STA301- MCQs:

Question No: 21 (Marks: 1)

If $P(X=0) = \frac{1}{8}$, $P(X=1) = \frac{3}{8}$, $P(X=2) = \frac{3}{8}$ and $P(X=3) = \frac{1}{8}$

Then find F (1)

Question No: 22 (Marks: 2)

Write down the formula of mathematical expectation.

e=(w * p) + (-v *1). e

Question No: 23 (Marks: 3)

Discuss the statistical independence of two discrete random variables:

Question No: 24 (Marks: 3)

For given data calculate the mean and standard deviation of sampling distribution of mean if the sampling is down *without* replacement.

$N = 1000, n = 25, \mu = 68.5, \sigma = 2.7$

Question No: 25 (Marks: 3)

Elaborate the Least Significant Difference (LSD) Test.

Question No: 26 (Marks: 3)

State the Bayes' Theorem.

Question No: 27 (Marks: 5)

The means and variances of the weekly incomes in rupees of two samples of workers are given in the following table, the samples being randomly drawn from two different factories:

Factory	Sample Size	Mean	Variance
A	160	12.80	64
B	220	11.25	47

Calculate the 90% confidence interval for the real difference in the incomes of the workers from the two factories.

Question No: 28 (Marks: 5)

From the given data $n = 1340, x = 723, p = .54$ and $H_0 : P_0 = 0.5 \, against \, H_1 : P_0 \neq 0.5$.
Carry out the significance test for the stated hypothesis.

Question No: 29 (Marks: 5)

Given the Probability density function
.

$$f(x) = \begin{cases} \frac{x}{2}, & for \ 0 \le x \le 2 \\ 0, & elsewhere \end{cases}$$

Compute the distribution function F(x).

Question No: 30 (Marks: 10)

$$f(x,y) = \frac{1}{8}(6 - x - y), \ 0 \le x \le 2; 2 \le y \le 4,$$
$$= 0, \quad \text{elsewhere}$$

a) Verify that f(x,y) is a joint density function.

$$P\left(X \le \frac{3}{2}, Y \le \frac{5}{2}\right),$$

b) Calculate

Question No: 31 (Marks: 10)

Let X_1, X_2, X_3 be a random sample of size 3 from a population with mean μ and variance σ^2

Consider the following two estimators of the mean

$$T_1 = \frac{X_1 + X_2 + X_3}{3}$$

$$T_2 = \frac{X_1 + 2X_2 + X_3}{4}$$

Which estimator should be preferred?

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

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 +∞**

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:

► $-\infty \leq x^2 \leq \infty$
► $-\infty \leq x^2 \leq 1$
► $-\infty \leq x^2 \leq 0$
► **$0 \leq x^2 \leq \infty$ 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 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**
► 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
► Value of alpha
► Value of test-statistic

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

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

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

▶

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

▶

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

▶

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

▶

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

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

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

▶

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

▶

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

▶

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

▶

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

► .5500

► .4599
► .9599

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

In normal distribution M.D. =

► 0.5σ
► 0.75σ
► 0.7979σ
► 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

► **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 population**

In a multiplication theorem P (A 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

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

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

The value of x^2 can never be :

- Zero
- Less than 1
- Greater than 1
- Negative

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

The mean of the F-distribution is:

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

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

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

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

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*)
- *P* (*A*)
- *P* (*A*) -1

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

Ideally the width of confidence interval should be:

- 0
- 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
- 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
- Sample distribution

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

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

- E (T) = θ
- 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
- Zero

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

An expected value of a random variable is equal to:

- Variance
- Mean
- Standard deviation
- Covariance

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

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

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

$\frac{f(x1)}{h(x)}$

►

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

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

► 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

Question No: 18 (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: 19 (Marks: 1) - Please choose one

Which one of the following statements is true regarding a sample?

► It is a part of population

- ► 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

1- Hypothesis refers to
The outcome of an experiment
A conclusion drawn from an experiment
A form of bias in which the subject tries to outguess the experimenter
A tentative statement about the relationship
2- Statistics is used by researchers to
Analyze the empirical data collected in a study
Make their findings sound better
Operationally define their variables
Ensure the study comes out the way it was intended
3- A literature review requires
Planning
Good & clear writing
Lot of rewriting
All of the above
4- A literature review is based on the assumption that
Copy from the work of others
Knowledge accumulates and learns from the work of others
Knowledge disaccumulates
None of the above option

5- A theoretical framework
Elaborates the r/s among the variables
Explains the logic underlying these r/s
Describes the nature and direction of the r/s
All of the above
6- Which of the following statement is not true?
A research proposal is a document that presents a plan for a project
A research proposal shows that the researcher is capable of successfully conducting the proposed research project
A research proposal is an unorganized and unplanned project
A research proposal is just like a research report and written before the research project
7- Preliminary data collection is a part of the

Descriptive research
Exploratory research
Applied research
Explanatory research

8- Conducting surveys is the most common method of generating
Primary data
Secondary data
Qualitative data
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
To conduct surveys
To generate the hypothesis
To focus group discussions
To use experiments in an investigation

10- The appropriate analytical technique is determined by
The research design
Nature of the data collected
Nature of the hypothesis
Both A & B

Personal interviews conducted in shopping malls are known as:

Mall interviews
Mall intercept interviews
Brief interviews
None of the given options

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

West Africa Theological Seminary
Washtenaw Area Transportation Study
Wide Area Telecommunications Service
World Air Transport Statistics

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

Interview schedule
Questionnaire
Interview guide
All of the given options

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

Research design
Questionnaire design

Interview design
Survey design

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

Double barreled question
General question
Accurate question
Confusing question

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:

Response rate
Participation rate
Inflation rate
None of the given options

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

Research technique
Qualitative technique
Funnel technique
Quantitative technique

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

Pilot testing
Pre-testing
Lab experiments
Both A & B

Field testing of the questionnaire shows that:

Respondents are willing to co-operate
Respondents are not willing to co-operate
Respondents do not like any participation
All of the given options

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

Self-administered questionnaires
Office assistant
Manager
None of the given options

The _____ analysis is a technique for gathering and analyzing the content of a text.

