FA Part 2 Mathematics Full Book Test Online

Sr	Questions	Answers Choice
1	Question Image	A. Volume of the tetrahedron B. Volume of the parallelepiped C. Volume of the triangle D. None of these
2	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)
3	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
4	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
5	If the degree of a polynomial function is ----------, then it is called a linear function:	A. 0 B. 1 C. 2 D. 3
6	The directrix of the parabola $x^2 = 4ay$ is:	A. x = a B. x = -a C. y = a D. y = -a
7	f (x) = x secx, then f(0)=	A. -1 B. 0 C. 1
8	Question Image	A. integration by parts B. definite integral C. Differentation D. None of these
9	The function $f(x) = 3x^2$ has minimum value at :	A. x = 3 B. x = 2 C. x = 1 D. x = 0
10	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
11	The directrix of the parabola $y^2 = 4ax$ is:	A. x = a B. x = -a C. y = a D. y = - a
12	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
13	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
14	Question Image	
15	Question Image	A. x - axis B. z - axis C. y - axis D. None of these
16	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
17	Question Image	A. sec x tan x B. - sec²x C. -sec x tan x D. sec²x
18	Question Image	
19	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
20	f(x) = sin x + cos x is ---------- function:	A. Even B. Odd C. Composite D. Neither even nor odd function
21	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
22	Question Image	A. 5 sin x B. cosh (5x) C. 5 cosh (5x) D. -5 cosh (5x)
23	Question Image	A. 2cosh x B. 2sinh x C. 2sinh (2x) D. -2sinh (2x)
24	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
25	Question Image	A. Unit Vector B. Null vector C. Position vector D. None of these
26	Question Image	A. 1 B. 0
27	Question Image	A. sin x B. -cos x C. -sin x D. cos x
28	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
29	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
30	Question Image	A. a B. 2b C. b D. 2a
31	Question Image	A. Line parallel to x - axis B. Line parallel to y - axis C. Inclined D. Both (a) and (b)
32	Question Image	
33	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
34	Question Image	A. Unit vector B. Null vector C. Position vector D. None of these
35	The feasible region is _____ if it can easily by enclosed within a circle.	A. Bounded B. Exist C. Unbounded D. None of these

36	Which one is an exponential function ?	
37	Perpendicular dropped from the center of a circle on a chord _____ the chord:	A. Normal B. Bisects C. Equal to D. None of these
38	The condition for the line y = mx + c to be a tangent to the circle $x^2 + y^2 = a^2$ is c = _____:	
39	The graph of the parabola $y^2 = -4ax$ is symmetric about:	A. x-axis B. y = x C. y-axis D. None of these
40	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
41	The system of _____ involved in the problem concerned is called problem constraints:	A. Linear inequalities B. Equations C. Linear equalities D. None of these
42	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
43	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
44	Question Image	
45	Question Image	A. ln |sin x| B. - ln |sin x| C. ln |cos x| D. -ln |cos x|
46	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
47	Question Image	A. sinh x B. cosh x C. -sinh x D. -cosh x
48	Question Image	C. 0 D. 1
49	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)
50	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:	
51	Question Image	
52	Question Image	
53	$\cosh^{-1}x$ =	
54	ax + by + c = 0 has matrix from as:	B. |ax + by| = |-c| C. [ax + by] = [c] D. [ax - by] = [-c]
55	In the case of rotation of axes which formula is true:	
56	Question Image	A. 4 B. Does not exist
57	The equi. of latus-rectum of the parabola $y^2 = -4ax$ is:	A. x = a B. x = -a C. y = a D. y = -a
58	Question Image	A. 0 B. 2

