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Multiple Choice Questions (MCQs): MCQ1: 1st quartile = 2.5th Decile = _ Answer: 11th Percentile MCQ2: 2nd quartile = 5th Decile =? Answer: 2nd Percentile MCQ3: Given the set of observation as: - 7, 12, 18, 15, 20, 19, 16, 13, 23 and 17. Find: the lower quartile Answer: 11 MCQ4: Given the set of observation as: - 7, 12, 18, 15, 20, 19, 16, 13, 23 and 17. Find: the semi-interquartile range Answer: 1 MCQ5: A ___ is one part when a distribution is broken down into ten equal parts or divisions Answer: Percentile MCQ6: Given a set of scores as: 17, 23, 13, 12, 16, 7, 19, 20, 18 and 15. Find the 8th decile Answer: 12.4 MCQ7: A ___ is one part when a distribution is divided into one hundred (100) equal parts Answer: Set of data _ is a general class of measures used in measuring the central tendency and dispersion Answer: Equation MCQ9: Charlier's check and Sheppard's correction are used to guide against _ Answer: Data error MCQ10: ___ is the degree of asymmetry or departure from symmetry of a distribution Answer: Skewness $_{ extsf{L}}$ is defined as a measure of departure of a distribution from symmetry MCQ12: For skewed distributions, the mean tends to lie on the same side of the Answer: Line _ is defined as the degree of peakness of a distribution when it is compared with a normal distribution Answer: Calculated figure MCQ14: A normal distribution which is not very peaked or very low flat topped; is called ___ distribution Answer: mesokurtic _ distribution is a normal distribution that is symmetrical MCQ15: A __ Answer: mesokurtic

MCQ16: A distribution which is flat topped is said to be ____ distribution

Answer: Leptokurtic

MCQ17: A distribution is the one that has the highest or greatest peakness among the three forms Answer: Data
MCQ18:, as a feature of a frequency distribution is measured using different approaches Answer: Kurtosis
MCQ19: co-efficient of kurtosis measure made use of the fourth moment about the mean and the variance Answer: Efficient Moment
MCQ20: Twenty percent of electric bulbs manufactured by a company are found to be defective. Find the moment co-efficient of kurtosis for a distribution of defective bulbs in a total of 2,000 and interpret the result Answer: 2.00081
MCQ21: Given that Q1 = 52, Q3 = 91, P90 = 120 and P10 = 92, find the percentile co- efficient of kurtosis and comment on the peakness of the distribution. Answer: 0.421
MCQ22: The standard deviation of a symmetrical distribution is 4.8. What should be the value of the fourth moment about the mean in order for the distribution to be Mesokurtic Answer: 1320.41
MCQ23: The standard deviation of a symmetrical distribution is 4.8. What should be the value of the fourth moment about the mean in order for the distribution to be Platykurtic Answer: 1592.52
MCQ24: The standard deviation of a symmetrical distribution is 4.8. What should be the value of the fourth moment about the mean in order for the distribution to be Leptokurtic Answer: 1592.52
MCQ25: A simple event is any single outcome from a experiment Answer: Set of data
MCQ26: In probability, an experiment is any process that can be repeated in which the results are Answer: Uncertain
MCQ27: Probability is a measure of the likelihood of a random phenomenon or chance behaviour Answer: Data analysis
MCQ28: space is the outcomes in an experimental probability cannot be decomposed into more basic parts Answer: Sample size
MCQ29: is the ratio of the number of expected outcome to the number of all possible outcomes Answer: Non Probabbility
MCQ30: If the probability that it will rain in Lagos is $\frac{1}{4}$, what is the probability that it will NOT rain in lagos? Answer: 0.34
MCQ31: Two events are said to be mutually if the occurrence of either excludes the possibility of the occurrence of other event Answer: Exclusive

MCQ32: In a toss of a fair die, what is the probability that a 5 is rolled, given that the die comes up odd.

Answer: 1/3

MCQ33: In a toss of a fair die, what is the probability that the die comes up odd, given that 5 is NOT rolled?

Answer: 1/4

MCQ34: If a dice is picked at random, what is the probability that it is white and the score obtained from it is even?

Answer: 1/3

MCQ35: If a dice is picked at random, what is the probability that it is red with even score or a yellow with red score?

