STA301 Solved Quiz Lec. 1 to 22



1 For any two estimators T1 and T2, if VAR(T1) < VAR(T2), then T1 is:

Consistent
Unbaised
Sufficient
Efficient

2 In a set of 10 values all the values are 5, what will be the P50?

2
5
10
20

3 What is the graphical shape of the chi-square distribution?

Positively skewed
Negatively skewed
Uniformly distributed
Norrmally distributed

4 Which of the following is a characteristic of the normal distribution:

It is a skewed distribution
It is bell-shaped
It is not asymptotic
It is leptokurtic

5 Please choose one
A five number summery consist of :

► 0 1 3 , , , , (97) m X Q Median Q andX Page
► 1 3 0 , , , , m X Q Mean Q and X
► 1 3 0 , , , , m X Q Mode Q and X
► 0 1 2 , , , , m X Q Median Q andX

6 Please choose one
in a multiplication theorem P(A∩B) equals:

►P(A) P(B)
►P(A) + P(B)
►P(A) * P(B|A) (Page 159)
►P(B\A) * P(B)

7 The probability of drawing 'White' ball from a bag containing 4 red , 8 black and 3 white ball is

►0
►3/15
►1/12
►1/2

8 If A and B are mutually exclusive events then P(A or B) equals:

►P(A) + P(B) - P(A and B)

► P(A) * P(B)
► P(A) + P(B) (Page 155)
► P(A|B) + P(B|A)

9 The simultaneous occurrence of two events is called
► Prior probability
► Subjective probability not confirmed
► Conditional probability
► Joint probability

10 First moment about origin is always equals to:
► Mean (Page 119)
► Variance
► Standard Deviation
► Zero

11 Which one of the following measurement does not divide a set of observations into equal parts?
► Quartiles
► Deciles
► Percentiles
► Standard deviations

12 if first and third quartile are 21.16 and 56.36 respectively, then the quartile deviation is:
► 17.1 (Page 84)
► 34.2
► 51.3
► 50.5

13 The height of student is 60 inch. This is an example of……?
► Continues data
► Qualitative data
► Categorical data
► Discrete data

14 Which of the statement is true regarding a sample?
► It is a part of population (Page 13)
► It must contain at least five observations
► It refers to descriptive statistics
► It produces true value

15 Which one of the following graphs is used for a time series data?
► Histogram
► Historigram
► Frequency curve
► Frequency polygon

16 Which of the following comes first to make frequency distribution
► No. of groups
► Class intervals
► Rang (Page 28)

NASIR ACADEMY
DAHRANWALA

► Tally marks

17 The average which is defines as reciprocal of arithmetic mean of the reciprocals of the values is called

► Geometric Mean
► Harmonic mean (Page 77)
► Mode
► Median

18 If a car is running at the rate of 15km/hr during first 30km, at 20km/hr during the second 30, which type of average will be used to find the average speed/hr:

► Weighted mean (Not sure)
► Harmonic mean
► Arithmetic mean
► Geometric mean

19 The probability of drawing a 'jack card 'from 52 playing cards is:

► 1/52
► 4/52
► 13/52
► 26/52

20 If all the values fall on the same straight line and the line has a positive slope then what will be the value of the correlation coefficient 'r':

► $0 \leq r \leq 1$
► $r \geq 0$
► $r = +1$
► $r=-1$

21 If a curve has a longer tail to the right, it is called:

► Positively skewed (Page 39)
► Negatively skewed
► J-shaped
► Symmetric

22 Which one of the following is not included in measures of central tendency?

► Quartile deviation (Page 82)
► Harmonic mean
► Geometric mean
► Arithmetic mean

23 Which of the following is not based on all the observations?

► Arithmetic Mean
► Geometric Mean
► Harmonic mean
► Mode

24 What is the Standard Deviation of 7, 7, 7, 7, 7, 7, 7

►49
►1
►0 (Standard deviation will always be zero if all the values in data are same)

► 7

25 10! =.....

► 362880
► 3628800
► 362280
► 362800

26 If a player well shuffles the pack of 52 playing cards, then the probability of a black card from 52 playing cards is:

► 1/52
► 13/52
► 4/52
► 26/52

27 Which dispersion is used to compare variation of two series?

► C.V. (Page 93)
► Q.D.
► M.D.
► S.D.

