

Mock Test Paper - Series II: December, 2025

Date of Paper: 2nd January, 2026

Time of Paper: 2 P.M. to 4 P.M.

FOUNDATION COURSE

PAPER 3: QUANTITATIVE APTITUDE

Time: 2 hours

Marks: 100

1. If $4^x = 5^y = 20^z$, then is equal to

- (a) $\frac{x}{y}$
- (b) $\frac{(x+y)}{xy}$
- (c) $\frac{1}{xy}$
- (d) $\frac{xy}{(x+y)}$

2. The value of $\log_5 \left(1 + \frac{1}{5}\right) + \log_5 \left(1 + \frac{1}{6}\right) + \dots + \log_5 \left(1 + \frac{1}{624}\right)$

- (a) 2
- (b) 3
- (c) 5
- (d) Cannot be determined

3. If $x = \log_{24} 12$, $y = \log_{36} 24$, $z = \log_{48} 36$, then $xyz + 1 = ?$

- (a) $2xy$
- (b) $2xz$
- (c) $2yz$
- (d) $2z$

4. If roots of equation $x^2 + x + r = 0$ are ' α ' and ' β ' and $\alpha^3 + \beta^3 = -6$. Find the value 'r'?
- $-5/3$
 - $7/3$
 - $-4/3$
 - 1
5. If $|x - 2| + |x - 3| = 7$ then, 'x' will be equal to
- 6
 - -1
 - 6 and -1
 - None of the above
6. Solve for x of the Inequalities $2 \leq \frac{3x-2}{5} \leq 4$ where $x \in \mathbb{N}$
- $\{5, 6, 7\}$
 - $\{3, 4, 5, 6\}$
 - $\{4, 5, 6\}$
 - $\{4, 5, 6, 7\}$
7. A man starts his job with a certain monthly salary and earns a fixed increment every year. If his salary was ₹ 1500 after 4 years of service and ₹ 1800 after 100 years of service, what was his starting salary and what is the annual increment in rupees?
- ₹ 1300, ₹ 50
 - ₹ 1100,
 - ₹ 1500, ₹ 30
 - none
8. The salaries of A, B and C are in the ratio 2 : 3 : 5. If the increments of 15%, 10% and 20% are allowed respectively in their salaries, then what will be the new ratio of their salaries?
- $3 : 3 : 10$
 - $10 : 11 : 20$
 - $23 : 33 : 60$

- (d) cannot be determined
9. One root of the equation; $x^2 - 2(5 + m)x + 3(7 + m) = 0$ is reciprocal of the other. Find the value of m.
- (a) $-20/3$
 (b) 7
 (c) $1/7$
 (d) $1/17$
10. The solution of the following system of linear equation $2x - 5y + 4 = 0$ and $2x + y - 8 = 0$ will be
- (a) (2, -3)
 (b) (1, -4)
 (c) (3, 2)
 (d) (-2, 2)
11. On solving the inequalities $6x + y \geq 18$; $x + 4y \geq 12$; $2x + y \geq 10$, we get the following situation:
- (a) (0, 18), (12, 0), (4, 2) and (2, 6)
 (b) (3, 0), (0, 3), (4, 2) and (7, 6)
 (c) (5, 0), (0, 10), (4, 2) and (7, 6)
 (d) (0, 18), (12, 0), (4, 2), (0, 0) and (7, 6)
12. A person invested ₹8,000 at the rate of 10% compounded annually. Find the compound interest gained in 3 years.
- (a) ₹ 2684
 (b) ₹ 10,648
 (c) ₹ 10,000
 (d) ₹ 12,648
13. Find the effective rate of interest if an amount of 30,000 deposited in a bank for 1 year at the rate of 10% per annum compounded semi-annually.
- (a) 10.05%
 (b) 10.10%

