

MCQ

1. $(3 \times 11 \times 13 + 3)$ is
 - (a) a prime number
 - (b) divisible by 13
 - (c) a composite number
 - (d) an odd number (2026)
2. The natural number 1 is
 - (a) a prime number
 - (b) a composite number
 - (c) prime as well as composite
 - (d) neither prime nor composite (2026) 
3. The natural number 2 is :
 - (a) a prime number
 - (b) a composite number
 - (c) prime as well as composite
 - (d) neither prime nor composite
(2026) 
4. If $(-1)^n + (-1)^8 = 0$, then n is :
 - (a) any positive integer
 - (b) any negative integer
 - (c) any odd number
 - (d) any even number (2025) 
5. The total number of factors of a prime number is
 - (a) 1
 - (b) 0
 - (c) 2
 - (d) 3
(2020) 



1.2 The Fundamental Theorem of Arithmetic

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MCQ

6. **Assertion (A)** : H.C.F. $(36m^2, 18m) = 18m$, where m is a prime number.
Reason (R) : H.C.F. of two numbers is always less than or equal to the smaller number.
 - (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).
 - (b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).
 - (c) Assertion (A) is true, but Reason (R) is false.
 - (d) Assertion (A) is false, but Reason (R) is true. (2026)
7. There are two sections A and B of Grade X. There are 28 students in Section A and 30 students in Section B. What is the minimum number of books you will acquire for the class library so that they can be

distributed equally among students of Section A or Section B?

- (a) 144 (b) 2 (c) 420 (d) 272 (2026) 

8. For any natural number n , 5^n ends with the digit
(a) 0 (b) 5 (c) 3 (d) 2 (2026) 

9. The LCM of 960 and 240 is :
(a) 960 (b) 240 (c) 60 (d) 15 (2026) 

10. The HCF of 960 and 432 is :
(a) 48 (b) 54 (c) 72 (d) 36 (2026) 

11. For any natural number n , 6^n ends with the digit:
(a) 0 (b) 6
(c) 3 (d) 2 (2026) 

12. The total number of factors of the square of a prime number is :
(a) 1 (b) 2 (c) 3 (d) 4 (2025 C) 

13. Which of the following cannot be the unit digit of 8^n , where n is a natural number?
(a) 4 (b) 2
(c) 0 (d) 6 (2025) 

14. If x is the LCM of 4, 6, 8 and y is the LCM of 3, 5, 7 and p is the LCM of x and y , then which of the following is true?
(a) $p = 35x$ (b) $p = 4y$
(c) $p = 8x$ (d) $p = 16y$ (2025) 

15. If $\text{HCF}(98, 28) = m$ and $\text{LCM}(98, 28) = n$, then the value of $n - 7m$ is :
(a) 0 (b) 28
(c) 98 (d) 198 (2025) 

16. The greatest number which divides 70 and 125, leaving remainders 5 and 8 respectively, is :
(a) 13 (b) 65
(c) 875 (d) 1750 (2025) 

17. **Assertion (A)** : For any two prime numbers p and q , their HCF is 1 and LCM is $p + q$.

Reason (R) : For any two natural numbers, $\text{HCF} \times \text{LCM} = \text{product of numbers}$.

- (a) Both Assertion (A) and Reason (R) are true and Reason (R) is correct explanation of Assertion (A).
(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).
(c) Assertion (A) is true, but Reason (R) is false.
(d) Assertion (A) is false, but Reason (R) is true. (2025) 

18. Two positive integers m and n are expressed as $m = p^5 q^2$ and $n = p^3 q^4$, where p and q are prime numbers. The LCM of m and n is :

- (a) $p^8 q^6$ (b) $p^3 q^2$
(c) $p^5 q^4$ (d) $p^5 q^2 + p^3 q^4$ (2024C) 

19. If two positive integers p and q can be expressed as $p = 18 a^2 b^4$ and $q = 20 a^3 b^2$, where a and b are prime numbers, then LCM (p, q) is :

- (a) $2a^2 b^2$ (b) $180a^2 b^2$ 
(c) $12 a^2 b^2$ (d) $180 a^3 b^4$ (2024) 

20. If $a = 2^2 \times 3^x$, $b = 2^2 \times 3 \times 5$, $c = 2^2 \times 3 \times 7$ and LCM (a, b, c) = 3780, then x is equal to

- (a) 1 (b) 2 
(c) 3 (d) 0 (2024) 

