# TOP 100
# THEORY MCQ's
# Quantitative Aptitude

**1.** The integral part of logarithm is called _____, and the decimal part of a logarithm is called _____.

(a) Mantissa, Characteristic

(b) Characteristic, Mantissa

(c) Integer, Fraction

(d) Fraction, Integer

Log 39

= 1.5910  ← mantissa

↓ Characteristic

**2.** Which of the following statements is True? (assume that the yearly cash flow? Are identical for both annuities)

(a) The present value of an annuity due is greater than the present value of an ordinary annuity

*True*

Ordinary ans. $\times (1+i)$

(b) The present value of an ordinary annuity is greater than the present value of an annuity due

*False*

(c) The future value of an ordinary annuity is greater than the future value of an annuity due

*False*

Ordinary F.V. $\times (1+i) =$ Due

(d) The future value of an annuity due is equal to future value of an ordinary annuity
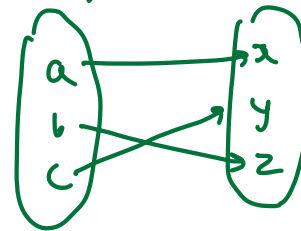
*False*

**3.** Reversible function is

(a) Injective ✓

(b) Surjective ✓

(c) <u>Bijective</u>

(d) One-one

$f(x) = x + 2$

1) $\dfrac{\text{one to one}}{x \qquad y}$
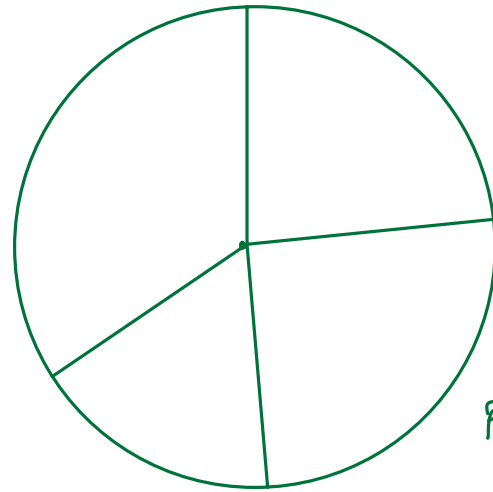


b) <u>onto function</u>

**4.** Diagram for monthly household expenses on various items can be represented as

(a) Bar graph

(b) Line graph

(c) Pie-chart ✓

(d) Rectangular ban graph



Pie charts.

**5.** For a classification to be adequate
   (i)    Classes should be of equal width
   (ii)   Classes should be <u>exhaustive</u>
   (iii)  Classes should be <u>unambiguously</u>
          defined

   (a)  Only (ii)

   (b)  Both (i) & (ii)

   (c)  Both (ii) & (iii)

   (d)  All of three

0 - 10

10 - 40

40 - 70

**6.** Arrange the following dimension wise: Pie-diagram, Bar-diagram and Cubic diagram. *area* 2-D    1-D    3-D

(a) PD, BD, CD

(b) BD, PD, CD
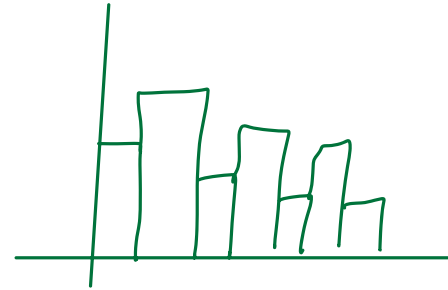
(c) PD, CD, BD

(d) CD, PD, BD

**7.** To draw Histogram the frequency distribution should be

(a) Inclusive type

(b) Exclusive type ✓

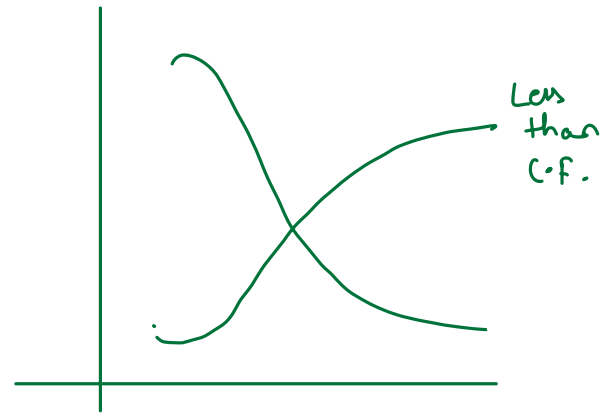(c) Inclusive and Exclusive type

(d) None of the above

Continuos

**8.** The "less than" Ogive is of what shape

(a)  U-shaped curve

(b)  J-shaped curve

(c)  S-shaped curve

(d)  Bell-shaped curve

Less than C.f.

**9.** 100 persons are divided into number of male female and employed/unemployed it refers to Cardinal data

a)

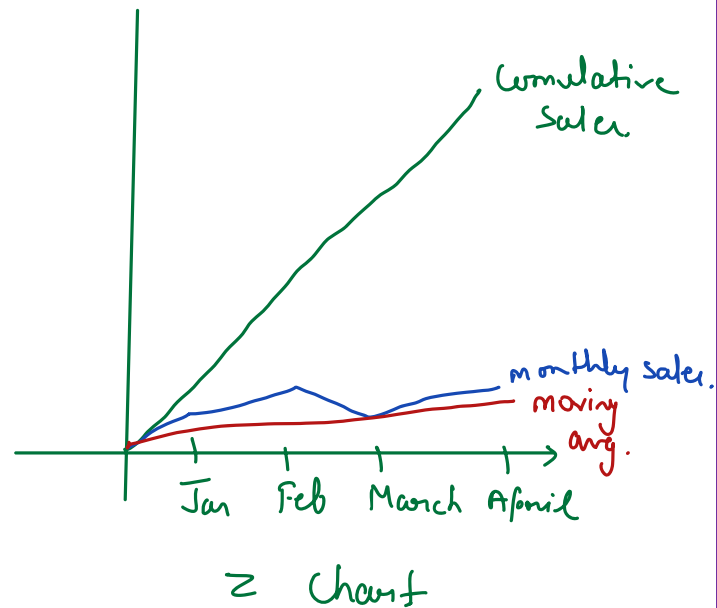(a) Ordinal data    *Nominal*

(b) Spatial data

(d) Temporal data

Gold     Silver     Bronze     Ordinal

1st        2nd        3rd

Male     Female     Nominal.

