



STA301- Statistics and Probability

Composed By Faheem Saqib

A Mega File for MiD Term Papers & Quizzes

For more Help Rep At

Faheem_saqib2003@yahoo.com

Faheem.saqib2003@gmail.com

0334-6034849

MIDTERM EXAMINATION

Spring 2010

STA301- Statistics and Probability (Session - 4)

Ref No: 1514379

Time: 60 min

Marks: 40

Student Info	
StudentID:	MC090407150
Center:	OPKST
ExamDate:	5/30/2010 12:00:00 AM

Question No: 1 (Marks: 1) - Please choose one

10! =.....

- ▶ 362880
- ▶ **3628800**
- ▶ 362280
- ▶ 362800

Question No: 2 (Marks: 1) - Please choose one

If a player well shuffles the pack of 52 playing card, then the probability of a black card

from 52 playing cards is:

$\frac{1}{52}$



$\frac{13}{52}$

$\frac{4}{52}$



$\frac{26}{52}$



Question No: 3 (Marks: 1) - Please choose one

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

$\frac{1}{52}$



$\frac{4}{52}$

$\frac{13}{52}$



$\frac{26}{52}$



Question No: 4 (Marks: 1) - Please choose one

Which dispersion is used to compare variation of two series:

▶ C.V.

Q.D.

▶ M.D.

▶ S.D.

Question No: 5 (Marks: 1) - Please choose one

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':

▶ $0 \leq r \leq 1$

▶ $r \geq 0$

$r = +1$

▶ $r = -1$

Question No: 6 (Marks: 1) - Please choose one

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

▶ **Intercept $a = 0$**

▶ Intercept $a \neq 0$

▶ Slope $b = 0$

▶ Slope $b \neq 0$

Question No: 7 (Marks: 1) - Please choose one

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

▶ $1/4$

▶ **$3/4$**

▶ $2/4$

▶ $4/4$

Question No: 8 (Marks: 1) - Please choose one

Which one of the following measurement does *not* divide a set of observations into equal parts?

▶ quartiles

▶ deciles

▶ percentiles

▶ **standard deviations**

Question No: 9 (Marks: 1) - Please choose one

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

▶ Predictor variable

▶ Independent variable

▶ **Predicted variable**

▶ Explanatory variable

Question No: 10 (Marks: 1) - Please choose one

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

▶ $\bar{X} \pm S$

▶ **$\bar{X} \pm 2S$**

▶ $\bar{X} \pm 3S$

▶ $\bar{X} \pm 4S$

Question No: 11 (Marks: 1) - Please choose one

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

- ▶ Source note
- ▶ Foot note
- ▶ Prefatory note
- ▶ **Title**

Question No: 12 (Marks: 1) - Please choose one

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

- ▶ **Positively skewed**
- ▶ Negatively skewed
- ▶ J-shaped
- ▶ Symmetric

Question No: 13 (Marks: 1) - Please choose one

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

Question No: 14 (Marks: 1) - Please choose one

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**

Question No: 15 (Marks: 1) - Please choose one

Which one of the following graphs is used for a time series data?

- ▶ **Histogram**

- ▶ Histogram
- ▶ Frequency curve

- ▶ Frequency polygon

Question No: 16 (Marks: 1) - Please choose one

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**
- ▶ Histogram

Question No: 17 (Marks: 1) - Please choose one

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**

Question No: 18 (Marks: 1) - Please choose one

Which one is the formula of mid range:

- ▶ $x_m - x_0$
- ▶ $x_0 - x_m$
- ▶ $\frac{x_0 - x_m}{2}$
- ▶ **$\frac{x_0 + x_m}{2}$**
- ▶ $x_0 + x_m$

Question No: 19 (Marks: 1) - Please choose one

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

- ▶ **Quartile deviation**
- ▶ Harmonic mean
- ▶ Geometric mean

▶ Arithmetic mean

Question No: 20 (Marks: 1) - Please choose one

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

- ▶ Negative
- ▶ Positive
- ▶ Zero
- ▶ **Undefined**

Question No: 21 (Marks: 2)

Why measure of central tendency and measure of dispersion are complementary to each other?

Question No: 22 (Marks: 2)

What do you know about discrete random variable?

Ans:

Such a numerical quantity whose value is determined by the value of a random experiment is called a random variable.

Example:

If we toss three dice together and let X represents the number of heads, then the random variable X consists of the value 0, 1, 2, and 3. the X in this example is a discrete random variable.

Question No: 23 (Marks: 3)

What is the subjective approach to the probability?

Ans:

Subjective probability is a measure of the strength of a person's belief regarding the occurrence of an event A. Probability in this sense is purely subjective and is based on whatever evidence is available to the individual.

It has a disadvantage that 2 or more persons faced with the same evidence may arrive at different probabilities.

Example:

Suppose a panel of three judges is hearing a trial. It is possible that based on the

evidence that is presented, two of them arrive at the conclusion that the accused is guilty while one of them decides that the evidence is not strong to draw this conclusion.

Question No: 24 (Marks: 3)

Explain the difference between absolute dispersion and relative dispersion:

Ans:

Question No: 25 (Marks: 5)

Differentiate between the mutually exclusive events and exhaustive events.

Mutually Exclusive Events

Two events A and B of a single experiment are said to be mutually exclusive if and only if they can't both occur at the same time.

Example:

When a die is rolled, the events 'even number' and odd number are mutually exclusive as we can get either an even number or an odd number in one throw, not both at the same time.

Exhaustive Events:

Events are said to be collectively exhaustive, when the union of mutually exclusive events is equal to the entire sample space S.

Examples

In the coin tossing experiment, head and tail are collectively exhaustive events.

Question No: 26 (Marks: 5)

Find the first two moments about mean from the following data.

X= 34, 70, 42, 54, 40, 68, 56, 38, 36, 72

MIDTERM EXAMINATION

Spring 2009

STA301- Statistics and Probability (Session - 6)

Time: 60 min

Marks: 38

Question No: 1 (Marks: 1) - Please choose one

For a positively skewed distribution m_3 will be:

▶ Positive

▶ Negative

▶ Zero

▶ 1

Question No: 2 (Marks: 1) - Please choose one

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

▶ Ordinal

▶ Interval

▶ Nominal

▶ Ratio

Question No: 3 (Marks: 1) - Please choose one

Suppose the estimated equation is _____ has been calculated for a set of data. What is slope of the line:

▶ 0

▶ 2

▶ -2

▶ 5

Question No: 4 (Marks: 1) - Please choose one

If $P(B|A) = 0.25$ and _____, then $P(A)$ is:

▶ 0.05

▶ 0.80

▶ 0.95

▶ 0.75

Question No: 5 (Marks: 1) - Please choose one

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

Question No: 6 (Marks: 1) - Please choose one

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

▶ Sstatistical inference

▶ Descriptive statistics

Question No: 7 (Marks: 1) - Please choose one

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

▶ Finite Set

▶ Infinite Set

▶ Universal Set

▶ No of these

Question No: 8 (Marks: 1) - Please choose one

If X and Y are independent, then $\text{Var}(X-Y)$ is equal to:

▶

▶

▶

▶ Zero

Question No: 9 (Marks: 1) - Please choose one

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

Question No: 10 (Marks: 1) - Please choose one

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

Question No: 11 (Marks: 1) - Please choose one

Data in the Population Census Report is:

▶ Ungrouped data

▶ Secondary data

▶ Primary data

▶ Arrayed data

Question No: 12 (Marks: 1) - Please choose one

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

▶ -12

▶ 8

▶ -8

▶ 2

Question No: 13 (Marks: 1) - Please choose one

The algebraic sum of deviations from mean is:

▶ Maximum

▶ Minimum

▶ Zero

▶ Undefined

Question No: 14 (Marks: 1) - Please choose one

The sum of squares of deviations from mean is:

- ▶ Undefined
- ▶ Zero
- ▶ Maximum
- ▶ Minimum

Question No: 15 (Marks: 1) - Please choose one

Statistic is a numerical quantity, which is calculated from:

- ▶ Population
- ▶ Sample
- ▶ Data
- ▶ Observations

Question No: 16 (Marks: 1) - Please choose one

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

- ▶ Arithmetic Mean
- ▶ Geometric Mean
- ▶ Harmonic mean
- ▶ Mode

Question No: 17 (Marks: 1)

Elaborate the word dispersion.

We can say that the degree of scatter of data, usually about an average value, can be the median.

Question No: 18 (Marks: 1)

Define population.

We can define population is the collection of individuals or objects having some common measurable characteristics.

Question No: 19 (Marks: 2)

What does mean by the independence of two events:

We can define independence of two events are statistically independent if the probability of their occurring jointly equals the product of their respective probabilities. Independence of two events also know as stochastic independence.

Question No: 20 (Marks: 3)

The reciprocal of the values are

0.012, 0.0235, 0.0135

Calculate Harmonic Mean

Harmonic mean is 250.037

Question No: 21 (Marks: 5)

The probability that a student passes mathematics is $\frac{2}{3}$ and the probability that he passes English is $\frac{4}{9}$. If the probability of passing at least one course is $\frac{4}{5}$, what is the probability that he will pass both courses?

Math= $\frac{2}{3}$

English= $\frac{4}{9}$

Least one passing probability= $\frac{4}{5}$

Math + English = $\frac{2}{3} + \frac{4}{9}$

$$=1.11$$

$$4/5+1.11$$

$$=1.911$$

Question No: 22 (Marks: 10)

A pair of dice is thrown, then

1) Find the sample space for this experiment

Suppose if A and B is the pair of dice then lets try to find out how many result we can find

- A hit first
- B Hit first
- B hit Second
- A Hit Second
- Both Hit Equally
- Both didn't Hit

2) Determine the probability of getting the sum 8 on the dice

3) Find the probability of getting sum 7 or 11

Question No: 1 (Marks: 1) - Please choose one

For a particular data the value of Pearson's coefficient of skewness is greater than zero. What will be the shape of distribution?