58	Question Image	C. 3 D. 1
59	Question Image	A. Integration by parts B. Definite integral C. Differentiation D. None of these
60	ax + by < c is an inequality of:	A. One variable B. Threevariable C. Twovariable D. Fourvariable
61	If f(x) = |x|, f(x) is a:	A. Constant function B. Absolute function C. Linear function D. Quadratic function
62	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)
63	The number e denotes the _____ of the conic:	A. Directrix B. Vertex C. Focus D. Eccentricity
64	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
65	Question Image	A. 4 B. 2 C. 1
66	Question Image	A. Continuous at x = 1 B. Not continuous at x = 1 C. Both a and b D. none
67	The vertex of the parabola $x^2 = 4ay$ is:	A. (-a, 0) B. (0, a) C. (0, -a) D. (0, 0)
68	The line x = a is on the right of y - axis if:	A. a > 0 B. a < 0 C. a = 0
69	x = c is a line:	A. Perpendicular to x-axis B. Parallel to x-axis C. Perpendicular to y-axis D. None of these
70	Notation Df(x) for derivative was used by:	A. Cauchy B. Newton C. Leibniz D. Lagrange
71	X-coordinate of any point on Y-axis:	A. 0 B. x C. y D. 1
72	y-coordinate of any point on X-axis:	A. 0 B. x C. y D. 1
73	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
74	Question Image	A. Undefined B. 3a² C. a² D. 0
75	Question Image	
76	Question Image	A. 3 B. 4 C. 5 D. 6

77	Question Image	A. a B. b C. c D. a + b
78	Question Image	B. 0 C. 4 D. 7
79	Area between x-axis and the curve:	A. 32 D. 16
80	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
81	Question Image	A. e^{ax} B. f(x) C. e^{ax}f(x) D. e^{ax + f(x)}
82	A corner point is the point of intersection of:	A. x-axis & y - axis B. Boundary lines C. Any two lines D. None
83	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
84	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
85	The line y = a is below the x-axis, if:	A. a > 0 B. a < 0 C. a = 0
86	Equation of a line parallel to x-axis:	A. x = 0 B. x = y C. y = a D. x = a
87	Which one is not an exponential function ?	
88	The perpendicular distance of the line 3x + 4y + 10 = 0 from the origin is:	A. 0 B. 1 C. 2 D. 3
89	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
90	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
91	If s is the distance traveled by a body at time t, the velocity is given by the expression:	
92	Question Image	A. x = a B. x = 2 C. x = 0 D. None
93	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)
94	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)
95	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
96	The distance between the center of a circle and any point of the circle is called:	A. Tangents B. Secant C. Diameter

		C. Diameter D. Radius
97	Question Image	A. 2 - 7 B. 2 + 7
98	The instantaneous rate of change of y with respect to x is given by:	
99	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
100	For any point (x, y) and y - axis:	A. y = 0 B. y = -1 C. y = 1 D. x = 0
101	If y = sin x then dy =	A. cosy dx B. cos x C. cosx dx D. cos xdy
102	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
103	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
104	Question Image	A. tan x + c B. -tan x + c C. sec x + c D. -sec x + c
105	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°
106	Question Image	A. x = a B. x = 2 C. x = 0 D. None
107	Question Image	A. Parallel lines B. Perpendicular lines C. Non-parallel lines D. None of these
108	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
109	Question Image	
110	Question Image	A. Circle B. Parabola C. Hyperbola D. Ellipse
111	Question Image	A. Common logarithmic B. Natural logarthmic C. Exponential D. None of these
112	A line segment joining two distinct points on a parabola is called a _____ of the parabola:	A. Chord B. Vertex C. Focus D. Directrix
113	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
114	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
115	If y = f(u) and u = F(x), then:	
116	The radius of circle $x^2 + y^2 + ax + by + c = 0$ is:	D. None

117	The ordered pair _____ is a solution of the inequality x + 2y < 6.	A. (3, 3) B. (1, 1) C. (4, 4) D. (5, 5)
118	Question Image	A. 0 B. 1 C. 2 D. 4
119	The opening of the parabola x^2= 16y is to _____ of the x-axis:	A. Left B. Upward C. Right D. Downward
120	Question Image	A. At B. Not on C. On D. None of these
121	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
122	Question Image	A. Position vector B. Null vector C. Unit vector D. None of these
123	The parabola y^2 = 4ax lies in quadrants:	A. I and II B. III and IV C. II and III D. I and IV
124	Question Image	A. 0 B. 2 C. 1 D. -1
125	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
126	x = a is a vertical line perpendicular to _____.	A. x - axis B. x - axis may be C. y - axis D. None of these
127	The conic is an ellipse, if:	A. e = 1 B. e > 1 C. 0 < e < 1 D. e = 0
128	If any two vectors of scalar triple product are equal, then its value is equal to:	A. 0 B. 1 C. -1 D. 2
129	Question Image	A. Integration B. Integration w.r.t.x. C. Differentiation D. Differentiation w.r.t.x
130	Question Image	C. 28 D. 29
131	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
132	Question Image	A. Even B. Odd C. One-one D. Zero
133	Inclination of X-axis or of any line parallel to X-axis is:	A. Zero D. Undefined
134	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
		A. cos x + c

