

QUANTITATIVE APTITUDE

Practice Set 3

- 51)** For any two numbers SD is always
 (a) twice the range
 (b) half of the range
 (c) square of the range
 (d) None of these
- 52)** The result of ODI matches between India and England follows
 (a) binomial distribution
 (b) Poisson distribution
 (c) Normal distribution
 (d) Either (b) or (c)
- 53)** Which result is true?
 (a) $HM \leq GM \leq AM$
 (b) $HM \geq GM \geq AM$
 (c) $HM > GM < AM$
 (d) $GM < AM > HM$
- 54)** The probability of an event can assume any value between
 (a) -1 and 1 (b) 0 and 1
 (c) -1 and 0 (d) None of these
- 55)** The range of 12, 15, 17, 9, 21 and 25 is
 (a) 3 (b) 16
 (c) 25 (d) 12
- 56)** Which measure of dispersion is based on all the observations?
 (a) Mean deviation
 (b) Standard deviation
 (c) Quartile deviation
 (d) Both (a) and (b)
- 57)** In a scatter diagram, if the plotted points lie on a single line, then the correlation is
 (a) perfect positive
 (b) perfect negative
 (c) both (a) and (b)
 (d) either (a) or (b)
- 58)** Simple and sampling is very effective, if
 (a) the population is not very large
 (b) the population is not much heterogeneous
 (c) the population is partitioned into several sections
 (d) both (a) and (b)
- 59)** Which of the following statements is untrue for tabulation?
 (a) Statistical analysis of data requires tabulation
 (b) It facilitates comparison between rows and not columns
 (c) Complicated data can be presented
 (d) Diagrammatic representation of data requires tabulation
- 60)** Scatter diagram helps us to
 (a) find the nature correlation between two variables
 (b) compute the extent of correlation between two variables
 (c) obtain the mathematical relationship between two variables
 (d) both (a) and (c)
- 61)** The 13th terms of series 93, 90, 87, is
 (a) 57 (b) -54
 (c) 50 (d) 54
- 62)** The equation of line passing through the points (1, -1) and (3, -2) is given by
 (a) $2x+y+1=0$ (b) $2x+y+2=0$
 (c) $x+y+1=0$ (d) $x+2y+1=0$
- 63)** If two letters are taken at random from the word 'HOME' is the probability that none of the letters would be vowels.
 (a) $1/6$ (b) $1/2$
 (c) $1/3$ (d) $1/4$
- 64)** The last term of the series $x^2, x, 1$ up to 31 terms is
 (a) x^{28} (b) $1/x$
 (c) $1/x^{28}$ (d) $1/x^{30}$
- 65)** In receipts/payments take place forever.
 (a) annuity (b) perpetuity
 (c) annuity regular
 (d) annuity due
- 66)** Number of arrangement can be made by using all the letters of word Monday.
 (a) 120 (b) 720
 (c) 41 (d) 51

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- 67)** Mutually inclusive classification is usually meant for
 (a) a discrete variable (b) 0.15 (c) 0.212 (d) None of these
 (b) a continuous variable (b) 0.020
 (c) an attribute (d) None of these
 (d) all of the above
- 68)** Usually is the best measure of central tendency.
 (a) median (b) mode
 (c) mean (d) geometric mean
- 69)** The logarithm of a number consists of two parts, the whole part of the integral part is called the and the decimal part is called the
 (a) characteristic, number
 (b) characteristic, mantissa
 (c) mantissa, characteristic
 (d) number, mantissa
- 70)** The mean of binomial distribution with parameters n and p is
 (a) $n(1-p)$ (b) $np(1-p)$
 (c) np (d) $\sqrt{np(1-p)}$
- 71)** The harmonic mean for the number 2, 3, 5 is a
 (a) 2.00 (b) 3.33
 (c) 2.90 (d) $-\sqrt[3]{30}$
- 72)** The compounded ratio of duplicate ratio of 3:5 and the subtriplicate ratio of 1:27 and reciprocal of 1:5 is equal to
 (a) 3 : 5 (b) 1 : 2
 (c) 3 : 25 (d) 9 : 25
- 73)** A sum of money doubles itself in 25 yr. The number of years it would triples itself is
 (a) 50 yr (b) 37.5 yr
 (c) 75 yr (d) None of these
- 74)** A letter lock has three rings each marked with 10 different letters. In how many ways, it is possible to make an unsuccessful attempt to open the lock?
 (a) 1000 (b) 999
 (c) 5040 (d) None of these
- 75)** A random sample of 100 articles taken from a large batch of articles contains 15 defective articles. What is the estimates of the proportion of defective articles in the entire batch?
 (a) 0.15 (b) 0.020
 (c) 0.212 (d) None of these
- 76)** If the AM of two numbers of 6 and GM is 6, then find the numbers.
 (a) 6, 6 (b) 10, 8
 (c) 10, 6 (d) 9, 2
- 77)** $\lim_{x \rightarrow t} \frac{x^3 - t^3}{x^2 - t^2}$ is evaluated to
 (a) $3/2$ (b) $2/3t$
 (c) $\left(\frac{3}{2}\right)t$ (d) None of these
- 78)** The mean height of 8 students is 152 cm. Two more students of heights 143 cm and 156 cm join the group. New men height is equal to
 (a) 153 (b) 152.5
 (c) 151.5 (d) 151
- 79)** 3% of a given lot of manufactured parts are defective, what is the probability that in a sample of 4 items none will be defective?
 (a) 0.585 (b) 0.885
 (c) 0.558 (d) None of these
- 80)** The difference between simple interest and compound interest on a certain sum for 3 yr at 5% per annum is Rs. 76.25. Find the sum.
 (a) 5000 (b) 8000
 (c) 9000 (d) 10000
- 81)** Find the four number in AP with the sum of second and third being 22 and the product of the first and fourth being 85.
 (a) 3, 5, 7, 9 (b) 2, 4, 6, 8
 (c) 5, 9, 13, 17 (d) None of these
- 82)** How many three digit numbers are there, with distinct digits, with each digit odd?
 (a) 120 (b) 60
 (c) 30 (d) 15
- 83)** The integral of $\int \frac{dx}{x^2 - a^2}$ will be
 (a) $\frac{1}{2a} \log \frac{(x-a)}{(x+a)}$

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- (b) $\frac{1}{2a} \log \frac{(x+a)}{(x-a)}$
 (c) $\frac{1}{2a} \log \frac{x}{(x+a)}$
 (d) None of these
- 84)** The standard deviation of 100 and 150 items are 40,6 respectively, if mean of 250 items is 44, mean of 100 and 150 items are 50 and 5 respectively, then find SD for 250 items.
 (a) 39.86 (b) 7.64
 (c) 6.74 (d) 4.67
- 85)** Find the value of k, if lines $2x+ky-9=0$ and $3x-4y+7=0$ are parallel.
 (a) $-8/3$ (b) $2/3$
 (c) -4 (d) 3
- 86)** Rs. 80000 is invested to earn a monthly interest of Rs. 1200 at the rate of per annum simple interest.
 (a) 12% (b) 14%
 (c) 16% (d) 18%
- 87)** The points A(7,3) and C(0,-4) are two opposite vertices of a rhombus ABCD. Find the equation of diagonal AC.
 (a) $2x + 2y - 3 = 0$
 (b) $x - y + 3 = 0$
 (c) $y - x + 4 = 0$
 (d) None of these
- 88)** How many words can be formed out of 5 different consonants and 4 different vowels, if each word is to contain 3 consonants and 2 vowels?
 (a) 7000 (b) 720
 (c) 7020 (d) 7200
- 89)** If $\lim_{x \rightarrow a} \frac{x^9 - a^9}{x - a} = 9$ the value of a is
 (a) $2x - 3$ (b) $3x - 2$
 (c) 1 (d) None of these
- 90)** The compounded ratio of 4:9 and sub duplicate ratio of 9:16 is
 (a) 1:4 (b) 1:3
 (c) 3:1 (d) None of these
- 91)** $\frac{d}{dx} (x-1)(x-2)$ is equal to
 (a) $2x - 3$ (b) $3x - 2$
 (c) 1 (d) None of these
- 92)** The three number in AP, whose sum is 27 and the sum of their squares is 341, are
 (a) 2, 9, 16 (b) 16, 9, 2
 (c) Both (a) and (b)
 (d) -2, -9, -16
- 93)** $\int \frac{\log(\log x)}{x} dx$ is equal to
 (a) $\log(\log x) - 1 + C$
 (b) $\log(\log x) + C$
 (c) $[\log(\log x) - 1] + C$
 (d) None of these
- 94)** What is the number of trials of a binomial distribution having mean and SD are 3 and 1.5, respectively?
 (a) 2 (b) 4
 (c) 8 (d) 12
- 95)** In a class 30 students, 20 students like Mathematics, 18 like Science and 12 like both the subjects. Find the number of students who like no subject.
 (a) 4 (b) 5
 (c) 8 (d) None of these
- 96)** The present value of annuity of Rs. 5000 per annum for 12 yr at 4% per annum compounded interest annually is
 (a) Rs. 46000
 (b) Rs. 540.54
 (c) Rs. 15000
 (d) None of the above
- 97)** In binomial distribution, if $n=4$ and $p=1/3$, then the value of variance is
 (a) $8/3$
 (b) $8/9$
 (c) $4/3$
 (d) None of the above
- 98)** In a single throw with two dice the probability of getting a sum of five on the two dice is
 (a) $1/9$
 (b) $5/36$
 (c) $5/9$
 (d) None of the above
- 99)** $\int e^{px}$ is equal to

