

# Chapter 1: Real Numbers – MCQs

**1. For some integer  $m$ , every even integer is of the form:**

- a)  $m$
- b)  $m + 1$
- c)  $2m$
- d)  $2m + 1$

**2. For some integer  $q$ , every odd integer is of the form:**

- a)  $q$
- b)  $q + 1$
- c)  $2q$
- d)  $2q + 1$

**3. Euclid's division lemma states that for positive integers  $a$  and  $b$ , there exist unique integers  $q$  and  $r$  such that  $a = bq + r$ , where:**

- a)  $0 < r \leq b$
- b)  $0 \leq r < b$
- c)  $0 < r < b$
- d)  $0 \leq r \leq b$

**4. The largest number which divides 70 and 125, leaving remainders 5 and 8 respectively, is:**

- a) 13
- b) 65
- c) 875
- d) 1750

**5. If the HCF of 65 and 117 is expressible in the form  $65m - 117$ , then the value of  $m$  is:**

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

**6. The HCF of 867 and 255 is:**

- a) 51
- b) 85
- c) 102
- d) 17

**7. If the HCF of 408 and 1032 is expressible in the form  $1032 \times 2 + 408 \times p$ , then  $p$  is:**

- a) 4

- b) -5
- c) 5
- d) -4

**8. The HCF of 96 and 404 by prime factorisation method is:**

- a) 4
- b) 2
- c) 8
- d) 12

**9. The HCF of 240 and 228 is:**

- a) 12
- b) 16
- c) 18
- d) 24

**10. The LCM of 12, 15 and 21 is:**

- a) 420
- b) 4200
- c) 840
- d) 1680

**11. The LCM of the smallest prime number and the smallest composite number is:**

- a) 2
- b) 4
- c) 6
- d) 8

**12. The HCF and LCM of 12, 21 and 15 respectively are:**

- a) 3, 140
- b) 3, 420
- c) 6, 420
- d) 6, 140

**13. The decimal expansion of  $\frac{17}{8}$  will terminate after how many decimal places?**

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

14. The decimal expansion of  $\frac{13}{3125}$  will terminate after how many decimal places?

- a) 3
- b) 4
- c) 5
- d) 1

15. The decimal expansion of  $\frac{15}{1600}$  will terminate after how many decimal places?

- a) 2
- b) 3
- c) 5
- d) 6

16. Which of the following has a terminating decimal expansion?

- a)  $\frac{77}{210}$
- b)  $\frac{23}{30}$
- c)  $\frac{125}{441}$
- d)  $\frac{23}{2^3 \times 5^2}$

17. Which of the following rational numbers have a non-terminating repeating decimal expansion?

- a)  $\frac{31}{3125}$
- b)  $\frac{71}{512}$
- c)  $\frac{23}{200}$
- d)  $\frac{23}{7}$

18. The decimal expansion of  $\frac{14587}{1250}$  will terminate after how many decimal places?

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

19. After how many decimal places will the decimal expansion of  $\frac{47}{2^3 \times 5^2}$  terminate?

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

**20. The decimal expansion of  $\frac{29}{343}$  is:**

- a) Terminating
- b) Non-terminating repeating
- c) Non-terminating non-repeating
- d) None of these

**21. Which of the following is an irrational number?**

- a)  $\frac{22}{7}$
- b) 3.1416
- c)  $3.14\overline{2857}$
- d) 3.141141114...

**22. Which of the following is irrational?**

- a)  $\sqrt{4}$
- b)  $\sqrt{\frac{9}{4}}$
- c)  $\sqrt{7}$
- d)  $\sqrt{81}$

**23. The product of a non-zero rational and an irrational number is:**

- a) Always rational
- b) Always irrational
- c) Rational or irrational
- d) One

**24. The sum of a rational and an irrational number is:**

- a) Rational
- b) Irrational
- c) Both
- d) Zero

**25. Which of the following is not an irrational number?**

- a)  $(2-\sqrt{3})^2$
- b)  $(\sqrt{2}+\sqrt{3})^2$
- c)  $(\sqrt{2}-\sqrt{3})(\sqrt{2}+\sqrt{3})$
- d)  $\frac{2\sqrt{7}}{7\sqrt{7}}$

**26. The number  $1.\overline{27}$  in the form  $\frac{p}{q}$  is:**

- a)  $\frac{14}{11}$

- b)  $\frac{127}{100}$
- c)  $\frac{73}{100}$
- d)  $\frac{127}{99}$

**27. The HCF of two numbers is 27 and their LCM is 162. If one number is 54, the other number is:**

- a) 36
- b) 45
- c) 81
- d) 72

**28. Two numbers are in the ratio 15:11. If their HCF is 13, then the numbers are:**

- a) 195, 143
- b) 190, 140
- c) 185, 163
- d) 185, 143

**29. If two positive integers  $a$  and  $b$  are written as  $a = x^3y^2$  and  $b = xy^3$ , where  $x, y$  are prime numbers, then  $\text{HCF}(a, b)$  is:**

- a)  $xy$
- b)  $xy^2$
- c)  $x^3y^3$
- d)  $x^2y^2$

**30. For the numbers in Q29,  $\text{LCM}(a, b)$  is:**

- a)  $x^3y^3$
- b)  $x^4y^5$
- c)  $x^2y^3$
- d)  $x^3y^2$

**31. The smallest number that when divided by 35, 56 and 91 leaves remainder 7 in each case is:**

- a) 3647
- b) 3654
- c) 3607
- d) 3640

**32. The greatest number that will divide 398, 436 and 542 leaving remainders 7, 11 and 15 respectively is:**

- a) 17

- b) 19
- c) 13
- d) 23

**33. The LCM of two numbers is 1200. Which of the following cannot be their HCF?**

- a) 600
- b) 500
- c) 200
- d) 400

**34. The HCF of two numbers is 145 and their LCM is 2175. If one number is 725, the other number is:**

- a) 290
- b) 435
- c) 5
- d) 25

**35. The decimal expansion of  $\frac{3}{15}$  is:**

- a) 0.2
- b) 0.5
- c) 0.02
- d) 0.002

**36. Which of these numbers always ends with the digit 6, where  $n$  is a natural number?**

- a)  $4^n$
- b)  $2^n$
- c)  $6^n$
- d)  $8^n$

**37. The number  $7 \times 11 \times 13 + 13$  is:**

- a) Prime
- b) Composite
- c) Neither prime nor composite
- d) None of these

**38. The number  $5 \times 3 \times 2 + 3$  is:**

- a) Prime
- b) Composite
- c) Odd prime
- d) Even prime

**39. If  $n$  is a natural number, then  $9^{2n} - 4^{2n}$  is always divisible by:**

- a) 5
- b) 13
- c) Both 5 and 13
- d) 17

**40. Euclid's division lemma can be used to find the:**

- a) HCF of two positive integers
- b) LCM of two positive integers
- c) Product of two numbers
- d) Square root of a number

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**Answer Key:**

Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	c	11	b	21	d	31	a
2	d	12	b	22	c	32	a
3	b	13	c	23	b	33	b
4	a	14	c	24	b	34	b
5	b	15	c	25	c	35	a
6	a	16	d	26	a	36	c
7	b	17	d	27	c	37	b
8	a	18	d	28	a	38	b
9	a	19	a	29	b	39	c

Q	Ans	Q	Ans	Q	Ans	Q	Ans
10	a	20	b	30	a	40	a