11th Class FA Mathematics Chapter 7 Online Test

Sr	Questions	Answers Choice
1	Question Image	
2	sin (Θ - π) =	
3	Conjugate of a + i b is:	A. -a + ib B. a + ib C. -a - ib D. a - ib
4	If A and B are two matrices, then:	A. A B = O B. AB = BA C. AB = I D. AB may not be defined
5	$3^{2x} - 3^{x} - 6 = 0$ is:	A. reciprocal equation B. exponentialequation C. radicalequation D. none of these
6	π is defined as:	A. ration of diameter of a circle to its circumference B. ration of the circumference of a circle to its diameter C. ration of area of a circle to its circumference D. ration of the circumference of a circle to its area
7	sin (α + ß) =	
8	Reciprocals of the terms of the geometric sequence form:	A. A.P B. G.P C. H.P D. none
9	The middle term in the expansion of $(1+x)^{1/2}$ is:	A. T₂ B. T₃ C. does not exist D. none of these
10	Domain of the function $y = \tan^{-1} x$ is:	
11	B - A is a subset of:	A. A B. B
12	The imaginary part of the complex number a + bi is:	A. a B. b C. bi D. none of these
13	[0] is a:	
14	The graph of $y = \cos^{-1} x$ is obtained by reflecting the graph of y = cos x about:	A. x-axis B. y-axis C. y = x D. y = -x
15	The period of sec x is:	
16	A triangle which is not right angle triangle called _____ triangle:	A. acute B. obtuse C. right D. oblique
17	The amplitude and period of 3 sin x are:	A. 3, π B. 2, 2π C. 3, 3π D. 3, 2π
18	The series 2 + 2 + 2 ..... is:	A. divergent B. convergent C. oscillatory D. none of these
19	In a triangle if α > 45°, ß > 30° then Γ cannot be:	A. 90° B. 100° C. 120° D. 130°

		D. 10^
20	Question Image	A. integer B. rational number C. irrational number D. natural number
21	Question Image	A. r₁ B. r₂ C. r₃ D. r
22	Cot1°, Cot2°, Cot3°, ... Cot89° =	A. -1 B. 1 C. ∞ D. none
23	Arithmetic series is only possible if:	A. |d| = 1 B. |d| < 1 C. |d| > 1 D. none
24	If A is a matrix of order m × n and B is a matrix of order n × p then the order of AB is:	A. p×m B. p×n C. n×p D. m×p
25	Question Image	
26	Question Image	
27	Question Image	
28	The number of diagonals of a polygon with n sides is:	D. none of these
29	Question Image	
30	Question Image	
31	The system of measurement in which the angle is measured in degrees, and its sub-units, minutes and seconds is called the:	A. circular system B. sexagesimal system C. decimal system D. degree system
32	If A is a square matrix, then $A - A^t$ is:	
33	Question Image	A. 0 B. 4 C. 1 D. 3
34	Probability of a certain event is:	A. 0 B. 1 C. >1 D. ∞
35	In a triangle ABC b = √3, c = 1, α = 30° then a = :	A. 2 B. 1 C. 3 D. -1
36	In any triangle ABC, law of sines is:	
37	cos $(2\sin^{-1} x)$ =	A. 1- 2x² B. 1 + 2x² C. 2x²- 1 D. x²- 1
38	In triangle the length of the sides are 7, 4√3 and √13. Then the smallest angle is:	A. 15° B. 30° C. 60° D. 45°
39	A matrix of order m×1 is called:	A. row matrix B. column matrix C. identity matrix D. scalar matrix
40	The domain of $y = \cos^{-1} x$ function is:	
41	Question Image	D. all of these
42	x2 - 5x + 6 = 0 is:	
43	A biconditional is written in symbols as:	

44	A dice is rolled, the probability of getting a number which is even or greater than 4 is:	D. none of these
45	The set of negative integers is closed with respect to:	A. addition B. multiplication C. both (a) and (b) D. subtraction
46	Question Image	A. Additive property B. Multiplicativeproperty C. Reflexiveproperty D. Transitive property
47	Question Image	A. x = 0 B. y = 0 C. x = 0 and y = 0 D. x = 0 or y = 0
48	Question Image	
49	Question Image	A. A.P B. G.P C. H.P D. none
50	Which of the following is correct:	A. 2 + 7i > 10 + i B. 1 + i > 1 - i C. 4 + 3i > 1 + 3i D. none of these
51	The series 3 + 33 + 333 + ... is:	A. A.P B. G.P C. H.P D. none of these
52	Question Image	A. additive property B. multiplicative inverseproperty C. transitive property D. negative property
53	Question Image	
54	In a simultaneous throw of two dice, The probability of getting sum 3 or 11 is:	D. none
55	-2 sin α sin ß =	A. sin (α + ß) + sin (α - ß) B. cos (α + ß) + cos (α - ß) C. cos (α + ß) - cos (α - ß) D. cos (α - ß) + cos (α - ß)
56	{2, 4, 6, 8, ...} represents the set of:	A. positive odd numbers B. natural numbers C. prime numbers D. positive even numbers
57	The domain of $y = \sin^{-1} x$ is:	
58	Sum of all three cube roots of unity is:	A. 1 B. -1 C. 0 D. 3
59	If 2s = a + b + c, then in any triangle ABC:	D. all of these
60	If a polynomial P(x) = x2 + 4x2 - 2x + 5 is divided by x - 1, then the reminder is:	A. 8 B. -2 C. 4 D. 5
61	Question Image	
62	Question Image	
63	Question Image	
64	π, e are:	A. integers B. natural numbers C. rationalnumbers D. irrationalnumbers
65	If triangle ABC, If ß = 90° then:	D. none of these
66	When two sides and included angle is given, then area of triangle is given by:	D. all of these
67	If sin α = cos ß in any triangle ABC then:	A. α + ß = 90° B. α + ß = 180°

