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Sta 301 all quiz lec 1 to 45
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Mr. super .Cool

1. A quantity obtained by applying certain rule or formula is known as
Select correct option:

Estimate
Estimator

2. Criteria to check a point estimator to be good involves
Select correct option:

Consistency
Unbiasedness
Efficiency
Above all pg 258

3. The F-distribution always ranges from:
Select correct option:

0 to 1
0 to -8
-8 to +8
0 to +8

4. 1-a is the probability of .....
Select correct option:

Type 1 error
Rejection region
Acceptance region
Type 2 error

5. Parameter is a ……quantity.
Select correct option:

Constant
Variable

6. To find the estimate of a parameter …….methods are used.
Select correct option:

Two
Three
Four
Many

7. A failing student is passed by an examiner. It is an example of:
Select correct option:

Type I error
Type II error
Correct decision
No information regarding student exams

8. For two mutually exclusive events A and B, P (A) = 0.2 and P (B) = 0.4, then P(AUB) is:
Select correct option:

0.8
0.2
0.6
0.5
P(AUB)=P(A)+p(B)=0.2+0.4=0.6

9. An urn contains 4 red balls and 6 green balls. A sample of 4 balls is selected from the urn without replacement. It is the example of:
Select correct option:

Binomial distribution

Hypergrometric distribution

Poisson distribution

Exponential distribution

10. A standard deck of 52 cards is shuffled. What is the probability of choosing the 5 of diamonds:
Select correct option:

1/5

1/13

5/52

1/52

11. If P(AnB) = 0.12 P (A) = 0.3, find P (B) where 'A' and 'B' are independent:
Select correct option:

0.1

0.2

0.3

0.4
0.3X0.4=0.12
12. The mean deviation of the normal distribution is approximately:
Select correct option:

7/8 of the S.D

4/5 of the S.D

3/4 of the S.D

1/2 of the S.D

13. We use the Poisson approximation to the binomial when:
Select correct option:

p is 0.01 or less & n is 10 or more

p is 0.05 or less & n is 20 or more pg221

p is 0.04 or less & n is 15 or more

p is 0.02 or less & n is 10 or more

14. The conditional probability P (A\B) is:
Select correct option:
P(A n B)/P(B) pg157

P(A n B)/P(A)
P(A U B)/P(B)
P(A U B)/P(A)

15. We use the General Rule of Multiplication to combine:
Select correct option:

Events those are not independent

Mutually exclusive events

Events that total more than 1.00

Events based on subjective probabilities

16. Which statement is NOT CORRECT?
Select correct option:

The sample standard deviation measures variability of our sample values

A larger sample will give answers that vary less from the true value than smaller samples

The sampling distribution describes how our estimate (answer) will vary if a new sample is taken

A large sample size always gives unbiased estimators regardless of how the sample is chosen

17. Probability of an impossible event is always:
Select correct option:
Less than one
Greater than one
Between one and zero
Zero

18. The number of parameters in uniform distribution is (are):
Select correct option:

1
2 pg 224

3
4

19. The probability can never be:
Select correct option:

1
1/2
1
-1/2

20. The conditional probability P (A\B) is:
Select correct option:

P(A n B)/P(B)
P(A n B)/P(A)
P(A U B)/P(B)
P(A U B)/P(A)

21. A random sample of n=25 values gives sample mean 83. Can this sample be regarded as drawn from a normal population with μ= 80 and s= 7? In this question the alternative hypothesis will be:
Select correct option:

H1: μ = 80

H1: μ ? 80

H1: μ > 80

H1: μ <80 pg 278

22. If f(x) is a continuous probability function, then P(X = 2) is:
Select correct option:

1
0
1/2
2

23. The binomial distribution is negatively skewed when:
Select correct option:

p>q pg 214
p<q
p=q
p=q=1/2

24. If we roll three fair dices then the total number of outcomes is:
Select correct option:

6
36
216
1296

6^3=216

25. When we draw the sample with replacement, the probability distribution to be used is:
Select correct option:

Binomial
Hypergeometric
Binomial & hypergeometric pg 219
Poisson

26. The moment ratios of normal distribution come out to be:
Select correct option:

0 and 1
0 and 2
0 and 3 pg 226
0 and 4

27. The probability of an event is always:
Select correct option:

greater than 0
less than 1
between o and 1
greater than 1

28. Symbolically, a conditional probability is:
Select correct option:

P(AB)
P(A/B)
P(A)
P(AUB)

