

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) 3.142857
- 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 $1.2\bar{7}$ 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

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

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10 a 20 b 30 a 40 a