- ▶ **Negatively skewed**
- ▶ J-shaped
- ▶ Symmetrical
- ▶ Positively skewed

Question No: 2 (Marks: 1) - Please choose one

In measures of relative dispersion unit of measurement is:

- ▶ **Changed**
- ▶ Vanish
- ▶ Does not changed
- ▶ Dependent

Question No: 3 (Marks: 1) - Please choose one

The F-distribution always ranges from:

- ▶ 0 to 1
- ▶ 0 to $-\infty$
- ▶ $-\infty$ to $+\infty$
- ▶ **0 to $+\infty$**

Question No: 4 (Marks: 1) - Please choose one

In chi-square test of independence the degrees of freedom are:

- ▶ **n - p**
- ▶ n - p-1
- ▶ n - p- 2
- ▶ n - 2

Question No: 5 (Marks: 1) - Please choose one

The Chi- Square distribution is continuous distribution ranging from:

- ▶ $-\infty \leq \chi^2 \leq \infty$
- ▶ $-\infty \leq \chi^2 \leq 1$
- ▶ $-\infty \leq \chi^2 \leq 0$
- ▶ **$0 \leq \chi^2 \leq \infty$ 348**

Question No: 6 (Marks: 1) - Please choose one

If X and Y are random variables, then $E(X - Y)$ is equal to:

- ▶ $E(X) + E(Y)$
- ▶ $E(X) - E(Y)$
- ▶ $X - E(Y)$
- ▶ $E(X) - Y$ answr

Question No: 7 (Marks: 1) - Please choose one

If \hat{y} is the predicted value for a given x-value and b is the y-intercept then the equation of a regression line for an independent variable x and a dependent variable y is:

- ▶ $\hat{y} = mx + b$, where m = slope
- ▶ $x = \hat{y} + mb$, where m = slope
- ▶ $\hat{y} = x/m + b$, where m = slope
- ▶ $\hat{y} = x + mb$, where m = slope

Question No: 8 (Marks: 1) - Please choose one

The location of the critical region depends upon:

- ▶ **Null hypothesis**
- ▶ Alternative hypothesis
- ▶ Value of alpha
- ▶ Value of test-statistic

Question No: 9 (Marks: 1) - Please choose one

The variance of the t-distribution is give by the formula:

- ▶ $\sigma^2 = \sqrt{\frac{v}{v-2}}$
- ▶ $\sigma^2 = \frac{v^2}{v-2}$
- ▶ $\sigma^2 = \frac{v}{v-1}$
- ▶

$$\sigma^2 = \frac{v}{v-2}$$

Question No: 10 (Marks: 1) - Please choose one

Which one is the correct formula for finding desired sample size?

$$n = \left(\frac{Z_{\alpha/2} \cdot \sigma}{e} \right)^2$$

$$n = \left(\frac{Z_{\alpha/2} \cdot \sqrt{\sigma}}{e} \right)^2$$

$$n = \left(\frac{Z_{\alpha/2} \cdot \bar{X}}{e} \right)^2$$

$$n = \frac{Z_{\alpha/2} \cdot \sigma}{e}$$

Question No: 11 (Marks: 1) - Please choose one

A discrete probability function $f(x)$ is always:

- ▶ Non-negative
- ▶ Negative
- ▶ **One**
- ▶ Zero

Question No: 12 (Marks: 1) - Please choose one

$E(4X + 5) =$ _____

- ▶ $12 E (X)$
- ▶ $4 E (X) + 5$
- ▶ $16 E (X) + 5$
- ▶ $16 E (X)$

Question No: 13 (Marks: 1) - Please choose one

How $P(X + Y < 1)$ can be find:

- ▶ $f(0, 0) + f(0, 1) + f(1, 2)$
- ▶ $f(2, 0) + f(0, 1) + f(1, 0)$
- ▶ $f(0, 0) + f(1, 1) + f(1, 0)$
- ▶ $f(0, 0) + f(0, 1) + f(1, 0)$

Question No: 14 (Marks: 1) - Please choose one

The $f(x|1) =$ _____:

- ▶ $f(1,1)$
- ▶ $f(x,1)$
- ▶ $\frac{f(x,1)}{h(1)}$
- ▶ $\frac{f(x,1)}{h(x)}$
- ▶

Question No: 15 (Marks: 1) - Please choose one

The area under a normal curve between 0 and -1.75 is

- ▶ .0401
- ▶ .5500

- ▶ .4599
- ▶ .9599

Question No: 16 (Marks: 1) - Please choose one

In normal distribution M.D. =

- ▶ **0.5 σ**
- ▶ 0.75 σ
- ▶ 0.7979 σ
- ▶ 0.6445 σ

Question No: 17 (Marks: 1) - Please choose one

In an ANOVA test there are 5 observations in each of three treatments. The degrees of freedom in the numerator and denominator respectively are.....

- ▶ 2, 4
- ▶ 3, 15
- ▶ 3, 12
- ▶ **2, 12**

Question No: 18 (Marks: 1) - Please choose one

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

- ▶ Finite Set
- ▶ Infinite Set
- ▶ Universal Set
- ▶ **No of these**

Question No: 19 (Marks: 1) - Please choose one

Stem and leaf is more informative when data is :

- ▶ Equal to 100
- ▶ Greater Than 100
- ▶ Less than 100
- ▶ **In all situations**

Question No: 20 (Marks: 1) - Please choose one

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 populatio**

Sta 301 solved quiz
plz make sure all the answers are correct

Question # 1 of 10 (Start time: 11:13:38 AM) Total Marks: 1

Which of the following statements about confidence intervals is inaccurate?

Select correct option:

If we keep the sample size fixed, the confidence interval
A confidence interval for a mean always contains the
If we keep the confidence coefficient fixed, the confidence interval
If the population standard deviation increases, the confidence interval

Quiz Start Time: 11:13 AM

Time Left 80

sec(s)

Question # 2 of 10 (Start time: 11:14:06 AM) Total Marks: 1

Probability of type II error is

Select correct option:

a

B

1-a

1-B

Quiz Start Time: 11:13 AM

Time Left 79

sec(s)

Question # 3 of 10 (Start time: 11:14:31 AM) Total Marks: 1

A random sample of $n=25$ values gives sample mean 83. Can this sample be regarded as drawn from a normal

population with $\mu = 80$ and $s = 7$? In this question the alternative hypothesis will be: <http://www.vustudents.net>

Select correct option:

H1: $\mu = 80$

H1: $\mu \neq 80$

H1: $\mu > 80$

H1: $\mu < 80$

Quiz Start Time: 11:13 AM

Time Left 72

sec(s)

Question # 4 of 10 (Start time: 11:15:08 AM) Total Marks: 1

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

Select correct option:

Meso kurtic

Normal

Bell shaped

Above all

Quiz Start Time: 11:13 AM

Time Left 88

sec(s)

Question # 5 of 10 (Start time: 11:15:49 AM) Total Marks: 1

You have measured the systolic blood pressure of a random sample of 22 employees of a company. A 95% confidence 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

Quiz Start Time: 11:13 AM

Time Left 82

sec(s)

Question # 6 of 10 (Start time: 11:16:13 AM) Total Marks: 1

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

Select correct option: <http://www.vustudents.net>

0.262 kg

0.069kg

0.521 kg

0.313kg

Quiz Start Time: 11:13 AM

Time Left 86

sec(s)

Question # 7 of 10 (Start time: 11:16:35 AM) Total Marks: 1

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

Select correct option:

0

1

2

3

Quiz Start Time: 11:13 AM

Time Left 88

sec(s)

Question # 8 of 10 (Start time: 11:17:00 AM) Total Marks: 1

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

Select correct option:

Meso kurtic

Normal

Bell shaped

Above all

Quiz Start Time: 11:13 AM

Time Left 87

sec(s)

Question # 9 of 10 (Start time: 11:17:14 AM) Total Marks: 1

F-distribution is a..... distribution.

Select correct option:

Unimodel

Bimodal

Discrete

Negatively skewed

Quiz Start Time: 11:13 AM

Time Left 86

sec(s)

Question # 10 of 10 (Start time: 11:17:29 AM) Total Marks: 1

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

<http://www.vustudents.net>

Question # 1 of 10 (Start time: 11:22:56 AM) Total Marks: 1

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

Select correct option:

Sampling Error

Standard error

Question # 2 of 10 (Start time: 11:23:07 AM) Total Marks: 1

F- distribution tends to normality, if

Select correct option:

$V_1 \sim 8$

$V_2 \sim 8$

V_1 and $V_2 \sim 8$

Sample size is large

plz tell the logic or link you have watched it

Time Left 88

sec(s)

Question # 3 of 10 (Start time: 11:23:14 AM) Total Marks: 1

Consistency of an estimator can be checked by comparing

Select correct option:

Mean

MSE

Variance

Standard deviation

Time Left 88
sec(s)

Question # 4 of 10 (Start time: 11:23:22 AM) Total Marks: 1

A standardized estimate has mean and variance

Select correct option:

(1, 0)

(0, 1)

(μ , s^2)

(μ , s)

plz tell the logic or link you watched it

Time Left 89
sec(s)

Question # 5 of 10 (Start time: 11:23:31 AM) Total Marks: 1

A composite hypothesis comprises of

Select correct option:

Equality

Not equal to

Less than/greater

(b) and (c)

Time Left 89
sec(s)

Question # 6 of 10 (Start time: 11:23:39 AM) Total Marks: 1

For a particular hypothesis test, $\alpha=0.05$ and $\beta=0.05$. The power of

test is equal to:

Select correct option:

0.14

0.90

0.95

0.25

Time Left 86

sec(s)

Question # 7 of 10 (Start time: 11:23:47 AM) Total Marks: 1

In a t-distribution

Select correct option:

Mean=median=mode

Mean>Median<Mode

Median >Mean>Mode

Media<Mode<Mean

Time Left 69

sec(s)

Question # 8 of 10 (Start time: 11:24:18 AM) Total Marks: 1

If we reject the null hypothesis, we might be making

Select correct option:

Type I error

Type II error

A correct decision

Unpredictable

sec(s)

Question # 9 of 10 (Start time: 11:24:49 AM) Total Marks: 1

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 a

Question # 10 of 10 (Start time: 11:25:08 AM) Total Marks: 1

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:

(1)Herbicide A is more effective than Herbicide B

(2)Herbicide B is more effective than Herbicide A

(3)Herbicide A is not more effective than Herbicide B

(4)Herbicide B is not more effective than Herbicide A

STA301 Qezz no 1

<http://www.vustudents.net>

Quiz Start Time: 05:01 PM

Time Left 81

sec(s)

Question # 1 of 10 (Start time: 05:01:05 PM) Total Marks: 1

What type of data is collected in population census?

Select correct option:

Two Types

Quiz Start Time: 05:01 PM Time Left 77

sec(s)

Question # 2 of 10 (Start time: 05:04:05 PM) Total Marks: 1

The collection of all outcomes for an experiment is called

Select correct option:

a sample space

the intersection of events

joint probability

population

Quiz Start Time: 05:01 PM Time Left 75

sec(s)

Question # 3 of 10 (Start time: 05:04:51 PM) Total Marks: 1

Which of the graph is used for a time series data:

Select correct option:

Frequency curve

Frequency polygon

Historigram

Histogram (not sure)

Quiz Start Time: 05:01 PM Time Left 47

sec(s)

Question # 4 of 10 (Start time: 05:06:06 PM) Total Marks: 1

A histogram is consists of a set of adjacent rectangles whose bases are

marked off by:

Select correct option: <http://www.vustudents.net>

Class boundaries

Class limits

Class frequency

Class marks

Quiz Start Time: 05:01 PM Time Left 72
sec(s)

Question # 5 of 10 (Start time: 05:06:56 PM) Total Marks: 1
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

Quiz Start Time: 05:01 PM Time Left 57
sec(s)

Question # 6 of 10 (Start time: 05:07:24 PM) Total Marks: 1
The height of a student is 60 inches. This is an example of?
Select correct option:

Continuous data

Qualitative data

Categorical data

Discrete data

Quiz Start Time: 05:01 PM Time Left 47

sec(s)

Question # 7 of 10 (Start time: 05:08:06 PM) Total Marks: 1

Range of the values -2,-3,-4,-3,-9,-2,-8,-1,0 is

Select correct option:

0

-9

8

9

Quiz Start Time: 05:01 PM Time Left 70

sec(s)

<http://www.vustudents.net>

Question # 8 of 10 (Start time: 05:09:26 PM) Total Marks: 1

If the both tails of the distribution are equal, then distribution is called:

Select correct option:

J-shaped

Symmetrical

Positively Skewed

Negatively Skewed

Quiz Start Time: 05:01 PM Time Left 41

sec(s)

Question # 9 of 10 (Start time: 05:09:54 PM) Total Marks: 1

Ranking scale also include the properties of which scale?