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- (a) $e^x + C$ (b) $\frac{e^{px}}{p} + C$
 (c) $\log x + C$ (d) None of these

- 100)** If A has 32 elements, B has 42 elements and AB has 62 elements. find the number of elements in AB.
 (a) 74 (b) 62
 (c) 12 (d) None of these

Practice Set 4

Part D Quantitative Aptitude

- 51)** The best method of collect data in case of natural calamity is
 (a) personal interview
 (b) telephone interview
 (c) mailed questionnaire method
 (d) indirect interview
- 52)** Poisson distribution may be
 (a) unimodal
 (b) bimodal
 (c) multi-modal
 (d) both (a) and (b)
- 53)** The errors in case of regression equations are
 (a) positive (b) negative
 (c) zero (d) All of these
- 54)** As the sample size decreases, standard error
 (a) increases
 (b) decreases
 (c) remains constant
 (d) increases proportionately
- 55)** $\lim_{x \rightarrow 0} \frac{3x + |x|}{7x - 5|x|}$
 (a) exists (b) does not exist
 (c) 1/6 (d) None of these
- 56)** A frequency distribution
 (a) arranges observations in an increasing order
 (b) arranges observations in terms of a number of groups
 (c) relates to measurable characteristic
 (d) all of the above
- 57)** Karl Pearson's coefficient is defined from
 (a) ungrouped data
 (b) grouped data
 (c) both (a) and (b)
 (d) None of these
- 58)** Which of the following pairs of events are mutually exclusive?
 (a) A : The student reads in a school
 B : He studies Philosophy
 (b) A : Raju was born in India
 B : He is a fine engineer
 (c) A : Ruma is 16 yr old
 B : She is a good singer
 (d) A : Peter is under 15 yr of age
 B : Peter is a voter of Kolkata
- 59)** Regression coefficient is independent of the change of
 (a) scale (b) origin
 (c) Both (a) and (b)
 (d) Neither origin nor scale
- 60)** For any two events A and B.
 (a) $P(A \cap B) < P(A) + P(B)$
 (b) $P(A \cap B) > P(A) + P(B)$
 (c) $P(A \cap B) \leq P(A) + P(B)$
 (d) $P(A \cap B) \geq P(A) + P(B)$
- 61)** The letters of the words 'CALCUTTA' and 'AMERICA' are arranged in all possible ways. The ratio of the number of these arrangements is
 (a) 1 : 2 (b) 2 : 1
 (c) 1 : 1 (d) 1.5 : 1
- 62)** Which term of series $7+11+15.....$ is equal to 403?
 (a) 50 (b) 100
 (c) 101 (d) 51
- 63)** The standard deviation of the distribution is called standard error.
 (a) normal (b) Poisson
 (c) binomial (d) sampling
- 64)** Probability density function is always
 (a) greater than 0

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- (b) greater than equal to 0
 (c) less than 0
 (d) less than equal to 0
- 65)** If the roots are real but unequal.
 (a) $b^2-4ac=0$ (b) $b^2-4ac>0$
 (c) $b^2-4ac<0$ (d) $b^2-4ac\leq 0$
- 66)** For finding the degree of agreement about beauty between two judges in a beauty contest, we use
 (a) scatter diagram
 (b) coefficient of rank correlation
 (c) coefficient of correlation
 (d) coefficient of concurrent deviation
- 67)** Stub of a table is the part of the table describing the
 (a) left, columns
 (b) right columns
 (c) right, rows
 (d) left, rows
- 68)** are used for measuring central tendency, dispersion and Skewness.
 (a) Median (b) Deciles
 (c) Percentiles (d) Quartiles
- 69)** An index time series is a list of numbers for two or more periods of time.
 (a) index (b) absolute
 (c) relative (d) sample
- 70)** Correlation coefficient is of the units of measurements.
 (a) dependent
 (b) independent
 (c) both (a) and (b) d
 (d) None of these
- 71)** The solution of the equation $(p+2)(p-3)+(p+3)(p-4)=p(2p-5)$ is
 (a) 6 (b) 7
 (c) 5 (d) None of these
- 72)** The change of getting a sum of 6 in a single throw with two dice is
 (a) $3/36$ (b) $4/36$
 (c) $6/36$ (d) $5/36$
- 73)** Two cards are drawn from a well-shuffled pack of playing cards. Find the probability that both are aces.
 (a) 1:221 (b) 2:221
- (c) 10:21 (d) None of these
- 74)** $\lim_{x \rightarrow -2} \frac{x^2 - 4}{x + 2}$ is equal to
 (a) 4 (b) -4
 (c) Does not exist
 (d) None of these
- 75)** If an unbiased coin is tossed twice, the probability of obtain in atleast one tail is
 (a) 0.25 (b) 0.50
 (c) 0.75 (d) 1.00
- 76)** $\int_0^4 \sqrt{3x+4} dx$ is equal to
 (a) $9/112$ (b) $112/3$
 (c) $11/9$ (d) None of these
- 77)** If the quartile deviation of x is 6 and $4x+8y=20$, what is the quartile deviation of y?
 (a) 3 (b) 4 (c) 5 (d) 1
- 78)** $\frac{d}{dx} e^{2\log x}$ is equal to
 (a) 2 (b) $2x$ (c) x^2 (d) 0
- 79)** Find the value of the constant λ so that the given function is continuous at $x = -1$.

$$f(x) = \begin{cases} \frac{x^2 - 2x - 3}{x + 1}, & x \neq -1 \\ \lambda, & x = -1 \end{cases}$$
 (a) -3 (b) -2 (c) 0 (d) -4
- 80)** Equation of two lines of regression are $4x+3y+7=0$ and $3x+4y+8=0$, the mean of x and y are
 (a) $5/7$ and $6/7$
 (b) $-4/7$ and $-11/7$
 (c) 2 and 4
 (d) None of these
- 81)** The index number of prices at a place in 1998 is 355 **with 1991 as base. This means**
 (a) there has been on the average a 255% increase in prices
 (b) there has been on the average a 355% increase in price
 (c) there has been on the average a 250% increase in price
 (d) none of the above
- 82)** Differentiate $\sqrt{1+x^2}$ w.r.t. x, we get

