Mock Test Paper - Series I:August, 2026

Date of Paper: 14th August, 2026

Time of Paper: 2.00 P.M. to 4.00 P.M.

FOUNDATION COURSE

PAPER 3: Quantitative Aptitude

Time: 2 hours **Marks: 100**

1. If $15(x^2-y^2) = 7xy$ and x, y are positive, then find x:y

   (a) 5:6

   (b) 6:5

   (c) 3:5

   (d) 4:5

2. A Person has asset worth of ₹ 1,48, 200. He wants to divide among his wife, son and daughter in the ratio 3:2:1. Find the share of the son

   (a) ₹74,100

   (b) ₹64,300

   (c) ₹49,400

   (d) ₹24,700

3. If $\frac{4^n \times 2^5 \times (32)^{-1}}{2^n \times 16} = 64$, then the value of n will be

   (a) 6

   (b) 8

   (c) 10

   (d) 12

4. If $\frac{\log x}{y-z} = \frac{\log y}{z-x} = \frac{\log z}{x-y}$, then find value $x^x.y^y.z^z$

   (a) 0

   (b) 1

   (c) xyz

(d) -1

5. If $x=2+2^{\frac{2}{3}}+2^{\frac{1}{3}}$, then the value of x^3-6x^2+6x is

   (a) 3

   (b) 2

   (c) 1

   (d) 0

6. The ratio of the speeds of two trains is 2:5. If the distances they travel are in the ratio 5:9, find the ratio of the times taken by them.

   (a) 2:9

   (b) 18:25

   (c) 25:18

   (d) 10:45

7. If α and β are the roots of the equation $x^2-5x+6=0$ then the value of $\alpha^2+\beta^2+\alpha+\beta$

   (a) 18

   (b) 17

   (c) 15

   (d) 13

8. A Invested ₹1,80,000 at the start of the year. B joined later with ₹2,40,000. The profits were shared in the ratio 9 : 5.After how many months from the beginning did B join?

   (a) 2

   (b) 3

   (c) 4

   (d) 7

9. The region represented by $x+y\geq4, x\geq1$ contains

   (a) (0,4)

   (b) (1,3)

   (c) (1,2

   (d) (0,5)

10. If a, b, c are in continued proportion, then $\frac{a^2 + b^2}{b^2 + c^2}$ is equal to:

(a) a/c

(b) c/a

(c) $\frac{a^2}{c^2}$

(d) a/b

11. If α and β are the roots of the equation $x^2-5x+6=0$ then the equation whose roots are (α+1) and (β+1) is :

(a) $x^2-7x+12=0$

(b) $x^2-7x+10=0$

(c) $x^2-5x+12=0$

(d) $x^2-3x+2=0$

12. The sum required to earn a monthly interest of ₹1,500 at 12% p.a. simple interest is:

(a) ₹1,00,000

(b) ₹1,25,000

(c) ₹1,50,000

(d) ₹1,75,000

13. A company wants to accumulate ₹1,00,000 after 5 years to replace a machine. If the fund earns 10% compound interest per annum, the annual amount to be deposited in the sinking fund is approximately:

(a) ₹14,000

(b) ₹16,380

(c) ₹20,000

(d) ₹25,000

14. A person deposits ₹10,000 at the end of each year for 3 years in a fund earning 10% per annum compound interest. The amount accumulated at the end of 3 years is:

(a) ₹30,000

(b) ₹33,100

(c) ₹36,410

(d) ₹39,930

15. A person wishes to receive ₹5,000 per year for 4 years. If the rate of interest is 10% per annum, the present value of the annuity is approximately:

(a) ₹15,849

(b) ₹18,000

(c) ₹20,000

(d) ₹25,000

16. The difference between Compound Interest and Simple Interest on a sum for 2 years at 15% p.a., compounded annually, is ₹225. The principal is:

(a) ₹8,000

(b) ₹10,000

(c) ₹12,000

(d) ₹15,000

17. A machine costing ₹3,00,000 depreciates at 20% p.a. on the reducing balance method. Its value after 3 years is

(a) ₹1,53,600

(b) ₹1,63,600

(c) ₹1,73,600

(d) ₹1,83,600

18. The compound interest on ₹10,000 for 2 years is ₹2,100, compounded annually. The rate of interest is

(a) 10%

(b) 12%

(c) 15%

(d) 18%

19. A bank offers 8% p.a., compounded quarterly. The effective annual rate is

(a) 8.16%

(b) 8.24%

(c) 8.32%

(d) 8.40%

20. An investment grows from ₹3,00,000 to ₹4,39,230 in 5 years. (Given $1.08^5=1.4693$). Then Compound Annual Growth Rate (CAGR) is

(a) 6%

(b) 7%

(c) 8%

(d) 9%

21. A loan of ₹20,000 is borrowed for 2 years at 12% p.a., compounded annually. The future value is

(a) ₹25,088

(b) ₹25,000

(c) ₹24,888

(d) ₹24,600

22. An investor purchases a perpetuity that pays ₹12,000 per year forever. If the required rate of return is 8% per annum, the present value of the perpetuity is:

(a) ₹96,000

(b) ₹1,20,000

(c) ₹1,50,000

(d) ₹1,80,000

23. A project requires an initial investment of ₹40,000 and is expected to generate a cash inflow of ₹55,000 after one year. If the discount rate is 10% per annum, the NPV of the project is:

(a) ₹8,000

(b) ₹10,000

(c) ₹12,000

(d) ₹15,000

24. A person expects to receive ₹1,10,000 after one year. If the inflation rate is 10% per annum, the present purchasing power of this amount is:

(a) ₹90,000

(b) ₹95,000

(c) ₹1,00,000

(d) ₹1,10,000

25. Six bulbs, of which four are defective, are to be tried in two light points in a dark room. In how many trials will the room be lightened?

(a) 9

(b) 11

(c) 15

(d) 6

26. The Indian Cricket team consists of 16 players. It includes 2 wicket keepers and 5 bowlers. In how many ways can a cricket eleven be selected if we have to select 1 wicket keeper and at least 4 bowlers?

(a) 1029

(b) 1072

(c) 1040

(d) 1092

27. Find sum to n terms of the series $\frac{1}{1.2}+\frac{1}{2.3}+\frac{1}{3.4}+\frac{1}{4.5}+....$:

(a) $\frac{1}{n+1}$

(b) $\frac{1}{n-1}$

(c) $\frac{n}{n+1}$

(d) $\frac{n}{n-1}$

28. The sum of the first n terms of an A.P is $3n^2-2n+1$. The common difference is

(a) 4

(b) 4

(c) 5

(d) 5

29. If the 3rd term of a G.P. is 12 and the 6th term is 96, then the common ratio is:

(a) 2

(b) 4

(c) 8

(d) 16

30. Find the value of $\lim_{x\to 3} (x^2-4)$ is:

(a) 3

(b) 4

(c) 6

(d) 5

31. A function f: A→B is one-one if:

(a) Every element of B has a pre-image

(b) Distinct elements of A have distinct images

(c) Every element of A has two images

(d) None of these

32. The relation R={(1,1),(2,2),(3,3)} on A={1,2,3} is:

(a) Reflexive

(b) Symmetric

(c) Transitive

(d) All of these

33. If A={1,2,3} and B={a,b}, then the number of elements in A×B is:

(a) 5

(b) 6

(c) 8

(d) 9

34. If $y=x^3-5x^2+4x+7$, then $\frac{dy}{dx}$ is:

(a) $3x^2-10x+4$

(b) $3x^2-5x+4$

(c) $x^2-10x+4$

(d) $3x^2-10x+7$

35. The total cost function of a firm is $C(x)=x^3-6x^2+15x+20$, The marginal cost at x=2 units is:

(a) 3

(b) 6

(c) 15

(d) 27

36. The marginal cost function of a firm is, MC=6x+4. If the fixed cost is ₹100, then the total cost function is:

(a) $C(x)=3x^2+4x+100$

(b) $C(x)=6x^2+4x+100$

(c) $C(x)=3x^2+4x$

(d) $C(x)=6x^2+4x$

37. $\int (2x+1)^5 dx = \frac{(2x+1)^n}{m} + C$, then the value of m+n is

(a) 15

(b) 18

(c) 20

(d) 24

38. If $f(x)=x^2-3x+2$, then f(2)+f(3) is

(a) 0

(b) 2

(c) 4

(d) 6

39. The number of arrangements of the letters of the word **ACCOUNT** in which all the vowels are together is

(a) 720

(b) 1440

(c) 2880

(d) 360

40. In a class of 80 students, 45 study Mathematics, 40 study Statistics and 15 study neither. The number of students studying both Mathematics and Statistics is

