

# M.K.G CA EDUCATION

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## MATH ASSIGNMENT NO. 9

Maximum Marks: - 100

Time: 2 Hours

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01. A BAR CHART is drawn for (D)
- Continuous data
  - Normal Data
  - Time series Data
  - comparing the components
02. A tabular presentation can be used for (A)
- Normal Data
  - Continuous Series Data
  - Primary data
  - Secondary data
03. Histogram and O give curve is used to compute (B)
- Median and Mode
  - Mode and Median
  - mean and QD
  - SD and Mean
04. Most of the commonly used distributions provide a (D)
- J shape curve
  - U shape curve
  - Mixed Curve
  - Bell shaped curve
05. The average salary in a corporate house is Rs 56,000. The statement given by auditor that average salary is Rs 56,000 is called (A)
- Inferential statement
  - Descriptive statement
  - Detailed statement
  - none of these
06. Modesty in a nice person and sweetness in sweet are examples of (D)
- quantitative data

- b) qualitative data
- c) variable
- d) attribute

07. Total there are ----- cumulative frequency curves. (A)

- a) 2
- b) 3
- c) 4
- d) 5

08. To examine the relationship between variables we prepare (C)

- a) Bar Graph
- b) Pie Chart
- c) Line Chart
- d) frequency polygon

09. When data is classified according to the characteristic is called ----- classification (C)

- a) quantitative
- b) qualitative
- c) simple
- d) factored

10. Histogram can be shown as (B)

- a) Ellipse
- b) Rectangle
- c) Hyperbola
- d) Circle

11. Data is said to be ----- if the investigator himself is responsible for the collection of data (A)

- a) primary
- b) Secondary
- c) Mixed primary and secondary

d) Self-generated data

12. Data on macro Economics is presented by (C)

a) Bar chart

b) Line Chart

c) Pie chart

d) frequency polygon

13. The most appropriate diagram to represent 5 years plan outlay is (A)

a) Pie Diagram

b) Line Chart

c) Bar Chart

d) none of these

14. Mid Values are called as (A)

a) Class Mark

b) Lower limit

c) Upper limit

d) None of these

15. If the data is given in ratios which is the appropriate method of computing average (B)

a) Arithmetic Mean

b) Geometric Mean

c) Median

d) Harmonic Mean

16. The rates of return on three securities are 150% 200% and 240% the average profit is

a) 193.42%

b) 196.67%

- c) 199.87%
- d) none of these

17. Mean deviation is least when deviations are taken from (B)

- a) Mean
- b) Median
- c) mode
- d) assumed Mean

18. Which is relative measure of dispersion (D)

- a) Mean Deviation
- b) Standard Deviation
- c) Quartile deviation
- d) coefficient of QD

19. The limiting relative frequency of probability is (B)

- a) Axiomatic
- b) Statistical
- c) Classical
- d) Mathematical

20. If there is no relation in two variables then the lines of regressions are (B)

- a) Parallel
- b) Perpendicular
- c) Coincide
- d) none of these

21. Cost of living index numbers are also used to find real wages by the process of (C)

- a) Base Shifting

- b) Splicing of index number
- c) Deflating of index number
- d) None of these

22. Time Reversal and factor Reversal are (A)

- a) Test of consistency
- b) Quantity Index
- c) Price Index
- d) Index Numbers

23. Circular Test is an extension of (A)

- a) Time Reversal
- b) Factor Reversal
- c) neither of the two
- d) splicing

24. Cost of living index is always (A)

- a) weighted index number
- b) Value index number
- c) Price Index number
- d) Quantity Index Number