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- (a) $\frac{2x}{\sqrt{1-x^2}}$
 (b) $\frac{x}{\sqrt{1+x^2}}$
 (c) $\frac{x^2}{\sqrt{1+x^2}}$
 (d) None of these
- 83)** $\frac{d}{dx} \frac{x}{\sqrt{x^2-1}}$ is equal to
 (a) $-(x^2-1)^{-3/2}$
 (b) $-(x^2+1)^{3/2}$
 (c) $-(x^2+1)^{-3/2}$
 (d) $(x^2-1)^{-3/2}$
- 84)** If $f(x)=x^3+\frac{1}{x^3}$, then the value of $f(x)-f(1/x)$ is equal to
 (a) 0 (b) 1
 (c) $x^3+\frac{1}{x^3}$ (d) None of these
- 85)** If $P+\sqrt{P}=6/25$, then the value of P is equal to
 (a) 1/5 (b) 2/5
 (c) 1/25 (d) 2/25
- 86)** The point of intersection between the lines $3x+4y=7$ and $4x-y=3$ lie in the
 (a) 1st quadrant
 (b) 2nd quadrant
 (c) 3rd quadrant
 (d) 4th quadrant
- 87)** A bag contains 10 red and 10 green balls. A ball is drawn from it. The probability that it will be green is
 (a) 1/10 (b) 1/3
 (c) 1/2 (d) None of these
- 88)** The average marks scored by 50 students in a class were calculated to be 38. Later, it was found that marks of two students were wrongly copied as 34 and 23 instead of 43 and 32. Find correct average marks.
 (a) 37.36 (b) 39.00
 (c) 38.36 (d) None of these
- 89)** Three numbers are in AP whose sum is 15 and product is 105, then numbers are
 (a) 3, 5 and 7 (b) 2, 5, and 8
 (c) 0, 5 and 10 (d) None of these
- 90)** The median of the following items, 6,10, 4, 3, 9, 11, 22 and 18 is
 (a) 10 (b) 9 (c) 9.5 (d) 10.5
- 91)** If $f'(x)=3^x-2/x^3$, then $f(x)$ is equal to
 (a) $x^3 + \frac{1}{x^2} + C$
 (b) $x^2 + \frac{1}{x^3} + C$
 (c) $x^2 - \frac{2}{x^3} + C$
 (d) None of these
- 92)** $\int \frac{dx}{\sqrt{x+x}}$ is equal to
 (a) $2\log(1+\sqrt{x})+C$
 (b) $\log(1+\sqrt{x})+C$
 (c) $\log\sqrt{x}+C$
 (d) None of these
- 93)** Out of numbers 1 to 120, one is selected at random. What is the probability that it is divisible by 8 or 10?
 (a) 1/5 (b) 18/125
 (c) 32/120 (d) None of these
- 94)** If $3y-2x=4$ and $4y-px=2$ are perpendicular to each other, then the value of p is equal to
 (a) -6 (b) 6 (c) 2 (d) 1
- 95)** If $f(x)=e^{ax^2+bx+c}$, then $f'(x)$ is
 (a) e^{ax^2+bx+c}
 (b) $e^{ax^2+bx+c} \cdot (2ax+b)$
 (c) $2ax + b$
 (d) None of these
- 96)** In a GP series, the product of first three terms is $729/8$. The middle term is
 (a) 3/2 (b) 9/2
 (c) 2/9 (d) None of these
- 97)** Two variables x and y are related by $5x+6y+9=0$ and $\bar{x}=6$, then \bar{y} is
 (a) 6.50 (b) 6.66
 (c) -6.50 (d) -6.66

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98) The following data relate to the marks of a group of students.

Marks	Below 10	Below 20	Below 30	Below 40	Below 50
Number of students	15	38	65	84	100

How many students got marks more than 30?

- (a) 65 (b) 50
(c) 35 (d) 43

99) The number of subset of the set {6, 8, 11} is

- (a) 9 (b) 6
(c) 8 (d) None of these

100) If for two variables x and y, the covariance, variance of x and variance of y are 40, 16 and 256, respectively. What is the value of the correlation coefficient?

- (a) 0.01 (b) 0.625
(c) 0.4 (d) 0.5

Practice Set 5

Part D Quantitative Aptitude

51. Quartile deviation can be affected by

- (a) pvoisson distribution
(b) binomial distribution
(c) sampling fluctuations
(d) none of the above

52. If an unbiased coin is tossed once, then the two events head and tail are

- (a) mutually exclusive
(b) exhaustive
(c) equally likely
(d) all of these

53. a range of value is

- (a) a point estimate
(b) an interval estimate
(c) both (a) and (b)
(d) None of these

54. The chart that was logarithm of the variable is known as

- (a) line chart
(b) ratio chart
(c) multiple line chart
(d) component line chart

55. Ogive is used to obtain

- (a) mean (b) mode
(c) quartiles (d) all of these

56. If two events A and B are independent, then $P(A \cap B)$ equals to

- (a) $P(A) + P(B)$
(b) $P(A) \times P(B)$
(c) $P(A) \times P(B/A)$
(d) $P(B) \times P(A/B)$

57. The present value of an annuity of Rs. 3000 for 15 yr at 4.5% per annum, then compounded interest is

- (a) Rs. 23809.40
(b) Rs. 32000
(c) Rs. 32908.41
(d) None of these

58. The most important probability distribution is known as

- (a) binomial distribution
(b) normal distribution
(c) chi-square distribution
(d) sampling distribution

59. a binomial distribution is

- (a) never symmetrical
(b) never negatively skewed
(c) symmetrical when $p = 0.5$
(d) never positively skewed

60. Mutually exclusive classification is usually meant for

- (a) a discrete variable
(b) a continuous variable
(c) an attribute
(d) All of these

61. In first payment/receipt takes place at the end of first period.

- (a) annuity due
(b) annuity regular
(c) annuity special
(d) None of these

62. The is satisfied, when $p_{ab} \times P_{bc} \times P_{ca} = 1$.

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- (a) time reversal test
 (b) factor reversal test
 (c) circular test
 (d) unit test
- 63.** is extremely sensitive to the size of the sample.
 (a) Range (b) Mean
 (c) Median (d) Mode
- 64.** The mean of binomial distribution with parameters n and p is
 (a) $n(1-p)$ (b) $np(1-p)$
 (c) np (d) $\sqrt{np(1-p)}$
- 65.** A bag contain 20 discs numbered 1 to 20. A disc is drawn from the bag. The probability that the number on it a multiple of 3, is
 (a) 5/10 (b) 2/5
 (c) 1/5 (d) 3/10
- 66.** A distribution is a theoretical distribution that expresses the functional relation between each of the distinct values of the sample statistic and the corresponding probability.
 (a) normal (b) binomial
 (c) Poisson (d) sampling
- 67.** If the value of a car gets depreciated by 20% per year, estimated value at the end of five year is if its present value is Rs. 24000.
 (a) Rs. 7920
 (b) Rs. 7684.23
 (c) Rs. 8764.32
 (d) Rs. 6789.32
- 68.** The compound interest on Rs. 1000 for 10 yr at 4% per annum the interest being paid quarterly is
 (a) 786 (b) 586
 (c) 490 (d) 186
- 69.** If $\log_{\sqrt{3}}(x+1)=2$, then x is equal to
 (a) 1 (b) 3 (c) 2 (d) 0
- 70.** When we want to divide the given set of observations into two equal parts, we consider
 (a) mean (b) median
 (c) mode (d) None of these
- 71.** The mode of the numbers 7, 7, 9, 7, 10, 15, 15, 10 is
 (a) 7 (b) 10
 (c) 150 (d) 7 and 15
- 72.** Mr. A plans to invest up to Rs. 50000 in two stocks X and Y. Stock X(x) is priced at Rs. 175 and Stock Y(y) at Rs. 95 per share. This can be shown by
 (a) $175x+95y \leq 30000$
 (b) $175x+95y \geq 30000$
 (c) $175x+95y = 30000$
 (d) None of these
- 73.** The standard deviation of 25 32, 43, 53, 62, 59, 48, 31, 24, 33 is
 (a) 13.23 (b) 12.33
 (c) 11.13 (d) None of these
- 74.** $\lim_{x \rightarrow 2} \frac{e^x - e^2}{x - 2}$ is equal to
 (a) e^2 (b) e (c) 1 (d) 0
- 75.** If 3 times of Ramesh's age 6yr ago be subtracted from twice his present age, the result would be equal to his present age. Find Ramesh's age.
 (a) 15 (b) 9 (c) 16 (d) 8
- 76.** The sum of a series in an AP is 72. The first term being 17 and the common difference -2. The number of terms is
 (a) 6 (b) 12
 (c) 6 or 12 (d) 10
- 77.** In how many ways 5 gents and 5 ladies sit at a round table, if no two ladies are to sit together?
 (a) 720 (b) 120
 (c) 2880 (d) 34600
- 78.** The equation of a straight line passing through (3, -2) and making equal intercepts on
 (a) $x+y-1=0$ (b) $x+y-5=0$
 (c) $3x-2y+1=0$ (d) None of these
- 79.** The sum of 3 numbers of a GP is 39 and their product is 729. The numbers are
 (a) 3, 27, 9 (b) 9, 3, 27
 (c) 3, 9, 27 (d) None of these
- 80.** In a single throw with two dice, chance of throwing 8 is
 (a) 1/9 (b) 5/36

