

M.K.G CA EDUCATION

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TEST-1

QUESTION BOOKLET CODE: MKG

QUESTION PAPER BOOKLET NO. 1122021

CA FOUNDATION

(05-12-2021 3:00 P.M. TO 5:00 P.M)

Business Mathematics and Logical Reasoning & Statistics

CHAPTERS

1. Permutation and Combination
2. Time value of Money
3. Sequence and Series

Time allowed: 2 hours

Maximum Marks : 100

Instructions:

1. Answer to be given in OMR sheet
2. Negative marking applies

01. Find EMI if ₹ 45 lakh is repayable in 8 years @ 9% pa

- a) ₹ 65936
- b) ₹ 65900
- c) ₹ 56789
- d) None of these

02. Find amount after 6 years 3 months If ₹ 51000 is invested quarterly @ 11% p.a

- a) 17,89,500
- b) 17,99,576
- c) 17,98,790
- d) None of these

- 03.** Find Bi monthly installment If ₹ 45 lakh is repayable in 7 years @ 9% p.a.
- a) 154678
 - b) 1487900
 - c) ₹ 145109
 - d) None of these
- 04.** If difference in Simple and Compound Interest for 6 years @ 10% is ₹ 3,78,000 find Investment
- a) 22,02,797
 - b) 22,09,876
 - c) 23 14556
 - d) None of these
- 05.** A plant costing 76 lakh was purchased 9 years back Find rate of depreciation if written down value is ₹ 32.89 lacs
- a) 8.89%
 - b) 9.02%
 - c) 8.98%
 - d) None of these
- 06.** At Simple rate of interest an amount becomes 62,000 in 2 years and 74,000 in 3 years what is the rate of interest
- a) 23.89%
 - b) 31.57%
 - c) 35.17%
 - d) None of these
- 07.** An amount of ₹ 65 lakh is receivable after 7 years @ 11% pa which is pre-poned to 4 years find amount receivable if interest is applicable semi annually
- a) ₹ 47 14 098
 - b) ₹ 49,87,690
 - c) ₹ 48,76,570
 - d) None of these
- 08.** An amount becomes 4 times in 15% pa on simple interest find after at what rate of interest it will become 5 times in the same time
- a) 16%
 - b) 18%
 - c) 20%

d) None of these

09. Find present value if ₹ 20,000 pm is receivable @ 9% pa for next 9 years.

a) ₹ 14,76,788

b) ₹ 19,87,879

c) ₹ 16,98,675

d) None of these

10. Find amount receivable after 6 years if ₹ 40,000 qrtly is invested @ 6% p.a.

a) ₹ 9,60,000

b) ₹ 11,45,340

c) ₹ 12,43,800

d) None of these

11. An amount becomes double in 5 years if compounded annually how long it will take if amount becomes 8 times

a) 15 years

b) 20 years

c) 17 years

d) None of these

12. Find sum of $1 + \frac{5}{4} + \frac{9}{16} + \frac{13}{64} + \dots$ up to infinity

a) 12/7

b) 4/3

c) 28/9

d) None of these

13. A plant with written down value ₹ 23.90 lakhs was purchased 9 years back and was depreciated @ 12.50 %

The cost of plant is

a) ₹ 79,49,237

b) ₹ 77,59,327

c) ₹ 76,69,732

d) none of these

14. A company wishes to replace a plant costing ₹ 45 lakh after a period of 8 years when prices will be increased by 12 % and ₹ 2.40 lakh will be realized from scrap of old plant. Find annual provision if

Opportunity cost is 11% pa

a) ₹ 4,98,675

b) ₹ 4,09,765

- c) ₹ 4,04,742
- d) None of these

15. Find issue price of 11% bond of ₹ 2000 redeemable after 9 years @ 10% premium if market rate of interest is 14 % p.a.