21. Given HCF (2520, 6600) = 40, LCM (2520, 6600) = $252 \times k$, then the value of k is :

- (a) 1650 (b) 1600 
(c) 165 (d) 1625 (2024) 

22. The LCM of the smallest prime number and the smallest odd composite number is :

- (a) 10 (b) 6 
(c) 9 (d) 18 (2024) 

23. The greatest number which divides 281 and 1249, leaving remainder 5 and 7 respectively, is :

- (a) 23 (b) 276 
(c) 138 (d) 69 (2024) 

24. The LCM of three numbers 28, 44, 132 is :

- (a) 258 (b) 231 
(c) 462 (d) 924 (2024) 

25. **Assertion (A)** : The number 5^n cannot end with the digit 0, where n is a natural number.

Reason (R) : Prime factorisation of 5 has only two factors, 1 and 5.

- (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).
(b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of the Assertion (A).
(c) Assertion (A) is true but Reason (R) is false.
(d) Assertion (A) is false but Reason (R) is true.

(2023) 

26. If ' p ' and ' q ' are natural numbers and ' p ' is the multiple of ' q ', then what is the HCF of ' p ' and ' q '?

- (a) pq (b) p
(c) q (d) $p + q$ (2023) 

27. The ratio of HCF to LCM of the least composite number and the least prime number is

- (a) 1 : 2 (b) 2 : 1
(c) 1 : 1 (d) 1 : 3 (2023)

28. If $\text{HCF}(39, 91) = 13$, then $\text{LCM}(39, 91)$ is
(a) 91 (b) 273 (c) 39 (d) 3549

(Term I, 2021-22) **Ap**

29. Two positive numbers have their HCF as 12 and their product as 6336. The number of pairs possible for the numbers, is

(a) 2 (b) 3 (c) 4 (d) 1

(Term I, 2021-22) **U**

30. If ' n ' is any natural number, then $(12)^n$ cannot end with the digit

(a) 2 (b) 4 (c) 8 (d) 0

(Term I, 2021-22)

31. The number 385 can be expressed as the product of prime factors as

(a) $5 \times 11 \times 13$ (b) $5 \times 7 \times 11$
(c) $5 \times 7 \times 13$ (d) $5 \times 11 \times 17$

(Term I, 2021-22)

32. The HCF and the LCM of 12, 21 and 15 respectively, are

(a) 3, 140 (b) 12, 420
(c) 3, 420 (d) 420, 3

(2020) **Ap**

1. **Assertion (A)** : The number 5^n cannot end with the digit 0, where n is a natural number.
Reason (R) : A number ends with 0, if its prime factorization contains both 2 and 5.
 (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
 (b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (A).
 (c) Assertion (A) is true but reason (R) is false.
 (d) Assertion (A) is false but reason (R) is true.
 (2025-26)
2. The sum of two numbers is 1215 and their HCF is 81, then the possible pairs of such numbers are
 (a) 2 (b) 3 (c) 4 (d) 5 (2025-26)
3. If $a = 2^2 \times 3^x$, $b = 2^2 \times 3 \times 5$, $c = 2^2 \times 3 \times 7$ and $\text{LCM}(a, b, c) = 3780$, then x is equal to
 (a) 1 (b) 2 (c) 3 (d) 0 (2025-26)
4. **Assertion (A)** : HCF of any two consecutive even natural numbers is always 2.
Reason (R) : Even natural numbers are divisible by 2.
 (a) Both (A) and (R) are true and (R) is the correct explanation for (A).
 (b) Both (A) and (R) are true but (R) is not the correct explanation for (A).
 (c) (A) is true but (R) is false.
 (d) (A) is false but (R) is true. (2024-25)
5. A number q is prime factorised as $3^2 \times 7^2 \times b$, where b is a prime number other than 3 and 7.
Assertion (A) : q is definitely an odd number.
Reason (R) : $3^2 \times 7^2$ is an odd number.
 (a) Both (A) and (R) are true and (R) is the correct explanation for (A).
 (b) Both (A) and (R) are true but (R) is not the correct explanation for (A).
 (c) (A) is true but (R) is false.
 (d) (A) is false but (R) is true. (2023-24) APQ
6. If two positive integers a and b are written as $a = x^3 y^2$ and $b = xy^3$, where x, y are prime numbers, then the result obtained by dividing the product of the positive integers by the LCM (a, b) is
 (a) xy (b) xy^2
 (c) $x^3 y^3$ (d) $x^2 y^2$ (2023-24) 