135	Question Image	B. - cos x + c C. sin x + c D. -sin x + c
136	$\underline{i}.(\underline{j}.\underline{k})$ =	A. Meaningless B. -1 C. 1 D. 2
137	The focus of the parabola $y^2=-4ax$ is:	A. (-a , 0) B. (0, a) C. (0, -a) D. (a, 0)
138	Question Image	A. sin x B. cos x C. -sin x D. -cos x
139	$Cosh^2 x + Sinh^2 x =$	A. Cosh x² B. Cosh 2x C. Sinh 2x D. Tanh 2x
140	The focus of the parabola $y^2=4ax$ is:	A. (-a , 0) B. (0, a) C. (0, -a) D. (a, 0)
141	The point of intersection of the perpendicular bisectors of a triangle is called:	A. Centroid B. Ortho-center C. Circums-center D. In-center
142	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
143	Distance of the point (-2, 3) from y-axis is:	A. -2 B. 2 C. 3 D. 1
144	Question Image	A. Constant function B. Absolute linear function C. Linear function D. Quadratic function
145	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
146	x = 2 is a vertical line perpendicular to _____:	A. x - axis B. x - axis may be C. y - axis D. None of these
147	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
148	The derivative of x with respect to y is given by:	
149	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
150	Question Image	
151	A parallelogram is a rhombus if and only if its diagonals are:	A. Parallel B. Perpendicular C. Equal D. None of these
152	If (x, y) are the coordinate of a point ordered pair is called:	A. Abscissa B. Ordinate C. Coordinate D. Ordered pair
153	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)
154	Question Image	

154	Question Image	
155	The vertex of the parabola $y^2 = 4ax$ is:	A. (-a, 0) B. (a, 0) C. (0, -a) D. (0, 0)
156	Question Image	A. equal to each other B. not equal to each C. nearly equal to each other D. none of these
157	The number e denotes the _____ of the conic:	A. Directrix B. Vertex C. Focus D. Eccentricity
158	Let f(x) = cos x, then f(x) is an:	A. Even function B. Odd function C. Power function D. None of these
159	Question Image	B. 0
160	Question Image	A. x = 0 B. y = -a C. y = 0 D. y = -a
161	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
162	Question Image	A. f(x² + 1) B. f(x) D. f(x²)
163	The area A of a circle as a function of its circumference C is:	
164	Question Image	A. sech x tanh x B. -sech²x C. -sech x tanh x D. sech²x
165	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
166	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
167	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
168	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
169	A line which divides a plane into two parts is called:	A. Boundary point B. Boundary line C. Feasible line D. None
170	Question Image	
171	Question Image	A. Ellipse B. Parabola C. Hyperbola D. Circle
172	Parametric equations x = a cos t, y = a sin t represent the equation of:	A. Line B. Circle C. Parabola D. Ellipse
173	Question Image	A. c B. 0

		C. 1 D. -c
174	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
175	The symbol | | is used for:	A. Parallel lines B. Perpendicular lines C. Non-parallel lines D. None of these
176	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
177	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
178	The center of circle $(x+3)^2 + (y-2)^2 = 16$ equals:	A. (-3, 2) B. (3, -2) C. (3, 2) D. (-3, -2)
179	The vertical line y'oy is called:	A. x-axis B. y-axis C. abscissa D. Ordinate
180	Question Image	A. Position vector of O B. Position vector of P C. Unit vector D. Null vector
181	Question Image	A. Open B. Closed C. Open as well as closed D. None of these
182	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
183	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
184	The distance of any point P (x, y) from the origin O(0 , 0) is given by:	
185	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
186	Question Image	A. 0
187	Question Image	C. 2 D. 1
188	Question Image	A. Scalar B. Free vector C. Unit vector D. Null vector
189	Question Image	A. sinh x B. cosh x C. -sinh x D. -cosh x
190	$y^2 = 4ax$, is the standard equation of the:	A. Ellipse B. Parabola C. Hyperbola D. None of these
191	The point (5, 8) lies the line 2x - 3y + 6 = 0	A. Above B. Below C. On D. None
192	The vertex of parabola $(x - 1)^2 = 8 (y + 2)$ is:	A. (1, -2) B. (0, 1) C. (-1, -2)

