QUESTIONS

1. Which one among the following statements is correct?

(a) The word variable means something that is fixed.

(b) The value of the constant which satisfies the equation is called a solution of the equation.

(c) An expression with a variable, constants and the sign of equality is called an algebraic expression.

(d) The definite value of the variable which satisfies the equation is called the solution of the equation.

(e) None of these

2. If the perimeter of a regular octagon is 2x metres, then the length of each of its sides is _____

(a) $x \div 8$ (b) $2x + 8$

(c) $x \div 4$ (d) $16x$

(e) None of these

3. In algebra, letter may stand for____

(a) unknown quantities (b) known quantities

(c) fixed numbers (d) all the above

(e) None of these

4. Choose the correct algebraic expression for the condition given below, "Multiply a number (say k) by 7 and the result is subtracted from 5'.

(a) 7k - 5 (b) 5 - 7k

(c) 5k - 7 (d) 7 - 5k

(e) None of these

Directions (5 to 12): Choose the correct expressions for each of the cases given below:

5. 15 is added to the predecessor of an integer.

(a) 14 + n, where n is the integer

(b) 15 - n, where n is the integer

(c) 16 + n, where n is the integer

(d) 14 - n, where n is the integer

(e) None of these

6. One more than twice the number is added to 5 more than the same number

(a) 3k + 6 (b) 2k + 5

(c) 3k + 7 (d) 2k + 6

(e) None of these

7. 11 more than y times of 7 is subtracted from the largest two digit numbers.

(a) 99 - 7y (b) 88 + 7y

(c) 88 - 7y (d) 110 - 7y

(e) None of these

8. Perimeter of the rectangle whose length l is 7 times of its breadth (b)

(a) 16 b (b) 14 b

(c) 18 l (d) 14 l

(e) None of these

9. Her father's age exceeds her age by 24 years.

(a) a + 24 (b) a - 24

(c) 24 a (d) 24 - a

(e) None of these

10. If a note book costs Rs m and a pen costs Rs 15, then the total cost (in Rs) of 5 notebooks and 17 pens.

(a) 5 m + 85 (b) m + 260

(c) m + 235 (d) 5 m + 255

(e) None of these

11. The sum of two odd consecutive integers is divided by 2.

(a) n+1 (b) n+2

(c) 2n + 2 (d) n+2

(e) none of these

12. p is multiplied by - 21 and the result is subtracted from the least prime number.

(a) 2 - 21 p (b) 1 - 21p

(c) 2 + 21p (d) 1 + 21p

(e) None of these

13. One eighth of a number is 84 less than the number. Find the number.

(a) 92 (b) 96

(c) 104 (d) 64

(e) None of these

14. Which one among the following statements is incorrect?

(a) 0 is a solution of the equation $2x - 3 = - 3$

(b) If y is a negative integer then - y is a positive integer.

(c) $3x - 6 < 9$ is an equation,

(d) The number of lines that can be drawn through a point is a

(e) None of these

15. The verbal expression for the algebraic expression 3y - 17 is _____

(a) 17 more than three times a number y.

(b) 3 more than 17 times a number y.

(c) 17 is subtracted from a number y.

(d) 17 is subtracted from three times a number y.

(e) None of these

16. Which among the following is an example of trinomial?

(a) $-2xyz$ (b) $a^2x + b^2y^3$

(c) $2+a-b$ (d) $2+3ax+ax$

(e) None of these

17. Identify the correct statement for the following algebraic expression:

$6xy^2z+2xyz-3x^2yz+8xz^2y-5zxy+7yx^2z+2yxz^2+5x^2y^2z$

(a) $2xzy$ and $5x^2y^2z$ are like terms.

(b) $7yx^2z$ and $-3x^2yz$ are unlike terms.

(c) $2xzy$, $-5zxy$ and $-3x^2yz$, $7yx^2z$ and $8xz^2y$, $2yxz^2$ are like terms.

(d) $2xzy$, $-5zxy$ and $-3x^2yz$, $7yx^2z$ and $8xz^2y$, $2yxz^2$ are unlike terms,

(e) None of these

18. If $x=-1$, $y=2$ and $z=-3$, then the value of the algebraic expression $xy^3+yx^2-5xyz^3$ is _____

(a) 264 (b) -276

(c) -260 (d) 276

(e) None of these

19. Which one among the following statements is incorrect?

(a) An expression having only two terms is called a binomial.

(b) A symbol having a fixed numerical value is called a constant.

(c) Terms in an algebraic expression are connected by operator '+' or '-'

(d) x + 3 is an example of a monomial.

