

# M.K.G CA EDUCATION

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## MATH ASSIGNMENT NO.1

Maximum Marks: - 50

Time: 1 Hour

1. A loan of Rs 3,50,000 was initially repayable in 25 Bi monthly installments after 5 installments are paid borrower requested to close the loan on due date of 6<sup>th</sup> installments. Find the amount payable if nominal rate is 9% pa
2. A company had paid dividend @ Rs 100 three years back find Market price of share if Ke and growth is 21% and 10% respectively.
3. An investment was made 6 years back and was sold with CAGR 11% if it was sold for Rs 54.00 lakh the investment made was
4. A 4 digit number was formed with 3 4 6 7 and 9 how many numbers are between 6400 and 9300
5. If The word FACTORIALS is written in different ways find Probability word will start with A but not end with L
6. If  $a = \frac{4\sqrt{30}}{\sqrt{5}+\sqrt{6}}$  the value of  $\frac{a+2\sqrt{5}}{a-2\sqrt{5}} + \frac{(a+2\sqrt{6})}{a-2\sqrt{6}}$  is
7. If  $L + M + N = 0$  and  $L M N$  are rational the roots of the equation  $(M + N - L)X^2 + (N + L - M)X + (L + M - N) = 0$  are
8. If the word EXAMPLE is written in dictionary the rank of word is
9. The 12% bond of Rs 2000 was issued to be redeemed after 7 years at 8% premium if opportunity cost is 14% the bond should be issued
10. A loan Of Rs 54 lacs is repayable in 9 years find semi quarterly Installment if rate of interest is 8% pa
11. A company wants to invest Rs 200 lacs in a plant which will save Rs 1,89,000 quarterly on perpetual basis if rate of interest is 3.50% pa
12. A manufacturing unit produces 2.5% items defective find probability not more than 2 items are defective out of 200 items sold
13. Find the sum of  $\frac{1}{2.7} + \frac{1}{7.12} + \frac{1}{12.17} + \dots$  Sn

14. Find sum of  $1 + \frac{5}{6} + \frac{9}{36} + \frac{13}{216} + \dots$  up to infinity
15. If  $\frac{20^n + 10^n}{20^{n-1} + 10^{n-1}} = 15$  the value of n is
16. If  $\frac{b+c-a}{a}, \frac{c+a-b}{b}, \frac{a+b-c}{c}$  are in A P THE value of  $\frac{1}{a}, \frac{1}{b}, \frac{1}{c}$  are in
17. If  $a^2, b^2$  and  $c^2$  are in AP then  $\frac{a}{b+c}, \frac{b}{c+a}$  and  $\frac{c}{a+b}$  are in
18. 8 balls are to be put in 3 pots No.1, 2, 3 find probability pot No.1 will contain 3 balls
19. odds against A hitting the target is 3:7 and odds in favour of B hitting the target is 2:5 find odds against, atleast target will be hit.
20.  $X \sim p(m)$  and  $2P(x=2) = 5P(x=5)$  find C/V
21. The salvage value of plant is 32 lakh which was purchased for Rs 54 lakh and was depreciated @ 12.50% the plant is -----old.
22. Two regression lines are  $5x + 12Y - 7 = 0$  and  $3X + 15Y - 9 = 0$  the co efficient of determination is
23. If 12 is added to all the observations The C/V is 20% but if 12 is deducted from all the observations it is increased to 40% the present C/V is
24. Compute co efficient of co relation by rank differential method
25. The value of money is reduced by 34% and the appropriate Dearness allowance was paid to compensate the reduction of value in money the rate of DA paid is
26. The CPI computed by Fisher method is 134.98 % while by Dr Bowley's method it is 115.90 % the CPI by Pasche method is
27. If the word COMMERCE is written in different ways find probability vowels will not occupy odd places
28. A and B throw a pair of dice till at least a total of 10 appears if A starts the game find P of winning B
29. The Economic growth is computed as 14% while inflation is computed as 8% and net growth is 23 billion during the year compute the original GDP before growth.
30. Find PV of an annuity of ₹ 10,000 per month receivable in 48 monthly installments @ 9% pa if first installment is received immediately
31. If 4 digit number is formed with 2, 4, 5, 7 and 8 find probability number is divisible by 4.
32. If  $(5.987)^x = (0.5987)^y = 10,000$  the value of y is
33. A mathematics paper contains 10 questions 6 from maths and 4 from statistics in how many ways it can be attempted if at least one question from each part is required to be attempted

34. In an AP if  $T_{10}$  is twice the  $T_4$  and 23<sup>rd</sup> term is K times the 8<sup>th</sup> term the value of K is
35. A product is made of 2 ingredients A and B in the proportion of 2:5 The price of A is three times the price of B the overall cost of production is Rs 4.20 per unit. The cost of A and B per unit is
36. Find the value of  $\frac{\log\sqrt{27} + \log\sqrt{8} - \log\sqrt{125}}{\log 6 - \log 5}$ .
37. A ball is dropped from a height of 144 mts and it rebounds  $\frac{2}{3}$  of the height from which it falls. If it continues to fall and rebounds this way, the total distance before it gets stopped is
38. The present age of x is 8 years more than thrice the age of his twin grandsons and 8 years hence his age will be 10 years more than twice the age of grandsons, the age of grandson after 7 years will be
39. A borrower has to repay Rs 5.60 lakh after 42 months but he applies for OTS (One Time Settlement) scheme how much immediately he has to pay if rate of Interest is 11% compounded quarterly to waive 10% under OTS.
40. If X and Y are related to  $3x + 5y - 10 = 0$  and variance of  $(2x + 7)$  is 100 find the variance of  $(4y - 7)$ .
41. If the word COMBINATION Is written in different ways find probability word will neither start with N Nor I.
42. In a symmetrical Binomial distribution with 324 trials the C/V is.
43. In a class with average marks 50 with 15 standard deviations find probability 2 students out of 5 will score more than 80 marks.
44. If the word EXAMINATION is written in different ways find probability the place of vowels and consonants does not change.
45. How many 4 digit numbers can be formed with 1, 1, 3, 3, 5, 6, 7.
46. The difference between mean and variance of 5 trials in a Binomial Distribution is 1.8 the Distribution is
47. If CPI is increased from 230 to 1010 and minimum wages is increased from Rs 21,000 to Rs 90,000 Dearness allowance is required to be paid
48. While computing Variance of 50 observations an item 23 was taken as 32 if computed mean and standard deviation is 110 and 12 find correct variance
49. In an examination there are 7 questions with alternative options in how many ways an examinee can attempt at least one question
50. There are two regression lines  $3x - 5y + 12 = 0$  and  $9x + 5y - 15 = 0$  the co efficient of determination is