**10.** If the fluctuations in the observed values are very small as compared to the size of the items, it is presented by

(a) Z Chart

(b) Ogive Chart

(c) False Base Line

(d) Control Chart

**11.** The chart that use Logarithm of the variable is known as:

(a) Z-chart

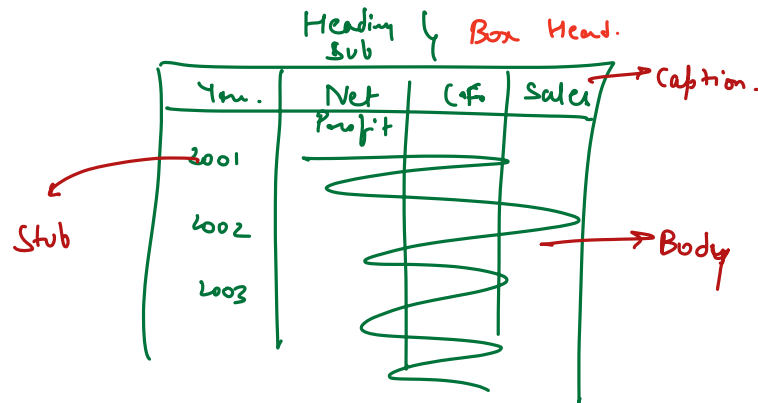(b) Ratio chart

(c) Rectangular chart

(d) Pie-chart

$10,000$

$\log 10000 = 4$

$100000$

$\log 100000 = 5$

**12.** Stub of a table is the _____

(a) Right part of the table describing the columns

(b) Left part of the table describing the columns

(c) Right part of the table describing the rows

(d) Left part of the table describing the rows

**13.** Nationality of a person is:

(a) Discrete variable

(b) An attribute

(c) Continuous variable

(d) None

14. The statistical measure computed from the sample observations alone have been termed as estimate

(a) parameter

(b) statistic

(c) attribute

**15.** The average of salaries in a factory is Rs. 47,000. The Statement that the average salary Rs. 47,000 is _____.

(a) Descriptive statics

(b) Inferential

(c) Detailed

(d) Undetailed

**16.** The accuracy and consistency of data can be verified by

(a) Scrutiny

(b) Internal Checking

(c) External Checking

(d) Double Checking

**17.** For tabulation, 'caption' is

(a) The upper part of the table *describing column*

(b) The lower part of the table

(c) The main part of the table

(d) The upper part of a table that describes the rows and sub-rows

**18.** A person purchases 5 rupees worth of eggs from 10 different markets. You are to find average no. of eggs per rupee for all the markets taken together. What is the suitable form of average on this case?

(a) AM → GM✗  HM✗

(b) GM → Ratio, %'s

(c) HM → Constant

(d) Median

*Handwritten annotations:*
- Eggs → Constant
- Price ↑  No.↓
- Price ↓  No.↑
- x↑ y↓
- ↓  ↑

**19.** If all the frequencies are equal than which will doesn't exist.

(a) Mean

(b) Median

(c) Mode

(d) None of these

**20.** _____ is the reciprocal of the AM of reciprocal of observations.
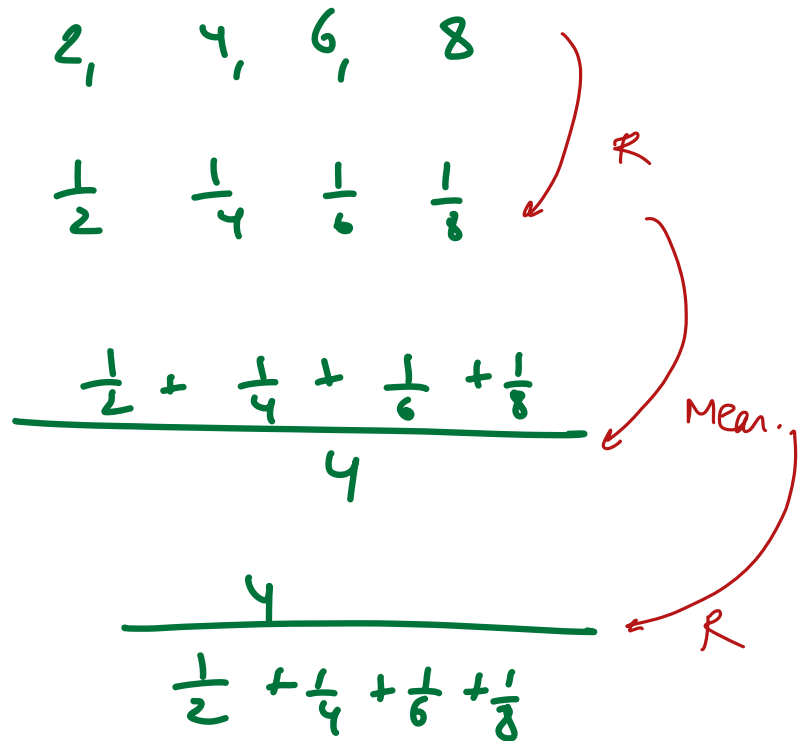
(a) HM

(b) GM

(c) Both

(d) None

$$2, \quad 4, \quad 6, \quad 8$$

$$\frac{1}{2} \quad \frac{1}{4} \quad \frac{1}{6} \quad \frac{1}{8} \quad \Big) \; R$$

$$\frac{\frac{1}{2} + \frac{1}{4} + \frac{1}{6} + \frac{1}{8}}{4} \quad \leftarrow \; Mean.$$

$$\frac{4}{\frac{1}{2} + \frac{1}{4} + \frac{1}{6} + \frac{1}{8}} \quad \leftarrow \; R$$

**21.** Which measure is suitable for open-end classification?

(a) Median

(b) Mean

(c) Mode

(d) GM

Below 10

10 - 20

20 - 30

30 & above

**22.** From the record on sizes of shoes sold in a shop, one can compute the following to determine the most preferred shoe size.