(a) 10

(b) 15

(c) 20

(d) 25

41. Identify the odd one out:

(a) January

(b) March

(c) May

(d) June

42. If DELHI is coded as 45 and MUMBAI as 54, then CHENNAI is coded as:

(a) 63

(b) 72

(c) 81

(d) 90

43. Find missing term of the alphabet letter series ABD, DGK, HMS, MTB, SBL, ?

(a) XKW

(b) ZAB

(c) ZKU

(d) ZKW

44. If ROAD = URDG, then MILK = ?

(a) PLON

(b) PLQN

(c) PLON

(d) QLON

45. Find next term of the series 7, 26, 63, 124, 215, 342, ?

(a) 391

(b) 421

(c) 481

(d) 511

46. P is the mother of Q. R is the husband of P. S is the sister of Q. T is the son of R. How is S related to T?

(a) Aunt

(b) Sister

(c) Cousin

(d) Mother

47. In a family of six persons A, B, C, D, E and F, there are two married couples.

(i) D is the father of B.

(ii) B is the husband of C.

(iii) A is the daughter of B and C.

(iv) E is the wife of D.

What is E to A?

(a) Aunt

(b) Grandmother

(c) Mother

(d) Sister

48. All the six members of a family A, B, C, D, E and F are travelling together.

B is the daughter of C, but C is not the father of B.

(i) A and C are a married couple.

(ii) E is the sister of C.

(iii) D is the son of A.

F is the brother of B. Who is the mother of B?

(a) A

(b) C

(c) E

(d) D

49. A, B, C, D, E and F are members of a family.

B is the brother of D.

C is the mother of B.

A is the husband of C.

E is the father of A.

F is the wife of E. How is F related to D?

(a) Mother

(b) Grandmother

(c) Aunt

(d) Sister

50. A, B, C, D, E and F are members of a family.

(i) B is the son of C.

(ii) A and C are a married couple.

(iii) D is the daughter of A.

(iv) E is the brother of C.

(v) F is the son of E.

How is F related to D?

(a) Cousin

(b) Brother

(c) Uncle

(d) Nephew

51. Seven students P, Q, R, S, T, U and V are sitting in a row facing North.

(i) Q is third to the left of T.

(ii) P is at one of the ends.

(iii) R is between Q and S.

(iv) V is to the immediate right of T.

(v) U is at the left end.

Who is sitting in the middle?

(a) Q

(b) R

(c) S

(d) T

52. Eight friends P, Q, R, S, T, U, V and W are sitting around a circle facing the centre.

(i) P is between Q and R.

(ii) S is opposite P.

(iii) T is to the immediate right of R.

(iv) U is between S and V.

(v) W is to the immediate left of Q.

Who is sitting opposite T?

(a) U

(b) V

(c) W

(d) S

(53-55) Seven athletes—A, B, C, D, E, F, and G—are standing in a line to receive medals.

(i) B is standing to the left of A and to the right of C.

(ii) D is standing between A and E.

(iii) F is standing to the immediate right of E.

(iv) G is standing to the immediate left of C.

53. Who is standing in the middle of the line?

(a) C

(b) B

(c) A

(d) D

54. Who is standing at the extreme right end?

(a) F

(b) G

(c) E

(d) A

55. How many persons are standing between G and D?

(a) Two

(b) Three

(c) Four

(d) Five

(56-57) A person starts walking from Point A towards the East. After walking 20 meters , he then turns Right and walks 10 meters . He then turns Right again, walks 10 meters, turns Left, and walks 5 meters to reach Point B.