Content analysis
Graphical analysis
Field analysis
Mathematical analysis

_____is the strength or power of a message in a direction:

Intensity
Frequency
Direction
Space

_____data refers to information gathered by someone other than the researcher conducting the present study:

Primary data
Secondary data
Qualitative data
Quantitative data

_____research produces soft data:

Qualitative research
Quantitative research
Descriptive research
Applied research

_____research produces hard data:

Qualitative research
Quantitative research
Descriptive research
Applied research

_____research is based on naturalism:

Field research
Descriptive research
Basic research
Applied research

_____interview is always with one respondent alone:

Survey interview
Field interview
Telephone interview
Electronic interview

Historiography is the method of doing _____research or of gathering & analyzing historical evidence:

Historical research
Basic research
Applied research
Action research

Historical comparative researches often use _____sources or different data types in combination:

Primary sources
Secondary sources
Internal sources
External sources

_____is a comprehensive description and analysis of a single situation in a number of specific situations or cases:

Case study
Content analysis
Field research
None of the given options

Q1. All the persons involved in the collection of data and supervision of data collection process are called

i. Fieldworkers
ii. Researchers
iii. Research assistants
iv. None of the given options

Q2. While terminating the interview, the fieldworker should **not** do one of the following:

i. He should record all the responses made by the interviewee before leaving.
ii. He should thank the interviewee.
iii. He should close the interview hastily.
iv. He should answer all the questions the respondent asks concerning the nature and purpose of the study.

Q3. Which one of these is a type of Interviewee bias?

i. The respondent does not tell his true income, age, or contact information.
ii. The fieldworker fails to probe the interviewee properly.
iii. The fieldworker contacted the wrong person for interview.
iv. The fieldworker asks the questions in wrong order.

Q4. A magazine conducts a survey and asks its readers to cut the questionnaire from the magazine, fill it and send it via mail. It is a type of

i. Purposive sampling
ii. Snowball sampling
iii. Sequential sampling
iv. Convenience sampling

Q5. The height distribution of a few students in a school is an example of

i. Statistic
ii. Population
iii. Parameter
iv. Element

Q6. A researcher wants to conduct a survey of the drug users. Which type of sampling technique will be most appropriate here?

i. Sequential sampling

ii. Snowball sampling
iii. Quota sampling
iv. Convenience sampling

Q7. When there is a need to apply different data collection methods to different parts of the population, the best sampling method would be
i. Double sampling
ii. Cluster sampling
iii. Stratified random sampling
iv. Systematic random sampling

Q8. The sampling technique in which every element of the population has an equal, non-zero probability of being selected in a sample, is called
i. Probability sampling
ii. Convenience sampling
iii. Purposive sampling
iv. Quota sampling

Q9. Target population is also called
i. Population
ii. Survey population
iii. Population element
iv. Population frame

Q10. Which one of them is the method for probing the respondent?
i. Repeat the question
ii. Give an expectant pause
iii. Repeat the respondent's reply
iv. All of the given options

1. Which one of the following sets is the measure of central tendency?
Mean, standard deviation, mode
Mean, median, standard deviation
Arithmetic mean, median, mode
Standard deviation, internal validity, mode

In lab experiment the effect of _____Variables is controlled to evaluate the causal relationship.
Extraneous
Moderate
Intervening
All of the above

Internal validity refers to_____.
Researcher's degree of confidence.
Generalizability
Operationalization
All of the above

Which of the following is the weakest experimental design?
One group pretest-posttest design

Quasi- experimental design
Two group posttest only design
Ex post facto design

How many times the students appear in the research class is the example of _____.
Intensity
Space
Frequency
Direction

Disadvantage of content analysis is_____.
Researcher can increase the sample size
Provides access on the subjects to which researcher does have physical access.
Sometime documents provide incomplete account to the researcher
Spontaneous feelings can be recorded when they occurred

7. Which of the following statement is incorrect with respect to "An experimental design is a set of procedures specifying:"
How the test units (subjects) are to be divided into homogenous sub samples.
What independent variables or treatments are to be measured?
What dependent variables are to be measured?
How the extraneous variables are to be controlled?

8. Time consumed in mall intercept interview is _____.
High
Moderate
Low
Nil

9. "Teacher should create a friendly environment in the classroom" this is the type of _____.
Leading question
Loaded question
Double Barreled
Burdensome question

10. Departmental stores selected to test a new merchandising display system is the example of _____.
Quota sampling
Convenience sampling
Judgmental sampling
Purposive sampling

1. Which is not a source of existing statistics?
   A. Government
   B. International agencies
   C. Personal interviews
   D. Private sources

2. Followings are the advantages of secondary data except
   A. Non-Reactivity
   B. Selective survival
   C. Low cost
   D. Spontaneity

3. Following are the disadvantages of secondary data except
   A. Longitudinal analysis
   B. Sampling bias
   C. Coding difficult
   D. Incompleteness

4. The coding of the secondary data may be difficult because of
   A. Differences in content or subject matter
   B. Lack of standardization
   C. Differences in length and format
   D. All of these

5. The researcher must be concerned about the following problems while using secondary data in research.
   A. Validity
   B. Reliability
   C. Both of these
   D. None of these

Discrete variable is also called…….

Categorical variable
Discontinuous variable
Both A & B
None of the above

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

Descriptive Hypothesis
Directional Hypothesis
Relational Hypothesis
All of the above

Science refers to……

A system for producing knowledge
The knowledge produced by a system
Both A & B
None of the above

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

Deterministic
Rationalism
Empirical
Abstraction

The theoretical framework discusses the interrelationships among the…….

Variables
Hypothesis
Concept
Theory

……..research is based on naturalism.

Field research
Descriptive research
Basic research
Applied research

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

Mall interviews
Mall intercept interviews
Brief interviews
None of the given options

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

Research technique
Qualitative technique
Funnel technique
Quantitative technique

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

Field interview
Telephonic interview
Both A and B
None of the given options

Randomization of test units is a part of ……..

