Mathematics Fsc Part 1 Online Test

Sr	Questions	Answers Choice
1	Question Image	
2	If S is a sample space and event E is S then P(E) is:	A. 0 B. 1 C. >1 D. none
3	The range of principal tangent function is:	
4	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
5	-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)
6	If there are six G.Ms between 3 and 284 then G_4 =	A. 24 B. 48 C. 12 D. 6
7	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
8	x2 - 5x + 6 = 0 is:	
9	Question Image	A. singular B. non-singular C. rectangular D. null
10	Question Image	A. linear equation B. Quadraticequation C. cubicequation D. radicalequation
11	If (x - 2, 2) = (3, 2), then:	A. x = 5 B. x = 2 C. x = -5 D. x = 3
12	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
13	Question Image	A. x-axis B. y-axis C. y = x D. y = -x
14	$5x^2 + 8x + 3 = 0$ is:	
15	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
16	tan (270° + Θ) is equal:	A. cot Θ B. tan Θ C. -cot Θ D. -tan Θ
17	Reciprocals of the terms of the geometric sequence form:	A. A.P B. G.P C. H.P D. none
18	If $4^x = 2$, then x equals:	A. 2

	If 4 = 2, then x equals:	B. 1
19	Question Image	
20	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
21	The period of 2 - sin 3x is:	
22	tan (-135°) =	A. 0 B. 1 D. √2
23	A sequence of numbers whose reciprocal form an arithmetic sequence, is known as:	A. arithmetic sequence B. geometricsequence C. harmonicsequence D. none of these
24	Question Image	D. 20
25	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
26	In a triangle ABC if $a^2 - b^2 + c^2 = ac$ then < ß =	
27	If triangle ABC, If ß = 90° then:	D. none of these
28	No. of necklaces can be made from 7 beads of different colors ?	A. 360 B. 120 C. 60 D. 70
29	A - B is a subset of:	A. A B. B
30	In 2s = a + b + , then in any triangle ABC:	D. all of above
31	A sequence is denoted by:	B. {a_n} C. a_n D. a₁ + (n-1) d
32	Question Image	A. rational number B. irrational number C. natural number D. whole number
33	tan (α - ß) =	
34	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: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
35	Question Image	D. i
36	Question Image	
37	The range of $y = \cos^{-1} x$ function is:	
38	Question Image	A. 3×3 B. 3×2 C. 2×1 D. 2×3
39	The sum of 10 A.Ms between 3 and 47 is:	A. 50 B. 250 C. 100 D. 500
40	An infinite sequence has no:	A. nth term B. last term C. sum D. none
41	If ${}^{n}P_2 = 30$ then n = :	A. 5 B. 6 C. 2 D. 3
42	Question Image	A. 0
43	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)}
44	Synthetic division is a process of:	A. division B. subtraction C. addition D. multiplication
45	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
46	Question Image	
47	Question Image	
48	A dice is rolled, the probability of getting a number which is even or greater than 4 is:	D. none of these
49	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
50	r_3 =	
51	Question Image	A. B B. A D. none of these
52	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
53	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
54	What is called the arrangement of numbers formed according to some definite rule ?	A. arithmetic sequence B. geometricsequence C. sequence D. none of these
55	A circle which touches one side of a triangle externally and the other two produces sides internally is known as:	
56	Question Image	A. 2 B. -2 C. 5 D. -5

57	A set having no element is called:	A. null set B. subset C. singleton D. superset
58	Zero is:	A. a natural number B. a whole number C. a positive integer D. a negativeinteger
59	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
60	Period of a trigonometric function is:	A. any real number B. any negative real number C. any integer D. a least positive number
61	Question Image	
62	Question Image	A. ab - cd = 0 B. ac - bd = 0 C. ad - bc = 1 D. ad - bc = 0
63	Question Image	
64	Amplitude of sin x is:	A. R B. [-1,1] C. 0 D. 1
65	Question Image	A. i B. 0
66	Question Image	
67	Question Image	A. sin x B. cosec x
68	Question Image	A. zero B. non-singular C. singular D. none of these
69	Question Image	
70	The roots of the equation $25x^2 - 30x + 9 = 0$ are;	A. rational B. irrational C. equal D. complex
71	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
72	cos $(2\sin^{-1} x)$ =	A. 1- 2x² B. 1 + 2x² C. 2x²- 1 D. x²- 1
73	Question Image	
74	Question Image	
75	$\cos^4\Theta - \sin^4\Theta$ =	A. sin 2Θ B. cos 2Θ C. tan 2Θ D. sec 2Θ
76	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
77	Question Image	A. 0 B. 2 C. 1 D. 3
78	In binomial expansion of (a+b)n, n is positive integer the sum of even coefficients equals:	D. none of these
79	Question Image	

