# PAPER – 3:
# QUANTITATIVE APTITUDE

## QUESTIONS

1. If a : b = 3 : 4, the value of (2a+3b) : (3a+4b) is

   (A) 18: 25

   (B) 8 : 25

   (C) 17 : 24

   (D) None of these

2. Two alloys contain silver and copper in the ratio of 3:1 and 5:3. In what ratio the two alloys should be added together to get a new alloy having silver and copper in the ratio of 2:1.

   (A) 1:3

   (B) 1:2

   (C) 2:3

   (D) None of these

3. If $\log_x \sqrt[3]{2} = \frac{1}{15}$; then value of x is

   (A) 8

   (B) 32

   (C) 16

   (D) 64

4. If $\alpha$ , ß be the roots of the equation $2x^2 - 4x - 3 = 0$, the value of $\alpha^2 + ß^2$ is _____.

   (A) 5

   (B) 7

   (C) 3

   (D) -4

5. Mr. A plans to invest upto Rs.30,000 in two stocks X and Y. Stock X(x) is priced at Rs.175 and Stock Y(y) at Rs.95 per share. This can be shown by

   (A) $175x+95y \leq 30,000$

   (B) $175x+95y \geq 30,000$

   (C) $175x+95y = 30,000$

   (D) None of these

6. The difference between Compound Interest and Simple Interest on a certain sum for 2 years at 6% p.a. is Rs. 13.50. Find the sum

   (A) 3750

   (B) 2750

   (C) 4750

   (D) None of these

7. The effective rate of interest corresponding to a nominal rate 3% p.a. payable half yearly is

   (A) 3.2% p.a.

   (B) 3.25% p.a.

   (C) 3.0225% p.a.

   (D) none of these

8. Every two person shakes hands with each other in a party and the total number of hand shakes is 66. The number of guests in the party is

   (A) 11

   (B) 12

(C) 13

(D) 14

9. The ways of selecting 4 letters from the word EXAMINATION is

(A) 136

(B) 130

(C) 125

(D) none of these

10. A box contains 7 red, 6 white and 4 blue balls. How many selections of two balls can be made so that none is red?

(A) 90

(B) 45

(C) 48

(D) 12

11. Find the sum of 10 terms G.P with first term and common ratio being 8 and 3 respectively?

(A) 263291

(B) -236291

(C) 219631

(D) 236192

12. The sum of progression (a+b), a, (a–b).....n term is

(A) $\frac{n}{2}[2a+(n-1)b]$

(B) $\frac{n}{2}[2a+(3-n)b]$

(C) $\frac{n}{2}[2a+(3-n)]$

(D) $\frac{n}{2}[2a+(n-1)]$

13. Given A = {2, 3}, B = {4, 5}, C = {5, 6} then A × (B∩C) is

(A) {(2, 5), (3, 5)}

(B) {(5, 2), (5, 3)}

(C) {(2, 3), (5, 5)}

(D) None of these.

14. Find the *f o g* for the functions f (x) =$x^2$, g (x) = x+ 1

(A) $x^2$ (x+1)

(B) $x^2$

(C) x+1

(D) $(x+1)^2$

15. $\lim_{x \to t} \frac{x^3 - t^3}{x^2 - t^2}$ is evaluated to be

(A) 3/2

(B) 2/3 t

(C) $\left(\frac{3}{2}\right)t$

(D) None of these.

16. $\lim_{x \to 2} \frac{2x^2 - 7x + 6}{5x^2 - 11x + 2}$ is equal to

(A) 1/9

(B) 9

(C) -1/9

(D) none of these

17. $\int_0^2 3x^2 \, dx$ is

(A) 7

(B) -8

(C) 8

(D) None of these

18. The derivative of $8x^2–2x+ 5$ w.r.t. x is

(A) 16x+2

(B) 16x–2

(C) 16x–2/x+5

(D) 16x+7

19. The entire upper part of a table is known as

(A) Caption.

(B) Stub.

(C) Box head.

(D) Body.

20. A Qualitative characteristic is known as

(A) An attribute.

(B) A variable.

(C) A discrete variable.

(D) A continuous variable.

21. If each item is reduced by 12, A.M. is

(A) Reduced by 12

(B) Increased by 12

(C) Unchanged

(D) None of these

22. An Ogive can be prepared in _____ different ways.

(A) 2

(B) 3

(C) 4

(D) 5

23. The median of 27,30,26,44,42,51,37 is

(A) 30

(B) 42

(C) 44

(D) 37

24. If the relationship between x and y is given by 4x– 6y =13 and if the median of x is 16. Find median of y.

(A) 7.50

(B) 8.00

(C) 8.50

(D) none of these

25. If r = 0.8, then coefficient of determination .....shall be

(A) 0.64

(B) 0.40

(C) 0.60

(D) 0.80

26. If 2x + 5y – 9 = 0 and 3x – y – 5 = 0 are two regression equation, then find the value of mean of x and mean of y.

(A) 2,1

(B) 2,2

(C) 1,2

(D) 1,1

27. When r = 0 then Cov(x,y) is equal to

(A) +1

(B) -1

(C) 0

(D) None of these

28. The two lines of regression become identical when

(A) r = 1

(B) r = –1

(C) r = 0

(D) (a) or (b)

29. For a (m×n) classification of bivariate data, the maximum number of conditional distributions is

(A) q

(B) p+q

(C) pq

(D) p

30. Circular test is satisfied by which index number?

(A) Laspeyre's

(B) Paasche's

(C) Fisher's

(D) Simple Geometric mean of price Relatives and the aggregative with Fixed weights.

## SUGGESTED ANSWERS/HINTS

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