M.K.G CA EDUCATION

9811429230 / 9212011367
WEBSITE: WWW.MKGEDUCATION.COM
EMAIL: MKGCAEDUCATION@GMAIL.COM
Youtube channel: https://www.youtube.com/channel/UCUFLlGc27drK59pH_273UVw?view_as=subscriber
Facebook Page: https://www.facebook.com/mkgcaeducation/
Instagram: https://www.instagram.com/mkguptacaeducation/?hl=en

MATH ASSIGNMENT NO.2

Maximum Marks: - 100   **Time: 2 Hours**

01. In an AP if 10th term is twice the 4th term and 23rd term is K times of the 8th term Find the value of K

02. Between the two numbers whose sum is 13/6 an even number of A M is inserted. If the sum of AM exceeds their number by unity. Find the number of Arithmetic Mean

03. In an A P if $S_N = 3n^2 - n$ and common difference is 6 find first term

04. Find The 10th term from the last in an AP 4, 9, 14, ------------254.

05. The sum of n terms of 2 APs are in the ratio of $\dfrac{7n-5}{5n+17}$ find the ratio of their 6th term

06. Find 5 numbers in AP whose sum is 25 and sum of their square is 135

07. In an AP If 24th term is twice the 10th term then 72nd term shall be twice of which term

08. If sum of first 50 natural number is 1275 and the sum of first 50 odd numbers is 2500 compute the sum of first 50 even numbers

09. The sum of n terms of AP is $3n^2 + 5n$ which term is 164 of that AP

10. Water flows into a tank. The volume of water in the tank in each minute form an AP. If the initial volume was 5 litres and become 6 times after 6 minutes find the speed of water

11. If X, Y, Z are in GP and X, 2Y, 3Z are in AP compute Y

12. If sum of first 8 terms of GP is 5 times the sum of first 4 terms Find common ratio

13. If $(p + q)$th term of GP is X and $(p - q)$th term is Y Find pth term of that GP

14. Find 3 numbers in GP whose product is 729 and the sum of square is 819. Find three numbers.

15. Find three numbers in GP whose continued product is 27 and sum of their product in pairs is 39.

16. If the $1+3+3^2+3^3+$-----------------------exceeds 7000 find the value of n

17. The product of 3 numbers in GP is 70 if the two extreme multiplied by 4 and mean by 5 the product are in AP

18. The sum of first 20 terms of a GP is 244 times the sum of its first 10 terms. Find the common ratio

19. Find issue price of Deep discount bond repayable after 5 years if opportunity cost is @11%

20. A pair of dice is thrown find Probability of getting a total of at least 10 if doublet appears

21. A pair of dice is thrown find probability of getting a doublet if total of at least 9 appears

22. A ball from bag1 containing 7 red and 6 blue is transferred to another bag2 containing 5 red and 8 blue balls and subsequently a ball is drawn from bag 2 find probability it is red

23. In a normally distributed factory with 20,000 workers if average salary is 30,000 and range of salary is 20,000 find

   a) workers drawing between 15,000 and 45,000

   b) both the quartiles and point of inflexions with density function

24. In a normally distributed factory if Range of salary is 40,000 and maximum workers get Rs 32,000 find C/V

25. In a Binomial distribution If mean and mean deviation is 100 and 4 find the value of number of trials and also find whether distribution is symmetrical

26. In a factory if 2 % items produced are defective find probability out of 100 items at least 1 item is defective

27. A and B throw a pair of dice till doublet appears if A starts the game find probability of winning B

28. Odds in favour of A loosing the game is 4:7 and odds against B loosing the game is 4:9 find odds against loosing both

29. 3 balls are drawn from a bag containing 6 white and 5 black balls. Getting white ball will win a prize of Rs 10 and getting black ball will loose Rs 5 , Find expected probability of game

30. three dice are thrown find probability of getting at least a total of 16 if triplet appears

31. In a symmetrical Binomial Distribution with 324 trials find C/V

32. If 6 girls and 4 boys are made to sit in a circle find probability any two and only two boys are together

33. A 4 digit number is formed with the digit 2 4 7 and 5 find probability number will be divisible of 4

34. A 4 digit number is formed with 2 3 5 6 7 and 8 find probability the number will be greater than 5600

35. If the word PRAMBULAR is written in different ways find Probability no two vowels are together

36. A pair of dice is thrown 3 times find probability of getting doublet at most once

37. The value of money is decreased by 23 % find price index and the Dearness allowance to be paid

38. The prices are increased by 25% does it mean value of money is decreased by 25% . How much DA is required to be paid

39. The CPI is increased from 340 to 980 and salary is increased from Rs 40,000 to Rs 1,00,000. Compute whether any DA is required to be paid

40. The value of money is decreased by 24% salary of employee is also increased by 24%, Compute whether any more DA is required to be paid

41. If ratio of Nth term of two Arithmetic Progression are (3n+4) : (5n-1) Find the ratio of their S_{200}

42. If ratio of S_n of two Arithmetic Progression are in the ratio of 7n -4 : 3n+5 find the ratio of their 12th term

43. Find n if $\dfrac{9^{n+1}+4^{n+1}}{9^n+4^n} = 6$

44. Find n if $\dfrac{10^{n+1}+20^{n+1}}{10^n+20^n} = 15$

45. Find n if $\dfrac{8^{n+1}+5^{n+1}}{8^n+5^n} = \dfrac{80}{13}$

46. Find n if $\dfrac{20^n+5^n}{20^{n-1}+5^{n-1}} = 10$

47. If difference in first term of two Arithmetic progression with same common difference is 7876 FIND the difference between their T_{200} AND T_{1000}

48. Find sum of 2.5 + 5.8 + 8.11 + 11.14-----------------------------S_N

49. Find sum of 1.2.3 + 2.3.4 + 4.5.6 + -----------------------------S_N

50. Find sum of 1+ (1 + 2) + (1 + 2 + 3) + (1 + 2 + 3 + 4) + --------------------S_n

51. Find sum of $1.2^2 + 2.3^2 + 3.4^2 + 4.5^2 +$ ------------------------------------S_N

52. Find sum of $2^3 + 4^3 + 6^3 + 8^3 +$ --S_n

53. If X and Y are related to $3x + 5y - 9 = 0$ and variance of X is 25 compute SD_Y MD_x AND ALL OTHER

DEVIATIONS OF x AND Y.