80	Question Image	A. scalarmatrix B. diagonalmatrix C. lower triangularmatrix D. uppertriangularmatrix
81	Question Image	A. 5 B. -5 C. -4 D. 4
82	π, e are:	A. integers B. natural numbers C. rationalnumbers D. irrationalnumbers
83	Fifth term of the sequence 2, 6, 11, 17.	A. 24 B. 41 C. 32
84	Question Image	
85	The domain of principal sine function is:	
86	The period of 2 + cos 3x is:	
87	r_2 =	
88	Question Image	
89	A set can be described by:	A. one way B. two ways C. several ways D. threeways
90	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
91	Question Image	
92	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
93	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
94	If A is a square matrix, then $A - A^t$ is:	
95	Tan (294°) =	A. tan24° B. -tan24° C. cot24° D. -cot24°
96	Question Image	
97	Truth table containing all the values true is called:	A. absurdity B. conjunction C. tautology D. none
98	A.M between $1 + x - x^2$ and $1 + x + x^2$ is:	A. 1 + x² B. 1 + x C. 2 D. none
99	If sin α = cos ß in any triangle ABC then:	A. α + ß = 90° B. α + ß = 180° C. α + ß = 360° D. α + ß
100	No. of diagonals can be formed by joining the vertices of the polygon having 12 sides ?	A. 70 B. 54 C. 70 D. 73
101	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
		A. A and B are power sets

102	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
103	The period of cosec 3x is:	
104	A die is rolled. The probability that the dots on the top are greater than 4 is:	A. 5, 6 D. 1
105	Question Image	A. additive property B. multiplicative inverseproperty C. transitive property D. negative property
106	Question Image	
107	The middle terms of $(x+y)^{23}$ are:	A. T₁₀,T₁₁ B. T₁₁,T₁₂ C. T₁₂,T₁₃ D. none of these
108	Question Image	
109	If one root of $2x^2 + ax + 6 = 0$ is 2 then the value of a is:	A. 7 B. -7
110	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
111	The period of tan x is:	
112	Question Image	D. None
113	In any triangle ABC, law of cosines is:	
114	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
115	Question Image	D. none of these
116	In how many ways two places can be filled by n objects:	A. n(n-1) B. 2! C. n(n+1) D. None
117	Question Image	
118	The period of cot 2x is:	
119	A numbers exceeds its square root by 6, the number is:	A. 6 B. 3 C. 9 D. none of these
120	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
121	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
122	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
123	Number of digits multiple of 5 made from the digits 2, 3, 5, 7, 9 is:	A. 5 B. 24 C. 20 D. none
124	What is the general term of the sequence 2, 4, 6, 8, ... ?	A. 2n B. n + 1 C. 2n² D. none of these
125	Question Image	
		A. {-1, 2\

126	Solution set of the equation $x^2 - 3x + 2 = 0$ is	B. {1, -2} C. {-1, -2} D. {1, 2}
127	Reference angles is always in:	A. IQ B. IIQ C. IIIQ D. IVQ
128	Question Image	
129	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
130	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)
131	$\tan(\pi + \cot^{-1}x) =$	
132	Inverse sine function is written as:	A. (sin x)⁻¹ B. sin x⁻¹ C. arc sinx D. arc sin⁻¹ x
133	Sum of all odd numbers between 100 and 200 is:	A. 6200 B. 6500 C. 3750 D. 7500
134	Question Image	
135	Irrational numbers are:	A. terminating decimals B. non-terminating decimals C. non-terminating, repeating decimals D. non-terminating, non repeating
136	Question Image	
137	Question Image	A. 2 B. 4 C. 6 D. 8
138	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
139	In an A.P. $a_3 = 12$ and $a_7 = 32$ then d = :	A. 5 B. 3 C. 7 D. 9
140	csc (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
141	Question Image	
142	n! stands for:	A. product of first natural numbers B. sum of n natural numbers C. product of n integers D. none of these
143	In triangle ABC, if α = 90° then:	D. none of these
144	The probability that a number selected from the numbers 1, 2, 3, 4, 5, ..., 16 is a prime number is:	
145	if sin x + cos x = 0, then x = _____:	D. none of these
146	The middle term of $(x-y)^{18}$ is:	A. 9th B. 10th C. 11th D. none of these
147	The period of cos 2x is:	
148	In a right isoceles triangle, one acute angle is:	A. 30° B. 45° C. 60°