25. from the following particulars compute AM and HM

X :	1, 2, 3, 4, 5, 6 -----upto n
Frequency	1, 2, 3, 4, 5, 6 -----upto n

26. Compute AM and HM

X	1, 2, 3, 4, 5, 6 -----n
Frequency	$1^2, 2^2, 3^2, 4^2$ ----- $n^2$

27. Compute co efficient of correlation by Rank Differential method

X :	12	16	19	19	19	23	24	25
Y :	16	16	16	19	23	23	25	29

28. If  $\log 2 = x$   $\log 3 = y$  find the value of
- Log.54
  - Log4.8
  - Log.96
  - Log1.62
29. The highest score of a batsman in an inning was  $\frac{2}{9}$  th of the total score and second highest was  $\frac{2}{9}$ th of the remaining total score if difference in highest and second highest is 24 . Find the total score made by the player
30. If  $(p+1)$ th term of AP is twice the  $(q+1)$ th term then ratio of  $(p+q+1)$ th term to the  $(3p+1)$ th term should be
31. In a manufacturing unit the fixed cost is Rs 40,000 variable cost is Rs 30 per unit and selling price is Rs 75 per unit compute the following
- Cost Function
  - Revenue function
  - Marginal cost and Marginal Revenue function
  - profit function
  - The number of units produced to make the profit highest
  - Number of units to be produced where AC is reducing
  - Marginal cost at  $x=1000$  units
32. If an investment of Rs 60,000 earns a yield of Rs 5750 and Rs 70,000 yields Rs 6500 then how much income Of Rs 90,000 investment will yield
33. The cost of producing 200 items is Rs 12,000 and for 400 unit is 14,000 find the fixed cost, variable cost and cost of producing 1000 items
34. A is 6 times as old as B 5 years hence age of B will be  $\frac{1}{3}$ rd than that of A. Find their present age
35. If one of the roots of equation  $x^2 - 3x + p = 0$  is double the other find the value of P
36. If one of the roots of equation is  $5 + \sqrt{2}$  find the equation
37. If PALAM is coded as 43 How the DAMDAM will be coded
38. If A is coded as 26 and BAT IS coded as 58 how the word COMPUTER will be coded in the same manner
39. A facing East turns to left moves 100 meter, turns to left and again walks 100 meters and turns 45 degree right and go straight 50 meters. Now in what direction he is in respect of starting point
40. A girl facing north moves 45 degree right and moves 50 meters straight and takes left to 90 degree and again takes left to 45 degree. in which direction she is in respect of starting point.

41. Town A is to the west of town B. Town C is to the south of town A. Town D is to the East of C. In which direction town A is in respect of D.
42. A B C are three brothers. D the son of A is married to E who has a son G. H son of B is married to J and blessed with a daughter K. C has a daughter T whom is married to P and blessed with a daughter R .  
How is K related to B

**From the given information reply Q NO 42 to 46. If a)  $P + Q$  means P is the father of Q b)  $P - Q$  means P is mother of Q c)  $P \times Q$  means P is brother of Q and d)  $P * Q$  means P is sister of Q.**

43. How H is related to T in  $H + J + T$
44. How M is related to T in  $M \times K - T$
45. How K is related to T IN  $T + Q + K$
46. How P is related to Q in  $P * T + Q$
47. How M is related to N in  $M + T * R - N$
48. How many total even numbers can be formed with 1, 2, 3, 4 and 5
49. if 5 boys and 6 girls and 4 are made to sit in a circle. IN how many ways it can be made if no 2 boys are together.
50. How many odd numbers are possible less than 1000 with the digits (0-9)
51. Find the rank of the word GOOGLE if written in dictionary
52. In a group of 25 students 10 drinks tea but not coffee and 15 takes tea find number of students drink coffee but not Tea
53. if  $f(x) = 3x - 2$  find invers of (x)
54. if  $f(x) = 2x + 2$  and  $g(x) = x^2$  find fog (4)

**From the following data compute price index Question No (54 -57)**

Commodity	$P_0$	$P_1$	$Q_0$	$Q_1$
Food	10	22	30	40
Shelter	30	45	20	50
Clothing	40	10	80	20
Health	80	10	90	12
Education	70	10	100	8

55. Compute price index by Lespeyers Method
56. Compute By Pasches Method
57. Compute by Dr Bowley and Fishers Method
58. Prove The Time Reversal and Factor Reversal Test
59. From the following FBI Compute CBI

Year	CBI
2011	100
2012	109

2013	108
2014	112
2015	110
2016	111
2017	106
2018	108
2019	113
2020	106

60. A car costing Rs 1,20,000 in 2011 is now costing Rs 4,00,000 in 2020. find the change in real price of car

61. From the following FBI Compute CBI

Year	FBI
2011	100
2012	110
2013	132
2014	162
2015	190
2016	220
2017	250
2018	310
2018	400
2019	510
2020	620

62. In the above data in which year the inflation is highest and in which year it is lowest.

63. The probability of success is 4 times as often as failure find probability out of next 5 trials there will be at least 3 successes.