(a) Mean

(b) Median

(c) Mode

(d) Range

**23.** Which of the following measure does not possess mathematical properties?

(a) Arithmetic mean   Yes

(b) Geometric mean   Yes.

(c) Harmonic mean   Yes

(d) Median

**24.** One hundred participants expressed their opinion on recommending a new product to their friends using the attributes: most unlikely, not sure, likely, most likely. The appropriate measure of central tendency that can be used here is

(a) Mean

(b) Mode

(c) Geometric mean

(d) Harmonic mean

**25.** Along a road there are 5 buildings of apartments, marked as 1, 2, 3, 4, 5. Number of people residing in each building is available. A bus stop is to be setup near one of the buildings so that the total distance walked by the residents to the bus stop from their buildings must be kept minimum. One must consider involving _____ to find the position of the bus stop.
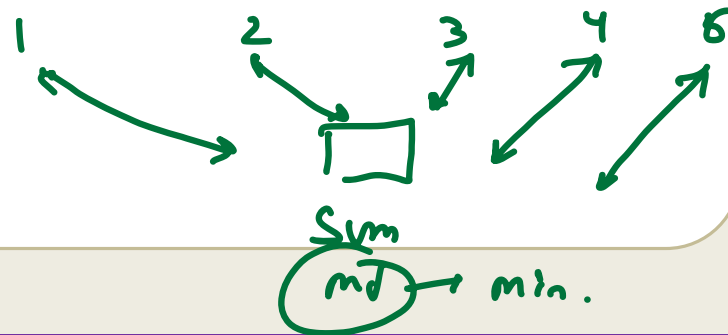
(a) Mean

(b) Median

(c) Mode

(d) Weighted mean

$$\Sigma \, |x - x_{md}| = minimum$$

**26.** Inter-quartile Range is _____

(a) Half of QD

(b) Double of QD

(c) Same as QD

(d) None of these

$$\frac{Q_3 - Q_1}{2} = Q.D.$$

Inter Q. Range

$$= Q_3 - Q_1$$

**27.** Two broad divisions of probability are:

(a) Subjective probability and objective probability

(b) Deductive probability and mathematical probability

(c) Statistical probability and mathematical probability

(d) None of these

**28.** What is the relationship between mean and variance in a Poisson's Distribution

(a) Mean > Variance

(b) Mean < Variance

(c) Mean = Variance
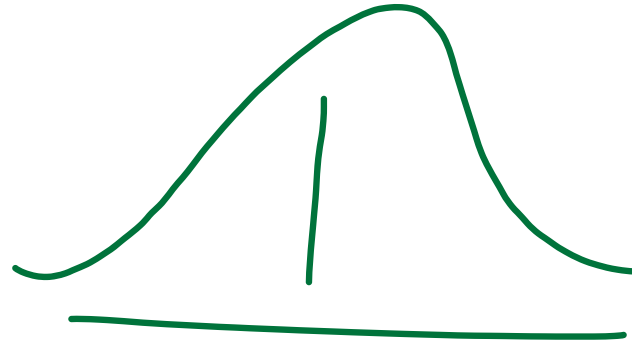
(d) They are not related