Select correct option:

Nominal scale

Interval scale
Ratio scale
All of these

Quiz Start Time: 05:01 PM Time Left 31
sec(s)

Question # 10 of 10 (Start time: 05:10:56 PM) Total Marks: 1
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

The following data shows the number of hours worked by 200 statistics students. Number of Hours Frequency 0 - 9 40 10 - 19 50 20 - 29 70 30 - 39 40 What is its class interval?
9
10
11
5

1- Hypothesis refers to

- A. The outcome of an experiment
- B. A conclusion drawn from an experiment
- C. A form of bias in which the subject tries to outguess the experimenter
- D. A tentative statement about the relationship**

2- Statistics is used by researchers to

- A. Analyze the empirical data collected in a study**
- B. Make their findings sound better
- C. Operationally define their variables
- D. Ensure the study comes out the way it was intended

3- A literature review requires

- A. Planning
- B. Good & clear writing
- C. Lot of rewriting
- D. All of the above**

4- A literature review is based on the assumption that

- A. Copy from the work of others
- B. Knowledge accumulates and learns from the work of others**
- C. Knowledge disaccumulates
- D. None of the above option

5- A theoretical framework

- A. Elaborates the r/s among the variables
- B. Explains the logic underlying these r/s
- C. Describes the nature and direction of the r/s
- D. All of the above**

6- Which of the following statement is not true?

- A. A research proposal is a document that presents a plan for a project
- B. A research proposal shows that the researcher is capable of successfully conducting the proposed research project
- C. A research proposal is an unorganized and unplanned project**
- D. A research proposal is just like a research report and written before the research project

7- Preliminary data collection is a part of the

Research Method (STA 630)

Success Objectives

- A. Descriptive research
- B. Exploratory research**
- C. Applied research
- D. Explanatory research

8- Conducting surveys is the most common method of generating

- A. Primary data**
- B. Secondary data
- C. Qualitative data
- D. None of the above

9- After identifying the important variables and establishing the logical reasoning in theoretical framework, the next step in the research process is

- A. To conduct surveys
- B. To generate the hypothesis**
- C. To focus group discussions
- D. To use experiments in an investigation

10- The appropriate analytical technique is determined by

- A. The research design
- B. Nature of the data collected
- C. Nature of the hypothesis
- D. Both A & B**

11- Personal interviews conducted in shopping malls are known as:

- a. Mall interviews
- b. Mall intercept interviews**
- c. Brief interviews
- d. None of the given options

12-WATS lines provided by long distance telephone service at fixed rates. In this regard, WATS is the abbreviation of:

- e. West Africa Theological Seminary
- f. Washtenaw Area Transportation Study
- g. Wide Area Telecommunications Service**
- h. World Air Transport Statistics

13-A list of questions which is handed over to the respondent, who reads the questions and records the answers himself is known as the:

- i. Interview schedule
- j. Questionnaire**
- k. Interview guide
- l. All of the given options

14-One of the most critical stages in the survey research process is:

- m. Research design
- n. Questionnaire design**
- o. Interview design
- p. Survey design

Research Method (STA 630)

Success Objectives

15-Question that consists of two or more questions joined together is called a:

- q. Double barreled question**

- r. General question
- s. Accurate question
- t. Confusing question

16-The number of questionnaires returned or completed divided by the total number of eligible people who were contacted or asked to participate in the survey is called the:

- u. Response rate**
- v. Participation rate
- w. Inflation rate
- x. None of the given options

17-To obtain the freest opinion of the respondent, when we ask general question before a specific question then this procedure is called as the:

- y. Research technique
- z. Qualitative technique
- aa. Funnel technique**
- bb. Quantitative technique

18-A small scale trial run of a particular component is known as:

- cc. Pilot testing
- dd. Pre-testing
- ee. Lab experiments
- ff. Both A & B**

18-Field testing of the questionnaire shows that:

- gg. Respondents are willing to co-operate**
- hh. Respondents are not willing to co-operate
- ii. Respondents do not like any participation
- jj. All of the given options

19- Service evaluation of hotels and restaurants can be done by the:

- kk. Self-administered questionnaires**
- ll. Office assistant
- mm. Manager
- nn. None of the given options

20- Service evaluation of hotels and restaurants can be done by the:

- oo. Self-administered questionnaires**
- pp. Office assistant
- qq. Manager
- rr. None of the given options

21-Discrete variable is also called.....

- A. Categorical variable
- B. Discontinuous variable
- C. Both A & B**
- D. None of the above

22-“Officers in my organization have higher than average level of commitment” Such a hypothesis is an example of.....

- A. Descriptive Hypothesis**
- B. Directional Hypothesis
- C. Relational Hypothesis
- D. All of the above

23-‘Science’ refers to.....

- A. A system for producing knowledge
- B. The knowledge produced by a system
- C. Both A & B**
- D. None of the above

24-Which one of the following is not a characteristic of scientific method?

- A. Deterministic
- B. Rationalism
- C. Empirical
- D. **Abstraction**

25-The theoretical framework discusses the interrelationships among the.....

- A. **Variables**
- B. Hypothesis
- C. Concept
- D. Theory

26-.....research is based on naturalism.

- A. **Field research**
- B. Descriptive research
- C. Basic research
- D. Applied research

27-Personal interviews conducted in shopping malls are known as.....

- E. Mall interviews
- F. **Mall intercept interviews**
- G. Brief interviews
- H. None of the given options

28- is used to obtain the freest opinion of the respondent, by asking general question before a specific question.

- I. Research technique
- J. Qualitative technique
- K. **Funnel technique**
- L. Quantitative technique

29-In, _____ the interviewer and members jointly control the pace and direction of the interview.

- M. **Field interview**
- N. Telephonic interview
- O. Both A and B
- P. None of the given options

30-Randomization of test units is a part of

- Q. Pretest
- R. Posttest
- S. Matching
- T. **Experiment**

31- Rationalism is the application of which of the following?

- A. **Logic and arguments**
- B. Research solution
- C. Reasoning
- D. Previous findings

32- On which of the following, scientific knowledge mostly relies?

- A. **Logical understanding**
- B. Identification of events
- C. Prior knowledge
- D. All of the given options

33- Which of the following refers to research supported by measurable evidence?

- A. Opinion
- B. **Empiricism**

- C. Speculation
- D. Rationalism

34-Research method is applicable in all of the following fields, EXCEPT;

- A. Health care
- B. Religion**

Research Method (STA 630)

Success Objectives

- C. Business
- D. Government offices

35- All of the following are true statements about action research, EXCEPT;

- A. Data are systematically analyzed
- B. Data are collected systematically
- C. Results are generalizable**
- D. Results are used to improve practice

36-Which of the following is characteristic of action research?

- A. Variables are tightly controlled
- B. Results are generalizable
- C. Data are usually qualitative**
- D. Results demonstrate cause-and-effect relationships

37-If a researcher is studying the effect of using laptops in his classroom to ascertain their merit and worth; he is likely conducting which of the following types of research?

- A. Experimental
- B. Applied
- C. Basic
- D. Evaluation**

38- Exploratory research addresses which of the following types of question?

- A. If
- B. How
- C. Why
- D. What**

39- Which of the following is not the source for getting information for exploratory research?

- A. Content analysis**
- B. Survey
- C. Case study
- D. Pilot study

40- Which of the following is the main quality of a good theory?

- A. A theory that has survived attempts at falsification**
- B. A theory that is proven to be right
- C. A theory that has been disproved
- D. A theory that has been falsified

41- A variable that is presumed to cause a change in another variable is known as:

- A. Discontinuous variable
- B. Dependent variable
- C. Independent variable**
- D. Intervening variable

42- Which of the following is the opposite of a variable?

- A. An extraneous variable
- B. A dependent variable
- C. A data set
- D. A constant**

43- Which of the following is not a concept?

- A. Leadership

- B. Total Quality Management
- C. Intelligence Quotient (IQ)**
- D. Human Resource Management

44- Which of the following can best be described as a categorical variable?

- A. Age
- B. Annual income
- C. Grade point average
- D. Religion**

Research Method (STA 630)

Success Objectives

45-“Income distribution of employees” in a specific organization is an example of which of following type of variable?

- A. Discontinuous variable
- B. Continuous variable**
- C. Dependent variable
- D. Independent variable

46-“There is no relationship between higher motivation level and higher efficiency” is an example of which type of hypothesis?

- A. Alternative
- B. Null**
- C. Co relational
- D. Research

47- Which of the following is not a role of hypothesis?

- A. Guides the direction of the study
- B. Determine feasibility of conducting the study**
- C. Identifies relevant and irrelevant facts
- D. Provides framework for organizing the conclusions

48-Hypothesis test may also be called as:

- A. Informal test
- B. Significance test**
- C. Moderating test
- D. T-test

49-Which type of review compares how different theories address an issue?

- A. Context review
- B. Integrated review
- C. Theoretical review**
- D. Methodological review

50-After you locate a source, you should write down all details of the reference, EXCEPT;

- A. Volumes
- B. Titles
- C. Price**
- D. Full names of the authors

51- _____ research is based on naturalism.

- A. Field research**
- B. Descriptive research
- C. Basic research
- D. Applied research

52- Personal interviews conducted in shopping malls are known as _____

- A. Mall interviews
- B. Mall intercepts interviews**
- C. Brief interviews
- D. None of the given options

53- _____ is used to obtain the freest opinion of the respondent, by asking general question before a specific question.

- A. Research technique
- B. Qualitative technique
- C. Funnel technique**
- D. Quantitative technique

54- In, _____ the interviewer and members jointly control the pace and direction of the interview.

- A. Field interview**
- B. Telephonic interview
- C. Both A and B
- D. None of the given options

Research Method (STA 630)

Success Objectives

55- Randomization of test units is a part of _____

- A. Pretest
- B. Posttest
- C. Matching
- D. Experiment**

56- Which one of the following sets is the measure of central tendency?

- a. Mean, standard deviation, mode
- b. Mean, median, standard deviation
- c. Arithmetic mean, median, mode**
- d. Standard deviation, internal validity, mode

57- Internal validity refers to.

- a. Researcher's degree of confidence.**
- b. Generalisability
- c. Operationalization
- d. All of the above

58- How many times the students appear in the research class is the example of _____.

- a. Intensity
- b. Space
- c. Frequency**
- d. Direction

59- Time consumed in mall intercept interview is .

- a. High
- b. Moderate**
- c. Low
- d. Nil

60- Departmental stores selected to test a new merchandising display system is the example of .

- a. Quota sampling
- b. Convenience sampling
- c. Judgmental sampling**
- d. Purposive sampling

61- In _____, the researcher attempts to control and/ or manipulate the variables in the study.

- 1. Experiment**
- 2. Hypothesis
- 3. Theoretical framework
- 4. Research design

62- In an experimental research study, the primary goal is to isolate and identify the effect produced by the ____.

1. Dependent variable
2. Extraneous variable
- 3. Independent variable**
4. Confounding variable

63- A measure is reliable if it provides consistent _____.

1. Hypothesis
- 2. Results**
3. Procedure
4. Sensitivity

64- The interview in which questions are already prepared is called _____.

1. Telephonic interview
2. Personal interview

Research Method (STA 630)

Success Objectives

3. Unstructured interview
- 4. Structured interview**

65-The numerical description that describe sample may be expected to differ from those that describe population because of random fluctuations inherent in sampling process.

1. Sampling design
2. Non-probability sampling
- 3. Sampling error**
4. Probability sampling

66- In _____ , each population element has a known and equal chance of selection.

1. Purposive sampling
2. Quota sampling
3. Stratified sampling
- 4. Simple random sampling**

67- _____ is the evidence that the instrument, techniques, or process used to measure concept does indeed measure the intended concepts.

1. Reliability
2. Replicability
3. Scaling
- 4. Validity**

68- A researcher is interested in studying why the “new math” of the 1960s failed. She interviews several teachers who used the new math during the 1960s. These teachers are considered as:

- 1. Primary sources**
2. Secondary Sources
3. External critics
4. Internal critics

69- Which of the following is NOT true about stratified random sampling?

1. It involves a random selection process from identified subgroups
- 2. Proportions of groups in the sample must always match their population proportions**
3. Disproportional stratified random sampling is especially helpful for getting large enough subgroup samples when subgroup comparisons are to be done
4. Proportional stratified random sampling yields a representative sample

70- Experimental design is the only appropriate design where _____ relationship can be established.

1. Strong
2. Linear
3. Weak

4. Cause and Effect

71. Discrete variable is also called.....

- E. Categorical variable
- F. Discontinuous variable
- G. **Both A & B**
- H. None of the above

72. "Officers in my organization have higher than average level of commitment"
Such a hypothesis is an example of.....

- E. **Descriptive Hypothesis**
- F. Directional Hypothesis
- G. Relational Hypothesis
- H. All of the above

73. 'Science' refers to.....

- E. A system for producing knowledge

Research Method (STA 630)

Success Objectives

- F. The knowledge produced by a system
- G. **Both A & B**
- H. None of the above

74. Which one of the following is not a characteristic of scientific method?

- E. Deterministic
- F. Rationalism
- G. Empirical
- H. **Abstraction**

73. The theoretical framework discusses the interrelationships among the.....

- E. **Variables**
- F. Hypothesis
- G. Concept
- H. Theory

74.research is based on naturalism.

- U. **Field research**
- V. Descriptive research
- W. Basic research
- X. Applied research

75. Personal interviews conducted in shopping malls are known as.....

- Y. Mall interviews
- Z. **Mall intercept interviews**
- AA. Brief interviews
- BB. None of the given options

76. is used to obtain the freest opinion of the respondent, by asking general question before a specific question.

- CC. Research technique
- DD. Qualitative technique
- EE. **Funnel technique**
- FF. Quantitative technique

77. In, the interviewer and members jointly control the pace and direction of the interview.

- GG. **Field interview**
- HH. Telephonic interview
- II. Both A and B
- JJ. None of the given options

78. Randomization of test units is a part of

- KK. Pretest
- LL. Posttest
- MM. Matching
- NN. Experiment

79. In _____, the researcher attempts to control and/ or manipulate the variables in the study.

- 1. Experiment
- 2. Hypothesis
- 3. Theoretical framework
- 4. Research design

80. In an experimental research study, the primary goal is to isolate and identify the effect produced by the _____.

- 1. Dependent variable
- 2. Extraneous variable
- 3. Independent variable
- 4. Confounding variable

81. A measure is reliable if it provides consistent _____.

Research Method (STA 630)

Success Objectives

- 1. Hypothesis
- 2. Results
- 3. Procedure
- 4. Sensitivity

82. The interview in which questions are already prepared is called _____.

- 1. Telephonic interview
- 2. Personal interview
- 3. Unstructured interview
- 4. Structured interview

83. The numerical description that describe sample may be expected to differ from those that describe population because of random fluctuations inherent in sampling process.

- 1. Sampling design
- 2. Non-probability sampling
- 3. Sampling error
- 4. Probability sampling

84. In _____, each population element has a known and equal chance of selection.

- 1. Purposive sampling
- 2. Quota sampling
- 3. Stratified sampling
- 4. Simple random sampling

85. _____ is the evidence that the instrument, techniques, or process used to measure concept does indeed measure the intended concepts.

- 1. Reliability
- 2. Replicability
- 3. Scaling
- 4. Validity

86. A researcher is interested in studying why the “new math” of the 1960s failed. She interviews several teachers who used the new math during the 1960s. These teachers are considered as:

- 1. Primary sources
- 2. Secondary Sources
- 3. External critics
- 4. Internal critics

87. Which of the following is NOT true about stratified random sampling?

1. It involves a random selection process from identified subgroups
- 2. Proportions of groups in the sample must always match their population proportions**
3. Disproportional stratified random sampling is especially helpful for getting large enough subgroup samples when subgroup comparisons are to be done
4. Proportional stratified random sampling yields a representative sample

88. Experimental design is the only appropriate design where _____ relationship can be established.

1. Strong
2. Linear
3. Weak

4. Cause and Effect

89. Rationalism is the application of which of the following?

A. Logic and arguments

- B. Research solution
- C. Reasoning
- D. Previous findings

90. On which of the following, scientific knowledge mostly relies?

A. Logical understanding

B. Identification of events

Research Method (STA 630)

Success Objectives

C. Prior knowledge

D. All of the given options

91. Which of the following refers to research supported by measurable evidence?

A. Opinion

B. Empiricism

C. Speculation

D. Rationalism

92. Research method is applicable in all of the following fields, EXCEPT;

A. Health care

B. Religion

C. Business

D. Government offices

93. All of the following are true statements about action research, EXCEPT;

A. Data are systematically analyzed

B. Data are collected systematically

C. Results are generalizable

D. Results are used to improve practice

94. Which of the following is characteristic of action research?

A. Variables are tightly controlled

B. Results are generalizable

C. Data are usually qualitative

D. Results demonstrate cause-and-effect relationship

95. If a researcher is studying the effect of using laptops in his classroom to ascertain their merit and worth, he is likely conducting which of the following types of research?

A. Experimental

B. Applied

C. Basic

D. Evaluation

96. Exploratory research addresses which of the following types of question?

- A. If
- B. How
- C. Why
- D. What**

97. Which of the following is not the source for getting information for exploratory research?

- A. Content analysis**
- B. Survey
- C. Case study
- D. Pilot study

98. Which of the following is the main quality of a good theory?

- A. A theory that has survived attempts at falsification**
- B. A theory that is proven to be right
- C. A theory that has been disproved
- D. A theory that has been falsified

100. Which of the following is not a concept?

- A. Leadership
- B. Total Quality Management
- C. Intelligence Quotient (IQ)**
- D. Human Resource Management

101. A variable that is presumed to cause a change in another variable is known as:

Research Method (STA 630)

Success Objectives

- A. Discontinuous variable
- B. Dependent variable
- C. Independent variable**
- D. Intervening variable

102. Which of the following is the opposite of a variable?

- A. An extraneous variable
- B. A dependent variable
- C. A data set
- D. A constant**

103. Which of the following can best be described as a categorical variable?

- A. Age
- B. Annual income
- C. Grade point average
- D. Religion**

104. "Income distribution of employees" in a specific organization is an example of which of following type of variable?

- A. Discontinuous variable
- B. Continuous variable**
- C. Dependent variable
- D. Independent variable

105. "There is no relationship between higher motivation level and higher efficiency" is an example of which type of hypothesis?

- A. Alternative
- B. Null**
- C. Correlational
- D. Research

106. Which of the following is not a role of hypothesis?

- A. Guides the direction of the study
- B. Determine feasibility of conducting the study**
- C. Identifies relevant and irrelevant facts
- D. Provides framework for organizing the conclusions

107. Which type of review compares how different theories address an issue?

- A. Context review
- B. Integrated review
- C. Theoretical review**
- D. Methodological review

108. After you locate a source, you should write down all details of the reference, EXCEPT;

- A. Volumes
- B. Titles
- C. Price**
- D. Full names of the authors

109. What is the primary focus of establishment surveys in this case study?

- A. Collect the data through past studies
- B. Analyze the literature review
- C. Using of quantitative techniques
- D. Data collection through mail and Interview**

110. Which one of following is generally common in establishment survey and household survey?

- A. Cognitive recall**
- B. Homogenous respondents
- C. Error free
- D. Response burden

Research Method (STA 630)

Success Objectives

111. Which one of the following is not of important consideration in establishment survey while designing questionnaires?

- A. Response burden
- B. Professional terminology
- C. Cognitive recall**
- D. Use of Records

112. Which of the following method of data collection is not discussed in the case study?

- A. Questionnaires
- B. Interviews
- C. Mail survey
- D. Observations**

113. Which of the following sampling technique is used for Employee Turnover and Job Openings survey?

- A. Simple random sampling
- B. Cluster sampling
- C. Stratified sampling**
- D. Convenience sampling

114. Which one of the following is the limitation of establishment survey in this case study?

- A. Cost**
- B. Limited data
- C. Unskilled interviewer
- D. Small sample size

115. Which of the following is not the part of specific protocol of focus groups in ETJO?

- A. Concept and indicators
- B. Definition
- C. Availability of records
- D. Cognitive recall**

116. Which of the following is the draw back of pretest interview in ETJO survey?

- A. Small simple size**
- B. Non cooperative response
- C. Probing
- D. Questionnaire format

117. Which of the following method of data collection is not used in the case study?

- A. Questionnaires
- B. Focus groups
- C. Correlational method**
- D. Secondary data

118. What is the basic purpose of ETJO survey?

- A. To assess the feasibility of collecting job-vacancy and turnover data by occupation**
- B. To analyze the problem of labor shortage
- C. To assess the motivation level of employees
- D. To analyze the factor contributing towards employee turnover

119. Which of the following is the basic purpose of pretest interview in this case study?

- A. To identified the potential problem**
- B. To know the sample size
- C. To develop the questionnaire
- D. To use agency representative

120. Which one of the following sampling type is used in operations test to select the units?

- A. Simple random sampling**

Research Method (STA 630)

Success Objectives

- B. Cluster sampling
- C. Quota sampling
- D. Judgment sampling

121. Which of the following is the basic purpose of Response analysis survey in the case study?

- A. To assess the quality of ETJO survey data**
- B. To know the sample size of ETJO survey data
- C. To develop the questionnaire for ETJO
- D. To use agency representative for ETJO

122. After Operation test, which of the following test findings were suggested by the researcher?

- A. Need of highly skilled and well trained interviewer**
- B. Sample size should be increased
- C. A decent increase in survey budget
- D. Focus group should be included

123. In which one of the following stage researcher consult the literature?

- A. Operation test
- B. Response analysis survey
- C. Document design analysis**
- D. Pretest interviews

124. Which one of the following sampling type is used in Response analysis survey (RAS)?

- A. Simple random sampling

- B. Cluster sampling
- C. Quota sampling
- D. Stratified sampling**

125. Which one of the following could be helpful for minimizing the bias in this case study?

- A. Cognitive research
- B. Focus group
- C. Pretest Interview**
- D. Response analysis survey

126. Which one of the following is useful in assessing and clarifying concepts and definitions at the beginning stages of questionnaire?

- A. Operation test
- B. Document design analysis
- C. Focus group**
- D. Response analysis survey

127. Which one of the following can be more helpful than others in order to determine the exact source of measurement errors in establishment survey?

- A. Focus group
- B. Operation test
- C. Response analysis survey**
- D. Document design analysis

State 301

Question # 1 of 10 (Start time: 12:11:21 AM) Total Marks: 1

Let X be a random variable with binomial distribution, that is ($X=0,1,\dots, n$). The expected value $E[X]$ is
Select correct option:

- p
- np**
- np(1-p)
- Xnp

Question # 2 of 10 Total Marks: 1

The sample mean is an unbiased estimator for the population mean. This means:
Select correct option:

- The sample mean has a normal distribution
- The average sample mean, over all possible samples, equals the population mean**
- The sample mean is always very close to the population mean
- The sample mean will only vary a little from the population mean

Question # 3 of 10 Total Marks: 1

Probability of an impossible event is always:
Select correct option:

- Less than one
- Greater than one
- Between one and zero
- Zero**

Question # 4 of 10 (Start time: 12:13:48 AM) Total Marks: 1

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

- Probability density function
- Probability distribution function
- Commutative distribution function**
- Discrete function

Question # 5 of 10 (Start time: 12:14:50 AM) Total Marks: 1

The total area under the normal curve is:
Select correct option:

- 0
- 1**
- 0.5
- 0.75

Question # 6 of 10 (Start time: 12:15:12 AM) Total Marks: 1

Two events A & B are said to be independent if....

Select correct option:

$P(A) + P(B)$

$P(B|A) = P(B)$

$P(A) * P(B)$

$P(A|B) = P(A)$

Question # 7 of 10 (Start time: 12:15:31 AM) Total Marks: 1

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

Select correct option:

$1/4$

$2/4$

$3/4$

1

Question # 8 of 10 (Start time: 12:16:33 AM) Total Marks: 1

For exhaustive events, the $P(A \cup B \cup C)$ is equal to:

Select correct option:

$P(A)$

$P(S)$

$P(A) * P(B) * P(C)$

$P(B)$

Question # 9 of 10 (Start time: 12:17:46 AM) Total Marks: 1

One card is drawn from a standard 52 card deck. In describing the occurrence of two possible events, an Ace and a King, these two events are said to be:

Select correct option:

independent

randomly independent

random variables

mutually exclusive

Question # 10 of 10 (Start time: 12:18:23 AM) Total Marks: 1

The number of parameters in hypergeometric distribution is (are):

Select correct option:

1

2

3

4

Question No: 1 (Marks: 1) - Please choose one

For a positively skewed distribution m_3 will be:

- ▶ Positive
- ▶ Negative
- ▶ Zero
- ▶ 1

Question No: 2 (Marks: 1) - Please choose one

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

- ▶ Ordinal
- ▶ Interval
- ▶ Nominal
- ▶ Ratio

Question No: 3 (Marks: 1) - Please choose one

Suppose the estimated equation is $\hat{Y} = 5 - 2X$ has been calculated for a set of data. What is slope of the line:

- ▶ 0
- ▶ 2
- ▶ -2
- ▶ 5

Question No: 4 (Marks: 1) - Please choose one

If $P(B|A) = 0.25$ and $P(A|B) = 0.20$, then $P(A)$ is:

- ▶ 0.05
- ▶ 0.80
- ▶ 0.95
- ▶ 0.75

Question No: 5 (Marks: 1) - Please choose one

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

Question No: 6 (Marks: 1) - Please choose one

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

Question No: 7 (Marks: 1) - Please choose one

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

- ▶ **Finite Set**
- ▶ Infinite Set
 - ▶ Universal Set
- ▶ No of these

Question No: 8 (Marks: 1) - Please choose one

If X and Y are independent, then $\text{Var}(X-Y)$ is equal to:

- ▶ $\text{Var}(X) - \text{Var} Y$
- ▶ $\text{Var}(X) + \text{Var} Y$
- ▶ $\text{Var}(X + Y)$
- ▶ Zero

Question No: 9 (Marks: 1) - Please choose one

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

Question No: 10 (Marks: 1) - Please choose one

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

Question No: 11 (Marks: 1) - Please choose one

Data in the Population Census Report is:

- ▶ Ungrouped data
- ▶ Secondary data
- ▶ Primary data
- ▶ Arrayed data

Question No: 12 (Marks: 1) - Please choose one

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

- ▶ -12
- ▶ 8
- ▶ -8
- ▶ 2

Question No: 13 (Marks: 1) - Please choose one

The algebraic sum of deviations from mean is:

- ▶ Maximum
- ▶ Minimum
- ▶ Zero
- ▶ Undefined

Question No: 14 (Marks: 1) - Please choose one

The sum of squares of deviations from mean is:

- ▶ Undefined
- ▶ Zero
- ▶ Maximum
- ▶ Minimum

Question No: 15 (Marks: 1) - Please choose one

Statistic is a numerical quantity, which is calculated from:

- ▶ Population
- ▶ Sample
- ▶ Data
- ▶ Observations

Question No: 16 (Marks: 1) - Please choose one

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

=1.911

Question No: 22 (Marks: 10)

A pair of dice is thrown, then

1) Find the sample space for this experiment

Suppose if A and B is the pair of dice then lets try to find out how many result we can find

- A hit first
- B Hit first
- B hit Second
- A Hit Second
- Both Hit Equally
- Both didn't Hit

2) Determine the probability of getting the sum 8 on the dice

3) Find the probability of getting sum 7 or 11

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 aquantity.

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 $P(A \cup B)$ is:

Select correct option:

0.8

0.2

0.6

0.5

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

Hypergeometric 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 $P(A \cap B) = 0.12$, $P(A) = 0.3$, find $P(B)$ where 'A' and 'B' are independent:

Select correct option:

0.1

0.2

0.3

0.4

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:

$P(A \cap B)/P(B)$ pg157

$P(A \cap B)/P(A)$

$P(A \cup B)/P(B)$

$P(A \cup B)/P(A)$

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:

12

pg 224

34

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:

$P(A \cap B)/P(B)$

$P(A \cap B)/P(A)$

$P(A \cup B)/P(B)$

$P(A \cup B)/P(A)$

21. A random sample of $n=25$ values gives sample mean 83. Can this sample be regarded as drawn

from a normal population with $\mu= 80$ and $s= 7$? In this question the alternative hypothesis will

be:

Select correct option:

$H_1: \mu = 80$

$H_1: \mu \neq 80$

$H_1: \mu > 80$

H1: $\mu < 80$ pg 278

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

Select correct option:

10 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

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 0 and 1

greater than 1

28. Symbolically, a conditional probability is:

Select correct option:

$P(AB)$

$P(A/B)$

$P(A)$

$P(A \cup B)$

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

Hypergeometric 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 $P(A \text{ and } B)$

=.....

Select correct option:

0.65

0.1

0.50

0.15

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:

$1/52$

$4/52$

$13/52$

$52/52$

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

41. In the FA examination, 24 candidates offered Statistics. If the probability of passing the subject

be $1/3$, what will be the mean of the distribution?

Select correct option:

7865

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

85

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% confidence 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 systolic

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 (kg):

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:

Unimodal 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

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:

$V1 \sim 8$

$V2 \sim 8$

$V1$ and $V2 \sim 8$

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 , s^2)

(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, $\alpha=0.05$ and $\beta=0.05$. 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

Median<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:

39 21.35

81

90. How many steps are involved in general procedure for testing hypothesis:

4567 91. When testing for independence in a

contingency table with 2

rows and 5

columns, there are

_____ degrees of freedom.

4

10

75

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 effect 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 confidence interval width for the parameter

96. The value of chi square can never be :

Zero

Less than 1

Greater than 1

Negative

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

Mean

Variance

Standard Deviation

Sample Size

98. We want to test $H_0 : \mu = 1.5$ vs. $H_1 : \mu \neq 1.5$ at $\alpha = .05$. 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 H_0

Reject H_0

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-distribution 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.

567 12

104. The Chi- Square distribution is continuous distribution ranging from:

$0 = \infty = 8$

$-8 = \infty = 0$

$-8 = \infty = 1$

-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 the 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 Charts

None of these

110. A bar graph usesto 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 $U_1 = U_2$ (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 H_0

Accepting H_0

Rejecting H_1

Accepting H_1

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

89

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

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

d5 **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

123

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:

$P(AB)$

$P(A \cup B)$

$P(A/B)$

$P(A)$

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

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:

48 12

16

164. **$5C5 =$**

Select correct option:

51 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 $P(E \cup F)$ is:

Select correct option:

$1/8$

$3/4$

$7/8$

$5/8$

Question No: 1 (Marks: 1) - Please choose one

$10! = \dots\dots\dots$

▶ 362880

▶ **3628800**

▶ 362280

▶ 362800

Question No: 2 (Marks: 1) - Please choose one

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

$\frac{1}{52}$

▶

$\frac{13}{52}$

▶

$\frac{4}{52}$

▶

$\frac{26}{52}$

▶

Question No: 3 (Marks: 1) - Please choose one

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

▶ $\frac{1}{52}$

$\frac{4}{52}$

- ▶ 52
- ▶ $\frac{13}{52}$
- ▶ $\frac{26}{52}$
- ▶

Question No: 4 (Marks: 1) - Please choose one

Which dispersion is used to compare variation of two series?

- ▶ C.V.
- ▶ **Q.D.**

- ▶ M.D.
- ▶ S.D.

Question No: 5 (Marks: 1) - Please choose one

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':

- ▶ $0 \leq r \leq 1$
- ▶ $r \geq 0$
- ▶ **$r = +1$**
- ▶ $r = -1$

Question No: 6 (Marks: 1) - Please choose one

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

- ▶ **Intercept $a = 0$**
- ▶ Intercept $a \neq 0$
- ▶ Slope $b = 0$
- ▶ Slope $b \neq 0$

Question No: 7 (Marks: 1) - Please choose one

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

- ▶ $1/4$
- ▶ **$3/4$**
- ▶ $2/4$
- ▶ $4/4$

Question No: 8 (Marks: 1) - Please choose one

Which one of the following measurement does *not* divide a set of observations into equal parts?

- ▶ Quartiles
- ▶ Deciles
- ▶ Percentiles
- ▶ **Standard deviations**

Question No: 9 (Marks: 1) - Please choose one

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

- ▶ Predictor variable
- ▶ Independent variable
- ▶ **Predicted (dependent) variable**
- ▶ Explanatory variable

Question No: 10 (Marks: 1) - Please choose one

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

- ▶ $\bar{X} \pm S$
- ▶ $\bar{X} \pm 2S$
- ▶ $\bar{X} \pm 3S$
- ▶ $\bar{X} \pm 4S$

Question No: 11 (Marks: 1) - Please choose one

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

- ▶ Source note
- ▶ Foot note
- ▶ Prefatory note
- ▶ **Title**

Question No: 12 (Marks: 1) - Please choose one

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

- ▶ **Positively skewed**
- ▶ Negatively skewed
- ▶ J-shaped
- ▶ Symmetric

Question No: 13 (Marks: 1) - Please choose one

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

Question No: 14 (Marks: 1) - Please choose one

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**

Question No: 15 (Marks: 1) - Please choose one

Which one of the following graphs is used for a time series data?

- ▶ **Histogram**
- ▶ Histogram
- ▶ Frequency curve
- ▶ Frequency polygon

Question No: 16 (Marks: 1) - Please choose one

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
- ▶ Histogram

Question No: 17 (Marks: 1) - Please choose one

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**

Question No: 18 (Marks: 1) - Please choose one

Which one is the formula of mid range?

- ▶ $x_m - x_0$
- ▶ $x_0 - x_m$
- ▶ $\frac{x_0 - x_m}{2}$
- ▶ **$\frac{x_0 + x_m}{2}$**

Question No: 19 (Marks: 1) - Please choose one

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

- ▶ **Quartile deviation**
- ▶ Harmonic mean
- ▶ Geometric mean
- ▶ Arithmetic mean

Question No: 20 (Marks: 1) - Please choose one

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

- ▶ Negative

- ▶ Positive
- ▶ **Zero**
- ▶ Undefined

Question No: 21 (Marks: 2)

Why measure of central tendency and measure of dispersion are complementary to each other?

Answer: Together both measures give us adequate description of data.

Question No: 22 (Marks: 2)

What do you know about discrete random variable?

Answer:

Such a numerical quantity whose value is determined by the value of a random experiment is called a random variable.

Example: If we toss three dice together and let X represents the number of heads, then the random variable X consists of the value 0, 1, 2, and 3. the X in this example is a discrete random variable.

Question No: 23 (Marks: 3)

What is the subjective approach to the probability?

Answer:

Subjective probability is a measure of the strength of a person's belief regarding the occurrence of an event A. Probability in this sense is purely subjective and is based on whatever evidence is available to the individual.

It has a disadvantage that two or more persons faced with the same evidence may arrive at different probabilities.

Example:

Suppose a panel of three judges is hearing a trial. It is possible that based on the evidence that is presented; two of them arrive at the conclusion that the accused is guilty while one of them decides that the evidence is not strong to draw this conclusion.

Question No: 24 (Marks: 3)

Explain the difference between absolute dispersion and relative dispersion:

Answer:

Question No: 25 (Marks: 5)

Differentiate between the mutually exclusive events and exhaustive events.

Answer:

Mutually Exclusive Events: Two events A and B of a single experiment are said to be mutually exclusive if and only if they both can't occur at the same time.

Example:

When a die is rolled, the events 'even number' and odd number are mutually exclusive as we can get either an even number or an odd number in one throw, not both at the same time.

Exhaustive Events: Events are said to be collectively exhaustive, when the union of mutually exclusive events is equal to the entire sample space S.

Examples:

In the coin tossing experiment, head and tail are collectively exhaustive events.

Question No: 26 (Marks: 5)

Find the first two moments about mean from the following data. $X = 34, 70, 42, 54, 40, 68, 56, 38, 36, 72$

In a multiplication theorem P (A and B) equals:

 **Select correct option:**

P (A) P (B)

P (A) + P (B) P

P (A) * P (B|A)

P(B|A)*P(B)

The probability can never be:

 **Select correct option:**

1

1/2

1

-1/2

If two fair die are thrown, the probability of getting a double six is:

 **Select correct option:**

1/6

2/36

1/36

1/12

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

Twenty percent of the students in a class of 100 are planning to go to graduate school. The standard deviation of this binomial distribution is:

 **Select correct option:**

20

2

4

16

If $f(x)$ is a continuous probability function, then $P(X = 2)$ is:

 **Select correct option:**

1

0

1/2

2

Probability of an impossible event is always:

 **Select correct option:**

Less than one

Greater than one

Between one and zero

Zero

Question # 8 of 10 (Start time: 01:38:25 PM)

Total Marks: 1

$E(4X + 5) =$ _____

 **Select correct option:**

$12 E(X)$

$4 E(X) + 5$

$16 E(X) + 5$

$16 E(X)$

The location and shape of the normal curve is (are) determined by:

 **Select correct option:**

- Mean
- Variance
- Mean & variance
- Mean & standard deviation

The probability of success changes from trial to trial, is the property of:

 **Select correct option:**

- Binomial experiment
- Hypergeometric experiment
- Both binomial & hypergeometric experiment
- Poisson experiment

MIDTERM EXAMINATION

Spring 2009

STA301- Statistics and Probability (Session - 6)

Time: 60 min

Marks: 38

Question No: 1 (Marks: 1) - Please choose one

For a positively skewed distribution m_3 will be:

- ▶ Positive
- ▶ Negative
- ▶ Zero
- ▶ 1

Question No: 2 (Marks: 1) - Please choose one

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

- ▶ Ordinal
- ▶ Interval
- ▶ Nominal
- ▶ Ratio

Question No: 3 (Marks: 1) - Please choose one

Suppose the estimated equation is _____ has been calculated for a set of data. What is slop of the line:

- ▶ 0
- ▶ 2
- ▶ -2
- ▶ 5

Question No: 4 (Marks: 1) - Please choose one

If $P(B|A) = 0.25$ and _____, then $P(A)$ is:

- ▶ 0.05
- ▶ 0.80
- ▶ 0.95
- ▶ 0.75

Question No: 5 (Marks: 1) - Please choose one

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

Question No: 6 (Marks: 1) - Please choose one

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
- ▶ Sstatistical inference
- ▶ Descriptive statistics

Question No: 7 (Marks: 1) - Please choose one

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

- ▶ Finite Set
- ▶ Infinite Set
- ▶ Universal Set
- ▶ No of these

Question No: 8 (Marks: 1) - Please choose one

If X and Y are independent, then $\text{Var}(X-Y)$ is equal to:

- ▶
- ▶
- ▶
- ▶ Zero

Question No: 9 (Marks: 1) - Please choose one

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

Question No: 10 (Marks: 1) - Please choose one

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

Question No: 11 (Marks: 1) - Please choose one
Data in the Population Census Report is:

- ▶ Ungrouped data
- ▶ Secondary data
- ▶ Primary data
- ▶ Arrayed data

Question No: 12 (Marks: 1) - Please choose one
What is the range of -2,-3,-5,-10 :

- ▶ -12
- ▶ 8
- ▶ -8
- ▶ 2

Question No: 13 (Marks: 1) - Please choose one
The algebraic sum of deviations from mean is:

- ▶ Maximum
- ▶ Minimum
- ▶ Zero
- ▶ Undefined

Question No: 14 (Marks: 1) - Please choose one
The sum of squares of deviations from mean is:

- ▶ Undefined
- ▶ Zero
- ▶ Maximum
- ▶ Minimum

Question No: 15 (Marks: 1) - Please choose one
Statistic is a numerical quantity, which is calculated from:

- ▶ Population
- ▶ Sample

► Data

► Observations

Question No: 16 (Marks: 1) - Please choose one
Which of the following is not based on all the observations?

► Arithmetic Mean

► Geometric Mean

► Harmonic mean

► Mode

Question No: 17 (Marks: 1)

Elaborate the word dispersion.

We can say that the degree of scatter of data, usually about an average value, can be the median.

Question No: 18 (Marks: 1)

Define population.

We can define population is the collection of individuals or objects having some common measurable characteristics.

Question No: 19 (Marks: 2)

What does mean by the independence of two events:

We can define independence of two events are statistically independent if the probability of their occurring jointly equals the product of their respective probabilities. Independence of two events also know as stochastic independence.

Question No: 20 (Marks: 3)

The reciprocal of the values are

0.012, 0.0235, 0.0135

Calculate Harmonic Mean

Harmonic mean is 250.037

Question No: 21 (Marks: 5)

The probability that a student passes mathematics is $\frac{2}{3}$ and the probability that he passes English is $\frac{4}{9}$. If the probability of passing at least one course is $\frac{4}{5}$, what is the probability that he will pass both courses?

Math= $\frac{2}{3}$

English= $\frac{4}{9}$

Least one passing probability= $\frac{4}{5}$

$$\begin{aligned} \text{Math + English} &= 2/3 + 4/9 \\ &= 1.11 \\ 4/5 + 1.11 & \\ &= 1.911 \end{aligned}$$

Question No: 22 (Marks: 10)

A pair of dice is thrown, then

1) Find the sample space for this experiment

Suppose if A and B is the pair of dice then lets try to find out how many result we can find

A hit first

B Hit first

B hit Second A

Hit Second Both

Hit Equally Both

didn't Hit

2) Determine the probability of getting the sum 8 on the dice

3) Find the probability of getting sum 7 or 11

STA301

Question No: 1 (Marks: 1) - Please choose one

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

▶ $\frac{1}{52}$

▶ $\frac{13}{52}$

▶ $\frac{4}{52}$

▶ $\frac{26}{52}$



Question No: 2 (Marks: 1) - Please choose one

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

▶ $\frac{1}{52}$

▶ $\frac{4}{52}$



▶ $\frac{13}{52}$

▶ $\frac{26}{52}$



Question No: 3 (Marks: 1) - Please choose one

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

▶ Intercept $a = 0$

▶ Intercept $a \neq 0$

▶ Slope $b = 0$

▶ Slope $b \neq 0$

Question No: 4 (Marks: 1) - Please choose one

Which one of the following measurement does *not* divide a set of observations into equal parts?

▶ Quartiles

▶ Deciles

▶ Percentiles

▶ Standard deviations

Question No: 5 (Marks: 1) - Please choose one

Which one of the following graphs is used for a time series data?

▶ **Histogram**

- ▶ Histogram
- ▶ Frequency curve
- ▶ Frequency polygon

Question No: 6 (Marks: 1) - Please choose one

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
- ▶ Histogram

Question No:7 (Marks: 1) - Please choose one

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 (not confirmed)**

Question No: 8 (Marks: 1) - Please choose one

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
- 3
- 1
- 2
- 3
- 2
- 1
- 1
- **3 (not confirmed)**
- 2*

Question No: 9 (Marks: 1) - Please choose one

True for the population,

- it must be large number of values
- It must refer to people
- **It is collection of individual objects or measurement not confirmed)**
- It is the small part of whole

Question No:10 (Marks: 1) - Please choose one

Data arrangement in ascending or descending order

- **Array data**
- Group data
- Ungroup data
- Raw data

Question No: 11 (Marks: 1) - Please choose one

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**

Question No: 12 (Marks: 1) - Please choose one

Which measure of central tendency?

- Variation of distribution
- **Average of distribution**
- Scattering of distribution
- Dispersion of distribution

Question No: 13 (Marks: 1) - Please choose one

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

- **6**
- 9
- 10
- 11

Question No: 14 (Marks: 1) - Please choose one

The number of ways in which 4 books can be arranged

- 4
- 6
- 12
- **24**

Question No: 15 (Marks: 1) - Please choose one

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

- Polygon
- Freasito diagram
- Scatter diagram
- Cumulative frequency diagram

Question No: 16 (Marks: 1) - Please choose one

The simultaneous occurrence of two events is called

- Descriptive probability
- **Subjective probability not confirmed**
- Conditional probability
- Joint probability

Question No: 17 (Marks: 1) - Please choose one

Which one is the not measure of dispersion.

- The range
- 50th percentile
- Inter quartile range
- **Variance not confirmed**

Question No: 18 (Marks: 1) - Please choose one

In positively skew cure which relation is

- The mean, median and mode are equal
- **Mean is greater then median not confirmed**
- Median is greater then mean
- Standard deviation must be greater then mean or median

Question No: 19 (Marks: 1) - Please choose one

When coin tossed we get only

1 outcome

2 outcomes

3 outcomes

4 outcomes

Question No: 20 (Marks: 1) - Please choose one

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

- 100%
- 25%
- **20% not confirmed**
- 10%

Question No: 21 (Marks: 2) - Please choose one

Define rule for permutation

Question No: 22 (Marks: 2) - Please choose one

If mean $\bar{x}=0.645$ and $S^2 =0.215$

Then calculate coefficient of variation

Question No: 23 (Marks: 3) - Please choose one

Find the probability of drawing white ball from bag out of 4 red, 8 blue and 3 white balls.

Question No: 24 (Marks: 3) - Please choose one

If the equation of the least square regression line are

$y=2.64+0.648x$ and

$X=-1.91+0.917y$

Find coefficient of r.

Question No: 25 (Marks: 5) - Please choose one

A and B are two independent events, if

$P(A)=0.40, P(B)=0.30$

Find Probabilities i) $P(A \cap B)$

ii) $P(A' \cap B')$

Question No: 26 (Marks: 5) - Please choose one

If $S=\{1,2,3,4,5,6,7,8,9,10\}$

And

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

Prove that

$$\overline{(A \cup B)} = (\overline{A} \cap \overline{B})$$

STA301 Qezz no 1

Quiz Start Time: 05:01 PM

Time Left 81

sec(s)

Question # 1 of 10 (Start time: 05:01:05 PM) Total Marks: 1

What type of data is collected in population census?