		D. 75°
149	When two sides and included angle is given, then area of triangle is given by:	D. all of these
150	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
151	Question Image	
152	Probability of an impossible event is:	A. 0 B. 1 C. -1 D. ∞
153	Question Image	
154	Question Image	A. quadratic equation B. reciprocal equation C. exponential equation D. none of these
155	Question Image	
156	No. of arrangements of the letters of the word PAKISTAN can be made, taken all together ?	A. 21160 B. 20160 C. 20170 D. 20016
157	In a triangle ABC, (s - a)(s - b) = s(s - c), then the angle Γ =	
158	Question Image	
159	No. of ways of solving a quadratic equation:	A. 1 B. 3 C. 2 D. 4
160	The roots of the equation:	A. complex B. irrational C. rational D. none of these
161	Sum of integral multiples of there between 4 and 22 is:	A. 81 B. 75 C. 211 D. none
162	Question Image	A. integer B. rationalnumber C. irrationalnumber D. naturalnumber
163	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)
164	If cosec Θ > 0 and cot Θ < 0, then terminal arm of the angle lies in:	A. I B. II C. III D. IV
165	What is the common difference of the sequence 11, 5, -1, ... ?	A. 6 B. -6 D. none of the foregoing numbers
166	Question Image	D. none of these
167	(a+b) x = ax + bx is:	
168	Question Image	
169	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
170	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
		A. 0

171	Question Image	B. i C. -i D. 1
172	Number of terms in the expansion of $(x+y)^6$ is:	A. 7 B. 6 C. 2 D. 8
173	S = {1, -1, 2, -2} is a group under:	A. multiplication B. subtraction C. addition D. none of these
174	The reciprocal of the terms of A.P. form:	A. A.P B. G.P C. H.P D. none of these
175	If the elevation of the sun is 30°, the length of the shadow cast by a tower of 150m height is:	D. none
176	Which one is a quadrant angle ?	A. 60° B. 180° C. 120° D. 30°
177	Question Image	
178	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
179	Question Image	D. diagonal matrix
180	The multiplicative invers of a non-zero real number a is:	A. 0 B. -a C. a
181	Question Image	A. x = 0 B. y = 0 C. x = 0 and y = 0 D. x = 0 or y = 0
182	Question Image	A. 2x B. x² C. 1 D. none of these
183	Conjugate of a + i b is:	A. -a + ib B. a + ib C. -a - ib D. a - ib
184	Question Image	A. cos x B. sec x
185	Two A.Ms. between 3 and 9 are:	A. 3. 6 B. 5, 7 C. 6, 12 D. 3, 9
186	The range of $y = \sin^{-1} x$ is:	
187	Conjugate of complex number (-a, -b) is:	A. (-a, b) B. (-a, -b) C. (a, -b) D. none of these
188	If sin α < 0 and cos α > 0, then α lies in:	A. I B. II C. III D. IV
189	The product of three G.Ms between 1 and 16 is:	A. 32 B. 64 C. 128 D. 16
190	The domain of principal tangent function is:	
191	A circle drawn inside a triangle and touching its sides is known as:	
192	If $a_{n-1} = 2n - 3$ then a_{n+1} =	A. 2n - 1 B. 2n + 1 C. 2n + 3