67	If sin α = cos ß in any triangle ABC then:	C. α + ß = 360° D. α + ß
68	Zero is:	A. a natural number B. a whole number C. a positive integer D. a negativeinteger
69	The probability that a number selected from the numbers 1, 2, 3, 4, 5, ..., 16 is a prime number is:	
70	A geometric series is convergent only if:	A. | r | > 1 B. | r | < 1 C. | r | = 1 D. none of these
71	Fifth term of the sequence 2, 6, 11, 17.	A. 24 B. 41 C. 32
72	In binomial expansion of (a+b)n, n is positive integer the sum of even coefficients equals:	D. none of these
73	If tan Θ > 0 and sin Θ < 0 then terminal arm of the angle lies in quadrant:	A. I B. II C. III D. IV
74	sin5Θ + sin3Θ is equal to:	A. 2cos 2Θ sin Θ B. -2 cos 4Θ sin Θ C. -2 sin 4Θ cos Θ D. 2 sin 4Θ cos Θ
75	Probability of an impossible event is:	A. 0 B. 1 C. -1 D. ∞
76	(x + 3) (x + 4) = x2 + 7x + 12 is:	
77	In any triangle ABC, law of cosines is:	
78	sin (α - ß) =	
79	Question Image	
80	If A is a matrix of order m × n, then the number of elements in each row of A is:	A. m B. n C. m + n D. m - n
81	No. of triangles can be formed by joining the vertices of the polygon having 12 sides ?	A. 202 B. 220 C. 110 D. none of these
82	Question Image	
83	To convert any angle in radians into degrees, we multiply the measure by:	
84	Question Image	
85	Solution set of the simultaneous equations : x + y = 1, x - y = 1 is:	A. {(0,0)} B. {(1,0)} C. {(0,1)} D. {(1,1)}
86	Question Image	
87	If any two rows of a square matrix are interchanged, the determinant of the resulting matrix:	A. is zero B. is multiplicative inverse of the determinant of the original matrix C. is additive inverse of the determinant the original matrix D. none of these
88	Question Image	A. 1 B. -1 C. -6 D. 6
89	Question Image	A. 3 B. 1 C. 4 D. None

90	The distance between the points P(x1, y1) and Q(x2, y2) is:	
91	Question Image	A. 0 B. 1 C. 3 D. 2
92	No. of arrangements of the letters of the word PAKPATTAN can be made, taken all together ?	A. 15130 B. 15120 C. 1512 D. none of these
93	Question Image	A. zero B. non-singular C. singular D. none of these
94	One card is drawn at random from a pack of 52 cards. The probability that the card drawn a king is:	D. none of these
95	In a simultaneous throw of two dice, The probability of getting a total of 7 is:	
96	Equations having a common solution are called:	A. linear B. quadratic C. homogeneous D. simultenaeous
97	$(1 - \cos^2\Theta)(1 + \cot^2\Theta) =$	A. tan²Θ B. 0 C. 1 D. -1
98	$r_2 =$	
99	Question Image	A. integer B. rationalnumber C. irrationalnumber D. naturalnumber
100	Question Image	
101	In 2s = a + b + , then in any triangle ABC:	D. all of above
102	Question Image	
103	Question Image	
104	Question Image	B. 10π
105	Question Image	A. irrational fraction B. polynomial C. rational fraction D. none of these
106	Which one is not a quadrant angle ?	A. 0° B. 90° C. 280° D. 270°
107	With usual notations for triangle R equals:	
108	Question Image	A. c = 0 B. b = 0, c = 0
109	Domain of finite sequence is:	A. set of natural numbers B. subset of N C. R D. none
110	Distinct objects means:	A. identical objects B. not identical C. similar D. none of these
111	A statement which is true for all possible values of the variables involved in it, is called a:	A. tautology B. conditional C. implication D. absurdity
112	A^{-1} exists if A is:	A. singular B. nonsingular C. symmetric D. none

113	The additive inverse of a real number is a:	A. 0 B. -a C. a
114	No. of necklaces can be made from 7 beads of different colors ?	A. 360 B. 120 C. 60 D. 70
115	Question Image	
116	If A = {1, 2, 7, 9}, B = {1, 4, 7, 11}:	A. disjoints sets B. equal sets C. overlapping sets D. complementary sets
117	Sum of all positive integral multiples of 3 less than 100 is:	A. 950 B. 760 C. 1230 D. 875
118	The identity element with respect to addition is:	A. 0 B. 1 C. -1 D. 0 and 1
119	The product of three G.Ms between 1 and 16 is:	A. 32 B. 64 C. 128 D. 16
120	The period of cot x is:	
121	The next term of the sequence 1, 6, 20, 56, ... is:	A. 112 B. 144 C. 212 D. none
122	Graphs of trigonometric function within their domains are:	A. line segments B. sharp corners C. broken lines D. smooth curves
123	Question Image	A. a is an element of a set A B. a is subset of A C. a is a whole number D. a contains A
124	In a triangle ABC if $a^2 - b^2 + c^2 = ac$ then < ß =	
125	Question Image	A. sin x B. cosec x
126	The period of sin 2x is:	A. π B. 2π C. 3π
127	S = {1, -1, 2, -2} is a group under:	A. multiplication B. subtraction C. addition D. none of these
128	No. of triangles can be formed by joining the vertices of the polygon having 5 sides ?	A. 10 B. 15 C. 20 D. none of these
129	If x is positive or zero, then the principal value of any inverse function of x, if it exists lies in the interval:	
130	The domain of principal sine function is:	
131	A - B is a subset of:	A. A B. B
132	Synthetic division is a process of:	A. division B. subtraction C. addition D. multiplication
133	Question Image	A. closureproperty B. associativeproperty C. commutativeproperty D. trichotomyproperty