- a) ₹ 1764.71
- b) ₹ 1675,90
- c) ₹ 1701.23
- d) None of these

16. Find the sum of $1.2 + 2.3 + 3.4 + 4.5 + \dots$ upto n terms

- a) $\frac{1}{6} [n(n + 1) (2n + 4)]$
- b) $\frac{1}{6} [n(n + 1)(2n - 4)]$
- c) $\frac{1}{6} [n(n - 1)(2n + 4)]$
- d) None of these

17. Find Issue price of 12% debentures of ₹ 1000 redeemable after 7 years at 5% discount if market rate of interest is 13%

- a) ₹ 934.50
- b) ₹ 948.92
- c) ₹ 899.78
- d) None of these

18. A company offers a 12% bond of ₹ 1200 at 10% discount which is redeemable after 8 years at 5% premium if market rate of interest is 12%

- a) Under priced
- b) Over priced
- c) Actual price
- d) None of these

19. A company had declared 10% dividend during last year on a share of face value ₹ 1000 if cost of capital is 18% and growth is 5% find market price of share

- a) ₹ 807.70
- b) ₹ 879.90
- c) ₹ 888.76
- d) None of these

20. Find present value of an annuity of ₹ 15000 pm for 4 years @ 12% p.a. starting from today

- a) ₹ 598,789

- b) ₹ 572980
- c) ₹ 575305
- d) None of these

- 21.** Future Value in case of advance annuity is always ----- than that of Ordinary annuity
- a) greater than
 - b) less than
 - c) both equal
 - d) None of these
- 22.** Present value in case of advance annuity is always -----than that of ordinary annuity.
- a) equal
 - b) lower
 - c) higher
 - d) None of these
- 23.** Find amount after three years if ₹ 5,00,000 is invested @ 6% in first year 7% in second year and 8% in third year
- a) ₹ 612468
 - b) ₹ 6 23 450
 - c) ₹ 645760
 - d) None of these
- 24.** The sum of first 20 terms in GP is 244 times of first ten terms find the value of r
- a) $\sqrt{3}$
 - b) $\pm\sqrt{3}$
 - c) $\pm\sqrt{2}$
 - d) None of these
- 25.** An amount at simple interest becomes 795 in 4 years and 850 in 5 years find rate of interest
- a) 9.56%
 - b) 9.87%
 - c) 9.23%
 - d) None of these
- 26.** If first term second term and seventh term of AP are in GP and common difference is 2 the third term of series is
- a) 3
 - b) 5

- c) 7
- d) None of these

27. Find fortnightly installment if a loan of ₹ 20 lakh @ 12 % is repayable in 2 years

- a) ₹ 47,350
- b) ₹ 46,970
- c) ₹ 48,245
- d) None of these

28. A loan of ₹ 5,00,000 was repaid in 50,000 annually @ 5% find the number of instalments

- a) 13 years
- b) 12 years
- c) 14 years
- d) None of these

29. A company wishes to replace a plant costing ₹ 60 lakh after a period of 9 years when prices will be increased by 10% but company would realize ₹ 3,00,000 from old plant. Find annual provision to replace the plant if opportunity cost is 11% pa

- a) ₹ 4,44,793
- b) ₹ 4,56,879
- c) ₹ 7,98,564
- d) None of these

30. If difference in simple interest and compound interest for 5 years if compounded quarterly @ 11% is ₹ 5,60,000 find investment

- a) ₹ 40,89,765
- b) ₹ 41,46,453
- c) ₹ 32 84 457
- d) None of these

31. Find issue price of 12% bond of ₹ 2000 redeemable after 7 years at a premium of 10% if opportunity cost is 14% p a

- a) ₹ 1832.80
- b) ₹ 1876.90
- c) ₹ 1908.40
- d) None of these

32. A house was purchased by paying ₹ 12 lakh as down payment and monthly instalment of ₹ 30,000 for next 10 years @ 12% pa find cost of house

