Class 10 -Test Paper

Mathematics (Polynomials & Pair of Linear Equation in two Variables)

Time: 1Hrs. M.M 35

Section A (One Marks each Question)

1.The zeroes of $x^2–2x –8$ is:

(a)(2,-4)

(b)(4,-2)

(c)(-2,-2)

(d)(-4,-4)

2. What is the quadratic polynomial for the zeroes $\sqrt{2}$, ⅓.

(a)$3x^2-3\sqrt{2}x+1 = 0$

(b)$3x^2+3\sqrt{2}x+1 = 0$

(c)$3x^2+3\sqrt{2}x-1 = 0$

(d)None of the above

3. If the zeroes of the quadratic polynomial ax^2+bx+c, $c\neq0$ are equal, then

(a)c and b have opposite signs

(b)c and a have opposite signs

(c)c and b have same signs

(d)c and a have same signs

4. The degree of the polynomial, $x^4 – x^2 +2$ is

(a)2

(b)4

(c)1

(d)0

5. If one of the zeroes of cubic polynomial is x^3+ax^2+bx+c is -1, then product of other two zeroes is:

(a)b-a-1

(b)b-a+1

(c)a-b+1

(d)a-b-1

6. If p(x) is a polynomial of degree one and p(a) = 0, then a is said to be:

(a)Zero of p(x)

(b)Value of p(x)

(c)Constant of p(x)

(d)None of the above

7. Zeroes of a polynomial can be expressed graphically. Number of zeroes of polynomial is equal to number of points where the graph of polynomial is:

(a)Intersects x-axis

(b)Intersects y-axis

(c)Intersects y-axis or x-axis

(d)None of the above

8. A polynomial of degree n has:

(a)Only one zero

(b)At least n zeroes

(c)More than n zeroes

(d)Atmost n zeroes

9. The number of polynomials having zeroes as -2 and 5 is:

(a)1

(b)2

(c)3

(d)More than 3

10. Zeroes of $p(x) = x^2-27$ are:

(a)$\pm 9\sqrt{3}$

(b)$\pm 3\sqrt{3}$

(c)$\pm 7\sqrt{3}$

(d)None of the above

11.The pairs of equations x+2y-5 = 0 and -4x-8y+20=0 have:

(a)Unique solution

(b)Exactly two solutions

(c)Infinitely many solutions

(d)No solution

12. If a pair of linear equations is consistent, then the lines are:

(a)Parallel

(b)Always coincident

(c)Always intersecting

(d)Intersecting or coincident

13. The pairs of equations 9x + 3y + 12 = 0 and 18x + 6y + 26 = 0 have

(a)Unique solution

(b)Exactly two solutions

(c)Infinitely many solutions

(d)No solution

14. If the lines 3x+2ky – 2 = 0 and 2x+5y+1 = 0 are parallel, then what is the value of k?

(a)4/15

(b)15/4

(c)⅘

(d)5/4

15. If one equation of a pair of dependent linear equations is -3x+5y-2=0. The second equation will be:

(a)-6x+10y-4=0

(b)6x-10y-4=0

(c)6x+10y-4=0

(d)-6x+10y+4=0

16.The solution of the equations x-y=2 and x+y=4 is:

(a)3 and 1

(b)4 and 3

(c)5 and 1

(d)-1 and -3

17. A fraction becomes 1/3 when 1 is subtracted from the numerator and it becomes 1/4 when 8 is added to its denominator. The fraction obtained is:

(a)3/12

(b)4/12

(c)5/12

(d)7/12

18. The solution of 4/x+3y=14 and 3/x-4y=23 is:

(a)⅛ and -2

(b)⅓ and ½

(c)3 and ½

(d)2 and ⅓

19. Ritu can row downstream 20 km in 2 hours, and upstream 4 km in 2 hours. Her speed of rowing in still water and the speed of the current is:

(a)6km/hr and 3km/hr

(b)7km/hr and 4km/hr

(c)6km/hr and 4km/hr

(d)10km/hr and 6km/hr

20. The angles of cyclic quadrilaterals ABCD are: A = (6x+10), B=(5x)°, C = (x+y)° and D=(3y-10)°. The value of x and y is:

(a)x=20° and y = 10°

(b)x=20° and y = 30°

(c)x=44° and y=15°

(d)x=15° and y=15°

Section B (Three Marks Each Question)

21. Obtain all other zeroes of $3x^4 + 6x^3 - 2x^2 - 10x - 5$, if two of its zeroes are $\sqrt{(5/3)}$ and $-\sqrt{(5/3)}$.

22. Find a quadratic polynomial each with the given numbers as the sum and product of its zeroes respectively.

(i) 1/4, -1

(ii) 1,1

(iii) 4, 1

23. α and β are zeroes of the quadratic polynomial x2 – 6x + y. Find the value of 'y' if 3α + 2β = 20.

24. Half the perimeter of a rectangular garden, whose length is 4 m more than its width, is 36 m. Find the dimensions of the garden.

25. A fraction becomes 9/11 , if 2 is added to both the numerator and the denominator. If, 3 is added to both the numerator and the denominator it becomes 5/6. Find the fraction.