$np = npq$ ①

**29.** Area under Normal Distribution curve is

(a)  2 units

(b)  1 unit

(c)  3 units

(d)  None of these

$P = 1$

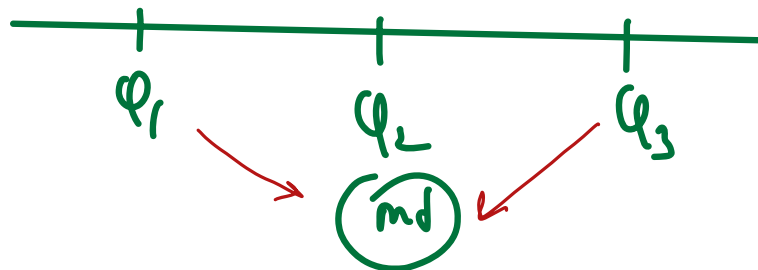**30.** For a normal distribution

(a) $1^{st}$ and $2^{nd}$ Quartile are equidistant from median

(b) $2^{nd}$ and $3^{rd}$ Quartile are equidistantfrom median

(c) $1^{st}$ and $3^{rd}$ Quartile are equidistant from median

(d) None

**31.** In normal distribution mean, median and mode are

(a) Never equal

(b) Always equal

(c) May be equal

(d) Non existent

**32.** If a variate x has mean greater than variance then its distribution will be

(a) Poisson's बराबर

$$np > npq$$

(b) Normal

(c) Binomial

(d) Chi-square

**33.** X and Y are two independent Normal variables then the distribution of x+y is _____

(a) Normal distribution

(b) T-distribution

(c) Chi-Square distribution

(d) F-distribution

**34.** In _____ distribution, Mean = Variance.

(a) B

(b) P

(c) N

(d) Chi-square

**35.** Wages paid to workers follows
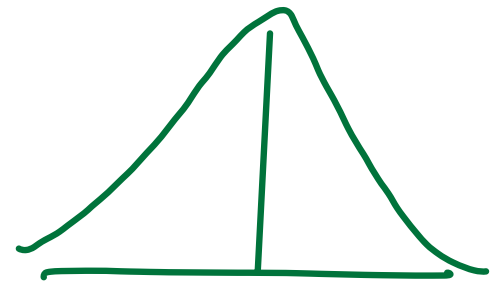
(a) B

(b) P

(c) N

(d) Chi-square

**36.** T-test can be used only when the sample has been taken from

(a) Binomial Population

(b) Poisson Population
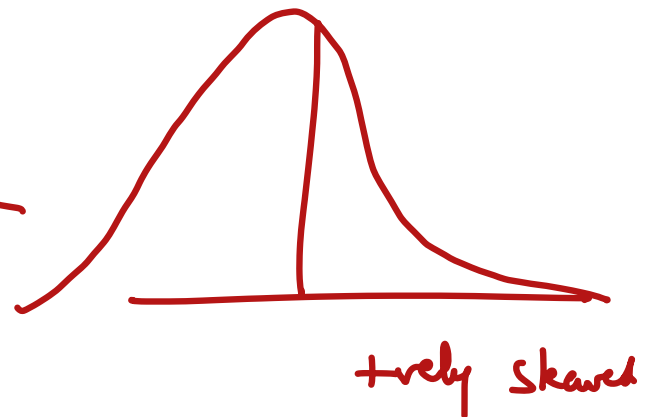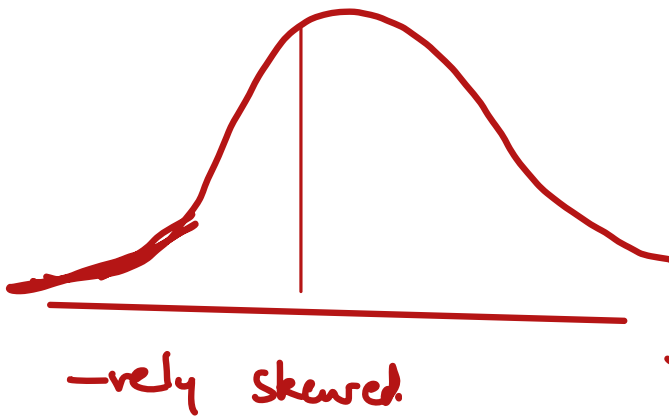
(c) Normal Population

(d) Exponential Population

**37.** The normal curve is:

(a) Positively skewed

(b) Negatively skewed

(c) Symmetrical

(d) All these



Symmetrical.

−vely skewed.

+vely skewed
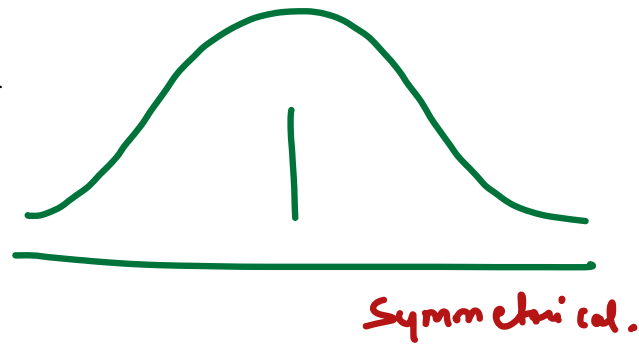
**38.** Probability distribution may be

(a) Discrete → certain values.    P.D., B.D.

(b) Continuous → weight, age.    Normal.

(c) Infinite

(d) (A) or (B)

**39.** If the probability of success in a binomial distribution is less than one-half, then the binomial distribution _____.

$p < 0.5$

(a) is skewed to left

(b) is skewed to right

(c) has two modes

(d) has median at a point>mean$+\dfrac{1}{2}$

+vely skewed

$p = 0.5$

$p > 0.5$
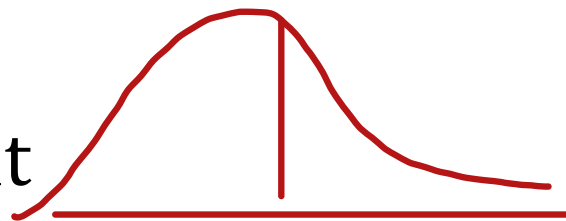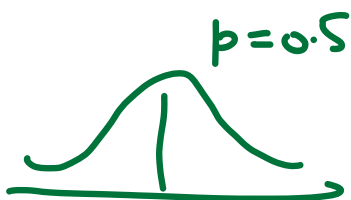
Symmetrical
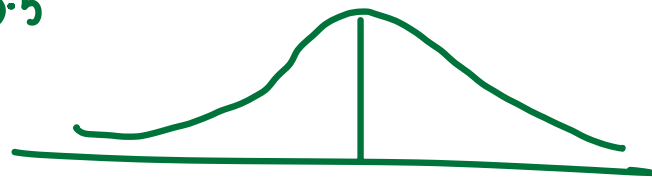
−vely skewed