		D. (1, 2)
193	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
194	Two non parallel lines intersect each other at:	A. 1 point B. 2 points C. 3 points D. 4 points
195	Question Image	A. e^{2x} sin x + c B. e^{2x}cosx + c C. -e^{2x}sin x + c D. -e^{2x}cosx + c
196	Question Image	A. Free vector B. Unit vector C. Null vector D. None of these
197	Gottfried Whilhelm Leibniz was a (an) ----- mathematician:	A. German B. English C. Swiss D. French
198	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
199	Which of the following is not a vector quantity ?	A. Weight B. Mass C. Force D. Velocity
200	Inclination of Y-axis or of any line parallel to Y-axis is:	B. Zero D. Undefined
201	Question Image	A. sin x B. cos x C. sinh x D. cosh x
202	The graph of the parabola $y^2 = -4ax$ is symmetric about:	A. x-axis B. major axis C. y-axis D. minor axis
203	The directrix of the parabola $x^2 = -4ay$ is:	A. x = a B. x = -a C. y = a D. y = -a
204	Question Image	A. Scalar quantity D. Reciprocal vector
205	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
206	x = 4 is a line:	A. Parallel to x - axis B. Parallel to y - axis C. Perpendicular to y-axis D. None of these
207	Question Image	A. Left or right B. Upper or lower C. Open D. None of these
208	$Cosh^2 x - Sinh^2 x =$	A. 1 B. -1 C. 2 D. -2
209	Question Image	A. 0 B. 1 C. e D. Does not exist
210	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

211	The distance between the points (1, 2), (2, 1).	A. 1 D. 2
212	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
213	The graph of the parabola $x^2 = -4ay$ is symmetric about:	A. x-axis B. major axis C. y-axis D. minor axis
214	Question Image	A. 0 B. -1 C. 1 D. 2
215	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
216	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
217	The term function was introduced by:	A. Euler B. Newton C. Lagrange D. Leibniz
218	y = 2x + 3 is the;	A. Slope-intercept form B. Two points form C. Point slope form D. Intercepts form
219	The point (2, 5) lies the lie 3x - y + 1 = 0	A. Above B. Below C. On D. None
220	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
221	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
222	Question Image	A. a cosec (ax + b) D. cot (ax + b)
223	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
224	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
225	The point of intersection of the medians of a triangle is called:	A. Centroid B. Ortho-center C. Circums-center D. In-center
226	Which one is a constant function ?	A. f(x) = x² B. f(x) = x C. f(x) = x + 1 D. f(x) = 14
227	Question Image	A. [0] B. [0, 0] C. [0, 0, 0] D. None of these
228	ax + b > c is an inequality of:	A. One variable B. Three variable C. Two variable D. Four variable
229	Question Image	A. equal to each other B. not equal to each other

		C. nearly equal to each other D. None of these
230	Question Image	A. One variable B. Three variable C. Two variable D. Four variable
231	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
232	Question Image	A. 0 B. 1 C. -1 D. 2
233	Sir Isaac Newton was a(an) --------- mathematician.	A. German B. French C. Swiss D. English
234	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
235	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
236	Question Image	A. cosec x + c B. -cosec x + c C. cot x + c D. - cot x + c
237	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°
238	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
239	Question Image	A. Lagrange B. Newtown C. Leibniz D. Cauchy
240	Question Image	
241	Question Image	A. 0 B. 1 C. -1 D. 2
242	y = b is a horizontal line parallel to _____:	A. x - axis B. x - axis may be C. y - axis D. None of these
243	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
244	Question Image	A. 0 B. 1 C. 2 D. 3
245	Question Image	A. Integration B. Integrand C. Constant of integration D. None of these
246	Question Image	A. sec x tan x B. sec²x C. -sec x tan x D. -sec²x
247	The function y = ln x is a/an ---------- function of x.	A. Constant B. Explicit C. Exponential D. Logarithmic