134	Range of the function $y = \tan^{-1} x$ is:	
135	Question Image	A. A B. B
136	A.M between $1 + x - x^2$ and $1 + x + x^2$ is:	A. 1 + x² B. 1 + x C. 2 D. none
137	A circle drawn inside a triangle and touching its sides is known as:	
138	Question Image	
139	G.M between -2i and 8i is:	A. 4 or -4 B. 4i or -4i C. 2 or -2 D. none
140	Question Image	A. 1 B. -5 C. -1 D. none
141	The area of a sector of a circular region of radius r with length of the arc of the sector equal to s is----------:	A. rΘ B. rs
142	Irrational numbers are:	A. terminating decimals B. non-terminating decimals C. non-terminating, repeating decimals D. non-terminating, non repeating
143	The domain of principal cosine function is:	
144	In how many ways two places can be filled by n objects:	A. n(n-1) B. 2! C. n(n+1) D. None
145	Question Image	A. p is false and q is true B. both p and q are false C. p is true and q is false D. both p and q are true
146	If A = [aij] and B = [bij] are two matrices of same order r × s, then order of A - B is:	A. r - s B. r × s C. r + s D. none of these
147	A groupoid (S) is called _____ if it is associative in S:	A. group B. abelian-group C. semi-group D. associative-group
148	Question Image	
149	Given tan Θ = 1	A. Θ lies in quadrants 1 and 4 B. cos Θ = √2
150	Question Image	A. scalar matrix B. diagonalmatrix C. lower triangularmatrix D. upper triangularmatrix
151	No. of signals made by 4 flags of different colors using 2 flags at a time:	A. 6 B. 12 C. 60 D. none
152	In binomial expansion of $(a+b)^n$, n is positive integer the sum of odd coefficients equals:	D. none of these
153	If W = {0, 1, 2, 3, 4, ...}, N = {1, 2, 3, 4 .....} then N - W = ?	A. W B. {0} D. none of these
154	The additive inverse of a matrix A is:	A. A B. A⁻¹ C. - A D. A²
155	If the initial side of an angle is the positive x-axis and the vertex is at the origin, the angle is said to be in the _____:	A. initial position B. finalposition C. normalposition D. standardposition

156	Question Image	
157	Question Image	
158	Question Image	
159	tan (270° + Θ) is equal:	A. cot Θ B. tan Θ C. -cot Θ D. -tan Θ
160	No. of diagonals can be formed by joining the vertices of the polygon having 5 sides ?	A. 5 B. 15 C. 51 D. 10
161	If a set is described by listing its elements within brackets is called:	A. set builder notation B. tabular form C. descriptive method D. none of these
162	r_3 =	
163	Question Image	A. scalar matrix B. diagonalmatrix C. triangularmatrix D. none of these
164	If $a_n = (n + 1)\, a_{n-1}$, $a_1 = 1$, second term of the sequence is:	A. 3 B. 1 C. 2 D. 4
165	If 2s = a + b +c, then in any triangle ABC:	D. none of these
166	If $z_1 = 4i$ and $z_2 = 3 - 9i$, then $z_1 + z_2$ =	A. 3 - 5i B. 3i - 5 C. 7 - 9i D. 3 + 5i
167	Question Image	D. diagonal matrix
168	What is the next term in the sequence 10, 7, 4, 1.....?	A. 2 B. -2 C. -3 D. none of these
169	Question Image	
170	Question Image	
171	Numbers are formed by using all the digits 1, 2, 3, 4, 5, 6 on digit being repeated, then the numbers which are divisible by 5 are:	A. 110 B. 120 C. 122 D. 124
172	Question Image	A. - cot Θ B. - tan Θ C. tan Θ D. none of these
173	Question Image	
174	Question Image	A. quad. I B. quad. II C. quad. III D. quad. IV
175	2 sin α cos ß =	A. sin (α + ß) - sin (α - ß) B. cos (α + ß) + cos (α - ß) C. sin (α + ß) + sin (α - ß) D. cos (α + ß) - cos (α - ß)
176	To draw general conclusions from a limited number of observations is called:	A. logic B. proposition C. induction D. deduction
177	The period of cot 2x is:	
178	Question Image	A. {1, 2, 3} B. {5, 6, 7} C. {4}
179	Question Image	

180	Question Image	A. Reflexive property B. Symmetricproperty C. Transitiveproperty D. Trichotomyproperty
181	The ordered pairs (4, 5) and (5, 4) are:	A. same B. different C. both a and b D. N
182	If a matrix A is symmetric as well as skew symmetric, then:	A. A is null matrix B. A is unit matrix C. A is triangular matrix D. A is diagonal matrix
183	If an angle α is allied to an angle ß, then α ± ß = _____:	A. 90° B. multiple of 90° C. 180° D. multiple of 180°
184	If n is a positive integer, then the binomial co-efficient equidistant form the beginning and the end in the expansion of $(x+a)^n$ are:	A. same B. not same C. additive inverse of each other D. none of these
185	Question Image	
186	Question Image	A. right angled B. equilateral C. isosceles D. obtuse angled
187	If each element of a 3 × 3 matrix A is multiplied by 3, then the determinant of the resulting matrix is:	A. |A|³ B. 27|A| C. 3|A| D. 9|A|
188	If z = x + i y = r (cos Θ + i sin Θ), then arg z is:	A. tan Θ B. cos²Θ + sin²Θ C. r D. Θ
189	The order of a matrix is shown by:	B. number of columns + number of rows C. number of rows × number of columns D. number of columns - number of rows
190	If a set is described in words, the method is called:	A. tabular form B. descriptiveform C. set builder notation D. non-tabular method
191	Product of a complex number and its conjugate is:	A. a real number B. irrationalnumber C. a complexnumber D. either real number or complexnumber
192	Trigonometric equation has _____ solutions:	A. unique B. finite C. infinite D. no
193	If two sets have no element common, they are called:	A. disjoint B. over lapping C. dissimilar D. exhaustive
194	Which trigonometric equation has secondary solution ?	A. sin Θ = 1 B. cos Θ = 1 C. sec Θ = 0 D. tan Θ = 1
195	The disjunction of two statements p and q is denoted by:	
196	Question Image	A. p is false and q is true B. both p and q are false C. p is true and q is false D. both p and q are true
197	Question Image	
198	If two rows (or two columns) in a square matrix are identical (i.e. corresponding elements are equal), the value of the determinant is:	A. 0 B. 1 C. -1 D. ±1
199	Sequences are also called:	A. Series B. Progressions

199	Sequences are also called:	C. Means D. Convergence
200	Question Image	A. quad I B. quad. II C. quad. III D. quad. IV
201	In binomial expansion $(a+b)^n$, n is positive integer the sum of coefficients equals:	D. none of these
202	No. of arrangements of the letters of the word plane taking all letters at a time:	A. 5 B. 1 D. none
203	If f(x) = arccos x, then:	
204	The objects in a set are called:	A. elements B. sub-sets C. whole numbers D. overlapping sets
205	Question Image	
206	Zero cannot be a term of:	A. A.P and G.P B. G.P and H.P C. A.P and H.P D. only H.P
207	Period of a trigonometric function is:	A. any real number B. any negative real number C. any integer D. a least positive number
208	Multiplicative inverse of -i is:	A. i B. -i C. 1 D. -1
209	The set of all rational numbers between 2, 3 is:	A. an empty set B. an infinite set C. a finite set D. a power set
210	Which one is a quadrant angle ?	A. 60° B. 180° C. 120° D. 30°
211	tan (-135°) =	A. 0 B. 1 D. √2
212	If A is non singular matrix then A^t is:	A. singular B. nonsingular C. symmetric D. none
213	Question Image	A. linear equation B. Quadraticequation C. cubicequation D. radicalequation
214	Truth table containing all the values true is called:	A. absurdity B. conjunction C. tautology D. none
215	y = tan-1 x if and only if x = tan y, where:	A. -1 < x < 1 and - π < y < π
216	If sinΘ <0, cosΘ<0 then the terminal arm of the angle lies in quadrant:	A. I B. II C. III D. IV
217	Tan (294°) =	A. tan24° B. -tan24° C. cot24° D. -cot24°
218	To convert any angle in degrees into radians, we multiply the measure by:	
219	Question Image	A. 0 B. i C. -i D. 1

220	If AB = BA = I, then A and B are:	A. equal to each other B. multiplicative inverse of each other C. additive inverse of each other D. both singular
221	Question Image	A. 0 B. -1 C. >1 D. none
222	For a square matrix A, |A| equals:	A. A^t B. |A^t| C. -|A^t| D. -A^t
223	The reciprocal of the terms of A.P. form:	A. A.P B. G.P C. H.P D. none of these
224	Question Image	A. A is superset of B B. B is superset of A C. A is subset of B D. A is equivalent to B
225	1 radian is equal to:	C. 180° D. none of these
226	The real part of the complex number a + bi is:	A. b B. -b C. a D. -a
227	$5x^2 + 8x + 3 = 0$ is:	
228	Question Image	
229	Solution set of the equation $x^2 - 3x + 2 = 0$ is	A. {-1, 2} B. {1, -2} C. {-1, -2} D. {1, 2}
230	The value of ${}^5C_2$ is:	A. 1 B. 10 C. 20 D. 30
231	$\tan(\pi + \tan^{-1}x) =$	A. x B. π+x C. π-x D. none of these
232	Question Image	
233	$\sin^{-1}(-x) =$	A. -sin⁻¹ x B. sin⁻¹x C. π + cos⁻¹x D. -cos⁻¹x
234	Number of terms in the expansion of $(x+y)^6$ is:	A. 7 B. 6 C. 2 D. 8
235	In any triangle ABC, law of tangents is:	D. all of these
236	The multiplicative identity of real numbers is:	A. 0 B. 1 C. 2 D. -1
237	Question Image	A. 0
238	A set having no element is called:	A. null set B. subset C. singleton D. superset
239	The range of principal tangent function is:	
240	Rational numbers are:	A. repeating decimals B. terminatingdecimals C. periodicdecimals D. all of these
241	A.M between x - 3 & x + 5 is _____:	A. x + 1 B. x - 1 C. 2x + 2

		C. 2x + 2 D. none
242	Question Image	A. 25 B. 20 C. 40 D. 2a + 2b + 2c
243	The middle terms of $(x+y)^{23}$ are:	A. T₁₀,T₁₁ B. T₁₁,T₁₂ C. T₁₂,T₁₃ D. none of these
244	Question Image	B. x = 0, y = 0
245	Conjugate of -3 -2 i is:	A. 3 + 2i B. -3 + 2i C. 2 + 3i D. -2 + 3i
246	The trivial solution of the homogeneous linear equations is:	A. (1, 0, 0) B. (0, 1, 0) C. (0, 0, 1) D. (0, 0, 0)
247	Number of ways of arranging 5 keys in a circular ring is:	A. 12 B. 24 C. 6 D. 5
248	Question Image	
249	For what value of k, the roots of the equation $x^2 + \sqrt{k}\,x + 2 = 0$ are equal:	A. 1 B. 8 C. 2 D. 4
250	Question Image	A. real numbers B. complexnumbers C. primenumbers D. oddnumbers
251	Question Image	A. 4 B. 16 C. 8 D. 64
252	The domain of principal tangent function is:	
253	A die is rolled. The probability that the dots on the top are greater than 4 is:	A. 5, 6 D. 1
254	The next term of the sequence-1, 2, 12, 40, ...is:	A. 112 B. 212 C. 144 D. none
255	Which number cannot be a term of a geometric sequence ?	A. 0 B. 1 C. -1 D. r
256	A sequence is denoted by:	B. {a_n} C. a_n D. a₁ + (n-1) d
257	A function whose domain is the set of natural numbers is called the:	A. series B. sequence C. means D. convergent
258	The ration of the sum and product of roots of $7x^2 - 12x + 18 = 0$ is:	A. 7:12 B. 2:3 C. 3:2 D. 7:18
259	To draw general conclusions from well-known facts is called:	A. logic B. proposition C. induction D. deduction
260	Question Image	A. A B. B
261	The other name of quadratic equation is:	A. linear equation B. 1st degree equation C. 2nd degree equation D. none

262	Question Image	
263	If $a_{n-1} = 2n - 3$ then a_{n+1} =	A. 2n - 1 B. 2n + 1 C. 2n + 3 D. none
264	Division of a natural number by another natural number gives:	A. always a natural number B. always an integer C. always a rationalnumber D. always an irrational number
265	Question Image	
266	If n(S) = 3 then n {P(S)} =	A. 2 B. 8 C. 16 D. 4
267	2 cos α cos ß =	A. sin (α + ß) - sin (α - ß) B. cos (α + ß) - cos (α - ß) C. cos (α + ß) + cos (α - ß) D. sin (α + ß) + sin (α - ß)
268	Reference angles is always in:	A. IQ B. IIQ C. IIIQ D. IVQ
269	Question Image	D. none of these
270	Question Image	
271	Question Image	A. 3×1<!--[if gte msEquation 12]><m:oMathPara><m:oMath><m:d><m:dPr><m:begChr m:val="["/><m:endChr m:val="]"/><span style='font-size:16.0pt;mso-ansi-font-size:16.0pt;mso-bidi-font-size:16.0pt;font-family:"Cambria Math","serif"; mso-ascii-font-family:"Cambria Math";mso-fareast-font-family:"Times New Roman"; mso-fareast-theme-font:minor-fareast;mso-hansi-font-family:"Cambria Math"; mso-bidi-font-family:"Calibri Light";mso-bidi-theme-font:major-latin; color:#202124;background:white;font-style:italic;mso-bidi-font-style:normal'><m:ctrlPr></m:ctrlPr></m:dPr><m:e><m:m><m:mPr><m:mcs><m:mc><m:mcPr><m:count m:val="1"/><m:mcJc m:val="center"/></m:mcPr></m:mc></m:mcs><span style='font-size:16.0pt;mso-ansi-font-size:16.0pt;mso-bidi-font-size: 16.0pt;font-family:"Cambria Math","serif";mso-ascii-font-family:"Cambria Math"; mso-fareast-font-family:"Times New Roman";mso-fareast-theme-font:minor-fareast; mso-hansi-font-family:"Cambria Math";mso-bidi-font-family:"Calibri Light"; mso-bidi-theme-font:major-latin;color:#202124;background:white; font-style:italic;mso-bidi-font-style:normal'><m:ctrlPr></m:ctrlPr></m:mPr><m:mr><m:e></m:e></m:mr><m:mr><m:e></m:e></m:mr><m:mr><m:e></m:e></m:mr><m:mr><m:e></m:e></m:mr></m:m></m:e></m:d></m:oMath></m:oMathPara><![endif]--><!--[if !msEquation]--><span style="font-size:11.0pt;line-height:150%;font-family:"Calibri","sans-serif"; mso-ascii-theme-font:minor-latin;mso-fareast-font-family:SimSun;mso-hansi-theme-font: minor-latin;mso-bidi-font-family:Arial;mso-bidi-theme-font:minor-bidi; mso-ansi-language:EN-US;mso-fareast-language:EN-US;mso-bidi-language:AR-SA"><v:shapetype id="_x0000_t75" coordsize="21600,21600" o:spt="75" o:preferrelative="t" path="m@4@5l@4@11@9@11@9@5xe" filled="f" stroked="f"><v:stroke joinstyle="miter"><v:formulas><v:f eqn="if lineDrawn pixelLineWidth 0"><v:f eqn="sum @0 1 0"><v:f eqn="sum 0 0 @1"><v:f eqn="prod @2 1 2"><v:f eqn="prod @3 21600 pixelWidth"><v:f eqn="prod @3 21600 pixelHeight"><v:f eqn="sum @0 0 1"><v:f eqn="prod @6 1 2"><v:f eqn="prod @7 21600 pixelWidth"><v:f eqn="sum @8 21600 0"><v:f eqn="prod @7 21600 pixelHeight"><v:f eqn="sum @10 21600 0"></v:f></v:f></v:f></v:f></v:f></v:f></v:f></v:f></v:f></v:f></v:f></v:f></v:f></v:f></v:formulas><v:path o:extrusionok="f" gradientshapeok="t" o:connecttype="rect"><o:lock v:ext="edit" aspectratio="t"></o:lock></v:path></v:stroke></v:shapetype><v:shape id="_x0000_i1025" type="#_x0000_t75" style="width:27.75pt; height:61.5pt"><v:imagedata src="file:///C:\Users\Campus.pk\AppData\Local\Temp\msohtmlclip1\01\clip_image001.png" o:title="" chromakey="white"></v:imagedata></v:shape><!--[endif]--> B. 1×3 C. 3×3 D. 1×1
272	Question Image	A. B B. A D. none of these
273	What is the common difference of the sequence 11, 5, -1, ... ?	A. 6 B. -6 D. none of the foregoing numbers
274	No. of arrangements of the letters of the word PAKISTAN can be made, taken all together ?	A. 21160 B. 20160 C. 20170 D. 20016
275	Modulus of 15 i + 20 is:	A. 20 B. 15 C. 25 D. none of the above

276	If S is the H.M between 2 and b then b = :	A. -10 B. 10 C. 7 D. 5
277	Question Image	A. rational number B. irrational number C. natural number D. whole number
278	Question Image	A. 30° B. 45° C. 60° D. 75°
279	Question Image	A. A B. B
280	Question Image	D. none of these
281	If the matrices A & B have the orders 2×3 and 5×2 then order BA is:	A. 3×5 B. 5×2 C. 2×2 D. none
282	If $^{n}P_{2} = 30$ then n = :	A. 5 B. 6 C. 2 D. 3
283	In triangle ABC, if α = 90° then:	D. none of these
284	If sets A and B are equal then:	
285	If A is a square matrix, then:	A. |A^t| = A B. |A^t| = -A C. |A^t| = |A| D. A^t= A
286	The direction of an angle Θ is determined by its:	A. value B. magnitude C. ratio D. sign
287	Question Image	A. cos x B. sec x
288	7th term of G.P 3, 6, 12 ..... is:	A. 512 B. 192 C. 48 D. 96
289	Factors of $x^2 + y^2$ are:	A. (x + iy) (x - iy) B. (x + y) (x - y) C. (x + y) (x + y) D. none
290	Question Image	A. 4 B. 6 C. 8 D. 10
291	Sum of integral multiples of there between 4 and 22 is:	A. 81 B. 75 C. 211 D. none
292	Question Image	
293	A circle which touches one side of a triangle externally and the other two produces sides internally is known as:	
294	What is the general term of the geometric sequence -1, 1, -1, 1 ..... ?	A. (-1)ⁿ B. (1)ⁿ C. (-1)ⁿ⁻¹ D. none of these
295	The period of 2 - sin 3x is:	
296	(a+b) x = ax + bx is:	
297	Question Image	
298	Question Image	A. 2 B. -2 C. 5

		D. -5
299	If set A = {1, 2, 3} and B = {1, 2, 3} then sets A and B are:	A. not equal B. equal C. disjoint D. overlapping
300	If the sum of the roots of $ax^2 - (a + 1) x + (2a + 1) = 0$ is 2, then the product of the roots is:	A. 1 B. 2 C. 3 D. 4
301	The range of $y = \cos^{-1} x$ function is:	
302	Question Image	A. 1 B. 0 C. 2 D. 3
303	Amplitude of sin x is:	A. R B. [-1,1] C. 0 D. 1
304	The roots of the equation $25x^2 - 30x + 9 = 0$ are;	A. rational B. irrational C. equal D. complex
305	Question Image	A. 5 B. -5 C. -4 D. 4
306	cos (α-ß) =	A. cos α cos ß + sin α sin ß B. cos α cos ß - sin α sin ß C. cos α cos ß + sin α cos ß D. sin α cos ß - sin α sin ß
307	Question Image	
308	Question Image	A. tan x B. cot x
309	A numbers exceeds its square root by 6, the number is:	A. 6 B. 3 C. 9 D. none of these
310	The period of tan x is:	
311	Question Image	
312	Question Image	
313	What is called the arrangement of numbers formed according to some definite rule ?	A. arithmetic sequence B. geometricsequence C. sequence D. none of these
314	Question Image	A. z is purely real B. z is any complex number C. z is purely imaginary D. real part of z = imaginary part of z
315	Question Image	A. 2x B. x² C. 1 D. none of these
316	The in-radius r of a triangle is given by:	
317	Question Image	B. diagonal matrix
318	Question Image	
319	Every real number is also a/an:	A. integer B. rational number C. irrationalnumber D. complexnumber
320	If A is a square matrix, then $A + A^t$ is:	
321	The period of tan 3x is:	
		A. quad. I

322	csc (2π - Θ), where Θ is a basic angle, will have terminal side in:	B. quad. II C. quad. III D. quad. IV
323	The number of subsets of a set having three elements is:	A. 2 B. 3 C. 4 D. 8
324	The correct order of first ionization engergies is.	A. F>He>Mg>N>O B. He >F>N>O>Mg C. He > O> F > N> Mg D. N > F> He >O >Mg
325	If P(x) is a polynomial of degree m and Q(x) is a polynomial of degree n, the quotient P(x) + Q(x) will produce a polynomial of degree:	A. m . n, plus a quotient B. m - n, plus a remainder C. m ÷ n, plus a factor D. m + n, plus a remainder
326	1° is equal to:	
327	If P(x) is a polynomial of degree m and Q(x) is a polynomial of degree n, the product P(x) . Q(x) will be a polynomial of degree:	A. m . n B. m - n C. m + n D. m × n
328	Four fourth roots of 625 are:	A. ±5,±5i B. ±5,±25i C. ±25,±25i D. none of these
329	If A = $[a_{ij}]$, B = $[b_{ij}]$ and AB = 0 then:	A. A = 0 B. B = 0 C. either A = 0 or B = 0 D. A & B not necessarily zero
330	Sum of roots of $ax^2 + bx + c = 0$ is equal to product of roots only if:	A. a+c=0 B. b+c=0 C. a+b=0 D. a+b+c=0
331	Question Image	
332	- 72° = _____:	D. none of these
333	What is called the difference between two consecutive terms of an arithmetic sequence ?	A. common ratio B. common difference C. common element D. none of these
334	Question Image	
335	Question Image	A. a + c = b + d B. a + b = c + d C. a - b = c - d D. None of these
336	Question Image	A. A and B are power sets B. A and B are disjoint sets C. A and B are super sets D. A and B are equal sets
337	Question Image	
338	Question Image	A. cancellation property w.r.t multiplication B. cancellationproperty w.r.t addition C. multiplicativeproperty D. additiveproperty
339	A key ring is an example of:	A. permutation B. circulation permutation C. combination D. none
340	Question Image	A. quadratic equation B. reciprocal equation C. exponential equation D. none of these
341	The general solution of sin x = cos x is _____:	A. nπ B. 2nπ
342	Question Image	A. 3:5:2 C. 3:2:1 D. 1:2:3
343	Question Image	

344	$\tan^{-1}(-x)$ =	A. tan⁻¹x B. cot⁻¹x C. -tan⁻¹x D. -cot⁻¹x
345	Question Image	A. 40 B. -40 C. 26 D. -26
346	Question Image	
347	A matrix in which each element is 0 is called:	
348	${}^nC_4 = {}^nC_8$ then n = :	A. 4 B. 12 C. 8 D. 6
349	Question Image	A. x-axis B. y-axis C. y = x D. y = -x
350	Question Image	A. rationalnumber B. irrationalnumber C. naturalnumber D. wholenumber
351	Conjugate of a- i b is:	A. b + ia B. -a + ib C. -a - ib D. a + ib
352	Inverse of an element in a group is:	A. infinite B. finite C. unique D. not possible
353	The angles 90°±Θ, 180°±Θ, 270°±Θ, 360°±Θ, are the:	A. composite angles B. half angles C. quadrantal angles D. allied angles
354	If $a_{n-3} = 2n - 5$ then a_n =	A. 2n-1 B. 2n+1 C. 2n+3 D. none
355	$\cos^4\Theta - \sin^4\Theta$ =	A. sin 2Θ B. cos 2Θ C. tan 2Θ D. sec 2Θ
356	In circular system the angle is measured in:	A. radians B. degrees C. degrees, minutes D. degrees, seconds
357	In a right isoceles triangle, one acute angle is:	A. 30° B. 45° C. 60° D. 75°
358	Number of terms in the expansion of $(a+b)^n$ is:	A. n B. n+1 C. n-1 D. none of these
359	The period of cos 2x is:	
360	The factorial of positive integer is:	A. rational no. B. positive integer C. real no. D. none
361	Question Image	
362	Question Image	
363	In a circle of radius r, an arc of length kr will subtend in angle of _____ radians at the center:	A. s B. k C. r D. Θ
364	2 sin 12° sin 46° =	A. cos 34° + cos 58° B. sin 34° - sin 58° C. sin 34° + sin 58°

		C. sin 34° + sin 56° D. cos 34° - cos 58°
365	No. of ways of solving a quadratic equation:	A. 1 B. 3 C. 2 D. 4
366	Question Image	A. 2 B. 4 C. 6 D. 8
367	The period of sec 2x is:	
368	If α, ß are complex cube roots of unity, then $1 + \alpha^n + ß^n$ = ... where n is a positive integer divisible by 3:	A. 1 B. 3 C. 2 D. 4
369	The number of ways in which fiver persons can sit at a round table is:	A. 4! B. 5! D. none of these
370	In a triangle ABC, (s - a)(s - b) = s(s - c), then the angle Γ =	
371	Question Image	A. 3 B. -3 C. 1/3 D. -1/3
372	Two matrices X and Y are equal if and only if:	A. X and Y are of same order B. Their corresponding elements are equal C. Both a and b D. None of these
373	Question Image	A. 0 B. 2 C. 1 D. 3
374	In an A.P.a_3 = 12 and a_7 = 32 then d = :	A. 5 B. 3 C. 7 D. 9
375	Question Image	
376	If 2s = a + b + c, where a, b, c are the sides of a triangle ABC, then area of triangle ABC is given by:	
377	The lengths of the sides of a triangle are proportional to the sines of the opposite angles to the sides. This is known as:	A. The law of sines B. The law of cosines C. The law of tangents D. The fundamental law
378	If sin Θ + cosec Θ = 2, then $\sin^2 \Theta + \text{cosec}^2 \Theta$ =	A. 2 B. 4 C. 0 D. 8
379	Question Image	
380	The range of principal sine function is:	
381	The angle between 0° and 360° and co-terminal with - 620° is:	A. 100° B. 200° C. 300° D. 320°
382	For a positive integer n:	A. (n+1)! = (n+1)n! B. (n+1)! = (n+1)(n-1)! C. n! = n(n+1)! D. none of these
383	A dice is thrown. The probability to get an even number is:	A. 1 D. none of these
384	Question Image	A. 3×2 B. 2×3 C. 2×2 D. 3×3
385	Question Image	
		A. rational