- a) ₹ 32 91016
b) ₹ 2091016
c) ₹ 29,87,650
d) None of these
- 33.** Find investment if ₹ 21000 pm is required on perpetual basis @ 9% pa
a) ₹ 28,00,000
b) ₹ 32,00,000
c) ₹ 40,00,000
d) None of these
- 34.** An amount of ₹ 20 lakh was lent to A B and C @10% p.a. for 6 years 7 years and 8 years respectively if all repay equal amount find amount lent to B
a) ₹ 789890
b) ₹ 664681
c) ₹ 6 87,340
d) None of these
- 35.** Find present value if ₹ 20,000 quarterly is receivable for next 8 years on advance basis if rate of interest is 10% pa
a) ₹ 447908
b) ₹ 472876
c) ₹ 456654
d) None of these
- 36.** Find Market price of share if Expected Dividend is ₹ 25 if cost of capital is 18% and growth is 6%
a) ₹ 187.98
b) ₹ 208.33
c) ₹ 200.76
d) None of these
- 37.** Find cost of equity if expected dividend is ₹ 24 with growth of 7%pa on a share with MP 240.
a) 17%
b) 12%
c) 15.50%
d) None of these
- 38.** A company had declared dividend @ 12% on face value of ₹ 500 with a growth of 6% if cost of capital is 19% find Market price of share.

- a) ₹ 423
- b) ₹ 453
- c) ₹ 462
- d) None of these

39. If the word COMMERCE is written in different ways in how many ways all the vowels are together

- a) 540
- b) 520
- c) 600
- d) None of these

40. In how many ways 4 letters can be selected out of EXAMINATION

- a) 125
- b) 143
- c) 136
- d) None of these

41. How many factors can be made with 25600

- a) 33
- b) 38
- c) 47
- d) None of these

42. If 5 girls and 4 boys are made to sit in a circle in how many ways it is possible if all boys are not together

- a) 40320
- b) 33540
- c) 37440
- d) None of these

43. find sum of all 4 digit numbers formed with 4 5 6 and 7

- a) 146652
- b) 162345
- c) 154784
- d) None of these

44. how many 4-digit numbers greater than 5000 can be formed by 2 4 5 7 and 8

- a) 88
- b) 108
- c) 72

- d) None of these
- 45.** If the word EXTEMPORE is written in different ways in how many ways it is possible if no two vowels are together
- a) 7000
 - b) 7200
 - c) 7100
 - d) None of these
- 46.** Find sum of all 5-digit numbers formed with 2 3 5 6 and 7
- a) 61,33,272
 - b) 55,20,000
 - c) 60,52,220
 - d) None of these
- 47.** How many 4 digit even numbers can be formed with 0 6 8 9 and 5
- a) 72
 - b) 60
 - c) 80
 - d) None of these
- 48.** how many 4-digit numbers can be formed greater than 6500 with 4 5 6 7 and 9
- a) 124
 - b) 104
 - c) 96
 - d) None of these
- 49.** If the word GOOGLE is written in dictionary find the rank of the word dictionary
- a) 88
 - b) 84
 - c) 72
 - d) None of these
- 50.** If the word PROFESSION is written in different ways in how many ways it is possible if vowels occupy odd places
- a) 21600
 - b) 33500
 - c) 24700
 - d) None of these

- 51.** A company is considering proposal of purchasing a machine either by making full payment of ₹ 4,000 or by leasing it for four years an annual hire of ₹ 1250. Which option is preferable if $r=14\%$ p.a.
- a) buying is better
 - b) Hiring is better
 - c) both are equally viable
 - d) None of these
- 52.** In how many ways at least 3 friends can be invited out of 10 friends.
- a) 1076
 - b) 1024
 - c) 968
 - d) None of these
- 53.** If an amount of ₹ 10,000 pm is invested on advance basis for 4 years @ 9 % p.a find the amount on maturity
- a) 579521
 - b) 623456
 - c) 549876
 - d) None of these
- 54.** How many triangles can be formed with 12 points if 5 are collinear
- a) 210
 - b) 220
 - c) 230
 - d) None of these
- 55.** How many straight lines can be formed with 10 points if 5 are collinear?
- a) 35
 - b) 37
 - c) 36
 - d) None of these
- 56.** 5 persons are made to sit in a circle in how many ways it is possible if tallest person is always left to smallest person
- a) 48
 - b) 24
 - c) 6
 - d) None of these