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- (c) 5/18 (d) 2/9
- 81.** At what rate per cent will a sum double itself in 7 yr, if the interest is compounded annually?
 (a) 7.0% (b) 8.0%
 (c) 10% (d) 7.9%
- 82.** A bag contains Rs. 187 in the form of Rs. 1.50 paise and 10 paise coins in the ratio of 3:4:5. Find the number of each type of coins.
 (a) 30, 40, 50
 (b) 102, 136, 170
 (c) 60, 80, 100
 (d) None of these
- 83.** Given, $A = \{2, 3\}$, $B = \{4, 5\}$ and $C = \{5, 6\}$, then $A \times (B \cap C)$ is
 (a) $\{(2, 5), (3, 5)\}$
 (b) $\{(5, 2), (5, 3)\}$
 (c) $\{(2, 3), (5, 5)\}$
 (d) None of these
- 84.** How many diagonals can be drawn in a plane figure of 16 sides?
 (a) 100 (b) 50
 (c) 104 (d) 54
- 85.** The wages of 8 workers expressed in rupees are 42, 45, 49, 38, 56, 54, 55, 47. Find median wage.
 (a) 47 (b) 48
 (c) 49 (d) 50
- 86.** $\lim_{x \rightarrow 3} \frac{x^5 - 243}{x^2 - 9}$ is equal to
 (a) 150 (b) 125/2
 (c) 132 (d) 0
- 87.** Two lines of regression are given by $5x + 7y - 22 = 0$. If the variance of y is 15, find the standard deviation of x.
 (a) $\sqrt{5}$ (b) $\sqrt{6}$
 (c) 10.20 (d) $\sqrt{8}$
- 88.** If compounding is done quarterly, what will be the amount Mr. Ravi will receive for Rs. 4000 at the rate of 10% rate of interest for 4 yr?
 (a) Rs. 5893.02
 (b) Rs. 5938.02
 (c) Rs. 5000
 (d) None of these
- 89.** $\lim_{x \rightarrow 0} \frac{x^2 - 1}{\sqrt{3x + 1} - \sqrt{5x - 1}}$ is evaluated to be
 (a) 4 (b) 1/4
 (c) -4 (d) None of these
- 90.** The sum of two numbers is 16 and twice the square of larger part exceeds the square of smaller part by 164. Numbers are
 (a) 10 and 6 (b) 12 and 4
 (c) 11 and 5 (d) None of these
- 91.** If $C(n, 8) = C(n, 6)$, find $C(n, 2)$.
 (a) 14 (b) 91
 (c) 19 (d) 41
- 92.** $\lim_{x \rightarrow 0} \frac{3^{x+1} - 3}{x}$
 (a) does not exist
 (b) exist and is equal to 4
 (c) exist and is equal to $3 \log_e 3$
 (d) exist and is equal to 3
- 93.** If with rise of 10% in prices the wages are increased by 20%. Find the percentage of real wage increase.
 (a) 109.29%
 (b) 9.09%
 (c) 9.29%
 (d) None of the above
- 94.** Evaluate $\int_1^4 (2x + 5) dx$.
 (a) 3 (b) 10
 (c) 30 (d) None of these
- 95.** Solve for x, $4^x - 3 \cdot 2^{x+2} + 2^5 = 0$.
 (a) 4, 8 (b) -2, -3
 (c) 2, 6 (d) 2, 3
- 96.** Find the equation of line passing through the point (-2, 3) and having x-intercept 4 units.
 (a) $2x + y - 4 = 0$ (b) $x + 2y - 4 = 0$
 (c) $x + y - 4 = 0$ (d) $x - y - 4 = 0$
- 97.** If $a : b = 3 : 4$, the value of $(2a + 3b) : (3a + 4b)$ is
 (a) 18 : 25 (b) 8 : 25
 (c) 17 : 24 (d) None of these
- 98.** The value of $\int_0^1 x(1 + x)^n dx$ is equal to
 (a) 0 (b) 1

QUANTITATIVE APTITUDE

- (c) $\frac{1}{(n+1)(n+2)}$ (d) $(n+1)(n+2)$ (c) 6! (d) None of these
- 99.** The number of permutation can be made out the letters of word COMMERCE is
(a) 5040 (b) 8!
- 100.** if the median of 5, 9, 11, 3, 4, x, 8 is 6 then the value of x is equal to
(a) 6 (b) 5 (c) 4 (d) 3

QUANTITATIVE APTITUDE

Practice Set 6

Part D Quantitative Aptitude

- 51)** If an unbiased coin is tossed once, then the two events head and tail are
(a) mutually exclusive
(b) exhaustive
(c) equally likely
(d) all of these
- 52)** In audit test statistical methods are not used.
(a) True
(b) False
(c) Both (a) and (b)
(d) None of these
- 53)** Methods that are employed for the collection of primary data
(a) interview method
(b) questionnaire method
(c) observation method
(d) all of these
- 54)** The ratio between the speeds of two trains is 7:8. If the second train runs 400 km in 5 h, the speed of the first train is
(a) 10 km/h (b) 50 km/h
(c) 71 km/h (d) None of these
- 55)** Unequal widths of classes in the frequency distribution do not cause any difficulty in the construction of
(a) Ogive
(b) Frequency polygon
(c) Both (a) and (b)
(d) None of these
- 56)** Which of the following measures of central tendency is based on only 50% of the central values?
(a) Mean (b) Median
(c) Mode (d) both (a) & (b)
- 57)** Mode of 0,3,5,6,7,9,12,0,2 is
(a) 6 (b) 0 (c) 3 (d) 5
- 58)** In rank correlation coefficient the association need not be linear.
(a) False
(b) True
(c) Both (a) and (b)
(d) All of these
- 59)** When an event is decomposable into a number of simple events, then it is called a compound event.
(a) False
(b) True
(c) Both (a) and (b)
(d) None of these
- 60)** A binomial distribution is
(a) never symmetrical
(b) never positively skewed
(c) never negatively skewed
(d) symmetrical when $p = 0.5$
- 61)** may be defined as the minimum value and the maximum value, the class interval may contain.
(a) Class mark
(b) Class limit
(c) Both (a) and (b)
(d) None of these
- 62)** Quartiles are values dividing a given set of observations into equal parts.
(a) two (b) four
(c) six (d) ten
- 63)** If in binomial distribution mean is 10 and standard deviation is 2, q will be
(a) 0 (b) 0.2
(c) 0.8 (d) 0.4
- 64)** In case of a plotted points on a scatter diagram concentrate from upper left to lower right.
(a) zero correlation
(b) negative correlation
(c) positive correlation
(d) multiple correlation
- 65)** A person lend at simple interest in order of getting Rs. 645 at the end of $1\frac{1}{2}$ yr at the rate of 5% per annum
(a) Rs. 600 (b) Rs. 625
(c) Rs. 525 (d) Rs. 575
- 66)** The size of the sample more reliable is the result.
(a) medium (b) smaller
(c) larger (d) None of these

QUANTITATIVE APTITUDE

- 67)** If $f(x) = \frac{x^2 - 1}{x - 1}$, $x \neq 1$, $f(1) = A$, for what value of A , $f(x)$ is continuous at $x = 1$?
 (a) 1 (b) 2
 (c) 0 (d) None of these
- 68)** If $f(x) = \frac{5}{x}$, then $f(0)$ is
 (a) $+\infty$ (b) $-\infty$
 (c) 5 (d) undefined
- 69)** First quartile is the value for which one-fourth of the observations are Q_1 and the remaining three-fourths observations are Q_1 .
 (a) less than or equal to, more than or equal to
 (b) more than or equal to, less than or equal to
 (c) less than, more than
 (d) more than, less than
- 70)** Rs. 10000 is invested at annual rate of interest of 10%. The amount after 2 yr at annual compounding is
 (a) Rs. 21100 (b) Rs. 12100
 (c) Rs. 12110 (d) None of these
- 71)** Find the second differential coefficient of $y = x^2 \log x$.
 (a) $x + 2x \log x$ (b) $3 + 2 \log x$
 (c) $3 \log x$ (d) $2x \log x$
- 72)** What will be the final value of investment for the principal value of Rs. 80000 for 4 yr at the rate of 100% per annum rate of interest?
 (a) Rs. 83200 (b) Rs. 112000
 (c) Rs. 82300 (d) None of these
- 73)** If A and B are mutually exclusive events and $P(A) = 0.3$ and $P(B) = 0.4$, find $P(A \cup B)$.
 (a) 0.12 (b) 0.7
 (c) 0.3 (d) None of these
- 74)** Find the 10th term of an AP with first term as 4 and common difference being 2.
 (a) 22 (b) 25
 (c) 20 (d) 13
- 75)** A pair of dice is thrown. What is the probability that the sum of the numbers obtained is more than 10?
 (a) 1/18 (b) 1/9
 (c) 1/12 (d) None of these
- 76)** ${}^5C_1 + {}^5C_2 + {}^5C_3 + {}^5C_4 + {}^5C_5$ is equal to
 (a) 30 (b) 31
 (c) 32 (d) 25
- 77)** The value of $\frac{1}{\log_a(ab)} + \frac{1}{\log_b(ab)}$ is
 (a) 0 (b) 1
 (c) -1 (d) None of these
- 78)** The mean of binomial distribution is 4 and standard deviation is $\sqrt{3}$. What is the value of p ?
 (a) 1/3 (b) 1/4
 (c) 1/5 (d) 3/4
- 79)** If the set P has 6, Q has 5 and R has 2 elements, then the set $P \times Q \times R$ contains
 (a) 13 (b) 9
 (c) 60 (d) None of these
- 80)** A bag contains 30 balls numbered from 1 to 30. One ball is drawn at random. The probability that the number of the drawn ball will be multiple of 3 or 7 is
 (a) 7/15 (b) 13/30
 (c) 1/2 (d) None of these
- 81)** For the numbers 1, 2, 3, 4, 5, 6, 7 standard deviation is
 (a) 3 (b) 4
 (c) 2 (d) None of these
- 82)** Interest earned on Rs. 3000 at 5% per year. Simple interest for three years is
 (a) Rs. 540 (b) Rs. 450
 (c) Rs. 45 (d) Rs. 54
- 83)** Is the quartile deviation of x is 8 and $3x + 6y = 20$, then the quartile deviation of y is
 (a) -4 (b) 3
 (c) 5 (d) None of these
- 84)** The inequalities $x < 0$, $y > 0$ indicates
 (a) third quadrant
 (b) first quadrant
 (c) second quadrant
 (d) fourth quadrant