**40.** If $r_{xy} = 0$ then x and y are

(a) Dependent

(b) Independent

(c) ~~Not~~ Necessarily Dependent

(d) Not Necessarily Independent

$x=1 \quad y=1$
$x=-1 \quad y=1$
$x=2 \quad y=4$
$x=-2 \quad y=16$

$y = x^2$
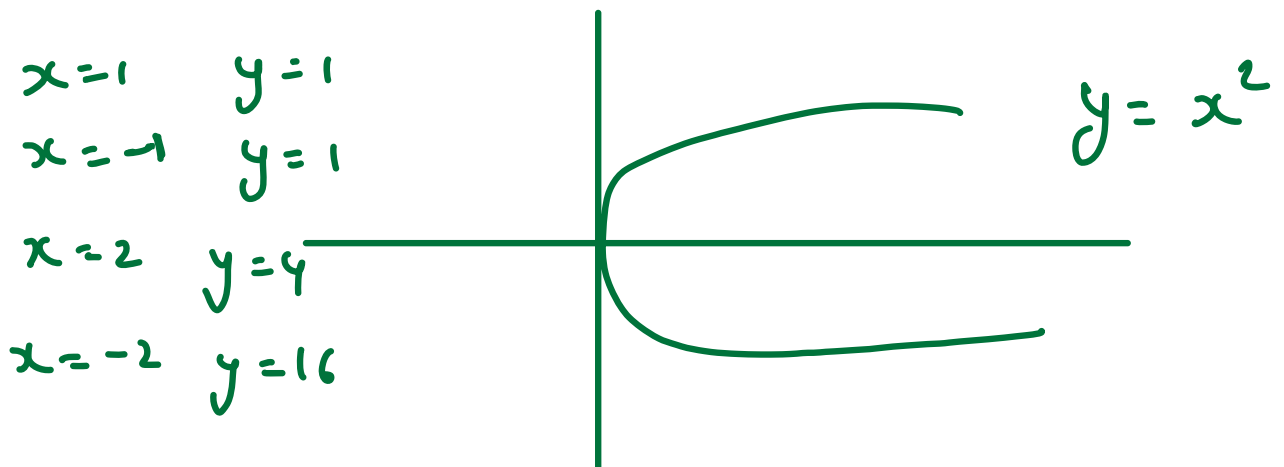
**41.** In case of "Insurance Companies, profits and the number of claims they have to pay" has

(a) Positive Correlation

(b) Negative Correlation

(c) No Correlation

(d) None of these

**42.** If there is a constant increase in the series then the obtained graph is

(a) Convex

(b) Concave

(c) Parabola

(d) Straight line from left to right
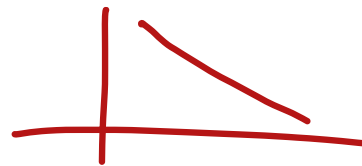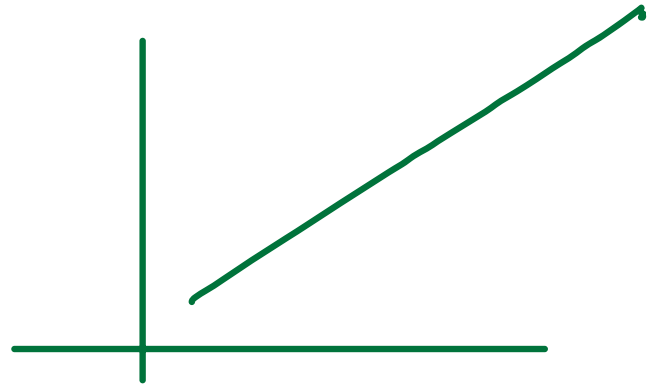
**43.** The covariance between two variables is

(a) Strictly positive

$$Cov = +ve \;/\; -ve \;/\; 0$$

(b) Strictly negative

(c) Always Zero

(d) Either positive or negative or zero

**44.** In case speed of an automobile and the distance required to stop the car after applying brakes correlation is _____

(a) Positive

(b) Negative

(c) Zero

(d) None

**45.** Which of the following is spurious correlation?

(a) Correlation between two variables having no casual relationship

(b) Negative correlation

(c) Bad relation between two variables

(d) Very low correlation between two variables

**46.** _____ of Regression Coefficient is greater than Correlation Coefficient

(a) GM

(b) AM

(c) HM

(d) SD

$$\sqrt{b_{yx} \times b_{xy}}$$

GM of R.C.

**47.** Regression coefficients are

(a) Independent of origin but depends on scale.

Scale ✓    Origin.

(b) Independent of scale but depends on origin.

(c) Depends on both origin and scale.

(d) Independent of both origin and scale.

**48.** If one of regression coefficient is _____ unit_y_, the other must be _____ unity.

(a) More than, more than

(b) Less than, less than

(c) More than, less than

(d) None of these

$b_{yx} \times b_{xy} \leq 1$

**49.** If $\bar{x}$ and $\bar{y}$ are the A.M's, $\sigma_x$ and $\sigma_y$ are the S.D's, $b_{yx}$, $b_{xy}$ are regression coefficient of variables $\bar{x}$ and $\bar{y}$ respectively. The point of intersection of regression lines x on y and y on x is ____

(a) $(\sigma_x, \sigma_y)$

(b) $(b_{yx}, b_{xy})$

(c) $(\bar{x}, \bar{y})$

(d) None of these

$(\bar{x}, \bar{y})$
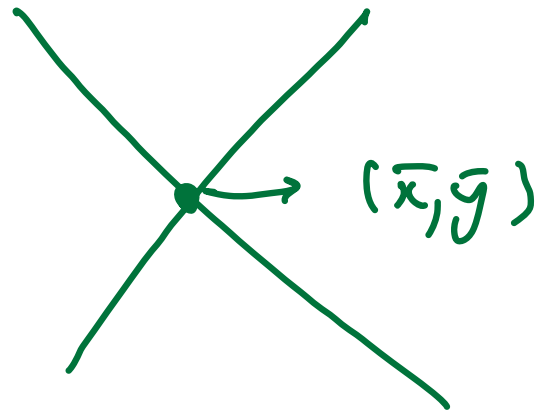
**50.** Which test is not satisfied by Fisher Ideal index no?