56. In which direction is Point B with respect to Point A?

(a) South-East

(b) South-West

(c) North-East

(d) North-West

57. In which direction was the person facing when he reached Point B?

(a) East

(b) West

(c) North

(d) South

58. It is 3'o clock in a watch. If the minute hand points towards the North-East then the hour hand will point towards the

(a) South

(b) South – West

(c) North– West

(d) South – East

59. A man is facing East. He turns 180° clockwise and then 90° clockwise. Which direction is he facing?

(a) North

(b) South

(c) West

(d) East

60. A, B, C and D are playing carrom. A and D are partners. B is to the right of A. If A is facing East, then C is facing:

(a) North

(b) South

(c) East

(d) West

61. Which of the following is a relative measure of dispersion (dimensionless/unitless)?

(a) Standard Deviation

(b) Variance

(c) Coefficient of Variation

(d) Quartile Deviation

62. If a constant value k = 5 is added to every observation in a dataset, how does the Standard Deviation change?

    (a) Increases by 5

    (b) Decreases by 5

    (c) Multiplies by 5

    (d) Remains unchanged

63. If every value in a dataset is multiplied by a constant k=−3, how does the variance of the new dataset relate to the original variance σ^2?

    (a) $-9\sigma^2$

    (b) $9\sigma^2$

    (c) $3\sigma^2$

    (d) $-3\sigma^2$

64. The distribution of heights of adult men generally follows:

    (a) J-shaped curve

    (b) U-shaped curve

    (c) Bell-shaped curve

    (d) Rectangular curve.

65. The median of a frequency distribution can be obtained from:

    (a) Histogram

    (b) Frequency Polygon

    (c) Ogive Curve

    (d) Pie Chart

66. If the GM and AM for 10 observations are both 15, then the value of HM.

    (a) Greater than 15

    (b) 15

    (c) less than 15

    (d) Cannot be determined

67. The price of a commodity doubles in a period of 4 year, what is the average percentage increase per year ?

(a) 20

(b) 19

(c) 17

(d) none of these

68. If the AM and GM for two numbers are 6.50 and 6 then the two numbers are

(a) 9 and 6

(b) 8 and 10

(c) 3 and 5

(d) 9 and 4

69. Find the third quartile (Q_3) of the data:12, 15, 18, 20, 22, 25, 28, 30, 35

(a) 27

(b) 28

(c) 29

(d) 30

70. The mean of 50 observations was found to be 30. Later, it was discovered that 42 was wrongly entered as 24. The correct mean is:

(a) 30.18

(b) 30.36

(c) 29.64

(d) 31.20

71. The arithmetic mean and coefficient of variation of a data set are 20 and 25 respectively. The variance of 5+3x is:

(a) 225

(b) 180

(c) 144

(d) 81

72. The geometric mean of three numbers 25, 16 and x is 20. The value of x is:

(a) 40

(b) 20

(c) 80

(d) 100

73. Two cards are drawn without replacement. What is the probability that both are Red cards?

(a) 25/102

(b) 13/51

(c) 1/2

(d) 26/51

74. If three coins are tossed simultaneously, what is the probability of getting two heads together?

(a) ¼

(b) 1/8

(c) 5/8

(d) 3/8

75. A class has 12 boys and 18 girls. One-third of the boys and one-half of the girls wear spectacles. What is the probability that a randomly selected student is a boy wearing spectacles?

(a) 1/5

(b) 2/15

(c) 4/15

(d) 1/3

76. A device consists of two independent components A and B. The probabilities that A and B are defective are 0.10 and 0.15 respectively. Find the probability that the device is free from defects.

(a) 0.765

(b) 0.25

(c) 0.85

(d) 0.90

77. If P(A)=0.6, P(B)=0.5,P(A∩B)=0.3 , find P(B|A).

(a) 0.4

(b) 0.5

(c) 0.6

(d) 0.8

78. If a number is selected at random from the first 60 natural numbers, what is the probability that it is a multiple of both 4 and 5?

