FINAL TERM EXAMINATION
Spring 2012
STA301- Statistics and Probability

Question No: 1 (Marks: 1) - Please choose one
For a particular data the value of Pearson's coefficient of skewness is greater then zero. What will be the shape of distribution?

► Negatively skewed
► J-shaped
► Symmetrical
► **Positively skewed   (Page 109)**

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 -∞
► -∞ to +∞
► **0 to +∞   (Page 312)**

دنیا میں سب سے مشکل کام اپنی اصلاح اور سب سے آسان کام دوسروں پر نکتہ چینی کرنا ہے

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:
► $-\infty \leq \chi 2 \leq \infty$
► $-\infty \leq \chi 2 \leq 1$
► $-\infty \leq \chi 2 \leq 0$
► $0 \leq \chi 2 \leq \infty$ **(Page 307)**

Question No: 6   (Marks: 1)   - Please choose one
If X and Y are random variables, then $E(X-Y)$ is equal to:

► $E(X)+E(Y)$

► $E(X)-E(Y)$ **(Page 202)**

► $X-E(Y)$

► $E(X)-Y$

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

► **ŷ = mx + b, where m = slope   (Page 121)**
► x = ŷ + mb, where m = slope
► ŷ = x/m + b, where m = slope
► ŷ = 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   (Page 281)**
► Value of alpha
► Value of test-statistic

Question No: 1 (Marks: 1) - Please choose one
The t-Distribution is**……………** Spread out then the standard normal Distribution.
► Less
►**More   (Page 293)**
►Equally
►Not

Question No: 2 (Marks: 1) - Please choose one
To find the confidence internal for the ratio of two variances we use:
►**F-Distribution   (Page 311)**
►Z-Distribution
►Chi-Square Distribution
►T-Distribution

Question No: 3 (Marks: 1) - Please choose one
How many percent of values are less then 4th deciles in a symmetric distribution.
►14
►24
►4
►**40   (Page 70)**

Question No: 4 (Marks: 1) - Please choose one
The combined distribution of more than two random variables is:
►Bivariate Distribution
►Marginal Distribution
►**Joint Distribution   (Page 194)**
►Univariate Distribution

Question No: 5 (Marks: 1) - Please choose one
The degrees of freedom for a T-test with sample size 14 is:
►14
►**13   (Page 341)**
►**7**
►0

بری صحبت سے تنہائی بہتر ہے اور تنہائی سے نیک صحبت بہتر ہے

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Campus:- Institute of E-Learning & Moderen Studies
(IEMS) Samundari

Question No: 6 (Marks: 1) - Please choose one
Which of the falling is true for the binomial distribution b(x: n, p):
►**Mean > Variance   (Page 214)**
►Mean < Variance
►Mean = Variance
►Mean = Standard Deviation

Question No: 7 (Marks: 1) - Please choose one
What is *m f* in the formula of mode?
►first frequency
►last frequency
►middle frequency
►**highest frequency   (Page 54)**

FINAL TERM EXAMINATION
Fall 2011
STA301- Statistics and Probability

Question No: 1 (Marks: 1) - Please choose one
The parameters of the binomial distribution b(x; n, p) are:

   ► x & n
   ► x & p
   ► **n & p   (Page 212)**
   ► x, n & p

Question No: 2 (Marks: 1) - Please choose one
Which of the following is true for the Poisson distribution:

   ► mean > variance
   ► mean < variance
   ► **mean = variance   (Page 223)**
   ►mean= standard deviation

<div dir="rtl">اللہ کا خوف سب سے بڑی دانائی ہے</div>

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

If a significance level of 1% is used rather than 5%, the null hypothesis is:

- ► More likely to be rejected
- ► **Less likely to be rejected**
- ► Just as likely to be rejected
- ► None of the above

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

The variance of the chi-square distribution is:

- ► $2v$ **(Page 307)**
- ► $v-1$
- ► $v-2$
- ► v

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

The degrees of freedom for a t-test with sample size 10 is:

- ►5
- ► 8
- ► **9   (Page 298)**
- ► 10

FINAL TERM EXAMINATION
Spring 2010
STA301- Statistics and Probability (Session - 4)

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

The value of χ^2 can never be :

- ► Zero–
- ► Less than 1
- ► Greater than 1
- ► **Negative   (Page 307)**

ایماندار کو غصہ دیر سے آتا ہے اور جلدی دور ہو جاتا ہے

Question No: 2   (Marks: 1)   - Please choose one
The mean of the F-distribution is:

► $\dfrac{v_1}{v_1 - 2}$ $for v_1 \rangle 2$

► $\dfrac{v_2}{v_2 - 2}$ $for v_2 \rangle 2$ **(Page 312)**

► $\dfrac{v_1}{v_1 - 2}$ $for v_1 \geq 2$

► $\dfrac{v_2}{v_2 - 2}$ $for v_1 \leq 2$

Question No: 3   (Marks: 1)   - Please choose one
The F-distribution always ranges from:

► 0 to 1
► 0 to -∞
► -∞ to +∞
► **0 to +∞   (Page 312) rep**

Question No: 4   (Marks: 1)   - Please choose one
The total number of samples when sampling is done with replacement :

► N^n **(Page 237)**

► C_n^N

► $\dfrac{N-n}{N-1}$

► 1

<div dir="rtl">زندگی میں کامیابی کا یہی راز ہے کہ پریشانیوں سے پریشان مت بنو</div>

Question No: 5   (Marks: 1)   - Please choose one
ANOVA was introduced by :

    ► Helmert
    ► Pearson
    ► R.A Fisher   (Page 320)
    ► Francis

Question No: 6   (Marks: 1)   - Please choose one
The test statistic used in analysis of variance procedure follow the .... distribution.:

    ► χ^2
    ► T
    ► Z
    ► F (Page 326)

Question No: 7   (Marks: 1)   - Please choose one
For testing of hypothesis about population proportion , we use:

    ► Z-test   (Page 292)
    ► t-Test
    ► Both Z & T-test
    ► F test

Question No: 8   (Marks: 1)   - Please choose one
$$E(X-Y)$$
If X and Y are random variables, then   is equal to:

    ► $E(X)+E(Y)$

    ► $E(X)-E(Y)$ **(Page 202)   rep**

    ► $X-E(Y)$

    ► $E(X)-Y$

Question No: 9   (Marks: 1)   - Please choose one
A die is rolled. What is the probability that the number rolled is greater than 2 and even:
    ► 1/2
    ► 1/3
    ► 2/3   4/6 = 2/3
    ► 5/6

Question No: 10   (Marks: 1)   - Please choose one
The probability of drawing a king of spade from a pack of 52 cards is:

▶ 1/4

▶ 1/13

▶ 1/26

▶ **1/52**

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

An estimator T is said to be unbiased estimator of θ if

▶ **E (T) = θ (Page 258)**

▶ E (T) =T

▶ E (T) =0

▶ E (T) =1

Question No: 12   (Marks: 1)   - Please choose one
From point estimation, we always get:

▶ **Single value   (Page 257)**

▶ Two values

▶ Range of values

▶ Zero

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

The best unbiased estimator for population variance σ^2 is:

▶ Sample mean

▶ Sample median

▶ Sample proportion

▶ **Sample variance   (Page 260)**

Question No: 14   (Marks: 1)   - Please choose one
When c is a constant, then E(c) is:

▶ 0

▶ 1

▶ **c   (Page 180)**

▶ -c

<div dir="rtl">دنیا کی سب سے بڑی فتح نفس پر قابو رکھنا ہے</div>

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

Var(4X + 5) =_____

- ► 16 Var (X)
- ► 16 Var (X) + 5
- ► **4 Var (X) + 5**
- ► 12 Var (X)

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

When f(x) is continuous probability function, then P(X = 1) is:

- ► 1
- ► ∞
- ► $-\infty$
- ► **0   (Page 188)**

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

The hyper geometric random variable is a(an):

- ► Continuous variable
- ► **Discrete variable**   Click here for detail
- ► Undefined
- ► Independent variable

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

From a sample of 200 people were asked whether they like a particular product. Fifty said 'yes' and remain said 'no', assuming 'yes' means a success, which of the following is correct?

