ICS Part 2 Mathematics Full Book Test Online

Sr	Questions	Answers Choice
1	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
2	Question Image	A. Common logarithmic B. Natural logarithmic C. Exponential D. None of these
3	Question Image	A. 0 B. 1 C. 2 D. 4
4	Question Image	A. Unit vector B. Null vector C. Position vector D. None of these
5	x = 4 is a line:	A. Parallel to x - axis B. Parallel to y - axis C. Perpendicular to y-axis D. None of these
6	If a straight line is perpendicular to x-axis, then its slope is:	A. 0 B. 1 C. 2 D. Undefined
7	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
8	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
9	The vertical line y'oy is called:	A. x-axis B. y-axis C. abscissa D. Ordinate
10	Two non parallel lines intersect each other at:	A. 1 point B. 2 points C. 3 points D. 4 points
11	Let $f(x) = x^3 + \sin x$, then f(x) is:	A. Even function B. Odd function C. Power function D. None of these
12	The fixed point of the conic is called:	A. Directrix B. Vertex C. Focus D. None of these
13	Question Image	A. Line B. Parabola C. Ellipse D. Hybperbola
14	Inclination of Y-axis or of any line parallel to Y-axis is:	B. Zero D. Undefined
15	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
		A. sinh x

16	Question Image	B. cosh x C. -sinh x D. -cosh x
17	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)
18	The Maclaurin series expansion is valid only if it is:	A. Convergent B. Divergent C. Increasing D. Decreasing
19	$\underline{i}.(\underline{j}.\underline{k})$ =	A. Meaningless B. -1 C. 1 D. 2
20	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
21	Question Image	A. Constant function B. Absolute linear function C. Linear function D. Quadratic function
22	The focus of the parabola $x^2 = 4ay$:	A. (0, a) B. (-a , 0) C. (0, -a) D. (a, 0)
23	Question Image	A. - cosec² x B. cosec²x C. - cosec x cot x D. cosec x cot x
24	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°
25	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
26	Question Image	A. Constant B. Implicit C. Identity D. Inverse
27	Which of the following is a vector quantity ?	A. Work B. Temperature C. Distance D. Displacement
28	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
29	Question Image	
30	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
31	Question Image	A. 1 B. 2 C. 3 D. 4
32	The function $f(x) = 3x^2$ has minimum value at :	A. x = 3 B. x = 2 C. x = 1 D. x = 0
33	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
34	Question Image	
		A. integration by parts

35	Question Image	A. Integration by parts B. definite integral C. Differentation D. None of these
36	A line which divides a plane into two parts is called:	A. Boundary point B. Boundary line C. Feasible line D. None
37	Question Image	A. 1 B. 0
38	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
39	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
40	Question Image	
41	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
42	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
43	f (x) = x secx, then f(0)=	A. -1 B. 0 C. 1
44	x = a is a vertical line perpendicular to _____.	A. x - axis B. x - axis may be C. y - axis D. None of these
45	ax + by + c = 0 has matrix from as:	B. |ax + by| = |-c| C. [ax + by] = [c] D. [ax - by] = [-c]
46	Question Image	A. Integration B. Integrand C. Constant of integration D. None of these
47	A scalar quantity is one that possesses only :	A. Magnitude B. Direction C. Both a and b D. None of these
48	Question Image	C. 2 D. 1
49	The line l is horizontal if and only if slope is equal to:	A. 0 B. 1 C. 2 D. undefined
50	Question Image	A. 0 B. -1 C. 1 D. 2
51	Question Image	A. 36 B. 42 C. 48 D. 12
52	Notation Df(x) for derivative was used by:	A. Cauchy B. Newton C. Leibniz D. Lagrange
53	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
54	Question Image	A. 0 B. 2 C. 1

		D. 3
55	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
56	Question Image	A. 0
57	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
58	Question Image	A. 1 B. 2 C. 3 D. 0
59	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
60	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
61	Question Image	
62	Question Image	A. Left or right B. Upper or lower C. Open D. None of these
63	f(x) = sin x + cos x is ---------- function:	A. Even B. Odd C. Composite D. Neither even nor odd function
64	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
65	Distance of the point (-3, 7) from x-axis is:	A. 3 B. -3 C. 7 D. 10
66	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
67	Question Image	A. cos x + c B. - cos x + c C. sin x + c D. -sin x + c
68	Question Image	A. sec x tan x B. - sec²x C. -sec x tan x D. sec²x
69	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
70	Question Image	
71	Question Image	
72	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)
73	A parallelogram is a rhombus if and only if its diagonals are:	A. Parallel B. Perpendicular C. Equal D. None of these
74	Point p (-5, 6) lies ..... the circle $x^2 + y^2 + 4x - 6y - 12 = 0$	A. Outside B. Inside C. On

