Creative Multiplication Choice Questions

1. What is the value of 'a' of the equation $cx^2 + bx + a = 0$ comparing with the equation $2x^2 + 3x + 5 = 7x + 1$? [D.B.- 20]
   - a) 1
   - b) 2
   - c) 3
   - d) 4

2. Which is the discriminant of the equation $x^2 - 1 = 0$? [My.B.- 20]
   - a) 4
   - b) 2
   - c) 1
   - d) 0

3. What is the discriminant of the equations $3x^2 - 5x + 1 = 0$? [R.B.- 20]
   - a) -37
   - b) -13
   - c) 13
   - d) 37

4. Which is the discriminant of $5x - 1 - x^2 = 0$? [C.B.- 20]
   - a) 21
   - b) 24
   - c) 26
   - d) 29

5. In the equation $ax^2 + bx + c = 0$, $b^2 - 4ac > 0$ but not a perfect square. Then the roots are – [Ctg.B.- 20]
   - i. Real
   - ii. Unequal
   - iii. Rational

   Which one of the following is correct?
   - a) i and ii
   - b) i and iii
   - c) ii and iii
   - d) i, ii and iii

6. If $b^2 - 4ac > 0$ but is not a perfect square. In the quadratic equation $ax^2 + bx + c = 0$ then the roots of the equation are – [J.B.- 20]
   - i. Real
   - ii. Equal
   - iii. Irrational

   Which one of the following is correct?
   - a) i and ii
   - b) i and iii
   - c) ii and iii
   - d) i, ii and iii

7. If $ax^2 + bx + c = 0$ then – [B.B.- 20]
   - i. Value a and b can be negative.
   - ii. Discriminant is $b^2 - 4ac$.

   iii. If $b^2 - 4ac > 0$ but not a perfect square then the roots of the equation will be real, unequal and irrational.

   Which one of the following is correct?
   - a) i and ii
   - b) i and iii
   - c) ii and iii
   - d) i, ii and iii

8. What is the discriminant $-x^2 + 4x - 3 = 0$? [D.B.- 19]
   - a) 4
   - b) 12
   - c) 20
   - d) 28

9. The roots of the equation $4x^2 + 8x - 18 = 0$ are – [R.B.- 19]
   - i. Real and Equal.
   - ii. Real and Unequal.
   - iii. Real and Irrational.

   Which one of the following is correct?
   - a) i and ii
   - b) i and iii
   - c) ii and iii
   - d) i, ii and iii

10. Which one of the roots of the equation $x^2 - x - 13 = 0$? [C.B.- 19]
    - a) $\frac{1 + \sqrt{53}}{2}$
    - b) $\frac{1 + \sqrt{-51}}{2}$
    - c) $\frac{-1 + \sqrt{51}}{2}$
    - d) $\frac{-1 - \sqrt{53}}{2}$

11. Which is the discriminant of $6x - x^2 - 8 = 0$? [Ctg.B.- 19]
    - a) 2
    - b) 4
    - c) 68
    - d) 193

12. The roots of the equation $-5x - 3 + 2x^2 = 0$. [B.B.- 19]
    - a) $\left(3, \frac{1}{2}\right)$
    - b) $\left(3, -\frac{1}{2}\right)$
    - c) $\left(-3, \frac{1}{2}\right)$
    - d) $\left(-3, \frac{1}{2}\right)$

13. If $8x + 2 - 5x^2 = 0$ then its - [S.B.- 19]
    - i. Value of discriminant is 104.
    - ii. Roots are unequal, irrational.
    - iii. Graph intersects the x-axis.

    Which one of the following is correct?
    - a) i and ii
    - b) i and iii
    - c) ii and iii
    - d) i, ii and iii

14. In the equation $x^2 + 7x + 8 = 0$ then - [Dj.B.- 19]
    - i. Discriminant is 17.
    - ii. The roots of the equation are real and rational.
    - iii. The roots of the equation are real and unequal.

Which one of the following is correct?
a) I
b) ii
c) i and iii
d) ii and iii

15. If the roots of the equation of $ax^2 + bx + c = 0$ are equal then which information is correct? [D.B.- 17]
a) $b^2 - 4ac > 0$
b) $b^2 - 4ac < 0$
c) $b^2 - 4ac > 0$
d) $b^2 - 4ac = 0$

16. What is the value of discriminate of the equation $x^2 - 6x + 8 = 0$? [D.B.- 17]
a) 2
b) 4
c) 6
d) 8

Answer to the questions no. (17 - 18) from the following information:
$px^2 - qy + r = 0$ is a quadratic equation.

17. Which one is a root of the equation? [R.B.- 17]
a) $\frac{-q + \sqrt{q^2 - 4pr}}{2p}$
b) $\frac{q - \sqrt{q^2 - 4pr}}{2p}$
c) $\frac{q}{2p}$
d) $\frac{-q - \sqrt{q^2 - 4pr}}{2p}$

18. In the equation of the stem. [R.B.- 17]
i. Discriminate is $q^2 - 4pr$.
ii. The roots are equal if $q^2 = 4pr$.
iii. The roots are real and unequal if $q^2 > 4pr$.
Which one of the following is correct?
a) i and ii
b) i and iii
c) ii and iii
d) i, ii and iii

19. If a root of a quadratic equation is $-2 + \sqrt{7}$ then what is the other root? [J.B.- 17]
a) $-2 - \sqrt{7}$
b) $-2 - \sqrt{7}$
c) $-7 + \sqrt{2}$
d) $7 - \sqrt{2}$

20. The roots of the equation $2x - x^2 + 2 = 0$ will be — [Dj.B.- 17]
i. Real
ii. Unequal
iii. Rational
Which one of the following is correct?
a) i and ii
b) i and iii
c) ii and iii
d) i, ii and iii

21. When the roots of the equation $ax^2 + bx + c = 0$ will be real, unequal and rational? [Ctg.B.- l7]
a) Discriminant is positive.
b) Discriminant is negative.
c) Discriminant is positive and perfect square.
d) Discriminant is negative and perfect.

22. What is the solution of the equation $a^2x^2 + abx + ac = 0$? [S.B.- 17]
a) $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
b) $\frac{-b \pm \sqrt{b^2 + 4ac}}{2a}$
c) $\frac{b \pm \sqrt{b^2 + 4ac}}{2a}$
d) $\frac{-b + \sqrt{b^2 - 4ac}}{2a}$

23. What are the roots of $4x - 1 - x^2 = 0$? [J.B.- 17]
a) $1 \pm \sqrt{3}$
b) $2 \pm 2\sqrt{3}$
c) $2 \pm \sqrt{3}$
d) $1 \pm 2\sqrt{3}$

24. The roots of the equation $2x^2 - 7x - 1 = 0$ is – [D.B.- 16]
i. Real
ii. Unequal
iii. Irrational
Which one of the following is correct?
a) i and ii
b) i and iii
c) ii and iii
d) i, ii and iii

25. Which one is the discriminant of equation $x^2 - 2x - 2 = 0$? [R.B.- 16]
a) 4
b) 8
c) 12
d) $1 + \sqrt{3}$

Answer to the questions No. (26 – 27) on the basis following information:
$4x - 2 - x^2 = 0$ is a quadratic equation.

26. What is the discriminant of it? [S.B.- 16]
a) 20
b) 8
c) $2\sqrt{5}$
d) $2\sqrt{2}$

27. What is the nature of the roots? [S.B.- 16]
a) Real and irrational
b) Real and rational
c) Real and equal
d) Imaginary

28. If the discriminant of the quadratic equation $px^2 + qx + r = 0$ is zero

then what are the roots of the quation? **[C.B.- 16]**

a) $\frac{q}{p}, \frac{q}{p}$
b) $\frac{2q}{p}, \frac{2q}{p}$
c) $\frac{-q}{2p}, \frac{-q}{2p}$
d) $\frac{q}{2p}, \frac{-q}{2p}$

29. If $x^2 + 2x + 2 = 0$ is a quadratic equation its – **[C.B.- 16]**

i. Discriminant -4.
ii. Roots are real and unequal.
iii. Roots are imaginary.

Which one of the following is correct?
a) i and ii
b) i and iii
c) ii and iii
d) i, ii and iii

30. If $b^2 - 4ac$ is not a perfect square then what is the nature of roots? **[B.B.- 16]**

a) Real and rational
b) Real and irrational
c) Real and equal
d) Imaginary

31. If $ax^2 + bx + c = 0$ is a quadratic equation then – **[Dj.B.- 16]**

i. $a \neq 0$
ii. Discriminant $= b^2 - 4ac$.
iii. The equation has only one root.

Which one of the following is correct?
a) i and ii
b) i and iii
c) ii and iii
d) i, ii and iii

32. For the equation and inequality — **[D.B.- 15]**

i. The solution of the inequality $x^2 - 4x + 4 > 0$ is $x = 2$.
ii. The roots of the equation $x^2 + 6x + 9 = 0$ are equal.
iii. If $b^2 - 4ac > 0$ then the roots of equation $ax^2 + bx + c = 0$ are real and inequal.

Which one of the following is correct?
a) i
b) ii
c) ii and iii
d) i, ii and iii

33. $ax^2 + bx + c = 0$ for this – **[R.B.- 15]**

i. a- cannot be zero.
ii. $b^2 - 4ac$ is called the discriminant.
iii. If $b^2 - 4ac > 0$ but not perfect square then the roots are real, unequal and rational.

Which one of the following is correct?

a) i and ii
b) i and iii
c) ii and iii
d) i, ii and iii

34. What is the discriminant of the equation $3x^2 - 2x - 1 = 0$? **[C.B.- 15]**

a) -8
b) -4
c) 4
d) 16

35. Given that, $x^2 - 2x - 1 = 0$ then what is the value of Discriminant? **[Ctg.B.- l5]**

a) -1
b) 0
c) 1
d) 2

36. $ax^2 + bx + c = 0$ the two roots of a quadratic equation are real when — **[Ctg.B.- 15]**

i. $b^2 - 4ac > 0$
ii. $b^2 - 4ac = 0$
iii. $b^2 - 4ac < 0$

Which one of the following is correct?
a) i and ii
b) ii and iii
c) i and iii
d) i, ii and iii

Answer to the questions No. (37 – 38) considering the following information: $x^2 - 9x + 5 = 0$ is a quadratic equation.

37. What is the discriminant of the equation? **[J.B.- 15]**

a) $\sqrt{61}$
b) $\sqrt{101}$
c) 61
d) 101

38. What are the variations and nature of the roots? **[J.B.- 15]**

a) Real, unequal and irrational.
b) Real, unequal and rational.
c) Real and equal.
d) Not real and unequal.

39. What is the discriminant of $x^2 - 8x + 16 = 0$? **[S.B.- l5]**

a) -4
b) 0
c) 4
d) $8\sqrt{2}$

Answer to the questions No. (40 – 41) from the following information: $ax^2 + bx + c = 0$ is a quadratic equation of standard form.

40. If $a = 1$, $b = -1$ and $c = 1$ then what is the value of x? **[B.B.- 15]**

a) $\dfrac{1 \pm \sqrt{3}}{2}$ b) $\dfrac{1 \pm \sqrt{3}}{2}$

c) $\dfrac{1 \pm \sqrt{-3}}{2}$ d) $\dfrac{1 - \sqrt{3}}{2}$

41. **The discriminant of the equation?**

[B.B.- 15]

a) $\dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ b) $\dfrac{-b - \sqrt{b^2 - 4ac}}{2a}$

c) $b^2 - 4ac$ d) $b^2 + 4ac$