(a) Unit Test

(b) Factor Reversal Test

(c) Time Reversal Test

(d) Circular Test

**51.** $\Sigma p_1 q_1 / \Sigma p_0 q_0$ refers to which test?

(a) Circular Test

(b) Factor Reversal Test

(c) Time Reversal Test

(d) None of these

$$V_{01} = \frac{\Sigma V_1}{\Sigma V_0} \times 100$$

$$= \frac{\Sigma p_1 q_1}{\Sigma p_0 q_0} \times 100$$

$$\boxed{P_{01} \times q_{01} = V_{01}}$$

**52.** Which of the following statements is true?

(a) Paasche's index number is based on base year quantity $q_1$

(b) Fisher's index satisfies the circular test

(c) Arithmetic ~~mean~~ GM is the most appropriate average for constructing the index number

(d) Splicing mean constructing one continuous series from two different indices on the basis of common base

**53.** An index time series is a list of _____ number of two or more period of time, where each index number employs the same base year can

(a) Index     ( B )

(b) Absolute

(c) Relative

(d) Sample

**54.** _____ play a very important role in the construction of index numbers.

(a) Weights

(b) Classes

(c) Estimations

(d) None

**55.** Purchasing power of money is_____

(a) Reciprocal of price index number

(b) Equal to price index number

(c) Unequal to price index number

(d) None of these

$$\frac{1}{1.10} = 0.9090 \ \text{(P.v.)}$$

$110 = \text{Index}$

$$\frac{1}{110} \times 100 = 0.9090$$

**56.** Time reversal & factor reversal are:

(a) Quantity Index

(b) Ideal Index

(c) Price Index

(d) Test of adequacy

U
→ TRT
CR
FRT
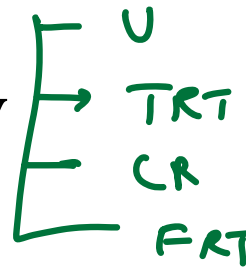
**57.** Which index measures the change from month to month in the cost of a representative basket of goods and services of the type bought by a typical household?

(a) Retail Price Index

(b) Laspeyre's Index

(c) Fisher's index

(d) Paasche's Index

**58.** Weighted geometric mean of relative formula satisfies ____TRT____ test while Factor Reversal test is satisfied by _____ .

(a) Time Reversal, Fisher's Ideal Index

(b) Time Reversal, Laspeyre's Index

(c) Factor Reversal, Paasche's Index

(d) Factor Reversal, Fisher's Ideal Index

$$I_R = \frac{P_1}{P_0} \times 100 \qquad Weights = W.$$

$$\left( x_1^{f_1} \times x_2^{f_2} \cdots x_n^{f_n} \right)^{1/\Sigma f}$$

**59.** An Index number constructed to measure the relative change in the price of an item or a group of item is called:

(a) Quantity index number

(b) Price index number

(c) Volume index number

(d) Composite index number

**60.** In $^n P_r$, n is always

(a) an integer

(b) a fraction

(c) a positive integer

(d) none of these

(non negative integer)

**61.** Multiple axis line chart is considered when

(a) There is more than one time series

(b) The units of the variables are different

(c) (a) or (b)

(d) (a) and (b)
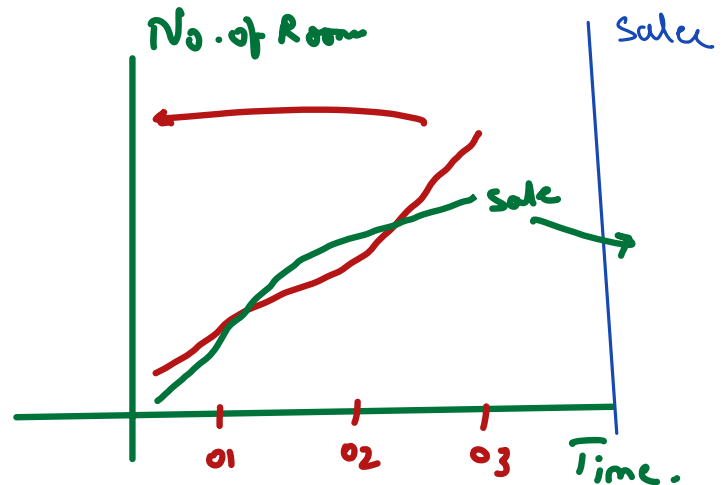
**62.** The distribution of profits of a blue-chip company relates to

(a) Discrete variable

(b) Continuous variable

(c) Attributes

(d) (a) or (b).

**63.** For a particular class boundary, the less than cumulative frequency and more than cumulative frequency add up to

(a) Total frequency

(b) Fifty per cent of the total frequency

(c) (a) or (b)

(d) None of these

**64.** Frequency curve is a limited form of

(a) Frequency polygon

(b) Histogram

(c) (a) or (b)

(d) (a) and (b).
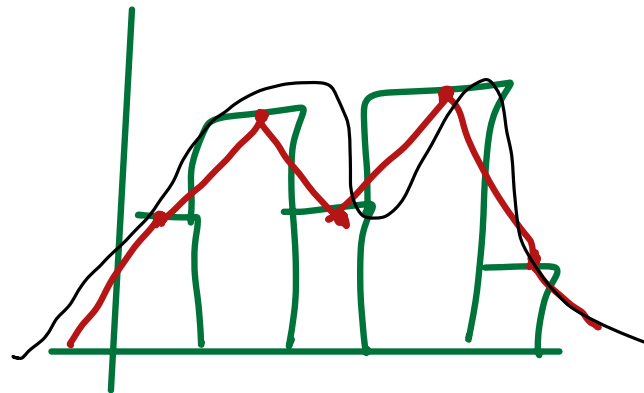
**65.** Most extreme values which would ever be included in a class interval are called

(a) class limits

(b) class interval

(c) class boundaries

(d) none

$0 - \cancel{5}$

$10 - \cancel{15}$

$20 - \cancel{35}$

$30 - \cancel{35}$

$0 - 9$
$10 - 19$
$20 - 29$.