54. If 10 is added to all the observations C/V becomes 20% if 10 is subtracted from all the observations the C/V

becomes 30% find the present C/V

55. If difference in Mean and mode is 45 find difference in mean and median

56. While computing co efficient of co relation of 36 observations the Probable error is computed as .024 find

co efficient of determination and non-determination

57. If b_{xy} is computed as 2.46 and x & u are related to $4x + 5u + 8 = 0$ and v and Y are related to $4y + 5v + 8 = 0$ compute b_{uv}

58. If SD_X IS 5 Find the value of variance of (3x-5) and SD_{4x}

59. While computing co efficient of correlation by rank differential method of 9 items the difference in 2 ranks

is taken 5 instead of 4 if computed r_k is .78 compute correct r_k.

60. If r_{xy} is computed as .45 and 3x+4u-7=0 and 4y-3v+9=0 find r_{uv}

61. The mean and standard deviation of two groups are computed as

	X	Y
Number	90	60
Mean	20	30
Variance	25	16

Compute combined variance.

62. Find the ratio of Standard deviation in two series

A: 1, 2, 3, 4 ----------------------------------150

B: 101, 102, 103, 104---------------------250

63. Find C/V of 100 natural numbers

64. In a normally distributed series C/V is 30% and Mean is 100. Compute RD, SD, MD and QD

65. While computing SD of 50 observations and observation is wrongly taken as 20 instead of 12 if computed

Mean and Standard deviation is 6 and 40 compute correct SD.

66. If X and Y are related to $4x + 7Y + 8 = 0$ mean of X is 12 and SD of X is 3.5 Compute C/V of Y

67. If Price index By Dr Bowley is computed as 146 and by Pasche it is 150 find Price index by Fishers method

68. The value of money is decreased by 32% find price index and the DA to be increased

69. If two regression lines are $4x + 6y + 9 = 0$ and $3x + 9y - 12 = 0$ compute $b_{xy,} b_{yx}$, r, determination, non-

determination and coefficient of co relation. Also explain which is the line X on Y AND WHICH IS THE

LINE Y on X.

70. Cov (x, y) is computed as negative what is the direction of relation

71. If 3x+4y+9=0 is the line of regression X on y and Y ON X find the value of r

72. How many parts the table has explain the names of part of table

73. If $\log_3[\log_2\{\log_3 t\}] = 1$ find t

74. $\log_2 x + \log_4 x + \log_{16} x = 21/4$ find x

75. $\log_{1/2}[\log_t \{\log_4(32)\}] = 2$ find t

76. $\log t + \log(t - 3) = 1$ find the value of t

77. $7\log 16/15 + 5\log 25/24 + 3\log 81/80$ is equal to what value

78. Solve the equation $4^x - 3.2^{x+2} + 2^5 = 0$

79. The ratio between 2 digit number and sum of the digits of that number is 4:1 if the digit in unit place 3 more

than ten place. Find number

80. If roots of the equation $x^2 + kx + 12 = 0$ differs by 1 find the value of k

81. How much money is required to be invested @ 7% discount if Rs 50 is receivable with 5% growth.

82. A company had paid dividend @ Rs 10 which is expected to grow @ 5% find the market value of share. If

Ke = 16%

83. A 10% bond of Rs 200 is redeemable after 7 years @ 10% premium. Find issue price of bond if opportunity cost is @ 15 %

84. How many 4 digit numbers greater than 5000 can be formed with 3, 4, 5, 6 and 7

85. A family of 4 brothers and 3 sisters is to be arranged for group photo in how many ways they can be made to sit if no 2 sisters are together

86. $^{12}C_5 + 2(^{12}c_4) + ^{12}c_3 = ^{14}c_x$ find the value of X

87. A regular polygon has 35 diagonals find how many sides are there

88. Find the sum of 1 + 5 + 12 + 22 + 35 + --------------------------------upto n terms

89. find sum of $1/2 + 1/3^2 + 1/2^3 + 1/3^4 + 1/2^5$ +---up to infinity

90. find sum 4 + 14 + 30 + 52 + 80 + ---up to n terms

91. A question paper contains 6 questions each having an alternative, find the number of ways a person can solve the paper if candidate has to answer one or more

92. In how many ways 4 letters can be selected out of the word EXAMINATION

93. A 4 digit number is formed from 2,3,5,6,7, and 9 find probability

   a) number is greater than 3500 and

   b) find probability number is less than 7600

94. How many rectangles are possible with 5 horizontal and 4 vertical lines intersecting one another.

95. Explain symmetric difference in set

96. If A : B IS 2:3 B:C is 4:5 C:D is 7:9 Find continued ratio in A:B:C:D

97. In how many ways permutation of 8 things taken 3 at a time is possible when 2 particular items are never present

98. In how many of the permutations of 8 things taken 3 at a time is possible when 2 particular items are always present

99. Solve the following

   (i) $\sqrt{15 + \sqrt{224}}$

(ii) $\sqrt{18 - \sqrt{288}}$

100. A loan of ₹ 1,00,000 is repayable in 6 "Equated monthly installment" @ ₹ 30,000 per month. Find the rate of interest