28 In a regression line Y= a + bX, the value of the correlation coefficient will be zero if:

► ►Intercept a = 0
► Intercept a ≠ 0
► ►Slope b = 0
► ►Slope b ≠ 0

29 When two coins are tossed the probability of at least one head is:

► 1/4
► 3/4 (HH, HT, TH, TT)
► 2/4
► 4/4

30 In the model Y = mX + a, Y is also known as the:

► Predictor variable
► Independent variable
► Predicted (dependent) variable (Page 121)
► Explanatory variable

31 According to empirical rule approximately 95% of the measurements will fall under which interval?

► X ± S
► X ± 2S correct
► X ±3S
► X ± 4S

32 Which one of the following is written at the top of the table?

► Source note
► Foot note
► Prefatory note
► Title Click here for detail

NASIR ACADEMY DAHRANWALA

33 Which one of the following is the class frequency?

- ► The number of observations in each class
- ► The difference between consecutive lower class limits
- ► Always contains at least 5 observations
- ► Usually a multiple of the lower limit of the first class

34 If X is a discrete random variable, then the function f (x) is

- ► A probability function
- ► A probability density function
- ► A density function
- ► A distribution function (Page 173)

35 If you connect the mid-points of rectangles in a histogram by a series of lines that also touches the x-axis from both ends, what will you get?

- ► Ogive
- ► Frequency polygon
- ► Frequency curve (Page 38)
- ► Historigram

36 If mean of the two observations is 10.5, then median of these two observations will be:

- ► 7.5
- ► 8.5
- ► 9.5
- ► 10.5 (Page 68)

37 Which one is the formula of mid range?

$x_m - x_0$

$x_0 - x_m$

$\frac{x_0 - x_m}{2}$

$\frac{x_0 + x_m}{2}$ (Page 80)

38 For the given data 2, 3, 7, 0, -8 G. M will be:

- ► Negative
- ► Positive
- ► Zero (Page 75)
- ► Undefined

39 Which one is equal to explained variation divided by total variation?

- ► Sum of square due to regression
- ► Coefficient of determinant
- ► Standard error estimate
- ► Coefficient of correlation

40 in the given series 1,2,1,1,2,2,2,3,4,5,3,2,3,1,4,2,3 mode of given is

- ► 4
- ► 3
- ► 1

NASIR ACADEMY DHRANWALA

► 2

41 True for the population,

► it must be large number of values
► It must refer to people
► It is collection of individual objects or measurement (Page 12)
► It is the small part of whole

42 Data arrangement in ascending or descending order

► Array data (Page 47)
► Group data
► Ungroup data
► Raw data

43 What is the main objective of Descriptive statistics?

► To test population properties
► To describe the data we collected
► To infer something about the population
► Making estimate

44 Which measure of central tendency?

► Variation of distribution
► Average of distribution (Page 51)
► Scattering of distribution
► Dispersion of distribution

45 If a=4 b=2 estimate line (i.e y=a+bx) and independent variable has value 3 the value of dependent variable

► 6
► 9
► 10 4+2(3)=10
► 11

46 The number of ways in which 4 books can be arranged

► 4
► 6
► 12
► 24 (Page 142)

47 If we plot paired observed (x,y)=1…….n on graph is called,

► Polygon
► Freasito diagram
► Scatter diagram
► Cumulative frequency diagram

48 The simultaneous occurrence of two events is called

► Descriptive probability
► Subjective probability
► Conditional probability
► Joint probability

NASIR ACADEMY DAHRANWALA

49 Which one is the not measure of dispersion.

- ► The range
- ► 50th percentile
- ► Inter quartile range
- ► Variance

50 In positively skew cure which relation is

- ► The mean, median and mode are equal
- ► Mean is greater then median
- ► Median is greater then mean
- ► Standard deviation must be greater then mean or median