29. Suppose the test scores of 600 students are normally distributed with a mean of 76 and standard deviation of 8. The number of students scoring between 70 and 82 is:
Select correct option:
272
164
260
328

30. If P (A) = 0.3 and P (B) = 0.5, find P (A/B) where 'A' and 'B' are independent:
Select correct option:

0.3
0.5
0.8
0.15

31. An urn contains 4 red balls and 6 green balls. A sample of 4 balls is selected from the urn without replacement. It is the example of:
Select correct option:

Binomial distribution
Hypergrometric distribution
Poisson distribution
Exponential distribution

32. If the second moment ratio is less than 3 the distribution will be:

Select correct option:

Mesokurtic
Leptokurtic
Platykurtic pg 226
None of these

33. For the independent events A and B if P (A) = 0.25, P (B) =0.40 then P (A and B) =……
Select correct option:

0.65
0.1
0.50
0.15
P(A)*P(B)0.25*0.40=0.1

34. A set of possible values that a random variable can assume and their associated probabilities of occurrence are referred to as _____.
Select correct option:
Probability distribution
The expected return
The standard deviation
Coefficient of variation

35. A random variable X has a probability distribution as follows: X | 0 1 2 3 P(X) | 2k 3k 13k 2k What is the possible value of k:
Select correct option:

0.01
0.03
0.05
0.07

36. The probability of drawing any one spade card is:
Select correct option:

4/52

13/52

52/52

37. The function abbreviated to d.f. is also called the.....
Select correct option:

Probability density function
Probability distribution function pg 172
Commutative distribution function
Discrete function

38. Binomial distribution is skewed to the right if:
Select correct option:

p=q
P<q
p>q
p=n

39. A discrete probability function f(x) is always:
Select correct option:

Zero
One pg 172
Negative
Non-negative

40. For a binomial distribution, n= 10 & q= 0.6, the mean of the distribution is:
Select correct option:

0.6
6.0
10
4
P=1-q
1-0.6=0.4,
mean =np10*0.4=4

41. In the FA examination, 24candidates offered Statistics. If the probability of passing the subject be 1/3, what will be the mean of the distribution?

Select correct option:

7
8
6
5

42. The probability that a certain machine will produce a defective item is 1/4. If a random sample of 6 items is taken from the output of this machine, what is the probability that there will be 5 or more defectives in the sample?

Select correct option:

3/4096
18/4096
19/4096
4/4096

43. Probability of type II error is

Select correct option:

a

B pg 276

1-a

1-B

44. **If the values of variables are increasing or decreasing in the same direction then such kind of correlation is referred as**

Select correct option:
Zero Correlation
Perfect Correlation

Positive Correlation
Negative Correlation

45. **The moving averages of the Prices 55,60,65,70 are**
Select correct option:
70, 75
60, 65
65,65
70,60

46. **The best measure of variation is**
Select correct option:
Range
Quartile deviation
Variance
Coefficient of variance

47. **Ms. Christian calculated a correlation coefficient of .75. Which of the following reflects the best interpretation of this?**
Select correct option:
Weak negative.
Strong negative.
Weak positive.
Strong positive.

48. ……use the division of a circle into different sectors. Select correct option:
Line graph
Sector graphs
Frequency Polygon
Conversion Graphs

49. **The measurement of measure of degree of to which any two variables vary together is called**
Select correct option:
Regression Coefficient
Correlation
Both (a) and (b)
None of these

50. Analysis of Variance (ANOVA) is a test for equality of:
Select correct option:
variances
means
proportions
only two parameters

51. **For some data you are given Maximum value = 96 , Minimum Value = 23 , Range = 73, number** of classes selected between 5 and 15 Then class width will be Select correct option:
    15
    8
    5
    All options 1,2 ,3 are possible

52. If strength of the association between X and Y is very weak, then r = ? Select correct option:
    r = - 1
    r = 0
    r = 1
    r = 2

53. The moving averages of the Prices 90,70,30,110 are Select correct option:
    63.33, 70
    73.33, 80
    45.45, 68
    65.50, 75