QUANTITATIVE APTITUDE

- 85)** Compute the value of $\lim_{x \rightarrow 1} \left(\frac{x^2 + 3x + 2}{x^3 + 2x^2 - x + 1} \right)$
 (a) 5 (b) 9 (c) 7 (d) 2
- 86)** The mean salary for a group of 20 female workers is Rs. 5000 per month and that for a group of 30 male workers is Rs. 6000 per month. What is combined mean salary?
 (a) Rs.5400 (b) Rs. 5500
 (c) Rs. 5600 (d) Rs. 5700
- 87)** If $10^{-2} = \frac{1}{100}$ then the value of $\log 0.01$ is
 (a) -2 (b) 2 (c) -1 (d) 1
- 88)** If the relationship between x and y is given by $4x+5y=10$ and the range of x is 15, what would be the range of y?
 (a) 10 (b) 11
 (c) 12 (d) 13
- 89)** A number is selected from the set $S = \{1,2,3,4,\dots,25\}$. The probability that it would be divisible by 4 or 7, is
 (a) 0.26 (b) 0.46
 (c) 0.36 (d) None of these
- 90)** $f(x)=|x+1|$ and $g(x)=3x_2-5$, find the value of gof .
 (a) $3x^4+6x^2-2$ (b) $2x^2-6x+3$
 (c) $|3x^2-5|$ (d) $x-5$
- 91)** Find the arithmetic mean between 4 and 10.
 (a) 14 (b) 7
 (c) 3 (d) 6
- 92)** The weights of 8 students expressed in kg are 40, 35, 50, 45, 46, 39, 41, 42. Find median weight.
 (a) 40.5 (b) 41
 (c) 41.5 (d) 42
- 93)** Mr. Rahul invested in bank Rs. 80000 for 4 yr @ 10%% per annum rate of interest. How much he will earn?
 (a) Rs. 32000 (b) Rs. 18000
 (c) Rs. 23000 (d) None of these
- 94)** A letter lock has three rings each marked with 10 different letters. In how many ways it is possible to make an unsuccessful attempt to open the lock?
 (a) 1000 (b) 999
 (c) 5040 (d) None of these
- 95)** If $A=(1, 2, 3, 6, 10, 15)$, then cardinal number of $A \Delta B$ is
 (a) 3 (b) -4
 (c) 6 (d) None of these
- 96)** The mean annual salary of all employees in a company is Rs. 25000. The mean salary of male and female employees is Rs. 27000 and Rs. 17000 respectively. Find the percentage of males and females employed by the company.
 (a) 60% and 40%
 (b) 75% and 25%
 (c) 70% and 30%
 (d) 80% and 20%
- 97)** For the series 13, 14, 7, 12, 9, 17, 8, 10, 6, 15, 18, 20, 21 calculate third decile.
 (a) 9.2 (b) 9.5
 (c) 9.7 (d) None of these
- 98)** A line intersects x-axis at (-2, 0) and cuts off an intercept of 3 from the positive side of y-axis. Write the equation of line.
 (a) $2x-3y+3=0$
 (b) $2x-2y-3=0$
 (c) $3x-2y+6=0$
 (d) None of these
- 99)** A coin is tossed two times the toss resulted in one head and one tail. What is the probability that the first throw resulted in tail?
 (a) 1/3 (b) 1/4
 (c) 1/2 (d) None of these
- 100)** How much money should be invested to earn a monthly interest of Rs. 1800 at 9% per annum simple interest?
 (a) Rs. 12000 (b) Rs. 24000
 (c) Rs. 20000 (d) None of these

QUANTITATIVE APTITUDE

Practice Set 8

Part D Quantitative Aptitude

- 51)** If one of the regression coefficient is greater than unity, then other is less than unity.
 (a) True
 (b) False
 (c) Both (a) and (b)
 (d) None of these
- 52)** SD of first n natural numbers is
 (a) $\frac{n(n-1)}{2}$ (b) $\sqrt{\frac{n(n-1)}{2}}$
 (c) $\sqrt{\frac{n^2-1}{12}}$ (d) None of these
- 53)** $A \cup A'$ is equal to
 (a) A (b) Sample space
 (c) ϕ (d) None of these
- 54)** In case of an even number of observations which of the following is median?
 (a) Any of the two middle-most value
 (b) The simple average of these two middle values
 (c) The weighted average of these two middle values
 (d) All of the above
- 55)** Which of the following measures of central tendency is based on lonely 50% of the central values?
 (a) Mean
 (b) Mode
 (c) Median
 (d) Both (a) and (b)
- 56)** In which case Bernoulli distribution is a special case of binomial distribution?
 (a) $n = 1.0$
 (b) $n = 2.0$
 (c) $n = 2.5$
 (d) None of these
- 57)** Correlation coefficient is not a pure number.
 (a) True
 (b) False
 (c) Both (a) and (b)
 (d) None of these
- 58)** The line $x = a + by$ represents the regression equation of
 (a) y on x
 (b) x on y
 (c) both (a) and (b)
 (d) None of these
- 59)** If A denotes that a student reads in a school and B denotes that he plays cricket, then
 (a) $P(A \cap B) = 1$
 (b) $P(A \cup B) = 1$
 (c) $P(A \cap B) = 0$
 (d) $P(A) = P(B)$
- 60)** The quickest method to find correlation between two variables is
 (a) scatter diagram
 (b) method of concurrent deviation
 (c) method of rank correlation
 (d) method of product moment correlation
- 61)** A quantitative characteristic is known is
 (a) an attribute
 (b) a variable
 (c) both (a) and (b)
 (d) None of these
- 62)** The correlation between height and intelligence is
 (a) zero (b) positive
 (c) negative (d) None of these
- 63)** If ${}^n P_3 = 60$, then value of n is
 (a) 5 (b) 2 (c) 1 (d) 3
- 64)** The number of subsets of the set $A = \{1, 2, 3, 4, 5, 6, 7, 8\}$ is
 (a) 36 (b) 128
 (c) 256 (d) None of these
- 65)** The correlation between employment and purchasing power is
 (a) positive (b) negative
 (c) zero (d) None of these
- 66)** Let $f(x) = x^{x^3}$, then $f'(x)$ is
 (a) $x^3 [x^2 + 3x \cdot \log x]$
 (b) $x^{x^3} [x^2 + 3x \cdot \log x]$
 (c) $x^{x^3} [x^2 - 3x \cdot \log x]$