386	In $ax^2 + bx + c = 0$, if $b^2 - 4ac > 0$ and perfect square the roots are:	B. irrational C. equal D. complex
387	The circum-radius R of a triangle is given by:	
388	$\tan(\pi + \cot^{-1}x) =$	
389	If a statement P(n) is true for n = 1 and truth of P(n) for n = k implies the truth of P(n) for n = k + 1, then P(n) is true for all:	A. integers n B. real numbers n C. positive real numbers n D. positive integers n
390	If $4^x = 2$, then x equals:	A. 2 B. 1
391	The solution set of sinΘ, cosΘ = 1 in [0, 2π] is _____:	A. 0 C. solution does not exist
392	Question Image	
393	Question Image	
394	The roots of the equation:	A. complex B. irrational C. rational D. none of these
395	If the roots of $x^2 - bx + c = 0$ are two consecutive integers, then: $b^2 - 4ac =$	A. 0 B. 1 C. -1 D. 2
396	The conjunction of two statements p and q is denoted by:	
397	If, for all x in the domain of f, there exists a smallest positive number p such that f (x+p) = f(x), then p is the:	A. period of f B. period of 2f C. period of 3 f D. period of 4 f
398	No. of signals made by 5 flags of different colors using 3 flags at a time is:	A. 60 B. 15 C. 10 D. None
399	The identity element in a group is:	A. unique B. inifinite C. both a and b D. not possible
400	No. of arrangements can be made of 4 letters a, b, c, d taken 2 at a time ?	A. 8 B. 12 C. 10 D. 14
401	Question Image	A. equal sets B. null sets C. overlapping sets D. subsets
402	The quadrant of an angle Θ is determined by its:	A. sign B. value C. ratio D. magnitude
403	Question Image	D. diagonal matrix
404	A set containing finite number of elements is called:	A. nullset B. superset C. finiteset D. infiniteset
405	If A is a square matrix order 3 × 3 the |kA| equals:	A. k |A| B. k²|A| C. k³ |A| D. k⁴ |A|
406	The period of 2 + cos 3x is:	
407	A sequence of numbers whose reciprocal form an arithmetic sequence, is known as:	A. arithmetic sequence B. geometricsequence C. harmonicsequence D. none of these
		A. T₆

408	Question Image	B. T₇ C. T₈ D. T₅
409	No. of diagonals can be formed by joining the vertices of the polygon having 12 sides ?	A. 70 B. 54 C. 70 D. 73
410	A function f(x) is said to be the periodic function if, for all x in the domain of f, there exists a smallest positive number p such tat f (x + p) = _____:	A. f (p) B. x + p C. 0 D. f(x)
411	In triangle ABC, If Γ = 90° then:	D. b = c + a
412	Sum of all four fourth roots of unity is:	A. 1 B. 0 C. -1 D. 3
413	$\cos(\tan^{-1}\infty)$ =	A. 0 B. ∞ C. 1
414	Question Image	
415	The ordered pairs (2, 5) and (5, 2) are:	A. not equal B. equal C. disjoint D. empty
416	$(1 - \sin^2\Theta)(1 + \tan^2\Theta)$ =	A. 0 B. 1 C. Θ D. -1
417	Question Image	
418	If the elevation of the sun is 30°, the length of the shadow cast by a tower of 150m height is:	D. none
419	The period of sec 3x is :	
420	Question Image	
421	Question Image	A. set builder notation B. tabular form C. descriptive method D. non-set builder method
422	Question Image	A. 1 + cos Θ B. 1 - cos Θ
423	n! stands for:	A. product of first natural numbers B. sum of n natural numbers C. product of n integers D. none of these
424	If there are six G.Ms between 3 and 284 then G_4 =	A. 24 B. 48 C. 12 D. 6
425	Question Image	D. i
426	If each element in any row or each element in any column of a square matrix is zero, then value of the determinant is:	A. 0 B. 1 C. -1 D. none of these
427	2 cos α sin ß =	A. cos (α + ß) + cos (α - ß) B. sin (α + ß) + sin (α - ß) C. sin (α + ß) - sin (α - ß) D. cos (α + ß) + cos (α - ß)
428	Two A.Ms. between 3 and 9 are:	A. 3. 6 B. 5, 7 C. 6, 12 D. 3, 9
429	A reference angle Θ is always:	
430	$\cos^{-1}$ (-x) =	A. π + cos⁻¹ x B. π - cos⁻¹x C. π + sin⁻¹x D. π - sin⁻¹x