248	Question Image	A. 1 B. 2 C. 3 D. 4
249	The horizontal line x' ox is called:	A. x-axis B. y-axis C. abscissa D. ordinate
250	Question Image	A. Derivative B. Differential C. Integral D. None of these
251	A chord containing the center of the circle is called _____ of the circle:	A. Diameter B. Chord C. Radius D. None of these
252	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
253	Question Image	
254	The fixed point of the conic is called:	A. Directrix B. Vertex C. Focus D. None of these
255	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
256	Question Image	A. 0 B. 1 C. -1 D. 2
257	Which of the following is a vector quantity ?	A. Work B. Temperature C. Distance D. Displacement
258	Question Image	A. domain B. range C. lower limit D. upper limit
259	The equation $x^2 + y^2 + 2x + 3y = 10$ represents a:	A. A pair of lines B. Circle C. Ellipse D. Hyperbola
260	Question Image	A. - cosec² x B. cosec²x C. - cosec x cot x D. cosec x cot x
261	For any point (x, y) on x-axis:	A. y = 1 B. y = 0 C. y = -1 D. y = 2
262	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
263	x = 3 cos t, y = 3 sin t represent	A. Line B. Circle C. Parabola D. Hyperbola
264	There are _____ feasible solutions in the feasible region:	A. Finitely B. Two C. Infinitely many D. Three
265	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

266	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
267	If f(x) = cos x then f'(0) is equal to:	A. 0 B. -1 C. 1
268	$x^2 + y^2 = 4$ is:	A. Function B. Not a function C. Ellipse D. Line
269	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
270	If a straight line is perpendicular to y-axis, then its slope is:	A. 1 B. -1 C. 0 D. undefined
271	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
272	The axis of the parabola $y^2 = -4ax$ is:	A. x = a B. x = 0 C. y = a D. y = 0
273	A line that touches the curve without cutting through it is called:	A. Straight line B. Tangent line C. Normal line D. Vertical line
274	Question Image	A. Constant B. Implicit C. Explicit D. Inverse
275	Question Image	A. Integration B. Integrand C. Constant of integration D. None of these
276	Question Image	A. 4, -4 B. 0 C. 2, -2 D. 0, 4
277	The focus of the parabola x2=-4ay is:	A. (-a , 0) B. (0, a) C. (0, -a) D. (a, 0)
278	If a straight line is perpendicular to x-axis, then its slope is:	A. 0 B. 1 C. 2 D. Undefined
279	A quadrilateral having two parallels and two non-parallel sides is called:	A. Trapezium B. Rectangle C. Rhombus D. None of these
280	(1, 0) is the solution of inequality :	A. 7x + 2y < 8 B. x - 3y < 0 C. 3x + 5y > 6 D. -3x + 5y > 2
281	The non-negative inequalities are called:	A. Parameters B. Constants C. Decision variables D. Vertices
282	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
283	Point of intersection of x + y = 5 & x - y = 3 is:	A. (5, 5) B. (4, 2) C. (4, 1) D. (1, 4)
		A. x² = 4av

284	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:	B. -x²= 4ay C. -y²= 4ax D. y²= 4ax
285	The opening of the parabola $x^2 = 4ay$ is upward of the:	A. x -axis B. y = c C. y - axis D. x = y
286	Let $f(x) = x^3 + \sin x$, then f(x) is:	A. Even function B. Odd function C. Power function D. None of these
287	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
288	The conic is a parabola, if:	A. e = 1 B. e > 1 C. 0 < e < 1 D. e = 0
289	Question Image	A. Parallel lines B. Non-parallel lines C. Perpendicular lines D. Coplanar lines
290	Question Image	A. Parabola B. Hyperbola C. Ellipse D. Circle
291	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
292	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
293	Point (5, 6) lies ..... the circle $x^2 + y^2 = 81$:	A. Outside B. Inside C. On D. None of these
294	Question Image	
295	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
296	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
297	The vertex of the parabola $y^2 = -4ax$ is:	A. (-a, 0) B. (a, 0) C. (0, -a) D. (0, 0)
298	Question Image	A. 0 B. 2 C. 1 D. 3
299	Question Image	A. Constant B. Implicit C. Identity D. Inverse
300	Question Image	A. cosech x coth x B. -cosech²x C. -cosech x coth x D. cosech²x
301	Question Image	
302	A unit vector is defined as a vector whose magnitude is:	A. 0 B. 2 C. 1 D. 4
		A. 4a