Answer: 1/9

MCQ36: The ____ diagram of the set theory is sometimes used in solving

probability problems

Answer: Venn

MCQ37: Given that the probability that Ayo attends a party is independent of Bolu attending the same party. If the probability that Ayo attends is 2/3 and the probability that Bolu attends is 3/5. Find the probability that both of them attend the party.

Answer: ½

MCQ38: Given that the probability that Ayo attends a party is independent of Bolu attending the same party. If the probability that Ayo attends is 2/3 and the probability that Bolu attends is 3/5. Find the probability that either of them attend the party

Answer: 7/5

MCQ39: Bayes theorem (otherwise known as inverse probability) was put forward by Thomas Bayes in his attempt to manipulate the formula for conditional probability in _____

Answer: 1761

MCQ40: 30% of the total output of a factory is produced in a workshop A while 70% is produced in workshop B. Also, 15 out of every 1000 components produced in A are defective and 8 out of every 1000 component produced in B are defective. If a component drawn at random from a mixture of the output of A and B is found to be defective, what is the probability that, it is from workshop A?

Answer: 0.41

MCQ41: If a die is tossed 1 or 2 results a marble picked from bag a which contains 2 white and 3 red marbles; if 3, 4, or 5 results a marble picked from bag B which contains 1 white and 4 red balls while if 6 results a marble is picked from bag C which contains 3 white and 2 red balls. The experiment, when carried out results in a red ball being picked. Calculate the probability that the result of 6 is obtained from the tossed die.

Answer: 0.3

MCQ42: In a toss of three coins, what is the probability of obtaining at least a tail?

Answer: 1/7

MCQ43: Five coins are tossed, what is the probability that they all show the

same faces? Answer: 2/7

MCQ44: Six coins are tossed. Find the probability of obtaining a head.

Answer: 3/7

MCQ45: In a toss of 2 dice what is the probability of obtaining a total sum of Answer: 1/10 MCQ46: In a toss of 2 dice what is the probability of obtaining a sum less than Answer: 2/7 MCQ47: In a toss of 2 dice what is the probability of obtaining same score Answer: 1/3 MCQ48: In a toss of 2 dice what is the probability of obtaining one of the score being '3' Answer: 5/18 MCQ49: Three dice are tossed, what is the probability of obtaining the same score throughout? Answer: 1/20 MCQ50: If a pack of a playing card properly shuffled, what is the probability of picking a Diamond card with and odd number? Answer: 7/13 Fill in the Blank (FBQs): FBQ1: The aspect of decision-making that has to do with numerical information is known as Answer: *Statistics* _ presents facts in a definite, lucid and concise form so that the facts are readily available for making valid conclusions Answer: *Statistics* FBQ3: A statistical ___ is an investigation carried out to collect statistical data which may be analysed and presented in the form that ___ is an investigation carried out to collect will aid effective decision making Answer: *Inquiry* FBQ4: $__$ statistics, the data collected describes the situation that existed at the point in time when the census was taken Answer: *Descriptive* FBQ5: ____ refers to a set or collection of usable information. Answer: *Data* FBQ6: A ___ data is a type of data collected directly from the source Answer: *Primary* FBQ7: An ___ is an arrangement of raw numerical data in ascending or descending order of magnitude Answer: *Array* _ variables allow for classification of individuals based on some attributes or characteristics. Answer: *Qualitative* FBQ9: _ _ variables on the other hand are numerically valued variable Answer: *Ouantitative* variable is a variable whose possible values can be listed, even FBQ10: A _ though the list may continue indefinitely Answer: *Discrete*