- ► Sample proportion p=0.33
- ► **Sample proportion p=0.25   (Page 245)**
- ► Population proportion p= 0.33
- ► Population proportion p=0.25

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

In any data set, what percent of values fall in the interval $Median \pm Q.D$?

- ► **50 per cent   (Page 84)**
- ► 68.5 per cent
- ► 95.4 per cent
- ► 99 per cent

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جھوٹ انسان اور ایمان دونوں کا دشمن ہے

</div>

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

$$\sum_{i=1}^{5}(X_i - 20) = 0, then \ \bar{X} = ...$$

If

► **0   (Page 258)**
► 20
► 5
► 25

Question No: 21   (Marks: 1)   - Please choose one
The height of a student is 60 inches. This is an example of ....?
   ► Continuous data
   ► Qualitative data
   ► Categorical data
   ► **Discrete data**

Question No: 22   (Marks: 1)   - Please choose one
In Statistics, we have MSE which is abbreviation of……

   ► **Mean square error   (Page 330)**
   ► Measured square error
   ► Medical screening exam
   ► Major sampling error

Question No: 23   (Marks: 1)   - Please choose one
Which one is the formula of mid range:

► $x_m - x_0$

► $x_0 - x_m$

► $\dfrac{x_0 - x_m}{2}$

► $\dfrac{x_0 + x_m}{2}$ **(Page 80)**

عقل مند کہتا ہے میں کچھ نہیں جانتا جبکہ بے وقوف کہتا ہے کہ میں سب کچھ جانتا ہوں

Question No: 24   (Marks: 1)   - Please choose one
The deviation of a distribution from symmetry is called:

► Kurtosis
► Skewness
► Dispersion
► Flatness

Question No: 25   (Marks: 1)   - Please choose one
If E is an impossible event, then P(E) is:

► 1
► 2
► 0   (Page 146)
► 0.5

Question No: 26   (Marks: 1)   - Please choose one
If a data set has the even number of observations, the median :
► Is the average value of the two middle items
► Can not be determined
► must be equal to the mean
► Is the average value of the two middle items when all items are arranged in ascending order
Click here for detail

Question No: 27   (Marks: 1)   - Please choose one

$$P(X = 1) = \frac{e^{-0.135} 0.135^1}{1!}$$

For the Poisson distribution   the mean value is :
► 2
► 5
►10
► 0.135   (Page 222)

Question No: 28   (Marks: 1)   - Please choose one
In testing of hypothesis, we always begin it with assuming that:

► Null hypothesis is true   (Page 277)
► Alternative hypothesis is true
► Sample size is large
► Population is normal

خود کو تمہیں سے بڑھ کر کوئی اچھا مشورہ نہیں دے سکتا

Question No: 29   (Marks: 1)   - Please choose one

Variance of the t-distribution is given by the formula:

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

►

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

►

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

►

$$\sigma^2 = \frac{v}{v-2}$$ **(Page 293)**

►

Question No: 30   (Marks: 1)   - Please choose one

If a continuous probability distribution has $\beta_2 = 2.14$ then what will be peakedness of the distribution?

► **Platykurtic   (Page 119)**
► Mesokurtic
► Leptokutic
► Moderately skewed

FINAL TERM EXAMINATION
Spring 2010
STA301- Statistics and Probability (Session - 4)

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

When each outcome of a sample space has equal chance to occur as any other, the outcomes are called:

► Mutually exclusive
► **Equally likely   (Page 117)**
► Not mutually exclusive
► Exhaustive

جو شخص ناکامیوں سے ڈر کر بھاگتا ہے کامیابی اُس سے ڈر کر بھاگتی ہے

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

The mean of the F-distribution is:

$$\frac{v_1}{v_1 - 2} \quad for v_1 \rangle 2$$

►

$$\frac{v_2}{v_2 - 2} \quad for v_2 \rangle 2$$

(Page 312)

►

$$\frac{v_1}{v_1 - 2} \quad for v_1 \geq 2$$

►

$$\frac{v_2}{v_2 - 2} \quad for v_1 \leq 2$$

►

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

The LSD test is applied only if the null hypothesis is:

► **Rejected   (Page 331)**
► Accepted
► No conclusion
► Acknowledged

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

Analysis of variance is a procedure that enables us to test the equality of several:

► Variances
► **Means   (Page 320)**
► Proportions
► Groups

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

ANOVA was introduced by :

► Helmert
► Pearson
► **R.A Fisher   (Page 320)   rep**
► Francis

Question No: 6   (Marks: 1)   - Please choose one
For testing of hypothesis about population proportion , we use:

▶ **Z-test   (Page 292) rep**
▶ t-Test
▶ Both Z & T-test
▶ F test

Question No: 7   (Marks: 1)   - Please choose one
If a random variable X denotes the number of heads when three distinct coins are tossed, the X assumed the values:

▶ **0,1,2,3**
▶ 1,3,3,1
▶ 1, 2, 3
▶ 3, 2

Question No: 8   (Marks: 1)   - Please choose one
If X and Y are independent variables, then E (XY) is:

▶ E(XX)
▶ **E(X).E(Y)   (Page 202)**
▶ X.E(Y)
▶ Y.E(X)

Question No: 9   (Marks: 1)   - Please choose one
The parameters of the binomial distribution b(x; n, p) are:

▶ x & n
▶ **x & p   (Page 212) rep**
▶ n & p
▶ x, n & p

Question No: 10   (Marks: 1)   - Please choose one
If P (E) is the probability that an event will occur, which of the following must be false:
▶ **P(E)= - 1**
▶ P(E)=1
▶ P(E)=1/2
▶ P(E)=1/3

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جو لوگوں کے سامنے فخر کرتا ہے وہ لوگوں کی نظروں سے گر جاتا ہے

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

An estimator T is said to be unbiased estimator of θ if

▶ **E (T) = θ (Page 258) rep**
▶ E (T) =T
▶ E (T) =0
▶ E (T) =1

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

The best unbiased estimator for population variance σ^2 is:

▶ **Sample mean   (Page 260) rep**
▶ Sample median
▶ Sample proportion
▶ Sample variance

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

$$S^2 = \frac{\sum(x-\bar{x})^2}{n}$$

The sample variance   is:

▶ Unbiased estimator of σ^2

▶ **Biased estimator of σ^2 (Page 260)**

▶ Unbiased estimator of μ
▶ None of these

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

When c is a constant, then E(c) is:

▶ 0
▶ 1
▶ **c   (Page 180) rep**
▶ -c

عقل مند اپنے عیب خود دیکھتا ہے اور بیوقوفوں کے عیب دنیا دیکھتی ہے

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

If f (x, y) is bivariate probability density function of continuous r.v.'s X and Y then

$g(x)$ is:

$$\int_{-\infty}^{\infty} f(x, y)\, dx$$

►

$$\int_{-\infty}^{\infty} f(x, y)\, dy$$

►

$$\int_{-\infty}^{\infty} \int_{-\infty}^{\infty} f(x, y)\, dx\, dy$$ **(Page 199)**

►

$$\int_{a}^{b} \int_{c}^{d} f(x, y)\, dy\, dx$$

►

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

The analysis of variance technique is a method for :

► Comparing F distributions
► **Comparing three or more means   (Page 320)**
► Measuring sampling error
► Comparing variances

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

The continuity correction factor is used when:

► The sample size is at least 5
► Both nP and $n (1-P)$ are at least 30
► **A continuous distribution is used to approximate a discrete distribution** Click here for detail
► The standard normal distribution is applied

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

Stem and leaf is more informative when data is :
► Equal to 100
► Greater Than 100
► **Less than 100**   click here for detail
► In all situations

Question No: 19   (Marks: 1)   - Please choose one
The branch of Statistics that is concerned with the procedures and methodology for obtaining valid conclusions is called:

- ► Descriptive Statistics
- ► Advance Statistics
- ► **Inferential Statistics   (Page 237)**
- ► Sampled Statistics

Question No: 20   (Marks: 1)   - Please choose one
Which of the following is a systematic arrangement of data into rows and columns?
- ► Classification
- ► **Tabulation**
- ► Bar chart
- ► Component bar chart