QUANTITATIVE APTITUDE

- (d) None of these
- 67)** The slope of the equation $x-y+5=0$ is
 (a) 1 (b) -1 (c) 5 (d) -5
- 68)** The value of $(243)^{\frac{1}{5}} \cdot (128)^{\frac{1}{7}}$ is
 (a) 1 (b) 6 (c) 2 (d) 3
- 69)** The 100th term of series $4+0-4-8$... is
 (a) -19400 (b) -392
 (c) -150 (d) -100
- 70)** The correlation between sale of cold drinks and day temperature is
 (a) zero (b) positive
 (c) negative (d) None of these
- 71)** A bag contains 5 red and 3 yellow balls. Two balls are drawn at random one after the other without replacement. the probability that both ball drawn are yellow is
 (a) $\frac{9}{64}$ (b) $\frac{3}{28}$
 (c) $\frac{1}{7}$ (d) None of these
- 72)** If the coeficie3nt of correlation between two variables is -0.4, then the coefficient of determination is
 (a) 0.6 (b) 0.16
 (c) 0.4 (d) 0.2
- 73)** Find D_6 for the following observations.
 7,9,5,4,10,15,14,18,6,20
 (a) 11.40 (b) 12.40
 (c) 13.40 (d) 13.80
- 74)** If the coefficient of correlation between two variables of 0.7, then the percentage of variation unaccounted for is
 (a) 70% (b) 30%
 (c) 51% (d) 49%
- 75)** Determine the solution set of the equations $\frac{1}{x} + \frac{1}{y} + \frac{1}{z} = 5$,
 $\frac{2}{x} - \frac{3}{y} - \frac{4}{z} = -11$ and $\frac{3}{x} + \frac{2}{y} - \frac{1}{z} = -6$
 is.
 (a) 2, 6, 3 (b) $\frac{1}{2}, \frac{-1}{3}, \frac{1}{6}$
 (c) 6, 3, 2, (d) 6, 2, 3
- 76)** $\lim_{x \rightarrow \infty} \frac{\sqrt{2x^2 + 3}}{4x + 1}$ is equal to
 (a) $\frac{1}{2\sqrt{2}}$ (b) $2\sqrt{2}$
 (c) $\sqrt{2}$ (d) 0
- 77)** The solution set of the equations $2x+3y=0$ and $x+2y=0$ is
 (a) 2, 2 (b) 1, -1
 (c) 0, 0 (d) -3, 3
- 78)** There are four hotels in a certain city. If 3 men check into hotels in a day, what is the probability they each are into a different hotels.
 (a) 0.050 (b) 0.375
 (c) 0.675 (d) 0.525
- 79)** A population consists units a, b, c, d, e and f. The total number of all possible samples of size four without replacement are
 (a) 10 (b) 12
 (c) 15 (d) None of these
- 80)** The eleventh term of the GP, $\frac{1}{2}, 1, 2, 2^2$... is
 (a) 512 (b) 256
 (c) 1024 (d) None of these
- 81)** If $x^2e^y + 4\log x = 0$, the $\frac{dy}{dx}$ is
 (a) $\frac{e^y 2x^2 + 4 + 8x}{x^3 e^y}$
 (b) $\frac{e^y 2x^2 - 4}{x^3 e^y}$
 (c) $\frac{-e^y 2x^2 - 4}{x^3 e^y}$
 (d) None of these
- 82)** A and B are two events such that $P(A) = \frac{1}{2}$, $P(B) = \frac{1}{4}$ and $P(A \cap B) = \frac{1}{5}$. Find $P(A \cup B)$.
 (a) $\frac{4}{5}$ (b) $\frac{11}{20}$
 (c) $\frac{3}{5}$ (d) None of these
- 83)** If $a : b = c : d = 3 : 5$, then what is the value of $ad : bc$?
 (a) 3 : 5 (b) 5 : 3
 (c) 1 : 1 (d) None of these
- 84)** The distance from the origin to the point of intersection of two straight lines having equations $3x-2y=6$ and $3x+2y=18$ is

QUANTITATIVE APTITUDE

- (a) 3 units (b) 5 units
(c) 4 units (d) 2 units
- 85)** $\lim_{x \rightarrow a} \frac{1}{(x-a)^2}$ is equal to
(a) 0 (b) $+\infty$
(c) $-\infty$ (d) 1
- 86)** Between 7 and 8 Plant and Machinery, the average number of phone calls per minute is 4. The probability, that during one particular minute there will be no phone calls, is
(a) e^{-3} (b) $1/e$
(c) $4e^{-4}$ (d) None of these
- 87)** The sum $1+3+5+7+\dots+99$ is equal to
(a) 2499 (b) 2501
(c) 9801 (d) None of these
- 88)** The length of the perpendicular from the point (2, 5) on the line $4x-3y+18=0$ is
(a) 2.7 units (b) 2.5 units
(c) 2.2 units (d) 2.1 units
- 89)** If $\frac{p}{7} = \frac{q}{6} = \frac{r}{11}$, then $\frac{p+q+r}{p}$ is
(a) 8 (b) 5
(c) 4 (d) None of these
- 90)** A card is drawn from a pack of playing cards and then another card is drawn without the first being replaced. what is the probability of getting two kings?
(a) $7/52$ (b) $1/221$
(c) $3/221$ (d) None of these
- 91)** The value of $\int x\sqrt[3]{x} dx$ is
(a) $\frac{-2x^{5/2}}{5} + C$ (b) $\frac{2x^{5/2}}{5} + C$
(c) $x^{5/2} + C$ (d) None of these
- 92)** For a 10 yr deposit, what interest rate payable annually is equivalent to 5% interest payable quarterly
(a) 5.1% (b) 4.9%
- (c) 6.0% (d) None of these
- 93)** If a, b and c are in GP, then b^2 is equal to
(a) ac (b) -ac
(c) a + b (d) a - c
- 94)** Eight balls are distribution at random in three containers. The probability, that the first container would contain three balls, is
(a) 0.37 (b) 0.17
(c) 0.27 (d) None of these
- 95)** Suresh is selected for three different posts. For the first post, there are 2 candidates, for the second post there are 3 candidates and for the third post, there are 10 candidates. The probability that Suresh would be selected, is
(a) 0.7 (b) 0.5
(c) 0.6 (d) None of these
- 96)** The arithmetic mean between 5 and 13 is
(a) 9 (b) 10
(c) 8 (d) None of these
- 97)** Find the value of p from $(\sqrt{4})^{-6} \times (\sqrt{2})^{-4} = 2^p$.
(a) 16 (b) 8 (c) -8 (d) 4
- 98)** If the relationship between x and y is given by $4x-6y=13$ and if the median of x is 16. Find median of y.
(a) 7.50 (b) 8.00
(c) 8.50 (d) None of these
- 99)** Compute 8C_7 .
(a) 8 (b) 7
(c) 6 (d) None of these
- 100)** Evaluate $\int_0^{\pi/2} \sqrt{1+\cos x} dx$.
(a) 0 (b) $\sqrt{2}$
(c) $\frac{-1}{\sqrt{2}}$ (d) 2

QUANTITATIVE APTITUDE

Practice Set 9

Part D Quantitative Aptitude

51. The number of suicides or death by heart attack in time t. This is an example of
 (a) binomial distribution
 (b) Poisson distribution
 (c) Probability distribution
 (d) None of the above
52. Which measures of dispersion is the quickest to compute?
 (a) standard deviation
 (b) mean deviation
 (c) Quartile deviation
 (d) Range
53. A population comprises 5 members. The number of all possible samples of size 2 that can be drawn from it with replacement is
 (a) 100 (b) 15
 (c) 125 (d) 25
54. Probability mass function is always
 (a) 0
 (b) Greater than 0
 (c) Greater than or equal to 0
 (d) Less than 0
55. The standard deviation is required to determine sample size for
 (a) estimating a mean
 (b) estimating a proportion
 (c) both (a) and (b)
 (d) None of the above
56. A qualitative characteristic is known as
 (a) an attribute
 (b) a variable
 (c) a discrete variable
 (d) a continuous variable
57. Age of person is
 (a) an attribute
 (b) a discrete variable
 (c) a continuous variable
 (d) a variable
58. If all the observations are divided by 3, then
 (a) new SD would be also divided by 3
 (b) new SD would be multiplied by 3
 (c) new SD increased by 3
 (d) new SD decreased by 3
59. If the AM and GM for two numbers are 6.50 and 6, respectively, then the two numbers are
 (a) 6 and 7 (b) 9 and 4
 (c) 10 and 3 (d) 8 and 5
60. 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 of these
61. A variable is known to be, if it can assume any value from a given interval.
 (a) discrete
 (b) continuous
 (c) attribute
 (d) characteristic
62. First deciles is the value for which one-tenth of the give observations are..... D_2 and the remaining nine-tenth observations are..... D_9 ?
 (a) less than or equal to, more than or equal to
 (b) more than or equal to , less than or equal to
 (c) less than, more than
 (d) more than, less than
63. The derivative of $\log x \cdot e^x$ is
 (a) $\frac{e^x}{x} + e^x (\log)$
 (b) $e^x \left(\frac{1}{x} - \log x \right)$
 (c) $e^x (1 + \log x)$
 (d) None of these
64. are the values dividing a given set of observations into ten equal parts.
 (a) Quartiles (b) Decile
 (c) Centiles (d) None of these