- (c) 10.20%
- (d) 10.25%
14. What will be the population after 3 years, when present population is 1,00,000 and the population increase at 3% in 1st year, at 4% second year and 5% in third year?
- (a) 1,12,476
- (b) 1,15,476
- (c) 1,20,576
- (d) 1,25,600
15. Determine the present value of perpetuity of ₹50,000 per month at the rate interest 12% per annum is
- (a) ₹ 45,00,000
- (b) ₹ 50,00,000
- (c) ₹ 55,00,000
- (d) ₹ 60,00,000
16. Mr. A borrows ₹ 5,00,000 to buy a house. If he pays equal instalments for 20 years and 10% interest on outstanding balance, then what will be the equal annual instalment?
- (a) ₹ 58,239.84
- (b) ₹ 58,729.84
- (c) ₹ 68,729.84
- (d) None of these
17. How much money is required to be invested every year as to accumulate ₹ 6,00,000 at the end of 10 years, if interest is compounded annually at 10% rate of interest. [Given: $(1.1)^{10} = 2.59734$]
- (a) ₹ 37,467
- (b) ₹ 37,476
- (c) ₹ 37,647
- (d) ₹ 37,674

18. Ranju wants to accumulate ₹ 4,91,300 in her savings account after three years. The rate of interest offered by bank is $16\frac{1}{4}\%$ per annum compounded annually. How much amount should she invest today to achieve her target amount?
- (a) ₹ 4,09,600
 - (b) ₹ 4,37,500
 - (c) ₹ 4,90,900
 - (d) ₹ 4,90,600
19. If the difference between the compound interest compounded annually and simple interest on a certain amount at 10% per annum for two years is ₹ 372, then the principal amount is
- (a) ₹ 37,000
 - (b) ₹ 37,200
 - (c) ₹ 37,500
 - (d) None of these
20. How much amount is required to be invested every year so as to accumulate ₹ 30,000 at the end of 10 years if the interest compounded annually at 10%? [Given; $A(10, 0.1) = 15.9364$]
- (a) ₹ 1882.36
 - (b) ₹ 1828.30
 - (c) ₹ 1832.65
 - (d) ₹ 1853.65
21. A perpetuity has a cash flow of ₹ 625 and a required rate of return of 8%. If the cash flow is expected to grow at a constant rate of 4% per year, then the intrinsic value of this perpetuity (present value of growing perpetuity) is;
- (a) ₹ 15,625
 - (b) ₹ 13,000
 - (c) ₹ 14,250
 - (d) ₹ 16,667

22. In an account paying interest at the rate of 9% per year compounded monthly, ₹ 200 is invested at the end of each month. What is the future value of this annuity after 10th payment? [Where, $(1.0075)^{10} = 1.0775$]
- (a) ₹ 1022
(b) ₹ 2066
(c) ₹ 2044
(d) ₹ 2155
23. Suppose Mr. X invested ₹ 5000 every year starting from today in mutual fund for next 10 years. Assuming that average return compounded annually is at 18% per annum. What is the future value?
- (a) ₹ 1,83,677.68
(b) ₹ 1,38,678.85
(c) ₹ 1,83,776.53
(d) ₹ 1,38,774.55
24. How many 4 letter words with or without meaning can be formed out of the letter of the word 'LOGARITHMS', if repetition of letters is not allowed?
- (a) 5040
(b) 7020
(c) 5400
(d) 30240
25. If there are 40 guests in a party. If each guest takes a shake hand with all the remaining guests. Then the total number of hands shake is
- (a) 780
(b) 840
(c) 1560
(d) 1600
26. A fruit basket contains 7 apples, 6 bananas and 4 mangoes. How may selections of 3 fruits can be made so that all 3 are apples?
- (a) 120 ways
(b) 35 ways

- (c) 168 ways
 - (d) 70 ways
27. n articles are arranged in such a ways that 2 articles never come together. The number of such arrangement is
- (a) $(n - 2) \times (n - 1)!$
 - (b) $(n - 1) \times (n - 2)!$
 - (c) $n!$
 - (d) none of these
28. If the fourth term of an Arithmetic Progression (A.P.) series is zero, then what is the ratio of the twenty-fifth term to the eleventh term?
- (a) 4
 - (b) 5
 - (c) 3
 - (d) 2
29. The 3rd term of arithmetic progression is 7 and Seventh term is 2 more than thrice of third term. The common difference is
- (a) 4
 - (b) 3
 - (c) 5
 - (d) 6
30. If the A.M. and G.M. 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
31. The 4 arithmetic means between -2 and 23 are
- (a) 3, 13, 8, 18
 - (b) 18, 3, 8, 13