54. With increase in sample size, distribution tends to be a.....

Select correct option:

Meso kurtic

Normal

Bell shaped

Above all

55. **In the central tendency Mean, Median and Mode**
    Select correct option:
    Mean is better than Median
    Median is better than Mode
    Mean is better than Mode
    All of these are true

56. **The degree to which numerical data tend to spread about an average is called**
    Select correct option:
    The dispersion
    Standard deviation

Correlation
None of these

57. **……..graphs are similar to bar graphs.**
Select correct option:
column
line
conversion
sector

58. **A pattern of variation of a time series that repeats every year is called:**
Select correct option:
Cyclical
Seasonal
Trend
Secular

59. **In the central tendency Mean, Median and Mode**
Select correct option:
Mean is better than Median
Median is better than Mode
Mean is better than Mode
All of these are true

60. **The degree to which numerical data tend to spread about an average is called**
Select correct option:
The dispersion
Standard deviation
Correlation
None of these

61. **……..graphs are similar to bar graphs.**
Select correct option:
column
line

conversion
sector

62. **A pattern of variation of a time series that repeats every year is called:**
Select correct option:
Cyclical
Seasonal
Trend
Secular

63. You have measured the systolic blood pressure of a random sample of 22 employees of a company. A 95% con?dence interval for the mean systolic blood pressure for the employees is computed to be (120,138). Which of the following statements gives a valid interpretation of this interval?

Select correct option:

About 95% of the sample of employees has a systoli

About 95% of the employees in the company have a

If the sampling procedure were repeated many times

If the sampling procedure were repeated many times

64. Assume that a population consists of 7 similar containers having the following weights (km): 9.8, 10.2, 10.4, 9.8, 10.0, 10.2, 9.6 What is the second moment about mean?

Select correct option:

0.262 kg

0.069kg

0.521 kg

0.313kg

65. How many numbers of parameter(s) are in t-distribution?

Select correct option:

0

1 pg 292

2

3

66. With increase in sample size, distribution tends to be a.....

Select correct option:

Meso kurtic

Normal

Bell shaped

Above all

67. F-distribution is a…….. distribution.

Select correct option:

Unimodel pg 312
Bimodal

Discrete

Negatively skewed

68. Which one of the following sampling methods would give unbiased results, if you need to find out the number of people in your town liking vanilla or chocolate ice creams?

Select correct option:

Ask my neighbors

Randomly select a few ice cream shops in town, and

Ask my friends

Ask my classmates

69. A standard deviation obtained from sampling distribution of sample statistics is known as

Select correct option:

Sampling Error

Standard error pg 240

70. **If the regression line: Y= 3+5X meets y-axis at '8' units distance from origin then the value of x-**intercept is

Select correct option:

-(3/5)

3/5

11/5

1

71. Sum of three terms whose mean is equal to 90 is

Select correct option:

270

30

Also 90

None of these

270/3=90

72. FREQUENCY Function calculates how often values occur within a range of values.

Select correct option:

true

False

73. Which of the following correlation coefficients represents the weakest correlation between two variables?

Select correct option:

0.15

-0.15

0.02

-1.00

74. If the value of r is 0.8 ,then the coefficient of determination is

Select correct option:

67%

64%

80%

75%

75. If the dependent variable increases with the independent variable then the coefficient of correlation is

Select correct option:

0 to -1

0 to – 0.5

0 to -2

0 to 1

76. F- distribution tends to normality, if

Select correct option:

V1~8

V2~8

V1 and V2 ~8

Sample size is large

77. Consistency of an estimator can be checked by comparing

Select correct option:

Mean

MSE

Variance

Standard deviation

78. A standardized estimate has mean and variance

Select correct option:

(1, 0)

(0, 1)

(μ, s2)

(μ, s)

79. A composite hypothesis comprises of ……

Select correct option:

Equality

Not equal to

Less than/greater

(b) and (c)

80. For a particular hypothesis test, a=0.05and B=0.05. The power of test is equal to:

Select correct option:

0.14

0.90

0.95

0.25

81. In a t-distribution

Select correct option:

Mean=median=mode
Mean>Median<Mode
Median >Mean>Mode
Media<Mode<Mean

82. If we reject the null hypothesis, we might be making

Select correct option:

Type I error
Type II error
A correct decision
Unpredictable

83. The Central Limit Theorem is important in Statistics because it allows us to use the normal distribution to make inferences concerning the population mean:

Select correct option:

Provided that the population is normally distributed a
Provided that the population is normally distributed (
Provided that the sample size is reasonably large (fo
Provided that the population is normally distributed and the population variance is known (for any sample size)

84. **Herbicide A has been used for years in order to kill a particular type of weed, but an** experiment is to

be conducted in order to see whether a new herbicide, Herbicide B, is more effective than Herbicide A.