QUANTITATIVE APTITUDE

- 65.** The mean and variance of a binomial distribution are 4 and 3, respectively. then, the probability of getting exactly six successes in the distribution is
 (a) ${}^{16}C_6 \left(\frac{1}{4}\right)^{10} \left(\frac{3}{4}\right)^6$
 (b) ${}^{16}C_6 \left(\frac{1}{4}\right)^6 \left(\frac{3}{4}\right)^{10}$
 (c) ${}^{12}C_6 \left(\frac{1}{4}\right)^{10} \left(\frac{3}{4}\right)^6$
 (d) None of these
- 66.** is equal to
 (a) $+\infty$
 (b) $-\infty$
 (c) Does not exist
 (d) None of these
- 67.** $\log(3 \times 5 \times 7)^2$ is equal to
 (a) $2(\log 3 + \log 5 + \log 7)$
 (b) $\log(2 \times 3 \times 5 \times 7)$
 (c) $2(\log 3 - \log 5 - \log 7)$
 (d) None of these
- 68.** There are 7 routes from station X to station Y. In how many ways one may go from X to Y and return, if for returning one makes a choice of any of the routes?
 (a) 40 (b) 17
 (c) 42 (d) 35
- 69.** The numbers of arrangement that can be made by word 'APPLE', is
 (a) 50 (b) 40
 (c) 60 (d) 120
- 70.** if $f(x) = \frac{x^2 - 25}{x - 5}$, then $f(5)$ is equal to
 (a) 1 (b) 0
 (c) 10 (d) Undefined
- 71.** If $(n+1)! = 20(n-1)!$ Then the value of n is
 (a) 6 (b) 5
 (c) 4 (d) None of these
- 72.** In how many ways can 11 persons sit at a round table
 (a) 11! (b) 10!
 (c) 11 (d) 10
- 73.** The sum of the series $1+2+3+4+\dots+1000$ is
 (a) $\frac{100(101)}{2}$ (b) $\left[\frac{100(101)^{-2}}{2}\right]$
 (c) 100×101 (d) None of these
- 74.** If $y = ax^3 + bx^2 + cx + d$, then $\frac{dy}{dx}$ is equal to
 (a) $3ax^2 + 2bx + c$
 (b) $\frac{ax^4}{4} + \frac{bx^3}{3} + \frac{cx^2}{2} + dx$
 (c) 0
 (d) None of the above
- 75.** A class consists of 10 boys and 20 girls of which half the boys and half the girls have blue eyes. Find the probability that a student chosen random is a boy and has blue eyes.
 (a) $\frac{1}{6}$ (b) $\frac{3}{5}$
 (c) $\frac{1}{2}$ (d) None of these
- 76.** the value of ${}^8C_4 + {}^5C_4$ is
 (a) 75 (b) 24
 (c) 30 (d) 27
- 77.** the gradient of the curve $y=4x^2-2x$ at $x=1$ is
 (a) 4 (b) 6
 (c) 8 (d) None of these
- 78.** differentiate y w.r.t. x when $y = (x^2-2x)(x^1-1)$.
 (a) $4x^3 + 6x^2 - 2x + 2$
 (b) $4x^2 - 6x + 2$
 (c) $4x^3 - 6x^2 + 2x - 2$
 (d) None of the above
- 79.** What is the annual rate of interest compounded annually doubles an investment in 2 yr and given the $\sqrt{2} = 1.4142135$
 (a) 46.04125% (b) 14.142135
 (c) 41.42135% (d) None of these
- 80.** Find the fog for the functions $f(x)=x^2, g(x)=x+1$.
 (a) $x^2(x+1)$ (b) x^2
 (c) $x+1$ (d) $(x+1)^2$
- 81.** In how many different ways 7 letters can be formed using the letters of the word 'SPECIAL'?
 (a) 5040 (b) 6
 (c) 840 (d) 450

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- 82.** The curve $4y=ux^2+v$ passes through the point p at (2, 3) and $\frac{dy}{dx}=4$ this point p. So, the values of u and v are
 (a) $u=2, v=2$ (b) $u=-4, v=-4$
 (c) $u=4, v=-4$ (d) None of these
- 83.** if $y=x^{10}+5\log 3x+6e^{2x}+10$, then $\frac{dy}{dx}$ is equal to
 (a) $10x^9 + 15x + 12e^{2x}$
 (b) $10x^9 + \frac{5}{x} + 12e^{2x}$
 (c) $10x^9 + \frac{5}{x} + 6e^{2x}$
 (d) None of the above
- 84.** Evaluate $\lim_{x \rightarrow 0} \frac{9^x - 3^x}{4^x - 2^x}$.
 (a) $\frac{\log 3}{\log 2}$ (b) $\frac{\log 4}{\log 2}$
 (c) $\frac{\log 9}{\log 2}$ (d) $\frac{\log 3}{\log 4}$
- 85.** The numbers 2.4, 3.2, 1.5 and 2 are in proportion and their product of means is 4.8. Find the product of extremes.
 (a) 4.8 (b) 2.4
 (c) 8.4 (d) None of these
- 86.** if $u=(x^3+1)^5$ and $y=(x^3+5x+7)$, then $\frac{du}{dy}$ is
 (a) $\frac{10x(x^2+1)^4}{3x^2+5}$
 (b) $\frac{10(x^2+1)^4}{3x^2+5}$
 (c) $5x(x^2+1)^4$
 (D) None of these
- 87.** The relation 'is father of' over the set of family members is the relation
 (a) reflexive
 (b) symmetric
 (c) transitive
 (d) None of these
- 88.** The function $f(x)$ is continuous at $x=a$, if $\lim_{x \rightarrow a^+} f(x) = \lim_{x \rightarrow a^-} f(x)$ is equal to
- (a) $f(-a)$ (b) $f(a)$
 (c) $f(0)$ (d) None of these
- 89.** the points of inflexion of the normal curve $f(t) = \frac{1}{4\sqrt{2\pi}} \cdot e^{-\frac{(t-10)^2}{32}}$ are
 (a) 6, 14
 (b) 5, 15
 (c) 4, 16
 (d) None of the above
- 90.** Find the effective rte of interest, if $SI=Rs. 1800, P=18000, t=1yr.$
 (a) 10% (b) 9%
 (c) 18% (d) None of these
- 91.** A bag contains 30 balls numbered from 1 to 30. One ball is drawn at random. The probability that the number of the drawn ball will be multiple of 5 or 7 is
 (a) 1/2 (b) 1/3
 (c) 1/4 (d) None of these
- 92.** In a class of boys(x) and girls (y) the maximum seating capacity is 360. This can be shown by
 (a) $x + y \leq 360$
 (b) $x + y \geq 360$
 (c) $x + y \neq 360$
 (d) none of the above
- 93.** The sum $1^2+2^2+3^2+4^2+\dots+10^2$ is equal to
 (a) 385 (b) 386
 (c) 384 (d) None of these
- 94.** The sum of first m terms of an AP is same as the sum of first n terms. Find the sum of first (m+n) terms.
 (a) 100 (b) m+n
 (c) 0 (d) m-n
- 95.** Three fair coins are tossed. If both heads and tails appear, then the probability that exactly one head appear is
 (a) 3/8 (b) 1/6
 (c) 1/2 (d) 1/3
- 96.** Evaluate $\int_0^{\pi/2} \left(\frac{\sqrt[4]{\cos x}}{\sqrt[4]{\sin x} + \sqrt[4]{\cos x}} \right) dx$.
 (a) -1 (b) 0

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- (c) 1 (d) $\frac{\pi}{4}$
- 97.** Find the distance between the pair of points p(-5, 2) and q(-3,-4).
 (a) $2\sqrt{10}$ (b) $10\sqrt{2}$
 (c) 2 (d) 10
- 98.** The mean of numbers 1, 7, 5, 3, 4 and 4 is m. The numbers 3, 2, 4, 2, 3, 3, P have mean m-1 and median 1. Then, mean of P and 1 is equal to
 (a) 4.0 (b) 2.5
 (c) 4.5 (d) 3.4

99. Refer following table
Frequency distribution of weights of 16 students

Weight (in kg)	Number of
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(Class interval)	Students (Frequency)
44-48	4
49-53	5
54-58	7
Total	16

Find relative frequency for the second class interval.
 (a) 1/11 (b) 5/4
 (c) 5/16 (d) 1/4

- 100.** $\frac{d}{dx} (x \log x)$ is equal to
 (a) $(1 + \log x)$ (b) $1 / \log x$
 (c) $\log x$ (d) $x / \log x$

