Mathematics (JEE)

Sr.	Topic	SubTopic
1	Set	Sets
2		Types of set
3		Subset
4		Power set
5		Ven diagram
6		Operations on set
7		Algebraic operation on set
8	Relations and functions 1	Cartesian product
9		Relations domain co domain and range
10		Functions domain
11		Co domain and range of a function
12		Different types of functions
13	A trigonometric ratios and identities	Angle and measurement
14		Domain and range of trigonometrical function
15		Basic formula
16		Periodic functions
17		Trigonometric ratios of sum difference of angles
18		Multiple and sub multiple angles
19		Conditional identities
20		Graphs of trigonometric functions
21		Periodic forms
22		Maximum and minimum values of trigonometric functions
23	B trigonometrical equations	Trigonometrical equations and general solution
24		Methods of solving trigonometric equations
25		Solving equations with the use of boundedness
26		Solution of trigonometric equations
27	Complex numbers and quadratic equation	Introduction of Complex number system
28		Operations on complex number
29		Graphical representation of complex numbers
30		Polar form
31		De moivre theorem
32		Square roots of Complex number
33		Cube roots of unity
34		Nth roots of unity
35		Geometry of a complex number
36		Distance between two points
37		Section formula

38		Angle between two lines (concept of rotation)
39		Quadratic equation
40		Roots of a quadratic equation
41		Nature of roots
42		Sign of roots
43		Analysis of quadratic trinomial
44		Problems related to arrange of value of quadratic rationals
45	c properties of triangles	Representation in a triangle and cotangent rules
46		Circles connected to a triangle
47		Orthocenter of a triangle
48		Cyclic quadrilateral
49		Regular polygon
50		Solution of triangle
51		Height and distance
52	principal of mathematical induction	Penon's axioms
53		Principal of mathematical induction
54		Some useful results
55	A Straight Lines	Cartesian coordinates system
56		Distance formula
57		Section formula
58		Results of triangle
59		Locus and equations of locus
60		Straight line
61		The general form of equation
62		Result related to a points and a straight line
63	B Pair of Straight Lines	General equations of pair of straight lines
64		Condition of a pair of straight lines
65		Translation of axes
66		Rotation of axes
67	Linear inequalities	Linear inequality
68		Solution of linear inequality
69		Representation in number line and in a cartesian plane
70		The modulus of a real numbers
71		Modulus of a function and general theory of polynomial equation
72		Solving inequalities using method of intervals and rational inequalities
73		Logarithmic equations and inequalities
74		Inequalities containing greatest integer function
75	A circles	Circle
76		Intersection of lime and circles
77		Length of intercept made by a circle of a line

78		Pair of tangents
79		Chord of contact of tangents
80		Normal to the circle
81		Radical axis of two circles
82		Coaxal system
83		Family of circles
84	B parabola	Sections of a cone
85		Analytical definition of conic section
86		The standard equation of parabola
87		Equation of tangent
88		Equation of normal
89	C ellipse and hyperbola	Ellipse the standard equation
90		Parametric equations
91		Equation of pair of tangents
92		Equation of normal
93		Conjugate hyperbola
94		Rectangular hyperbola
95		Position of a point relative to hyperbola
96		Number of tangents
97		Chord
98		Asymptotes of hyperbola
99		Rectangular hyperbola
100	introduction of three dimensional geometry	Three dimensional Cartesian coordinates system
101		Distance between two points
102	limits and derivatives	Limit of a function
103		Fundamental theorem on limit
104		Existence of limits
105		Differentiation
106	mathematical reasoning	Statement
107		Truth value of statement
108		Basic logical connectives
109		Converse, inverse and contrapositive
110		Tautology
111		Duality
112	statistics	Measures of central tendency
113		Arithmetic mean
114		Median
115		Symmetric and skew distribution
116		Relation between mean median and mode
117		Mean deviation and standard deviations
118		Standard deviations
119	Permutations and combinations	Fundamental principle of counting and notations
120	Permutations and combinations	Method of sampling
121		Permutations
122		Combinations

123		Multinomial theorem
124		Number of rectangles and squares
125		Derangements
126		Conditional permutations conditional combinations
127	probability	Trail and event
128		Mutually exclusive events
129		Equally likely events
130		Favourable events
131		Axiomatic approach to probability events
132		Favourable events
133		Addition theorem on probability
134	Binomial theorem (including infinite series)	Binomial theorem for positive integral index
135		Middle term
136		Independent terms
137		Numerically greatest term in the expansion of (x+a)n
138		Multinomial theorem
139		Properties of binomial coefficients
140		Binomial theorem for any index
141		Exponential and logarithmic series
142		Logarithms definition
143		Laws of logarithms
144	Sequences and series	Sequences and series
145		Arithmetic progression
146		Geometric progression
147		Harmonic progressions
148		Arithmetico geometric sequences
149		Some to N terms of special sequences
150	relations and functions 2	Types of relation on the set
151		Composition Of Relations
152		1 1 correspondence
153		functions
154		Kinds of functions
155		Composition of functions
156		Inverse of a function
157		Binary operations
158	Inverse trigonometric functions	Inverse trigonometric functions
159		Domain and range of inverse trigonometric functions

160	Inverse trigonometric functions	Solving equations containing inverse trigonometric functions
161		Infinite series
162	matrices	Matrix
163		Order Of a Matrix
164		Types of matrix
165		Positive integral powers of matrix
166		Nilpotent matrix
167		Idempotent matrix
168		Involutory matrix
169		Transpose of a Matrix
170		Symmetric and skew symmetric matrix
171		Inverse matrix
172	Determinant	Determinant
173		Minor and cofactor of an element of a determinant
174		Properties of determinant
175		Multiplication of two determinants
176		Adjoint of a matrix
177		Inverse of matrix
178		Rank of a matrix
179		Differentiation of a determinant
180		Solution of system of linear equation using determinant
181	continuity and differentiability	Continuity discontinuity of a function
182		Differentiability of a function
183		Differentiation
184		Differentiation of a composite function
185		Differentiation of a function with respect to another function
186		Differentiation of infinite series
187		Successive differentiation
188		Leibnitz theorem
189		Mean value theorem
190		Lagrange's mean value theorem
191	application of derivative	Tangents and normals
192		Angle of intersection of two curves
193		Monotonicity of functions
194		Maxima and minima of functions
195		Range of continuous functions
196		Differentials
197		Errors and approximation
198		Application of rate measure
199	integrals	Anti derivative
200		Elementary results
201		Rules of integration
202		Methods of integration
203		Integration by parts

204		Integration using trigonometrical identities
205		Integration of irrational algebraic functions
206		Integrals of different expression
207	integrals	Definite integrals
208		Evaluation of definite integrals by substitution
209		Fundamental properties of definite integrals
210		Definite integral ads limit of sum
211	application of integrals	Area of the region bounded by curve and x-axis
212		Area of the curve bounded by curve and y axis
213		Different cases of area bounded between curves
214	differential equation	Order and degree of a differential equation
215		Linear and nonlinear differential equations
216		Solutions of differential equations of the first order
217		Homogeneous differential equations
218		Differential equation reducible to homogeneous equations
219		Linear differential equations
220		Differential equation reducible to linear form
221		Solution of differential equation by inspection
222		Application of differential equations in cartesian geometry
223	vector algebra	Representation of vector
224		Types of vector
225		Linear independent and dependent system of vector
226		Centroid of a triangle
227		Scalar product of two vectors
228		Application of scalar product of vectors
229		Cross product of two vectors
230		Triple product of vectors
231		Product of 4 vectors
232	three dimensional geometry	Direction cosines in directions ratios
233		Straight line in space
234		Bisectors of angles between two lines
235		Shortest distance between two straight lines
236		Plane

237		Different equations of a plane
238		Projection of a line on a plane
239		Image of a line in a plane
240		Equation of a sphere
241		Condition of tangency of a plane to a sphere
242		Plane section of a sphere
243	linear programming	Linear equations in two variables
244		Linear inequations in two variables
245	probability advanced	Conditional probability
246		Independent events
247		Addition theorem
248		Multiplication theorem
249		Extension of multiplication theorem
250		Repeated trials
251		Finite stochastic processes
252		Theorem of total probability
253		Bayes theorem
254		Random variable
255		Distribution and expectation
256		Variance and standard deviation
257		Binomial distribution
258		Multinomial distribution
259		Poisson distribution