57. If the word PLAGIARISM is written in different ways in how many ways it is possible if word start with P and end with G
- 40320
 - 10080
 - 20160
 - None of these
58. if ${}^{m+n}P_2 = 56$ and ${}^{m-n}P_2$ is 30 find the value of n
- 8
 - 7
 - 1
 - None of these
59. ${}^nP_r = 336$ and ${}^nC_r = 56$ the value of r is
- 3
 - 8
 - 6
 - None of these
60. find sum of $\frac{1}{3.9} + \frac{1}{9.15} + \frac{1}{15.24} + \dots$ n terms
- $\frac{1}{3(6n+3)}$
 - $\frac{n}{3(6n+3)}$
 - $\frac{n}{3(6n-3)}$
 - None of these
61. ${}^{12}C_5 + 2 {}^{12}C_4 + {}^{12}C_3 = {}^x C_5$ the value of x is
- 14
 - 9
 - 12
 - None of these
62. The number of ways in which 12 students can be equally divided into three groups
- 5775
 - 7575
 - 7755
 - None of these

63. ₹ 8,000 becomes ₹ 10,000 in two years at simple interest. The amount that will become 6875 three years at the same rate of interest
- ₹ 5,000
 - ₹ 5,500
 - ₹ 6,000
 - None of these
64. A company is considering proposal to install a plant costing ₹ 70 lacs which will save costing @ ₹ 14,50,000 for next 7 years. Is the proposal viable considering opportunity cost @ 14%?
- viable
 - not viable
 - cannot be decided
 - None of these
65. In CA Foundation a candidate has to pass in each of four papers in how many different ways he can be failed
- 18
 - 4
 - 15
 - None of these
66. Third term of GP is $\frac{2}{3}$ and its sixth term is $\frac{2}{81}$ the value of its first term is
- 2
 - 6
 - 9
 - None of these
67. The sum was invested for three years @ 9% 6% and 3% respectively in first second and third year if sum becomes ₹ 550 after three years find amount invested
- ₹ 462
 - ₹ 360
 - ₹ 300
 - None of these
68. If ₹ 1,00,000 is invested @ 5% and the interest of 10 years is added to principal find number of years when the amount will become 2,00,000 if simple interest is applicable
- 16 years 8 months
 - 6 years 3 months

- c) 16 years
d) None of these
69. at what rate of simple interest an amount becomes ₹ 2784 in 4 years and ₹ 2688 in three years
a) 4%
b) 8%
c) 5%
d) None of these
70. The simple interest on a sum of money is $\frac{4}{9}$ of the principal and rate of interest is equal to the no of years
find rate of interest
a) 3.14%
b) 5%
c) 6.67 %
d) None of these
71. How many code words are consisting of two alphabets followed by two digits between 1 to 9 can be formed?
a) 6,15,800
b) 46,800
c) 7,19,500
d) None of these
72. ${}^n P_r = {}^n P_{r+1}$ and ${}^n C_r = {}^n C_{r-1}$ find r
a) 2
b) 3
c) 5
d) None of these
73. A garden having 6 tall trees in a row in how many ways 5 children can stand between two trees to have a pose for photographs.
a) 720
b) 120
c) 24
d) None of these
74. an examination paper consists of 6 questions in Maths and 4 in stats in how many at least one from each can be solved
a) 945

- b) 1024
- c) 1022
- d) None of these

75. If $x = 1 + \frac{1}{3} + \frac{1}{9} + \frac{1}{27} + \dots$ up to infinity

$y = 1 + \frac{1}{4} + \frac{1}{16} + \frac{1}{64} + \dots$ up to infinity find xy

- a) 2
- b) 1
- c) $\frac{8}{9}$
- d) None of these

76. An amount of ₹ 40 lacs was invested in securities during 2015-16 which was realized for ₹ 65.00 lakh during 2020-21 find Compounded annual growth rate

- a) 11.89%
- b) 10.19 %
- c) 13.08%
- d) None of these

77. Fifth term of GP is $(3)^{1/3}$ the product of first nine terms is

- a) 8
- b) 27
- c) 243
- d) None of these

78. If x, y, z are in GP then $(x^2+y^2), (xy+yz)$ and (y^2+z^2) are in

- a) AP
- b) GP
- c) HP
- d) None of these

79. A house was purchased on installment by paying ₹ 40,000 pm for ten years if rate of interest is 9% pa what should be the cost of house

- a) ₹ 7,98,416
- b) ₹ 7,89,416
- c) ₹ 7,63,540
- d) None of these

80. If the word CHALK is written in dictionary find the rank of this word

- a) 31

- b) 32
- c) 35
- d) None of these

81. If a^2, b^2, c^2 are in AP, then $(b + c), (c + a), (a + b)$ are in____

- a) AP
- b) GP
- c) HP
- d) None of these

82. Find the present value of ₹ 1,00,000 to be required after 5 years if the interest rate be 9%. Give that $1.09^5 = 1.5386$.

