# PAPER – 3: QUANTITATIVE APTITUDE

## QUESTIONS

1. If arithmetic mean between roots of a quardratic equation is 8 and the geometric mean between them is 5, the equation is _____

   (a) $x^2 - 16x - 25 = 0$

   (b) $x^2 - 16x + 25 = 0$

   (c) $x^2 - 16x + 25 = 0$

   (d) None of these

2. Roots of equation $2x^2 + 3x + 7 = 0$ are $\alpha$ and $\beta$. The value of $\alpha\beta^{-1} + \beta\alpha^{-1}$ is

   (a) 2

   (b) 3/7

   (c) 7/2

   (d) -19/14

3. If $\frac{p}{q} = -\frac{2}{3}$ then the value of $\frac{2p+q}{2p-q}$ is:

   (a) 1

   (b) -1/7

   (c) 1/7

   (d) 7

4. Find the value of $\left[\log_{10}\sqrt{25} - \log_{10}(2^3) + \log_{10}(4)^2\right]^x$

   (a) x

   (b) 10

   (c) 1

   (d) None

5. A sum of money doubles itself in 10 years. The number of years it would treble itself is:

   (a) 25 years

   (b) 15 years

   (c) 20 years

   (d) None

6. The effective rate equivalent to nominal rate of 6% compounded monthly is:

   (a) 6.05

   (b) 6.16

   (c) 6.26

   (d) 6.07

7. What is the rate of simple interest if a sum of money amounts to Rs. 2,784 in 4 years and Rs. 2,688 in 3 years?

   (a) 1% p.a.

   (b) 4% p.a.

   (c) 5% p.a.

   (d) 8% p.a.

8. A building contractor needs three helpers and ten men apply. In how many ways can these selections take place?

   (a) 36

   (b) 15

(c) 150

(d) 120

9. An examination paper consists of 12 questions divided into two parts A and B. Part A contains 7 questions and Part B contains 5 questions. A candidate is required to attempt 8 questions selecting at least 3 from each part, in how many maximum ways can the candidate select the questions?

(a) 35

(b) 175

(c) 210

(d) 420

10. If A = (1,2,3,4,5), B = (2,4) and C = (1,3,5) then (A-C)×B is

(a) {(2,2,), (2,4), (4,2), (4,4), (5,2), (5,4)}

(b) {(1,2), (1,4), (3,2), (3,4), (5,2), (5,4)}

(c) (2,2), (4,2), (4,4), (4,5)

(d) (2,2), (2,4), (4,2), (4,4)

11. If f : R $\rightarrow$R is a function, defined by f(x) = 10x-7, if g(x) = $f^{-1}(x)$, then g(x) is equal to

(a) $\frac{1}{10x-7}$

(b) $\frac{1}{10x+7}$

(c) $\frac{x+7}{10}$

(d) $\frac{x-7}{10}$

12. $\underset{n\to\infty}{Lim}\left(\frac{1}{3}+\frac{1}{3^2}+\frac{1}{3^3}+.....\frac{1}{3^n}\right)$ is equal to :

(a) $\frac{1}{2}$

(b) $\frac{1}{3}$

(c) 2

(d) 1

13. The function f(x) = $\frac{x^2-9}{x-3}$ is undefined at x = 3. What value must be assigned to f(3), if f(x) is to be continuous at x = 3?

(a) 6

(b) 0

(c) 9

(d) 3

14. Given x = 2t + 5; y = $t^2$-2, then $\frac{dy}{dx}$ is calculated as:

(a) t

(b) 1/t

(c) -1/t

(d) None

15. $\int_1^2 \frac{2x}{1+x^2}dx$ :

(a) $\log_e \frac{5}{2}$

(b) $\log_e 5 - \log_e 2 + 1$

(c) $\log_e \frac{2}{5}$

(d) None of these

16. In certain code language 'CLOCK' is coded as 75276 and 'EARTH' is coded as 83491, then 'COAT' is coded as

(a) 7329

(b) 7239

(c) 7932

(d) 7529

17. Find the missing term of series 2, 7, 16, 29...., 67,92

(a) 39

(b) 46

(c) 43

(d) 62

18. In a certain language 'MENTION' is written as 'NFOUJPO', the code of 'MYSTIFY' is:

(a) NZTUJGZ

(b) NFOFTJT

(c) LNEITNO

(d) OERESTIN

19. Anil started walking 5 kms towards north then he turned left and walked 3 kms. Again, he turned left and walked 5 kms. Then the total number of kms he walked is

(a) 13 kms

(b) 8 kms

(c) 3 kms

(d) 5 kms

20. Raju started walking 10 kms towards east from his home. He turned right and walked 5 kms to the south to reach his school. In which directions is his school from his home?

    (a) South – East

    (b) North – East

    (c) South – West

    (d) North – West

21. L is wife of N, P is son of N, K is brother of N and father of O. What is the relationship of P and O?

    (a) Uncle

    (b) Brother

    (c) Cousin

    (d) Nephew

22. Standard Error (SE) and square root of sample size are

    (a) Directly proportional

    (b) Equal

    (c) Inversely proportional

    (d) Not equal

23. Out of 1000 persons 40% are female, others are male. In a marriage function, 300 persons enjoyed the song.30% of the people who had not enjoyed the song were female. What is the number of male, who did not enjoy the song in the function?

    (a) 120

    (b) 180

    (c) 360

    (d) 490

24. Find the Harmonic Mean of 2,4 & 6.

    (a) 3.30

    (b) 3.00

(c) 3.75

(d) 4.00

25. If the mode of the following data is 13, then the value of x in the data set is 13, 8, 6, 3, 8, 13,2x + 3, 8, 13, 3, 5, 7

(a) 6

(b) 5

(c) 7

(d) 8

26. The best measure of central tendency is

(a) Mean

(b) Median

(c) Mode

(d) Range

27. For a distribution the mean is 30. The standard deviation is 2, then coefficient of variation is.

(a) 6.67%

(b) 9.45%

(c) 7.5%

(d) 2.5%

28. Mean deviation is ____ when the deviations are taken from the median.

(a) maximum

(b) minimum

(c) zero

(d) can't say

29. Ogive is used to find

(a) Mean

(b) Median

(c) Mode

(d) Range

30. A population comprises 7 members. The number of all possible samples of size 3 that can be drawn from it with replacement is

(a) 216

(b) 343

(c) 21

(d) 125

## SUGGESTED ANSWERS

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