		C. 2n + 3 D. none
193	$\tan^{-1}(-\sqrt{3})$ is:	
194	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°
195	Question Image	
196	The amplitude and period of 3 sin x are:	A. 3, π B. 2, 2π C. 3, 3π D. 3, 2π
197	Question Image	A. {1, 2, 3} B. {5, 6, 7} C. {4}
198	Question Image	
199	Question Image	A. Additive property B. Multiplicativeproperty C. Reflexiveproperty D. Transitive property
200	Question Image	
201	In binomial expansion of $(a+b)^n$, n is positive integer the sum of odd coefficients equals:	D. none of these
202	Question Image	A. quad. I B. quad. II C. quad. III D. quad. IV
203	If A is a square matrix, then:	A. |A^t| = A B. |A^t| = -A C. |A^t| = |A| D. A^t= A
204	Question Image	
205	Question Image	A. - cot Θ B. - tan Θ C. tan Θ D. none of these
206	Sum of all three cube roots of unity is:	A. 1 B. -1 C. 0 D. 3
207	To draw general conclusions from a limited number of observations is called:	A. logic B. proposition C. induction D. deduction
208	Question Image	A. 0 B. 4 C. 1 D. 3
209	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
210	Question Image	
211	Question Image	B. archimedean property C. transitive property D. multiplicative property
212	A matrix of order m×1 is called:	A. row matrix B. column matrix C. identity matrix D. scalar matrix
213	To convert any angle in degrees into radians, we multiply the measure by:	
214	If A and B are two matrices, then:	A. A B = O B. AB = BA C. AB = I

		D. AB may not be defined
215	Question Image	
216	Question Image	D. all of these
217	If $a_{n-3} = 2n - 5$ then a_n =	A. 2n-1 B. 2n+1 C. 2n+3 D. none
218	A.M between x - 3 & x + 5 is _____:	A. x + 1 B. x - 1 C. 2x + 2 D. none
219	If a set is described in words, the method is called:	A. tabular form B. descriptiveform C. set builder notation D. non-tabular method
220	Multiplicative inverse of -i is:	A. i B. -i C. 1 D. -1
221	If sinΘ <0, cosΘ<0 then the terminal arm of the angle lies in quadrant:	A. I B. II C. III D. IV
222	Question Image	A. 40 B. -40 C. 26 D. -26
223	Question Image	
224	Question Image	A. closure property w.r.t multiplication B. commutativeproperty w.r.t multiplication C. associativeproperty w.r.t multiplication D. trichotomy property
225	If two sets have no element common, they are called:	A. disjoint B. over lapping C. dissimilar D. exhaustive
226	Conjugate of a- i b is:	A. b + ia B. -a + ib C. -a - ib D. a + ib
227	Question Image	A. a + c = b + d B. a + b = c + d C. a - b = c - d D. None of these
228	In any triangle ABC, law of tangents is:	D. all of these
229	$(1 - \cos^2\Theta)(1 + \cot^2\Theta)$ =	A. tan²Θ B. 0 C. 1 D. -1
230	The ordered pairs (4, 5) and (5, 4) are:	A. same B. different C. both a and b D. N
231	The in-radius r of a triangle is given by:	
232	The period of sec x is:	
233	In triangle ABC, If Γ = 90° then:	D. b = c + a
234	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
235	The period of sec 3x is :	
236	Question Image	B. 10π
237	Question Image	

238	The circum-radius R of a triangle is given by:	
239	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
240	$\tan^{-1} (-x)$ =	A. tan⁻¹x B. cot⁻¹x C. -tan⁻¹x D. -cot⁻¹x
241	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
242	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|
243	7th term of G.P 3, 6, 12 ..... is:	A. 512 B. 192 C. 48 D. 96
244	Range of the function $y = \tan^{-1} x$ is:	
245	$\cos^{-1} (-x)$ =	A. π + cos⁻¹ x B. π - cos⁻¹x C. π + sin⁻¹x D. π - sin⁻¹x
246	Complex roots of real quadratic equation always occur in:	A. conjugate pair B. ordered pair C. reciprocal pair D. none of these
247	Question Image	
248	Question Image	
249	The period of tan 3x is:	
250	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
251	Given tan Θ = 1	A. Θ lies in quadrants 1 and 4 B. cos Θ = √2
252	In a triangle if α > 45°, ß > 30° then Γ cannot be:	A. 90° B. 100° C. 120° D. 10°
253	A key ring is an example of:	A. permutation B. circulation permutation C. combination D. none
254	The additive inverse of a real number is a:	A. 0 B. -a C. a
255	Inverse of an element in a group is:	A. infinite B. finite C. unique D. not possible
256	In a simultaneous throw of two dice, The probability of getting a total of 7 is:	
257	The number of radius in the angle subtended by an arc of a circle at the center =	A. radius × arc B. radius - arc
258	With usual notations for triangle R equals:	
259	A biconditional is written in symbols as:	
260	$\tan(\pi + \tan^{-1}x)$ =	A. x B. π+x C. π-x D. none of these