		C. On D. None of these
75	A chord containing the center of the circle is called _____ of the circle:	A. Diameter B. Chord C. Radius D. None of these
76	The coordinate axes divide the plane into---------- equal parts:	A. 1 B. 2 C. 3 D. 4
77	Question Image	A. Parallel lines B. Perpendicular lines C. Non-parallel lines D. None of these
78	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
79	Question Image	A. 2cosh x B. 2sinh x C. 2sinh (2x) D. -2sinh (2x)
80	Question Image	A. (1, 1) B. (1, 3) C. (1, 4) D. (1, 5)
81	Non-vertical lines divide the plane into_____half plane:	A. Upper and lower B. Many C. Left and Right D. None of these
82	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
83	Question Image	A. f(x² + 1) B. f(x) D. f(x²)
84	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
85	Question Image	A. x = a B. x = 2 C. x = 0 D. None
86	The axis of the parabola $y^2 = 4ax$ is:	A. x = 0 B. x = a C. y = 0 D. y = a
87	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
88	The directrix of the parabola $x^2 = -4ay$ is:	A. x = a B. x = -a C. y = a D. y = -a
89	Question Image	A. a B. b C. c D. a + b
90	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°
91	Question Image	A. Above B. Left C. Below D. Right
92	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
93	Which one is an exponential function ?	
94	The focus of the parabola x2=-4ay is:	A. (-a , 0) B. (0, a) C. (0, -a) D. (a, 0)
95	Which of the following is not a vector quantity ?	A. Weight B. Mass C. Force D. Velocity
96	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
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 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
99	Question Image	A. sec x tan x B. sec²x C. -sec x tan x D. -sec²x
100	Question Image	
101	The length of the latus rectum of the parabola $y^2 = 4ax$ is:	A. a B. 4a C. 2a D. None of these
102	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
103	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
104	tanh x =	
105	Point of intersection of x + y = 5 & x - y = 3 is:	A. (5, 5) B. (4, 2) C. (4, 1) D. (1, 4)
106	An angle in a semi-circle is:	A. 0° B. 90° C. 180° D. 60°
107	Question Image	
108	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
109	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
110	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
111	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
112	For any point (x, y) on x-axis:	A. y = 1 B. y = 0 C. y = -1

		D. y = 2
113	Question Image	A. 60° B. 90° C. 30° D. 45°
114	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
115	The range of the function f(x) = |x|	
116	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
117	Question Image	A. Even B. Odd C. One-one D. Zero
118	A line that touches the curve without cutting through it is called:	A. Straight line B. Tangent line C. Normal line D. Vertical line
119	Question Image	A. Circle B. Parabola C. Hyperbola D. Ellipse
120	The distance between the points (1, 2), (2, 1).	A. 1 D. 2
121	Distance of the point (-2, 3) from y-axis is:	A. -2 B. 2 C. 3 D. 1
122	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)
123	Area between x-axis and the curve:	A. 32 D. 16
124	ax + b > c is an inequality of:	A. One variable B. Three variable C. Two variable D. Four variable
125	Question Image	A. sinh x B. cosh x C. -sinh x D. -cosh x
126	Question Image	A. Parabola B. Hyperbola C. Ellipse D. Circle
127	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:	
128	Let f(x) = cos x, then f(x) is an:	A. Even function B. Odd function C. Power function D. None of these
129	Question Image	A. a B. 2b C. b D. 2a
130	The derivative of x with respect to y is given by:	
131	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
132	Infinite number of lines can pass through:	A. One point B. Two points

		C. Three points D. Four points
133	For any point (x, y) and y - axis:	A. y = 0 B. y = -1 C. y = 1 D. x = 0
134	The point of intersection of the altitudes of a triangle is called:	A. Centroid B. Ortho-center C. Circums-center D. In-center
135	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
136	Equation of axis of the parabola $x^2 = 4ay$ is:	A. x = 0 B. x = a C. y = 0 D. y = a
137	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
138	Question Image	
139	Question Image	A. 2 - 7 B. 2 + 7
140	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)
141	Question Image	A. Integral B. Indefinite integral C. Differential D. Definite integral
142	Question Image	A. 0 B. 1 C. 2 D. 3
143	(1, 0) is the solution of inequality :	A. 7x + 2y < 8 B. x - 3y < 0 C. 3x + 5y > 6 D. -3x + 5y > 2
144	Point (5, 6) lies ..... the circle $x^2 + y^2 = 81$:	A. Outside B. Inside C. On D. None of these
145	The directrix of the parabola $x^2 = 4ay$ is:	A. x = a B. x = -a C. y = a D. y = -a
146	Question Image	A. Undefined B. 3a² C. a² D. 0
147	A line segment joining two distinct points on a parabola is called a _____ of the parabola:	A. Chord B. Vertex C. Focus D. Directrix
148	The axis of the parabola $x^2 = -4ay$ is:	A. x = a B. x = 0 C. y = a D. y = 0
149	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
150	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
151	Equation of the line parallel to x + 3y - 9 = 0 is:	A. 3x - y - 9 = 0 B. 3x + 9y + 7 = 0

151	Equation of the line parallel to x + 3y - 9 = 0 is:	C. 2x - 6y - 18 = 0 D. x - 3y + 9 = 0
152	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
153	Question Image	
154	If the lien l is parallel to y-axis, then the slope of l is ----------.	A. 0 B. 1 C. -1 D. undefined
155	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
156	Which one is a constant function ?	A. f(x) = x² B. f(x) = x C. f(x) = x + 1 D. f(x) = 14
157	$y^2 = 4ax$, is the standard equation of the:	A. Ellipse B. Parabola C. Hyperbola D. None of these
158	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
159	Question Image	A. 0 B. 1 C. -1 D. 2
160	Question Image	A. equal to each other B. not equal to each other C. nearly equal to each other D. None of these
161	y = b is a horizontal line parallel to _____:	A. x - axis B. x - axis may be C. y - axis D. None of these
162	Question Image	A. 4 B. Does not exist
163	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
164	The conic is an ellipse, if:	A. e = 1 B. e > 1 C. 0 < e < 1 D. e = 0
165	Question Image	A. Integration B. Integrand C. Constant of integration D. None of these
166	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
167	If y = f(u) and u = F(x), then:	
168	The point where the axis meets the parabola is called _____ of the parabola:	A. Directrix B. Vertex C. Focus D. Eccentricity
169	Question Image	A. cosech x coth x B. -cosech²x C. -cosech x coth x D. cosech²x
170	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
171	The equation $x^2 + y^2 + 2x + 3y = 10$ represents a:	A. A pair of lines B. Circle C. Ellipse D. Hyperbola
172	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
173	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
174	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
175	Question Image	A. x - axis B. z - axis C. y - axis D. None of these
176	If any two vectors of scalar triple product are equal, then its value is equal to:	A. 0 B. 1 C. -1 D. 2
177	Parametric equations x = a cos t, y = a sin t represent the equation of:	A. Line B. Circle C. Parabola D. Ellipse
178	Question Image	A. Ellipse B. Parabola C. Hyperbola D. Circle
179	Gottfried Whilhelm Leibniz was a (an) ----- mathematician:	A. German B. English C. Swiss D. French
180	Inclination of X-axis or of any line parallel to X-axis is:	A. Zero D. Undefined
181	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
182	Question Image	A. 4 B. 2 C. 1
183	The number e denotes the _____ of the conic:	A. Directrix B. Vertex C. Focus D. Eccentricity
184	-4 < y < 4 is the solution of the following:	A. y = 5 B. y = 3 C. y = -4 D. y = 4
185	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
186	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
187	Which one is not an exponential function ?	
188	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
189	x = c is a line:	A. Perpendicular to x-axis B. Parallel to x-axis

		C. Perpendicular to y-axis D. None of these
190	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
191	The instantaneous rate of change of y with respect to x is given by:	
192	Question Image	A. 3 B. 4 C. 5 D. 6
193	The directrix of the parabola $y^2 = 4ax$ is:	A. x = a B. x = -a C. y = a D. y = - a
194	Question Image	A. c B. 0 C. 1 D. -c
195	Inverse hyperbolic functions are expressed in terms of natural:	A. Numbers B. Exponential C. Logarithms D. Sines
196	Question Image	A. 0 B. 1 C. -1 D. 2
197	A linear equation in two variables represents:	A. Circle B. Ellipse C. Hyberbola D. Straight line
198	Question Image	A. tan x + c B. - tan x + c C. sec x tan x + c D. - sec x tan x + c
199	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
200	The point (5, 8) lies the line 2x - 3y + 6 = 0	A. Above B. Below C. On D. None
201	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
202	Question Image	A. ln |sin x| B. - ln |sin x| C. ln |cos x| D. -ln |cos x|
203	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
204	Question Image	
205	There are _____ ordered pairs that satisfy the inequality ax + by > c.	A. Finitely many B. Two C. Infinitely many D. Four
206	Equation of a line parallel to x-axis:	A. x = 0 B. x = y C. y = a D. x = a
207	If s is the distance traveled by a body at time t, the velocity is given by the expression:	
208	The vertex of the parabola $y^2 = -4ax$ is:	A. (-a, 0) B. (a, 0) C. (0, -a) D. (0, 0)
		A. Maximum solution

209	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
210	Question Image	
211	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
212	Question Image	A. cosec x + c B. -cosec x + c C. cot x + c D. - cot x + c
213	Question Image	A. At B. Not on C. On D. None of these
214	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
215	Question Image	A. Parallel lines B. Non-parallel lines C. Perpendicular lines D. Coplanar lines
216	X-coordinate of any point on Y-axis:	A. 0 B. x C. y D. 1
217	Question Image	A. Integration by parts B. Definite integral C. Differentiation D. None of these
218	Sir Isaac Newton was a(an) --------- mathematician.	A. German B. French C. Swiss D. English
219	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
220	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
221	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
222	Which one is an identity function ?	B. f(x) = g(x) C. f (x) = x D. f(x) = 1
223	If (x, y) are the coordinate of a point ordered pair is called:	A. Abscissa B. Ordinate C. Coordinate D. Ordered pair
224	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
225	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
226	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
227	The graph of the parabola $x^2 = -4ay$ is symmetric about:	A. x-axis B. major axis C. y-axis

		C. y-axis D. minor axis
228	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
229	The opening of the parabola $y^2 = 4ax$ is to the _____ of the:	A. Left B. Upward C. Right D. Downward
230	The parabola $y^2 = 4ax$ lies in quadrants:	A. I and II B. III and IV C. II and III D. I and IV
231	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
232	The opening of the parabola $x^2 = 4ay$ is upward of the:	A. x -axis B. y = c C. y - axis D. x = y
233	Question Image	A. Scalar quantity D. Reciprocal vector
234	Question Image	A. [0] B. [0, 0] C. [0, 0, 0] D. None of these
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	The function y = ln x is a/an ---------- function of x.	A. Constant B. Explicit C. Exponential D. Logarithmic
237	Question Image	A. Line parallel to x - axis B. Line parallel to y - axis C. Inclined D. Both (a) and (b)
238	Question Image	A. sin x B. cos x C. sinh x D. cosh x
239	The point (2, 5) lies the lie 3x - y + 1 = 0	A. Above B. Below C. On D. None
240	Question Image	
241	The equi. of latus-rectum of the parabola $y^2 = -4ax$ is:	A. x = a B. x = -a C. y = a D. y = -a
242	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
243	Question Image	A. x = 0 B. y = -a C. y = 0 D. y = -a
244	y = -2 is a line:	A. Parallel to x-axis B. Parallel to y-axis C. Perpendicular to x-axis D. None of these
245	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