Pretest
Posttest
Matching
Experiment

The independent variable is;

- **The variable manipulated in order to observe its effects**
- The variable that is measured
- The free spirited variable
- A confounding variable

If a researcher was studying the use of various instructional approaches to the "multiple intelligences" of his students, he is likely to be conducting which type of research?

- Basic
- Applied
- **Evaluation**
- Grounded theory

Research may differ along a series of dimensions. Which of the following may be applied to this statement?

The type of data collected.

- The data-collection technique.
- The level of manipulation used to elicit data collection.

Which of the following is least likely to occur as an ethical problem with e-research?
People are not likely to be able to stop once they have begun participating.

- Informed consent cannot be completely monitored.
- Debriefing could be avoided.
- Privacy could be invaded.
- All of the given options

Which of the following is the least obtrusive and most accurate method for recording data in an interview?

- Note taking
- Videotaping

Audio taping
Writing notes after the interview

The most critical areas of an article to read is;
Results section
Introduction
Abstract
Limitations

Quantitative social researchers rarely claim to have established causality because:
They are more concerned with publishing the results of their reliability tests. They do not believe that this is an appropriate goal to be striving for.
They keep forgetting which of the variables they have manipulated.
They tend to use cross-sectional designs, which produce only correlations.

Which of the following is most beneficial to read in an article?
Methods
Introduction
Figures
References

If a nominal scale is used, it is permissible to calculate which of the following statistics?
Mean
Range
Percentile
Mode

One of the preoccupations of quantitative researchers is with generalization, which is a sign of:
External validity
Internal reliability
External reliability
Internal validity

Which of the following is the least appropriate research problem?
Does studying Latin improve the standardized vocabulary test scores of seventh grade students?
Does a drilling fifth grade student with multiplication facts improve their standardized test scores?
What is the relationship between students' math attitudes and math achievement? Should students have access to controversial novels in school?

The following journal article would be an example of _____ research; "The benefits of florescent lighting on production in a factory setting."

Applied

Interview

Basic

Stupid

The purpose of a literature review is to:

Help you find out what is already known about this area.

Identify any inconsistencies or gaps in the literature.

Demonstrate an awareness of the theoretical context in which the current study can be located.

Find what is already known, identify gaps demonstrate awareness.

Quantitative research has been criticized because:

The measurement process suggests a spurious and artificial sense of accuracy.

The reliance on instruments and procedures makes it high in ecological validity. It underestimates the similarities between objects in the natural and social worlds. It has no validity.

The _____ is only useful if the concepts, ideas, questions, etc. to be investigated are both testable and falsifiable.

Independent Variable

Dependent Variable

Experimental Method

Scientific Method

A _____ scale only assigns numbers to objects to classify the objects according to the characteristic of interest.

Ratio

Nominal

Interval

Dichotomous

12. Which of the following true about the relationship between theory building and data collection?

When studies come out as expected, inductive support for the theory is gained.

If an experiment fails, discarding the experiment is an example of affirming the consequent.

When a hypothesis is not supported, virtually nothing has been learned about the theory.

A good theory will be inclusive enough to explain every possible research outcome.

Ms. Laiba has decided to use the test at the end of the textbook to measure the achievement levels of the students in her study. Which of the following BEST describes the chapter test?

Definition Construct Variable **Operationalized variable**

What is the reason for consulting handbooks, yearbooks, encyclopedias, or reviews in the initial stages of identifying a research topic?

- They are readily available.
- **They provide an overview of the issues related to a topic.**
- They are primary sources.
- They avoid reporting statistical data so one can interpret the results more easily.

What type of process research is?
A process to discover the truth

- A process to invent the machines
- A process to make new medicines
- **A process to create theories**

Which one of the following is not an assumption of science?

- There are reoccurring patterns in the world.
- Events happen because of preceding causes.
- **We can discover solutions to problems of interest.**
- Theoretical explanations must agree with common sense.

A good qualitative problem statement:
Defines the independent and dependent variables

- Conveys a sense of emerging design
- Specifies a research hypothesis to be tested
- **Specifies the relationship between variables that the researcher expects to find.**

Why do you need to review the existing literature?

- , To give your dissertation a proper academic appearance, with lots of references
- , Because without it, you could never reach the required word-count
- , **To find out what is already known about your area of interest**
- , To help in your general studying

If a researcher was studying the use of various instructional approaches to the "multiple intelligences" of his students, he is likely to be conducting which type of research?

- Basic
- Applied

- [ ] **Evaluation**
- [ ] Grounded theory

Ms. Roshi has been coordinating the Annual Festival at her school for the last several years. She wants to be sure the students and parents enjoy the festival again this year. On which source is she LEAST likely to rely when making decisions about what to do?

Select correct option:

- [ ] Tradition
- [ ] Personal experience
- [ ] Research
- [ ] Expert opinion

A review that only demonstrates familiarity with an area is rarely published but it often is part of an educational program is which type of review?

- [ ] Integrative reviews
- [ ] Theoretical reviews
- [ ] **Self-study reviews**
- [ ] Historical reviews

A researcher developed a measure of shyness and is now asking whether this measure does in fact measure a person's true state of shyness. This is a question of:

- [ ] Reactivity
- [ ] Construct validity
- [ ] Reliability
- [ ] Content validity

When you are confident that the experimental manipulation produced the changes you measured in the dependent variable, your study probably has good _____ validity.

- [ ] Construct
- [ ] Internal
- [ ] External
- [ ] Causal

If a researcher is studying the effect of using laptops in his classroom to ascertain their

merit and worth, he is likely conducting which type of research?

Select correct option:

- Basic
- Applied
- **Evaluation**
- Experimental

When doing research involving deception with human subjects, researchers have an obligation to do which of the following?

- Tell subjects the truth about the study's purpose and methods after the study is completed
- Prevent mental and physical harm to subjects
- Let subjects withdraw from the study at any time if they don't want to keep participating
- All of the given options

A literature review requires;

- planning
- clear writing
- good writing
- **All of the given option**

A measure has high internal consistency reliability when:

- Multiple observers make the same ratings using the measure.
- Participants score at the high end of the scale every time they complete the measure.
- Multiple observers obtain the same score every time they use the measure.
- Each of the items correlates with other items on the measure.

Which of the following is not a function of clearly identified research questions?

- They guide your literature search.
- They keep you focused throughout the data collection period.
- **They make the scope of your research as wide as possible.**

S

- They are linked together to help you construct a coherent argument.

Procedures determining what two issues are rarely used in quantitative research?

- Objectivity and subjectivity
- Reliability and validity
- Accessibility and replicability
- Quality and quantity

Which of the following true about the relationship between theory building and data collection?

- When studies come out as expected, inductive support for the theory is gained.
- If an experiment fails, discarding the experiment is an example of affirming the consequent.
- When a hypothesis is not supported, virtually nothing has been learned about the theory.
- A good theory will be inclusive enough to explain every possible research outcome.

Temperature is measured from which scale?
Nominal
Ordinal
Interval
All the given options.

Which of the following is a threat to internal validity of an experimental design?
Maturation
Interaction of setting and treatment
Interaction effects of pre-testing
reactive effects of experimental design
Which of the following statements is correct about validity and reliability?
When internal validity is high, external validity is low
When internal validity is high, there is no change in external validity
When internal validity is high, external validity is also high
All of the given option

Which of the following effect in internal validity occurs when test units with extreme scores move closer to the average score during the course of the experiment?
Statistical Regression
Selection bias
Maturation
Instrumentation

Interval scale measures which of the following?
The distance between each participant's individual score
An individual's score from zero upwards

more or less of some underlying assumptions
Absolute Zero

Which of the following best describes an assessment that examines students ability to conduct a chemistry experiment in the lab?
Aptitude
interest inventory
Performance Assessment
Standardized test

Which of the following are legitimate frameworks for setting out a literature review?
(1)Constructing interextual coherence (2) Deconstruction of textual coherence
(3) Problematizing the situation (4) Resolving the discovered problems?

1 &2
2&3
1&3
2&4

If researcher was studying the use of various instructional approaches to the "multiple intelligence" of his students, he is likely to be conducting which of the following type of research?
Basic
Evaluation
Applied
Ground theory

Which of the following is most beneficial to read in an article?
Methods
Introduction
Figures
reference

One of the preoccupations of quantitative researchers is with generalization, which is a sign of
External validity
Internal Reliability
External Reliability
Internal validity

Which of the following is likely to reduce the validity of a test?
Unclear test directions
Ambiguous test items
Unclear, ambiguous and untaught items
Untaught items

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 var(x)

var(x)

b 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 or B) =.....

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(AUB)

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

9. 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 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

15. 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 U 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 var(x)

var(x)

b var(x)

b square root 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 evens

Independent evens

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

S **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:

S

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 or B) = P (A) + P (B) – P (A and B)

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)

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:
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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 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

41. 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

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The simultaneous occurrence of two events is called:
Select correct option:

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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:

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None of these

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b var(x)
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0

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Subjective probability
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Select correct option:

Dependent variable

Independent variable

Intervening variable

None of these

Thanks to Armaan Makhani for His Sharing

1. A quantity obtained by applying certain rule or formula is known as
Select correct option:
Estimate
Estimator
2. Criteria to check a point estimator to be good involves
Select correct option:
Consistency
Unbiasedness
Efficiency
Above all pg 258
3. The F-distribution always ranges from:
Select correct option:
0 to 1
0 to -8
-8 to +8
0 to +8
4. 1-a is the probability of ……
Select correct option:
Type 1 error
Rejection region
Acceptance region
Type 2 error
5. Parameter is a ……..quantity.
Select correct option:
Constant
Variable
6. To find the estimate of a parameter …….methods are used.
Select correct option:
Two
Three
Four
Many
7. A failing student is passed by an examiner. It is an example of:
Select correct option:
Type I error
Type II error
Correct decision
No information regarding student exams
8. For two mutually exclusive events A and B, P (A) = 0.2 and P (B) = 0.4, then P(AUB) is:
Select correct option:
0.8
0.2

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

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

Select correct option:
Binomial distribution
Hypergrometric distribution
Poisson distribution
Exponential distribution

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

Select correct option:
1/5
1/13
5/52
1/52

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

Select correct option:
0.1
0.2
0.3
0.4

12. The mean deviation of the normal distribution is approximately:

Select correct option:
7/8 of the S.D
4/5 of the S.D
3/4 of the S.D
1/2 of the S.D

13. We use the Poisson approximation to the binomial when:

Select correct option:
p is 0.01 or less & n is 10 or more
p is 0.05 or less & n is 20 or more pg221
p is 0.04 or less & n is 15 or more
p is 0.02 or less & n is 10 or more

14. The conditional probability P (A\B) is:

Select correct option:
P(A n B)/P(B) pg157
P(A n B)/P(A)
P(A U B)/P(B)
P(A U B)/P(A)

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

Select correct option:
Events those are not independent
Mutually exclusive events
Events that total more than 1.00
Events based on subjective probabilities

16. Which statement is NOT CORRECT?

Select correct option:
The sample standard deviation measures variability of our sample values
A larger sample will give answers that vary less from the true value than smaller samples
The sampling distribution describes how our estimate (answer) will vary if a new sample is taken
A large sample size always gives unbiased estimators regardless of how the sample is chosen

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

18. The number of parameters in uniform distribution is (are):
Select correct option:
1
2 pg 224
3
4

19. The probability can never be:
Select correct option:
1
1/2
1
-1/2

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

21. A random sample of n=25 values gives sample mean 83. Can this sample be regarded as drawn from a normal population with μ= 80 and s= 7? In this question the alternative hypothesis will be:
Select correct option:
H1: μ = 80
H1: μ ? 80
H1: μ > 80
H1: μ <80 pg 278

22. If f(x) is a continuous probability function, then P(X = 2) is:
Select correct option:
1
0
1/2
2

23. The binomial distribution is negatively skewed when:
Select correct option:
p>q pg 214

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

24. If we roll three fair dices then the total number of outcomes is:
Select correct option:
6
36
216
1296

25. When we draw the sample with replacement, the probability distribution to be used is:
Select correct option:
Binomial
Hypergeometric
Binomial & hypergeometric pg 219
Poisson

26. The moment ratios of normal distribution come out to be:
Select correct option:
0 and 1
0 and 2
0 and 3 pg 226
0 and 4

27. The probability of an event is always:
Select correct option:
greater than 0
less than 1
between o and 1
greater than 1

28. Symbolically, a conditional probability is:
Select correct option:
P(AB)
P(A/B)
P(A)
P(AUB)

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

30. If P (A) = 0.3 and P (B) = 0.5, find P (A/B) where 'A' and 'B' are independent:
Select correct option:
0.3
0.5
0.8
0.15

31. An urn contains 4 red balls and 6 green balls. A sample of 4 balls is selected from the urn without replacement. It is the example of:
Select correct option:
Binomial distribution
Hypergrometric distribution
Poisson distribution
Exponential distribution
32. If the second moment ratio is less than 3 the distribution will be:
Select correct option:
Mesokurtic
Leptokurtic
Platykurtic pg 226
None of these
33. For the independent events A and B if P (A) = 0.25, P (B) =0.40 then P (A and B) =……
Select correct option:
0.65
0.1
0.50
0.15

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, 24candidates offered Statistics. If the probability of passing the subject
be 1/3, what will be the mean of the distribution?
Select correct option:
7
8
6
5

42. The probability that a certain machine will produce a defective item is 1/4. If a random sample
of 6 items is taken from the output of this machine, what is the probability that there will be 5
or more defectives in the sample?
Select correct option:
3/4096
18/4096
19/4096
4/4096

43. Probability of type II error is
Select correct option:
a
B pg 276
1-a
1-B

44. **If the values of variables are increasing or decreasing in the same direction then such kind of**
correlation is referred as
Select correct option:
Zero Correlation

Perfect Correlation
Positive Correlation
Negative Correlation

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

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

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

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

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

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

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

52. If strength of the association between X and Y is very weak, then r = ? Select correct option:
r = - 1
r = 0
r = 1
r = 2
53. The moving averages of the Prices 90,70,30,110 are Select correct option:
63.33, 70
73.33, 80
45.45, 68
65.50, 75
54. With increase in sample size, distribution tends to be a.....
Select correct option:
Meso kurtic
Normal
Bell shaped
Above all
55. **In the central tendency Mean, Median and Mode**
Select correct option:
Mean is better than Median
Median is better than Mode
Mean is better than Mode
All of these are true
56. **The degree to which numerical data tend to spread about an average is called**
Select correct option:
The dispersion
Standard deviation
Correlation
None of these
57. **.....graphs are similar to bar graphs.**
Select correct option:
column
line
conversion
sector
58. **A pattern of variation of a time series that repeats every year is called:**
Select correct option:
Cyclical
Seasonal
Trend
Secular
59. **In the central tendency Mean, Median and Mode**
Select correct option:
Mean is better than Median
Median is better than Mode
Mean is better than Mode
All of these are true
60. **The degree to which numerical data tend to spread about an average is called**
Select correct option:
The dispersion

Standard deviation
Correlation
None of these

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

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

63. You have measured the systolic blood pressure of a random sample of 22 employees of a company. A 95% con?dence interval for the mean systolic blood pressure for the employees is computed to be (120,138). Which of the following statements gives a valid interpretation of this interval?
Select correct option:
About 95% of the sample of employees has a systoli
About 95% of the employees in the company have a
If the sampling procedure were repeated many times
If the sampling procedure were repeated many times

64. Assume that a population consists of 7 similar containers having the following weights (km):
9.8, 10.2, 10.4, 9.8, 10.0, 10.2, 9.6 What is the second moment about mean?
Select correct option:
0.262 kg
0.069kg
0.521 kg
0.313kg

65. How many numbers of parameter(s) are in t-distribution?
Select correct option:
0
1 pg 292
2
3

66. With increase in sample size, distribution tends to be a…….
Select correct option:
Meso kurtic
Normal
Bell shaped
Above all

67. F-distribution is a…….. distribution.
Select correct option:
Unimodel pg 312

Bimodal
Discrete
Negatively skewed

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

Select correct option:
Ask my neighbors
Randomly select a few ice cream shops in town, and
Ask my friends
Ask my classmates

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

Select correct option:
Sampling Error
Standard error pg 240

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

Select correct option:
-(3/5)
3/5
11/5
1

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

Select correct option:
270
30
Also 90
None of these

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

Select correct option:
true
False

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

Select correct option:
0.15
-0.15
0.02
-1.00

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

Select correct option:
67%
64%
80%
75%

75. If the dependent variable increases with the independent variable then the coefficient of correlation is
Select correct option:
0 to -1
0 to – 0.5
0 to -2
0 to 1
76. F- distribution tends to normality, if
Select correct option:
V1~8
V2~8
V1 and V2 ~8
Sample size is large
77. Consistency of an estimator can be checked by comparing
Select correct option:
Mean
MSE
Variance
Standard deviation
78. A standardized estimate has mean and variance
Select correct option:
(1, 0)
(0, 1)
(μ, s2)
(μ, s)
79. A composite hypothesis comprises of .....
Select correct option:
Equality
Not equal to
Less than/greater
(b) and (c)
80. For a particular hypothesis test, a=0.05and B=0.05. The power of test is equal to:
Select correct option:
0.14
0.90
0.95
0.25
81. In a t-distribution
Select correct option:
Mean=median=mode
Mean>Median<Mode
Median >Mean>Mode
Media<Mode<Mean
82. If we reject the null hypothesis, we might be making
Select correct option:
Type I error
Type II error
A correct decision

Unpredictable
83. The Central Limit Theorem is important in Statistics because it allows us to use the normal distribution to make inferences concerning the population mean:
Select correct option:
Provided that the population is normally distributed a
Provided that the population is normally distributed (
Provided that the sample size is reasonably large (fo
Provided that the population is normally distributed and the population variance is known (for any sample size)
84. **Herbicide A has been used for years in order to kill a particular type of weed, but an**
experiment is to
be conducted in order to see whether a new herbicide, Herbicide B, is more effective than Herbicide A.
Herbicide A will continue to be used unless there is sufficient evidence that Herbicide B is more
effective.
The alternative hypothesis in this problem is that
Select correct option:
Herbicide A is more effective than Herbicide B
Herbicide B is more effective than Herbicide A
Herbicide A is not more effective than Herbicide B
Herbicide B is not more effective than Herbicide A
85. A data in which we study about Regions is called ……
Select correct option:
Qualitative
Quantitative
Geographical
Chronological
86. If the median of an arrangement of numbers is equal to the mean of its middle terms then the arrangement contains
Select correct option:
Odd number of terms
Even number of terms
Unlimited number of terms
Prime number
87. If the graph is very much scattered, then what can be the suitable value of r?
Select correct option:
r = - 0.9
r = -0.5
r = 0.1
r=0.8
88. In scatter diagram, clustering of points around a straight line indicates
Select correct option:
Linear regression
Non-linear regression
Curvilinear linear regression
Both a and b

89. If the standard deviation of a population is 9, the population variance is
Select correct option!
3
9
21.35
81
90. How many steps are involved in general procedure for testing hypothesis:
4
5
6
7
91. When testing for independence in a contingency table with 2 rows and 5 columns, there are
_____ degrees of freedom.
4
10
7
5

92. The critical region is in:
The middle of a distribution
The tails of a distribution
Either the middle or the tails of a distribution
Neither the middle nor the tails of a distribution
93. t-distribution is used to test the hypothesis about.....
Mean
proportion
The term 1-B is called
Level of the test
power of the test
Size of the test
Critical region
94. The asymptotic distribution of t-statistic with n-degree of freedom is
F
Normal
Z T
95. The Gallup Poll has decided to increase the size of its random sample of Canadian voters from
about 1200 people to about 4000 people. The e?ect of this increase is to:
Reduce the bias of the estimate
Increase the standard error of the estimate
Reduce the variability of the estimate
Increase the con?dence interval width for the parameter
96. The value of chi square can never be :
Zero
Less then 1
Greater then 1
Negative
97. The curve of the F- distribution depends upon:

Mean
Variance
Standard Deviation
Sample Size

98. We want to test H0 : μ = 1.5 vs. H1 : μ 6= 1.5 at _= .05 . A 95% confidence interval for μ
calculated from a given random sample is (1.4, 3.6)Based on this finding we:
Fail to reject H0
Reject H0
Cannot make any decision at all because the value of the test statistic is not available
Cannot make any decision at all because (1.4, 3.6) is only a 95%

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

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

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

102. t-distribtion is applicable in case of
Independent samples
Dependent samples
Both (a) and (b)
Normal populations

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

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

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

106. A random sample of n = 6 has the elements 6, 10,13,14,18 and 20. What is the point

estimate of the population mean?
12
13.5
11
11.5

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

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

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

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

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

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

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

114. In a t-distribution
Mean=median=mode
Mean>Median<Mode
Median >Mean>Mode
Media<Mode<Mean
115. 1-a is the probability of ……
Type 1 error
Rejection region
Acceptance region
Type 2 error
116. Inferential statistics involves …….
Testing
Confidence interval
Estimation
Above all
117. Probability of type II error is
a
B
1-a
1-B
118. if the equation of regression line is y = 5, then what result will you take out from it?
Select correct option:
The line passes through origin.
The line passes through (5, 0)
The line is parallel to y-axis.
The line is parallel to x-axis.
119. If the estimating equation is Y = a – b X ,Which of the following is true
Select correct option:
a)The y intercept is'b'
b) Slope of line is negative
c) There is inverse relationship
d) b & c
120. The variance of t-distribution, for v >2, is always:
Select correct option:
Greater than zero
Less than one
Equal to one
Greater than one
121. Alpha is the probability of ……
Select correct option:
Rejecting H0
Accepting H0
Rejecting H1
Accepting H1
122. What type of data is collected in population census?
Select correct option:
Two Types
123. The collection of all outcomes for an experiment is called
Select correct option:

a sample space
the intersection of events
joint probability
population

124. Which of the graph is used for a time series data:
Select correct option:
Frequency curve
Frequency polygon
Historigram
Histogram

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

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

127. The height of a student is 60 inches. This is an example of .....?
Select correct option:
Continuous data
Qualitative data
Categorical data
Discrete data

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

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
d
5
2,d,5
133. If the standard deviation of a population is 5.5, the population variance is:
Select correct option:
5.5
31
25
30.25
134. What we commonly called a bell shaped distribution:
Select correct option:
syme
bi moder
u shap
skewed
135. The beginnings of a cumulative frequency distribution are presented below. What is the
next number in the Cumulative Frequency column? Classes Frequency Cumulative Frequency
6.1 to 8 1 1 8.1 to 10 2 10.1 to 12 3
Select correct option:
0
1
2
3
136. Range of the values -10,- 19, -9, -15, -28, -26, -25 is:
Select correct option:
+18
-18
-19
+19
137. Which one of the following is less than median for a symmetrical distribution:
Select correct option:
50percentile
51 percentile
2quartile
4decile
138. The value of the middle term in a ranked (ordered) data set is called the
Select correct option:
mode

mean
median
harmonic mean

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

Select correct option:

mean
median
mode
g.m

140. Statistic is a numerical quantity, which is calculated from

Select correct option:

data
observation
sample
population

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

Select correct option:

descriptive
advance
infernetial
sample

142. How to find the class midpoint?

Select correct option:

Half the sum of upper class limit and lower class limit
Find the difference between consecutive lower limits
Count the number of observations in the class
Divide the class frequency by the number of observ

143. For given data, discuss the shape of the distribution: X f 0.2 8 1.2 15 2.2 23 3.2 40

Select correct option:

Positively skewed
Negatively skewed
Symmetric curve
U- Shaped curve

144. Data classified by attributes are called:

Select correct option:

group
qulitative
quantitive
array

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

Select correct option:

4
335
4335
43

145. A frequency polygon is obtained by plotting the class frequencies against what?
Select correct option:
classbounday
cumulative frequency
relative frequency
mid point

146. When more values are lying at the start of the distribution, it is:
Select correct option:
u shape
positive
negative
symmetrica

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

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

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

150. Data classified by attributes are called:
Select correct option:
Grouped data
Qualitative data
Quantitative data
Arrayed data

151. As a general rule, statisticians tends to use which of the following number of classes when
arranging the data
Select correct option:
Fewer than 5
Between 5 & 20
Between 8 & 15
More than 20

152. The collection of all outcomes for an experiment is called
Select correct option:
a sample space
the intersection of events

joint probability
population
153. **If P (E) is the probability that an event will occur, which of the following must be false:**
Select correct option:
P(E)= - 1
P(E)=1
P(E)=1/2
P(E)=1/3
154. **If we roll a die then probability of getting a '2' will be**
Select correct option:
2/6
1/6
4/6
1
155. **In a multiplication theorem P (A n B) equals:**
Select correct option:
P (A) P (B)
P (A) + P (B)
P (A) * P (B|A) pg 158
P(B\A)*P(B)
156. If Y=3X+5,then S.D of Y is equal to
Select correct option:
9 s.d(x)
3 s.d(x)
s.d(x)+5
3s.d(x)+5
157. In regression line Y=a+bX, X is called:
Select correct option:
Dependent variable
Independent variable
Explained variable
Regressand
158. **Symbolically, a marginal probability is:**
Select correct option:
P(AB)
P(AUB)
P(A/B)
P(A)
159. **Which formula represents the probability of the complement of event A:**
Select correct option:
1 + P (A)
1 - P (A)
P (A)
P (A) -1
160. If A and B are independent events with P(A) = 0.05 and P(B) = 0.65, then P(A|B) = :
Select correct option:
0.65
0.05

0.03
0.07 not sure

161. The probability of drawing a 'white' ball from a bag containing 4 red, 8 black and 3 white balls is:

Select correct option:
0
3/15
1/12
1/2

162. **An expected value of a random variable is equal to:**

Select correct option:
Variance
Mean
Standard deviation
Quartile

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

Select correct option:
4
8
12
16

164. **5C5=**

Select correct option:
5
1
10
25

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

Select correct option:
0
0.1
0.5
1

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

Select correct option:
Joint probability
Subjective probability
Prior probability
Conditional probability

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

Select correct option:
1/8
3/4
7/8
5/8

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
- ► Not mutually exclusive
- ► Exhaustive

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

_____ The mean of the F-distribution is:

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

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

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

► Rejected

► 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:

http://vustudents.ning.com

► Variances

► Means

► Proportions

► Groups

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

_____ ANOVA was introduced by :

► Helmert

► Pearson

► R.A Fisher

► Francis

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

_____ For testing of hypothesis about population proportion , we use:

► Z-test

► t-Test

► Both Z & T-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: http://vustudents.ning.com

► E(XX)
► E(X).E(Y)
► 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
► 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

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

_____ An estimator T is said to be unbiased estimator of θ if http://vustudents.ning.com

- ► E (T) = θ
- ► 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
- ► Sample median

► Sample proportion

► Sample variance

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

_____ The sample variance $S^2 = \frac{\sum(x-\bar{x})^2}{n}$ is:

► Unbiased estimator of σ^2

► Biased estimator of σ^2

► Unbiased estimator of μ

► None of these

Question No: 14 (Marks: 1) http://vustudents.ning.com - Please choose one

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

1

0

c

► 0

► 1

► c

► -c

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:

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

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

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

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

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

The analysis of variance technique is a method for : http://vustudents.ning.com

- ► Comparing F distributions
- ► Comparing three or more means
- ► 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
- ► 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
- ► 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
- ► 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

Question No: 22 (Marks: 1) - Please choose one

_____ In normal distribution $\beta_2 =$

► 1

► 2

► 3

► 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

► Historigram

Question No: 24 (Marks: 1) http://vustudents.ning.com - Please choose one

_____ Which one of the following statements is true regarding a population?

► It must be a large number of values

► 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

When $Q_1 = 2$ and $Q_3 = 4$,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

► 10

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

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

► Null hypothesis is true

► Alternative hypothesis is true

► Sample size is large

► Population is normal

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)

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

_____ The value of χ^2 can never be :

► Zero

► Less than 1

► Greater than 1

► Negative

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

_____ The mean of the F-distribution is:

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

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

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

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

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

_____ The F-distribution always ranges from:

► 0 to 1

► 0 to -∞

► -∞ to +∞

► 0 to +∞

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

_____ The total number of samples when sampling is done with replacement :

► N^n

► C_n^N

► $\frac{N-n}{N-1}$

► 1

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

_____ ANOVA was introduced by :

► Helmert

► Pearson

► R.A Fisher

► Francis

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

_____ The test statistic used in analysis of variance procedure follow the ..... distribution.:

► X^2

► T

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► Z

► F

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

_____ For testing of hypothesis about population proportion , we use:

► Z-test

► t-Test

► Both Z & T-test

► F test

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

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

► $E(X)+E(Y)$

► $E(X)-E(Y)$

► $X-E(Y)$

► $E(X)-Y$

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

► 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

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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

► 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

► 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

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

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

0

c

-c

► 0

► 1

► c

► -c

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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