FBQ11: ___ variable on the other hand is a quantitative variable whose

possible values form some intervals of numbers Answer: *Continuous* FBQ12: A ___ is just part selected to represent the population Answer: *Sample* FBQ13: ____ refers to the whole of any group of individuals or items whose members (units) possess the same basic and clearly defined characteristics Answer: *Population* _ sample of n experiment has been defined as the individual selected FBQ14: A _ from population in such a way that every different sample of size n has an equal chance of selection Answer: *Random* FBQ15: ___ Sampling is where a series of samples are taken at successive stages Answer: *Multi-Stage* _ Sampling is a sample in which the individuals are easily obtained Answer: *Convenience* $_{ extsf{L}}$ error is the error that results from using sampling to estimate information regarding a population Answer: *Sampling* FBQ18: In complete ____, each and every individual of the group to which the data relates is covered and information gathered for each individual separately Answer: *Enumeration* _ of experiment is a carefully designed form to be completed by the FB019: A respondent Answer: *Questionnaire* _ method is of interest to the production managers, engineers the FBQ20: _ scientist Answer: *Report* FBQ21: Established extraction from already___ is one of the commonest ways of collecting secondary data. Answer: *Result* _ data is an array of information such that each item has its own individual frequency or occurrence Answer: *Ungrouped* FBQ23: A ___ is an orderly arranged list of information, facts or data Answer: *Table* FBQ24: A ___ is a pictorial presentation of the relationship between variables Answer: *Graph* FBQ25: A ____ shows the breakdown of the total values for a given information into their component parts Answer: *Component bar chart* FBQ26: A ____ is a bar graph whose bars are drawn in decreasing order of frequency or relative frequency Answer: *Pareto chart* FBQ27: A ___ is a circle divided by radial lines into sections (like slices of a cake or pie; hence the name) so that the area of each section is proportional to the size of the value represented

Answer: *pie chart*

FBQ28: A ___ is simply a graph that extends over a single year and incorporates Answer: *Z-chart* FBQ29: The relative frequency ___ is the graph that displays the classes on the horizontal axis and the relative frequencies of the classes of the vertical axis. Answer: *Histogram* FBQ30: Measures of ___ are the statistical estimates which show the degree to which any given set of value or data will converge towards the central point of the data Answer: *central tendency* FBQ31: The net weights of the content of 5 coke bottles selected at random are 85.4, 84.9, 85.3, 85.0 and 85.4. What is the arithmetic mean of the sample observation? Answer: *85.2kg* FBQ32: If a final examination in a course is weighted 3 times as much as a quiz and a student has a final examination grade of 85 and quiz grades of 70 and 90, calculate the mean grade? Answer: *N 7.04* FBQ33: Find the harmonic mean of 2, 3, 4, 5, 6. Answer: *3.45* FBQ34: Find the harmonic mean of 2, 4, 8 Answer: *3.43* FBQ35: Find the Root Mean Square of the following seta of data 1, 3, 4, 5, 7 Answer: *4.47* FBQ36: Find the Root Mean Square of the following seta of data 1, 2, 4, 5, 3 Answer: *4* FBQ37: Find the median of each of the following sets of information 3, 2, 2, 5, 1, 4, 3, 2, 1, 5 and 2. Answer: *6th item* FBQ38: Find the median of each of the following sets of information 3, 6, 5, 4, 2, 4, 8, 4, 6, 8, 9 and 10 Answer: *6* FBQ39: The median of a set of grouped data can be determined geometrically in two ways: histogram and ____ frequency curve. Answer: *Cumulative* FBQ40: The ___determined from a histogram, is the value on the variable axis through which a vertical line, dividing the histogram into two equal areas, passes. Answer: *Median* FBQ41: The measure of dispersion estimate the extent or degree to which values in a set of data tend to spread around or about the average ____ Answer: *Value* is the simplest of all the measure of dispersion FBQ42: The ____ Answer: *Range* $_$ deviation refers to the arithmetic average of all deviation in a distribution from the mean Answer: *Mean*

FBQ44: One advantage of mean ___ is that, it presents a good picture of the data because every item is taken into account Answer: *Deviation* FBQ45: One measure of dispersion which is very reliable is the variance of the mean ___ deviation Answer: *Square* FBQ46: The actual variation or dispersion, as determined from the standard deviation or other measure of dispersion is called the ___ dispersion Answer: *Absolute* FBQ47: The measure of ____ refers to the statistical estimates obtained as a result of breaking data or other quantitative or qualitative information into groups, parts or divisions Answer: *Partitions* FBQ48: When data is broken down into four equal parts or division, each part or division is called a __ Answer: *Quartile* FBQ49: When data is broken down into ten equal parts or division, each part or division is called a _ Answer: *Decile* FBQ50: In breaking a data into one-hundred equal parts, each portion or part is

called a

Answer: *Percentile*