261	Question Image	A. A B. B
262	$(1 - \sin^2\Theta)(1 + \tan^2\Theta) =$	A. 0 B. 1 C. Θ D. -1
263	$y = \sin^{-1} x$ if and only if x = sin y, where:	
264	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
265	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
266	Question Image	
267	If n(S) = 3 then n {P(S)} =	A. 2 B. 8 C. 16 D. 4
268	Every real number is also a/an:	A. integer B. rational number C. irrationalnumber D. complexnumber
269	Question Image	
270	The distance between the points P(x1, y1) and Q(x2, y2) is:	
271	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
272	The number of subsets of a set having three elements is:	A. 2 B. 3 C. 4 D. 8
273	No. of signals made by 4 flags of different colors using 2 flags at a time:	A. 6 B. 12 C. 60 D. none
274	tan (α+ß) =	
275	Question Image	A. scalar matrix B. diagonalmatrix C. lower triangularmatrix D. upper triangularmatrix
276	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
277	If 2s = a + b + c, then in any triangle ABC:	D. all of these
278	Question Image	
279	If sets A and B are equal then:	
280	The range of principal sine function is:	
281	Question Image	
282	For a square matrix A, |A| equals:	A. A^t B. |A^t| C. -|A^t| D. -A^t
283	The general solution of sin x = cos x is _____:	A. nπ B. 2nπ
284	No. of selection of n different things out of n is:	A. 1 B. n C. n! D. none

285	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
286	sin (α - ß) =	
287	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
288	What is the next term in the sequence 10, 7, 4, 1.....?	A. 2 B. -2 C. -3 D. none of these
289	Number of ways of arranging 5 keys in a circular ring is:	A. 12 B. 24 C. 6 D. 5
290	When a rational fraction is separated into partial fractions, the result is:	
291	Number of terms in the expansion of $(a+b)^n$ is:	A. n B. n+1 C. n-1 D. none of these
292	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
293	Which one is exponential equation:	A. ax² + bx + c = 0 B. ax + b = 0 D. 2^x = 16
294	Modulus of 15 i + 20 is:	A. 20 B. 15 C. 25 D. none of the above
295	Domain of finite sequence is:	A. set of natural numbers B. subset of N C. R D. none
296	A dice is thrown. The probability to get an even number is:	A. 1 D. none of these
297	sin (α + ß) =	
298	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
299	Question Image	B. diagonal matrix
300	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
301	Question Image	A. 4 B. 16 C. 8 D. 64
302	Question Image	D. diagonal matrix
303	Question Image	A. 3:5:2 C. 3:2:1 D. 1:2:3
304	Question Image	
305	If 2s = a + b +c, then in any triangle ABC:	D. none of these
306	Factors of $x^2 + y^2$ are:	A. (x + iy) (x - iy) B. (x + y) (x - y) C. (x + y) (x + y) D. none
307	If a set is described by listing its elements	A. set builder notation B. tabular form

	within brackets is called:	C. descriptive method D. none of these
308	The middle term in the expansion of $(a+b)^{20}$ is;	A. 10th term B. 11thterm C. 12thterm D. 13thterm
309	A geometric series is convergent only if:	A. | r | > 1 B. | r | < 1 C. | r | = 1 D. none of these
310	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
311	Question Image	A. 5 B. 14 C. 20 D. 6
312	Question Image	
313	If A is a square matrix order 3 × 3 the |kA| equals:	A. k |A| B. k²|A| C. k³ |A| D. k⁴ |A|
314	Question Image	A. A B. B
315	Question Image	
316	To draw general conclusions from well-known facts is called:	A. logic B. proposition C. induction D. deduction
317	Question Image	
318	Question Image	A. set builder notation B. tabular form C. descriptive method D. non-set builder method
319	Question Image	A. A B. B
320	Which one is not a quadrant angle ?	A. 0° B. 90° C. 280° D. 270°
321	The quadrant of an angle Θ is determined by its:	A. sign B. value C. ratio D. magnitude
322	Question Image	A. quad I B. quad. II C. quad. III D. quad. IV
323	G.M between -2i and 8i is:	A. 4 or -4 B. 4i or -4i C. 2 or -2 D. none
324	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
325	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
326	Question Image	
327	Question Image	A. 1 B. 0 C. 2 D. 3
328	The period of cot x is:	

329	Question Image	A. 1 B. -5 C. -1 D. none
330	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
331	A^{-1} exists if A is:	A. singular B. nonsingular C. symmetric D. none
332	A declarative statement which is either true or false but not both is called:	A. logic B. proposition C. induction D. deduction
333	The value of $^5C_2$ is:	A. 1 B. 10 C. 20 D. 30
334	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
335	Question Image	A. 0 B. 1 C. 3 D. 2
336	Question Image	
337	The period of tan 2x is:	
338	Distinct objects means:	A. identical objects B. not identical C. similar D. none of these
339	Question Image	
340	The identity element with respect to addition is:	A. 0 B. 1 C. -1 D. 0 and 1
341	Question Image	
342	The series 2 + 2 + 2 ..... is:	A. divergent B. convergent C. oscillatory D. none of these
343	Question Image	A. real numbers B. complexnumbers C. primenumbers D. oddnumbers
344	Question Image	B. x = 0, y = 0
345	y = tan-1 x if and only if x = tan y, where:	A. -1 < x < 1 and - π < y < π
346	Question Image	A. 30° B. 45° C. 60° D. 75°
347	If sin Θ + cosec Θ = 2, then $\sin^2 \Theta + \text{cosec}^2 \Theta$ =	A. 2 B. 4 C. 0 D. 8
348	Question Image	A. 1 + cos Θ B. 1 - cos Θ
349	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)
		A. -sin⁻¹ x

350	$\sin^{-1}(-x)$ =	B. sin⁻¹x C. π + cos⁻¹x D. -cos⁻¹x
351	Rational numbers are:	A. repeating decimals B. terminatingdecimals C. periodicdecimals D. all of these
352	Question Image	A. equal sets B. null sets C. overlapping sets D. subsets
353	Question Image	A. rationalnumber B. irrationalnumber C. naturalnumber D. wholenumber
354	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
355	Probability of a certain event is:	A. 0 B. 1 C. >1 D. ∞
356	The additive inverse of a matrix A is:	A. A B. A⁻¹ C. - A D. A²
357	$\cos(\tan^{-1}\infty)$ =	A. 0 B. ∞ C. 1
358	Question Image	A. 4 B. 6 C. 8 D. 10
359	No. of diagonals can be formed by joining the vertices of the polygon having 5 sides ?	A. 5 B. 15 C. 51 D. 10
360	Four fourth roots of 625 are:	A. ±5,±5i B. ±5,±25i C. ±25,±25i D. none of these
361	Question Image	A. A.P B. G.P C. H.P D. none
362	Question Image	
363	In any triangle ABC, law of sines is:	
364	Question Image	
365	r r_1 r_2 r_3 =	D. abc
366	The domain of $y = \sin^{-1} x$ is:	
367	Question Image	A. A B. B
368	The real part of the complex number a + bi is:	A. b B. -b C. a D. -a
369	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
370	Question Image	
371	(x + 3) (x + 4) = x2 + 7x + 12 is:	
372	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
373	${}^{n}C_4 = {}^{n}C_8$ then n = :	A. 4 B. 12 C. 8 D. 6
374	{2, 4, 6, 8, ...} represents the set of:	A. positive odd numbers B. natural numbers C. prime numbers D. positive even numbers
375	Question Image	A. tan x B. cot x
376	If A = {1, 2, 7, 9}, B = {1, 4, 7, 11}:	A. disjoints sets B. equal sets C. overlapping sets D. complementary sets
377	sin (Θ - π) =	
378	$3^{2x} - 3^{x} - 6 = 0$ is:	A. reciprocal equation B. exponentialequation C. radicalequation D. none of these
379	If the Discriminant of a quadratic equation is a perfect square, then roots are:	A. real and equal B. complex C. rational D. irrational
380	Question Image	A. irrational fraction B. polynomial C. rational fraction D. none of these
381	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
382	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
383	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
384	The period of sin 2x is:	A. π B. 2π C. 3π
385	Question Image	A. r₁ B. r₂ C. r₃ D. r
386	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
387	1° is equal to:	
388	The disjunction of two statements p and q is denoted by:	
389	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
390	Trigonometric equation has _____ solutions:	A. unique B. finite C. infinite D. no
391	Question Image	A. 3 B. -3 C. 1/3 D. -1/3
392	The domain of $y = \cos^{-1} x$ function is:	

