, T, F, T
Discussion:
Reference:

23. What are the properties of median
A) Not affected by extreme values
B) Applicable for nominal/ordinal data
C) Can be obtained from qualitative data
D) Not easy to understand
E) measures of location
Answer: T, T, F, F, T
Discussion:
Reference:

24. Which of the P value indicates significant test
A) 0.1
B) 0.01
C) 0.05
D) Less than 0.05
E) 0.04
Answer: F, T, F, T, T
Discussion:
Reference:

25. A Type II error occurs when the researcher

A) Fail to reject the null hypothesis when it is false.
B) Fail to reject the null hypothesis when it is true.
C) Reject the null hypothesis when it is false.
D) Reject the null hypothesis when it is true
E) Reject alternate hypothesis
Answer: A
Discussion:
Reference:

26. A 05 year study is planned to assess the incidence and etiology of respiratory disease in 500 individual greater than 40 years ate age. The study contain two group: One with pet dog and another without pet dog. At the onset of respiratory symptoms, culture and serologic studies will be performed which one is the best study design here?
A) Case control
B) Case series
C) Clinical trial
D) Cohort
E) Community survey
Answer: D
Discussion:
Reference:

27. A new rapid test is developed for the screening of leptospirosis. Blood from 100 patients was analysed by the gold standard laboratory technique and by the new method. There were 20 positive results with the gold standard technique but there were 40 positive results using the new technique. Retesting of the 40 cases identified by the new technique using the gold standard demonstrated 20 positive and 20 negatives. Approximately which of the following values reflects the positive predictive value of the new technique?
A) 33%
B) 50%
C) 66%
D) 75%
E) 90%
Answer: B
Discussion:
Reference:

28. A new study to diagnose Prostate cancer is being evaluated. The sensitivity of the test is 70percent and the specificity is 90percent. In the study there are 100 patient who truely have UTI and 200 who donot. How many false negatives are in this study?
A) 20
B) 25
C) 30
D) 70
E) 120
Answer: C
Discussion:
Reference: (TP 70, FP 20, FN 30, TN 180)

29. An analysis of the race of patient who visit an emergency room reveals that 40% are white ,25% are black,20% are native American and 15% are Asian .These data would best be depicted graphically with a
A) Venn diagram
B) Cumulative frequency graph
C) Normal curve
D) Histogram
E) Pie chart
Answer: E
Discussion:
Reference:

30. Confounding variable
A) It is influenced by the independent variable

B) It is the effect or output of an exposure variable
C) It influences the dependant variable or outcome variable
D) It is the cause, exposure or input of an outcome variable
E) These variables distort the relationship between independent and dependant variables being independently associated with both
Answer: E
Discussion:
Reference:

31. Example of non-random sampling
A) SRS
B) CLUSTER sampling
C) Snowball
D) Multi-phase
E) Stratified random
Answer: C
Discussion:
Reference:

32. Following test of significance will be used when more than two group are to be compared

A) T test
B) Chi-square test
C) Z test
D) Standard error of proportion
E) Standard error of mean
Answer: B
Discussion:
Reference:

33. Square root of variance
A) Standard deviation
B) Standard error
C) Coefficient of variation
D) Square root of SD
E) Mean
Answer: A
Discussion:
Reference:

34. Studies show that listening to music Whilst studying can improve your memory. To demonstrate this, a researcher obtains a sample of 36 College students and gives them a standard memory test while they listen to some background music. Under normal circumstances (without music) , the mean score obtained 25 with standard deviation is 06. The mean score for the sample after the experiment (with music) is 28. What is the null hypothesis in this case?

A) Listening to music While studying will not impact memory
B) Listening to music While studying may worsen memory
C) Listening to music While studying may improve memory
D) Listening to music While studying will not improve memory but can make it worse
E) Listening to music While studying will not improve memory
Answer: E
Discussion:
Reference:

35. Study design suitable for rare exposure
A) Cohort
B) Case-control
C) Rct
D) Case-series
E) Cross-sectional
Answer: A
Discussion:
Reference:

36. The graphic representation of frequency distribution with variables are marked on X axis and frequency are marked on Y axis is:
A) Histogram
B) Frequency distribution
C) Scatter diagram
D) Bar diagram
E) Pictogram
Answer: A
Discussion:
Reference:

37. The median of the following data is
1,2,4,6,8,10,11,13,35
A) 6
B) 8
C) 7
D) 10
E) 9
Answer: C
Discussion:
Reference:

38. The most frequently occurring number is a set of values called the:
A) Mean
B) Median
C) Mode
D) None
E) Range
Answer: C
Discussion:
Reference:

39. This may be calculated to indicate the value of a test for increasing certainty about a positive diagnosis. It is numerically equal to the sensitivity/(1 – specificity)
A) PPV
B) NPV
C) Likelihood ratio
D) Sensitivity
E) Specificity
Answer: C
Discussion:
Reference:

40. When the standard for accepting the difference was at P-value of 0.05 and calculated value was o0.01, The null hypothesis was rejected by the researcher ,What do you think of results

A) Wrongly rejected
B) Significant difference
C) No difference
D) Alternate hypothesis is wrong
E) Sample size was small
Answer: B
Discussion:
Reference:

41. Which of the following term best fits the definition. The total number of population affected by a disorder at a particular time
A) Incidence
B) Prevalence
C) Validity
D) Reliability
E) Relative risk
Answer: B
Discussion:
Reference:

42. Which of the following can have more than one value
A) The Mean
B) The range
C) The Median
D) The mode
E) Standard deviation
Answer: D
Discussion:
Reference:

43. A normal distribution curve is based on
A) Mean and sample size
B) Mean and standard deviation
C) Range and sample size
D) Range and standard deviation
E) Mean and range
Answer: B
Discussion:
Reference:

44. A publication describes a new diagnostic test for myocardial infarction. You want to know what proportion of patients with a confirmed myocardial infarction will be identified by the test. Which one of the following measurements would indicate this
A) Accuracy
B) Negative predictive value
C) Positive predictive value
D) Sensitivity
E) Specificity
Answer: D
Discussion:
Reference:

45. An investigation gets a positively skewed data on account of having only a small number of simple numerical observation at extremely high values. It will give an over estimate of
A) Mean
B) Median
C) Mode
D) Correlation
E) Modal
Answer: A
Discussion:
Reference:

46. In hypothesis testing: the term used to describe a situation in which we fail to reject the null hypothesis when a difference is really present.
A) Type I error
B) Type II error
C) Risk ratio
D) Bias
E) Minimization
Answer: B
Discussion:
Reference:

47. Which is not the Criteria of good screening test
A) High sensitivity
B) Valid
C) Confirming test available
D) High specificity
E) High risk
Answer: E
Discussion:
Reference: [Ref: ABC research methodology ,3rd edition P-257]

48. Example of ordinal variable
A) Weight
B) Age
C) Sex
D) Marital status
E) Pain
Answer: E
Discussion:
Reference:

49. What is the range for following dataset?14, 23, 9, 12. 21, 18, 8
A) 9
B) 14
C) 15
D) 25
E) 8
Answer: C
Discussion:
Reference: