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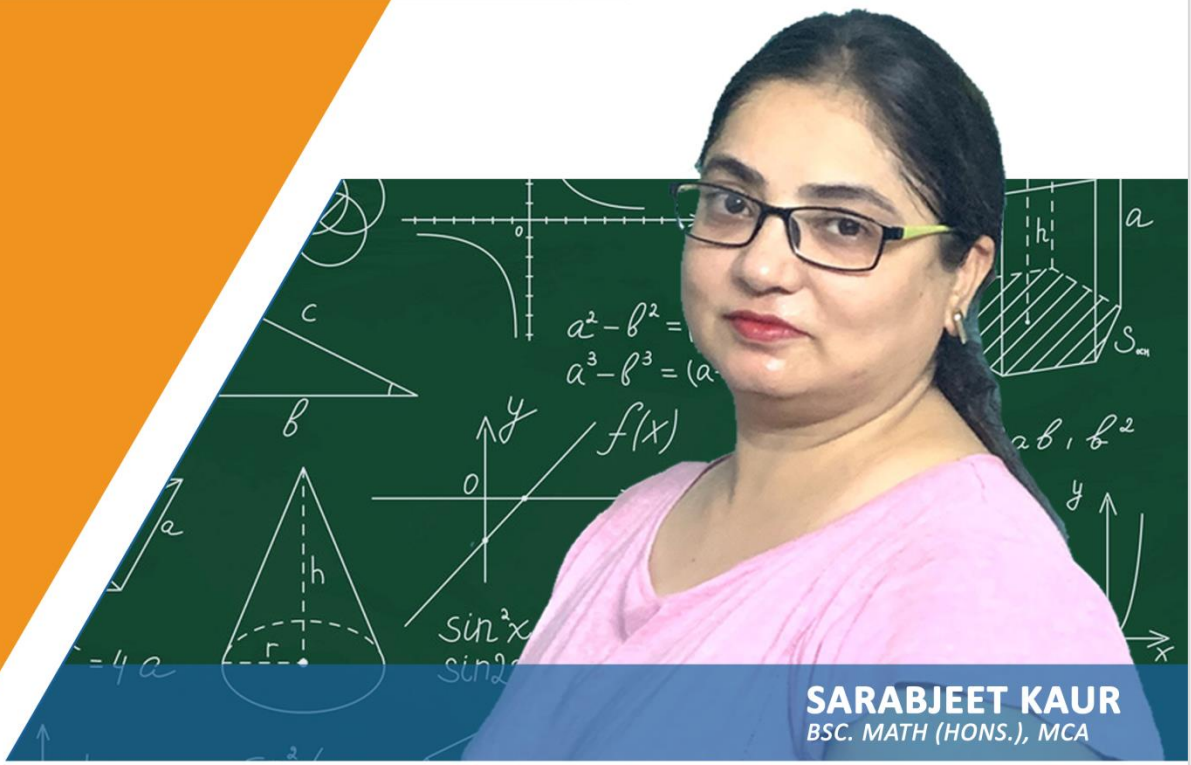

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BSC. MATH (HONS.), MCA

GRADE 10TH MATHS

CHAPTER 4

Quadratic Equations

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Class 10 Maths MCQs Chapter 4 Quadratic Equations

1. Which of the following is not a quadratic equation

(a) $x^2 + 3x - 5 = 0$

(b) $x^2 + x^3 + 2 = 0$

(c) $3 + x + x^2 = 0$

(d) $x^2 - 9 = 0$

2. The quadratic equation has degree

(a) 0

(b) 1

(c) 2

(d) 3

3. The cubic equation has degree

(a) 1

(b) 2

(c) 3

(d) 4

4. A bi-quadratic equation has degree

(a) 1

(b) 2

(c) 3

(d) 4

5. The polynomial equation $x(x + 1) + 8 = (x + 2)\{x - 2)$ is

(a) linear equation

(b) quadratic equation

(c) cubic equation

(d) bi-quadratic equation

6. The equation $(x - 2)^2 + 1 = 2x - 3$ is a

(a) linear equation

(b) quadratic equation

(c) cubic equation

(d) bi-quadratic equation

9. The quadratic equation whose one rational root is $3 + \sqrt{2}$ is

(a) $x^2 - 7x + 5 = 0$

(b) $x^2 + 7x + 6 = 0$

(c) $x^2 - 7x + 6 = 0$

(d) $x^2 - 6x + 7 = 0$

10. The equation $2x^2 + kx + 3 = 0$ has two equal roots, then the value of k is

a) $\pm\sqrt{6}$

(b) ± 4

(c) $\pm 3\sqrt{2}$

(d) $\pm 2\sqrt{6}$

13. The sum of the roots of the quadratic equation $3x^2 - 9x + 5 = 0$ is

(a) 3

(b) 6

(c) -3

(d) 2

17. If a, p are the roots of the equation $(x - a)(x - b) + c = 0$, then the roots of the equation $(x - a)(x - P) = c$ are

(a) a, b

(b) a, c

(c) b, c

(d) none of these

18. Mohan and Sohan solve an equation. In solving Mohan commits a mistake in constant term and finds the roots 8 and 2. Sohan commits a mistake in the coefficient of x. The correct roots are

(a) 9,1

(b) -9,1

(c) 9, -1

(d) -9, -1

19. If a and b are the roots of the equation $2x^2 - 3x - 6 = 0$. The equation whose roots are a^2+2 and b^2+2 is

(a) $6x^2 - 3x + 2 = 0$

(b) $6x^2 + 3x - 2 = 0$

(c) $6x^2 - 3x - 2 = 0$

(d) $x^2 + 3x-2 = 0$

20. If the roots of $px^2 + qx + 2 = 0$ are reciprocal of each other, then

(a) P = 0

(b) p = -2

(c) $p = \pm\sqrt{2}$

(d) p = 2

21. If one root of the quadratic equation $2x^2 + kx - 6 = 0$ is 2, the value of k is

(a) 1

(b) -1

(c) 2

(d) -2

22. The roots of the quadratic equation

(a) a, b

(b) -a, b

(c) a, -b

(d) -a, -b

23. The roots of the equation $7x^2 + x - 1 = 0$ are

(a) real and distinct

(b) real and equal

(c) not real

(d) none of these

24. The equation $12x^2 + 4kx + 3 = 0$ has real and equal roots, if

(a) $k = \pm\sqrt{3}$

(b) $k = \pm\sqrt{9}$

(c) $k = 4$

(d) $k = \pm\sqrt{2}$

25. If -5 is a root of the quadratic equation $2x^2 + px - 15 = 0$, then

(a) $p = 3$

(b) $p = 5$

(c) $p = 7$

(d) p = 1

26. If the roots of the equations $ax^2 + 2bx + c = 0$ and $bx^2 - 2\sqrt{ac}\,x + b = 0$ are simultaneously real, then

(a) b = ac

(b) b2 = ac

(c) a2 = be

(d) c2 = ab

27. The roots of the equation $(b - c)\,x^2 + (c - a)\,x + (a - b) = 0$ are equal, then

(a) 2a = b + c

(b) 2c = a + b

(c) b = a + c

(d) 2b = a + c

28. A chess board contains 64 equal squares and the area of each square is 6.25 cm^2. A border round the board is 2 cm wide. The length of the side of the chess board is

(a) 8 cm

(b) 12 cm

(c) 24 cm

(d) 36 cm

29. One year ago, a man was 8 times as old as his son. Now his age is equal to the square of his son's age. Their present ages are

(a) 7 years, 49 years

(b) 5 years, 25 years

(c) 1 years, 50 years

(d) 6 years, 49 years

30. The sum of the squares of two consecutive natural numbers is 313. The numbers are

(a) 12, 13

(b) 13,14

(c) 11,12

(d) 14,15

31. Which of the following is not a quadratic equation? [NCERT Exemplar Problems]

(a) $2(x - 1)^2 = 4x^2 - 2x + 1$

(b) $2x - x^2 = x^2 + 5$

(c) $(\sqrt{2}x + \sqrt{3})^2 + x^2 = 3x^2 - 5x$

(d) $(x^2 + 2x)^2 = x^4 + 3 + 4x^3$

32. If $(x - a)$ is one of the factors of the polynomial $ax^2 + bx + c$, then one of the roots of $ax^2 + bx + c = 0$ is

(a) 1

(b) c

(c) a

(d) none of these

33. Which of the following are the roots of the quadratic equation, $x^2 - 9x + 20 = 0$ by factorisation?

(a) 3, 4

(b) 4, 5

(c) 5, 6

(d) 6, 1

34. If (1 - p) is a root of the equation $x^2 + px + 1 - p = 0$, then roots are

(a) 0, 1

(b) -1, 1

(c) 0, -1

(d) - 1, 2

35. If a, p are roots of the equation $x^2 + 5x + 5 = 0$, then equation whose roots are $a + 1$ and $p + 1$ is

(a) $x^2 + 5x - 5 = 0$

(b) $x^2 + 3x + 5 = 0$

(c) $x^2 + 3x + 1 = 0$

(d) none of these

36. Which of the following equations has two distinct real roots? [NCERT Exemplar Problems]

(a) $2x^2 - 3\sqrt{2}x + 9/4 = 0$

(b) $x^2 + x - 5 = 0$

(c) $x^2 + 3x + 2\sqrt{2} = 0$

(d) $5x^2 - 3x + 1 = 0$

37. Which of the following equations has no real roots ? [NCERT Exemplar Problems]

(a) $x^2 - 4x + 3\sqrt{2} = 0$

(b) $x^2 + 4x - 3\sqrt{2} = 0$

(c) $x^2 - 4x - 3\sqrt{2} = 0$

(d) $3x^2 + 4\sqrt{3}x + 4 = 0$

38. $(x^2 + 1)^2 - x^2 = 0$ has [NCERT Exemplar Problems]

(a) four real roots

(b) two real roots

(c) no real roots

(d) one real root

39. If the difference of the roots of the equation $x^2 - bx + c = 0$ be 1, then

(a) $b^2 - 4c + 1 = 0$

(b) $b^2 + 4c = 0$

(c) $b^2 - 4c - 1 - 0$

(d) $b^2 - 4c = 0$

40. Value of D when root of $ax^2 + bx + c = 0$ are real and unequal will be

(a) $D \geq 0$
(b) $D > 0$
(c) $D < 0$
(d) $D = 0$