Select correct option:

Two Types

Quiz Start Time: 05:01 PM Time Left 77

sec(s)

Question # 2 of 10 (Start time: 05:04:05 PM) Total Marks: 1

The collection of all outcomes for an experiment is called

Select correct option:

a sample space

the intersection of events

joint probability

population

Quiz Start Time: 05:01 PM Time Left 75

sec(s)

Question # 3 of 10 (Start time: 05:04:51 PM) Total Marks: 1

Which of the graph is used for a time series data: <http://www.vustudents.net>

Select correct option:

Frequency curve

Frequency polygon

Historiogram

Histogram (not sure)

Quiz Start Time: 05:01 PM Time Left 47

sec(s)

Question # 4 of 10 (Start time: 05:06:06 PM) Total Marks: 1

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

Quiz Start Time: 05:01 PM Time Left 72
sec(s)

Question # 5 of 10 (Start time: 05:06:56 PM) Total Marks: 1

The value that has half of the observations above it and half the observations below it is known as: <http://www.vustudents.net>

Select correct option:

Mean

Median

Mode

Standard deviation

Quiz Start Time: 05:01 PM Time Left 57
sec(s)

Question # 6 of 10 (Start time: 05:07:24 PM) Total Marks: 1

The height of a student is 60 inches. This is an example of

Select correct option: <http://www.vustudents.net>

Continuous data

Qualitative data

Categorical data

Discrete data

Quiz Start Time: 05:01 PM Time Left 47
sec(s)

Question # 7 of 10 (Start time: 05:08:06 PM) Total Marks: 1

Range of the values -2,-3,-4,-3,-9,-2,-8,-1,0 is

Select correct option:

0

-9

8

9

Quiz Start Time: 05:01 PM Time Left 70
sec(s)

Question # 8 of 10 (Start time: 05:09:26 PM) Total Marks: 1

If the both tails of the distribution are equal, then distribution is called:
Select correct option: <http://www.vustudents.net>

J-shaped

Symmetrical

Positively Skewed

Negatively Skewed

Quiz Start Time: 05:01 PM Time Left 41
sec(s)

Question # 9 of 10 (Start time: 05:09:54 PM) Total Marks: 1
Ranking scale also include the properties of which scale?
Select correct option:

Nominal scale

Interval scale

Ratio scale

All of these

Quiz Start Time: 05:01 PM Time Left 31
sec(s)

Question # 10 of 10 (Start time: 05:10:56 PM) Total Marks: 1
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

1. Question # 1 of 10 (Start time: 08:23:14 PM) Total Marks: 1

If $Y=bX$, then variance of Y is

Select correct option:

$b^2 \text{ var}(x)$

$\text{var}(x)$

$b \text{ var}(x)$

$b \text{ square root var}(x)$

2. Question # 2 of 10 (Start time: 08:24:38 PM) Total Marks: 1

If $f(x)$ is a continuous probability function, then $P(X = 2)$ is:

Select correct option:

1

0

1/2

2

3. Question # 3 of 10 (Start time: 08:25:52 PM) Total Marks: 1

In regression line $Y=a+bX$, Y is called:

Select correct option:

Dependent variable

Independent variable

Explanatory variable

Regressor

4. Question # 4 of 10 (Start time: 08:26:51 PM) Total Marks: 1

If A and B are mutually exclusive events with $P(A)=0.25$ and $P(B)=0.50$, Then $P(A \text{ or } B) = \dots\dots\dots$

Select correct option:

0.25

0.75

0.50

1

- Question # 5 of 10 (Start time: 08:28:06 PM) Total Marks: 1

Symbolically, a conditional probability is:

Select correct option:

$P(AB)$

$P(A/B)$

$P(A)$

$P(A \cup B)$

5. Question # 6 of 10 (Start time: 08:28:42 PM) Total Marks: 1

In a 52 well shuffled pack of 52 playing cards, the probability of drawing any one diamond card is

Select correct option:

1/52

4/52

13/52

52/52

6. Question # 7 of 10 (Start time: 08:30:13 PM) Total Marks: 1

Probability of a sure event is

Select correct option:

8

1

0

0.5

7. Question # 8 of 10 (Start time: 08:31:42 PM) Total Marks: 1

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

8. Question # 9 of 10 (Start time: 08:33:16 PM) Total Marks: 1

The probability of drawing a red queen card from well-shuffled pack of 52 playing cards is

Select correct option:

4/52

2/52

13/52

26/52

9. Question # 10 of 10 (Start time: 08:34:40 PM) Total Marks: 1

If $P(B|A) = 0.25$ and $P(A \text{ and } B) = 0.20$, then $P(A)$ is

Select correct option:

0.05

0.80

0.95

0.75

10. Question # 1 of 10 (Start time: 08:57:45 PM) Total Marks: 1

When a coin is tossed 3 times, the probability of getting 3 tails is

Select correct option:

1/8

3/8

3/6

2/8

11. Question # 2 of 10 (Start time: 08:59:14 PM) Total Marks: 1

In how many ways can a team of 11 players be chosen from a total of 16 players?

Select correct option:

4368(not confirmed)

2426

5400

2680

12. Question # 3 of 10 (Start time: 09:00:38 PM) Total Marks: 1

The standard deviation of c (constant) is

Select correct option:

c

c square

0

does not exist

13. Question # 4 of 10 (Start time: 09:01:46 PM) Total Marks: 1

If $P(E)$ is the probability that an event will occur, which of the following must be false:

Select correct option:

$P(E) = -1$

$$P(E)=1$$

$$P(E)=1/2$$

$$P(E)=1/3$$

14. Question # 5 of 10 (Start time: 09:02:48 PM) Total Marks: 1

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 $P(E \cup F)$ is:

Select correct option:

$$1/8$$

$$3/4$$

$$7/8$$

$$5/8$$

15. Question # 6 of 10 (Start time: 09:04:09 PM) Total Marks: 1

A student solved 25 questions from first 50 questions of a book to be solved. The probability that he will solve the remaining all questions is:

Select correct option:

$$0.25$$

$$0.5$$

$$1$$

$$0$$

Question # 7 of 10 (Start time: 09:05:31 PM) Total Marks: 1

If $Y=bX$, then variance of Y is

Select correct option:

$$b^2 \text{ var}(x)$$

$$\text{var}(x)$$

$$b \text{ var}(x)$$

$$b \text{ square root var}(x)$$

16. Question # 9 of 10 (Start time: 09:07:48 PM) Total Marks: 1

The classical definition of probability assumes:

Select correct option:

Exhaustive events

Mutually exclusive events

Equally likely events

Independent events

17. Question # 10 of 10 (Start time: 09:08:50 PM) Total Marks: 1

In scatter diagram, the variable plotted along Y-axis is:

Select correct option:

Independent variable

Dependent variable

Continuous variable

Discrete variable

18. Which of the following measures of dispersion are based on deviations from the mean?

Select correct option:

Variance

Standard deviation

Mean deviation

All of the these

19. What does it mean when a data set has a standard deviation equal to zero? Select correct option:

All values of the data appear with the same frequency.

The mean of the data is also zero.

All of the data have the same value.

There are no data to begin with.

20. 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

21. Which of the following can never be probability of an event?

Select correct option:

0

1

0.5

-0.5

22. The standard deviation of -1, -1, -1, -1 will be

Select correct option:

1

-1

0

Does not exist

23. Which formula represents the probability of the complement of event A:

Select correct option:

$1 + P(A)$

$1 - P(A)$

$P(A)$

$P(A) - 1$

24. The Special Rule of Addition is used to combine:

Select correct option:

Independent Events

Mutually Exclusive Events

Events that total more than 1.00

Events based on subjective probabilities

25. set which is the sub-set of every set is

Select correct option:

Empty Set

Power Set

Universal Set

Super Set

26. $E(4X + 5) =$ _____

Select correct option:

12 E (X)

4 E (X) + 5

16 E (X) + 5

16 E (X)

27. When two dice are rolled the number of possible sample points is :

Select correct option:

6

12

24

36

28. Question # 1 of 10 (Start time: 09:43:04 PM) Total Marks: 1

If two events A and B are not mutually exclusive then

Select correct option:

$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$

$P(A \text{ or } B) = P(A) + P(B)$

$P(A \text{ or } B) = P(A) \times P(B)$

$P(A \text{ or } B) = P(A) + P(B)$

29. Question # 2 of 10 (Start time: 09:43:59 PM) Total Marks: 1

Evaluate $(10-4)!$

Select correct option:

1000

720

480

32

30. Question # 3 of 10 (Start time: 09:45:01 PM) Total Marks: 1

When E is an impossible event, then $P(E)$ is:

Select correct option:

0

1

2

0.5

31. Question # 4 of 10 (Start time: 09:46:20 PM) Total Marks: 1

When we toss a coin , we get only:

Select correct option:

1 outcome

2 outcome

3 outcome

4 outcome

32. Question # 5 of 10 (Start time: 09:47:15 PM) Total Marks: 1

For exhaustive events, the $P(A \cup B \cup C)$ is equal to:

Select correct option:

$P(A)$

$P(S)$

$P(A) * P(B) * P(C)$

$P(B)$

33. Question # 6 of 10 (Start time: 09:48:21 PM) Total Marks: 1

A student solved 25 questions from first 50 questions of a book to be solved. The probability that he will solve the remaining all questions is:

Select correct option:

0.25

0.5

1

0

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. Question # 9 of 10 (Start time: 09:50:35 PM) Total Marks: 1

If we roll a die then probability of getting a '6' will be

Select correct option:

2/6

1/6

4/6

1

36. Question # 10 of 10 (Start time: 09:51:36 PM) Total Marks: 1

If $P(A) = 0.45$, $P(B) = 0.35$, and $P(A \text{ and } B) = 0.25$, then $P(A | B)$ is:

Select correct option:

1.4

1.8

0.714

0.556

37. Question # 8 of 10 (Start time: 09:49:53 PM) Total Marks: 1

Which of the following is not a measure of central tendency?

Select correct option:

Percentile

Quartile

Standard deviation

Mode

38. Question # 1 of 10 (Start time: 09:56:49 PM) Total Marks: 1

Random experiment can be repeated any no. of times under the..... conditions.

Select correct option:

Different

Similar

Question # 2 of 10 (Start time: 09:58:09 PM) Total Marks: 1

What is the probability of sure event?

Select correct option:

0

1

0.5

2

Question # 3 of 10 (Start time: 09:58:41 PM) Total Marks: 1

The simultaneous occurrence of two events is called:

Select correct option:

Joint probability

Subjective probability

Prior probability

Conditional probability

39. Question # 4 of 10 (Start time: 09:59:47 PM) Total Marks: 1

In regression analysis, the variable that is being predicted is the

Select correct option:

Dependent variable

Independent variable

Intervening variable

None of these

The probability of continuous random variable x on any particular point is always zero..

