Mathematics ECAT Pre Engineering Chapter 6 Quadratic Equations Online Test

Sr	Questions	Answers Choice
1	Question Image	
2	The solution of equation x2 + 2 = 0 in the set of real number is	A. Infinite set B. Singleton set C. Null set D. None of these
3	If a,βare the roots of the equation x2 - 8x + p = 0 and a2 + β2= 40,then value of p is	A. 8 B. 12 C. 10 D. 14
4	If one root of 5x2 + 13x + k = 0 be the reciprocal of the other root the value of k is	A. 0 B. 2 C. 1 D. 5
5	The roots of the equation 4x - 3.2x+2 + 32 = 0 would include	A. 1 and 3 B. 1 and 4 C. 1 and 2 D. 2 and 3
6	The two parts into which 57 should be divided so that their product is 782 are	A. 43,14 B. 34,23 C. 33,24 D. 44,13
7	If x - 1 is a factor of x4 - 5x2 + 4 then other factor is	A. (x + 2)2(x - 1) B. (x + 2)(x - 1)2 C. (x+2)(x2- x- 2) D. (x + 2)2(x - 1)2
8	(1+w)(1+w2)(1+w4)(1+w8)....50 factors	A. 0 B. -1 C. 1 D. 2
9	A polynomial of arbitrary degree	A. f(x) = o B. f(x) = x C. f(x) = a D. f(x) = ax + b,a ≠ 0
10	The roots of ax2 + bx + c = 0 are always unequal if	A. b2 - 4ac = 0 B. b2- 4ac ≠ 0 C. b2- 4ac > 0 D. b2- 4ac ≥ 0
11	The sum of the roots of the equation x2 -6x +2 = 0 is	A. -6 B. 2 C. -2 D. 6
12	The positive value of k for which the equation x2 + kx + 64 = 0 has one of the roots 0	A. 4 B. 64 C. 8 D. All values of k
13	If a,β are the roots of the equation x2 + kx +12 = 0 such that a - β = 1, the value of k is	A. 0 B. ±1 C. ±5 D. ±7
14	Consider the equation px2 + qx + r = 0 where p,q,r are real The roots are equal in magnitude but opposite in sign when	A. q = 0, r = 0,p ≠ 0 B. p = 0,qr≠ 0 C. r = 0,pq≠ 0 D. q = 0, pq≠ 0
15	If the equation x2+2x-3=0 and x2+3x-k=0 have a common root then the non - zero value of k is	A. 1 B. 3 C. 2 D. 4
16	The condition for ax2 + bx c to be expressed as the product of linear polynomials is	A. b4 - 4ac =0 B. b4- 4ac ≥0 C. b4- 4ac <0

		D. b4= 4ac
17	The expression x2 - x + 1 has	A. One proper linear factor B. No proper linear factor C. Two proper linear factors D. None of these
18	The value of x for which the polynomials x2 - 1 and x2 -2x + 1 vanish simultaneously is	A. 2 B. 1 C. -1 D. -2
19	(x +a)(x +b)(x +c)(x +) = k, k≠0 is reducible to quadratic form only if	A. a+b=c+d B. a+c=b+d C. a+d=b+c D. All are correct
20	If w+w2 is a root of (x+1)(x+2)(x+3)(x+4) = k, then	A. k=0 B. k=1 C. k=w D. k=w2
21	If a,β are the roots of ax2+bx+c=0,the equation whose roots are doubled is	A. ay2 +2by+c=0 B. ay2+2by+4c=0 C. ay2+2by+c=0 D. ay2+by+4c=0
22	The roots of ax2+bx+c=0 are	A. Rational ⇔ b2 -4 ac ≥ 0 B. Irrational ⇔ b2-4 ac > 0 C. Real ⇔ b2-4 ac ≠ 0 D. Rational⇔ b2-4 ac = 0
23	The roots of (b-c)x2+(c-a) x+a-b=0 are equal if	A. 2b = a+c B. 2a = b+c C. 2c = a+b D. a + b + c =0
24	The roots of px2 - (p-q)x-q=0 are	A. equal B. Irrational C. Rational D. Imaginary
25	The graph of a quadratic function is	A. Circle B. Ellipse C. Parabola D. Hexagon
26	The condition for polynomial equation ax2 + bx + c = 0 to be quadratic is	A. a > 0 B. a < 0 C. a≠ 0 D. a≠ 0,b ≠ 0
27	Only one of the root of ax2 + bx + c =0, a≠ 0 is zero if	A. c = 0 B. c = 0,b≠ 0 C. b = 0,c = 0 D. b = 0,c≠ 0
28	Ifα,β are non-real roots of ax2 + bx +c =0 (a,b,c∈ Q),then	A. α = β B. αβ = 1 C. α = β D. α = 1
29	The roots of (x - a)(x - b) = ab x2 are always	A. Real B. Depends upon a C. Depends upon b D. Depends upon a and b
30	Both the roots of the equation (x -b) (x - c) + (x -c) (x-a) +(x-a) (x-b) = 0 are always	A. Positive B. Negative C. Real D. None of these
31	If ax + bx + c =0 is satisfied by every value of x,then	A. b = 0,c = 0 B. c = 0 C. b = 0 D. a = b = c = 0
32	If the roots of ax2 + b =0 are real and distinct then	A. ab > 0 B. a = 0 C. ab < 0 D. a > 0,b > 0
33	if one root of the equation ix2 - 2(i + 1) x +(2 - i)= 0 is 2 - i then the other root is	A. -i B. 2 + i C. i D. 2 - i
		A. Real and negative B. Non-real with negative real parts

34	If a > 0,b > 0, c > 0 then the roots of the equation $ax^2 + bx + c = 0$ are	D. Non-real with negative real parts C. Real and positive D. Nothing can be said
35	Roots of the equation $x^2 - 7x + 10 = 0$ are	A. {2, 5} B. {-2, 5} C. {2,5} D. {-2,-5}
36	Roots of the equation $x^2 + 7x + 12 = 0$ are	A. {3, -4} B. {-3, 4} C. {3, 4} D. {-3, -4}
37	Roots of the equation $x^2 - x = 2$ are	A. {2, -1} B. {1, 0} C. {2, 1} D. {-2, 1}
38	$4^{1+x} + 4^{1-x} = 10$ is called	A. Reciprocal equation B. Exponential equation C. Radical equation D. None of these
39	Question Image	A. Reciprocal equation B. Exponential equation C. Radical equation D. None of these
40	$x^4 - 3x^3 + 3x + 1 = 0$ is called _____	A. Reciprocal equation B. Exponential equation C. Radical equation D. None of these
41	$w^{15} =$ _____	A. 0 B. 1 C. w D. w²
42	$w^{-1} =$ _____	A. 0 B. 1 C. w D. w²
43	$w^4 =$ _____	A. 0 B. 1 C. w D. w²
44	$w^{-12} =$ _____	A. 0 B. 1 C. w D. w²
45	$w^{11} =$ _____	A. 0 B. 1 C. w D. w²
46	Question Image	A. Polynomial of degree 0 B. Polynomial of degree 1 C. Polynomial of degree 2 D. Polynomial of degree n
47	Question Image	A. Linear equation B. Quadratic equation C. Cubic equation D. None of these
48	Question Image	A. Polynomial of degree 0 B. Polynomial of degree 2 C. Quadratic equation D. None of these
49	$5x^3 + 3x -$ is a _____	A. Polynomial of degree 3 B. Polynomial of degree 2 C. Polynomial of degree 1 D. Polynomial of degree 0
50	The solution set of $x^2 - 5x + 6 = 0$ is	A. {1, 3} B. {2, 3} C. {1, 2} D. None of these
51	The quadratic formula is	
52	If a polynomial P(x) is divided by x - a, then the remainder is	A. P(o) B. P(-a) C. P(a) D. None of these

		D. None of these
53	If $x^3+ ax^2- a^2x - a^3$is divided by x + a, then the remainder is	A. 0 B. a³ C. 2a³ D. -2a³
54	$2x^3+ 3x + 9$ is a _____	A. Polynomial of degree 3 B. Quadratic equation C. Cubic equation D. Polynomial of degree 2
55	If a polynomial P(x) is divided by x + a, then the remiander is	A. P(a) B. P(-a) C. P(0) D. None of these
56	If $x^3+ 4x^3- 2x +5$ is divided by x - 1, then the reminder is	A. 8 B. 6 C. 4 D. None of these
57	If $x^4- 10x^2- 2x + 4$ is divided by x + 3, then the reminder is	A. 1 B. 0 C. 4 D. None of these
58	If $x^3- x^2+ 5x+ 4$ is divided by x - 2, then the reminder is	A. 0 B. 2 C. 18 D. 14
59	If $3x^4+ 4x^3+ x - 5$ is divided by x + 1, then the reminder is	A. 0 B. 7 C. -7 D. 5
60	Question Image	A. c/a B. -c/a C. b/a D. -b/a
61	If S and P are the sum and the product of roots of a quadratic equation, then the quadratic equation is	A. x²+ Sx - P = 0 B. x²- Sx + P = 0 C. x²- Sx - P = 0 D. X²+ Sx + P = 0
62	The roots of the equation $ax^2+ bx + c = 0$ are real and equal if	A. b²- 4ac < 0 B. b²- 4ac = 0 C. b²- 4ac > 0 D. None of these
63	The roots of the equation $ax^2+ bx + c = 0$ are complex/imaginary if	A. b²- 4ac < 0 B. b²- 4ac = 0 C. b²- 4ac > 0 D. None of these
64	The roots of the equation $ax^2+ bx + x = 0$ are real and distinct if	A. b²- 4ac <0 B. b²- 4ac = 0 C. b²- 4ac > 0 D. None of these
65	Roots of the equation $x^2+ 2x + 3 = 0$ are	A. Real and equal B. Real and distinct C. Complex D. None of these
66	Roots of the equation $x^2+ 5x - 1 = 0$ are	A. Rational B. Irrational C. Complex D. None of these
67	Roots of the equation $2x^2- 7x + 3 = 0$ are	A. Rational B. Irrational C. Complex D. None of these
68	Roots of the equation $9x^2- 12x + 4 = 0$ are	A. Real and equal B. Real and distinct C. Complex D. None of these
69	If one root of the equation $x^2- 3x + a = 0$ is 2 then a = _____	A. 0 B. 1 C. 2 D. 3
70	The discriminant of the quadratic equation $ax^2+ bx + c = 0$ is	A. b²+ 4ac B. b²- 4ac

		C. 4ac - b² D. a²- 4ac
71	If the roots of 3x2+kx + 12 = 0 are equal then k = _____	
72	If w is a cube root of unity then 1 + w + w^2= _____	A. 1 B. 2 C. 0 D. -1
73	The roots of the equations will be equal if b^2- 4ac is	A. Positive B. Negative C. 1 D. Zero
74	The roots of the equation will be irrational if b^2- 4ac is	A. Positive and perfect square B. Positive but not a perfect square C. Negative D. Zero
75	If b^2- 4ac is positive then the roots of the equation are	A. Real B. Imaginary C. Positive D. Negative
76	If b^2- 4ac = 0 then the roots of the equation are	A. Real and distinct B. Real and equal C. Imaginary D. None of these
77	The product of cube roots of unity is	A. Zero B. 1 C. -1 D. None of these
78	For any integer k, w^n= _____ when n = 3k	A. 1 B. 2 C. 0 D. -4
79	w^{29}= _____	A. 0 B. 1 C. w D. w²
80	w^{73}= _____	A. 0 B. 1 C. w D. w²
81	w^{28}+ w^{38}= _____	A. 0 B. 1 C. w D. -1
82	(2 + w) (2 + w^2) = _____	A. 1 B. 2 C. 3 D. 0
83	There are _____ basic techniques for solving a quadratic equation	A. Two B. Three C. Four D. None of these
84	Question Image	
85	The product of the four fourth roots of unity is	A. 0 B. 1 C. -1 D. None of these
86	The polynomial x - a is a factor of the polynomial f(x) if and only if	A. f(a) is positive B. f(a) is negative C. f(a) = 0 D. None of these
87	Two quadratic equation in which xy term is missing and the coefficients of $x^2$and $y^2$are equal, give a linear equation by _____	A. Addition B. Subtraction C. Multiplication D. Division
88	If x^2- 7x + a has remainder 1 when divided by x + 1, then a = _____	A. -7 B. 7 C. 0 D. None of these
		A. -5 B. 5

89	If x - 2 is a factor of ax2- 12x + a = 2a, then a = _____	C. 0 D. 1
90	Find a if 1 is a root of the equation x^2+ ax + 2 = 0	A. 3 B. -3 C. 2 D. 0
91	Which of the following is a factor of x^3- 3x^2+ 2x - 6	A. x + 2 B. x + 3 C. x - 3 D. x - 4
92	Question Image	A. 0 B. 1 C. 2 D. None of these
93	Question Image	
94	Question Image	
95	Question Image	
96	Question Image	A. -1 B. 0 C. 2 D. 1
97	Question Image	A. 1 B. -1 C. 5 D. 2
98	The cube roots of 8 are	
99	Question Image	A. 0 B. 1 C. 2 D. 3
100	Question Image	A. 2 B. 4 C. 8 D. 16
101	Question Image	A. 4 B. 6 C. 8 D. 10
102	Question Image	
103	The condition for polynomial equation ax^2+ bx + c = 0 to be quadratic is	
104	Question Image	
105	Question Image	
106	Both the roots of the equation (x - b) (x - c) + (x - c)(x - a) + (x - a)(x - b) = 0 are always	A. Positive B. Negative C. Real D. None of these
107	If ax^2+ bx + x = 0 is satisfied by every value of x, then	A. b = 0, c = 0 B. c = 0 C. b = 0 D. a = b = c = 0
108	If the roots of ax^2+ b = 0 are real and distinct then	A. ab > 0 B. a = 0 C. ab < 0 D. a > 0, b > 0
109	If one root of the equation ix^2- 2(i + 1) x +(2 - i) = 0 is 2 - i, then the other root is	A. -i B. 2 + i C. i D. 2 - i
110	If a > 0, b > 0, c > 0, then the roots of the equation ax^2+ bx + c = 0 are	A. Real and negative B. Non-real with negative real parts C. Real and positive D. Nothing can be said
111	The quadratic equation 8 $\sec^2\theta$- 6 secθ+1 = 0 has	A. Infinitely many roots B. Exactly two roots C. Exactly four roots

		D. No roots
112	Question Image	A. b = c B. a = c C. a = c D. b = 0
113	If the roots of $ax^2 + bx + c = 0$ are equal in magnitude but opposite in sign, then	A. a = 0 B. b = 0 C. c = 0 D. None of these
114	The value of p for which both the roots of the equation 4x2- 20x + (25p2+ 15 p - 66) = 0 are less than 2, lies in	
115	Question Image	
116	The roots of the equation $2^{2x} - 10.2^x + 16 = 0$ are	A. 2, 8 B. 1, 3 C. 1, 8 D. 2, 3
117	Question Image	A. n if n is even B. 0 for any natural number n C. 1 if in odd D. None of these
118	If $x^2 + px + 1$ is a factor of $ax^3 + bx + c$, then	A. a²+ c²= -ab B. a²- c²= -ab C. a²- c²= ab D. None of these
119	Question Image	A. (a - c)²= b²- c² B. (a - c)²= b²+ c² C. (a + c)²= b²- c² D. (a + c)²= b²+ c²
120	The set of real roots of the equation $\log_{(5x+4)}(2x+3)^3 - \log_{(2x+3)}(10x^2 + 23x + 12) = 1$ is	A. {-1} B. {-3/5} C. Empty set D. {-1/3}
121	The value of k (k > 0) for which the equation $x^2 + kx + 64 = 0$ and $x^2 - 8x + k = 0$ both will have real roots is	A. 8 B. -16 C. -64 D. 16
122	Question Image	A. Only one real solution B. Exactly three real solution C. Exactly one rational solution D. Non-real roots
123	Question Image	A. Rational B. Irrational C. Non-real D. Zero
124	If $2x^{1/3} + 2x^{-1/3} = 5$, then x is equal to	A. 1 or -1 B. 2 or 1/2 C. 8 or 1/8 D. 4 or 1/4
125	The equation $(\cos p - 1)x^2 + x(\cos p) + \sin p = 0$ in the variable x, has real roots, then p can take any value in the interval	A. (0, 2π) B. (-π, -0) C. (0,π) D. None of these

126	If the roots of $x^2+ ax + b = 0$ are non-real, then for all real x, $x^2+ ax + b$ is	A. Negative B. Positive C. Zero D. Nothing can be said
127	Question Image	A. 1 B. 2 C. 0 D. 4
128	Question Image	A. (-1, 2) B. (-1, 1) C. (1, 2) D. {-1}
129	In a quadratic equation with leading co-efficient 1, a student reads the co-obtain the roots as - 15 and -4. The correct roots are	A. 6, 10 B. -6, -10 C. 8, 8 D. -8, -8
130	Question Image	A. Two real roots B. Two positive roots C. Two negative roots D. One positive and one negative root
131	Let the equation $ax^2- bx + c = 0$ have distinct real roots both lying in the open interval (0, 1) where a, b, c are given to be positive integers. Then the value of the ordered triplet (a, b, c) can be	A. (5, 3, 1) B. (4, 3, 2) C. (5, 5, 1) D. (6, 4, 1)
132	If the roots of $ax^2- bx - c = 0$ change by the same quantity, then the expression in a, b, c that does not change is	
133	If α,β are the roots of $ax^2+ bx + c = 0$ and $\alpha+ h,\beta+ h$ are the roots of $px^2+ qx + r=0$, then h =	
134	If the roots of $ax^2+ bx + c = 0$ (a > 0) be greater than unity, then	A. a + b + c = 0 B. a + b + c > 0 C. a + b + c < 0 D. None of these
135	Question Image	A. 15 B. 9 C. 7 D. 8
136	Question Image	
137	Question Image	A. Lies between 4 and 7 B. Lies between 5 and 9 C. Has no value between 4 and 7 D. Has no value between 5 and 9
138	For the equation $\|x^2\| + \|x\| -6 =0$, the roots are	A. One and only one real number B. Real with sum one C. Real with sum zero D. Real with product zero
139	Root of the equation $3^{x-1}+ 3^{1-x}=$ is	A. 2 B. 1 C. 0 D. -1
140	If $\sin\alpha$ and $\cos\alpha$ are the roots of the equation $px^2+ qx + r =0$, then	A. p²- q²+ 2pr = 0 B. (p + r)²= q²- r² C. p²+ q²- 2pr = 0 D. (p - r)²= q²+ r²
141	If $a (p + q)^2+ bpq +c = 0$ and $a (p + r)^2+ 2 bpr + c = 0$, then qr equals	A. p²+ c/a B. p²+ a/c C. p²+ c/a D. p²- c/a
142	A quadratic equation in x is an equation that can be witten in the form	A. ax²+ b = 0 B. ax³ +b²+c=0 C. ax² +bx+c=0 D. ax³ +bx³+cx=0
143	Another name of quadratic equation is	A. Polynomial B. 2nd degree polynomial

	Another name of quadratic equation is	C. Linear equation D. simaltaneous equations
144	A quadratic equation has two	A. roots B. degree C. variables D. constants
145	The roots of the equation x2 +6x-7=0,are	A. 1 B. 2 C. 1 and -7 D. -7
146	the largest degree of the terms in the polynomials is called	A. terms of the polynomial B. degree of a polynomial C. co-efficient D. monomial
147	The solution of the quadratic equation x2 -7x + 10=0, is	A. 2 B. 5 C. 2,5 D. 7
148	The graph of the quadratic equation is	A. Straight line B. Circle C. Parabola D. elipse
149	In quadratic equation f(x) = ax^2,if a >0, then the graph of parabola	A. Opens up B. Opens down C. close up D. symmetric w.r.t.x.axis
150	In quadratic equation y=ax^3 +bx+c, if b and c are both zero then the graph is	A. Symmetric w.r.t.y-axis B. Symmetric w.r.t.x-axis C. Straight Line D. Circle
151	In quadratic equation, if the replacement of y with -y leaves the equation unchanged, then the graph is	A. Straight line B. Circle C. Hyperbola D. Symmetric w.r.t.0
152	The root of the quadratic equation are	A. 3 B. 2 C. 1 D. 4
153	If a parabola opens down, then its vertex is at the	A. Right of the parabola B. Left of parabola C. Lowest point on the parabola D. Highest point on the parabola
154	If f(x) = ax^2, and a>0, then the lowest point on the parabola is called.	A. Vertex of parabola B. Co-ordinates of parabola C. Roots of the equation D. Coefficient of the equation
155	The standard parabolic form of the equation f(x) = x^2 +4 x +1 is	A. x(x+4)+1 B. (x+2)²-3 C. (x+4)³ + 9 D. x(x-2)²+1
156	The standard form of the quadratic function f(x) = -x^2 +4x+2, is	A. (x-2)²+6 B. -(x-2)² + 6 C. (x-3)²+5 D. (x+4)²-7
157	The minimum value of the quadratic function f(x) = x2 +6x -2, is	A. 11 B. 6 C. -11 D. 13
158	The minimum value of the quadratic function f(x) = 5 x 2-11,is	A. -11 B. 6 C. -7 D. 7
159	The vertex of the graph of the quadratic function f(x) = x2 -10, is	A. (0 , -10) B. (-10,0) C. (10,0) D. (0,10)
160	The vertex of the graph of the quadratic function f(x) =-x2+6x+1,is	A. (-3,10) B. (-3,-10) C. (3,10) D. (3,-10)
		A. 4

161	The maximum value of the quadratic function f(x) = -2x2+20x,is	B. 3 C. 50 D. 7
162	The maximum value of the quadratic function f(x) = 2x2-4x+7,is	A. 3 B. 5 C. -3 D. -5
163	Which of the following is factor of p(x) =2x3 +3x2+3x+2 ?	A. x+1 B. 2x+1 C. 3x+1 D. 2x-1
164	(x-1) is a factor of	A. 2x³-3x²+9 B. 2x³-5x-8 C. 48x²⁻46x-9 D. x⁹-1
165	If 3x4 +4x3+x5is divided by x+1 , which of the following is the remainder	A. 7 B. -2 C. 6 D. 1
166	Which of the following is factor of x11+a11, where n is an odd integer	A. x-a B. x+a C. 2x-a D. 2x+a
167	If x-2 and x-1 both are factors of $x^3-3x^3+2x-4p$, then P must equal to	A. 1 B. 2 C. 0 D. -2
168	The synthetic division method is only used to divide a polynomial by	A. quadratic equation B. binomial C. linear equation D. monomial
169	If a polynomial p(x) is divided by x-c, then the remainder is	A. p(x) B. x-c C. c D. P(c)
170	A polynomial P(x)has a factor (x-a)if P(a) =	A. a B. x C. 1 D. 0
171	Each complex cube root of unity is square of	A. itself B. 1 C. -1 D. the other
172	Sum of all the four forth roots of unity is	A. 1 B. -1 C. i D. 0
173	Question Image	A. 0 B. -1-w²
174	Question Image	
175	The solution of equation x2 + 2 = 0 in the set of real number is	A. Infinite set B. Singleton set C. Null set D. None of these
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187	Consider the equation px2 + qx + r = 0 where p,q,r are real The roots are equal in magnitude but opposite in sign when	A. q = 0, r = 0,p ≠ 0 B. p = 0,qr≠ 0 C. r = 0,pq≠ 0 D. q = 0, pq≠ 0
188	If the equation x2+2x-3=0 and x2+3x-k=0 have a common root then the non - zero value of k is	A. 1 B. 3 C. 2 D. 4
189	The condition for ax2 + bx c to be expressed as the product of linear polynomials is	A. b4 - 4ac =0 B. b4- 4ac ≥0 C. b4- 4ac <0 D. b4= 4ac
190	The expression x2 - x + 1 has	A. One proper linear factor B. No proper linear factor C. Two proper linear factors D. None of these
191	The value of x for which the polynomials x2 - 1 and x2 -2x + 1 vanish simultaneously is	A. 2 B. 1 C. -1 D. -2
192	(x +a)(x +b)(x +c)(x +) = k, k≠0 is reducible to quadratic form only if	A. a+b=c+d B. a+c=b+d C. a+d=b+c D. All are correct
193	If w+w2 is a root of (x+1)(x+2)(x+3)(x+4) = k, then	A. k=0 B. k=1 C. k=w D. k=w2
194	If a,β are the roots of ax2+bx+c=0,the equation whose roots are doubled is	A. ay2 +2by+c=0 B. ay2+2by+4c=0 C. ay2+2by+c=0 D. ay2+by+4c=0
195	The roots of ax2+bx+c=0 are	A. Rational ⇔ b2 -4 ac ≥ 0 B. Irrational ⇔ b2-4 ac > 0 C. Real ⇔ b2-4 ac ≠ 0 D. Rational⇔ b2-4 ac = 0
196	The roots of (b-c)x2+(c-a) x+a-b=0 are equal if	A. 2b = a+c B. 2a = b+c C. 2c = a+b D. a + b + c =0
197	The roots of px2 - (p-q)x-q=0 are	A. equal B. Irrational C. Rational

		D. Imaginary
198	The graph of a quadratic function is	A. Circle B. Ellipse C. Parabola D. Hexagon
199	The condition for polynomial equation ax2 + bx + c = 0 to be quadratic is	A. a > 0 B. a < 0 C. a≠ 0 D. a≠ 0,b ≠ 0
200	Only one of the root of ax2 + bx + c =0, a≠ 0 is zero if	A. c = 0 B. c = 0,b≠ 0 C. b = 0,c = 0 D. b = 0,c≠ 0
201	Ifα,β are non-real roots of ax2 + bx +c =0 (a,b,c∈ Q),then	A. α = β B. αβ = 1 C. α = β D. α = 1
202	The roots of (x - a)(x - b) = ab x2 are always	A. Real B. Depends upon a C. Depends upon b D. Depends upon a and b
203	Both the roots of the equation (x -b) (x - c) + (x -c) (x-a) +(x-a) (x-b) = 0 are always	A. Positive B. Negative C. Real D. None of these
204	If ax + bx + c =0 is satisfied by every value of x,then	A. b = 0,c = 0 B. c = 0 C. b = 0 D. a = b = c = 0
205	If the roots of ax2 + b =0 are real and distinct then	A. ab > 0 B. a = 0 C. ab < 0 D. a > 0,b > 0
206	if one root of the equation ix2 - 2(i + 1) x +(2 - i)= 0 is 2 - i then the other root is	A. -i B. 2 + i C. i D. 2 - i
207	If a > 0,b > 0, c > 0 then the roots of the equation ax2+ bx + c =0 are	A. Real and negative B. Non-real with negative real parts C. Real and positive D. Nothing can be said
208	Roots of the equation x^2- 7x + 10 = 0 are	A. {2, 5} B. {-2, 5} C. {2,5} D. {-2,-5}
209	Roots of the equation x^2+ 7x + 12 = 0 are	A. {3, -4} B. {-3, 4} C. {3, 4} D. {-3, -4}
210	Roots of the equation x^2- x = 2 are	A. {2, -1} B. {1, 0} C. {2, 1} D. {-2, 1}
211	4^{1+x}+ 4^{1-x}= 10 is called	A. Reciprocal equation B. Exponential equation C. Radical equation D. None of these
212	Question Image	A. Reciprocal equation B. Exponential equation C. Radical equation D. None of these
213	x^4- $3x^3$+ 3x + 1 = 0 is called _____	A. Reciprocal equation B. Exponential equation C. Radical equation D. None of these
214	w^{15}= _____	A. 0 B. 1 C. w D. w²
		A. 0 B. 1

215	w^{-1}= _____	C. w D. w²
216	w^{4}= _____	A. 0 B. 1 C. w D. w²
217	w^{-12}= _____	A. 0 B. 1 C. w D. w²
218	w^{11}= _____	A. 0 B. 1 C. w D. w²
219	Question Image	A. Polynomial of degree 0 B. Polynomial of degree 1 C. Polynomial of degree 2 D. Polynomial of degree n
220	Question Image	A. Linear equation B. Quadratic equation C. Cubic equation D. None of these
221	Question Image	A. Polynomial of degree 0 B. Polynomial of degree 2 C. Quadratic equation D. None of these
222	$5x^{3}+ 3x -$ is a _____	A. Polynomial of degree 3 B. Polynomial of degree 2 C. Polynomial of degree 1 D. Polynomial of degree 0
223	The solution set of $x^{2}- 5x + 6 = 0$ is	A. {1, 3} B. {2, 3} C. {1, 2} D. None of these
224	The quadratic formula is	
225	If a polynomial P(x) is divided by x - a, then the remainder is	A. P(o) B. P(-a) C. P(a) D. None of these
226	If $x^{3}+ ax^{2}- a^{2}x - a^{3}$is divided by x + a, then the remainder is	A. 0 B. a³ C. 2a³ D. -2a³
227	$2x^{3}+ 3x + 9$ is a _____	A. Polynomial of degree 3 B. Quadratic equation C. Cubic equation D. Polynomial of degree 2
228	If a polynomial P(x) is divided by x + a, then the remiander is	A. P(a) B. P(-a) C. P(0) D. None of these
229	If $x^{3}+ 4x^{3}- 2x +5$ is divided by x - 1, then the reminder is	A. 8 B. 6 C. 4 D. None of these
230	If $x^{4}- 10x^{2}- 2x + 4$ is divided by x + 3, then the reminder is	A. 1 B. 0 C. 4 D. None of these
231	If $x^{3}- x^{2}+ 5x+ 4$ is divided by x - 2, then the reminder is	A. 0 B. 2 C. 18 D. 14
232	If $3x^{4}+ 4x^{3}+ x - 5$ is divided by x + 1, then the reminder is	A. 0 B. 7 C. -7 D. 5
233	Question Image	A. c/a B. -c/a C. b/a D. -b/a

		D. b/a
234	If S and P are the sum and the product of roots of a quadratic equation, then the quadratic equation is	A. x²+ Sx - P = 0 B. x²- Sx + P = 0 C. x²- Sx - P = 0 D. X²+ Sx + P = 0
235	The roots of the equation $ax^2+ bx + c = 0$ are real and equal if	A. b²- 4ac < 0 B. b²- 4ac = 0 C. b²- 4ac > 0 D. None of these
236	The roots of the equation $ax^2+ bx + c = 0$ are complex/imaginary if	A. b²- 4ac < 0 B. b²- 4ac = 0 C. b²- 4ac > 0 D. None of these
237	The roots of the equation $ax^2+ bx + x = 0$ are real and distinct if	A. b²- 4ac <0 B. b²- 4ac = 0 C. b²- 4ac > 0 D. None of these
238	Roots of the equation $x^2+ 2x + 3 = 0$ are	A. Real and equal B. Real and distinct C. Complex D. None of these
239	Roots of the equation $x^2+ 5x - 1 = 0$ are	A. Rational B. Irrational C. Complex D. None of these
240	Roots of the equation $2x^2- 7x + 3 = 0$ are	A. Rational B. Irrational C. Complex D. None of these
241	Roots of the equation $9x^2- 12x + 4 = 0$ are	A. Real and equal B. Real and distinct C. Complex D. None of these
242	If one root of the equation $x^2- 3x + a = 0$ is 2 then a = _____	A. 0 B. 1 C. 2 D. 3
243	The discriminant of the quadratic equation $ax^2+ bx + c = 0$ is	A. b²+ 4ac B. b²- 4ac C. 4ac - b² D. a²- 4ac
244	If the roots of 3x2+kx + 12 = 0 are equal then k = _____	
245	If w is a cube root of unity then $1 + w + w^2$= _____	A. 1 B. 2 C. 0 D. -1
246	The roots of the equations will be equal if $b^2- 4ac$ is	A. Positive B. Negative C. 1 D. Zero
247	The roots of the equation will be irrational if $b^2- 4ac$ is	A. Positive and perfect square B. Positive but not a perfect square C. Negative D. Zero
248	If $b^2- 4ac$ is positive then the roots of the equation are	A. Real B. Imaginary C. Positive D. Negative
249	If $b^2- 4ac = 0$ then the roots of the equation are	A. Real and distinct B. Real and equal C. Imaginary D. None of these
250	The product of cube roots of unity is	A. Zero B. 1 C. -1 D. None of these
251	For any integer k, w^n= _____ when n = 3k	A. 1 B. 2 C. 0 D. -4

