PAPER – 3:
QUANTITATIVE APTITUDE

QUESTIONS

1. The salaries of A, B and C are of ratio 2:3:5. If the increments of 15%, 10% and 20% are done their respective salaries, then find new salaries.

   (a) 23: 33: 60

   (b) 33:23:60

   (c) 23: 60:33

   (d) 33: 60: 23

2. $\log_4(x^2+x)-\log_4(x+1) = 2$, then the value of x is

   (a) 2

   (b) 3

   (c) 16

   (d) 8

3. If the nominal rate of growth is 17% and inflation is 9% for the five years. Let P be the Gross Domestic Product (GDP) amount at present year then the projected real GDP after 6^{th} year is

   (a) 1.587P

   (b) 1.921P

   (c) 1.403P

   (d) 2.51P

4. What will be population after 3 years when present population is 25, 000 and population increases at the rate of 3% in I year, at 4% in II year and 5% in III year?

   (a) ₹ 28,119

   (b) ₹ 29,118

   (c) ₹ 27, 000

   (d) ₹ 30, 000

5. The future value of an annuity of ₹ 1500 made annually for five years at interest of 10% compounded annually is (Given that $(1.1)^5 = 1.61051$)

   (a) ₹ 9517.56

   (b) ₹ 9157.65

   (c) ₹ 9715.56

   (d) ₹ 9175.65

6. Find the effective annual rate of interest corresponding to a nominal rate of 8% per annum payable half-yearly is:

   (a) 8.8%

   (b) 8.23%

   (c) 8.6%

   (d) 8.16%

7. If the sum of 'terms of an Arithmetic Progression is $2n^2$, the fifth term is.

   (a) 20

   (b) 50

   (c) 18

   (d) 25

8. The number of words that can be formed out of the letters of the word "ARTICLE" so that vowels occupy even places is

   (a) 36

   (b) 144

(c) 574

(d) 754

9. Let Z be the universal set for two sets – A and B. If n(A) = 300, n(B) = 400 and n (A ∩ B) = 200, then n (A' ∩ B') is equal to 400 provided n(Z) is equal to

(a) 900

(b) 800

(c) 700

(d) 600

10. In a group of students 80 can speak Hindi, 60 can speak English and 40 can speak Hindi and English both, then number of students is:

(a) 100

(b) 140

(c) 180

(d) 60

11. If $f(x) = x^2-1$ and $g(x) = 2x+3$ then gof (3)

(a) 71

(b) 61

(c) 41

(d) 19

12. $\int 2^{3x}.3^{2x}.5^{x}dx=$

(a) $\frac{2^{3x}.3^{2x}.5^{x}}{\log(270)}+C$

(b) $\frac{2^{3x}.3^{2x}.5^{x}}{\log(360)}+C$

(c) $\frac{2^{3x}.3^{2x}.5^{x}}{\log(180)}+C$

(d) $\frac{2^{3x}.3^{2x}.5^{x}}{\log(90)}+C$

13. Marginal cost and marginal revenue of a commodity is C′(x)=8+6x and R′(x)=30. Fixed cost is 0. Find the total profit.

(a) $22x + 3x^2$

(b) $22x - 3x^2$

(c) $22x - x^2$

(d) $x + 3x^2$

14. If 2x+5>3x+2 and 2x-3≤4x-5, then 'x' can take which of the following value?

(a) 4

(b) -4

(c) 2

(d) 2

15. The value of scooter is ₹ 1,00,000 find its depreciation is 10% p.a. Calculate total depreciation value at the end of seven years.

(a) ₹ 47829.70

(b) ₹ 47000.90

(c) ₹ 42709

(d) ₹ 42,000

16. Find out the wrong number. 2,10,18,54,162,486,1458

(a) 18

(b) 10

(c) 54

(d) 162

17. In a certain code, "Delhi is capital" is coded as "7 5 9", "capital are beautiful" is coded as "3 6 9", "Delhi is beautiful" is coded as "6 7 5", "Patna also capital" is coded as "9 2 4". What is code for "beautiful" ?

(a) 2

(b) 4

(c) 6

(d) 9

18. Pointing towards photograph. Vinod said "she is the daughter of my wife's mother's only daughter ". How is Vinod is related to the girl in the Photograph?

(a) Cousin

(b) Uncle

(c) Father

(d) None

19. Sanjay started from his house towards west. After a walking a distance 15 km he turned to the right and walked 10 km, he again turned to the right and walked 5 km. After this he turns Clockwise direction at 135^0 and covered 10 km in which direction should he is going?

(a) South

(b) South-West

(c) South-East

(d) North –West

20. If, in a code, MIND becomes KGLB and ARGUE becomes YPESC, then what will DIAGRAM be in that code?

(a) BGYEPYK

(b) BGYPYEK

(c) GLPEYKB

(d) LKBGYPK

21. The Standard deviation is independent of change of

(a) Scale

(b) Origin

(c) Both (a) and (b)

(d) None of these

22. The coefficients of correlation between two variables x and y is the simple _____ of two regression coefficients.

(a) Harmonic Mean

(b) Arithmetic Mean

(c) Geometric Mean

(d) None of the above

23. Two regression lines coincide when:

(a) $r = \pm 1$

(b) $r = 0$

(c) $r = 2$

(d) None of these

24. For a normal distribution $Q_1 = 54.32$ and $Q_3 = 78.86$, then the median of the distribution is

(a) 12.17

(b) 39.43

(c) 66.59

(d) None of these

25. In a Binomial Distribution B (n, p), n= 4, then P (x=2) = 3 P (x= 3) find P

(a) 1/3

(b) 2/3

(c) 6/4

(d) 4/3

26. One card is drawn from a pack of 52, what is the probability that is a king or queen?

(a) 11/13

(b) 2/13

(c) 1/13

(d) None of these

27. Circular test is satisfied by

(a) Laspyres Index number

(b) Paschhes index number

(c) The simple geometric mean of price relatives and weighted aggregative with fixed weights.

(d) None of these

28. Standard deviation of first n natural number is 2. What is the value of n?

(a) 7

(b) 6

(c) 5

(d) 8

29. In the equation $4x+2y = 3$, quartile deviation for y is 3. Find the quartile deviation for x.

(a) 4.5

(b) 6

(c) 1.5

(d) None of these

30. For a normal distribution, the first and third quartile are given to be 37 and 49, the mode of the distribution is.

(a) 37

(b) 49

(c) 43

(d) 45

SUGGESTED ANSWERS/HINTS

1.	**(a)**	2.	**(c)**	3.	**(a)**	4.	**(a)**	5.	**(b)**
6.	**(d)**	7.	**(c)**	8.	**(b)**	9.	**(c)**	10.	**(a)**
11.	**(d)**	12.	**(b)**	13.	**(b)**	14.	**(c)**	15.	**(a)**
16.	**(b)**	17.	**(b)**	18.	**(c)**	19.	**(b)**	20.	**(a)**
21.	**(b)**	22.	**(c)**	23.	**(a)**	24.	**(c)**	25.	**(b)**
26.	**(b)**	27.	**(c)**	28.	**(a)**	29.	**(c)**	30.	**(c)**