FSC Part 2 Mathematics Full Book Online Test

Sr	Questions	Answers Choice
1	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
2	The line y = a is below the x-axis, if:	A. a > 0 B. a < 0 C. a = 0
3	A function, in which the variable appears as exponent (power), is called a / an -------- function.	A. Constant B. Explicit C. Exponential D. Inverse
4	Question Image	A. sin x B. -cos x C. -sin x D. cos x
5	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
6	Question Image	A. 4 B. 2 C. 1
7	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
8	If f(x) = cos x then f'(0) is equal to:	A. 0 B. -1 C. 1
9	The length of the latus rectum of the parabola $y^2 = 4ax$ is:	A. a B. 4a C. 2a D. None of these
10	Question Image	A. a B. b C. c D. a + b
11	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
12	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
13	(1, 0) is the solution of inequality :	A. 7x + 2y < 8 B. x - 3y < 0 C. 3x + 5y > 6 D. -3x + 5y > 2
14	y-coordinate of any point on X-axis:	A. 0 B. x C. y D. 1
15	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
16	Question Image	A. Perpendicular

17	For different values of k, the equation 4x + 5y = k represents lines _____ to the line 4x + 5y = 0.	B. Parallel C. Equal D. None of these
18	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
19	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
20	Question Image	A. x = a B. x = 2 C. x = 0 D. None
21	Question Image	A. Parallel lines B. Perpendicular lines C. Non-parallel lines D. None of these
22	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
23	Question Image	B. 0 C. 4 D. 7
24	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
25	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
26	Question Image	A. equal to each other B. not equal to each C. nearly equal to each other D. none of these
27	Question Image	A. Circle B. Parabola C. Hyperbola D. Ellipse
28	The point of intersection of the perpendicular bisectors of a triangle is called:	A. Centroid B. Ortho-center C. Circums-center D. In-center
29	The non-negative inequalities are called:	A. Parameters B. Constants C. Decision variables D. Vertices
30	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
31	Question Image	A. 0 B. 2 C. 1 D. -1
32	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
33	Notation Df(x) for derivative was used by:	A. Cauchy B. Newton C. Leibniz D. Lagrange
34	Inclination of Y-axis or of any line parallel to Y-axis is:	B. Zero D. Undefined
35	The vertex of the parabola $y^2 = 4ax$ is:	A. (-a, 0) B. (a, 0) C. (0, -a)

		D. (0, 0)
36	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
37	Question Image	A. Scalar quantity D. Reciprocal vector
38	Question Image	A. 0 B. 2 C. 3 D. 1
39	Point of intersection of x + y = 5 & x - y = 3 is:	A. (5, 5) B. (4, 2) C. (4, 1) D. (1, 4)
40	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
41	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
42	Question Image	A. Open B. Closed C. Open as well as closed D. None of these
43	Question Image	A. - cosec² x B. cosec²x C. - cosec x cot x D. cosec x cot x
44	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
45	Question Image	
46	Question Image	C. 0 D. 1
47	The axis of the parabola $y^2 = -4ax$ is:	A. x = a B. x = 0 C. y = a D. y = 0
48	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
49	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
50	$Cosh^2 x - Sinh^2 x =$	A. 1 B. -1 C. 2 D. -2
51	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
52	Question Image	A. 60° B. 90° C. 30° D. 45°
53	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)
54	x = c is a vertical line parallel to _____.	A. x-axis B. y-axis may be C. y-axis

		D. None of these
55	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
56	The line l is horizontal if and only if slope is equal to:	A. 0 B. 1 C. 2 D. undefined
57	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
58	Question Image	A. sech x tanh x B. -sech x tanhx C. sech² x D. -sech²x
59	The point (5, 8) lies the line 2x - 3y + 6 = 0	A. Above B. Below C. On D. None
60	Question Image	A. 0 B. 1 C. 2 D. 3
61	Question Image	A. -cosec x cotx B. cosec² x C. -cosec²x D. cosec x cotx
62	The radius of point circle is:	A. 0 B. (0, 0) C. r D. 1
63	Question Image	
64	X-coordinate of any point on Y-axis:	A. 0 B. x C. y D. 1
65	The axis of the parabola $y^2 = 4ax$ is:	A. x = 0 B. x = a C. y = 0 D. y = a
66	Question Image	A. Unit vector B. Null vector C. Free vector D. None of these
67	Question Image	C. 28 D. 29
68	Equation of a line parallel to x-axis:	A. x = 0 B. x = y C. y = a D. x = a
69	Question Image	A. 0 B. 1 C. -1 D. 2
70	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
71	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
72	The focus of the parabola $y^2=-4ax$ is:	A. (-a , 0) B. (0, a) C. (0, -a) D. (a, 0)
		A. Parallel lines