► ∞

► −∞

► 0

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

_____ The hyper geometric random variable is a(an):

► Continuous variable

► Discrete variable

► 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

► 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

► 68.5 per cent

► 95.4 per cent

► 99 per cent

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

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

► 0

► 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

► 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:

► $x_m - x_0$

► $x_0 - x_m$

► $\frac{x_0 - x_m}{2}$

► $\frac{x_0 + x_m}{2}$

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
- ► 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

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

For the Poisson distribution $P(X=1)=\frac{e^{-0.135}0.135^{1}}{1!}$ the mean value is :

► 2

► 5

► 10

► 0.135

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

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

► Null hypothesis is true

► Alternative hypothesis is true

► Sample size is large

► Population is normal

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

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

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

►

▶ $\sigma^2 = \frac{v^2}{v-2}$

▶ $\sigma^2 = \frac{v}{v-1}$

▶ $\sigma^2 = \frac{v}{v-2}$

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

▶ Mesokurtic

▶ Leptokutic

▶ Moderately skewed

Question # 1 of 10 (Start time: 07:10:27 PM) Total Marks: 1
When two dice are rolled the number of possible sample points is :
Select correct option:

6
12
24
36

Question # 2 of 10 (Start time: 07:11:18 PM) Total Marks: 1
A fair coin is tossed three times, the probability that at least one head appear is:
Select correct option:

1/8
7/8
3/8
5/8

Question # 3 of 10 (Start time: 07:12:14 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

of the following is not a measure of central tendency?
Select correct option:

Percentile

Quartile

Standard deviation

Mode

Which of the following is NOT a possible probability?
Select correct option:

25/100
1.25
0
1

Question # 6 of 10 (Start time: 07:16:06 PM) Total Marks: 1
Evaluate (10-4)!
Select correct option:

1000
720
480
32

Question # 7 of 10 (Start time: 07:17:34 PM) Total Marks: 1
When E is an impossible event, then P(E) is:
Select correct option:

0
1
2
0.5

Question # 8 of 10 (Start time: 07:19:00 PM) Total Marks: 1
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

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

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

6
36
216
1296

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

Question No: 2 (Marks: 1) - Please choose one
The value of x2can never be :

► Zero
► Less than 1
► Greater than 1
► Negative

Question No: 3 (Marks: 1) - Please choose one
The mean of the F distribution is:

►
►
►
►

Question No: 4 (Marks: 1) - Please choose one
If X and Y are random variables, then is equal to:

►
►
►
►

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)
► P (A)
► P (A) -1

Question No: 7 (Marks: 1) - Please choose one
Ideally the width of confidence interval should be:

► 0
► 1
► 99
► 100

Question No: 8 (Marks: 1) - Please choose one
If the sampling distribution of is normal, the interval includes:

► 99% of the sample means

► 99.73% of the sample means

► 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

► Sample distribution

Question No: 10 (Marks: 1) - Please choose one
An estimator T is said to be unbiased estimator of if

► E (T) =

► 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
► Zero

Question No: 13 (Marks: 1) - Please choose one
An expected value of a random variable is equal to:

► Variance
► Mean
► Standard deviation
► Covariance

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

►
►
►
►

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
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
► 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

Question No: 18 (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: 19 (Marks: 1) - Please choose one
Which one of the following statements is true regarding a sample?
► It is a part of population
► 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

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
► Not mutually exclusive
► Exhaustive

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

►
►
►
►

Question No: 3 (Marks: 1) - Please choose one
The LSD test is applied only if the null hypothesis is:

► Rejected
► 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
► Proportions
► Groups

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

► Helmert
► Pearson
► R.A Fisher
► Francis

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

► Z-test
► 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)
► 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
► 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

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

An estimator T is said to be unbiased estimator of if

► E (T) =

► E (T) =T

► E (T) =0

► E (T) =1

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The best unbiased estimator for population variance is:

► Sample mean

► Sample median

► Sample proportion

► Sample variance

Question No: 13 (Marks: 1) - Please choose one
The sample variance is:

► Unbiased estimator of

► Biased estimator of

► Unbiased estimator of

► None of these

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1
0
c
-c

► 0
► 1
► c
► -c

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

►
►
►
►

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► Comparing F distributions
► Comparing three or more means
► Measuring sampling error
► Comparing variances

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► Greater Than 100

► Less than 100

► In all situations

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► Inferential Statistics

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► Component bar chart

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In normal distribution Q.D =

►
►
►
►

Question No: 22 (Marks: 1) - Please choose one
In normal distribution

► 1
► 2
► 3
► 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
► Historigram

Question No: 24 (Marks: 1) - Please choose one
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► It must refer to people
► It is a collection of individuals, objects, or measurements
► It is small part of whole

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When ,what is the value of Median, if the distribution is symmetrical:

► 1
► 2
► 3
► 4

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► 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.

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

► 5
► 8
► 9
► 10

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► Alternative hypothesis is true
► Sample size is large
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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 ?
► 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: 1 (Marks: 1) - Please choose one
_____ 10! =.....

► 362880
► 3628800
► 362280
► 362800

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

- 2
- 0
- 0.5
- 1

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

The value of x^2 can never be :

- Zero
- Less than 1
- Greater than 1
- Negative

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

The curve of the F- distribution depends upon:

- Degrees of freedom
- Sample size
- Mean
- Variance

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

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

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

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

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

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

For the $\frac{1-2.25}{1!}\ 0.135^{1}$

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

- ▶ 2
- ▶ 5
- ▶ 10
- ▶ 0.135

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

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

- ▶ $\frac{1}{4}$
- ▶ $\frac{1}{2}$
- ▶ $\frac{3}{4}$
- ▶ 1

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

From point estimation, we always get:

- ▶ Single value
- ▶ Two values
- ▶ Range of values
- ▶ Zero

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

The sample variance $S^2 = \frac{\sum(x-\bar{x})^2}{n}$ is:

- ▶ Unbiased estimator of σ^2

► Biased estimator of σ^2

► 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
► 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
► 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
► .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

► 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
- 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

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
- 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
- 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
- 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