- (c) 3, 8, 13, 18
- (d) None of these
32. The numbers $x, 8, y$ in Geometric Progression (G.P) and the numbers $x, y, -8$ are in Arithmetic Progression (A.P). Find the values of x and y respectively.
- (a) 4, 16
- (b) 16, 4
- (c) 4, 8
- (d) 8, 4
33. If $A = \{1, 2, 3, 4\}$, $B = \{2, 4, 6, 8\}$ and $C = \{3, 4, 5, 6\}$, then value of $A - (B \cup C)$ is
- (a) $\{1, 2, 3\}$
- (b) $\{2, 3, 4, 5\}$
- (c) $\{1\}$
- (d) $\{0\}$
34. Let R is the set of real number, such that the function $f : R \rightarrow R$ and $g : R \rightarrow R$ are defined by $f(x) = x^2 + 3x + 1$ and $g(x) = 2x - 3$. Find $(f \circ g)$:
- (a) $4x^2 + 6x + 1$
- (b) $x^2 + 6x + 1$
- (c) $4x^2 - 6x + 1$
- (d) $x^2 - 6x + 1$
35. If $f(x) = x^2 + 2$, then the given function is
- (a) Odd function
- (b) Even function
- (c) Neither odd or even
- (d) none of these
36. The range of the function $f(x) = 3x - 2$ is
- (a) $(-\infty, \infty)$
- (b) $R - \{3\}$
- (c) $(-\infty, 0)$

- (d) $(0, -\infty)$
37. If $x^y \times y^x = 16$, then the value of dy/dx at $(2, 2)$ is:
- (a) -1
 (b) 0
 (c) 2
 (d) -2
38. The maxima and minima of the function $y = 2x^3 - 15x^2 + 36x + 10$ occurs respectively at
- (a) $x = 2$ and $x = 3$
 (b) $x = 1$ and $x = 3$
 (c) $x = 3$ and $x = 2$
 (d) $x = 3$ and $x = 1$
39. The equation of the curve in the form $y = f(x)$ if the curve passes through the point $(1, 0)$ and $f'(x) = 2x - 1$, then $f(x)$ is:
- (a) $y = x^2 - x$
 (b) $x = y^2 - y$
 (c) $y = x^2$
 (d) None of these
40. The equation of the curve which passes through the point $(1, 2)$ and has the slope $3x - 4$ and the point of (x, y) is
- (a) $2y = 3x^2 - 8x + 9$
 (b) $y = 6x^2 - 8x + 9$
 (c) $y = x^2 - 8x + 9$
 (d) $2y = 3x^2 - 8x + c$
41. In a certain code language. 'CLOCK' is coded as '75276' and 'EARTH' is coded as '83491', then 'COAT' is coded as
- (a) 7239 7329
 (b) 7239
 (c) 7932

- (d) 7529
42. In certain system of code STATEMENT is coded as TNEMETATS, then how the word can POLITICAL be coded?
- (a) LACATILOP
(b) LACTILIOP
(c) OPILITACL
(d) LACITILOP
43. In the following series, which number will replace the question mark 23, 29, 31, 37, 41, 43, ?
- (a) 45
(b) 54
(c) 47
(d) 49
44. The number in place of question mark in: 7, 26, 63, 124, 215, ?, 511 is
- (a) 342
(b) 343
(c) 441
(d) 421
45. Which of the following is odd one?
- (a) CEHL
(b) KMPT
(c) OQTX
(d) NPSV
46. Arun started walking 5 km towards North, then he turned left and walked 3 km. Again, he turned left and walked 5 km. Then the total number of km he walked is
- (a) 8 km
(b) 13 km
(c) 3 km

- (d) 5 km
47. Ravi started walking 10 km towards East from his home. He turned right and walked 5 km to the South to reach his school. In which direction is his school from his home?
- (a) North-East
(b) North-West
(c) South -East
(d) South- West
48. A person is facing towards the North. He moves 70° clockwise direction. Again he is moving 300° clockwise direction. Now, in which direction is he presently facing?
- (a) North-West
(b) South-East
(c) North-East
(d) South-West
49. Shrikant is facing East and turns 120° in the clockwise direction and then turns 180° in the anticlockwise direction. Which direction is Shrikant facing now?
- (a) East
(b) North-East
(c) North
(d) South-West
50. A and B start moving towards each other from two places apart. After walking 60 m, B turns left and goes then 20 m then he turns right and goes 40 m. He then turns right again and comes back to the road on which he had started walking, if A and B walk with the same speed, what is the distance between them now?
- (a) 80 m
(b) 70 m
(c) 40 m
(d) 60 m