(e) None of these

20. Simplify:

$(a^2b-2ab+3b^2a)-\left(-ba^2+3ab-2ab^2\right)$

(a) $2a^2b-3ab-ab^2$ (b) $2a^2b-5ab-5ab^2$

(c) $2a^2b-5ab+5ab^2$ (d) $2a^2b-5ab+ab^2$

(e) None of these

21. Add $5x^2y+3xy^2-2y^2x$ to $7xy+3xy^2-2y^2x$

(a) $7x^2y-5xy^2+10xy$ (b) x^2y-xy^2+10xy

(c) $7x^2y-3xy^2+10xy$ (d) $7x^2y-5xy^2+10xy$

(e) None of these

22. Find the value of x if $\frac{x}{5}+2x=2\left[\left(\frac{x}{3}+12\right)-1\right]$

(a) $14\frac{8}{5}$ (b) $14\frac{8}{9}$

(c) $14\frac{8}{23}$ (d) $13\frac{8}{5}$

(e) None of these

23. Solve: $\frac{3p}{4}+\frac{1}{5}=\frac{2p}{3}+\frac{3}{5}$

(a) $18\frac{8}{5}$ (b) $16\frac{7}{5}$

(c) $15\frac{3}{5}$ (d) $18\frac{8}{9}$

(e) None of these

24. If 17 is subtracted from 5 times a number, the result is 78. Find the number.

(a) 13 (b) 19

(c) 18 (d) 17

(e) None of these

25. The perimeter of a rectangular field is 456 metres. If the length of the field is four times its breadth, then find its breadth.

(a) 48.9 m (b) 46.7 m

(c) 42.8 m (d) 45.6 m

(e) None of these

26. Radhika's father is thrice as old as Radhika. After 18 years, his age will be twice that of his daughter. Find the present age of her father.

(a) 54 years (b) 57 years

(c) 60 years (d) 63 years

(e) None of these

27. Find the value of $12x^2yz+6xy^3z-8xy^2z+10xyz^2$ where $x=-1,\ y=1$ and $z=-1$.

(a) -4 (b) 4

(c) -24 (d) 24

(d) None of these

28. Simplify: $2x-\left[5y-\{3x-(3y-5x)\}\right]$

(a) $12x-10y$ (b) $10x-8y$

(c) $6x-8y$ (d) $8x-10y$

(e) None of these

29. Solve: $2m-\left[3n\ \{m-(2r-3n)+4r-3(m-n-2r)\}\right]$

(a) $3n+8r$ (b) $3m-6n+6r$

(c) $8m-3n+6r$ (d) $6m+3n-8r$

(e) None of these

30. If $A = 7m^2 + 3mn - 8n^2$, $B = -4m^2 + mn + 4n^2$ and Cd = 3n2 - 4m2 - 4mn. Then find the value of A + B + C.

(a) $-m^2 + mn - n^2$ (b) $-m^2 - mn - n^2$

(c) $-m^2 + n^2$ (d) $-\left(m^2 + n^2\right)$

(e) None of these

31. By how much does 1 exceed $3m - 4n + 5$?

(a) $3n - 4m - 4$ (b) $3m - 4m + 4$

(c) $3n - 4m - 3$ (d) 3n - 5m - 5

(e) None of these

32. If x = 2, y = 5 and z = - 7, then the value of $x^2 + y^2 + z^2 - 2xyz$ is ____.

(a) - 62 (b) 218

(c) - 63 (d) 212

(e) None of these

33. Solve $4x^2 + 9y^2 - 6xy$ for x = - 2 and y = 3.

(a) 133 (b) 61

(c) 81 (d) 123

(e) None of these

34. Subtract $5x^2yz - 2xy^2z + 3xyz$ from $xyz - 2zxy^2 + 4zyx^2$.

(a) $2xyz + 4zyx^2$ (b) $-2xyz + 4zyx^2$

(c) $-2xyz - zyx^2$ (d) $-xyz + zyx^2$

(e) None of these

35. How much is $3x - 2y + 5z$ greater than $2x - 3y - 5z$?

(a) $x - y + 10z$ (b) $x + 2y + 8Z$

(c) $x + 3y - 10z$ (d) $x + y + 10z$

(e) None of these

36. Which expression represents 5 less than thrice the square of a number?

(a) $3n^2 - 5$ (b) $-3n^2 + 5$

(c) $-3n^2 - 5$ (d) $3n^2 + 5$

(e) None of these

37. Solve: $3x + 2 - 5(x - 1) = 3(x - 1)$

(a) $x = 2$ (b) $x = 1$

(c) $x = -1$ (d) $x = -2$

(e) None of these

38. The statement for the expression "$12x - 9$" is:

(a) 9 is added to 12x

(b) 12x is subtracted from 9

(c) 9 is subtracted from 12x

(d) 9 is subtracted from -12x

(e) None of these

39. Which of the following is an equation?

(a) $3x - 12y > 10$

(b) $-5y - 3(3x - 5) < 0$

(c) $z - k + l + 1 = 1$

(d) $x - 2y + 3z$

(e) None of these

40. A bird flies 6 km in 2 minutes. The expression which represents the distance covered by the bird in its flying time is _____ (Use 't' for flying time in minutes).

(a) 6t

(b) 3t

(c) 4t

(d) 6t+2

(e) None of these

ANSWER - KEY				
1. (d)	**2.** (c)	**3.** (a)	**4.** (b)	**5.** (a)
6. (a)	**7.** (c)	**8.** (a)	**9.** (a)	**10.** (d)
11. (c)	**12.** (c)	**13.** (b)	**14.** (c)	**15.** (d)
16. (c)	**17.** (c)	**18.** (b)	**19.** (d)	**20.** (c)
21. (a)	**22.** (c)	**23.** (c)	**24.** (b)	**25.** (d)
26. (a)	**27.** (c)	**28.** (b)	**29.** (a)	**30.** (d)
31. (a)	**32.** (b)	**33.** (a)	**34.** (c)	**35.** (d)
36. (a)	**37.** (a)	**38.** (c)	**39.** (c)	**40.** (b)