

BACHELOR OF MANAGEMENT AND STUDIES

FYBMS

SEMESTER – I

BUSINESS STATISTICS

SAMPLE QUESTIONS

- 1) A single value which is used to represent the entire mass of data is
 - a) Measure of central tendency
 - b) Statistics
 - c) Measures of dispersion
 - d) Skewness
- 2) The empirical relationship between Mean, Median and Mode is given by
 - a) Mode = 3 median – mean
 - b) Mode = 2 mean – median
 - c) Mode = 3 median – 2 mean
 - d) Mode = mean – median
- 3) The statistical data that can be classified according to the time of its occurrence is.
 - a) Geographical
 - b) Chronological
 - c) Quantitative
 - d) Qualitative
- 4) For the given data 7,8,9,9 and 17.
 - a) Mean is greater than median
 - b) Median greater than mode
 - c) Mode is greater than mean
 - d) Arithmetic mean
- 5) Two distributions with 30 and 40 items have mean 158 and 162 respectively. The combined mean of two distributions will be.
 - a) 162
 - b) 160.28
 - c) 160.29
 - d) 157.99
- 6) In a moderately symmetrical distribution, the mode is 40 and median is 44, the value of mean will be.
 - a) 43
 - b) 46
 - c) 57.3
 - d) 58.0
- 7) If assumed mean $A = 35$, $i = 10$, $\sum f = 58$ then,
 - a) Mean = 35.51
 - b) Mean = 33.45
 - c) Mean = 31.35
 - d) Mean 33.15
- 8) Which of the following is not a method of data collection?
 - a) Questionnaires
 - b) Observation
 - c) Interviews
 - d) Experiments
- 9) The graphical representations of a cumulative frequency distribution is called.

- a) Histogram
 - b) Pie chart
 - c) Ogive
 - d) Histogram
- 10) Which of the following is not a continuous variable?
- a) Salary
 - b) Height
 - c) Time
 - d) Number of students in a class
- 11) When we draw a perpendicular line from the point of intersection of the “less than” and “more than” ogives to the x – axis, the point it meets x – axis gives.
- a) Mean
 - b) Mode
 - c) Median
 - d) Standard
- 12) Consecutive rectangles in a histogram have no space in between.
- a) True
 - b) False
 - c) May or may not have space
 - d) Must have space in between
- 13) Which of the following statements is not correct?
- a) At times weighted mean is much better than the simple mean
 - b) Extreme values in the data affect the mean
 - c) Some data sets data do not have means
 - d) Qualitative
- 14) When calculating median of a data set, the first step is.
- a) Arrange the data in an ascending or descending order
 - b) Calculate the mean of the middle two items in the data set.
 - c) Find the cumulative frequency
 - d) Ogive
- 15) Which of the following is not a type of bar chart?
- a) Multiple
 - b) Percentage
 - c) Subdivided
 - d) Ogive
- 16) Coefficient of determination is defined as
- a) r^3
 - b) $1 - R^2$
 - c) $1 + r^2$
 - d) r^2
- 17) which of the following is the highest range of r?
- a) 0 and 1
 - b) -1 and 0
 - c) -1 and 1
 - d) -2 and 2
- 18) A study between two variables x and y show a high degree of positive association. Which of the following correlation coefficient is consistent with the above statement?
- a) 0.5
 - b) -0.6
 - c) 0.8
 - d) -0.8

- 19) A regression equation is obtained with $a = 2$, $b = 5$. If the independent variable has a value 4, what should be the value of the dependent variable?
- 10
 - 21
 - 22
 - 13
- 20) When the angle formed by regression line Y on X and the regression line X on Y is 90° then.
- $r = 0$
 - $r = \pm 1$
 - $r = -1$
 - $r = +1$
- 21) when regression lines x on y and y on x coincide then
- $r = 0.5$
 - $r = +1$
 - $r = -1$
 - $r = 0$
- 22) The standard deviation of a population divided by its means and multiplied by 100 results into.
- Standard score
 - Coefficient of variation
 - Variance
 - Mean
- 23) With $b_{xy} = 0.5$, $r_{xy} = 0.8$ and variance of $y = 16$ then αx is equal to;
- 25.6
 - 2.5
 - 10.0
 - 6.4
- 24) If the coefficient of correlation is 0.96 and the standard deviations are 3.24 and 4.44, then the covariance between the two variables is:
- 13.810
 - 13.875
 - 13.786
 - 10.456
- 25) The coefficient of rank correlation between two data is 0.2, sum of squares of differences in their ranks is 132, then the number of observations is:
- 9
 - 10
 - 11
 - 15
- 26) If $\sum d^2 = 140$; the rank correlation coefficient is 0.1333 and number of observations is 10, then the total correlation factor is;
- 3.5
 - 3.0
 - 2.5
 - 2
- 27) Which of the following is correct for a multiplicative time series model:
- $T \times S + C + I$
 - $T - S + C - I$
 - $T \times C \times S \times I$
 - $T \times S \times C - I$
- 28) When the individual years (X) are changed into coded time values such that $\sum X = 0$, then:

- a) $a = \sum y/n$; $b = \sum xy/\sum x^2$
 b) $a = \sum x/n$; $b = \sum xy/\sum x^2$
 c) $a = \sum xy/n$; $b = \sum x/\sum y^2$
 d) $a = \sum/n$; $b = \sum xy/\sum x^2$
- 29) when the time series comprise annual data, we can find out;
 a) Seasonal variations
 b) Secular trend
 c) Cyclical fluctuation
 d) Mean
- 30) Laspeyre's index is based on;
 a) Base year quantities
 b) Current year quantities
 c) Both of them
 d) Average of current and base year
- 31) Which one of the following is price index? $I_i + I_p$
 a) $\frac{\sum p_1 q_0}{\sum p_0 q_0} \times 100$
 b) $\frac{\sum p_1}{\sum p_1 q}$
 c) $\frac{\sum p_1 q_1}{\sum p_0 q_0} \times 100$
 d) $\frac{\sum p_1 q}{\sum p q}$
- 32) In computing quantity index the following is used as
 a) Percentage of total
 b) Prices
 c) Average of quantities
 d) Quantity
- 33) Which of the following is index number?
 a) $I_F = \sqrt{I_l + I_p}$
 b) $I_F = \sqrt{I_l + I_p}$
 c) I
 d) IL
- 34) Cyclical fluctuations are by:
 a) Wars
 b) Earthquakes
 c) Floods
 d) Stikes
- 35) The probability of an impossible event is:
 a) +1
 b) -1
 c) 0
 d) 7
- 36) The conditional probability that both A and B will occur, when A and B are independent is given by:
 a) $P(A) \times P(B)$
 b) $P(A) - P(B)$
 c) $P(A) + P(B) - P(AB)$
 d) $P(A) + P(B)$
- 37) The conditional probability of B given that A also already occurred, when A and B depend is calculated as:
 a) $P(A)/P(B)$
 b) $P(AB)/P(A)$

- c) $P(AB) / P(B)$
 - d) $P(B) / P(AB)$
- 38) Given $P(A \cap B) = 0.24$, $P(A) = 0.4$ then $P(B / A)$ is equal to :
- a) 0.36
 - b) 0.6
 - c) 0.26
 - d) 0.16
- 39) If $P(A \cap B) = 0$, then the two events A and B are said to be:
- a) Independent
 - b) Dependent
 - c) Mutually exhaustive
 - d) Mutually
- 40) The probability of drawing an ace from a pack of cards is :
- a) $1/52$
 - b) $1/12$
 - c) $1/13$
 - d) $1/10$
- 41) The probability of occurrence of an event is known as:
- a) Conditional probability
 - b) Joint probability
 - c) Marginal probability
 - d) Bayesian probability
- 42) A box contains six green balls and 4 red balls. The probability of draing a red ball is:
- a) 0.6
 - b) 0.10
 - c) 0.4
 - d) 0.5
- 43) Which of the following criteria is not used for decision - making under uncertainty?
- a) Maximin
 - b) Maximax
 - c) Minimax expected loss
 - d) Minimize
- 44) Decision making is done under condition of :
- a) Certainty
 - b) Uncertainty
 - c) Risk
 - d) Certainty , uncertainty , risk
- 45) The value of the co-efficient of optimism " α " is needed while using the criteria of:
- a) Equally likely
 - b) Maximum
 - c) Hurwitz
 - d) Minimax
- 46) While applying expected opportunity loss criterion, the best course of action is corresponding to:
- a) Maximum EOL
 - b) Minimum EOL
 - c) When $EOL = 0$
 - d) Minimax
- 47) In decision tree, the different courses of action:
- a) Originate as branches from the decision node