51 When coin tossed we get only

- ►1 outcome
- ►2 outcomes
- ►3 outcomes
- ►4 outcomes

52 When mean is 25 and S.D is 5 then CV is

- ► 100%
- ► 25%
- ► 20%
- ► 10%

53 For a positively skewed distribution m3 will be:

- ► Positive (Page 119)
- ► Negative
- ► Zero
- ► 1

54 When data is labeled to identify an attribute of element, the measurement scale is:

- ► Ordinal (Page 9)
- ► Interval
- ► Nominal
- ► Ratio

55 Suppose the estimated equatio Y^ = 5- 2 has been calculated for a set of data. What is slop of the line:

- ► 0
- ► 2
- ►-2 (Page 121)
- ► 5

56 If P(B|A) = 0.25 and P(A∩B) = 0.20 then P(A) is:

- ► 0.05
- ► 0.80 (Page 159)
- ► 0.95
- ► 0.75

$$P(B \mid A) = \frac{P(A \cap B)}{P(A)}$$
$$= P(A) = \frac{P(A \cap B)}{P(B \mid A)}$$
$$= \frac{0.20}{0.25} = 0.80$$

57 Which branch of statistics deals with the techniques that are used to organize, summarize, and present the data:

- ► Advance statistics

NASIR ACADEMY DHRANWALA

- ► Probability statistics
- ► Descriptive statistics (Page 61)
- ► Inferential statistics

58 In a sample of 800 students in a university, 160, or 20%, are Business majors. Based on the above information, the school's paper reported that "20% of all the students at the university are Business majors." This report is an example of :

- ► A sample
- ► A population
- ► Statistical inference
- ► Descriptive statistics

59 A set that contains all possible outcomes of a system is known as

- ► Finite Set
- ► Infinite Set
- ► Universal Set (Page 134)
- ► No of these

60 If X and Y are independent, then Var(X-Y) is equal to:

- Var(X) -Var(Y)
- Var(X) +Var(Y)
- Var(X +Y)
- Zero

61 Which of the following is the class frequency

- ► The number of observations in each class
- ► The difference between consecutive lower class limits
- ► Always contains at least 5 observations
- ► Usually a multiple of the lower limit of the first class

66 How to construct the class interval:

- ► Divide the class frequencies in half
- ► Divide the class frequency by the number of observations
- ► Find the difference between consecutive lower class limits
- ► Count the number of observations in the class

67 Data in the Population Census Report is:

- ► Ungrouped data (Page 11)
- ► Secondary data
- ► Primary data
- ► Arrayed data

68 What is the range of -2,-3,-5,-10 :

- ►-12 (Page 28)
- ► 8
- ►-8
- ► 2

69 The algebraic sum of deviations from mean is:

- ► Maximum

NASIR ACADEMY PAHRANWALA

► Minimum
► Zero (Page 86)
► Undefined

70 The sum of squares of deviations from mean is:
► Undefined
► Zero
► Maximum
► Minimum

71 Statistic is a numerical quantity, which is calculated from:
► Population
► Sample (Page 7)
► Data
► Observations

72 If any value in the data is zero, then it is not possible to have:
► Harmonic Mean
► Arithmetic Mean
► Median
► Mode

73 For a symmetrical distribution……is equidistance from median:
► X0 and Xm
► Q1 and Q3 (Page 97)
► X0 and Q1
► Xm and Q3

74 Which one of the following measure is not used in 'five number summery':
□ X_0
□ Q_3
□ $\overline{X}$ (Page 97)
□ Q_1

75 If Mean = 25 & S.D is 5 then C.V is
► 100%
► 25%
► 20% (Page 93)
► 10%

76 A coin is tossed 3 times then, the number of sample points ii the sample space is:
► 3
► 8
► 6 (Page 145)
► 4

77 What is the difference between a permutation and a combination:
► In a permutation order is important and in a combination it is not
► In a permutation order is not important and in a combination it is important

NASIR ACADEMY
DHRANWALA

►A combination is based on the classical definition of probability
►A permutation is based on the classical definition of probability

78 What we consider in simple correlation analysis:
►Several independent variables
►Strength of the association between two variables (Page 128)
►Intercept with the X-axis
►Intercept with the Y-axis

79 If all the values fall on the same straight line and the line has a positive slope then what will be the value of the correlation coefficient 'r':
►0 = r = 1
►r = 0
►r = +1 (rep)
►r=-1

80 Which of the following measure of dispersion is least affected by extreme values of observations in a data:
►Range Page 82)
►Quartile deviation
►Mean absolute deviation
►Standard deviation