73	The symbol | | is used for:	B. Perpendicular lines C. Non-parallel lines D. None of these
74	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
75	Question Image	
76	Which one is not an exponential function ?	
77	Area between x-axis and the curve:	A. 32 D. 16
78	The opening of the parabola $y^2 = 4ax$ is to the _____ of the:	A. Left B. Upward C. Right D. Downward
79	Question Image	B. 0
80	Question Image	A. R B. R - {2} C. R - {2, -2} D. R - {-2}
81	Question Image	
82	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
83	Question Image	A. f(x² + 1) B. f(x) D. f(x²)
84	Question Image	A. equal to each other B. not equal to each other C. nearly equal to each other D. None of these
85	Question Image	
86	Which one is a constant function ?	A. f(x) = x² B. f(x) = x C. f(x) = x + 1 D. f(x) = 14
87	Question Image	
88	There are _____ ordered pairs that satisfy the inequality ax + by > c.	A. Finitely many B. Two C. Infinitely many D. Four
89	Question Image	
90	Question Image	A. Even B. Odd C. One-one D. Zero
91	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
92	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
93	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
94	The vertex of parabola $(x - 1)^2 = 8 (y + 2)$ is:	A. (1, -2) B. (0, 1) C. (-1, -2) D. (1, 2)

95	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)
96	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
97	A null vector is defined as a vector whose magnitude is:	A. 1 B. 2 C. 0 D. None of these
98	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)
99	Question Image	A. [0] B. [0, 0] C. [0, 0, 0] D. None of these
100	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
101	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
102	The line y = c is above the x - axis, if:	A. c > 0 B. c < 0 C. c = 0
103	Question Image	
104	x = 2 is a vertical line perpendicular to _____:	A. x - axis B. x - axis may be C. y - axis D. None of these
105	Question Image	A. 4 B. Does not exist
106	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
107	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
108	Question Image	A. 90° B. 30° C. 60° D. 0°
109	Question Image	A. 2cosh x B. 2sinh x C. 2sinh (2x) D. -2sinh (2x)
110	The vertex of the parabola $y^2 = -4ax$ is:	A. (-a, 0) B. (a, 0) C. (0, -a) D. (0, 0)
111	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
112	A chord containing the center of the circle is called _____ of the circle:	A. Diameter B. Chord C. Radius D. None of these
113	In the case of rotation of axes which formula is true:	
114	Question Image	A. sinh x B. cosh x C. sinh x

		C. -sinh x D. -cosh x
115	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
116	The distance of any point P (x, y) from the origin O(0 , 0) is given by:	
117	Which one is an exponential function ?	
118	Sir Isaac Newton was a(an) --------- mathematician.	A. German B. French C. Swiss D. English
119	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
120	Question Image	A. Undefined B. 3a² C. a² D. 0
121	Which one is an identity function ?	B. f(x) = g(x) C. f (x) = x D. f(x) = 1
122	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
123	If a straight line is perpendicular to y-axis, then its slope is:	A. 1 B. -1 C. 0 D. undefined
124	The focus of the parabola x2=-4ay is:	A. (-a , 0) B. (0, a) C. (0, -a) D. (a, 0)
125	Question Image	A. (1, 1) B. (1, 3) C. (1, 4) D. (1, 5)
126	Question Image	A. At B. Not on C. On D. None of these
127	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
128	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°
129	The function $f(x) = 3x^2$ has minimum value at :	A. x = 3 B. x = 2 C. x = 1 D. x = 0
130	Which of the following is a vector quantity ?	A. Work B. Temperature C. Distance D. Displacement
131	Question Image	A. x = a B. for all x D. x = 0
132	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
133	A unit vector is defined as a vector whose magnitude is:	A. 0 B. 2 C. 1 D. 4