Herbicide A will continue to be used unless there is sufficient evidence that Herbicide B is more effective.

The alternative hypothesis in this problem is that

Select correct option:
Herbicide A is more effective than Herbicide B
Herbicide B is more effective than Herbicide A
Herbicide A is not more effective than Herbicide B
Herbicide B is not more effective than Herbicide A

85. A data in which we study about Regions is called ……
Select correct option:
Qualitative
Quantitative
Geographical
Chronological

86. If the median of an arrangement of numbers is equal to the mean of its middle terms then the arrangement contains
Select correct option:
Odd number of terms
Even number of terms
Unlimited number of terms
Prime number

87. If the graph is very much scattered, then what can be the suitable value of r?
Select correct option:
r = - 0.9

r = -0.5
r = 0.1
r=0.8

88. In scatter diagram, clustering of points around a straight line indicates
Select correct option:
Linear regression
Non-linear regression
Curvilinear linear regression
Both a and b

89. If the standard deviation of a population is 9, the population variance is
Select correct option:
3
9
21.35
81

90. How many steps are involved in general procedure for testing hypothesis:
4
5
6
7
91. When testing for independence in a contingency table with 2 rows and 5 columns, there are _____ degrees of freedom.

4
10
7
5
r-1*c-1
2-1*5-1=4

92. The critical region is in:
The middle of a distribution
The tails of a distribution
Either the middle or the tails of a distribution
Neither the middle nor the tails of a distribution

93. t-distribution is used to test the hypothesis about.....
Mean
proportion

The term 1-B is called
Level of the test

power of the test
Size of the test
Critical region

94. The asymptotic distribution of t-statistic with n-degree of freedom is
F
Normal
Z T

95. The Gallup Poll has decided to increase the size of its random sample of Canadian voters from about 1200 people to about 4000 people. The e?ect of this increase is to:
Reduce the bias of the estimate
Increase the standard error of the estimate
Reduce the variability of the estimate
Increase the con?dence interval width for the parameter

96. The value of chi square can never be :
Zero
Less then 1
Greater then 1
Negative

97. The curve of the F- distribution depends upon:

Mean
Variance
Standard Deviation
Sample Size

98. We want to test H0 : μ = 1.5 vs. H1 : μ 6= 1.5 at _= .05 . A 95% confidence interval for μ calculated from a given random sample is (1.4, 3.6)Based on this finding we:

Fail to reject H0
Reject H0
Cannot make any decision at all because the value of the test statistic is not available
Cannot make any decision at all because (1.4, 3.6) is only a 95%

99. When we want to test the equality of two variances we usually use
F-test
Chi-square test
ANOVA
Z_test

100. To find the estimate of a parameter …….methods are used.
Two
Three

Four
Many

101. In testing hypothesis, we always begin it with assuming that:
Null hypothesis is true
Alternative hypothesis is true
Sample size is large
Population is normal

102. t-distribtion is applicable in case of

Independent samples
Dependent samples
Both (a) and (b)
Normal populations

103. **When testing for independence in a contingency table with 3 rows and 4 columns, there are _____ degrees of freedom.**
5
6
7
12

104. The Chi- Square distribution is continuous distribution ranging from:
0 = ?2= 8
-8 =?2 =0
-8 =?2 =1
-8 = ?2= 8

105. The location of the critical region depends upon:
Null hypothesis
Alternative hypothesis
Value of alpha
Value of test-statistic

106. A random sample of n = 6 has the elements 6, 10,13,14,18 and 20. What is the point estimate of the population mean?
12
13.5
11
11.5

107. ML estimators may not ……
Consistent
Efficient
Unbiased
Bised

108. Which of the following reveals the weakest fact.
Select correct option:
The measure of central tendency measures that value which depends only on the extreme values
The measure of central tendency measures that value in tha data which occurs in the data most frequent times.
The measure of central tendency measures the value which has tendency to lie in the central part of the data.

