Q.1 Multiple Choice Questions. Choose the correct answer.

1. **If $a^x = n$, then _____**
   (a) $a = \log_x n$ (b) $x = \log_n a$
   (c) $x = \log_a n$ (d) $a = \log_n x$
2. **The relation of $y = \log_z x$ implies**
   (a) $x^y = z$ (b) $z^y = x$
   (c) $x^z = y$ (d) $y^z = x$
3. **The logarithm of unity to any base is**
   (a) 1 (b) 10
   (c) e (d) 0
4. **The logarithm of any number to itself as base is___**
   (a) 1 (b) 0
   (c) −1 (d) 10
5. **log e = ____ where e ≈ 2. 718**
   (a) 0 (b) 0.4343
   (c) ∞ (d) 1
6. **The value of $\log\left(\frac{p}{q}\right)$ is ___**
   (a) log p −log q (b) $\frac{\log p}{\log q}$
   (c) log p + log q (d) log q − log p
7. **logp – logq is same as:**
   (a) $\log\left(\frac{q}{p}\right)$ (b) $\log(p-q)$
   (c) $\frac{\log p}{\log q}$ (d) $\log\frac{p}{q}$
8. **$\log m^n$ can be written as**
   (a) $(\log m)^n$ (b) m log n
   (c) n log m (d) log (m n)
9. **$\log_b a \times \log_c b$ can be written as___**
   (a) $\log_c a$ (b) $\log_a c$
   (c) $\log_a b$ (d) $\log_b c$
10. **$\text{Log}_y x$ will be equal to___**
    (a) $\frac{\log_z x}{\log_y z}$ (b) $\frac{\log_x z}{\log_y z}$
    (c) $\frac{\log_z x}{\log_z y}$ (d) $\frac{\log_z y}{\log_z x}$

Additional MCQ

11. **For common logarithm, the base is_**
    (a) 2 (b) 10
    (c) e (d) 1
12. **For natural logarithm, the base is__**
    (a) 10 (b) e
    (c) 2 (d) 1
13. **The integral part of the common logarithm of a number is called the_**
    (a) Characteristic (b) Mantissa
    (c) Logarithm (d) None
14. **The decimal part of the common logarithm of a number is called the _____:**
    (a) Characteristic (b) Mantissa
    (c) Logarithm (d) None
15. **If x = log y, then y is called the _____ of x.**
    (a) Antilogarithm (b) Logarithm
    (c) Characteristic (d) None
16. **30600 in scientific notation is __**
    (a) 3.06×10^4 (b) $3.006\ 10^4$
    (c) 30.6×10^4 (d) 306×10^4
17. **6.35×10^6 in ordinary notation is___**
    (a) 6350000 (b)635000
    (c) 6350 (d)63500
18. **A number written in the form $a \times 10^n$, where $1 \le a < 10$ and n is an integer is called ____**
    (a) Scientific notation(b) Ordinary notation
    (c) Logarithm notation (d) None
19. **The idea of logarithm is given by**
    (a) Arther cayley (b) Henry
    (c) Euler (d) john Napier
20. **$\log_a m - \log_a n$ is same as:**
    (a) $\log_a(m+n)$ (b) $\log_a m \times n$
    (c) $\log_a m \times \log_a n$ (d) $\log_a \frac{m}{n}$
21. **John Napier prepared the logarithms tables to the base _____.**
    (a) 0 (b) 1
    (c) 10 (d) e

22. $\log_2^3$ **in common logarithm is written as _____.**

(a) $\frac{\log 3}{\log 2}$ (b) $\frac{\log 2}{\log 3}$

(c) $\frac{\log 3}{2}$ (d) $\log 2^3$

23. $\log_e 10$ **= _____**

(a) 2.3026 (b) 0.4343

(c) e^{10} (d) 10

24. If $\log_2^x = 5$ **then x is:**

(a) 25 (b) 32

(c) 10 (d) 2^{5x}

1	c	2	b	3	d	4	a	5	b	6	a	7	d	8	c
9	a	10	c	11	b	12	b	13	a	14	b	15	a	16	a
17	a	18	a	19	d	20	d	21	d	22	a	23	a	24	b