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Practice Set 10

Part D Quantitative Aptitude

- 51)** The algebraic sum of deviation of a set of observations from their Am is
 (a) negative
 (b) positive
 (c) zero
 (d) None of these
- 52)** GM is defined only when
 (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
- 53)** Find fog for the functions $f(x)=x^8$, $g(x)=2x^2+1$.
 (a) $X^8(2x^2+1)$
 (b) X^8
 (c) $2x^2+1$
 (d) $(2x^2+1)^8$
- 54)** For open end classification, which of the following is the best measure of central tendency?
 (a) AM
 (b) GM
 (c) Median
 (d) Mode
- 55)** More laborious numerical calculation involves in AM than GM.
 (a) True (b) False
 (c) Both (d) None of these
- 56)** To find coefficient of correlation by scatter diagram method is not suitable, if the number of observations is very large.
 (a) True (b) False
 (c) Both (d) None of these
- 57)** Probability of throwing an even number with an ordinary six faced dice is
 (a) 1 (b) -1/2
 (c) 1/2 (d) None of these
- 58)** When $P=0.5$, the binomial distribution is
 (a) asymmetrical
 (b) symmetrical
 (c) both (a) and (b)
 (d) none of the above
- 59)** In general, inflation is calculated by using
 (a) Consumer price index
 (b) Wholesale price index
 (c) Producer's price index
 (d) Weighted aggregative method
- 60)** If $p(x/y) = p(x)$, then
 (a) x is independent of y
 (b) y is independent of x
 (c) y is dependent of x
 (d) Both (a) and (b)
- 61)** $\log(1^2+2^2+3^2)$ is equal to
 (a) $\log 1^2 + \log 2^2 + \log 3^2$
 (b) $\log 2 + \log 7$
 (c) $\log 2 - \log 7$
 (d) None of these
- 62)** If the same quantity is multiplied to all the values. The mean shall by the same amount.
 (a) add (b) subtract
 (c) multiply (d) divide
- 63)** The data are known to be , if the data is being already collected, are used by a different person or agency.
 (a) primary (b) secondary
 (c) specialized (d) subsidiary
- 64)** In case of plotted points on a scatter diagram would be equally distributed without depicting any particular pattern.
 (a) zero correlation
 (b) positive correlation
 (c) negative correlation
 (d) simple correlation
- 65)** $\lim_{x \rightarrow 0} \log(1+x)^{1/x}$ is equal to
 (a) 1 (b) 0
 (c) e (d) Does not exist
- 66)** The sum of the following terms is $1+3-5+7+9-11+13...3n$
 (a) $2n^2+3$ (b) $0, 4, -3$
 (c) $0, -4, 3$ (d) None of these
- 67)** The equation $x^3-x^2-12x=0$ is satisfied by

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- (a) 1, 4, -3 (b) 0, 4, -3
(c) 0, -4, 3 (d) None of these
- 68)** Let $f(x) = \frac{x^2 - 6x + 9}{x - 3}$, $x \neq 3$, $f(3) = 0$, then $f(x)$ is
(a) continuous at $x=3$
(b) discontinuous at $x=3$
(c) discontinuous for all x
(d) none of the above
- 69)** 50% of actual values will be below and 50% of values will be above
(a) mode (b) median
(c) mean (d) Q_1
- 70)** If two variables x and y are independent, then the correlation between x and y is
(a) positive (b) negative
(c) zero (d) one
- 71)** The sum of progression $(a+b)$, a , $(a-b)$, ... n terms is
(a) $\frac{n}{2} [2a+(n-1)b]$
(b) $\frac{n}{2} [2a+(3-n)b]$
(c) $\frac{n}{2} [2a+(3-n)]$
(d) $\frac{n}{2} [2a+(n-1)]$
- 72)** If with a rise of 10% in prices the salaries are increased 20%, the real salary increased by
(a) 10%
(b) More than 10%
(c) 20%
(d) Less than 10%
- 73)** The difference between the simple interest and the compound interest on Rs. 1200 for 4 yr @ 10% per annum is
(a) Rs. 77 (b) Rs. 480
(c) Rs. 80 (d) Rs. 557
- 74)** There are 7 boys and 3 girls. The number of ways, in which a committee of 6 can be formed from them, if the committee is to include atleast 2 girls, is
(a) 140 (b) 105
(c) 35 (d) None of these
- 75)** A card is drawn from a pack of playing cards and then another card is drawn without the first being replaced. what is the probability of getting two hearts?
(a) $1/17$ (b) $1/4$
(c) $2/17$ (d) None of these
- 76)** For a group of 8 students, the sum of squares of differences in ranks for Economics and Commerce marks was 50, the value of rank correlation coefficient is equal to
(a) 0.50 (b) 0.40
(c) 0.60 (d) None of these
- 77)** nC_r is equal to
(a) $\frac{n!}{n!-r!}$ (b) $\frac{n!}{r!(n-r)!}$
(c) $\frac{n!r!}{(n-r)!}$ (d) $\frac{n!(n-r)!}{r!}$
- 78)** If $3x = 2, 5^y = 3$ and $2^z = 5$, find the value of multiply
(a) 0 (b) 1
(c) 2 (d) None of these
- 79)** If $f(x) = \frac{2x^2 + 6x - 5}{12x^2 + x - 20}$ is to be discontinuous, then
(a) $x = 5/4$ (b) $x = 4/5$
(c) $x = -4/3$ (d) None of these
- 80)** Two variables x and y are related by $10x+9y+8=0$ and $\bar{x}=5$, then \bar{y} is
(a) 6.33 (b) -6.33
(c) 6.44 (d) -6.44
- 81)** Solving equation $3x^2-14x+16=0$, we get roots as
(a) ± 1 (b) ± 2
(c) 0 (d) None of these
- 82)** Rs. 4000 is invested at annual rate of interest of 10% per annum. The amount after 2 yr, if compounding is done monthly, is
(a) Rs.4881.16
(b) Rs. 4818.16
(c) Rs. 4888.16
(d) None of these
- 83)** In how many ways can 4 single seated rooms in a hostel be occupied by 3 students?
(a) 24 (b) 12 (c) 4 (d) 6
- 84)** Rs 3000 is invested at annual rate of interest of 10% per annum. The

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- amount after 2 yr, if compounding is done quarterly, is
 (a) Rs. 3556.20 (b) Rs. 3565
 (c) Rs 3655.20 (d) None of these
- 85)** Rs. 2000 is invested at annual rate of interest of 10% per annum. The amount after 2 yr, if compounding is done half-yearly, is
 (a) Rs. 2431 (b) Rs. 243.10
 (c) Rs. 2341 (d) None of these
- 86)** Out of 6 teachers and four boys, a committee of eight is to be formed. In how many ways can this be done when there should not be less than four teachers in the committee?
 (a) 45 (b) 55
 (c) 30 (d) 50
- 87)** $\frac{0!5!}{2!}$ is equal to
 (a) 60 (b) 0
 (c) 120 (d) None of these
- 88)** Rs. 1000 is invested at annual rate of interest of 10% per annum. The amount after 2 yr, if compounding is done annually, is
 (a) Rs. 121 (b) Rs. 1210
 (c) Rs. 2110 (d) None of these
- 89)** A committee of 7 persons is to be formed out of 11. The number of ways of forming such as committee is
 (a) 660 (b) 330
 (c) 300 (d) None of these
- 90)** Simple interest on Rs. 50000 for 3 yr at interest rate of 5.5% per annum is
 (a) Rs. 8250 (b) Rs. 825
 (c) Rs. 8520 (d) None of these
- 91)** Refer following table

Frequency distribution of weights of 16 students

Weight (in kg) (Class interval)	Number of Students (Frequency)
44-48	4
49-53	5
54-58	7
Total	16

- Find frequency density of the second class interval.
 (a) 0.80 (b) 0.90
 (c) 1.00 (d) 1.10
- 92)** If one root of the quadratic equation is $2 + \sqrt{3}$, the equation is
 (a) $x^2 - 4x + 1 = 0$
 (b) $x^2 + 4x + 1 = 0$
 (c) $x^2 - 4x - 1 = 0$
 (d) None of these
- 93)** Evaluate $\lim_{x \rightarrow \infty} \left(1 + \frac{9}{x}\right)^x$
 (a) e^9 (b) 9
 (c) 1 (d) e
- 94)** If the coefficient of correlation between two variables is 0.6, then the percentage of variation unaccounted for is
 (a) 60% (b) 40%
 (c) 64% (d) 36%
- 95)** A person invested money in bank paying 6% compounded semi-annually. If the person expects to receive Rs. 8000 in 6 yr, what is the present value of investment?
 (a) 5000
 (b) 4611.03
 (c) 5611.03
 (d) None of the above
- 96)** A card is drawn from a pack of 52 cards. What is the probability that it is neither a black card nor a king?
 (a) 6/13 (b) 5/13
 (c) 1/6 (d) None of these
- 97)** Following are the marks of 10 students
 82,79,56,79,85,95,55,72,70,66 find the coefficient of range.
 (a) 0.2566 (b) 0.2667
 (c) 0.2766 (d) 0.2867
- 98)** The value of $y^{a-m} \times y^{m-n} \times y^{n-a}$ is equal to
 (a) 1 (b) 0 (c) -1 (d) y
- 99)** For a moderately skewed distribution of marks in statistics for a group of 100 students, the mean mark and median mark were found to be 50 and 40. What is the modal mark?

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(a) 15
(c) 25

(b) 20
(d) 30

(a) 0.5
(c) -0.5

(b) 0.25
(d) $\sqrt{0.5}$

100) The coefficient of correlation between two variables is 0.5, then the coefficient of determination is