252	w^{29}= _____	A. 0 B. 1 C. w D. w²
253	w^{73}= _____	A. 0 B. 1 C. w D. w²
254	w^{28}+ w^{38}= _____	A. 0 B. 1 C. w D. -1
255	(2 + w) (2 + w^2) = _____	A. 1 B. 2 C. 3 D. 0
256	There are _____ basic techniques for solving a quadratic equation	A. Two B. Three C. Four D. None of these
257	Question Image	
258	The product of the four fourth roots of unity is	A. 0 B. 1 C. -1 D. None of these
259	The polynomial x - a is a factor of the polynomial f(x) if and only if	A. f(a) is positive B. f(a) is negative C. f(a) = 0 D. None of these
260	Two quadratic equation in which xy term is missing and the coefficients of $x^2$and $y^2$are equal, give a linear equation by _____	A. Addition B. Subtraction C. Multiplication D. Division
261	If x^2- 7x + a has remainder 1 when divided by x + 1, then a = _____	A. -7 B. 7 C. 0 D. None of these
262	If x - 2 is a factor of ax2- 12x + a = 2a, then a = _____	A. -5 B. 5 C. 0 D. 1
263	Find a if 1 is a root of the equation x^2+ ax + 2 = 0	A. 3 B. -3 C. 2 D. 0
264	Which of the following is a factor of x^3- 3x^2+ 2x - 6	A. x + 2 B. x + 3 C. x - 3 D. x - 4
265	Question Image	A. 0 B. 1 C. 2 D. None of these
266	Question Image	
267	Question Image	
268	Question Image	
269	Question Image	A. -1 B. 0 C. 2 D. 1
270	Question Image	A. 1 B. -1 C. 5 D. 2
271	The cube roots of 8 are	
272	Question Image	A. 0 B. 1 C. 2

		C. 2 D. 3
273	Question Image	A. 2 B. 4 C. 8 D. 16
274	Question Image	A. 4 B. 6 C. 8 D. 10
275	Question Image	
276	The condition for polynomial equation $ax^2 + bx + c = 0$ to be quadratic is	
277	Question Image	
278	Question Image	
279	Both the roots of the equation (x - b) (x - c) + (x - c)(x - a) + (x - a)(x - b) = 0 are always	A. Positive B. Negative C. Real D. None of these
280	If $ax^2 + bx + x = 0$ is satisfied by every value of x, then	A. b = 0, c = 0 B. c = 0 C. b = 0 D. a = b = c = 0
281	If the roots of $ax^2 + b = 0$ are real and distinct then	A. ab > 0 B. a = 0 C. ab < 0 D. a > 0, b > 0
282	If one root of the equation $ix^2 - 2(i + 1) x + (2 - i) = 0$ is 2 - i, then the other root is	A. -i B. 2 + i C. i D. 2 - i
283	If a > 0, b > 0, c > 0, then the roots of the equation $ax^2 + bx + c = 0$ are	A. Real and negative B. Non-real with negative real parts C. Real and positive D. Nothing can be said
284	The quadratic equation $8 \sec^2\theta - 6 \sec\theta + 1 = 0$ has	A. Infinitely many roots B. Exactly two roots C. Exactly four roots D. No roots
285	Question Image	A. b = c B. a = c C. a = c D. b = 0
286	If the roots of $ax^2 + bx + c = 0$ are equal in magnitude but opposite in sign, then	A. a = 0 B. b = 0 C. c = 0 D. None of these
287	The value of p for which both the roots of the equation $4x2 - 20x + (25p2 + 15 p - 66) = 0$ are less than 2, lies in	
288	Question Image	
289	The roots of the equation $2^{2x} - 10.2^x + 16 = 0$ are	A. 2, 8 B. 1, 3 C. 1, 8 D. 2, 3
290	Question Image	A. n if n is even B. 0 for any natural number n C. 1 if in odd D. None of these
291	If $x^2 + px + 1$ is a factor of $ax^3 + bx + c$, then	A. a²+ c²= -ab B. a²- c²= -ab C. a²- c²= ab D. None of these
292	Question Image	A. (a - c)²= b²- c² B. (a - c)²= b²+ c²

		C. (a + c)²= b²- c² D. (a + c)²= b²+ c²
293	The set of real roots of the equation $\log_{(5x+4)}(2x+3)^3 - \log_{(2x+3)}(10x^2+23x+12) = 1$ is	A. {-1} B. {-3/5} C. Empty set D. {-1/3}
294	The value of k (k > 0) for which the equation $x^2+kx+64=0$ and $x^2-8x+k=0$ both will have real roots is	A. 8 B. -16 C. -64 D. 16
295	Question Image	A. Only one real solution B. Exactly three real solution C. Exactly one rational solution D. Non-real roots
296	Question Image	A. Rational B. Irrational C. Non-real D. Zero
297	If $2x^{1/3}+2x^{-1/3}=5$, then x is equal to	A. 1 or -1 B. 2 or 1/2 C. 8 or 1/8 D. 4 or 1/4
298	The equation (cos p - 1)x^2+ x (cos p) + sin p = 0 in the variable x, has real roots, then p can take any value in the interval	A. (0, 2π) B. (-π, -0) C. (0,π) D. None of these
299	If the roots of $x^2+ax+b=0$ are non-real, then for all real x, x^2+ax+b is	A. Negative B. Positive C. Zero D. Nothing can be said
300	Question Image	A. 1 B. 2 C. 0 D. 4
301	Question Image	A. (-1, 2) B. (-1, 1) C. (1, 2) D. {-1}
302	In a quadratic equation with leading co-efficient 1, a student reads the co-obtain the roots as - 15 and -4. The correct roots are	A. 6, 10 B. -6, -10 C. 8, 8 D. -8, -8
303	Question Image	A. Two real roots B. Two positive roots C. Two negative roots D. One positive and one negative root
304	Let the equation $ax^2-bx+c=0$ have distinct real roots both lying in the open interval (0, 1) where a, b, c are given to be positive integers. Then the value of the ordered triplet (a, b, c) can be	A. (5, 3, 1) B. (4, 3, 2) C. (5, 5, 1) D. (6, 4, 1)
305	If the roots of $ax^2-bx-c=0$ change by the same quantity, then the expression in a, b, c that does not change is	
306	If α,β are the roots of $ax^2+bx+c=0$ and $\alpha+h,\beta+h$ are the roots of $px^2+qx+r=0$, then h =	
307	If the roots of $ax^2+bx+c=0$ (a > 0) be greater than unity, then	A. a + b + c = 0 B. a + b + c > 0