- a) 78995.98
- b) 64,994.15
- c) 88,992.43
- d) None of these

83. find the compound interest of an amount of ₹ 50,000 if deposited in a bank for one year at the rate of 8% per annum compounded semi-annually.

- a) ₹ 3,080
- b) ₹4,080
- c) ₹ 5,456
- d) None of these

84. If effective rate of interest is 13.34% on compounding monthly what is the nominal rate of interest

- a) 12.13%
- b) 12.59%
- c) 11.90 %
- d) None of these

85. How many 5-digit numbers can be formed with 2 3 4 6 7 8 and 9 between 64000 and 73000.

- a) 360
- b) 1020
- c) 1380
- d) None of these

86. A family of 4 brothers and 3 sisters are to be arranged for photograph in how many ways it is possible if no two sisters are together

- a) 1440

- b) 720
- c) 1790
- d) None of these

87. ₹ 800 is invested at the end of each month in an account paying interest 5% per year compounded monthly.

What is the future value of this annuity after 10th payment?

- a) ₹ 4,444
- b) ₹ 8,756
- c) ₹ 3,456
- d) ₹ 8176

88. An amount becomes 16 times in 8 years if compounded semiannually the rate of interest is

- a) 37.84%
- b) 100%
- c) 82.40 %
- d) None of these

89. if p,q,r are in AP and x, y, z are in GP then $x^{q-r} \cdot y^{r-p} \cdot z^{p-q}$ is equal to

- a) 0
- b) -1
- c) 1
- d) None of these

90. What 'i' denote the actual ratio of interest in decimal, and n denote the number of conversion periods, the formula for computing the effective rate of interest E is given by

- a) $(1 + i)^n$
- b) $(1 + i)^n - 1$
- c) $1 - (1 + i)^n$
- d) $(1 + i)^{-n}$

91. An amount of ₹ 32.00 lakh receivable after 8 years is now pre-poned to 5 years find the receivable amount after 5 years if rate of interest is @ 11% compounded quarterly.

- a) ₹ 21,90,870
- b) ₹ 23.89,716
- c) ₹ 23,10,830
- d) None of these

92. If 9 balls are put in 3 bags in how many ways it is possible if bag one contains 5 balls

- a) 1776

- b) 1878
- c) 2016
- d) None of these

93. How many words can be formed with 4 letters selected from COMMERCIAL.

- a) 2190
- b) 1870
- c) 1780
- d) None of these

94. The number of words from the letter of the word BHARAT, in which B and H will never come together, is

- a) 360
- b) 240
- c) 120
- d) None of these

95. From a group of 8 men and 4 women, 4 persons are to be selected to form a committee so that at least 2 women are there in the committee in how many ways can it be done?

- a) 168
- b) 201
- c) 202
- d) 220

96. A business houses wishes to simultaneously elevate two of its six branch heads. In how many ways these elevation can take place?

- a) 12
- b) 3
- c) 6
- d) 15

97. A plant costing ₹ 56 lacs will be reduced to 14% of its cost if depreciated @ 15% find the number of years

- a) 11 years
- b) 12years
- c) 13 years
- d) None of these

98. If the word APURVA is written in different ways find the possible ways if vowel and consonants are written alternatively

- a) 36

- b) 18
- c) 72
- d) None of these

99. find semi quarterly installment if a loan of ₹ 56 lacs is repayable in 7 years @ 10% pa

- a) ₹ 132870
- b) ₹ 123765
- c) ₹ 139650
- d) None of these

100. a committee is formed out of 4 gents and 5 ladies in which number of ladies are at least double to the gents provided 2 gents are required to be taken

- a) 45
- b) 36
- c) 28
- d) None of these

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