134	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
135	Question Image	A. Constant B. Implicit C. Explicit D. Inverse
136	Question Image	A. sech x tanh x B. -sech²x C. -sech x tanh x D. sech²x
137	The directrix of the parabola $y^2 = 4ax$ is:	A. x = a B. x = -a C. y = a D. y = - a
138	A scalar quantity is one that possesses only :	A. Magnitude B. Direction C. Both a and b D. None of these
139	Question Image	A. Integration B. Integrand C. Constant of integration D. None of these
140	An angle in a semi-circle is:	A. 0° B. 90° C. 180° D. 60°
141	The equation $x^2 + y^2 + 2x + 3y = 10$ represents a:	A. A pair of lines B. Circle C. Ellipse D. Hyperbola
142	The point of intersection of the medians of a triangle is called:	A. Centroid B. Ortho-center C. Circums-center D. In-center
143	Question Image	D. 2
144	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
145	Question Image	A. sin x B. cos x C. sinh x D. cosh x
146	The center of circle $(x+3)^2 + (y-2)^2 = 16$ equals:	A. (-3, 2) B. (3, -2) C. (3, 2) D. (-3, -2)
147	The region of the graph ax + by > c is called _____ half plane:	A. Open B. Boundary of C. Closed D. None of these
148	If any two vectors of scalar triple product are equal, then its value is equal to:	A. 0 B. 1 C. -1 D. 2
149	The number e denotes the _____ of the conic:	A. Directrix B. Vertex C. Focus D. Eccentricity
150	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
151	$\cosh^{-1}x =$	
152	Question Image	A. Position vector of O B. Position vector of P C. Unit vector

		D. Null vector
153	The derivative of x with respect to y is given by:	
154	An integral of $3x^2$ is:	A. x³+c B. 3 C. 6x D. x^{2+c}
155	Question Image	A. Free vector B. Unit vector C. Null vector D. None of these
156	Question Image	A. Volume of the tetrahedron B. Volume of the parallelepiped C. Volume of the triangle D. None of these
157	The condition for the line y = mx + c to be a tangent to the circle $x^2 + y^2 = a^2$ is c = _____:	
158	Question Image	A. One variable B. Three variable C. Two variable D. Four variable
159	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
160	Question Image	A. 0 B. 2 C. 3 D. 1
161	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
162	The radius of circle $x^2 + y^2 + 2gx + 2fy + c = 0$ is:	
163	x = 4 is the solution of inequality:	A. x + 3 > 0 B. x - 3 < 0 C. -2x + 3 > 0 D. x + 3 < 0
164	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
165	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
166	Question Image	A. f(x) B. ln |f(x)| C. f'(x) D. ln |f'(x)|
167	Question Image	
168	Question Image	A. 4a B. 2a C. 4b D. 2b
169	Question Image	A. tan x + c B. -tan x + c C. sec x + c D. -sec x + c
170	The perpendicular distance of the line 3x + 4y + 10 = 0 from the origin is:	A. 0 B. 1 C. 2 D. 3
171	The equi. of latus-rectum of the parabola $y^2 = -4ax$ is:	A. x = a B. x = -a C. y = a D. y = -a
	If the directed distances AP and PB have the opposite signs, i.e; p is beyond AB, then their	A. Internally B. May divide

172	ratio is negative and P is said to divide AB:	C. Externally D. None of these
173	Question Image	A. 0 B. 2 C. 1 D. 3
174	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
175	A quadrilateral having two parallels and two non-parallel sides is called:	A. Trapezium B. Rectangle C. Rhombus D. None of these
176	Question Image	A. 1 B. 0
177	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
178	If f(x) = |x|, f(x) is a:	A. Constant function B. Absolute function C. Linear function D. Quadratic function
179	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
180	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
181	If y = sin x then dy =	A. cosy dx B. cos x C. cosx dx D. cos xdy
182	Question Image	A. cos x + c B. - cos x + c C. sin x + c D. -sin x + c
183	The focus of the parabola y^2=4ax is:	A. (-a , 0) B. (0, a) C. (0, -a) D. (a, 0)
184	ax + by < c is an inequality of:	A. One variable B. Threevariable C. Twovariable D. Fourvariable
185	The feasible region is _____ if it can easily by enclosed within a circle.	A. Bounded B. Exist C. Unbounded D. None of these
186	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)
187	The directrix of the parabola x^2 = 4ay is:	A. x = a B. x = -a C. y = a D. y = -a
188	The vertex of the parabola x^2 = 4ay is:	A. (-a, 0) B. (0, a) C. (0, -a) D. (0, 0)
189	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
190	Question Image	A. domain B. range

		C. lower limit D. upper limit
191	The range of the function f(x) = |x|	
192	y = -2 is a line:	A. Parallel to x-axis B. Parallel to y-axis C. Perpendicular to x-axis D. None of these
193	Zero vector is perpendicular to:	A. Every vector B. Unit vector only C. Position vector only D. Not any vector
194	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
195	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
196	Question Image	
197	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
198	Question Image	A. Line parallel to x - axis B. Line parallel to y - axis C. Inclined D. Both (a) and (b)
199	Question Image	A. c B. 0 C. 1 D. -c
200	Question Image	A. 5 sin x B. cosh (5x) C. 5 cosh (5x) D. -5 cosh (5x)
201	If $y = x^2 + 1$ _____ x changes from 3 to 3.02 then dy = _____	A. 0.1204 B. .12 C. .02 D. 1.2
202	Question Image	A. 0
203	Question Image	A. Unit Vector B. Null vector C. Position vector D. None of these
204	If s is the distance traveled by a body at time t, the velocity is given by the expression:	
205	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
206	The horizontal line x' ox is called:	A. x-axis B. y-axis C. abscissa D. ordinate
207	-4 < y < 4 is the solution of the following:	A. y = 5 B. y = 3 C. y = -4 D. y = 4
208	The system of _____ involved in the problem concerned is called problem constraints:	A. Linear inequalities B. Equations C. Linear equalities D. None of these
209	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
210	ax + b < c is a inequality of:	A. One variable B. Two variable C. Three variable D. Four variable

211	The point of a parabola which is closest to the focus in the:	A. Directrix B. Vertex C. Focus D. Chord
212	f (x) = x secx, then f(0)=	A. -1 B. 0 C. 1
213	Inclination of X-axis or of any line parallel to X-axis is:	A. Zero D. Undefined
214	Point (5, 6) lies ..... the circle $x^2 + y^2 = 81$:	A. Outside B. Inside C. On D. None of these
215	Question Image	
216	The coordinate axes divide the plane into---------- equal parts:	A. 1 B. 2 C. 3 D. 4
217	The number e denotes the _____ of the conic:	A. Directrix B. Vertex C. Focus D. Eccentricity
218	Question Image	A. tan x + c B. - tan x + c C. sec x tan x + c D. - sec x tan x + c
219	The Maclaurin series expansion is valid only if it is:	A. Convergent B. Divergent C. Increasing D. Decreasing
220	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
221	Question Image	A. cot x B. - cot x C. cosec x cot x D. -cosec x cot x
222	The equ. of directrix of the parabola $y^2 = -4ax$ is:	A. x = a B. x = - a C. y = a D. y = -a
223	Question Image	A. Left or right B. Upper or lower C. Open D. None of these
224	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°
225	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
226	Question Image	A. 4, -4 B. 0 C. 2, -2 D. 0, 4
227	If the lien l is parallel to y-axis, then the slope of l is ----------.	A. 0 B. 1 C. -1 D. undefined
228	Question Image	A. 0 B. 1 C. -1 D. 2
229	Question Image	A. 1 B. 2 C. 3

		D. 4
230	The function y = ln x is a/an ---------- function of x.	A. Constant B. Explicit C. Exponential D. Logarithmic
231	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
232	y = b is a horizontal line perpendicular to _____:	A. x - axis B. y - axis may be C. y - axis D. None of these
233	Question Image	
234	Question Image	A. Ellipse B. Parabola C. Hyperbola D. Circle
235	Infinite number of lines can pass through:	A. One point B. Two points C. Three points D. Four points
236	y = 2x + 3 is the;	A. Slope-intercept form B. Two points form C. Point slope form D. Intercepts form
237	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
238	If (x, y) are the coordinate of a point ordered pair is called:	A. Abscissa B. Ordinate C. Coordinate D. Ordered pair
239	The vertex of the parabola $x^2 = -4ay$ is:	A. (a, 0) B. (0, 0) C. (0, -a) D. (0, a)
240	x = a is a vertical line perpendicular to _____.	A. x - axis B. x - axis may be C. y - axis D. None of these
241	Question Image	A. 0 B. -1 C. 1 D. 2
242	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
243	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
244	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
245	Question Image	A. x - axis B. z - axis C. y - axis D. None of these
246	The axis of the parabola $x^2 = -4ay$ is:	A. x = a B. x = 0 C. y = a D. y = 0
247	$Cosh^2 x + Sinh^2 x =$	A. Cosh x² B. Cosh 2x C. Sinh 2x D. Tanh 2x

248	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
249	In the translation of axes which formula is true:	A. x = X + h B. X = x + h C. x + X = h D. None
250	Question Image	A. 3 B. 4 C. 5 D. 6
251	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
252	Question Image	A. sec x tan x B. sec²x C. -sec x tan x D. -sec²x
253	The two parts of a right circular cones are called:	A. Nappes B. Apex of the cone C. Generator D. Vertex
254	The fixed point of the conic is called:	A. Directrix B. Vertex C. Focus D. None of these
255	Question Image	
256	The point (2, 5) lies the lie 3x - y + 1 = 0	A. Above B. Below C. On D. None
257	Question Image	A. ln |sin x| B. - ln |sin x| C. ln |cos x| D. -ln |cos x|
258	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
259	Question Image	A. Scalar B. Free vector C. Unit vector D. Null vector
260	The focus of the parabola $x^2 = 4ay$:	A. (0, a) B. (-a , 0) C. (0, -a) D. (a, 0)
261	x = c is a line:	A. Perpendicular to x-axis B. Parallel to x-axis C. Perpendicular to y-axis D. None of these
262	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
263	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
264	Question Image	A. Integration by parts B. Definite integral C. Differentiation D. None of these
265	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
		A. x = 0

266	The axis of the parabola $x^2 = 4ay$ is:	B. x = -a C. y = 0 D. y = -a
267	The distance between the points (1, 2), (2, 1).	A. 1 D. 2
268	Question Image	A. 0 B. 1 C. -1 D. 2
269	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
270	The opening of the parabola $x^2 = 16y$ is to _____ of the x-axis:	A. Left B. Upward C. Right D. Downward
271	Question Image	A. Constant function B. Absolute linear function C. Linear function D. Quadratic function
272	Question Image	A. 1 B. 2 C. 3 D. 0
273	A linear equation in two variables represents:	A. Circle B. Ellipse C. Hyberbola D. Straight line
274	The conic is a parabola, if:	A. e = 1 B. e > 1 C. 0 < e < 1 D. e = 0
275	Which of the following is not a vector quantity ?	A. Weight B. Mass C. Force D. Velocity
276	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
277	Question Image	A. tan x B. cot x C. - tan x D. - cot x
278	Question Image	A. x = 0 B. y = -a C. y = 0 D. y = -a
279	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
280	Question Image	A. Continuous at x = 1 B. Not continuous at x = 1 C. Both a and b D. none
281	The opening of the parabola $x^2 = 4ay$ is upward of the:	A. x -axis B. y = c C. y - axis D. x = y
282	Question Image	A. Parabola B. Hyperbola C. Ellipse D. Circle
283	A line that touches the curve without cutting through it is called:	A. Straight line B. Tangent line C. Normal line D. Vertical line
284	Question Image	A. integration by parts B. definite integral

284	Question Image	C. Differentation D. None of these
285	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
286	The distance between the center of a circle and any point of the circle is called:	A. Tangents B. Secant C. Diameter D. Radius
287	Question Image	A. Common logarithmic B. Natural logarthmic C. Exponential D. None of these
288	Question Image	A. Unit vector B. Null vector C. Position vector D. None of these
289	Question Image	A. 0 B. 1 C. -1 D. 2
290	Question Image	A. Implicit B. Explicit C. Exponential D. Logarithmic
291	If the degree of a polynomial function is ----------, then it is called a linear function:	A. 0 B. 1 C. 2 D. 3
292	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
293	The radius of circle $x^2 + y^2 + ax + by + c = 0$ is:	D. None
294	A corner point is the point of intersection of:	A. x-axis & y - axis B. Boundary lines C. Any two lines D. None
295	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
296	Question Image	A. Parallel lines B. Non-parallel lines C. Perpendicular lines D. Coplanar lines
297	Question Image	A. domain B. range C. lower limit D. upper limit
298	A parallelogram is a rhombus if and only if its diagonals are:	A. Parallel B. Perpendicular C. Equal D. None of these
299	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
300	Question Image	A. x = a B. x = 2 C. x = 0 D. None
301	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)
302	The graph of the parabola $y^2 = -4ax$ is symmetric about:	A. x-axis B. y = x C. y-axis D. None of these

		D. None of these
303	Question Image	
304	Question Image	C. 2 D. 1
305	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
306	Question Image	
307	Length of tangent from (0,1) to $x^2 + y^2 + 6x - 3y + 3 = 0$	A. 2 B. 1 C. 4 D. 3
308	Question Image	A. 2 - 7 B. 2 + 7
309	Question Image	A. Integral B. Indefinite integral C. Differential D. Definite integral
310	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
311	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
312	The term function was introduced by:	A. Euler B. Newton C. Lagrange D. Leibniz
313	The conic is an ellipse, if:	A. e = 1 B. e > 1 C. 0 < e < 1 D. e = 0
314	Distance of the point (-2, 3) from y-axis is:	A. -2 B. 2 C. 3 D. 1
315	Question Image	A. Lagrange B. Newtown C. Leibniz D. Cauchy
316	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
317	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
318	Question Image	A. Integration B. Integration w.r.t.x. C. Differentiation D. Differentiation w.r.t.x
319	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
320	$\underline{i}.(\underline{j}.\underline{k})$ =	A. Meaningless B. -1 C. 1 D. 2
321	Question Image	A. sinh x B. cosh x C. -sinh x D. -cosh x
		A. First

322	A region, which is restricted to the _____ quadrant, is referred to as a feasible region for the set of given contraints.	B. Third C. Second D. Fourth
323	$y^2 = 4ax$, is the standard equation of the:	A. Ellipse B. Parabola C. Hyperbola D. None of these
324	ax + b > c is an inequality of:	A. One variable B. Three variable C. Two variable D. Four variable
325	x = 4 is a line:	A. Parallel to x - axis B. Parallel to y - axis C. Perpendicular to y-axis D. None of these
326	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
327	The parabola $y^2 = 4ax$ lies in quadrants:	A. I and II B. III and IV C. II and III D. I and IV
328	Equation of axis of the parabola $x^2 = 4ay$ is:	A. x = 0 B. x = a C. y = 0 D. y = a
329	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°
330	Question Image	A. 1 (1 - 4) B. 2x - 3 C. x - 3 D. x³ - 3x
331	For any point (x, y) on x-axis:	A. y = 1 B. y = 0 C. y = -1 D. y = 2
332	Question Image	A. a cosec (ax + b) D. cot (ax + b)
333	The area A of a circle as a function of its circumference C is:	
334	Question Image	A. Derivative B. Differential C. Integral D. None of these
335	Question Image	A. 36 B. 42 C. 48 D. 12
336	The ordered pair _____ is a solution of the inequality x + 2y < 6.	A. (3, 3) B. (1, 1) C. (4, 4) D. (5, 5)
337	Question Image	A. e^{ax} B. f(x) C. e^{ax}f(x) D. e^{ax + f(x)}
338	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
339	The graph of the parabola $y^2 = -4ax$ is symmetric about:	A. x-axis B. major axis C. y-axis D. minor axis
340	Question Image	A. Line B. Parabola C. Ellipse D. Hybperbola