307	If the roots of $ax^2 + bx + c = 0$ $(a > 0)$ be greater than unity, then	C. a + b + c < 0 D. None of these
308	Question Image	A. 15 B. 9 C. 7 D. 8
309	Question Image	
310	Question Image	A. Lies between 4 and 7 B. Lies between 5 and 9 C. Has no value between 4 and 7 D. Has no value between 5 and 9
311	For the equation $\|x^2\| + \|x\| - 6 = 0$, the roots are	A. One and only one real number B. Real with sum one C. Real with sum zero D. Real with product zero
312	Root of the equation $3^{x-1} + 3^{1-x} =$ is	A. 2 B. 1 C. 0 D. -1
313	If $\sin\alpha$ and $\cos\alpha$ are the roots of the equation $px^2 + qx + r = 0$, then	A. p²- q²+ 2pr = 0 B. (p + r)²= q²- r² C. p²+ q²- 2pr = 0 D. (p - r)²= q²+ r²
314	If $a(p + q)^2 + bpq + c = 0$ and $a(p + r)^2 + 2bpr + c = 0$, then qr equals	A. p²+ c/a B. p²+ a/c C. p²+ c/a D. p²- c/a
315	A quadratic equation in x is an equation that can be witten in the form	A. ax²+ b = 0 B. ax³ +b²+c=0 C. ax² +bx+c=0 D. ax³ +bx³+cx=0
316	Another name of quadratic equation is	A. Polynomial B. 2nd degree polynomial C. Linear equation D. simaltaneous equations
317	A quadratic equation has two	A. roots B. degree C. variables D. constants
318	The roots of the equation x2 +6x-7=0,are	A. 1 B. 2 C. 1 and -7 D. -7
319	the largest degree of the terms in the polynomials is called	A. terms of the polynomial B. degree of a polynomial C. co-efficient D. monomial
320	The solution of the quadratic equation x2 -7x + 10=0, is	A. 2 B. 5 C. 2,5 D. 7
321	The graph of the quadratic equation is	A. Straight line B. Circle C. Parabola D. elipse
322	In quadratic equation $f(x) = ax^2$,if a >0, then the graph of parabola	A. Opens up B. Opens down C. close up D. symmetric w.r.t.x.axis
323	In quadratic equation $y=ax^3 +bx+c$, if b and c are both zero then the graph is	A. Symmetric w.r.t.y-axis B. Symmetric w.r.t.x-axis C. Straight Line D. Circle
324	In quadratic equation, if the replacement of y with -y leaves the equation unchanged, then the graph is	A. Straight line B. Circle C. Hyperbola

		D. Symmetric w.r.t.0
325	The root of the quadratic equation are	A. 3 B. 2 C. 1 D. 4
326	If a parabola opens down, then its vertex is at the	A. Right of the parabola B. Left of parabola C. Lowest point on the parabola D. Highest point on the parabola
327	If $f(x) = ax^2$, and a>0, then the lowest point on the parabola is called.	A. Vertex of parabola B. Co-ordinates of parabola C. Roots of the equation D. Coefficient of the equation
328	The standard parabolic form of the equation $f(x) = x^2 +4 x +1$ is	A. x(x+4)+1 B. (x+2)²-3 C. (x+4)³ + 9 D. x(x-2)²+1
329	The standard form of the quadratic function $f(x) = -x^2 +4x+2$, is	A. (x-2)²+6 B. -(x-2)² + 6 C. (x-3)²+5 D. (x+4)²-7
330	The minimum value of the quadratic function f(x) = x2 +6x -2, is	A. 11 B. 6 C. -11 D. 13
331	The minimum value of the quadratic function f(x) = 5 x 2-11,is	A. -11 B. 6 C. -7 D. 7
332	The vertex of the graph of the quadratic function f(x) = x2 -10, is	A. (0 , -10) B. (-10,0) C. (10,0) D. (0,10)
333	The vertex of the graph of the quadratic function f(x) =-x2+6x+1,is	A. (-3,10) B. (-3,-10) C. (3,10) D. (3,-10)
334	The maximum value of the quadratic function f(x) = -2x2+20x,is	A. 4 B. 3 C. 50 D. 7
335	The maximum value of the quadratic function f(x) = 2x2-4x+7,is	A. 3 B. 5 C. -3 D. -5
336	Which of the following is factor of p(x) =2x3 +3x2+3x+2 ?	A. x+1 B. 2x+1 C. 3x+1 D. 2x-1
337	(x-1) is a factor of	A. 2x³- 3x²+9 B. 2x³-5x-8 C. 48x²⁻46x-9 D. x⁹-1
338	If 3x4 +4x3+x5is divided by x+1 , which of the following is the remainder	A. 7 B. -2 C. 6 D. 1
339	Which of the following is factor of x11+a11, where n is an odd integer	A. x-a B. x+a C. 2x-a D. 2x+a
340	If x-2 and x-1 both are factors of $x^3-3x^3+2x-4p$, then P must equal to	A. 1 B. 2 C. 0 D. -2
341	The synthetic division method is only used to divide a polynomial by	A. quadratic equation B. binomial C. linear equation D. monomial
		A. p(x)

342	If a polynomial p(x) is divided by x-c, then the remainder is	B. x-c C. c D. P(c)
343	A polynomial P(x)has a factor (x-a)if P(a) =	A. a B. x C. 1 D. 0
344	Each complex cube root of unity is square of	A. itself B. 1 C. -1 D. the other
345	Sum of all the four forth roots of unity is	A. 1 B. -1 C. i D. 0
346	Question Image	A. 0 B. -1-w²