81 The approximate number of observations in a set of data covered by the interval, Median±Q.D are:
►50 per cent (Page 84)
►68.5 per cent
►95.4 per cent
►99 per cent

82 The dispersion which is calculated from all observed values is:
►Standard deviation (Page 87)
►Quartile deviation
►Rang
►Coefficient of Rang

83 In a set of 20 values all the values are 2, what is the value of Geometric Mean:
►2 (Page 75)
►5
►10
►20

84 In a set of 10 values all the values are 5, what is the value of 5th Decile:
►2
►5
►10
►20

85 If a car is running at the rate of 15km/hr during first 30km, at 20km/hr during the second 30, which type of average will be used to find the average speed/hr:
►W.M
►H.M

NASIR ACADEMY DAHRANWALA

►A.M
►G.M

86 In stem and leaf plot, data is measured on:
►Ratio Scale
►Interval Scale
►Ordinal scale
►Nominal Scale

87 In statistics, we deal with:
►Individuals
►Isolated items
►Aggregates of facts (Page 7)
►Qualitative data

88 Which of the following is a systematic arrangement of data into rows and columns:
►Component bar chart
►Classification
►Tabulation
►Bar chart

89 For any number k ……1, at least 1 – 1/k2 of the data-values fall within k standard deviations of the mean:
►Greater than 1 (Page 97)
►Less than 1
►Greater or equal to 1
►Less or equal to 1

90 When E is an impossible event,then P(E) is:
►0 (Page 146)
►0.5
►1
►2

91 The data for an ogive is found in which distribution:
►A cumulative frequency distribution (Page 43)
►A relative frequency distribution
►A frequency distribution
►A joint frequency distribution

92 Which of the following statements is true regarding a sample:
►It is a part of population (Page 13)
►It must contain at least five observations
►It refers to descriptive statistics
►It produces True value

93 Which level of measurement is required for the median:
►Nominal
►Ordinal
►Interval

NASIR ACADEMY DHARANWALA

►Ratio

94 In a the regression line Y= a + bX+ € the variable which is non-random is:

►X Page 122)

►Y

►Both X and Y

►Neither X nor Y

95 The variable plotted on the horizontal or X-axis in a scatter diagram is called the:

►Scatter variable

►Independent variable

►Dependent variable

►Correlation variable

96 Which is the formula of range:

► $x_m - x_0$ (Page 28)

► $x_0 - x_m$

► $\frac{x_m - x_0}{2}$

► $\frac{x_m + x_0}{2}$

97 The descriptive measure of dispersion that is based on the concept of a deviation about the mean is:

►Range

►Inter quartile range

►Quartile deviation

►Standard deviation

98 Which branch of statistics deals with the techniques that are used to organize, summarize, and present the data:

►Advance statistics

►Probability statistics

►Descriptive statistics

►Inferential statistics

99 A population that can be defined as the aggregate of all the conceivable ways in which a specified event can happen is known as:

►Infinite population

►Finite population

►Concrete population

►Hypothetical population (Page 12)

100 When two dice are rolled, the numbers of possible sample points are:

►6

►12

►24

►36 (6*6=36)

101 The correlation of coefficient lies between :

►0 to 1

► 0 to ∞

►- 1 to +1 (Page 128)
►+1 to ∞

102 Median can be found only when:
►Data is Discrete
►Data is Attributed Data is continuous
►Data is continuous Data is attributed
►Data is arranged (Page 52)

103 From the following observations 2,3,4,5,4,6,4, the mode is:
►2
►3
►4
►5

104 How to construct the class interval:
►Divide the class frequencies in half
►Divide the class frequency by the number of observations
►Find the difference between consecutive lower class limits
►Count the number of observations in the class

105 How many elements are in the sample space of rolling one die:
►6
►12
►24
►36

106 When two coins are tossed the probability of at most one head is:
►1/4
►2/4
►3/4
►4/4

107 In scatter diagram the variable plotted along Y-axis is:
►Independent variable
►Dependent variable
►Any one
►Undefined

108 Positive square root of variance of a distribution is:
►Rang
►Quartile deviation
►Standard deviation (Page 91)
►only (a) &(c)