341	Perpendicular dropped from the center of a circle on a chord _____ the chord:	A. Normal B. Bisects C. Equal to D. None of these
342	Question Image	
343	Inverse hyperbolic functions are expressed in terms of natural:	A. Numbers B. Exponential C. Logarithms D. Sines
344	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)
345	Question Image	A. e^{2x} sin x + c B. e^{2x}cosx + c C. -e^{2x}sin x + c D. -e^{2x}cosx + c
346	tanh x =	
347	Question Image	
348	There are _____ feasible solutions in the feasible region:	A. Finitely B. Two C. Infinitely many D. Three
349	The point of intersection of the altitudes of a triangle is called:	A. Centroid B. Ortho-center C. Circums-center D. In-center
350	The graph of the parabola $x^2 = -4ay$ is symmetric about:	A. x-axis B. major axis C. y-axis D. minor axis
351	If the inclination of a line lies between]90°, 180°[, then the slope of line is :	A. Positive B. Negative C. Zero D. undefined
352	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
353	The point where the axis meets the parabola is called _____ of the parabola:	A. Directrix B. Vertex C. Focus D. Eccentricity
354	Question Image	A. sec x tan x B. - sec²x C. -sec x tan x D. sec²x
355	Two non parallel lines intersect each other at:	A. 1 point B. 2 points C. 3 points D. 4 points
356	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
357	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
358	Let f(x) = cos x, then f(x) is an:	A. Even function B. Odd function C. Power function D. None of these
359	Question Image	A. Integration B. Integrand C. Constant of integration D. None of these

360	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
361	Question Image	A. a B. 2b C. b D. 2a
362	The line x = a is on the right of y - axis if:	A. a > 0 B. a < 0 C. a = 0
363	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)
364	A line segment joining two distinct points on a parabola is called a _____ of the parabola:	A. Chord B. Vertex C. Focus D. Directrix
365	The vertical line y'oy is called:	A. x-axis B. y-axis C. abscissa D. Ordinate
366	Non-vertical lines divide the plane into_____half plane:	A. Upper and lower B. Many C. Left and Right D. None of these
367	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
368	Question Image	A. 0 B. 1 C. e D. Does not exist
369	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)
370	Angle between the lines x + y + 1 = 0 & x - y + 4 = 0 is:	A. 30° B. 45° C. 60° D. 90°
371	y = b is a horizontal line parallel to _____:	A. x - axis B. x - axis may be C. y - axis D. None of these
372	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
373	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
374	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
375	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)
376	Question Image	A. cosech x coth x B. -cosech²x C. -cosech x coth x D. cosech²x
377	Question Image	A. Constant B. Implicit C. Identity D. Inverse

378	Question Image	A. Above B. Left C. Below D. Right
379	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
380	Question Image	A. Position vector B. Null vector C. Unit vector D. None of these
381	The instantaneous rate of change of y with respect to x is given by:	
382	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
383	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
384	If y = f(u) and u = F(x), then:	
385	$x^2 + y^2 = 4$ is:	A. Function B. Not a function C. Ellipse D. Line
386	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
387	Parametric equations x = a cos t, y = a sin t represent the equation of:	A. Line B. Circle C. Parabola D. Ellipse
388	Question Image	A. 0 B. 1 C. 2 D. 4
389	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:	
390	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
391	If a straight line is perpendicular to x-axis, then its slope is:	A. 0 B. 1 C. 2 D. Undefined
392	For any point (x, y) and y - axis:	A. y = 0 B. y = -1 C. y = 1 D. x = 0
393	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
394	Question Image	A. One variable B. Three variable C. Two variable D. Four variable
395	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
396	The directrix of the parabola $x^2 = -4ay$ is:	A. x = a B. x = -a C. y = a D. y = -a

397	ax + by + c = 0 has matrix from as:	B. |ax + by| = |-c| C. [ax + by] = [c] D. [ax - by] = [-c]
398	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
399	A line which divides a plane into two parts is called:	A. Boundary point B. Boundary line C. Feasible line D. None
400	Question Image	
401	Question Image	A. sin x B. cos x C. -sin x D. -cos x
402	Gottfried Whilhelm Leibniz was a (an) ----- mathematician:	A. German B. English C. Swiss D. French
403	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
404	Let $f(x) = x^3 + \sin x$, then f(x) is:	A. Even function B. Odd function C. Power function D. None of these
405	Question Image	
406	x = 3 cos t, y = 3 sin t represent	A. Line B. Circle C. Parabola D. Hyperbola
407	Every relation, which can be represented by a linear equation in two variables, represents a:	A. Graph B. Function C. Cartesian product D. Relation
408	f(x) = sin x + cos x is ---------- function:	A. Even B. Odd C. Composite D. Neither even nor odd function
409	Distance of the point (-3, 7) from x-axis is:	A. 3 B. -3 C. 7 D. 10
410	Question Image	A. cosec x + c B. -cosec x + c C. cot x + c D. - cot x + c
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