51. Seven friends O, P, Q, R, S, T and U are watching movie sitting in a row. S is sitting at one extreme end. Q is sitting second to the right of S. P is sitting between O and Q. Both U and O are not sitting at extreme end. R is sitting immediate left to T. Who is sitting in the middle?
- (a) O
 - (b) P
 - (c) Q
 - (d) U
52. Six friends A, B, C, D, E and F are sitting in a row facing towards North. C is sitting between A and E. D is not at the end. B is sitting at immediate right of E. F is not at the right end but D is sitting at 3rd left of E. How many persons are there to the right of D?
- (a) One
 - (b) Two
 - (c) Three
 - (d) Four

(53-55 Direction: Study the following information carefully and answer the questions given below.)

A, B, C, D, E, F and G are sitting in a row facing North:

- (1) F is to the immediate right of E.
 - (2) E is 4th to the right of G.
 - (3) C is the neighbour of B and D.
 - (4) Person who is third to the left of D is at one of the ends.
53. Who are the neighbours of B?
- (a) C and D
 - (b) C and G
 - (c) G and F
 - (d) C and E
54. What is the position of A?
- (a) Between E and D

- (b) Extreme left
 - (c) Centre
 - (d) Extreme right
55. Who are the left to C?
- (a) Only B
 - (b) G, B and D
 - (c) G and B
 - (d) D, G, F and A
56. Pointing to the old man Kailash said "his son is my son's uncle! How is Kailash related to an old man?
- (a) Brother
 - (b) Either son or son in law
 - (c) Father
 - (d) Grand father
57. A reads a book and finds the name of the author familiar. The author 'B' is the paternal uncle of C. C is the daughter of A. How is B related to A?
- (a) Brother
 - (b) Sister
 - (c) Father
 - (d) Uncle
58. If "A #B" means A is father of B, "A * B" means A is brother of B, "A @ B" means A is mother of B, then which of the following is correct about G @T #P?
- (a) G is mother of P
 - (b) P is father of T
 - (c) T is son of G
 - (d) P is brother of T

59. A family has a man, his wife, their four sons and their wives. The family of every son also has 3 sons and one daughter. Find out the total number of male members in the whole family?
- 4
 - 8
 - 12
 - 17
60. Read the following information and answer the question
- 'A + B' means 'A is the daughter of B'.
- 'A × B' means 'A is the son of B'.
- 'A – B' means 'A is the wife of B'.
- If $P \times Q - S$, which of the following is true?
- S is wife of B
 - S is father of P
 - P is daughter of Q
 - Q is father of P
61. In tabular presentation of data, stub is _____.
- Right part of the table providing the description of the row
 - Left part of the table, which provide the description of rows
 - Left part of the table providing the description of columns
 - Right part of the table
62. A less than ogive **curve** is drawn by plotting
- Less than Cumulative Frequencies on the vertical axis
 - More than Cumulative Frequencies on the vertical axis
 - Highest frequencies on vertical axis
 - Lowest frequencies on vertical axis

63. Consider the following data where class length is given as 5. Calculate the number of class intervals; 59, 68, 78, 57, 44, 73, 40, 60, 70, 47

(a) 5
(b) 6
(c) 7
(d) 8

64. The following data relate to the wages of a group of workers:

Wages (in ₹)	No. of workers
Below 100	15
Below 200	38
Below 300	65
Below 400	90

(a) 25
(b) 65
(c) 90
(d) 27

65. What is the purpose of stratified random sampling?

(a) To ensure that every individual in the population has an equal chance of being selected.
(b) To divide the population into subgroups and then randomly sample from each subgroup.
(c) To select individuals based on the availability and convenience.
(d) To select a fixed percentage of the population

66. If from a population with 20 members, a random sample without replacement of 2 members is taken, the number of all such samples is