109 When more values are lying at the start of the distribution, it is a:
►Symmetrical distribution
►Positively skewed
►Negatively skewed
►U shape figure

NASIR ACADEMY DAHRANWALA

110 What is ' m f ' in the formula of mode:

- ▶ First frequency
- ▶ Last frequency
- ▶ Maximum frequency (Page 54)
- ▶ Minimum frequency

111 If median = 7 and Mean = 5, what is the value of 2 Q :

- ▶ 1
- ▶ 3
- ▶ 5
- ▶ 7 (because median = Q2)

112 The probability of drawing a king of spade from a pack of 52 cards is:

- ▶ 1/4
- ▶ 1/13
- ▶ 1/26
- ▶ 1/52

113 When referring to a curve whose longer tail is to the left, you would call it:

- ▶ U shape
- ▶ Skewed to the left (Page 39)
- ▶ Skewed to the right
- ▶ Symmetrical

114 In statistics,we deal with:

- ▶ Individuals
- ▶ Isolated items
- ▶ Aggregates of facts (Page 7)
- ▶ Qualitative data

115 The distribution is mesokurtic if the Moment Coefficient of kurtosis b2 is:

- ▶ Equal to 0
- ▶ Equal to 3
- ▶ Less than 3
- ▶ Greater than 3

116 A histogram consists of a set of adjacent rectangles whose bases are marked off by:

- ▶ Class boundaries (Page 32)
- ▶ Class limits
- ▶ Class marks
- ▶ Class frequency

117 Stem and leaf was introduced by:

- ▶ Francis Galton
- ▶ Friedman
- ▶ John Tukey (Page 47)
- ▶ Pearson

NASIR ACADEMY DAHRANWALA

118 For positively skewed distribution
Mean…….Median…….Mode:

- ▶ =
- ▶ <
- ▶ >
- ▶ ≠

119 For a positively skewed distribution:

- ▶ Mean<Mode<Median
- ▶ Mdian<Mode>Mean
- ▶ Mode>Mean>Median
- ▶ Mean>Median>Mode

120 $^{5}C_{5}$ 5 C Equals :

- ▶ 1
- ▶ 5
- ▶ 10
- ▶ 25

121 If a curve has a longer tail to the right, it is called :

- ▶ Positively skewed (Page 39)
- ▶ negatively skewed
- ▶ J-shaped
- ▶ Symmetric

122 In measures of relative dispersion unit of measurement is:

- ▶ Changed
- ▶ Vanish (Page 82)
- ▶ Does not changed
- ▶ Dependent

123 Data used by an agency which is originally collected by them is :

- ▶ Primary data (Page 11)
- ▶ Raw data
- ▶ Secondary data
- ▶ Grouped data

124 When we toss a coin , we get only:

- ▶ 1 outcome
- ▶ 2 outcomes
- ▶ 3 outcomes
- ▶ 4 outcomes

125 Which of the following is the class frequency

- ▶ The number of observations in each class
- ▶ The difference between consecutive lower class limits
- ▶ Always contains at least 5 observations
- ▶ Usually a multiple of the lower limit of the first class

126 Standard deviation is affected by the change of_____:

NASIR ACADEMY DAHRANWALA

►Origin & scale
►Origin only
►Scale only Click here for detail
►Not origin & scale

127 For a moderately skewed distributions, the approximate percentage of case included between $\bar{X} - 2S$ *and* $\bar{X} + 2S$ is :
►99.7%
►68%
►95% (Page 95)
►50%

128 A die is rolled. What is the probability that the number rolled is greater than 2 and even:
►1/2
►1/3
►2/3 (greater than 2 = 3,4,5,6 = 4 numbers , 4/6=2/3)
►5/6

129 The probability of drawing any one spade card is:
►1/52
►4/52
►13/52
►52/52

130 Which of the following is not the type of frequency curves?
►The symmetrical frequency curve
►The extremely skewed frequency curve
►The U-shaped frequency curve
►Frequency polygon (Page 38)

131 If the third moment about mean is zero 3 (m3 = 0) , then the distribution is:
►Symmetrical
►Negatively skewed
►Positively skewed
►Mesokurtic

NASIR ACADEMY DAHRANWALA