FSC Part 2 Mathematics Full Book Online Test

Sr	Questions	Answers Choice
1	The term function was introduced by:	A. Euler B. Newton C. Lagrange D. Leibniz
2	The symbol y = f(x) i.e. y is equal to f of x, invented by Swiss mathematician----------:	A. Euler B. Cauchy C. Leibniz D. Newton
3	If a variable y depends on a variable x in such a way that each value of x determines exactly one value of y, then y is a _____ of x.	A. Independent variable B. Not function C. Function D. None of these
4	A function, in which the variables are _____ numbers, then function is called a real valued function of real numbers.	A. Complex B. Rational C. Real D. None of these
5	Question Image	A. f(x² + 1) B. f(x) D. f(x²)
6	If a function f is from a set X to a set Y, then set X is called the _____ of f:	A. Domain B. Range C. Co-domain D. None of these
7	Question Image	A. 0 B. 2 C. 1 D. 3
8	Let $f(x) = x^2$, real valued function then domain of f is the set of all:	A. Real numbers B. Integers C. Positive numbers D. Natural numbers
9	Question Image	A. 4, -4 B. 0 C. 2, -2 D. 0, 4
10	Question Image	A. R B. R - {2} C. R - {2, -2} D. R - {-2}
11	The range of the function f(x) = |x|	
12	Let $f(x) = x^2$, then range of f is the set of all:	A. Real numbers B. Non-negative real numbers C. Non-negative integers D. Complex numbers
13	Let $f(x) = x^2 + 3$, then domain of f is:	A. Set of all integers B. Set of natural numbers C. Set of real numbers D. Set of rational numbers
14	If the degree of a polynomial function is ----------, then it is called a linear function:	A. 0 B. 1 C. 2 D. 3
15	Which one is a constant function ?	A. f(x) = x² B. f(x) = x C. f(x) = x + 1 D. f(x) = 14
16	Question Image	A. Constant B. Implicit C. Identity

		D. Inverse
17	If x and y are so mixed up and y cannot be expressed in terms of the independent variable x, then y is called a/an ---- function of x.	A. Constant B. Explicit C. Implicit D. Inverse
18	Which one is an identity function ?	B. f(x) = g(x) C. f (x) = x D. f(x) = 1
19	The linear function f(x) = ax + b is an identity function if:	A. a = 0, b = 1 B. a = 1, b = 0 C. a = 1, b = 1 D. a = 0, b = 1
20	A function, in which the variable appears as exponent (power), is called a / an -------- function.	A. Constant B. Explicit C. Exponential D. Inverse
21	A function $P(x) = 6x^4 + 7x^3 + 5x + 1$ is called a polynomial function of degree -------- with leading coefficient -------.	A. 4, 6 B. 2, 7 C. 2, 3 D. 2, 5
22	Which one is not an exponential function ?	
23	Which one is an exponential function ?	
24	Question Image	A. Constant function B. Absolute linear function C. Linear function D. Quadratic function
25	Question Image	A. Implicit B. Explicit C. Exponential D. Logarithmic
26	Question Image	A. Common logarithmic B. Natural logarthmic C. Exponential D. None of these
27	If f(x) = |x|, f(x) is a:	A. Constant function B. Absolute function C. Linear function D. Quadratic function
28	Question Image	A. sin x B. cos x C. sinh x D. cosh x
29	tanh x =	
30	$Cosh^2 x - Sinh^2 x =$	A. 1 B. -1 C. 2 D. -2
31	$Cosh^2 x + Sinh^2 x =$	A. Cosh x² B. Cosh 2x C. Sinh 2x D. Tanh 2x
32	Inverse hyperbolic functions are expressed in terms of natural:	A. Numbers B. Exponential C. Logarithms D. Sines
33	Question Image	A. Constant B. Implicit C. Explicit D. Inverse
34	Every relation, which can be represented by a linear equation in two variables, represents a:	A. Graph B. Function C. Cartesian product D. Relation
35	If y is an image of x under the function f, we denote it by:	A. x = f(y) B. x = y C. y = f(x) D. f(x, y) = c
		A. Line B. Circle

36	Parametric equations x = a cos t, y = a sin t represent the equation of:	C. Parabola D. Ellipse
37	Question Image	A. Parabola B. Hyperbola C. Ellipse D. Circle
38	Question Image	A. Line B. Parabola C. Ellipse D. Hybperbola
39	x = 3 cos t, y = 3 sin t represent	A. Line B. Circle C. Parabola D. Hyperbola
40	$x^2 + y^2 = 4$ is:	A. Function B. Not a function C. Ellipse D. Line
41	f (x) = x secx, then f(0)=	A. -1 B. 0 C. 1
42	The function y = ln x is a/an ---------- function of x.	A. Constant B. Explicit C. Exponential D. Logarithmic
43	If y = (x), then the variable x is called --------- variable of a function f.	A. Dependent B. Independent C. Image of y D. None of these
44	f(x) is odd function. If and only if:	A. f(-x) = -f(x) B. f(-x) = f(x) C. f(x) = 3f(-x) D. f(x) = -3f(-x)
45	Question Image	A. Even B. Odd C. One-one D. Zero
46	f(x) = sin x + cos x is ---------- function:	A. Even B. Odd C. Composite D. Neither even nor odd function
47	Let f(x) = cos x, then f(x) is an:	A. Even function B. Odd function C. Power function D. None of these
48	Let $f(x) = x^3 + \sin x$, then f(x) is:	A. Even function B. Odd function C. Power function D. None of these
49	Question Image	A. 1 B. 2 C. 3 D. 4
50	Question Image	
51	Question Image	A. Undefined B. 3a² C. a² D. 0
52	Sir Isaac Newton was a(an) --------- mathematician.	A. German B. French C. Swiss D. English
53	Gottfried Whilhelm Leibniz was a (an) ----- mathematician:	A. German B. English C. Swiss D. French
54	The small change in the value ofx, positive or negative is called the -------- of x.	A. Increment B. Differential C. Derivative D. none of these

		D. none of these
55	Question Image	A. x with respect to y B. y with respect to y C. y with respect to x D. x with respect to x
56	Question Image	A. Lagrange B. Newtown C. Leibniz D. Cauchy
57	Notation Df(x) for derivative was used by:	A. Cauchy B. Newton C. Leibniz D. Lagrange
58	Question Image	
59	The instantaneous rate of change of y with respect to x is given by:	
60	The derivative of x with respect to y is given by:	
61	Question Image	A. x = a B. for all x D. x = 0
62	Question Image	A. x = a B. x = 2 C. x = 0 D. None
63	Question Image	A. x = a B. x = 2 C. x = 0 D. None
64	Question Image	A. c B. 0 C. 1 D. -c
65	Question Image	
66	Question Image	A. 1 (1 - 4) B. 2x - 3 C. x - 3 D. x³ - 3x
67	Question Image	
68	Question Image	
69	If y = f(u) and u = F(x), then:	
70	If s is the distance traveled by a body at time t, the velocity is given by the expression:	
71	For a square of side x units, the rate of change of area with respect to the side is given by:	A. x B. x² C. 2x D. 2
72	Question Image	A. sin x B. cos x C. -sin x D. -cos x
73	Question Image	A. sin x B. -cos x C. -sin x D. cos x
74	Question Image	A. - cosec² x B. cosec²x C. - cosec x cot x D. cosec x cot x
75	If f(x) = cos x then f'(0) is equal to:	A. 0 B. -1 C. 1
76	Question Image	
77	Question Image	
78	Question Image	
79	Question Image	

79	Question Image	
80	Question Image	
81	Question Image	
82	Question Image	
83	Question Image	A. 0 B. 1 C. -1 D. 2
84	Question Image	A. sinh x B. cosh x C. -sinh x D. -cosh x
85	Question Image	A. sinh x B. cosh x C. -sinh x D. -cosh x
86	Question Image	A. 2cosh x B. 2sinh x C. 2sinh (2x) D. -2sinh (2x)
87	Question Image	A. sech x tanh x B. -sech x tanhx C. sech² x D. -sech²x
88	Question Image	A. 5 sin x B. cosh (5x) C. 5 cosh (5x) D. -5 cosh (5x)
89	Question Image	A. sech x tanh x B. -sech²x C. -sech x tanh x D. sech²x
90	Question Image	A. cosech x coth x B. -cosech²x C. -cosech x coth x D. cosech²x
91	Question Image	
92	Question Image	A. tan x B. cot x C. - tan x D. - cot x
93	The Maclaurin series expansion is valid only if it is:	A. Convergent B. Divergent C. Increasing D. Decreasing
94	The function $f(x) = 3x^2$ has minimum value at :	A. x = 3 B. x = 2 C. x = 1 D. x = 0
95	Question Image	A. equal to each other B. not equal to each other C. nearly equal to each other D. None of these
96	Question Image	A. equal to each other B. not equal to each C. nearly equal to each other D. none of these
97	If $y = x^2 + 1$ _____ x changes from 3 to 3.02 then dy = _____	A. 0.1204 B. .12 C. .02 D. 1.2
98	If y = sin x then dy =	A. cosy dx B. cos x C. cosx dx D. cos xdy
99	The term dy (or df) = f '(x) dx is called the _____ of the dependent variable y.	A. Differentiation B. Integration C. Differential D. None of these

		D. None of these
100	The technique or method to find such a function whose derivative is given involves the inverse process of differentiation called:	A. Differentiation B. Integration C. Differential D. None of these
101	Question Image	A. Integration B. Integrand C. Constant of integration D. None of these
102	Question Image	A. Derivative B. Differential C. Integral D. None of these
103	Question Image	A. Integration B. Integration w.r.t.x. C. Differentiation D. Differentiation w.r.t.x
104	An integral of $3x^2$ is:	A. x³+c B. 3 C. 6x D. x^{2+c}
105	Question Image	A. Integration B. Integrand C. Constant of integration D. None of these
106	Question Image	A. Integral B. Indefinite integral C. Differential D. Definite integral
107	Question Image	A. tan x + c B. - tan x + c C. sec x tan x + c D. - sec x tan x + c
108	Question Image	A. cos x + c B. - cos x + c C. sin x + c D. -sin x + c
109	Question Image	A. tan x + c B. -tan x + c C. sec x + c D. -sec x + c
110	Question Image	A. cot x B. - cot x C. cosec x cot x D. -cosec x cot x
111	Question Image	A. cosec x + c B. -cosec x + c C. cot x + c D. - cot x + c
112	Question Image	
113	Question Image	
114	Question Image	
115	Question Image	A. a cosec (ax + b) D. cot (ax + b)
116	Question Image	A. f(x) B. ln |f(x)| C. f'(x) D. ln |f'(x)|
117	Question Image	A. ln |sec x + tan x | + c B. ln |cosec x - cot x | + c C. ln |sec x - tan x| + c D. ln |cosec x + cot x | + c
118	Question Image	A. ln |sec x + tan x | + c B. ln |cosec x - cot x | + c C. ln |sec x - tan x | + c D. ln |cosec x + cot x | + c
119	Question Image	A. ln |sin x| B. - ln |sin x| C. ln |cos x|

		D. -ln |cos x|
120	Question Image	A. e^{ax} B. f(x) C. e^{ax}f(x) D. e^{ax + f(x)}
121	Question Image	A. e^{-x} sin x + c B. -e^{-x} sin x + c C. e^{-x}cosx + c D. -e^{-x}sin x + c
122	Question Image	A. e^{2x} sin x + c B. e^{2x}cosx + c C. -e^{2x}sin x + c D. -e^{2x}cosx + c
123	Question Image	A. Integration by parts B. Definite integral C. Differentiation D. None of these
124	If the upper limit is a constant and the lower limit is a variable, then the integral is a function of:	A. x B. y C. lower limit D. upper limit
125	If the lower limit is a constant and the upper limit is a variable, then the integral is a function of:	A. x B. y C. lower limit D. upper limit
126	Question Image	A. domain B. range C. lower limit D. upper limit
127	Question Image	A. domain B. range C. lower limit D. upper limit
128	Question Image	A. 36 B. 42 C. 48 D. 12
129	If the graph of f is entirely above the x-axis, then the definite integral is _____:	A. Positive B. Positive or negative C. Negative D. Positive and negative
130	If the graph of f is entirely below the x-axis, then the definite integral is:	A. Positive B. Positive or negative C. Negative D. Positive and negative
131	Question Image	A. integration by parts B. definite integral C. Differentation D. None of these
132	Question Image	C. 2 D. 1
133	Area between x-axis and the curve:	A. 32 D. 16
134	Question Image	A. 0 B. 1 C. 2 D. 4
135	Question Image	A. 0 B. 1 C. 2 D. 3
136	The general solution of differential equation of order n contains n arbitrary constants, which can be determined by ---------- initial value conditions.	A. 1 B. 0 C. 2 D. n
137	The distance between two points P_1 (x_1, y_1) and P_2 (x_2, y_2) on the co-ordinate plane is given by:	
138	The distance of any point P (x, y) from the origin O(0 , 0) is given by:	

139	The distance between the points (1, 2), (2, 1).	A. 1 D. 2
140	Question Image	A. 4 B. 2 C. 1
141	Question Image	D. 2
142	For any point (x, y) and y - axis:	A. y = 0 B. y = -1 C. y = 1 D. x = 0
143	The vertical line y'oy is called:	A. x-axis B. y-axis C. abscissa D. Ordinate
144	The horizontal line x' ox is called:	A. x-axis B. y-axis C. abscissa D. ordinate
145	The coordinate axes divide the plane into---------- equal parts:	A. 1 B. 2 C. 3 D. 4
146	Distance of the point (-3, 7) from x-axis is:	A. 3 B. -3 C. 7 D. 10
147	Distance of the point (-2, 3) from y-axis is:	A. -2 B. 2 C. 3 D. 1
148	X-coordinate of any point on Y-axis:	A. 0 B. x C. y D. 1
149	If (x, y) are the coordinate of a point ordered pair is called:	A. Abscissa B. Ordinate C. Coordinate D. Ordered pair
150	If (x, y) are the coordinates of a point, then the first component of the ordered pair is called:	A. Abscissa B. Ordinate C. Coordinate axes D. None of these
151	y-coordinate of any point on X-axis:	A. 0 B. x C. y D. 1
152	For any point (x, y) on x-axis:	A. y = 1 B. y = 0 C. y = -1 D. y = 2
153	If the directed distances AP and PB have same signs, then their ratio is positive and P is said to divide AB:	A. Internally B. May be divide C. Externally D. None of these
154	If the directed distances AP and PB have the opposite signs, i.e; p is beyond AB, then their ratio is negative and P is said to divide AB:	A. Internally B. May divide C. Externally D. None of these
155	If (1, x) is the mid point of the line segment joining the points (1, 2) & (1, 6) then x =	A. 1 B. 2 C. 3 D. 4
156	If (2, 1) is the mid point of the line segment joining the points (2, x) & (2, -5) then x =	A. 1 B. 2 C. 7 D. -7
157	The point of intersection of the medians of a triangle is called:	A. Centroid B. Ortho-center C. Circums-center D. In-center

158	The point of intersection of the altitudes of a triangle is called:	A. Centroid B. Ortho-center C. Circums-center D. In-center
159	The point of intersection of the perpendicular bisectors of a triangle is called:	A. Centroid B. Ortho-center C. Circums-center D. In-center
160	The point of intersection of internal bisectors of the angles of a triangle is called:	A. Centroid B. Ortho-centers C. Circums-center D. In-center
161	The centroid of a triangle is a point that divides each median in the ratio:	A. 2 : 1 B. 2 : 3 C. 1 : 3 D. 4 : 3
162	X-co-ordinate of centroid of triangle ABC with A(-2, 3); B(-4, 1); C(3, 5) equals:	A. -1 B. 1 C. 3 D. -3
163	y - ordinate of the centroid of triangle with vertices A(-2, 3) B(-4, 1), C(3, 2) is:	A. 3 B. 1 C. 2 D. 0
164	The ratio in which the line segments joining (2, 3) and (4, 1) is divided by the line joining (1, 3) and (4, 3) is:	A. 2 : 1 B. 3 : 1 C. 1 : 2 D. 1 : 1
165	The ratio in which y-axis divides the line joining (2, -3) and (-5, 6) is:	A. 2 : 3 B. 2 : 5 C. 1 : 2 D. 3 : 5
166	The ratio in which x-axis divides the line segment joining the points:	A. 1 : 1 B. 1 : 3 C. 1 : 5 D. 1 : 2
167	In the translation of axes which formula is true:	A. x = X + h B. X = x + h C. x + X = h D. None
168	If in the case of translation of axes, O (-3, 2), (x, y) = (-6, 9) then (X, Y) =	A. (-3, 9) B. (-3, 7) C. (-9, 11) D. (3, 7)
169	Question Image	A. Parallel lines B. Perpendicular lines C. Non-parallel lines D. None of these
170	The symbol || is used for:	A. Parallel lines B. Perpendicular lines C. Non-parallel lines D. None of these
171	Question Image	A. Parallel lines B. Non-parallel lines C. Perpendicular lines D. Coplanar lines
172	If a pair of opposite sides of a quadrilateral are equal and parallel then it is:	A. Rectangle B. Rhombus C. Parallelogram D. None of these
173	A parallelogram is a rhombus if and only if its diagonals are:	A. Parallel B. Perpendicular C. Equal D. None of these
174	A quadrilateral having two parallels and two non-parallel sides is called:	A. Trapezium B. Rectangle C. Rhombus D. None of these
175	If the inclination of a line lies between]90°, 180°[, then the slope of line is :	A. Positive B. Negative C. Zero

		C. Zero D. undefined
176	If the inclination of the line l lies between]0°, 90°[, then the slope of l is:	A. Positive B. Negative C. Undefined D. None of these
177	If the lien l is parallel to y-axis, then the slope of l is ----------.	A. 0 B. 1 C. -1 D. undefined
178	Inclination of X-axis or of any line parallel to X-axis is:	A. Zero D. Undefined
179	The line l is horizontal if and only if slope is equal to:	A. 0 B. 1 C. 2 D. undefined
180	Inclination of Y-axis or of any line parallel to Y-axis is:	B. Zero D. Undefined
181	If a straight line is perpendicular to y-axis, then its slope is:	A. 1 B. -1 C. 0 D. undefined
182	If a straight line is perpendicular to x-axis, then its slope is:	A. 0 B. 1 C. 2 D. Undefined
183	Question Image	A. Line parallel to x-axis B. Line parallel to y-axis C. Line passing through the origin D. Both (a) and (b)
184	Question Image	A. Line parallel to x-axis B. Line parallel to y-axis C. Line passing through the origin D. Both (a) and (b)
185	Question Image	A. Line parallel to x-axis B. Line parallel to y-axis C. Line passing through the origin D. Both (a) and (b)
186	Question Image	A. Line parallel to x - axis B. Line parallel to y - axis C. Inclined D. Both (a) and (b)
187	Question Image	
188	Infinite number of lines can pass through:	A. One point B. Two points C. Three points D. Four points
189	The line x = a is on the right of y - axis if:	A. a > 0 B. a < 0 C. a = 0
190	y = -2 is a line:	A. Parallel to x-axis B. Parallel to y-axis C. Perpendicular to x-axis D. None of these
191	Equation of a line parallel to x-axis:	A. x = 0 B. x = y C. y = a D. x = a
192	If a = 0, then the line ax + by + c = 0 is parallel to:	A. y - axis B. x - axis C. along y - axis D. None of these
193	The line y = c is above the x - axis, if:	A. c > 0 B. c < 0 C. c = 0
194	x = 4 is a line:	A. Parallel to x - axis B. Parallel to y - axis C. Perpendicular to y-axis D. None of these

195	x = c is a line:	A. Perpendicular to x-axis B. Parallel to x-axis C. Perpendicular to y-axis D. None of these
196	y - y1 = m (x - x1) is the equation of straight line in:	A. Slope-intercept from B. Point-slope from C. Normal form D. Intercepts form
197	y = mx + c is the equation of straight line in:	A. Slope-intercept form B. Two points from C. Point slope form D. Intercepts form
198	y = 2x + 3 is the;	A. Slope-intercept form B. Two points form C. Point slope form D. Intercepts form
199	The equation to the straight line which passes through the point (2, 9) and makes an angle of 45° with x-axis is:	A. x + y + 7 = 0 B. x - y + 7 = 0 C. y - x + 7 = 0 D. None of these
200	General form of equation of line is:	A. ax - by + c = 0 B. ax + by - c = 0 C. ax + by + c = 0 D. ax - by - c = 0
201	The equation of a straight line which parallel to the line 3x - 2y + 5 = 0 and passes through (2, -1) is:	A. 3x + 2y - 8 = 0 B. 3x - 2y + 8 = 0 C. 3x - 2y - 8 = 0 D. 3x + 2y + 8 = 0
202	The perpendicular distance of the line 3x + 4y + 10 = 0 from the origin is:	A. 0 B. 1 C. 2 D. 3
203	The point (5, 8) lies the line 2x - 3y + 6 = 0	A. Above B. Below C. On D. None
204	The point (2, 5) lies the lie 3x - y + 1 = 0	A. Above B. Below C. On D. None
205	The line y = a is below the x-axis, if:	A. a > 0 B. a < 0 C. a = 0
206	Angle between the lines x + y + 1 = 0 & x - y + 4 = 0 is:	A. 30° B. 45° C. 60° D. 90°
207	Point of intersection of lines x - 2y + 1 = 0 and 2x - y + 2 = 0 equals:	A. (1, 0) B. (0, 1) C. (-1, 0) D. (0, -1)
208	Point of intersection of x + y = 5 & x - y = 3 is:	A. (5, 5) B. (4, 2) C. (4, 1) D. (1, 4)
209	Question Image	A. 0 B. 2 C. 1 D. -1
210	ax + by + c = 0 has matrix from as:	B. |ax + by| = |-c| C. [ax + by] = [c] D. [ax - by] = [-c]
211	The pair of lines of homogeneous second-degree equation $ax^2 + 2hxy + by^2 = 0$ are real and coincident, if:	A. h² < ab B. h²> ab C. h²= ab D. None of these
212	A pair of lines of homogeneous second degree equation $ax^2 + 2hxy + by^2 = 0$ are othogonal, if:	A. a - b = 0 B. a + b = 0 C. a + b > 0 D. a - b < 0

213	Joint equation of y + 2x = 0, y - 3x = 0 is:	A. (y+2x)(y-3x) = 0 B. (y-2x)(y-3x) = 0 C. (y+2x)(y+3x) = 0 D. (y-2x)(y+3x) = 0
214	ax + by + c = 0, will represent equation of straight line parallel y-axis if:	A. a = 0 B. b = 0 C. c = 0 D. a = 0, c = 0
215	The centroid of the triangle whose vertices are (3, -5), (-7, 4) and (10, -2) is:	A. (-2, -2) B. (-2, 2) C. (2, -1) D. (0, 0)
216	A linear equation in two variables represents:	A. Circle B. Ellipse C. Hyberbola D. Straight line
217	Equation of the line parallel to x + 3y - 9 = 0 is:	A. 3x - y - 9 = 0 B. 3x + 9y + 7 = 0 C. 2x - 6y - 18 = 0 D. x - 3y + 9 = 0
218	Two non parallel lines intersect each other at:	A. 1 point B. 2 points C. 3 points D. 4 points
219	Non-vertical lines divide the plane into_____half plane:	A. Upper and lower B. Many C. Left and Right D. None of these
220	x = c is a vertical line parallel to _____.	A. x-axis B. y-axis may be C. y-axis D. None of these
221	x = a is a vertical line perpendicular to _____.	A. x - axis B. x - axis may be C. y - axis D. None of these
222	y = b is a horizontal line parallel to _____:	A. x - axis B. x - axis may be C. y - axis D. None of these
223	y = b is a horizontal line perpendicular to _____:	A. x - axis B. y - axis may be C. y - axis D. None of these
224	The operation _____ by a positive constant to each side of inequality will affect the order (or sense) of inequality:	A. Adding B. Subtracting C. Multiplying D. None of these
225	A solution of a linear inequality in x and y is an ordered pair of numbers, which _____ the inequality.	A. Does not satisfy B. May be stisfied C. Satisfies D. None of these
226	Question Image	A. One variable B. Three variable C. Two variable D. Four variable
227	ax + b < c is a inequality of:	A. One variable B. Two variable C. Three variable D. Four variable
228	The inequality x < a is the open half plane to the _____ of the boundary line x = a:	A. Above B. Left C. Below D. Right
229	ax + b > c is an inequality of:	A. One variable B. Three variable C. Two variable D. Four variable
230	The inequality y > b is the open half plane to the _____ of the boundary line y = b:	A. Above B. Left C. Below D. Right

		D. Right
231	x = 2 is a vertical line perpendicular to _____:	A. x - axis B. x - axis may be C. y - axis D. None of these
232	Question Image	A. Above B. Left C. Below D. Right
233	The non-negative inequalities are called:	A. Parameters B. Constants C. Decision variables D. Vertices
234	ax + by < c is an inequality of:	A. One variable B. Threevariable C. Twovariable D. Fourvariable
235	Question Image	A. One variable B. Three variable C. Two variable D. Four variable
236	The graph of linear equation of the form ax + by = c is a _____ where a, b and c are constants and a, b are not both zero.	A. Curve B. Circle C. Straight line D. Parabola
237	The region of the graph ax + by > c is called _____ half plane:	A. Open B. Boundary of C. Closed D. None of these
238	There are _____ ordered pairs that satisfy the inequality ax + by > c.	A. Finitely many B. Two C. Infinitely many D. Four
239	The order (or sense) of an inequality is changed by _____, it each side by a negative constant.	A. Adding B. Subtracting C. Dividing D. None of these
240	Question Image	A. Open B. Closed C. Open as well as closed D. None of these
241	The graph of 2x + y < 2 is the open half plane which is _____ the origin side of 2x + y = 2:	A. At B. Not an C. On D. None of these
242	Question Image	A. Left or right B. Upper or lower C. Open D. None of these
243	Question Image	A. At B. Not on C. On D. None of these
244	For different values of k, the equation 4x + 5y = k represents lines _____ to the line 4x + 5y = 0.	A. Perpendicular B. Parallel C. Equal D. None of these
245	The graph of linear equation of the form ax + by = c is a line, which divides the plane into _____ disjoint regions, where a, b and c are constants and a, b are not both zero.	A. One B. Two C. Thre D. None of these
246	A line which divides a plane into two parts is called:	A. Boundary point B. Boundary line C. Feasible line D. None
247	A point of a solution region where two of its boundary lines intersects is called a _____ point of the solution region:	A. Maximum B. Corner C. Minimum D. None of these
248	A corner point is the point of intersection of:	A. x-axis & y - axis B. Boundary lines C. Any two lines

		C. Any two lines D. None
249	A region, which is restricted to the _____ quadrant, is referred to as a feasible region for the set of given contraints.	A. First B. Third C. Second D. Fourth
250	The feasible region is _____ if it can easily by enclosed within a circle.	A. Bounded B. Exist C. Unbounded D. None of these
251	There are _____ feasible solutions in the feasible region:	A. Finitely B. Two C. Infinitely many D. Three
252	The system of _____ involved in the problem concerned is called problem constraints:	A. Linear inequalities B. Equations C. Linear equalities D. None of these
253	If the line segment obtained by joining any two points of a region lies entirely within the region, then the region is called _____:	A. Maximum B. Vertex C. Minimum D. Convex
254	The feasible solution, which maximizes or minimizes the objective function, is called the _____:	A. Maximum solution B. Optimal solution C. Minimum solutions D. None of these
255	A function, which is to be maximized or minimized is called an _____:	A. Maximum function B. Objective funciton C. Minimum function D. None of these
256	(1, 0) is the solution of inequality :	A. 7x + 2y < 8 B. x - 3y < 0 C. 3x + 5y > 6 D. -3x + 5y > 2
257	x = 4 is the solution of inequality:	A. x + 3 > 0 B. x - 3 < 0 C. -2x + 3 > 0 D. x + 3 < 0
258	Question Image	A. (1, 1) B. (1, 3) C. (1, 4) D. (1, 5)
259	The ordered pair _____ is a solution of the inequality x + 2y < 6.	A. (3, 3) B. (1, 1) C. (4, 4) D. (5, 5)
260	-4 < y < 4 is the solution of the following:	A. y = 5 B. y = 3 C. y = -4 D. y = 4
261	The curves obtained by cutting a _____ double right circular cone by a _____ are called conics:	A. Straight line B. Plane C. Curve D. None of these
262	The two parts of a right circular cones are called:	A. Nappes B. Apex of the cone C. Generator D. Vertex
263	The fixed point of the conic is called:	A. Directrix B. Vertex C. Focus D. None of these
264	If the cone is cut by a plane perpendicular to the axis of the cone, then the section is a / an:	A. Parabola B. Circular cone C. Ellipse D. Circle
265	If the cutting plane is slightly tillted and cuts only one nappe of the cone, then the section is a / an:	A. Ellipse B. Circular cone C. Circle D. Point circle
		A. Parabola

266	If the cutting plane is parallel to the axis of the cone and intersects both of its nappes, then the section a / an:	A. Parabola B. Hyperbola C. Ellipse D. None of these
267	The set of all points in the plane that are equally distant from a fixed point is called a / an:	A. Circle B. Circular cone C. Ellipse D. Point circle
268	If the radius of a circle is zero, then the circle is called a / an:	A. Circle B. Circular cone C. Ellipse D. Point circle
269	If r is the radius of the circle and its center is at origin, then equation of circle is:	A. x² + y² = a² B. x² + y² = r² C. x² - y² = a² D. x² - y² = r²
270	In equation of circle, coefficient of each of x^2 and y^2 are:	A. Not equal B. Opposite in signs C. Equal D. None of these
271	A chord containing the center of the circle is called _____ of the circle:	A. Diameter B. Chord C. Radius D. None of these
272	The ratio between the measure of the radial segment and the diameter of a circle is:	A. 2 : 1 B. 4 : 3 C. 1 : 2
273	The distance between the center of a circle and any point of the circle is called:	A. Tangents B. Secant C. Diameter D. Radius
274	The equation $x^2 + y^2 + 2x + 3y = 10$ represents a:	A. A pair of lines B. Circle C. Ellipse D. Hyperbola
275	A line segment whose end points lie on the circle is called a _____ of the circle.	A. Radius B. Chord C. Diameter D. None of these
276	Measure of the central angle of a minor arc is ____ the measure of the angle subtended in the corresponding major arc.	A. Equal B. Double C. Not equal to D. Triple
277	The center of circle $(x+3)^2 + (y-2)^2 = 16$ equals:	A. (-3, 2) B. (3, -2) C. (3, 2) D. (-3, -2)
278	If equation of circle is $(x - h)^2 + (y - k)^2 = r^2$, then center of a circle:	A. (-h, -k) B. (h, k) C. (-h, k) D. (h, -k)
279	The center of circle $x^2 + y^2 + 2gx + 2fy + c = 0$ is:	A. (-g, -f) B. (-f, -g) C. (0, 0) D. (g, f)
280	The radius of circle $x^2 + y^2 + 2gx + 2fy + c = 0$ is:	
281	The radius of circle $x^2 + y^2 + ax + by + c = 0$ is:	D. None
282	Question Image	
283	The radius of point circle is:	A. 0 B. (0, 0) C. r D. 1
284	If r is the radius of any circle and C its center, then any point $P(x_1, y_1)$ lies on the circle only if:	A. |CP| < r B. |CP| > r C. |CP| = r D. None of these

285	If a point lies inside a circle, then its distance from the center is:	A. Equal to the radius B. Less then the radius C. Greater then the radius D. Equal to or greater than the
286	If r is the radius of any circle and C its center, then any point $P(x_1, y_1)$ lies outside the circle only if:	A. |CP| < r B. |CP| = r C. |CP| > r D. None of these
287	Point p (-5, 6) lies ..... the circle $x^2 + y^2 + 4x - 6y - 12 = 0$	A. Outside B. Inside C. On D. None of these
288	Point (5, 6) lies ..... the circle $x^2 + y^2 = 81$:	A. Outside B. Inside C. On D. None of these
289	A line that touches the curve without cutting through it is called:	A. Straight line B. Tangent line C. Normal line D. Vertical line
290	A line perpendicular to a radial chord of a circle at the end-point (which lies on the circle) is a:	A. Secant B. Diameter C. Chord D. Tangent
291	A line segment having both the end-points on a circle and not passing through the center is called a:	A. A chord B. A secant C. A diameter D. None of these
292	A line through a point say P perpendicular to the tangent to the curve at P is called:	A. Straight line B. Tangent line C. Normal line D. None of these
293	A circle is of radius 5 cm, the distance of a chord 8 cm long from its center is:	A. 4 cm B. 3cm C. 2.5cm D. 3.4cm
294	One of the angles of a triangle inscribed in a circle is of 40°. If one of its' the diameter, the other angles have the measures:	A. 30°, 110° B. 40°, 100° C. 50°, 90° D. 20°, 120°
295	Two circles of radius 3 cm and 4 cm touch each other externally. The distance between their centers is:	A. 1 cm B. 7cm C. 4cm D. 5cm
296	The condition for the line $y = mx + c$ to be a tangent to the circle $x^2 + y^2 = a^2$ is c = _____:	
297	Two arcs of two different circles are congruent if:	A. The circles are congruent B. The corresponding central angles are congruent C. Both a and b D. None of the above
298	If a circle and a line intersect in two points, then the line is called:	A. A chord B. A secant C. A diameter D. None of these
299	Perpendicular dropped from the center of a circle on a chord _____ the chord:	A. Normal B. Bisects C. Equal to D. None of these
300	Two imaginary tangents can be drawn to a circle from any point $P(x_1, y_1)$ _____ the circle:	A. Inside B. On C. Outside D. None of these
301	An angle in a semi-circle is:	A. 0° B. 90° C. 180° D. 60°
302	Two real and distinct tangents can be drawn to a circle from any point $P(x_1, y_1)$ _____ the circle:	A. Inside B. On C. Outside D. None of these

303	Length of tangent from (0,1) to $x^2 + y^2 + 6x - 3y + 3 = 0$	A. 2 B. 1 C. 4 D. 3
304	Length of tangent from (a, 0) to the circle $x^2 + y^2 + 2gx + 2fy + c = 0$ is:	B. c C. 2g + 2f -c D. None
305	Question Image	B. 0 C. 4 D. 7
306	$y^2 = 4ax$, is the standard equation of the:	A. Ellipse B. Parabola C. Hyperbola D. None of these
307	If the focus lies on the x-axis with coordinates F(a, 0) and directrix of the parabola is = - a then the equation of parabola is:	A. x² = 4ay B. y²= 4ax C. -x²= 4ay D. -y²= 4ax
308	The conic is a parabola, if:	A. e = 1 B. e > 1 C. 0 < e < 1 D. e = 0
309	The directrix of the parabola $x^2 = 4ay$ is:	A. x = a B. x = -a C. y = a D. y = -a
310	If the focus lies on the y - axis with coordinates F(0, a) and directrix of the parabola is y = -a, then the equation of parabola is:	A. x² = 4ay B. -x²= 4ay C. -y²= 4ax D. y²= 4ax
311	The number e denotes the _____ of the conic:	A. Directrix B. Vertex C. Focus D. Eccentricity
312	A line segment joining two distinct points on a parabola is called a _____ of the parabola:	A. Chord B. Vertex C. Focus D. Directrix
313	A chord passing through the focus of a parabola is called a _____ of the parabola:	A. Directrix B. Latus rectum C. Focus D. Focal chord
314	The graph of the the parabola $x^2 = 4ay$ lies in quadrant:	A. I and II B. III and IV C. II and III D. I and III
315	The parabola $y^2 = 4ax$ lies in quadrants:	A. I and II B. III and IV C. II and III D. I and IV
316	The graph of the parabola $x^2 = -4ay$ lies in quadrants:	A. I and II B. III and IV C. II and III D. I and III
317	The graph of the parabola $y^2 = -4ax$ lies in quadrants:	A. I and II B. III and IV C. II and III D. I and III
318	If the equation of the parabola is y2 = 4ax, then opening of the parabola is to the right of the:	A. x-axis B. y = x C. y-axis D. x + y =0
319	If the equation of the parabola is $x^2 = 4ay$, then opening of the parabola is to _____ of the x-axis:	A. Left B. Upward C. Right D. Downward
320	The opening of the parabola $y^2 = 4ax$ is to the _____ of the:	A. Left B. Upward C. Right D. Downward

321	The opening of the parabola $x^2 = 4ay$ is upward of the:	A. x -axis B. y = c C. y - axis D. x = y
322	The opening of the parabola $y^2 = -4ax$ is to the left of the:	A. x-axis B. x = 1 C. y-axis D. x = 0
323	The opening of the parabola $x^2 = 16y$ is to _____ of the x-axis:	A. Left B. Upward C. Right D. Downward
324	If the equation of the parabola is $y^2 = -4ax$, then opening of the parabola is to the _____ of the y-axis:	A. Left B. Upward C. Right D. Downward
325	If the equation of the parabola $x^2 = 4ay$, then opening of the parabola is upward of the:	A. x-axis B. y-axis C. Major axis D. Minor axis
326	The graph of the parabola $y^2 = -4ax$ is symmetric about:	A. x-axis B. y = x C. y-axis D. None of these
327	The graph of the parabola $x^2 = -4ay$ is symmetric about:	A. x-axis B. major axis C. y-axis D. minor axis
328	The graph of the parabola $y^2 = -4ax$ is symmetric about:	A. x-axis B. major axis C. y-axis D. minor axis
329	The focus of the parabola $y^2=4ax$ is:	A. (-a , 0) B. (0, a) C. (0, -a) D. (a, 0)
330	The focus of the parabola $y^2=-4ax$ is:	A. (-a , 0) B. (0, a) C. (0, -a) D. (a, 0)
331	The focus of the parabola x2=-4ay is:	A. (-a , 0) B. (0, a) C. (0, -a) D. (a, 0)
332	The focus of the parabola $x^2 = 4ay$:	A. (0, a) B. (-a , 0) C. (0, -a) D. (a, 0)
333	The equ. of directrix of the parabola $y^2 = -4ax$ is:	A. x = a B. x = - a C. y = a D. y = -a
334	The directrix of the parabola $x^2 = -4ay$ is:	A. x = a B. x = -a C. y = a D. y = -a
335	The directrix of the parabola $y^2 = 4ax$ is:	A. x = a B. x = -a C. y = a D. y = - a
336	The vertex of the parabola $x^2 = -4ay$ is:	A. (a, 0) B. (0, 0) C. (0, -a) D. (0, a)
337	The vertex of the parabola $y^2 = 4ax$ is:	A. (-a, 0) B. (a, 0) C. (0, -a) D. (0, 0)
338	The point where the axis meets the parabola is called _____ of the parabola:	A. Directrix B. Vertex C. Focus

		D. Eccentricity
339	The vertex of the parabola $y^2 = -4ax$ is:	A. (-a, 0) B. (a, 0) C. (0, -a) D. (0, 0)
340	The point of a parabola which is closest to the focus in the:	A. Directrix B. Vertex C. Focus D. Chord
341	The vertex of the parabola $x^2 = 4ay$ is:	A. (-a, 0) B. (0, a) C. (0, -a) D. (0, 0)
342	The vertex of parabola $(x - 1)^2 = 8 (y + 2)$ is:	A. (1, -2) B. (0, 1) C. (-1, -2) D. (1, 2)
343	The axis of the parabola $x^2 = 4ay$ is:	A. x = 0 B. x = -a C. y = 0 D. y = -a
344	The axis of the parabola $y^2 = -4ax$ is:	A. x = a B. x = 0 C. y = a D. y = 0
345	The axis of the parabola $y^2 = 4ax$ is:	A. x = 0 B. x = a C. y = 0 D. y = a
346	The axis of the parabola $x^2 = -4ay$ is:	A. x = a B. x = 0 C. y = a D. y = 0
347	Equation of axis of the parabola $x^2 = 4ay$ is:	A. x = 0 B. x = a C. y = 0 D. y = a
348	The equi. of latus-rectum of the parabola $y^2 = -4ax$ is:	A. x = a B. x = -a C. y = a D. y = -a
349	The length of the latus rectum of the parabola $y^2 = 4ax$ is:	A. a B. 4a C. 2a D. None of these
350	The equation of the latus-rectum of the parabola $y^2 = 4ax$ is:	A. x = a B. x = -a C. y = a D. y = -a
351	the focal chord perpendicular to the axis of the parabola is called _____ of the parabola:	A. Directrix B. Latus rectum C. Focus D. Focal chord
352	The number e denotes the _____ of the conic:	A. Directrix B. Vertex C. Focus D. Eccentricity
353	The conic is an ellipse, if:	A. e = 1 B. e > 1 C. 0 < e < 1 D. e = 0
354	Question Image	A. 4a B. 2a C. 4b D. 2b
355	Question Image	A. x = 0 B. y = -a C. y = 0 D. y = -a
		A. a B. 2b

356	Question Image	B. 2b C. b D. 2a
357	In the case of translation of axes which formula is true:	A. x = X - h B. x = X + h C. x + X = h D. None
358	In the case of rotation of axes which formula is true:	
359	Question Image	A. Ellipse B. Parabola C. Hyperbola D. Circle
360	Question Image	A. Circle B. Parabola C. Hyperbola D. Ellipse
361	Question Image	A. sec x tan x B. sec²x C. -sec x tan x D. -sec²x
362	Question Image	A. -cosec x cotx B. cosec² x C. -cosec²x D. cosec x cotx
363	Question Image	A. sec x tan x B. - sec²x C. -sec x tan x D. sec²x
364	Which of the following is not a vector quantity ?	A. Weight B. Mass C. Force D. Velocity
365	A scalar quantity is one that possesses only :	A. Magnitude B. Direction C. Both a and b D. None of these
366	Which of the following is a vector quantity ?	A. Work B. Temperature C. Distance D. Displacement
367	Question Image	A. Free vector B. Unit vector C. Null vector D. None of these
368	Question Image	A. Scalar quantity D. Reciprocal vector
369	Two vectors are equal if they:	A. Pass through the same point B. Are parallel to each other C. Are parallel to each other and have same direction D. Have equal magnitude and have same direction
370	Question Image	A. Scalar B. Free vector C. Unit vector D. Null vector
371	Zero vector is perpendicular to:	A. Every vector B. Unit vector only C. Position vector only D. Not any vector
372	The law of parallelogram of addition was used by Aristotle to describe the combined action of :	A. One force B. Two forces C. Three forces D. Four forces
373	Question Image	A. 2 - 7 B. 2 + 7
374	A unit vector is defined as a vector whose magnitude is:	A. 0 B. 2 C. 1 D. 4

375	Question Image	A. x - axis B. z - axis C. y - axis D. None of these
376	Question Image	A. Position vector B. Null vector C. Unit vector D. None of these
377	Question Image	
378	Question Image	A. [0] B. [0, 0] C. [0, 0, 0] D. None of these
379	Question Image	C. 28 D. 29
380	Question Image	A. 3 B. 4 C. 5 D. 6
381	Question Image	A. 0 B. -1 C. 1 D. 2
382	Question Image	A. Unit Vector B. Null vector C. Position vector D. None of these
383	Question Image	A. Unit vector B. Null vector C. Free vector D. None of these
384	A null vector is defined as a vector whose magnitude is:	A. 1 B. 2 C. 0 D. None of these
385	Question Image	A. Position vector of O B. Position vector of P C. Unit vector D. Null vector
386	Question Image	A. Unit vector B. Null vector C. Position vector D. None of these
387	Which are the following triples can be direction angles of a single vector:	A. 45°,45°,60° B. 30°,45°,60° C. 45°,60°,60° D. 30°,30°,30°
388	Question Image	A. 0 B. 2 C. 3 D. 1
389	Question Image	A. 1 B. 2 C. 3 D. 0
390	Question Image	A. 0 B. 1 C. -1 D. 2
391	Question Image	A. 0 B. 2 C. 3 D. 1
392	Question Image	A. a B. b C. c D. a + b
393	Question Image	A. 60° B. 90° C. 30° D. 45°

394	If 2 and 2 are x and y-components of a vector, then its angle with x-axis is:	A. 30° B. 45° C. 60° D. 90°
395	Question Image	A. 0 B. 1 C. -1 D. 2
396	The cross product or vector product of two vectors is defined:	A. Only in plane B. Only in space C. Both a and b D. None of these
397	Question Image	A. 0
398	Question Image	B. 0
399	Question Image	C. 0 D. 1
400	Question Image	A. 1 B. 0
401	Question Image	A. 0 B. 1 C. -1 D. 2
402	Question Image	A. 90° B. 30° C. 60° D. 0°
403	If any two vectors of scalar triple product are equal, then its value is equal to:	A. 0 B. 1 C. -1 D. 2
404	$\underline{i}.(\underline{j}.\underline{k})$ =	A. Meaningless B. -1 C. 1 D. 2
405	Question Image	A. Volume of the tetrahedron B. Volume of the parallelepiped C. Volume of the triangle D. None of these
406	Question Image	
407	$\cosh^{-1}x$ =	
408	The area A of a circle as a function of its circumference C is:	
409	Question Image	A. 4 B. Does not exist
410	Question Image	A. Continuous at x = 1 B. Not continuous at x = 1 C. Both a and b D. none
411	Question Image	A. 0 B. 1 C. e D. Does not exist