Yes

No

40. $P(\text{an event}) = \frac{\text{no of favorable outcome}}{\text{total no. of outcomes}}$ is the definition of

Subjective approach

Objective approach

41. If C is a constant ,then $E(c)=$

0

1

C

-c

42. Question # 6 of 10

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

4

8

12

16

43. When a coin is tossed 3 times, the probability of getting 3 tails is

1/8

3/8

3/6

2/8

44. If we roll three fair dices then the total number of outcomes is:

6

36

216

1296

45. The probability of an event is always:

greater than 0

less than 1

between 0 and 1

greater than 1

46. For exhaustive events, the $P(A \cup B \cup C)$ is equal to:

$P(A)$

$P(S)$

$P * P(B) * P(C)$

47. In a multiplication theorem $P(A \text{ and } B)$ equals:

$P(A)$

$P(B) P(A) + P(B)$

$P(A) * P(B|A)$

$P(B|A) * P(B)$

48. If a die is rolled, what is the probability of getting an even number greater than 2?

1/2

1/3

2/3

5/6

49. In a Discrete probability distribution, $P(x > 23)$ is read as:

$P(\text{there are more than 23 successes})$

$P(\text{there are less than 23 successes})$

$P(\text{there are at least 23 successes})$

$P(\text{there are at most 23 successes})$

50. When E is an impossible event, then $P(E)$ is:

0

1

2

0.5

51. A dormitory on campus houses 200 students. 120 are male, 50 are upper division students, and 40 are upper division male students. A student is selected at random. The probability of selecting a lower division student, given the student is a female, is:

Select correct option:

- 7/8
- 7/20
- 7/15
- 1/4

52. A discrete probability function $f(x)$ is always:

- Zero
- One
- Negative
- Non-negative**

53. The function $F(x)$ gives the probability of the event that X takes a value

- Less than x
- Greater or equal to x
- Less or equal x**
- Equal to x

54. Which of the following is not a measure of central tendency?

- Percentile
- Quartile
- Standard deviation**
- Mode

55. When we toss a coin, we get only

- 1 outcome**
- 2 outcome
- 3 outcome
- 4 outcome

56. In a simple regression line model, it is assumed that the intercept parameter is equal to zero,

- The regression line will pass through the origin.**
- The regression line will pass through the point $(0,10)$
- The regression line will pass through the point $(0,-10)$
- The slope of the line will also be zero.

57. If $p(A \cap B) = p(A/B) \cdot p(B)$, then A and B are

- Independent**
- Dependant
- Equally likely
- Mutually exclusively

58. A fair coin is tossed three times, the probability that at least one head appears,

- 1/8
- 7/8**

3/8

5/8

59. In probability distribution, the sum of probabilities is equals to

0

0.1

0.5

1

STA301 ONLINE 5 QUIZZES FROM LECTURES 1-27

1. Question # 1 of 10 (Start time: 08:23:14 PM) Total Marks: 1

If $Y=bX$, then variance of Y is

Select correct option:

$b^2 \text{ var}(x)$

$\text{var}(x)$

$b \text{ var}(x)$

b square root var(x)

2. Question # 2 of 10 (Start time: 08:24:38 PM) Total Marks: 1

If $f(x)$ is a continuous probability function, then $P(X = 2)$ is:

Select correct option:

1

0

1/2

2

3. Question # 3 of 10 (Start time: 08:25:52 PM) Total Marks: 1

In regression line $Y=a+bX$, Y is called:

Select correct option:

Dependent variable

Independent variable

Explanatory variable

Regressor

4. Question # 4 of 10 (Start time: 08:26:51 PM) Total Marks: 1

If A and B are mutually exclusive events with $P(A) = 0.25$ and $P(B) = 0.50$,

Then $P(A \text{ or } B) = \dots\dots\dots$

Select correct option:

0.25

0.75

0.50

1

5. Question # 5 of 10 (Start time: 08:28:06 PM) Total Marks: 1

Symbolically, a conditional probability is:

Select correct option:

$P(AB)$

$P(A/B)$

$P(A)$

$P(A \cup B)$

6. Question # 6 of 10 (Start time: 08:28:42 PM) Total Marks: 1

In a 52 well shuffled pack of 52 playing cards, the probability of drawing any one

diamond card is

Select correct option:

1/52

4/52

13/52

52/52

7. Question # 7 of 10 (Start time: 08:30:13 PM) Total Marks: 1

Probability of a sure event is

Select correct option:

8

1

0

0.5

8. Question # 8 of 10 (Start time: 08:31:42 PM) Total Marks: 1

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

Question # 9 of 10 (Start time: 08:33:16 PM) Total Marks: 1

The probability of drawing a red queen card from well-shuffled pack of 52 playing cards is

Select correct option:

4/52

2/52

13/52

26/52

10. Question # 10 of 10 (Start time: 08:34:40 PM) Total Marks: 1

If $P(B|A) = 0.25$ and $P(A \text{ and } B) = 0.20$, then $P(A)$ is

Select correct option:

0.05

0.80

0.95

0.75

11. Question # 1 of 10 (Start time: 08:57:45 PM) Total Marks: 1

When a coin is tossed 3 times, the probability of getting 3 tails is

Select correct option:

1/8

3/8

3/6

2/8

12. Question # 2 of 10 (Start time: 08:59:14 PM) Total Marks: 1

In how many ways can a team of 11 players be chosen from a total of 16 players?

Select correct option:

4368(not confirmed)

2426

5400

2680

13. Question # 3 of 10 (Start time: 09:00:38 PM) Total Marks: 1

The standard deviation of c (constant) is

Select correct option:

c

c square

0

does not exist

14. Question # 4 of 10 (Start time: 09:01:46 PM) Total Marks: 1

If $P(E)$ is the probability that an event will occur, which of the following must be false:

Select correct option:

$P(E) = -1$

$P(E) = 1$

$P(E) = 1/2$

$P(E) = 1/3$

Question # 5 of 10 (Start time: 09:02:48 PM) Total Marks: 1

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 $P(E \cup F)$ is:

Select correct option:

$1/8$

$3/4$

$7/8$

$5/8$

16. Question # 6 of 10 (Start time: 09:04:09 PM) Total Marks: 1

A student solved 25 questions from first 50 questions of a book to be solved. The probability that he will solve the remaining all questions is:

Select correct option:

0.25

0.5

1

0

17. Question # 7 of 10 (Start time: 09:05:31 PM) Total Marks: 1

If $Y = bX$, then variance of Y is

Select correct option:

$b^2 \text{var}(x)$

$\text{var}(x)$

$b \text{var}(x)$

$b \text{ square root } \text{var}(x)$

18. Question # 9 of 10 (Start time: 09:07:48 PM) Total Marks: 1

The classical definition of probability assumes:

Select correct option:

Exhaustive events

Mutually exclusive events

Equally likely events

Independent events

19. Question # 10 of 10 (Start time: 09:08:50 PM) Total Marks: 1

In scatter diagram, the variable plotted along Y-axis is:

Select correct option:

Independent variable

Dependent variable

Continuous variable

Discrete variable

20. Which of the following measures of dispersion are based on deviations from the mean?

Select correct option:

Variance

Standard deviation

Mean deviation

All of the these

21. What does it mean when a data set has a standard deviation equal to

zero?

Select correct option:

All values of the data appear with the same frequency.

The mean of the data is also zero.

All of the data have the same value.

There are no data to begin with.

22. 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

23. Which of the following can never be probability of an event?

Select correct option:

0

1

0.5

-0.5

24. The standard deviation of -1, -1, -1, -1 will be

Select correct option:

1

-1

0

Does not exist

25. Which formula represents the probability of the complement of event

A:

Select correct option:

$1 + P(A)$

$1 - P(A)$

$P(A)$

$P(A) - 1$

26. The Special Rule of Addition is used to combine:

Select correct option:

Independent Events

Mutually Exclusive Events

Events that total more than 1.00

Events based on subjective probabilities

27. set which is the sub-set of every set is

Select correct option:

Empty Set

Power Set

Universal Set

Super Set

28. $E(4X + 5) =$ _____

Select correct option:

$12 E(X)$

$4 E(X) + 5$

$16 E(X) + 5$

$16 E(X)$

29. When two dice are rolled the number of possible sample points is :

Select correct option:

6

12

24

36

30. Question # 1 of 10 (Start time: 09:43:04 PM) Total Marks: 1

If two events A and B are not mutually exclusive then

Select correct option:

$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$

$P(A \text{ or } B) = P(A) + P(B)$

$P(A \text{ or } B) = P(A) \times P(B)$

$P(A \text{ or } B) = P(A) + P(B)$

31.

Question # 2 of 10 (Start time: 09:43:59 PM) Total Marks: 1

Evaluate (10-4)!

Select correct option:

1000

720

480

32

32. Question # 3 of 10 (Start time: 09:45:01 PM) Total Marks: 1

When E is an impossible event, then P(E) is:

Select correct option:

0

1

2

0.5

33. Question # 4 of 10 (Start time: 09:46:20 PM) Total Marks: 1

When we toss a coin , we get only:

Select correct option:

1 outcome

2 outcome

3 outcome

4 outcome

34.

Question # 5 of 10 (Start time: 09:47:15 PM) Total Marks: 1

For exhaustive events, the P(AUBUC) is equal to:

Select correct option:

P(A)

P(S)

$P(A) * P(B) * P(C)$

P(B)

35. Question # 6 of 10 (Start time: 09:48:21 PM) Total Marks: 1

A student solved 25 questions from first 50 questions of a book to be solved. The probability that he will solve the remaining all questions is:

Select correct option:

0.25

0.5

1

0

36. 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

37.

Question # 9 of 10 (Start time: 09:50:35 PM) Total Marks: 1

If we roll a die then probability of getting a '6' will be

Select correct option:

2/6

1/6

4/6

1

38. Question # 10 of 10 (Start time: 09:51:36 PM) Total Marks: 1

If $P(A) = 0.45$, $P(B) = 0.35$, and $P(A \text{ and } B) = 0.25$, then $P(A | B)$ is:

Select correct option:

1.4

1.8

0.714

0.556

39. Question # 8 of 10 (Start time: 09:49:53 PM) Total Marks: 1

Which of the following is not a measure of central tendency?

Select correct option:

Percentile

Quartile

Standard deviation

Mode

40. Question # 1 of 10 (Start time: 09:56:49 PM) Total Marks: 1

Random experiment can be repeated any no. of times under the..... conditions.

Select correct option:

Different

Similar

42. Question # 3 of 10 (Start time: 09:58:41 PM) Total Marks: 1

The simultaneous occurrence of two events is called:

Select correct option:

Joint probability

Subjective probability

Prior probability

Conditional probability

43. Question # 4 of 10 (Start time: 09:59:47 PM) Total Marks: 1

In regression analysis, the variable that is being predicted is the

Select correct option:

Dependent variable

Independent variable

Intervening variable

None of these

In a multiplication theorem $P(A \text{ and } B)$ equals:

 Select correct option:

$P(A) P(B)$

$P(A) + P(B)$

$P(A) * P(B|A)$

$P(B|A)*P(B)$

The probability can never be:

 Select correct option:

1

1/2

1

-1/2

If two fair die are thrown, the probability of getting a double six is:

 **Select correct option:**

1/6

2/36

1/36

1/12

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

Twenty percent of the students in a class of 100 are planning to go to graduate school. The standard deviation of this binomial distribution is:

 **Select correct option:**

20

2

4

16

If $f(x)$ is a continuous probability function, then $P(X = 2)$ is:

 **Select correct option:**

1

0

1/2

2

Probability of an impossible event is always:

 **Select correct option:**

- Less than one
- Greater than one
- Between one and zero
- Zero

Question # 8 of 10 (Start time: 01:38:25 PM)

Total Marks: 1

$E(4X + 5) =$ _____

 Select correct option:

- 12 E (X)
- 4 E (X) + 5
- 16 E (X) + 5
- 16 E (X)

The location and shape of the normal curve is (are) determined by:

 Select correct option:

- Mean
- Variance
- Mean & variance
- Mean & standard deviation

The probability of success changes from trial to trial, is the property of:

 Select correct option:

- Binomial experiment
- Hypergeometric experiment
- Both binomial & hypergeometric experiment
- Poisson experiment