431	A dice is thrown. The probability to get an odd number is;	A. 1 D. none of these
432	Complex roots of real quadratic equation always occur in:	A. conjugate pair B. ordered pair C. reciprocal pair D. none of these
433	Question Image	D. None
434	One of the roots of the equation 3x2 + 2x + k = 0 is the reciprocal of the other, then k = ...:	A. 3 B. 2 C. 1 D. 4
435	How many different number can be formed by taking 4 out of the six digits 1, 2, 3, 4, 5, 6:	A. 360 B. 120 C. 366 D. none of these
436	The graph of x = sin y is obtained by reflecting the graph of y = sin x about the line:	A. x axis B. y axis C. y = x D. y = -x
437	Question Image	B. archimedean property C. transitive property D. multiplicative property
438	The multiplicative invers of a non-zero real number a is:	A. 0 B. -a C. a
439	Sum of all odd numbers between 100 and 200 is:	A. 6200 B. 6500 C. 3750 D. 7500
440	A clock strikes once when its hour hand is at one, twice when it is at two, and so on. How many times does the clock strike in ten hours ?	A. 55 B. 78 C. 66 D. 46
441	If one root of $2x^2 + ax + 6 = 0$ is 2 then the value of a is:	A. 7 B. -7
442	Question Image	
443	The sum of 10 A.Ms between 3 and 47 is:	A. 50 B. 250 C. 100 D. 500
444	Question Image	
445	Inverse sine function is written as:	A. (sin x)⁻¹ B. sin x⁻¹ C. arc sinx D. arc sin⁻¹ x
446	Question Image	A. 9 B. -9 C. -6 D. none
447	An infinite sequence has no:	A. nth term B. last term C. sum D. none
448	tan (α - ß) =	
449	Question Image	A. A B. B
450	A declarative statement which is either true or false but not both is called:	A. logic B. proposition C. induction D. deduction
451	r r_1 r_2 r_3 =	D. abc
452	Question Image	A. ab - cd = 0 B. ac - bd = 0 C. ad - bc = 1 D. ad - bc = 0

453	A set can be described by:	A. one way B. two ways C. several ways D. threeways
454	If (x - 2, 2) = (3, 2), then:	A. x = 5 B. x = 2 C. x = -5 D. x = 3
455	A set is defined as:	A. collection of some objects B. well defined collection of some objects C. well defined collection of distinct objects D. none of these
456	Question Image	A. singular B. non-singular C. rectangular D. null
457	The range of $y = \sin^{-1} x$ is:	
458	Question Image	
459	When a rational fraction is separated into partial fractions, the result is:	
460	Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn bears a number which is a multiple of 3 ?	D. none of these
461	How many complex cube roots of unity are there:	A. 2 B. 0 C. 1 D. 3
462	If sin α < 0 and cos α > 0, then α lies in:	A. I B. II C. III D. IV
463	If cosec Θ > 0 and cot Θ < 0, then terminal arm of the angle lies in:	A. I B. II C. III D. IV
464	There is a solution of the equation 2 sin Θ + 1 = 0 in the quadrants:	A. 1 and 2 B. 1 and 3 C. 2 and 4 D. 3 and 4
465	What is the general term of the sequence 2, 4, 6, 8, ... ?	A. 2n B. n + 1 C. 2n² D. none of these
466	Which one is exponential equation:	A. ax² + bx + c = 0 B. ax + b = 0 D. 2^x = 16
467	A compound statement of the form "if p then q" is called an:	A. tautology B. conditional C. consequent D. absurdity
468	if sin x + cos x = 0, then x = _____:	D. none of these
469	The range of principal cosine function is:	
470	If α, ß, Γ are the angles of a oblique triangle, then:	A. α = 90° B. ß = 90° C. Γ = 90° D. none of these
471	Question Image	
472	r_1 =	
473	Question Image	
474	The period of tan 2x is:	
475	$i^2 + 1$ =	A. -1 B. 0 C. i

		D. 1
476	The solution set of 2cosΘ + √3 = 0 is:	A. finite set B. infinite set
477	Which one is radical equation:	A. ax² + bx + c B. ax + b = 0 D. 2^x = 16
478	Minors and co-factors of the elements in a determinant are equal in magnitude but they may differ in:	A. order B. position C. sign D. symmetry
479	Question Image	D. 20
480	If α, ß are the roots of x^2 + kx + 12=0 such that α-ß = 1 then K = :	A. 0 B. ±5 C. ±7 D. ±15
481	Number of digits multiple of 5 made from the digits 2, 3, 5, 7, 9 is:	A. 5 B. 24 C. 20 D. none
482	Question Image	
483	The number of radius in the angle subtended by an arc of a circle at the center =	A. radius × arc B. radius - arc
484	Question Image	A. 3×3 B. 3×2 C. 2×1 D. 2×3
485	The middle term of $(x-y)^{18}$ is:	A. 9th B. 10th C. 11th D. none of these
486	The period of cosec 3x is:	
487	Question Image	
488	sec (2π + Θ), where Θ is a basic angle will have terminal side in:	A. quad. I B. quad. II C. quad. III D. quad. IV
489	tan (α+ß) =	
490	If S is a sample space and event E is S then P(E) is:	A. 0 B. 1 C. >1 D. none
491	Conjugate of complex number (-a, -b) is:	A. (-a, b) B. (-a, -b) C. (a, -b) D. none of these
492	A circle passing though the vertices of a triangle is known as:	
493	Question Image	A. scalarmatrix B. diagonalmatrix C. lower triangularmatrix D. uppertriangularmatrix
494	y = $\sin^{-1}$ x if and only if x = sin y, where:	
495	If the Discriminant of a quadratic equation is a perfect square, then roots are:	A. real and equal B. complex C. rational D. irrational
496	Question Image	A. degree of P(x) = degree of Q(x) B. degree of P(x) < degree of Q(x) C. degree of P(x) > degree of Q(x) D. none of these
497	180° = _____:	D. π radians
498	Question Image	A. i B. 0

		B. 0
499	If s denotes the length of the arc intercepted on a circle of radius r by a central angle of α radians, then:	A. $s = r\alpha$ B. $s = r + \alpha$ D. none of these
500	For what value of k, the sum of the roots of the equation $x^2 + kx + 4 = 0$ is equal to the product of its roots:	A. ±1 B. 4 C. ±4 D. -4
501	No. of selection of n different things out of n is:	A. 1 B. n C. n! D. none
502	Question Image	A. closure property w.r.t multiplication B. commutativeproperty w.r.t multiplication C. associativeproperty w.r.t multiplication D. trichotomy property
503	If the sum of the roots of the equation $kx^2 - 2x + 2k = 0$ is equal to their product, then the value of k is:	A. 1 B. 2 C. 3 D. 4
504	Question Image	A. 5 B. 14 C. 20 D. 6
505	The middle term in the expansion of $(a+b)^{20}$ is;	A. 10th term B. 11thterm C. 12thterm D. 13thterm
506	General angles of inverse trigonometric functions are written by using their:	A. Domain B. Range C. Periodicity D. Quadrants
507	Question Image	
508	$\tan^{-1}(-\sqrt{3})$ is:	
509	Question Image	