(a) 300
(b) 190
(c) 50
(d) 600

67. The mean salary of a group of 50 persons is ₹ 5850. Later on it discovered that the salary of one has been wrongly taken as ₹ 8000 instead of ₹ 7800. The corrected mean salary is
- (a) ₹ 5854
 - (b) ₹ 5846
 - (c) ₹ 5640
 - (d) None
68. A Professor has given assignment to students in a Statistics class. A student Jagan computes the arithmetic mean and standard deviation for a set of 100 observations as 50 and 5 respectively. Later on, Sonali points out to Jagan that he has made a mistake in taking one observation as 100 instead of 50. What would be the correct mean if the wrong observation is corrected?
- (a) 50.5
 - (b) 49.9
 - (c) 49.5
 - (d) 50.1
69. In a dataset, 25 percent of values are smaller than 30 and one-fourth of values are larger than 70, then the coefficient of quartile deviation is _____ %.
- (a) 40
 - (b) 50
 - (c) 60
 - (d) 70
70. If x and y are related as $4x + 2y + 12 = 0$ and mean deviation of x is 4.5, then the mean deviation of y is
- (a) 9
 - (b) -9
 - (c) 1.1
 - (d) 4.5

71. The Arithmetic Mean (A.M.) and Mode of the data are 32 and 26 respectively, then find the median of the data.
- (a) 30
 - (b) 12
 - (c) 6
 - (d) 29
72. Consider the data sets; $X = \{-6, 2, -2, 6\}$, $Y = \{4, 8, 2, 6\}$ and $Z = \{103, 100, 102, 101\}$. Let S_x , S_y & S_z be the standard deviations of the sets X , Y and Z respectively. We have the relations,
- (a) $S_x < S_y < S_z$
 - (b) $S_z < S_y < S_x$
 - (c) $S_z < S_x < S_y$
 - (d) $S_x < S_z < S_y$
73. For the first 20 natural numbers, the standard deviation is
- (a) 5.77
 - (b) 7.75
 - (c) 5.64
 - (d) 6.54
74. If $2x + 3y + 4 = 0$ and $v(x) = 6$, then $v(y)$ is
- (a) $8/3$
 - (b) 9
 - (c) -9
 - (d) 6
75. Find out the mode from the following data: 100, 110, 125, 225, 325, 125, 90, 80, 455, 375, 125
- (a) 325
 - (b) 110
 - (c) 455
 - (d) 125

76. If the mode of a data is 18 and mean is 24, then median is
- (a) 18
 - (b) 24
 - (c) 22
 - (d) 21
77. The mean of three numbers is 135. Among the three numbers, the biggest number is 180. The difference between the remaining two numbers is 25, then the smallest number is
- (a) 125
 - (b) 130
 - (c) 120
 - (d) 100
78. Which of the following measure of central tendency depends on the position of the observation?
- (a) Mean
 - (b) Median
 - (c) Mode
 - (d) Harmonic Mean
79. Which one of the following measures of central tendency is based on only fifty percent (50%) of the central values?
- (a) Geometric Mean
 - (b) Harmonic Mean
 - (c) Median
 - (d) Mode
80. Two dice are thrown simultaneously. Find the probability that the sum of digits on the two dice would be 8 or more.
- (a) $\frac{5}{18}$
 - (b) $\frac{5}{12}$
 - (c) $\frac{5}{36}$

- (d) $7/12$
81. Which of the following pairs of events are mutually exclusive?
- (a) A: Archana was born in India. B: She is a fine lawyer.
 - (b) A: The student studies in a school. B: He studies Geography.
 - (c) A: Sita is 16 years old. B: She is a good folk dancer.
 - (d) A: Imran is under 15 years. B: He is a voter of Delhi.
82. A number is selected at random from the set $\{1, 2, \dots, 99\}$. The probability that it is divisible by 9 or 11 is
- (a) $19/100$
 - (b) $19/99$
 - (c) $10/100$
 - (d) $10/99$
83. A random variable X has the following probability density function; $f(x) = 6x(1 - x)$, $0 \leq x \leq 1$, then the mean is
- (a) $1/3$
 - (b) $1/12$
 - (c) $1/4$
 - (d) $1/2$
84. The probability of success of three students in CA Foundation examination are $1/5$, $1/4$ and $1/3$ respectively. Find the probability that at least two students will get success.
- (a) $3/4$
 - (b) $2/5$
 - (c) $1/6$
 - (d) $1/5$
85. If 3 percent of ceramic cup manufactured by a company are known to be defective. What is the probability that a sample of 100 cups are taken from the production process, of that company would contain exactly one defective cup?
- (a) 0.03
 - (b) 0.15