- b) Originate as branches from the state nature node
 - c) Are numbered using capital letters
 - d) Are numbered using 1,2,3,
- 48) Mr. X does not want to take risk, so he prefers:
- a) Those situations which have high expected values
 - b) To take large risks to get large gains
 - c) To act any time when the expected value is positive
 - d) Meaningless
- 49) Quantitative data is the data that possess.
- a) Numerical properties
 - b) Statistics
 - c) Sample method
 - d) Width of class – interval
- 50) _____ is a scientific tool used in research and making an intelligent judgement.
- a) Numerical properties
 - b) Statistics
 - c) Sample method
 - d) Width of class – interval
- 51) _____ is used, when the population under study is infinite.
- a) Numerical properties
 - b) Statistics
 - c) Sample method
 - d) Width of class – interval
- 52) The difference between upper-class limit and lower-class limit is called _____.
- a) Numerical properties
 - b) Statistics
 - c) Sample method
 - d) Width of class – interval
- 53) Weight is a _____ variable.
- a) Continuous
 - b) Discrete
 - c) Median
 - d) Symmetrical distribution
- 54) If X takes values 2,5,7,9 then X is called _____ variable.
- a) Continuous
 - b) Discrete
 - c) Median
 - d) Symmetrical distribution
- 55) _____ is always equidistant between third quartile and first quartile.
- a) Continuous
 - b) Discrete
 - c) Median
 - d) Symmetrical distribution
- 56) Mean, Median and Mode are equal in a _____.
- a) Continuous
 - b) Discrete
 - c) Median
 - d) Symmetrical distribution
- 57) If the Arithmetic mean of given set of values is 35, if we add a constant 4 to every value, then the New Arithmetic mean will be equal to _____.
- a) Continuous

- b) Discrete
 - c) Median
 - d) Symmetrical distribution
- 58) _____ is used when the distribution is skewed.
- a) 39
 - b) μ
 - c) zero
 - d) mode
- 59) _____ is the notation of population parameter for Arithmetic mean.
- a) 39
 - b) μ
 - c) zero
 - d) mode
- 60) $\sum (x - \bar{x})$ is always equal to _____.
- a) 39
 - b) μ
 - c) zero
 - d) mode
- 61) _____ is the only average that can be used, when a distribution contains qualitative data.
- a) 39
 - b) μ
 - c) zero
 - d) mode
- 62) In an ungrouped frequency distribution if the n values arranged in ascending or descending order or magnitude, the median is the _____ if n is odd, when n is even the median is the _____.
- a) Median
 - b) Middle value ; mean of the two middle values
 - c) Arithmetic mean
 - d) Discrete
- 63) The average computed by considering the relative importance of each of the values to the total value is called.
- a) Median
 - b) Middle value ; mean of the two middle values
 - c) Arithmetic mean
 - d) Weighted arithmetic mean
- 64) If in a series the co-efficient is 30 and mean 50, the standard deviation shall be.
- a) 15
 - b) Mean
 - c) 0.2857
 - d) 10.126
- 65) Standard deviation can be calculated from _____ only.
- a) 15
 - b) Mean
 - c) 0.2857
 - d) 10.126
- 66) If $Q_1 = 50$ and $Q_3 = 90$, the co-efficient of quartile deviation shall be.
- a) 15
 - b) Mean
 - c) 0.2857
 - d) 10.126

- 67) When mean is 79 and variance is 64 C.V is ____.
- 15
 - Mean
 - 0.2857
 - 10.126
- 68) The sum of squares of deviation of observations from their mean divided by number of observations gives.
- Variance
 - Increasing
 - Decreasing
 - 0.25
- 69) Positive correlation implies that, on an average, as one variable is increasing, the other is ____ and as one variable is decreasing, the other is also.
- Variance
 - Increasing
 - Decreasing
 - 0.25
- 70) If $r = 0.5$, co-efficient of determination will be.
- Variance
 - Increasing
 - Decreasing
 - 0.25
- 71) Correlation co-efficient is a geometric mean between.
- Variance
 - Increasing
 - Decreasing
 - 0.25
- 72) The _____ angle between regressions co-efficient, the _____ is the correlation co-efficient.
- Regression co-efficient
 - Higher, lower
 - Scale, origin
 - Multiple
- 73) The co-efficient of correlation is independent of change of _____ and _____.
- Regression co-efficient
 - Higher, lower
 - Scale, origin
 - Multiple
- 74) The relationship between three or more variables is studied with the help of _____ correlation.
- Regression co-efficient
 - Higher, lower
 - Scale, origin
 - Multiple
- 75) _____ is used to estimate the values of the dependent variables from the values of the independent variables.
- Regression co-efficient
 - Higher, lower
 - Scale, origin
 - Multiple
- 76) If the both regression co-efficient are negative, the correlation co-efficient would be.
- Regression co-efficient