C.B.

**66.** Sampling can be described as a statistical procedure

(a) To infer about the unknown universe from a knowledge of any sample

(b) To infer about the known universe from a knowledge of a sample drawn from it

(c) To infer about the unknown universe from a knowledge of a random sample drawn from it

(d) Both (a) and (b).

**67.** The Law of Statistical Regularity says that

(a) Sample drawn form the population under discussion possesses the characteristics of the population

(b) A large sample drawn at random from the population would posses the characteristics of the population

(c) A large sample drawn at random from the population would possess the characteristics of the population on an average

(d) An optimum level of efficiency can be attained at a minimum cost.

**68.** A sample survey is prone to

    (a)  Sampling errors

    (b)  Non-sampling errors

    (c)  Either (a) or (b)

    (d)  Both (a) and (b)

**69.** Random sampling implies

   (a) Haphazard sampling

   (b) Probability sampling

   (c) Systematic sampling

   (d) Sampling with the same probability for each unit.

**70.** A parameter is characteristic of

(a) Population

(b) Sample

(c) Both (a) and (b)

(d) (a) or (b)

**71.** A statistic is

(a) A function of sample observations

(b) A function of population units

(c) A characteristic of a population

(d) A part of a population

**72.** Standard error can be described as

(a) The error committed in sampling

(b) The error committed in sample survey

(c) The error committed in estimating a parameter

(d) Standard deviation of a statistic.

**73.** Which of the following statements is wrong?

(a) Mean is rigidly defined  *Right*

(b) Mean is not affected due to sampling fluctuations  *Wrong.*

(c) Mean has some mathematical properties  *Right*

(d) All these

**74.** Which of the following measure(s) satisfies (Satisfy) a linear relationship between two variables?

(a) Mean

(b) Median

(c) Mode

(d) All of these

$2x + 3y = 8$

$Md_x \rightarrow Md_y$ ✓

$\bar{x} \rightarrow \bar{y}$ ✓

$Mo_x \rightarrow Mo_y$ ✓

**75.** Which of the following statements is correct?

(a) Two distributions may have identical measures of central tendency and dispersion.

(b) Two distributions may have the identical measures of central tendency but different measures of dispersion.

(c) Two distributions may have the different measures of central tendency but identical measures of dispersion.

(d) All the statements (a), (b) and (c).

**76.** If the profits of a company remains the same for the last ten months, then the standard deviation of profits for these ten months would be?

(a)  Positive

(b)  Negative

(c)  Zero

(d)  (a) or (c)

**77.** G.M. of a set of n observations is the _____ root of their product.

(a) n/2th

(b) (n+1)th

(c) nth ✓

(d) (n-1)th

$$(x_1 \times x_2 \cdots x_n)^{1/n}$$

**78.** The value of the middlemost item when they are arranged in order of magnitude is called

(a) standard deviation

(b) mean

(c) mode

(d) median

3, 7, 10, 9, 8, 6.

3, 6, 7, 8, 9, 10

6

**79.** G.M. is defined only when $\sqrt{ab}$

(a) all observations have the same sign and none is zero

(b) all observations have the different sign and none is zero

(c) all observations have the same sign and one is zero

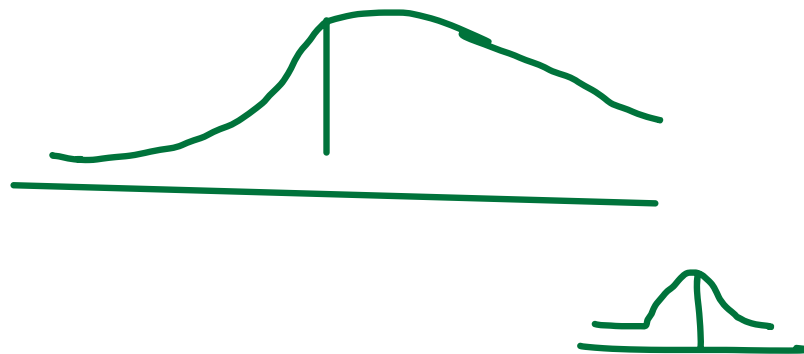(d) all observations have the different sign and one is zero

**80.** In most frequency distributions, it has been observed that the three measures of central tendency viz. mean, median & mode, obey the approximate relation, provided the distribution is

(a) very skew

(b) not very skew

(c) both

(d) none

$$M_0 = 3md - 2\bar{x}$$

moderately skewed

**81.** Measures which are used to divide or partition the observations into a fixed number of parts are collectively known as

(a) partition values

(b) quartiles

(c) both

(d) none

**82.** Between second and upper quartile, the frequency is equal to

(a) $3N/4$

(b) $N/4$

(c) $N/2$

(d) none

$N/4 \quad N/4 \quad N/4 \quad N/4$

$Q_1 \qquad Q_2 \qquad Q_3$

Ⓝ
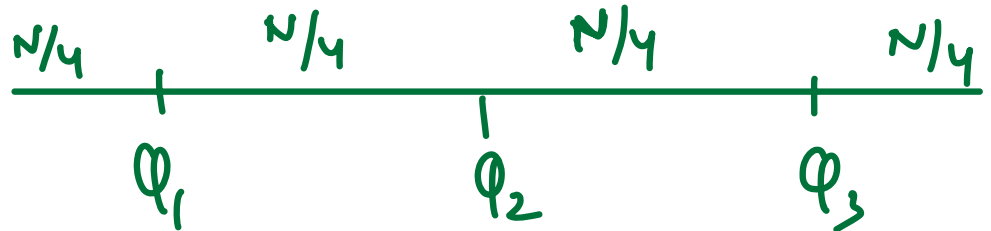
**83.** The length of a rod is measured by a tape 10 times. You are to estimate the length of the rod by averaging these 10 determinations.