109. The measure of central tendency measures the distance of values from means Frequency polygon is ……
Select correct option:
Bar Charts
A line graph
Pareto Chats
None of these

110. A bar graph uses ……to show data.
Select correct option:
Points
Bars
Lines
Pictures

111. Geographical data deals with…
Select correct option:
Religion
Height
Income
Regions

112. Which one provides the basis for hypothesis testing?
Null hypothesis
Alternative hypothesis
Critical value
Test-statistics

113. The test statistic to test the U1 = U2 (U represent the mean of population)for normal population for n>30.
F-test
Z-test
T-test
Chi-Square test

114. In a t-distribution
Mean=median=mode

Mean>Median<Mode
Median >Mean>Mode
Media<Mode<Mean

115. 1-a is the probability of .....
Type 1 error
Rejection region
Acceptance region
Type 2 error

116. Inferential statistics involves …….
Testing
Confidence interval
Estimation
Above all

117. Probability of type II error is
a
B
1-a
1-B

118. if the equation of regression line is y = 5, then what result will you take out from it?
Select correct option:
The line passes through origin.
The line passes through (5, 0)
The line is parallel to y-axis.
The line is parallel to x-axis.

119. If the estimating equation is Y = a – b X ,Which of the following is true
Select correct option:
a)The y intercept is'b'
b) Slope of line is negative
c) There is inverse relationship
d) b & c

120. The variance of t-distribution, for v >2, is always:
Select correct option:

Greater than zero
Less than one
Equal to one
Greater than one

121. Alpha is the probability of .....
Select correct option:

Rejecting H0
Accepting H0
Rejecting H1
Accepting H1

122. What type of data is collected in population census?
Select correct option:
Two Types

123. The collection of all outcomes for an experiment is called
Select correct option:

a sample space
the intersection of events
joint probability
population

124. Which of the graph is used for a time series data:
Select correct option:

Frequency curve
Frequency polygon
Historigram
Histogram

125. A histogram is consists of a set of adjacent rectangles whose bases are marked off by:
Select correct option:

Class boundaries
Class limits
Class frequency
Class marks

126. The value that has half of the observations above it and half the observations below it is known as:
Select correct option:

Mean
Median
Mode
Standard deviation

127. The height of a student is 60 inches. This is an example of .....?
Select correct option:

Continuous data
Qualitative data
Categorical data
Discrete data

128. Range of the values -2,-3,-4,-3,-9,-2,-8,-1,0 is
Select correct option:

0
-9
8
9
0-9=-9

129. If the both tails of the distribution are equal, then distribution is called:
Select correct option:

J-shaped
Symmetrical
Positively Skewed
Negatively Skewed

130. Ranking scale also include the properties of which scale?
Select correct option:

Nominal scale
Interval scale
Ratio scale
All of these

131. Range of the values -2.50,-3.70,-4.80,-3.10,-9.70,-2.20,-8.90,-1.60, 0.60 is
Select correct option:

10.03
10.30

9.10
9.00
0.60+9.70=10.30

132. What is/are the mode for the following data: 1,m,d,n,,2,d,2,d,s,5,5,7
Select correct option:

2
d
5
2,d,5

133. If the standard deviation of a population is 5.5, the population variance is:
Select correct option:
5.5
31
25
30.25

134. What we commonly called a bell shaped distribution:
Select correct option:
syme
bi moder
u shap
skewed

135. The beginnings of a cumulative frequency distribution are presented below. What is the next number in the Cumulative Frequency column? Classes Frequency Cumulative Frequency 6.1 to 8 1 1 8.1 to 10 2 10.1 to 12 3
Select correct option:

0
1
2
3

136. Range of the values -10,- 19, -9, -15, -28, -26, -25 is:
Select correct option:

+18
-18
-19
+19

137. Which one of the following is less than median for a symmetrical distribution:

Select correct option:

50percentile
51 percentile
2quartile
4decile

138. The value of the middle term in a ranked (ordered) data set is called the
Select correct option:

mode
mean
median
harmonic mean

139. Sum of absolute deviations of the values is least when deviations are taken from
Select correct option:

mean
median
mode
g.m

140. Statistic is a numerical quantity, which is calculated from
Select correct option:

data
observation
sample
population

141. The branch of Statistics that is concerned with the procedures and methodology for obtaining valid conclusions is called:
Select correct option:

descriptive
advance
infernetial
sample

142. How to find the class midpoint?

Select correct option:

Half the sum of upper class limit and lower class limit

Find the difference between consecutive lower limits

Count the number of observations in the class

Divide the class frequency by the number of observ

143. For given data, discuss the shape of the distribution: X f 0.2 8 1.2 15 2.2 23 3.2 40
Select correct option:
Positively skewed
Negatively skewed
Symmetric curve
U- Shaped curve

144. Data classified by attributes are called:
Select correct option:

group
qulitative
quantitive
array

if '2' is a leading digit in 24335, than what are the trailing digits in the observation to display a 'Stem-and –Leaf display'.

Select correct option:

4
335
4335
43

145. A frequency polygon is obtained by plotting the class frequencies against what?
Select correct option:

classbounday
cumulative frequency
relative frequency

mid point

146. When more values are lying at the start of the distribution, it is:
Select correct option:

u shape
positive
negative
symmetrica

147. **The data for an ogive is found in which distribution:**
Select correct option:
A cumulative frequency distribution
A joint frequency distribution
A frequency distribution
A relative frequency distribution

148. **Which one of the following is greater than median for a symmetrical distribution:**
Select correct option:
1st Decile
7th Decile
44th Percentile
14th Percentile

149. Statistics deals with
Select correct option:
Individuals
Isolated items
Isolated items
Aggregates of facts

150. Data classified by attributes are called:

Select correct option:
Grouped data
Qualitative data
Quantitative data
Arrayed data

151. As a general rule, statisticians tends to use which of the following number of classes when arranging the data

Select correct option:

Fewer than 5

Between 5 & 20
Between 8 & 15
More than 20

152. The collection of all outcomes for an experiment is called
Select correct option:

a sample space
the intersection of events
joint probability
population

153. **If P (E) is the probability that an event will occur, which of the following must be false:**
Select correct option:
P(E)= - 1
P(E)=1
P(E)=1/2
P(E)=1/3

154. **If we roll a die then probability of getting a '2' will be**
Select correct option:
2/6
1/6
4/6
1

155. **In a multiplication theorem P (A n B) equals:**
Select correct option:
P (A) P (B)
P (A) + P (B)
P (A) * P (B|A) pg 158
P(B\A)*P(B)

156. If Y=3X+5,then S.D of Y is equal to
Select correct option:
9 s.d(x)
3 s.d(x)
s.d(x)+5
3s.d(x)+5

157. In regression line Y=a+bX, X is called:
Select correct option:
Dependent variable
Independent variable

Explained variable
Regressand

158. **Symbolically, a marginal probability is:**
Select correct option:
P(AB)
P(AUB)
P(A/B)
P(A)

159. **Which formula represents the probability of the complement of event A:**
Select correct option:
1 + P (A)
1 - P (A)
P (A)
P (A) -1

160. If A and B are independent events with P(A) = 0.05 and P(B) = 0.65, then P(A|B) = :
Select correct option:
0.65
0.05
0.03
0.07 not sure

161. The probability of drawing a 'white' ball from a bag containing 4 red, 8 black and 3 white balls is:
Select correct option:
0
3/15
1/12
1/2
Total ball= 4+8+3=15
P=3/15

162. **An expected value of a random variable is equal to:**
Select correct option:
Variance
Mean
Standard deviation
Quartile

163. When we toss a fair coin 4 times, the sample space consists of….points.

Select correct option:

4

8

12

16

164. **5C5=**

Select correct option:

5

1

10

25

165. In a probability distribution, the sum of the probabilities is equal to:

Select correct option:

0

0.1

0.5

1

166. **The simultaneous occurrence of two events is called:**

Select correct option:

Joint probability

Subjective probability

Prior probability

Conditional probability

167. **Let E and F be events associated with the same experiment. Suppose the E and F are independent and that P(E) = 1/4 and P(F) = 1/2 Then P(E U F) is:**

Select correct option:

1/8

3/4

7/8

5/8

¼+1/2=3/4