- b) Higher, lower
 - c) Scale, origin
 - d) Negative
- 77) The product of regression co-efficient is always.
- a) Negative
 - b) Less than one
 - c) (\bar{x}, \bar{y})
 - d) Scale origin
- 78) The regression lines always intersect at.
- a) Negative
 - b) Less than one
 - c) (\bar{x}, \bar{y})
 - d) Scale origin
- 79) A time series is a sequence of values arranged.
- a) Negative
 - b) Less than one
 - c) (\bar{x}, \bar{y})
 - d) Scale origin
- 80) The additive mode of a time series can be expressed as.
- a) Chronologically
 - b) $O = T + S + C + I, 3$
 - c) Time series
 - d) Secular trend
- 81) A set of numerical values recorded at regular interval of time is called.
- a) Chronologically
 - b) $O = T + S + C + I, 3$
 - e) Time series
 - c) Secular trend
- 82) _____ can be evaluated, if the time series is available over a long duration.
- a) Chronologically
 - b) $O = T + S + C + I, 3$
 - c) Time series
 - d) Secular trend
- 83) _____ repeats itself from year to year.
- a) Chronologically
 - b) $O = T + S + C + I, 3$
 - c) Time series
 - d) Secular trend
- 84) _____ do not follow any regular pattern.
- a) Seasonal variation
 - b) Cyclical fluctuations
 - c) Irregular variations
 - d) Functional
- 85) The component of time series that are usually of smaller magnitudes or short term is _____.
- a) Seasonal variation
 - b) Cyclical fluctuations
 - c) Irregular variations
 - d) Functional
- 86) Method of moving averages does not show any _____ relationship.
- a) Seasonal variations
 - b) Cyclical fluctuations

- c) Irregular variations
 - d) Functional
- 87) In the trend equation $y = a + bx$, 'a' is the _____ and 'b' represent.
- a) Seasonal variations
 - b) Cyclical fluctuations
 - c) Irregular variations
 - d) Functional
- 88) The line obtained by method of least squares is known as the line of.
- a) Best fit
 - b) Index numbers
 - c) Laspeyre's index
 - d) Fisher's ideal
- 89) Specialized averages are.
- a) Best fit
 - b) Index numbers
 - c) Laspeyre's index
 - d) Fisher's ideal
- 90) _____ is the aggregate price index that uses base – year quantities as weights.
- a) Best fit
 - b) Index numbers
 - c) Laspeyre's index
 - d) Fisher's ideal
- 91) _____ index is known as the 'ideal' formula for constructing index numbers.
- a) Best fit
 - b) Index numbers
 - c) Laspeyre's index
 - d) Fisher's ideal
- 92) If the index number is calculated for only one commodity it is called _____ whereas when it is calculated for a group of commodities it is called _____.
- a) Simple index number, composite index number
 - b) Laspeyre's price index
 - c) Best fit
 - d) Index numbers
- 93) Cost of living index (Aggregative Expenditure Method) formula is same as _____ formulas.
- a) Best fit
 - b) Index numbers
 - c) Lapeyre's price index
 - d) Fisher's ideal
- 94) The events of tossing a coin are mutually.
- a) Exclusive
 - b) One
 - c) 0, 1
 - d) Mutually exclusive
- 95) For a random variables $\sum p(x) =$ _____.
- a) Exclusive
 - b) One
 - c) 0, 1
 - d) Mutually exclusive
- 96) Probability ranges from _____ to _____.
- a) Exclusive
 - b) One

- c) 0, 1
 - d) Mutually exclusive
- 97) If $P(A \cap B) = \text{zero}$, then A and B are said to be.
- a) Exclusive
 - b) One
 - c) 0,1
 - d) Mutually exclusive
- 98) In _____, the order of arrangement is important.
- a) Permutation
 - b) Sample space
 - c) $E(x^2) - [E(x)]^2$
 - d) EPPI; maximum EMV
- 99) A set of all possible outcomes of an experiment is called.
- a) Permutations
 - b) Sample space
 - c) $E(x^2) - [E(x)]^2$
 - d) EPPI; maximum EMV
- 100) Any subset of _____ an experiment is called an event.
- a) Permutations
 - b) Sample space
 - c) $E(x^2) - [E(x)]^2$
 - d) EPPI; maximum EMV