303	Question Image	B. 2a C. 4b D. 2b
304	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
305	Question Image	
306	The two parts of a right circular cones are called:	A. Nappes B. Apex of the cone C. Generator D. Vertex
307	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
308	The axis of the parabola $x^2 = 4ay$ is:	A. x = 0 B. x = -a C. y = 0 D. y = -a
309	Length of tangent from (0,1) to $x^2 + y^2 + 6x - 3y + 3 = 0$	A. 2 B. 1 C. 4 D. 3
310	x = c is a vertical line parallel to _____.	A. x-axis B. y-axis may be C. y-axis D. None of these
311	Question Image	A. f(x) B. ln |f(x)| C. f'(x) D. ln |f'(x)|
312	Non-vertical lines divide the plane into_____half plane:	A. Upper and lower B. Many C. Left and Right D. None of these
313	The axis of the parabola $x^2 = -4ay$ is:	A. x = a B. x = 0 C. y = a D. y = 0
314	Question Image	A. R B. R - {2} C. R - {2, -2} D. R - {-2}
315	The region of the graph ax + by > c is called _____ half plane:	A. Open B. Boundary of C. Closed D. None of these
316	Question Image	A. 0 B. 1 C. -1 D. 2
317	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°
318	Angle between the lines x + y + 1 = 0 & x - y + 4 = 0 is:	A. 30° B. 45° C. 60° D. 90°
319	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)
320	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
321	The range of the function f(x) = |x|	
		A. 3

322	Distance of the point (-3, 7) from x-axis is:	B. -3 C. 7 D. 10
323	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)
324	Question Image	A. 90° B. 30° C. 60° D. 0°
325	Question Image	A. -cosec x cotx B. cosec² x C. -cosec²x D. cosec x cotx
326	Which one is an identity function ?	B. f(x) = g(x) C. f (x) = x D. f(x) = 1
327	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
328	In the translation of axes which formula is true:	A. x = X + h B. X = x + h C. x + X = h D. None
329	Question Image	
330	Question Image	A. Line B. Parabola C. Ellipse D. Hybperbola
331	Question Image	
332	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
333	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
334	The radius of point circle is:	A. 0 B. (0, 0) C. r D. 1
335	The line l is horizontal if and only if slope is equal to:	A. 0 B. 1 C. 2 D. undefined
336	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
337	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
338	Question Image	A. 1 B. 2 C. 3 D. 0
339	If the inclination of a line lies between]90°, 180°[, then the slope of line is :	A. Positive B. Negative C. Zero D. undefined
340	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
		A. One point

341	Infinite number of lines can pass through:	A. One point B. Two points C. Three points D. Four points
342	-4 < y < 4 is the solution of the following:	A. y = 5 B. y = 3 C. y = -4 D. y = 4
343	Question Image	A. 60° B. 90° C. 30° D. 45°
344	If $y = x^2 + 1$ _____ x changes from 3 to 3.02 then dy = _____	A. 0.1204 B. .12 C. .02 D. 1.2
345	The opening of the parabola $y^2 = 4ax$ is to the _____ of the:	A. Left B. Upward C. Right D. Downward
346	There are _____ ordered pairs that satisfy the inequality ax + by > c.	A. Finitely many B. Two C. Infinitely many D. Four
347	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
348	The axis of the parabola $y^2 = 4ax$ is:	A. x = 0 B. x = a C. y = 0 D. y = a
349	Question Image	A. domain B. range C. lower limit D. upper limit
350	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
351	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
352	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
353	A linear equation in two variables represents:	A. Circle B. Ellipse C. Hyberbola D. Straight line
354	Question Image	A. tan x B. cot x C. - tan x D. - cot x
355	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
356	Question Image	A. 0 B. 2 C. 3 D. 1
357	Question Image	A. sech x tanh x B. -sech x tanhx C. sech² x D. -sech²x
358	An angle in a semi-circle is:	A. 0° B. 90° C. 180° D. 60°