What is the suitable form of average in this case?

(a) A.M

(b) G.M

(c) H.M

(d) none

**84.** You are given the population of India for the courses of 1981 & 1991. You are to find the population of India at the middle of the period by averaging these population figures, assuming a constant (rate) of increase of population.

What is the suitable form of average in this case?

% rate. Trend

(a) A.M

(b) G.M

(c) H.M

(d) none

**85.** The classical definition of probability is based on the feasibility at subdividing the possible outcomes of the experiments into

(a) mutually exclusive and exhaustive

(b) mutually exclusive and equally likely

(c) exhaustive and equally likely

(d) mutually exclusive, exhaustive and equally likely cases.

**86.** A trial is an attempt to

(a)  make something possible.

(b)  make something impossible

(c)  prosecute an offender in a court of law.

(d)  produce an outcome which is neither certain nor impossible

**87.** If x is a binomial variable with parameters n and p, then x can assume

(a) any value between 0 and n.

(b) any value between 0 and n, both inclusive

(c) any whole number between 0 and n, both inclusive

(d) any number between 0 and infinity

**88.** A binomial distribution is

(a) never symmetrical

(b) never positively skewed

(c) never negatively skewed

(d) symmetrical when p = 0.5

$p < 0.5$     +vely skewed

$> 0.5$     −vely skewed

**89.** The method usually applied for fitting a binomial distribution is known as

(a) method of least square

(b) method moments

(c) method of probability distribution

(d) method of deviation

**90.** A binomial distribution with parameters n and p can be approximated by a Poisson distribution with parameter m = np is

$$n \longrightarrow \infty$$
$$p \longrightarrow 0$$

(a) $n \to \infty$

(b) $p \to 0$

(c) $n \to \infty \text{ and } p \to 0$

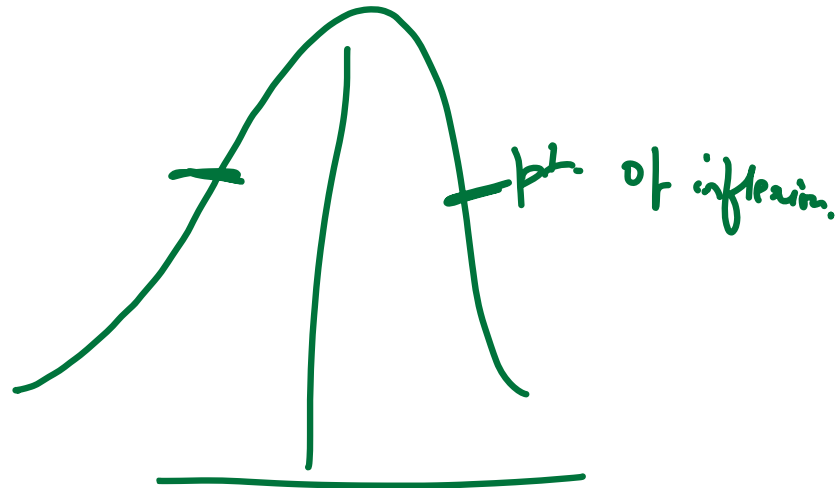(d) $n \to \infty \text{ and } p \to 0$ so that np remains finite.

**91.** For a standard normal distribution, the points of inflexion are given by

(a) $\mu - \sigma$ and $\mu + \sigma$

(b) $-\sigma$ and $\sigma$

(c) -1 and 1

(d) 0 and 1



pt. of inflexion.

**92.** The interval $(\mu - 3\sigma, \mu + 3\sigma)$ covers

(a) 95% area of a normal distribution

(b) 96% area of a normal distribution

(c) 99% area of a normal distribution

(d) all but 0.27% area of a normal distribution

$U \pm \sigma$

$M \pm 2\sigma$

$M \pm 3\sigma$

Fix Rate force 68.30%

Shine Life Life 95.50%

Shine Shine Raven 97.70%

0.30%

**93.** The results of ODI matches between India and Pakistan follows

(a) Binomial distribution

(b) Poisson distribution

(c) Normal distribution

(d) (b) or (c)

**94.** Bivariate Data are the date collected for

(a) Two variables irrespective of time

(b) More than two variables

(c) Two variables at the same point of time

(d) Two variables at different points of time

**95.** For a bivariate frequency table having (p+q) classification the total number of cells is

(a) p

(b) p + q

(c) q

(d) pq

**96.** Some of the cell frequencies in a bivariate frequency table may be

(a)  Negative

(b)  Zero

(c)  a or b

(d)  None of these

**97.** For a p×q bivariate frequency table, the maximum number of marginal distributions is

(a) p

(b) p + q

(c) 1

(d) 2

**98.** For a p×q classification of bivariate data, the maximum number of conditional distributions is

(a) p

(b) p + q

(c) pq

(d) p or q

**99.** The _____ of group indices gives the General Index.

(a) H.M.

(b) G.M.

(c) A.M.

(d) none

**100.** With regard to Laspeyre's and Paasche's price index numbers, it is maintained that " If the prices of all the goods change in the same ratio, the two indices will be equal for them the weighting system is irrelevant; or if the quantities of all the goods change in the same ratio, they will be equal, for them the two weighting systems are the same relatively". Then the above statements satisfy.

| | $P_0$ | $P_1$ | $q_0$ | $q_1$ |
|---|---|---|---|---|
| (A) | 10 | 20 | 10 | 10 |
| (B) | 15 | 30 | 12 | 12 |
| | | | 20 | 30 |
| (C) | 20 | 40 | | |

(a) Laspeyre's Price Index $\neq$ Paasche's Price Index.

(b) Laspeyre's Price Index = Paasche's Price Index.

(c) Laspeyre's Price Index may be equal Paasche's Price Index.

(d) None of these

RIP