Question No: 21   (Marks: 1)   - Please choose one
In normal distribution Q.D =

- ► 0.5σ
- ► 0.75σ
- ► 0.7979σ
- ► 0.6745σ Click here for detail

Question No: 22   (Marks: 1)   - Please choose one
In normal distribution $\beta_2 =$

- ► 1
- ► 2
- ► **3   (Page 119)**
- ► 0

Question No: 23   (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   (Page 38)**
- ► Historigram

Question No: 24   (Marks: 1)   - Please choose one
Which one of the following statements is true regarding a population?
   ► **It must be a large number of values   (Page 12)**
   ► It must refer to people
   ► It is a collection of individuals, objects, or measurements
   ► It is small part of whole

Question No: 25   (Marks: 1)   - Please choose one
   $Q_1 = 2 \ and \ Q_3 = 4$
When   ,what is the value of Median, if the distribution is symmetrical:

   ► 1
   ► **2**
   ► 3
   ► 4

Question No: 26   (Marks: 1)   - Please choose one
In a simple linear regression model, if it is assumed that the intercept parameter is equal to zero, then:
   ► 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 equal to 0.**

Question No: 27   (Marks: 1)   - Please choose one
The degrees of freedom for a t-test with sample size 10 is:

   ► 5
   ► 8
   ► **9   (Page 298) rep**
   ► 10

Question No: 28   (Marks: 1)   - Please choose one
In testing of hypothesis, we always begin it with assuming that:

   ► **Null hypothesis is true   (Page 277) rep**
   ► Alternative hypothesis is true
   ► Sample size is large
   ► Population is normal

بدصورت چہرہ بدصورت دماغ سے بہتر ہے

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Question No: 29   (Marks: 1)   - Please choose one
A failing student is passed by an examiner is an example of:

- ► Type I error
- ► **Type II error**
- ► Correct decision
- ► No information regarding student exams

Question No: 30   (Marks: 1)   - Please choose one

How to find $P(X + Y \leq 1)$?
- ► 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)

FINAL TERM EXAMINATION
Spring 2010
STA301- Statistics and Probability (Session - 3)

Question No: 1   (Marks: 1)   - Please choose one
The total number of samples when sampling is done with replacement :

- ► N^n **(Page 237) rep**
- ► C_n^N
- ► $\dfrac{N-n}{N-1}$
- ► 1

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عقل مند آدمی اس وقت تک نہیں بولتا جب تک خاموشی نہیں ہو جاتی

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Question No: 2   (Marks: 1)   - Please choose one
The test statistic used in analysis of variance procedure follow the .... distribution.:

- ► χ^2
- ► T
- ► Z
- ► **F   (Page 326) rep**

Question No: 3   (Marks: 1)   - Please choose one
If a random variable X denotes the number of heads when three distinct coins are tossed, the X assumed the values:

- ► **0,1,2,3   rep**
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If X and Y are independent variables, then E (XY) is:

- ► E(XX)
- ► **E(X).E(Y)   (Page 202)   rep**
- ► X.E(Y)
- ► Y.E(X)

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

$$S^2 = \frac{\sum(x-\bar{x})^2}{n}$$

The sample variance   is:

- ► Unbiased estimator of σ^2

- ► **Biased estimator of** σ^2 **(Page 260) rep**

- ► Unbiased estimator of μ
- ► None of these

<div dir="rtl">انسان دکھ نہیں دیتے بلکہ انسانوں سے وابستہ امیدیں دکھ دیتی ہیں</div>

Question No: 6   (Marks: 1)   - Please choose one
When c is a constant, then E(c) is:

   ► 0
   ► 1
   ► **c   (Page 180) rep**
   ► -c

Question No: 7   (Marks: 1)   - Please choose one
When the random variable X and Y are independent, its co-variance is:

   ► One
   ► Negative
   ► **Zero   (Page 207)**
   ► Positive

Question No: 8   (Marks: 1)   - Please choose one
When f (x, y) is bivariate probability density function of continuous r.v.'s X and Y, then

$$\int_{-\infty}^{\infty} \int_{-\infty}^{\infty} f(x, y)\, dx\, dy$$

                is equal to:

   ► **1   (Page 199)**
   ► 0
   ► -1
   ► ∞

Question No: 9   (Marks: 1)   - Please choose one
Which dispersion is calculated from all the observations?

   ► **Standard deviation**
   ► Quartile deviation
   ► Rang
   ► Coefficient of Rang

Question No: 10   (Marks: 1)   - Please choose one
Standard deviation of the data 7, 7, 7, 7, 7, 7, 7 is

   ► 49
   ► Sqrt (7)
   ► **0   Standard deviation will always be zero if all the values in data are same**
   ► 7

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

Which one is the poor measure of dispersion in open-end distribution?

      ► **Range**
      ► Standard deviation
      ► Mean deviation
      ► Variance

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

Men tend to marry women who are slightly younger than themselves. Suppose that every man married a woman who was exactly 5 years younger than themselves. Which of the following is correct:

      ► The correlation is −5
      ► The correlation is 5
      ► **The correlation is 1** Click here for detail
      ► The correlation is 0

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

Sum of absolute deviations of the values is least when deviations are taken from:

      ► **Mean**
      ► Median
      ► Mode
      ► Geometric mean

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

Which of the following measures of central location is affected most by extreme values:

      ► Geometric Mean
      ► Median
      ► **Mean**   Click here for detail
      ► Mode

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

Which of the following is a critical value of Z when $1-\alpha = 95\%$ for one tailed test:

      ► 2.58
      ► 1.645
      ► 1.25
      ► **1.96**

بہترین تجربہ وہ ہے جس سے نصیحت حاصل ہو

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Question No: 16   (Marks: 1)   - Please choose one
In normal distribution Q.D =

► 0.5σ

► 0.75σ

► 0.7979σ

► 0.6745σ Click here for detail   rep

Question No: 17   (Marks: 1)   - Please choose one
The difference between expected value of statistic and parameter is called:

► Non-sampling error
► Sampling error
► Standard error
► **Bias**   Click here for detail

Question No: 18   (Marks: 1)   - Please choose one
In Statistics, we have MSE which is abbreviation of……

► **Mean square error   (Page 330) rep**
► Measured square error
► Medical screening exam
► Major sampling error

Question No: 19   (Marks: 1)   - Please choose one
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
► Varies from class to class

<div dir="rtl">خوبصورتی علم و ادب سے ہوتی ہے لباس و حسن سے نہیں</div>

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Question No: 20   (Marks: 1)   - Please choose one
Which one is the formula of range:

▶ $x_m - x_0$

▶ $x_0 - x_m$

▶ $\dfrac{x_0 - x_m}{2}$

▶ $\dfrac{x_0 + x_m}{2}$ **(Page 80)**

Question No: 21   (Marks: 1)   - Please choose one
Which one is the formula of Geometric mean for group data:

▶ $anti\log\left[\dfrac{\sum f \log X}{n}\right]$

▶ $anti\log\left[\dfrac{\sum \log X}{n}\right]$ **(Page 75)**

▶ $anti\log\left[\dfrac{\sum \log f X}{n}\right]$

▶ $anti\log\left[\dfrac{\sum \log f X}{\sum\limits_{i=1}^{n} f}\right]$

Question No: 22   (Marks: 1)   - Please choose one
The F-distribution has …… parameter.

▶ One
▶ No
▶ **Two   (Page 312)**
▶ Three

تم اچھا کرو زمانہ تم کو برا سمجھے یہ اس سے بہتر ہے کہ تم برا کرو اور زمانہ تم کو اچھا سمجھے

Question No: 23   (Marks: 1)   - Please choose one

$$\bar{X} = \frac{\Sigma X}{n}$$

The sample mean   is an unbiased estimator of population mean (μ), because:

► $E(\bar{X}) = 0$

► $E(\bar{X}) = \mu$ **(Page 259)**

► $E(\bar{X}) > \mu$

► $E(\bar{X}) < \mu$

Question No: 24   (Marks: 1)   - Please choose one

For a particular hypothesis test, $\alpha = 0.05$ and $\beta = 0.10$. The power of test equals to:

► 0.95
► 0.25
► **0.90**
► 0.14

Question No: 25   (Marks: 1)   - Please choose one
The degrees of freedom for a t-test with sample size 10 is:
► 5
► 8
► **9   (Page 298) rep**
► 10

Question No: 26   (Marks: 1)   - Please choose one
The degrees of freedom for a t-test with sample size 14 is:
► 14
► **13   (Page 341) rep**
► 7
► 0

Question No: 27   (Marks: 1)   - Please choose one
The degrees of freedom for a t-test with sample size 6 is:

► 1
► 3
► **5   (Page 341)**
► 7

Question No: 28   (Marks: 1)   - Please choose one

In testing of hypothesis, we always begin it with assuming that:

- ► **Null hypothesis is true   (Page 277) rep**
- ► Alternative hypothesis is true
- ► Sample size is large
- ► Population is normal

Question No: 29   (Marks: 1)   - Please choose one

$$\beta_2 = 2.14$$

If a continuous probability distribution has   then what will be peakedness of the distribution?

- ► **Platykurtic   (Page 119) rep**
- ► Mesokurtic
- ► Leptokutic
- ► Moderately skewed

Question No: 30   (Marks: 1)   - Please choose one

The difference between statistic and parameter is called:

- ► **Bias**   <u>Click here for detail</u> **rep**
- ► Standard error
- ► Sampling error
- ► None of above

FINAL TERM EXAMINATION
Fall 2009
STA301- Statistics and Probability (Session - 4)

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

Mean deviation is always:

- ► Less than S.D
- ► Greater than S.D
- ► Greater or equal to S.D
- ► **Less or equal to S.D**   <u>Click here for detail</u>

<div dir="rtl">انسان کے لئے بری صحبت سے بڑھ کر بری کوئی چیز نہیں</div>

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

The value of χ^2 can never be :

► Zero
► Less than 1
► Greater than 1
► **Negative   (Page 307) rep**

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

The mean of the F-distribution is:

► $\dfrac{v_1}{v_1 - 2}$ $for\,v_1 \rangle 2$

► $\dfrac{v_2}{v_2 - 2}$ $for\,v_2 \rangle 2$ **(Page 312)   rep**

► $\dfrac{v_1}{v_1 - 2}$ $for\,v_1 \geq 2$

► $\dfrac{v_2}{v_2 - 2}$ $for\,v_1 \leq 2$

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

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

► $E(X) + E(Y)$

► $E(X) - E(Y)$ **(Page 202) rep**

► $X - E(Y)$

► $E(X) - Y$

<div dir="rtl">خاموشی غصے کا بہترین علاج ہے</div>

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

Evaluate: (9-4)!

   ► 362880

   ► 120

   ► 24

   ► 6

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

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

   ► $1 + P(A)$

   ► $1 - P(A)$ (Page 156)

   ► $P(A)$

   ► $P(A) - 1$

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

Ideally the width of confidence interval should be:

   ► 0   (Page 270)

   ► 1

   ► 99

   ► 100

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

If the sampling distribution of $\bar{X}$ is normal, the interval $\mu_{\bar{x}} \pm 3\sigma_{\bar{x}}$ includes:

   ► 99% of the sample means

   ► 99.73% of the sample means   (Page 228)

   ► 98% of the sample means

   ► 95% of the sample means

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

The probability distribution of a statistic is called the:

   ► Population distribution

   ► Frequency distribution

   ► Sampling distribution   click here for detail

   ► Sample distribution

<div dir="rtl">

جھوٹ رزق کو کھا جاتا ہے

</div>

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

An estimator T is said to be unbiased estimator of θ if

    ► **E (T) =θ**   **(Page 258) rep**
    ► E (T) =T
    ► E (T) =0
    ► E (T) =1

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

If the following is a probability distribution, then what is the value of 'a':

X	1	2	3
P(X)	0.1	a	0.1

    ► 0.6
    ► **0.8**
    ► 0.2
    ► 0.4

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

A discrete probability function f(x) is always:

    ► Non-negative
    ► Negative
    ► **One   (Page 168)**
    ► Zero

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

An expected value of a random variable is equal to:

    ► Variance
    ► **Mean   (Page 191)**
    ► Standard deviation
    ► Covariance

افضل انسان وہ ہے جو اپنی اصلاح کی کوشش کرتا ہے

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

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

► $f(1,1)$

► $f(x,1)$

► $\dfrac{f(x,1)}{h(1)}$ **(Page 198)**

► $\dfrac{f(x,1)}{h(x)}$

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

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

► .0401
► .5500
► **.4599   (Page 230)**
► .9599

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

The continuity correction factor is used when:

► The sample size is at least 5
► Both *nP* and *n (1-P)* are at least 30
► **A continuous distribution is used to approximate a discrete distribution**   Click here for detail
► The standard normal distribution is applied

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

Which of the following is impossible in sampling:

► Destructive tests
► **Heterogeneous**
► To make voters list
► None of these

اطمینان قلب چاہتے ہو تو حسد سے دور رہو

Question No: 18   (Marks: 1)   - Please choose one
Which of the following is a systematic arrangement of data into rows and columns?
- ► Classification
- ► **Tabulation   rep**
- ► Bar chart
- ► Component bar chart

Question No: 19   (Marks: 1)   - Please choose one
Which one of the following statements is true regarding a sample?
- ► **It is a part of population   (Page 13)**
- ► It must contain at least five observations
- ► It refers to descriptive statistics
- ► It produces True value

Question No: 20   (Marks: 1)   - Please choose one
The data for an ogive is found in which distribution?
- ► A relative frequency distribution
- ► A frequency distribution
- ► A joint frequency distribution
- ► **A cumulative frequency distribution   (Page 43)**

FINAL TERM EXAMINATION
Fall 2009
STA301- Statistics and Probability

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

- ► 362880
- ► **3628800**
- ► 362280
- ► 362800

<div dir="rtl">

اس سے پہلے کہ تمہیں شہوت فتنے میں ڈالے نکاح کرلو

</div>

Question No: 2   (Marks: 1)   - Please choose one
When E is an impossible event, then P(E) is:

► 2
► **0   (Page 146) rep**
► 0.5
► 1

Question No: 3   (Marks: 1)   - Please choose one
The value of χ^2 can never be :
   ► Zero
   ► Less than 1
   ► Greater than 1
   ► **Negative   (Page 307) rep**

Question No: 4   (Marks: 1)   - Please choose one
The curve of the F- distribution depends upon:
   ► **Degrees of freedom   (Page 312)**
   ► Sample size
   ► Mean
   ► Variance

Question No: 5   (Marks: 1)   - Please choose one
$$E(X-Y)$$
If X and Y are random variables, then   is equal to:

► $E(X)+E(Y)$

► $E(X)-E(Y)$ **(Page 202) rep**

► $X-E(Y)$

► $E(X)-Y$

Question No: 6   (Marks: 1)   - Please choose one
In testing hypothesis, we always begin it with assuming that:

   ► **Null hypothesis is true   (Page 277) rep**
   ► Alternative hypothesis is true
   ► Sample size is large
   ► Population is normal

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

$$\frac{\ell^{-0.135}\ 0.135^1}{1!}$$

For the Poisson distribution P(x) =   the mean value is :

► 2

► 5

► 10

► **0.135   (Page 222) rep**

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

When two coins are tossed simultaneously, P (one head) is:

► $\dfrac{1}{4}$

► $\dfrac{1}{2}$

► $\dfrac{3}{4}$

► 1

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

From point estimation, we always get:

► **Single value   (Page 257) rep**

► Two values

► Range of values

► Zero

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

$$S^2 = \frac{\sum(x - \bar{x})^2}{n}$$

The sample variance   is:

► Unbiased estimator of σ^2

► **Biased estimator of** σ^2 **(Page 260) rep**

► Unbiased estimator of μ

► None of these

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

Var(4X + 5) =_____

> ► 16 Var (X)
> ► 16 Var (X) + 5
> **► 4 Var (X) + 5   rep**
> ► 12 Var (X)

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

When f (x, y) is bivariate probability density function of continuous r.v.'s X and Y, then

$$\int_{-\infty}^{\infty} \int_{-\infty}^{\infty} f(x, y) dx \, dy$$

is equal to:

> **► 1   rep**
> ► 0
> ► -1
> ► ∞

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

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

> ► .0401
> ► .5500
> **► .4599   (Page 230) rep**
> ► .9599

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

When a fair die is rolled, the sample space consists of:
► 2 outcomes
► 6 outcomes
► 36 outcomes   (Page 145)
►16 outcomes

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

When testing for independence in a contingency table with 3 rows and 4 columns, there are _____ degrees of freedom.

> ► 5
> **► 6   (Page 341)**
> ► 7
> ► 12

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

The F- test statistic in one-way ANOVA is:

- ► SSW / SSE
- ► MSW / MSE
- ► SSE / SSW
- ► **MSE / MSW   (Not sure)**

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

The continuity correction factor is used when:

- ► The sample size is at least 5
- ► Both *nP* and *n (1-P)* are at least 30
- ► **A continuous distribution is used to approximate a discrete distribution   rep**
- ► The standard normal distribution is applied

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

A uniform distribution is defined by:

- ► **Its largest and smallest value   click here for detail**
- ► Smallest value
- ► Largest value
- ► Mid value

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

Which graph is made by plotting the mid point and frequencies?

- ► **Frequency polygon   (Page 34)**
- ► Ogive
- ► Histogram
- ► Frequency curve

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

In a set of 20 values all the values are 10, what is the value of median?

- ► 2
- ► 5
- ► **10**
- ► 20

<div dir="rtl">

ہر چیز کی ایک پہچان ہوتی ہے اور عقلمند کی پہچان غور و فکر کرنا ہے اور غور و فکر کی پہچان خاموشی ہے

</div>

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Question No: 1   (Marks: 1)   - Please choose one
For a particular data the value of Pearson's coefficient of skewness is greater then zero. What will be the shape of distribution?

► **Negatively skewed**
► J-shaped
► Symmetrical
► **Positively skewed   (Page 110)**

Question No: 2   (Marks: 1)   - Please choose one
In measures of relative dispersion unit of measurement is:

► **Changed**
► **Vanish   Rep**
► 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 $+\infty$ (Page 312) rep**

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

اپنی مرضی اور اللہ کی مرضی میں فرق کا نام غم ہے

Question No: 5   (Marks: 1)   - Please choose one
The Chi- Square distribution is continuous distribution ranging from:

► $-\infty \le \chi^2 \le \infty$
► $-\infty \le \chi^2 \le 1$
► $-\infty \le \chi^2 \le 0$
► **$0 \le \chi^2 \le \infty$ (Page 307) rep**

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

$$E(X-Y)$$

If X and Y are random variables, then   is equal to:

► $E(X)+E(Y)$

► $E(X)-E(Y)$ **(Page 202) rep**

► $X-E(Y)$

► $E(X)-Y$

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

► **ŷ = mx + b, where m = slope   (Page 121) rep**
► x = ŷ + mb, where m = slope
► ŷ = x/m + b, where m = slope
► ŷ = 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   (Page 281)   rep**
► Value of alpha
► Value of test-statistic

وہ لوگ مبارک ہیں جو الفاظ سے نصیحت نہیں کرتے بلکہ عمل سے کرتے ہیں

Question No: 9　(Marks: 1)　- Please choose one
The variance of the t-distribution is give by the formula:

► $\sigma^2 = \sqrt{\dfrac{v}{v-2}}$

► $\sigma^2 = \dfrac{v^2}{v-2}$

► $\sigma^2 = \dfrac{v}{v-1}$

► $\sigma^2 = \dfrac{v}{v-2}$ **(Page 293)**

Question No: 10　(Marks: 1)　- Please choose one
Which one is the correct formula for finding desired sample size?

► $n = \left(\dfrac{Z_{\alpha/2}.\sigma}{e}\right)^2$ **(Page 276)**

► $n = \left(\dfrac{Z_{\alpha/2}.\sqrt{\sigma}}{e}\right)^2$

► $n = \left(\dfrac{Z_{\alpha/2}.\bar{X}}{e}\right)^2$

► $n = \dfrac{Z_{\alpha/2}.\sigma}{e}$

خدا کے سوا کسی سے امید مت رکھو

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

A discrete probability function f(x) is always:

- ► Non-negative
- ► Negative
- ► **One   (Page 168)   rep**
- ► 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 $f(x|1) =$ _____:

- ► $f(1,1)$

- ► $f(x,1)$

- ► $\dfrac{f(x,1)}{h(1)}$ **(Page 198)   rep**

- ► $\dfrac{f(x,1)}{h(x)}$

ہر کسی کی روٹی نہ کھا بلکہ ہر شخص کو اپنی روٹی کھلا

Question No: 15   (Marks: 1)   - Please choose one
The area under a normal curve between 0 and -1.75 is

- ► .0401
- ► .5500
- ► **.4599   (Page 230) rep**
- ► .9599

Question No: 16   (Marks: 1)   - Please choose one
In normal distribution M.D. =

- ► 0.5σ
- ► 0.75σ
- ► 0.7979σ <u>Click here for detail</u>   **rep**
- ► 0.6445σ

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   (Page 134)**
- ►**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**   <u>click here for detail</u>   rep
- ► In all situations

فرقہ بندی ہی ہماری قوم کا زوال کا باعث ہے

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 population   (Page 12)**

STA 301 – Quizzes

Question # 1 of 10 (Total Marks: 1) Select correct option:

The number of telephone calls that pass through a switchboard has a Poison distribution with mean equal to 2 per minute. The probability that no telephone calls pass through the switchboard in two consecutive minutes is:

0.2707

0.0517

0.0183

0.0366

Question # 2 of 10 (Total Marks: 1) Select correct option:

The range of the binomial distribution is:

0, 1, 2, ... , 100

0, 1, 2, … , n   <u>Click here for detail</u>

0, 1, 2, … , x

1, 2, … , n

Question # 3 of 10 (Total Marks: 1) Select correct option:

Which of the following is NOT CORRECT about a standard normal distribution?

$P(0 \leq Z \leq 1.50) = .4332$

$P(Z \geq 2.0) = .0228$

$P (Z \geq -2.5) = .4938$ (Page 230)

$P (Z \leq -1.0) = .1587$

دنیا حقیر نظر آتی ہے، جب غم یا خوشی کی انتہاء ہو جائے

Question # 4 of 10 (Total Marks: 1) Select correct option:
 The distribution function (df) is also known as cumulative distribution function (cdf).
Yes   (Page 173)
No

Question # 5 of 10 (Total Marks: 1) Select correct option:
Which of the following pairs of events are mutually exclusive?

A:the numbers above100;B: the numbers less than-200
A:the odd numbers; B:the number 5
A:the even numbers; B:the numbers greater than 10
A:the numbers less than 5; B:all the negative numbers

Question # 6 of 10 (Total Marks: 1) Select correct option:
Two events A & B are said to be independent if...
$P(A) + P(B)$
$P(B/A) = P(B)$
$P(A) * P(B)$ (Page 162)
$P(A/B) = P(A)$

Question # 7 of 10 (Total Marks: 1) Select correct option:
The collection of all outcomes for an experiment is called:

A sample space   Click here for detail
Joint probability simple event
The intersection of events
Random experiment

Question # 8 of 10 (Total Marks: 1) Select correct option:
Symbolically, a conditional probability is:
$P(AB)$
$P(A/B)$ (Page 159)
$P(A)$
$P(AUB)$

Question # 9 of 10 (Total Marks: 1) Select correct option:
Which of the following statements is INCORRECT about the sampling distribution of the sample mean?

The standard error of the sample mean will decrease as the sample size increases
The standard error of the sample mean is measure of the variability of the sample mean among repeated samples
The sample mean is unbiased for the true (unknown) population mean
The sampling distribution shows how the sample was distributed around the sample mean
   Click here for detail

Question # 10 of 10 (Total Marks: 1) Select correct option:

If one event is unaffected by the outcome of another event the two events are said to be:

1. Dependent
2. Not Mutually Exclusive
3. Mutually Exclusive
   Independent   <u>Click here for detail</u>

Question # 1 of 10 (Total Marks: 1) Select correct option:

Let X be a random variable with binomial distribution, that is (X=0,1,…, n). The expected value E[X] is

p
np   (Page 214)
np(1-p)
Xnp

Question # 2 of 10 (Total Marks: 1) Select correct option:

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

The sample mean has a normal distribution
The average sample mean, over all possible samples, equals the population mean   (Page 259)
The sample mean is always very close to the population mean
The sample mean will only vary a little from the population mean

Question # 4 of 10 (Total Marks: 1) Select correct option:

Probability of an impossible event is always:

Less than one
Greater than one
Between one and zero
Zero   (Page 146)

Question # 5 of 10 (Total Marks: 1) Select correct option:

The function abbreviated to d.f. is also called the......

Probability density function
Probability distribution function
Commutative distribution function   (Page 173)
Discrete function

<div align="center">بے حسی نصف موت ہے</div>

Question # 6 of 10 (Total Marks: 1) Select correct option:
The total area under the normal curve is:

    0
    1   (Page 186)
    0.5
    0.75

Question # 7 of 10 (Total Marks: 1) Select correct option:
Two events A & B are said to be independent if....

    P (A) + P (B)
    P (B\A) = P (B)
    P (A) * P (B)   (Page 162)   rep
    P (A\B) = P (A)

Question # 8 of 10 (Total Marks: 1) Select correct option:
When two coins are tossed the probability of at most one head is:

    1/4
    2/4
    3/4   rep
    1

Question # 9 of 10 (Total Marks: 1) Select correct option:
For exhaustive events, the P(AUBUC) is equal to:

    P(A)
    P(S)   (Page 147)
    P(A) * P(B)* P(C)
    P(B)

Question # 10 of 10 (Total Marks: 1) Select correct option:
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   click here for detail

STA 301 – Quizzes

Question # 1 of 10 (Total Marks: 1) Select correct option:
The number of parameters in hypergeometric distribution is (are):

    1
    2
    3   (Page 219)
    4

Question # 2 of 10 (Total Marks: 1) Select correct option:
If Y=bX, then variance of Y is

    b*2 var(x)
    var(x)
    b var(x)
    b square root var(x)

Question # 3 of 10 (Total Marks: 1) Select correct option:
If f(x) is a continuous probability function, then P(X = 2) is:

    1
    0 (Page 186)
    1/2
    2

Question # 4 of 10 (Total Marks: 1) Select correct option:
In regression line Y=a+bX, Y is called:

    Dependent variable (Page 121)
    Independent variable
    Explanatory variable
    Regressor

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پہلے وقتوں میں تعلیم کم تھی اور علم زیادہ، آج کل علم کم ہے اور تعلیم زیادہ

</div>

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Question # 5 of 10 (Total Marks: 1) Select correct option:
If A and B are mutually exclusive events with P (A) =0.25 and P (B) = 0.50, Then P (A or B) =………

    0.25
    0.75   (Page 154)
    0.50
    1

Question # 6 of 10 (Total Marks: 1) Select correct option:
In a 52 well shuffled pack of 52 playing cards, the probability of drawing any one diamond card is

    1/52
    4/52
    13/52
    52/52

Question # 7 of 10 (Total Marks: 1) Select correct option:
Probability of a sure event is

    8
    1   (Page 154)
    0
    0.5

Question # 8 of 10 (Total Marks: 1) Select correct option:
If Y=3X+5,then S.D of Y is equal to

    9 s.d(x)
    3 s.d(x)
    s.d(x)+5
    3s.d(x)+5

Question # 9 of 10 (Total Marks: 1) Select correct option:
The probability of drawing a red queen card from well-shuffled pack of 52 playing cards is
    4/52
    2/52
    13/52
    26/52

Question # 10 of 10 (Total Marks: 1) Select correct option:
If P (B|A) = 0.25 and P (A and B) =0.20, then P (A) is

    0.05
    0.80   (Page 159)
    0.95
    0.75

Question # 1 of 10 (Total Marks: 1) Select correct option:
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:

    0.25
    0.5
    1
    0

Question # 1 of 10 (Total Marks: 1) Select correct option:
The classical definition of probability assumes:

    Exhaustive events
    Mutually exclusive events
    Equally likely evens   (Page 151)
    Independent evens

Question # 2 of 10 (Total Marks: 1) Select correct option:
In scatter diagram, the variable plotted along Y-axis is:
    Independent variable
    Dependent variable
    Continuous variable
    Discrete variable

Question # 3 of 10 (Total Marks: 1) Select correct option:
Which of the following measures of dispersion are based on deviations from the mean?

Variance
 Standard deviation
Mean deviation
All of the these

Question # 4 of 10 (Total Marks: 1) Select correct option:

What does it mean when a data set has a standard deviation equal to zero?

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.   Click here for detail

There are no data to begin with.

Question # 5 of 10 (Total Marks: 1) Select correct option:

A set of possible values that a random variable can assume and their associated probabilities of occurrence are referred to as _____.

Probability distribution

The expected return

The standard deviation

Coefficient of variation

Question # 6 of 10 (Total Marks: 1) Select correct option:

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

0

1

0.5

-0.5

Question # 7 of 10 (Total Marks: 1) Select correct option:

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

1

-1

0

Does not exist

Question # 8 of 10 (Total Marks: 1) Select correct option:

The Special Rule of Addition is used to combine:

Independent Events

Mutually Exclusive Events   click here for detail

Events that total more than 1.00

Events based on subjective probabilities

بہادر آدمی ایک مرتبہ جبکہ بزدل آدمی کئی مرتبہ مرتا ہے

Question # 9 of 10 (Total Marks: 1) Select correct option:
set which is the sub-set of every set is

Empty Set   (Page 134)
Power Set
Universal Set
Super Set

Question # 10 of 10 (Total Marks: 1) Select correct option:
When two dice are rolled the number of possible sample points is :

6
12
24
36   (Page 145)

Question # 1 of 10 (Total Marks: 1) Select correct option:
If two events A and B are not mutually exclusive then

P (A or B) = P (A) + P (B) – P (A and B)   (Page 157)
P (A or B) = P (A) + P (B)
P (A or B) = P (A) x P (B)
P (A or B) = P (A) + P (B)

Question # 2 of 10 (Total Marks: 1) Select correct option:
Evaluate (10-4)!

1000
720
480
32

Question # 3 of 10 (Total Marks: 1) Select correct option:
When we toss a coin , we get only:

1 outcome
2 outcome
3 outcome
4 outcome

<div dir="rtl">اطمینان قلب چاہتے ہو تو حسد سے دور رہو</div>

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Question # 4 of 10 (Total Marks: 1) Select correct option:
If we roll a die then probability of getting a '6' will be

2/6
1/6
4/6
1

Question # 5 of 10 (Total Marks: 1) Select correct option:
If P(A) = 0.45, P(B) = 0.35, and P(A and B) = 0.25, then P(A | B) is:

1.4
1.8
0.714   0.25/0.35 = 0.714   (Page 159)
0.556

Question # 6 of 10 (Total Marks: 1) Select correct option:
Which of the following is not a measure of central tendency?

Percentile
Quartile
Standard deviation
Mode

Question # 7 of 10 (Total Marks: 1) Select correct option:
Random experiment can be repeated any no. of times under the……… conditions.
Different
Similar   (Page 144)

Question # 9 of 10 (Total Marks: 1) Select correct option:
The simultaneous occurrence of two events is called:
 Joint probability   (Page 194)
Subjective probability
Prior probability
Conditional probability

Question # 10 of 10 (Total Marks: 1) Select correct option:
In regression analysis, the variable that is being predicted is the

Dependent variable   click here for detail
Independent variable
Intervening variable
None of these

Question # 1 of 10 (Total Marks: 1) Select correct option:
The probability of continuous random variable x on any particular point is always zero..

    Yes   (Page 186)

    No

Question # 2 of 10 (Total Marks: 1) Select correct option:
P(an event) =no of favorable outcome/total no. of outcomes is the definition of

    Subjective approach   (Page 149)

    Objective approach

Question # 3 of 10 (Total Marks: 1) Select correct option:
If C is a constant ,then E(c)=

0

1

C (Page 180) rep

-c

Question # 4 of 10 (Total Marks: 1) Select correct option:
When we toss a fair coin 4 times, the sample space consists of….points.

4

8

12

16

Question # 5 of 10 (Total Marks: 1) Select correct option:
If we roll three fair dices then the total number of outcomes is:

6

36

216   6*6*6=216

1296

Question # 6 of 10 (Total Marks: 1) Select correct option:
The probability of an event is always:

greater than 0

less than 1

between o and 1   click here for detail

greater than 1

Question # 7 of 10 (Total Marks: 1) Select correct option:
In a multiplication theorem P (A and B) equals:

P(A)

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

P(A) * P (B|A)   (Page 159)

P(B\A)*P(B)

Question # 8 of 10 (Total Marks: 1) Select correct option:
If a die is rolled, what is the probability of getting an even number greater than 2?
 1/2
1/3   2/6 = 1/3
2/3
5/6

Question # 9 of 10 (Total Marks: 1) Select correct option:
In a Discrete probability distribution, P (x > 23) is read as:
P (there are more than 23 successes)
P (there are less than 23 successes)
P (there are at least 23 successes)
P (there are at most 23 successes)

Question # 10 of 10 (Total Marks: 1) Select correct option:
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:

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

Question # 1 of 10 (Total Marks: 1) Select correct option:
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   (Page 173)
Equal to x

Question # 2 of 10 (Total Marks: 1) Select correct option:
In a simple regression line model ,it is assume 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.

Question # 3 of 10 (Total Marks: 1) Select correct option:
If p(AnB)=p(A/B).p(B),then A and B are
Independent
Dependant
Equally likely
Mutually exclusively

Question # 4 of 10 (Total Marks: 1) Select correct option:
A fair coin is tossed three times, the probability that at least one head appears,

1/8
7/8   (HHH,HHT,HTH, HTT, THH THT TTH TTT)
3/8
5/8

Question # 5 of 10 (Total Marks: 1) Select correct option:
In probability distribution, the sum of probabilities is equals to

0
0.1
0.5
1   click here for detail

Question # 6 of 10 (Total Marks: 1) Select correct option:
When a coin is tossed 3 times, the probability of getting 3 tails is

1/8   (HHH,HHT,HTH, HTT, THH THT TTH TTT)
3/8
3/6
2/8

Question # 7 of 10 (Total Marks: 1) Select correct option:
In how many ways can a team of 11 players be chosen from a total of 16 players?

4368
2426
5400
2680

Question # 8 of 10 (Total Marks: 1) Select correct option:
The standard deviation of c (constant) is

c
c square
0   click here for detail
does not exist

<div dir="rtl">اچھائی کرنے کے لئے ہمیشہ کسی بہانے کی تلاش میں رہو</div>

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Question # 9 of 10 (Total Marks: 1) Select correct option:
Let E and F be events associated with the same experiment. Suppose the E and F are independent and that P(E) = 1/4 and P(F) = 1/2 Then P(E U F) is:

    1/8
    3/4   **(Page 157)**
    7/8
    5/8

STA 301 – Quizzes

Question # 1 of 10 (Total Marks: 1) Select correct option:
In which of the following situations binomial distributions is approximate to normal distribution?

n = 50, p = 0.01
n = 500, p = 0.001
n = 100, p = 0.05
n = 50, p = 0.02   click here for detail

Question # 2 of 10 (Total Marks: 1) Select correct option:
The location and shape of the normal curve is (are) determined by:

Mean
Variance
Mean & variance
Mean & standard deviation   click here for detail

Question # 3 of 10 (Total Marks: 1) Select correct option:
A random experiment has five outcomes in its sample space {s1, s2, s3, s4, s5}. If P(s1)=0.2,P(s2)=0.3, P(s3)=0.1 and P(s4)=0.2 then P(s5)=?

1
0.2
0.8
0.5

<div dir="rtl">کامیاب و کامران زندگی یہی ہے کہ جہاں رہو جس حال میں رہ خوش رہو</div>

Question # 4 of 10 (Total Marks: 1) Select correct option:
The joint density function f(x,y) will be a pdf if

Both of integrals f(x,y) dx dy =1   (Page 200)
Both of integrals f(x,y) dx dy >1
Both of integrals f(x,y) dx dy <1
Both of integrals f(x,y) dx dy =0

Question # 5 of 10 (Total Marks: 1) Select correct option:
Which of the following is correct property for joint probability distribution of X and Y:

Sigma f(X,Y)=1   (Page 194)
Sigma f(Y,X)=1
Both of above
None of above

Question # 6 of 10 (Total Marks: 1) Select correct option:
A random variable that can assume every possible value in an interval [a, b]:

Discrete variable
Continuous variable   (Page 9)
Qualitative variable
Categorical variable

Question # 7 of 10 (Total Marks: 1) Select correct option:
Normal approximation to the binomial distribution is used when:

np>5
nq>5
Both of the above   (Page 235)
None of the above

Question # 8 of 10 (Total Marks: 1) Select correct option:
The Maximum Likelihood Estimators (MLE) are ………… and …………… but not necessarily ………
Unbiased, consistent, efficient
Consistent, unbiased, efficient
Unbiased, efficient, consistent
Consistent, efficient, unbiased   (Page 264)

کتنا شریف ہے وہ غمزدہ دل جو سب کو خوش کرنے کی کوشش کرتا ہے

Question # 9 of 10 (Total Marks: 1) Select correct option:
A probability density function 'f(x)' has the following property:

f(x) <= 0
f(x) < 0
f(x) > 0   (Page 186)
f(x) >= 0

Question # 10 of 10 (Total Marks: 1) Select correct option:
For a continuous random variable X, P(X = x) is:
Select correct option:

0   (Page 186)
0.5
1
undefined

Question # 1 of 10 (Total Marks: 1) Select correct option:
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:

Binomial distribution
Hypergrometric distribution   (Page 219)
Poisson distribution
Exponential distribution

Question # 2 of 10 (Total Marks: 1) Select correct option:
The probability distribution of the proportion of successes in all possible samples is called the:

Sampling distribution   (Page 237)
Sampling probability distribution
Sampling distribution of sample proportions
Sampling distribution of Population proportions

Question # 3 of 10 (Total Marks: 1) Select correct option:
For good approximation of Poisson distribution to the binomial distribution, which of the following condition
(s) is/are required:

The population size is large relative to the sample size
The probability, p, is close to .5 and the population size is large
The probability, p, is small and the sample size is large   (Page 222)
The probability, p, is close to .5 and the sample size is large

Question # 4 of 10 (Total Marks: 1) Select correct option:
If an estimator is more efficient then the other estimator, its shape of the sampling distribution will be

Flattered
Normal
Highly peaked   (Page 261)
Skewed to right

Question # 6 of 10 (Total Marks: 1) Select correct option:
Match the binomial probability P(x< 23) with the correct statement.

  P(there are at most 23 successes)
  P (there are fewer than 23 successes)
  P (there are more than 23 successes)
  P (there are at least 23 successes)

Question # 7 of 10 (Total Marks: 1) Select correct option:
In statistics, the term 'expected value' implies the ___ value.

  Independent
  Normal
  Standard
  Mean   (Page 191)

Question # 8 of 10 (Total Marks: 1) Select correct option:
A quantity obtained by applying certain rule or formula is known as

  Estimate   (Page 264)
  Estimator
  Parameter
  Proportion

Question # 9 of 10 (Total Marks: 1) Select correct option:
Total no. of possible samples of size 2 (without replacement) from the population of size 6, will be:

  20
  15
  10
  18

Question # 10 of 10 (Total Marks: 1) Select correct option:
When a coin is tossed 3 times, the probability of getting 3 or less tails is

    1/2 (not sure)
    0
    1
    3/5

Question # 1 of 10 (Total Marks: 1) Select correct option:
Total no. of possible samples of size 3 (with replacement) from the population of size 6, will be:

    256
    196
    216   6^3
    325

Question # 2 of 10 (Total Marks: 1) Select correct option:
Using the normal approximation to the binomial distribution with n= 3 and p= 0.0571 the value of mean is:

    0.1713   (Page 235)
    0.2132
    0.5133
    0.1923

Question # 3 of 10 (Total Marks: 1) Select correct option:
Suppose 60% of a herd of cattle is infected with a particular disease. Let Y = the number of non-diseased cattle in a sample of size 5. the distribution of Y is:

    Binomial with n = 5 and p = 0.6
    Binomial with n = 5 and p = 0.4
    Binomial with n = 5 and p = 0.5
    Poisson with u = .6

Question # 4 of 10 (Total Marks: 1) Select correct option:
The probability of success changes from trial to trial, is the property of:

    Binomial experiment   (Page 211)
    Hypergeometric experiment
    Both binomial & hypergeometric experiment
    Poisson experiment

Question # 5 of 10 (Total Marks: 1) Select correct option:
If a statistic used as an estimator, has its expected value equal to the true value of the population parameter being estimated then it is called........