(a) 1/20

(b) 1/5

(c) 3/20

(d) 1/4

79. For a Poisson distribution, if P(x=1) =P(x=2), then the mean is:

(a) 1

(b) 2

(c) 3

(d) 4

80. For a binomial distribution with n=25, p=0.4, q=0.6, the standard deviation is:

(a) 6

(b) $\sqrt{6}$

(c) 10

(d) 15

81. The skewness of a perfectly symmetrical distribution is:

(a) 1

(b) –1

(c) 0

(d) Undefined

82. If the first quartile is 40 and the third quartile is 70, then the coefficient of quartile deviation is:

(a) 0.27

(b) 0.75

(c) 0.50

(d) 0.15

83. Regression equations given by x+2y−8=0, 3x+y−9=0. Find Mean of x and Mean of Y

(a) (2,3)

(b) (4,2)

(c) (3,2)

(d) (1,5)

84. Correlation from Regression Coefficients are b_{yx}=0.64 and b_{xy}=0.49. Find the correlation coefficient.

(a) 0.56

(b) 0.64

(c) 0.75

(d) 0.90

85. Ranks obtained by 5 students in two subjects are:

Student	A	B	C	D	E
Maths	1	2	3	4	5
Statistics	2	1	4	3	5

Find Spearman's rank correlation.

(a) 0.80

(b) 0.90

(c) 0.70

(d) 0.60

86. Given: r = 0.75, σ_x = 6, σ_y = 9 . Find regression coefficient of y on x.

(a) 1.125

(b) 0.50

(c) 1.50

(d) 0.75

87. The two regression lines are: $2x+5y-9=0$, $4x+5y-15=0$. Find the coefficient of determination

(a) 0.80

(b) 0.63

(c) 0.50

(d) 1.20

88. If Laspeyres Price Index = 144 and Paasche Price Index = 121, then Fisher's Ideal Index is:

(a) 132

(b) 130

(c) 136

(d) 125

89. The index used to measure changes in the cost of living of consumers is:

(a) Wholesale Price Index

(b) Consumer Price Index

(c) Quantity Index

(d) Value Index

90. When a new commodity is added to an index series, the method generally used is:

(a) Deflation

(b) Shifting

(c) Splicing

(d) Aggregation

91. Given: $\sum P_1 Q_0 = 420, \sum P_0 Q_0 = 350$ $\sum P_1 Q_1 = 480, \sum P_0 Q_1 = 400$, Find Fisher's Ideal Index.

(a) 118

(b) 120

(c) 122

(d) 125

92. The quantity sold increases from 200 units to 250 units. The quantity relative Index is:

(a) 120

(b) 135

(c) 130

(d) 125

93. If Fisher's Index = 150 and Paasche's Index = 144, then Laspeyres Index is:

(a) 150

(b) 156.25

(c) 160

(d) 165

94. If the variance of a distribution is 16 and the mean is 20, then the coefficient of variation is:

(a) 15%

(b) 20%

(c) 25%

(d) 30%

95. A game consists of tossing a fair coin. If a head appears, a player wins ₹50; if a tail appears, the player loses ₹20. The expected gain of the player is:

(a) ₹10

(b) ₹25

(c) ₹20

(d) ₹15

96 If r = 0.5, Cov(x,y) = 20, and σ_X=8, then σ_Y is: Find Standard Deviation

(a) 4

(b) 5

(c) 6

(d) 8

97. The median of the observations 18, 25, 12, 30, 20, 15, 28, 22, 35, 40 is:

(a) 21

(b) 24

(c) 23.5

(d) 25

98. Given that $\sum x^2=2450$, N=50,$\sigma=5$, then mean is:

(a) 4

(b) 4.90

(c) 6

(d) 7

99. Two series have the following characteristics: Series A: Mean = 40, S.D. = 8, and for

Series B: Mean = 50, S.D. = 12 , which series is more consistent?

(a) Series A

(b) Series B

(c) Both are equally consistent

(d) Cannot be determined

100. Which of the following graphical methods is most suitable for representing a frequency distribution of continuous data?

(a) Pie Chart

(b) Bar Diagram

(c) Histogram

(d) Pictogram