359	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
360	Question Image	A. cot x B. - cot x C. cosec x cot x D. -cosec x cot x
361	Question Image	A. Above B. Left C. Below D. Right
362	Equation of axis of the parabola $x^2 = 4ay$ is:	A. x = 0 B. x = a C. y = 0 D. y = a
363	A null vector is defined as a vector whose magnitude is:	A. 1 B. 2 C. 0 D. None of these
364	Question Image	
365	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
366	The equ. of directrix of the parabola $y^2 = -4ax$ is:	A. x = a B. x = - a C. y = a D. y = -a
367	The Maclaurin series expansion is valid only if it is:	A. Convergent B. Divergent C. Increasing D. Decreasing
368	The radius of circle $x^2 + y^2 + 2gx + 2fy + c = 0$ is:	
369	x = 4 is the solution of inequality:	A. x + 3 > 0 B. x - 3 < 0 C. -2x + 3 > 0 D. x + 3 < 0
370	If the lien l is parallel to y-axis, then the slope of l is ----------.	A. 0 B. 1 C. -1 D. undefined
371	The line y = c is above the x - axis, if:	A. c > 0 B. c < 0 C. c = 0
372	A function, in which the variable appears as exponent (power), is called a / an -------- function.	A. Constant B. Explicit C. Exponential D. Inverse
373	Question Image	A. tan x + c B. - tan x + c C. sec x tan x + c D. - sec x tan x + c
374	Question Image	A. Unit vector B. Null vector C. Free vector D. None of these
375	The point of a parabola which is closest to the focus in the:	A. Directrix B. Vertex C. Focus D. Chord
376	Inverse hyperbolic functions are expressed in terms of natural:	A. Numbers B. Exponential C. Logarithms D. Sines
377	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

378	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
379	ax + b < c is a inequality of:	A. One variable B. Two variable C. Three variable D. Four variable
380	Question Image	A. x = a B. for all x D. x = 0
381	Question Image	A. One variable B. Three variable C. Two variable D. Four variable
382	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
383	Question Image	A. Implicit B. Explicit C. Exponential D. Logarithmic
384	Every relation, which can be represented by a linear equation in two variables, represents a:	A. Graph B. Function C. Cartesian product D. Relation
385	Question Image	A. (1, 1) B. (1, 3) C. (1, 4) D. (1, 5)
386	Question Image	
387	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
388	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
389	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
390	The point where the axis meets the parabola is called _____ of the parabola:	A. Directrix B. Vertex C. Focus D. Eccentricity
391	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
392	The vertex of the parabola $x^2 = -4ay$ is:	A. (a, 0) B. (0, 0) C. (0, -a) D. (0, a)
393	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
394	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
395	Question Image	D. 2
396	tanh x =	
397	Question Image	A. Line parallel to x-axis B. Line parallel to y-axis C. Line passing through the origin

		C. Line passing through the origin D. Both (a) and (b)
398	The point of intersection of the altitudes of a triangle is called:	A. Centroid B. Ortho-center C. Circums-center D. In-center
399	Question Image	A. 36 B. 42 C. 48 D. 12
400	Zero vector is perpendicular to:	A. Every vector B. Unit vector only C. Position vector only D. Not any vector
401	y = b is a horizontal line perpendicular to _____:	A. x - axis B. y - axis may be C. y - axis D. None of these
402	A scalar quantity is one that possesses only :	A. Magnitude B. Direction C. Both a and b D. None of these
403	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
404	The coordinate axes divide the plane into---------- equal parts:	A. 1 B. 2 C. 3 D. 4
405	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
406	The length of the latus rectum of the parabola $y^2 = 4ax$ is:	A. a B. 4a C. 2a D. None of these
407	y = -2 is a line:	A. Parallel to x-axis B. Parallel to y-axis C. Perpendicular to x-axis D. None of these
408	The focus of the parabola $x^2 = 4ay$:	A. (0, a) B. (-a , 0) C. (0, -a) D. (a, 0)
409	Question Image	A. 1 (1 - 4) B. 2x - 3 C. x - 3 D. x³ - 3x
410	Question Image	A. Integral B. Indefinite integral C. Differential D. Definite integral
411	An integral of $3x^2$ is:	A. x³+c B. 3 C. 6x D. x^{2+c}