64.  $X \sim B$  if the value of mean and variance is 9 and 2.25 Find Binomial Distribution

65. For a Binomial Distribution if Mean is 4 and variance is 3 find third moment and value of p and q

66. in a normally distributed factory with average salary 10,000 and standard deviation 2,000 if 50 workers draw more than 14,000 find total number of workers

67. find fortnightly installment if Rs 32 lakh is repayable in 5 years @ 9% pa

68. A plant costing Rs 65 lakh was depreciated @ 15% if wdv of plant is Rs 24 lakh find age of plant

69. 10% Debentures Of Rs 70 lacs are redeemable after 8 years at 5% premium find annual provision to be made to redeem the debentures if opportunity cost is 11% pa



70. A company had declared dividend Rs 56 four years back with growth of 5% if cost of equity is 19% Find Market price of share
71. A security was sold for Rs 45 lakh after a period of 8 years if CAGR is 12% find cost of investment
72. Find investment if Rs 54,000 pm is required on perpetual basis @ 9% pa
73. If difference in simple interest and compound interest for 5 years @ 12% is Rs 3,56,000 Find the investment
74. Find issue price of 12% bond of Rs 1200 redeemable after 9 years at 10% premium if market rate is 14% p a
75. Find PV of an annuity of Rs 11,000 pm receivable for next 5 years starting from today @ 9% Pa.
76. A loan of Rs 54 lakh was sanctioned @ 9% pa to be repaid in 7 years after making 15 installments borrower requests the bank to settle the account on the due date of next installment for which bank agrees and offers 5% rebate . Find the amount repayable on closure of account
77. A plant costing 90 lakh was depreciated on diminishing balance method @ 15% pa on first 5 years and @ 20% on next 5 years find wdv after the completion of 10 years.
78.  $P(A) = \frac{3}{5}$   $P(B) = \frac{2}{3}$  and  $P(A \cap B) = \frac{2}{5}$  find the probability of
- $P(A/B)$
  - $P(A' / B')$
  - $P(A' / B)$
79. If A and B stand in a queue with 5 more persons find Probability 3 persons are in between A and B.
80. If the word COMMERCE is written in different ways Find probability neither it is started with C nor it is ended with C
81. If the word PROCRASTINATION is written in different ways find Probability vowels occupy odd places.
82. If a 4 digit number is formed with 2 4 6 7 and 8 Find Probability number lies between 4200 - 8600
83. How many code words are possible with 2 different alphabets followed with two digits from - 9.
84. In how many ways at most 7 friends can be invited out of 9 provided one particular friend is to be invited compulsory.
85. if  $\alpha$  and  $\beta$  are the roots of the equation  $2x^2 + 5x + k = 0$  and  $4(\alpha^2 + \beta^2 + \alpha\beta) = 23$ , then find the value of k
86. if  $a = \sqrt{\frac{7+4\sqrt{3}}{7-4\sqrt{3}}}$  then find the value of  $[a(a-14)]^2$
87. if  $p \neq q$  and  $p^2 = 5p - 3$  and  $q^2 = 5q - 3$  find the equation having roots  $\frac{p}{q}$  and  $\frac{q}{p}$
88. A boat's crew consists of 8 men, 3 of whom can row only on one side and 2 only on the other site. Find the number of ways the crew can be arranged.
89. In a cross-word puzzle 26 words are to be guessed of which 10 words have each an alternative solution find the number of possible ways

90.  $f(x) = \log_{10}x$  find inverse of the function
91. A packet of 10 electronic components is known to include 3 defectives if 4 components are selected from the packet at random, what is the expected value of the number of the defective.
92. 50% of a certain product have weight 60kg whereas 10% of the items have weight 55 kg or less presuming normal distribution what is the C/V. given  $\sigma(1.28) = .90$
93. The two lines of regression are given by  $8x + 10y - 25 = 0$  and  $16x + 5y - 12 = 0$  if the variance of  $x$  is 25 find the variance of  $y$ .
94. A sum of ₹  $x$  amounts to ₹ 27,900 in 3 years and to ₹ 41,850 in 6 years at a certain rate percent per annum, when the interest is compounded yearly. Find the value
95. 7 girls and 5 boys are made to sit in a circle in how many ways it is possible if no 2 boys are together
96. If the word AMBIGUITY is written in different ways find probability word starts with Vowel
97. In how many ways the word CAPITALIZATION is written if vowels occupy only odd places
98. If the price index computed by Lespeyres's is 139.70% and by Fisher's method it is 142.4% find price index by Dr. Bowley method.
99. The plant was purchased 7 years back costing ₹ 43,00,000 find the average rate of depreciation if WDV is ₹ 29,90,000.
100. Find C/V of 350 natural number

**“BEST of  
LUCK”**