    Consistent
    Unbiased   (Page 258)
    Efficient
    Sufficient

Question # 6 of 10 (Total Marks: 1) Select correct option:
In moments method, how many equations are needed to find the 2 unknown parameters?

    2   (Page 263)
    3
    n/2

Question # 7 of 10 (Total Marks: 1) Select correct option:
Which of the following is desirable for a good point estimator?

    Consistency
    Unbiasedness
    Efficiency
    All of these   (Page 258)

Question # 8 of 10 (Total Marks: 1) Select correct option:
The distribution function (df) is also known as

    Probability distribution
    Probability mass function
    Probability density function
    Cumulative distribution function   (Page 173)

Question # 9 of 10 (Total Marks: 1) Select correct option:
If X and Y are two discrete r.v's with joint probability function f(x,y), then the conditional probability function Y given X, f(y|x) is given by

    $f(y_j \mid x_i) = f(x_i, y_j) / g(x_i)$ (Page 195)
    $f(y_j \mid x_i) = f(x_i, y_j) / h(y_j)$
    $f(y_j \mid x_i) = f(x_i, y_j) / \text{Sum of } g(x_i)$
    $f(y_j \mid x_i) = f(x_i, y_j) / \text{sum of } h(y_j)$

Question # 1 of 10 (Total Marks: 1) Select correct option:
Which of the probability distributions has three parameters?

    Binomial distribution
    Normal distribution
    Hypergeometric distribution   (Page 219)
    Poisson distribution

Question # 2 of 10 (Total Marks: 1) Select correct option:
A standard deviation obtained from sampling distribution of sample statistics is known as

    Sampling error
    Standard error   (Page 240)
    Minimum error
    Universal error

Question # 3 of 10 (Total Marks: 1) Select correct option:
A parameter is a ..... quantity.

    Constant
    Variable
    Sample
    Random

Question # 4 of 10 (Total Marks: 1) Select correct option:
How can you define statistical inference?
    A decision, estimate, prediction or generalization about the population based on information contained in a sample   click here for detail
    A statement made about a sample based on the measurements in that sample
    A set of data selected from a larger set of data
    A decision, estimate, prediction or generalization about sample based on information contained in a population

Question # 5 of 10 (Total Marks: 1) Select correct option:
Which of the following is most important and most widely used method in point estimation?

    The method of moments
    The method of fractional moments
    The method of leas square   (Page 263)
    The method of maximum likelihood

Question # 6 of 10 (Total Marks: 1) Select correct option:
Binomial distribution is skewed to the right if:

    p=q
    P<q   (Page 215)
    p>q
    p=n

Question # 7 of 10 (Total Marks: 1) Select correct option:
In a discrete distribution function, F(23) can be stated as:

    P (there are at most 23 successes)
    P (there are at least 23 successes)
    P (there are less than 23 successes)
    P (there are more than 23 successes)

Question # 8 of 10 (Total Marks: 1) Select correct option:
The Probabilities of the various values of the sample satistic can be computed using the......... definition of probability.

    Subjective
    Objective
    Classical   (Page 149)
    None of the baove

Question # 9 of 10 (Total Marks: 1) Select correct option:
$E(10X +3) = $_____

    10 E(X)
    E(X)+3
    10 E(X)+3
    100E(X)

Question # 10 of 10 (Total Marks: 1) Select correct option:
If p is very small and n is considerably large then we shall apply the:

    Binomial distribution
    Hypergeometric distribution
    Poisson distribution   (Page 222)
    Exponential distribution

Question # 1 of 10 (Total Marks: 1) Select correct option:
Which of the following is NOT applicable to a Poisson distribution?

    IF P = 0.5 & n = 19
    IF P = 0.01 & n = 200
    IF P = 0.02 & n = 300
    IF P = 0.03 & n = 500

Question # 2 of 10 (Total Marks: 1) Select correct option:
The normal distribution has points of infection which are equidistance from the:

    Median
    Mean   (Page 229)
    Mode
    Mean,Median & Mode

Question # 3 of 10 (Total Marks: 1) Select correct option:
If a random variable X denotes the number of heads when we toss a fair coin 5 times, the X assumed the values:

    0,1,2,3
    1, 2,3,4,5
    0, 1, 2,3,4,5
    1, 5, 5

Question # 4 of 10 (Total Marks: 1) Select correct option:
As a rule of thumb, when n>=30, then we can assume that………is normally distributed:

    Probability distribution
    Sampling distribution   (Page 243)
    Binomial distribution
    Sampling distribution of sample mean

Question # 5 of 10 (Total Marks: 1) Select correct option:
If b(x, 7, 0.30), the variance of this distribution is:

    1.77
    1.74
    1.44
    1.47 (Page 333)

Question # 6 of 10 (Total Marks: 1) Select correct option:
Which of the following is a characteristic of a binomial probability experiment?

Each trial has more than two possible outcomes
P(success) = P(failure)
Probability of success changes for each trail
The result of one trial does not affect the probability of success on any other trial (Page 211)

Question # 7 of 10 (Total Marks: 1) Select correct option:
The number of parameters in uniform distribution is (are):

1
2 (Page 225)
3
4

Question # 8 of 10 (Total Marks: 1) Select correct option:
The probability can never be:

1
 1/2
 1
 -1/2

Question # 9 of 10 (Total Marks: 1) Select correct option:
The conditional probability P (A\B) is:

P(A n B)/P(B) (Page 159)
P(A n B)/P(A)
P(A U B)/P(B)
P(A U B)/P(A)

Question # 10 of 10 (Total Marks: 1) Select correct option:
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:

H1: $\mu = 80$
H1: $\mu \neq 80$
H1: $\mu > 80$
H1: $\mu < 80$

Question # 1 of 10 (Total Marks: 1) Select correct option:
The binomial distribution is negatively skewed when:
p>q (Page 215)
p<q
p=q
p=q=1/2

Question # 2 of 10 (Total Marks: 1) Select correct option:
When we draw the sample with replacement, the probability distribution to be used is:
Binomial
Hypergeometric
Binomial & hypergeometric
Poisson

Question # 3 of 10 (Total Marks: 1) Select correct option:
The moment ratios of normal distribution come out to be:
0 and 1
0 and 2
0 and 3 (Page 227)
0 and 4

Question # 4 of 10 (Total Marks: 1) Select correct option:
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:
272
164
260
328   click here for detail

Question # 5 of 10 (Total Marks: 1) Select correct option:
If P (A) = 0.3 and P (B) = 0.5, find P (A/B) where 'A' and 'B' are independent:

0.3
0.5
0.8
0.15 (Page 162)

Question # 6 of 10 (Total Marks: 1) Select correct option:
If the second moment ratio is less than 3 the distribution will be:
Mesokurtic
Leptokurtic
Platykurtic
None of these

Question # 7 of 10 (Total Marks: 1) Select correct option:
For the independent events A and B if P (A) = 0.25, P (B) =0.40 then P (A and B) =……
 Select correct option:

0.65
0.1 (Page 162)
0.50
0.15

Question # 8 of 10 (Total Marks: 1) Select correct option:
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:

0.01
0.03
0.05
0.07

Question # 9 of 10 (Total Marks: 1) Select correct option:
The probability of drawing any one spade card is:
1/52
4/52
13/52
52/52