- (c) 0.09
- (d) 0.30
86. If 5% of the families in large population city do not used gas as a fuel, what will be the probability of selecting 10 families in a random sample of 100 families who do not use gas as a fuel? [Given that $e^{-5} = 0.0067$]
- (a) 0.038
- (b) Zero
- (c) 0.018
- (d) 0.048
87. The number of accidents in a year attributed to taxi drivers in a locality follows Poisson distribution with average 2. Out of 500 taxi drivers of that area, what is the number of drivers with at least 3 accidents in a year? (Given that $e = 2.718$)
- (a) 162
- (b) 180
- (c) 201
- (d) 190
88. The mean deviation of normal distribution is approximately equal to____
- (a) 3.14σ
- (b) 0.5σ
- (c) 1.14σ
- (d) 0.8σ
89. Poisson probability distribution is appropriately applied in
- (a) The height of students in the university.
- (b) The distribution of passing of students in university examinations.
- (c) Tossing of a coin hundred times.
- (d) Number of deaths by a rare disease.

90. If the points of inflexion of a normal curve are 6 and 14, then standard deviation of the distribution is
- 4
 - 8
 - 9.17
 - 32
91. For 9 college students group, the sum of squares of differences in ranks for History and Hindi marks was found to be 62, then what is the value of rank correlation coefficient?
- 1
 - 0.48
 - 0.52
 - 0.87
92. Which one of the following statements is correct regarding limit of the two regression coefficient?
- No limit.
 - Must be positive.
 - One positive and the other negative.
 - Product of the regression coefficients must be numerically less than unity.
93. If $r = 0.8$, $b_{yx} = 0.6$, $b_{xy} = 0.5$, $\bar{x} = 5$ and $\bar{y} = 3$, then the regression equation y on x is
- $y = 0.96x - 3.7$
 - $y = 0.6x - 6.0$
 - $y = 0.8x$
 - $y = 0.6x$
94. The two lines of regression are given by $8x + 10y = 25$ and $16x + 5y = 12$ respectively. If the variance of x is 25, what is the standard deviation of y ?
- 16
 - 8

- (c) 64
- (d) 4
95. If the rank correlation coefficient between marks in Management and Mathematics for a group of students is 0.6 and the sum of the squares of the difference in rank is 66. Then what is the number of students in the group?
- (a) 9
- (b) 10
- (c) 11
- (d) 12
96. Fisher index number is _____ of Laspeyres and Paasche's Index Number.
- (a) A.M
- (b) G.M
- (c) H.M
- (d) None of these
97. Weighted geometric mean of relative formula satisfies _____ test while Factor Reversal test is satisfied by _____.
- (a) Time Reversal, Fisher's Ideal index
- (b) Time Reversal, Laspeyres's index
- (c) Factor Reversal, Paasche's index
- (d) Factor Reversal, Fisher's Ideal index
98. The Laspeyre's index number is a weighted aggregate method by taking _____ as weight.
- (a) quantity consumed in the base year
- (b) quantity consumed in the current year
- (c) value of items consumed in the base year
- (d) value of items consumed in the current year.

99. The simple index number for the current year using simple aggressive method for the following data

Commodity base	Base Year Price (P_0)	Base Year Price (P_1)
Wheat	80	100
Rice	100	150
Gram	120	250
Pulses	200	300

- (a) 200
(b) 150
(c) 240
(d) 160
100. The cost-of-living index number in year 2015 and 2018 were 97.5 and 115 respectively. The salary of a person in 2015 was 195000. How much additional salary was required for him in 2018 to maintain the same standard of living as in 2015.
- (a) ₹ 30,000
(b) ₹ 40,000
(c) ₹ 35,000
(d) ₹ 45,000