393	Equations having a common solution are called:	A. linear B. quadratic C. homogeneous D. simultenaeous
394	A dice is thrown. The probability to get an odd number is;	A. 1 D. none of these
395	The multiplicative identity of real numbers is:	A. 0 B. 1 C. 2 D. -1
396	Question Image	
397	Domain of the function $y = \tan^{-1} x$ is:	
398	Question Image	A. 3 B. 1 C. 4 D. None
399	A set containing finite number of elements is called:	A. nullset B. superset C. finiteset D. infiniteset
400	Question Image	A. T₆ B. T₇ C. T₈ D. T₅
401	B - A is a subset of:	A. A B. B
402	Product of a complex number and its conjugate is:	A. a real number B. irrationalnumber C. a complexnumber D. either real number or complexnumber
403	If S is the H.M between 2 and b then b = :	A. -10 B. 10 C. 7 D. 5
404	A circle passing though the vertices of a triangle is known as:	
405	In binomial expansion $(a+b)^n$, n is positive integer the sum of coefficients equals:	D. none of these
406	Question Image	A. Reflexive property B. Symmetricproperty C. Transitiveproperty D. Trichotomyproperty
407	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
408	1 radian is equal to:	C. 180° D. none of these
409	Arithmetic series is only possible if:	A. |d| = 1 B. |d| < 1 C. |d| > 1 D. none
410	Question Image	
411	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)
412	Question Image	
413	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
414	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

415	The series 3 + 33 + 333 + ... is:	A. A.P B. G.P C. H.P D. none of these
416	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
417	A reference angle Θ is always:	
418	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
419	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
420	Question Image	
421	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
422	If f(x) = arccos x, then:	
423	If A is non singular matrix then A^t is:	A. singular B. nonsingular C. symmetric D. none
424	Question Image	A. 3×2 B. 2×3 C. 2×2 D. 3×3
425	The set of negative integers is closed with respect to:	A. addition B. multiplication C. both (a) and (b) D. subtraction
426	Sum of all four fourth roots of unity is:	A. 1 B. 0 C. -1 D. 3
427	Question Image	A. cancellation property w.r.t multiplication B. cancellationproperty w.r.t addition C. multiplicativeproperty D. additiveproperty
428	If A is a square matrix, then A + A^t is:	
429	i^2 + 1 =	A. -1 B. 0 C. i D. 1
430	The angles 90°±Θ, 180°±Θ, 270°±Θ, 360°±Θ, are the:	A. composite angles B. half angles C. quadrantal angles D. allied angles
431	Which trigonometric equation has secondary solution ?	A. sin Θ = 1 B. cos Θ = 1 C. sec Θ = 0 D. tan Θ = 1
432	Question Image	A. right angled B. equilateral C. isosceles D. obtuse angled
433	The number of ways in which fiver persons can sit at a round table is:	A. 4! B. 5! D. none of these
434	Question Image	
435	Question Image	

436	r_1 =	
437	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
438	In a simultaneous throw of two dice, The probability of getting sum 3 or 11 is:	D. none
439	Question Image	A. c = 0 B. b = 0, c = 0
440	Question Image	
441	The ordered pairs (2, 5) and (5, 2) are:	A. not equal B. equal C. disjoint D. empty
442	If W = {0, 1, 2, 3, 4, ...}, N = {1, 2, 3, 4 .....} then N - W = ?	A. W B. {0} D. none of these
443	Question Image	A. closureproperty B. associativeproperty C. commutativeproperty D. trichotomyproperty
444	General angles of inverse trigonometric functions are written by using their:	A. Domain B. Range C. Periodicity D. Quadrants
445	Question Image	A. integer B. rational number C. irrational number D. natural number
446	To convert any angle in radians into degrees, we multiply the measure by:	
447	Question Image	
448	How many complex cube roots of unity are there:	A. 2 B. 0 C. 1 D. 3
449	A matrix in which each element is 0 is called:	
450	Question Image	A. 0 B. -1 C. >1 D. none
451	The factorial of positive integer is:	A. rational no. B. positive integer C. real no. D. none
452	No. of arrangements of the letters of the word plane taking all letters at a time:	A. 5 B. 1 D. none
453	Question Image	A. 9 B. -9 C. -6 D. none
454	The middle term in the expansion of $(1+x)^{1/2}$ is:	A. T₂ B. T₃ C. does not exist D. none of these
455	A groupoid (S) is called _____ if it is associative in S:	A. group B. abelian-group C. semi-group D. associative-group
456	In triangle the length of the sides are 7, $4\sqrt{3}$ and $\sqrt{13}$. Then the smallest angle is:	A. 15° B. 30° C. 60° D. 45°
457	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

	roots is:	D. 4
458	Question Image	A. 1 B. -1 C. -6 D. 6
459	The objects in a set are called:	A. elements B. sub-sets C. whole numbers D. overlapping sets
460	In $ax^2 + bx + c = 0$, if $b^2 - 4ac > 0$ and perfect square the roots are:	A. rational B. irrational C. equal D. complex
461	The solution set of $2\cos\Theta + \sqrt{3} = 0$ is:	A. finite set B. infinite set
462	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
463	Question Image	
464	The range of principal cosine function is:	
465	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
466	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
467	The domain of principal cosine function is:	
468	The identity element in a group is:	A. unique B. inifinite C. both a and b D. not possible
469	A function whose domain is the set of natural numbers is called the:	A. series B. sequence C. means D. convergent
470	A compound statement of the form "if p then q" is called an:	A. tautology B. conditional C. consequent D. absurdity
471	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
472	Sum of all positive integral multiples of 3 less than 100 is:	A. 950 B. 760 C. 1230 D. 875
473	If x is positive or zero, then the principal value of any inverse function of x, if it exists lies in the interval:	
474	The other name of quadratic equation is:	A. linear equation B. 1st degree equation C. 2nd degree equation D. none
475	Question Image	
476	The next term of the sequence-1, 2, 12, 40, ...is:	A. 112 B. 212 C. 144 D. none
477	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
478	[0] is a:	

479	2 sin 12° sin 46° =	A. cos 34° + cos 58° B. sin 34° - sin 58° C. sin 34° + sin 58° D. cos 34° - cos 58°
480	The solution set of sinΘ, cosΘ = 1 in [0, 2π] is _____:	A. 0 C. solution does not exist
481	Sequences are also called:	A. Series B. Progressions C. Means D. Convergence
482	If 2s = a + b + c, where a, b, c are the sides of a triangle ABC, then area of triangle ABC is given by:	
483	A triangle which is not right angle triangle called _____ triangle:	A. acute B. obtuse C. right D. oblique
484	Question Image	A. 25 B. 20 C. 40 D. 2a + 2b + 2c
485	180° = _____:	D. π radians
486	Question Image	A. scalar matrix B. diagonalmatrix C. triangularmatrix D. none of these
487	The next term of the sequence 1, 6, 20, 56, ... is:	A. 112 B. 144 C. 212 D. none
488	The imaginary part of the complex number a + bi is:	A. a B. b C. bi D. none of these
489	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)
490	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
491	Question Image	
492	The direction of an angle Θ is determined by its:	A. value B. magnitude C. ratio D. sign
493	The period of sec 2x is:	
494	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
495	Graphs of trigonometric function within their domains are:	A. line segments B. sharp corners C. broken lines D. smooth curves
496	Which number cannot be a term of a geometric sequence ?	A. 0 B. 1 C. -1 D. r
497	Cot1°, Cot2°, Cot3°, ... Cot89° =	A. -1 B. 1 C. ∞ D. none
498	Which one is radical equation:	A. ax² + bx + c B. ax + b = 0 D. 2^x = 16
499	The number of diagonals of a polygon with	D. none of these

499	n sides is:	D. none of these
500	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
501	In circular system the angle is measured in:	A. radians B. degrees C. degrees, minutes D. degrees, seconds
502	The conjunction of two statements p and q is denoted by:	
503	Conjugate of -3 -2 i is:	A. 3 + 2i B. -3 + 2i C. 2 + 3i D. -2 + 3i
504	Question Image	
505	The angle between 0° and 360° and co-terminal with - 620° is:	A. 100° B. 200° C. 300° D. 320°
506	- 72° = _____:	D. none of these
507	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
508	In a triangle ABC b = √3, c = 1, α = 30° then a = :	A. 2 B. 1 C. 3 D. -1