246	Question Image	A. domain B. range C. lower limit D. upper limit
247	The region of the graph ax + by > c is called _____ half plane:	A. Open B. Boundary of C. Closed D. None of these
248	Question Image	A. 0 B. 2 C. 3 D. 1
249	Question Image	
250	Question Image	A. Position vector B. Null vector C. Unit vector D. None of these
251	Question Image	
252	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
253	The radius of point circle is:	A. 0 B. (0, 0) C. r D. 1
254	The axis of the parabola $x^2 = 4ay$ is:	A. x = 0 B. x = -a C. y = 0 D. y = -a
255	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)
256	y = 2x + 3 is the;	A. Slope-intercept form B. Two points form C. Point slope form D. Intercepts form
257	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°
258	If f(x) = cos x then f'(0) is equal to:	A. 0 B. -1 C. 1
259	The vertex of the parabola $y^2 = 4ax$ is:	A. (-a, 0) B. (a, 0) C. (0, -a) D. (0, 0)
260	The center of circle $(x+3)^2 + (y-2)^2 = 16$ equals:	A. (-3, 2) B. (3, -2) C. (3, 2) D. (-3, -2)
261	Question Image	A. tan x B. cot x C. - tan x D. - cot x
262	The focus of the parabola $y^2=-4ax$ is:	A. (-a , 0) B. (0, a) C. (0, -a) D. (a, 0)
263	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
264	Question Image	A. Derivative B. Differential C. Integral D. None of these

265	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
266	Question Image	A. Constant B. Implicit C. Explicit D. Inverse
267	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
268	Question Image	C. 28 D. 29
269	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
270	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
271	The opening of the parabola $x^2 = 16y$ is to _____ of the x-axis:	A. Left B. Upward C. Right D. Downward
272	A corner point is the point of intersection of:	A. x-axis & y - axis B. Boundary lines C. Any two lines D. None
273	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
274	The point of intersection of the perpendicular bisectors of a triangle is called:	A. Centroid B. Ortho-center C. Circums-center D. In-center
275	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
276	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)
277	Question Image	A. x = a B. x = 2 C. x = 0 D. None
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	Question Image	A. 4a B. 2a C. 4b D. 2b
280	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
281	If the degree of a polynomial function is ----------, then it is called a linear function:	A. 0 B. 1 C. 2 D. 3
282	The number e denotes the _____ of the conic:	A. Directrix B. Vertex C. Focus D. Eccentricity
		A. x² + y² = a²

283	If r is the radius of the circle and its center is at origin, then equation of circle is:	B. x² + y² = r² C. x² - y² = a² D. x² - y² = r²
284	In the translation of axes which formula is true:	A. x = X + h B. X = x + h C. x + X = h D. None
285	The horizontal line x' ox is called:	A. x-axis B. y-axis C. abscissa D. ordinate
286	Question Image	A. sin x B. -cos x C. -sin x D. cos x
287	In the case of rotation of axes which formula is true:	
288	$\cosh^{-1}x$ =	
289	If the inclination of a line lies between]90°, 180°[, then the slope of line is :	A. Positive B. Negative C. Zero D. undefined
290	The ordered pair _____ is a solution of the inequality x + 2y < 6.	A. (3, 3) B. (1, 1) C. (4, 4) D. (5, 5)
291	Question Image	A. 0 B. 1 C. e D. Does not exist
292	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
293	Question Image	A. Lagrange B. Newtown C. Leibniz D. Cauchy
294	ax + by < c is an inequality of:	A. One variable B. Threevariable C. Twovariable D. Fourvariable
295	The two parts of a right circular cones are called:	A. Nappes B. Apex of the cone C. Generator D. Vertex
296	Question Image	C. 0 D. 1
297	The graph of the parabola $y^2 = -4ax$ is symmetric about:	A. x-axis B. major axis C. y-axis D. minor axis
298	The vertex of parabola $(x - 1)^2 = 8 (y + 2)$ is:	A. (1, -2) B. (0, 1) C. (-1, -2) D. (1, 2)
299	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
300	Question Image	A. Integration B. Integration w.r.t.x. C. Differentiation D. Differentiation w.r.t.x
301	Question Image	A. Unit vector B. Null vector C. Free vector D. None of these

302	$x^2 + y^2 = 4$ is:	A. Function B. Not a function C. Ellipse D. Line
303	The area A of a circle as a function of its circumference C is:	
304	x = 2 is a vertical line perpendicular to _____:	A. x - axis B. x - axis may be C. y - axis D. None of these
305	Question Image	A. Scalar B. Free vector C. Unit vector D. Null vector
306	Question Image	D. 2
307	The line x = a is on the right of y - axis if:	A. a > 0 B. a < 0 C. a = 0
308	The symbol || is used for:	A. Parallel lines B. Perpendicular lines C. Non-parallel lines D. None of these
309	Question Image	A. 0 B. 1 C. -1 D. 2
310	The vertex of the parabola $x^2 = -4ay$ is:	A. (a, 0) B. (0, 0) C. (0, -a) D. (0, a)
311	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
312	The feasible region is _____ if it can easily by enclosed within a circle.	A. Bounded B. Exist C. Unbounded D. None of these
313	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
314	Question Image	A. 4, -4 B. 0 C. 2, -2 D. 0, 4
315	$Cosh^2 x - Sinh^2 x =$	A. 1 B. -1 C. 2 D. -2
316	Question Image	
317	Question Image	A. 90° B. 30° C. 60° D. 0°
318	The distance between the center of a circle and any point of the circle is called:	A. Tangents B. Secant C. Diameter D. Radius
319	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
320	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
321	In equation of circle, coefficient of each of x^2 and y^2 are:	A. Not equal B. Opposite in signs

	In equation of circle, coefficient of each of x^2 and y^2 are:	C. Equal D. None of these
322	Question Image	A. 0 B. 2 C. 3 D. 1
323	The line y = c is above the x - axis, if:	A. c > 0 B. c < 0 C. c = 0
324	The vertex of the parabola $x^2 = 4ay$ is:	A. (-a, 0) B. (0, a) C. (0, -a) D. (0, 0)
325	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
326	Question Image	
327	Question Image	A. -cosec x cotx B. cosec² x C. -cosec²x D. cosec x cotx
328	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
329	Question Image	A. tan x + c B. -tan x + c C. sec x + c D. -sec x + c
330	Question Image	A. e^{2x} sin x + c B. e^{2x}cosx + c C. -e^{2x}sin x + c D. -e^{2x}cosx + c
331	Question Image	A. 0 B. 1 C. -1 D. 2
332	Question Image	A. 0 B. 2 C. 1 D. -1
333	A unit vector is defined as a vector whose magnitude is:	A. 0 B. 2 C. 1 D. 4
334	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
335	The line y = a is below the x-axis, if:	A. a > 0 B. a < 0 C. a = 0
336	Perpendicular dropped from the center of a circle on a chord _____ the chord:	A. Normal B. Bisects C. Equal to D. None of these
337	Question Image	B. 0 C. 4 D. 7
338	x = 3 cos t, y = 3 sin t represent	A. Line B. Circle C. Parabola D. Hyperbola
339	Question Image	
340	The system of _____ involved in the problem concerned is called problem constraints:	A. Linear inequalities B. Equations C. Linear equalities D. None of these

341	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
342	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
343	Question Image	A. One variable B. Three variable C. Two variable D. Four variable
344	The radius of circle $x^2 + y^2 + ax + by + c = 0$ is:	D. None
345	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
346	Question Image	A. equal to each other B. not equal to each C. nearly equal to each other D. none of these
347	y = b is a horizontal line perpendicular to _____:	A. x - axis B. y - axis may be C. y - axis D. None of these
348	Question Image	A. Volume of the tetrahedron B. Volume of the parallelepiped C. Volume of the triangle D. None of these
349	Question Image	A. 5 sin x B. cosh (5x) C. 5 cosh (5x) D. -5 cosh (5x)
350	Question Image	B. 0
351	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
352	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
353	Question Image	A. e^{ax} B. f(x) C. e^{ax}f(x) D. e^{ax + f(x)}
354	Question Image	A. sech x tanh x B. -sech x tanhx C. sech² x D. -sech²x
355	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
356	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
357	The condition for the line y = mx + c to be a tangent to the circle $x^2 + y^2 = a^2$ is c = _____:	
358	The term function was introduced by:	A. Euler B. Newton C. Lagrange D. Leibniz
359	The point of intersection of the medians of a triangle is called:	A. Centroid B. Ortho-center C. Circums-center D. In-center

360	The radius of circle $x^2 + y^2 + 2gx + 2fy + c = 0$ is:	
361	The axis of the parabola $y^2 = -4ax$ is:	A. x = a B. x = 0 C. y = a D. y = 0
362	There are _____ feasible solutions in the feasible region:	A. Finitely B. Two C. Infinitely many D. Three
363	The perpendicular distance of the line 3x + 4y + 10 = 0 from the origin is:	A. 0 B. 1 C. 2 D. 3
364	The point of a parabola which is closest to the focus in the:	A. Directrix B. Vertex C. Focus D. Chord
365	A quadrilateral having two parallels and two non-parallel sides is called:	A. Trapezium B. Rectangle C. Rhombus D. None of these
366	Angle between the lines x + y + 1 = 0 & x - y + 4 = 0 is:	A. 30° B. 45° C. 60° D. 90°
367	Question Image	A. Continuous at x = 1 B. Not continuous at x = 1 C. Both a and b D. none
368	A function, in which the variable appears as exponent (power), is called a / an -------- function.	A. Constant B. Explicit C. Exponential D. Inverse
369	Question Image	A. x = a B. for all x D. x = 0
370	Question Image	A. a cosec (ax + b) D. cot (ax + b)
371	The equ. of directrix of the parabola $y^2 = -4ax$ is:	A. x = a B. x = - a C. y = a D. y = -a
372	Question Image	A. Position vector of O B. Position vector of P C. Unit vector D. Null vector
373	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
374	The non-negative inequalities are called:	A. Parameters B. Constants C. Decision variables D. Vertices
375	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
376	If y = sin x then dy =	A. cosy dx B. cos x C. cosx dx D. cos xdy
377	Length of tangent from (0,1) to $x^2 + y^2 + 6x - 3y + 3 = 0$	A. 2 B. 1 C. 4 D. 3
378	y-coordinate of any point on X-axis:	A. 0 B. x C. y

		D. 1
379	$Cosh^2 x + Sinh^2 x =$	A. Cosh x² B. Cosh 2x C. Sinh 2x D. Tanh 2x
380	The focus of the parabola $y^2=4ax$ is:	A. (-a , 0) B. (0, a) C. (0, -a) D. (a, 0)
381	The distance of any point P (x, y) from the origin O(0 , 0) is given by:	
382	Question Image	A. sin x B. cos x C. -sin x D. -cos x
383	Question Image	
384	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
385	Question Image	
386	Zero vector is perpendicular to:	A. Every vector B. Unit vector only C. Position vector only D. Not any vector
387	The graph of the parabola $y^2= -4ax$ is symmetric about:	A. x-axis B. y = x C. y-axis D. None of these
388	ax + b < c is a inequality of:	A. One variable B. Two variable C. Three variable D. Four variable
389	x = c is a vertical line parallel to _____.	A. x-axis B. y-axis may be C. y-axis D. None of these
390	A null vector is defined as a vector whose magnitude is:	A. 1 B. 2 C. 0 D. None of these
391	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
392	Question Image	A. One variable B. Three variable C. Two variable D. Four variable
393	Question Image	A. Free vector B. Unit vector C. Null vector D. None of these
394	If a straight line is perpendicular to y-axis, then its slope is:	A. 1 B. -1 C. 0 D. undefined
395	Question Image	A. R B. R - {2} C. R - {2, -2} D. R - {-2}
396	Question Image	A. sech x tanh x B. -sech²x C. -sech x tanh x D. sech²x
397	Every relation, which can be represented by a linear equation in two variables, represents a:	A. Graph B. Function C. Cartesian product D. Relation

398	If f(x) = |x|, f(x) is a:	A. Constant function B. Absolute function C. Linear function D. Quadratic function
399	x = 4 is the solution of inequality:	A. x + 3 > 0 B. x - 3 < 0 C. -2x + 3 > 0 D. x + 3 < 0
400	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)
401	Question Image	A. Unit Vector B. Null vector C. Position vector D. None of these
402	The conic is a parabola, if:	A. e = 1 B. e > 1 C. 0 < e < 1 D. e = 0
403	Question Image	A. cot x B. - cot x C. cosec x cot x D. -cosec x cot x
404	Question Image	A. f(x) B. ln |f(x)| C. f'(x) D. ln |f'(x)|
405	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)
406	Question Image	A. 1 (1 - 4) B. 2x - 3 C. x - 3 D. x³ - 3x
407	Question Image	A. Open B. Closed C. Open as well as closed D. None of these
408	An integral of $3x^2$ is:	A. x³+c B. 3 C. 6x D. x^{2+c}
409	Question Image	A. Implicit B. Explicit C. Exponential D. Logarithmic
410	Question Image	A. domain B. range C. lower limit D. upper limit
411	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