ECAT Mathematics Chapter 8 Sequences and Series Online Test

Sr	Questions	Answers Choice
1	The number of divisors of 1029, 1547 and 122 are in	A. A.P. B. G.P. C. H.P. D. None of these
2	An indicated sum of terms of a sequence is represented by	A. Sn B. an C. S(n) D. {Sn}
3	If a, b, c are in A.P., then 3^a, 3^b, 3^c are in	A. A.P. B. G.P. C. H.P. D. None of these
4	An A.P., a G.P. and a H.P. have the same first and last terms and the same odd numbers of terms, the middle terms of the three series are in	A. A.P. B. G.P. C. H.P. D. None of these
5	Sum of n terms of a geometric series if $\| r \| < 1$ is	
6	The sum of first twenty odd integers in A.P is	A. 400 B. 397 C. 404 D. 408
7	How many term are there in the A.P, in which $a_1 = 11$, $a_n = 68$, d=3	A. 30 B. 27 C. 20 D. 21
8	The 26th term of the A.P -2,-4,10,.....is	A. 136 B. -136 C. 148 D. -148
9	The sixth term of the sequence 1,3,12,60....is	A. 1500 B. 72 C. 2160 D. 2520
10	A sequence having no last term is called	A. arithmetic sequence B. Geometric sequence C. Finite sequence D. Infinite sequence
11	The third term of the sequence $a_n = (-1)^{n-1}(n-7)$ is _____	A. 8 B. 4 C. -4 D. 8
12	Sequence also called.....	A. Series B. Function C. progressions D. Elements
13	Which one represents a sequence	A. an B. Sn C. a(n) D. {an}
14	If x, y, z are the pth, qth, rth terms of an A.P. and also of G.P., then x^{y-z}. y^{z-x}. z^{x-y} eqals	A. xyz B. 0 C. 1 D. None of these
15	if $a_1 = 3$, d=7 and $a_n = 59$, then the number of terms in A.P is	A. 7 B. 9 C. 11 D. 13
16	Question Image	A. Finite sequence

17	A series consisting of an unlimited number of terms is termed as an	B. Infinite sequence C. ^{Infinite series} D. geometric sequence
18	If P, Q, R be the A.M., G.M., H.M. respectively between any two rational numbers a and b, then P - Q is	
19	The sum of an infinite geometric series exist if	A. | r | < 1 B. | r | > 1 C. r = 1 D. r = -1
20	Geometric mean between a and b is	
21	The5thand 13th terms of an A.P are 5 and-3 respectively The first term of the A.P is	A. 1 B. -15 C. 9 D. 2
22	How many numbers are there between 103 and 750 which are divisible by 6	A. 125 B. 107 C. 108 D. 113
23	Question Image	
24	5th term of a G.P. is 2, then the product of first 9 terms is	A. 256 B. 128 C. 512 D. None of these
25	What is the 26th term of the sequence, if its general term is $a_{n = (-1)^{n+1}}$	A. 2 B. 26 C. 27 D. 1
26	p, q, r and s are integers. If the A.M. of the roots of x2- px + q2= 0 and G.M. of the roots of x2- rx + s2= 0 are equal, then	A. q is an odd integer B. r is an even integer C. p is an even integer D. s is an odd integer
27	If a_1= 3, r = 2, then the nth term of the G.P. is	A. 2.3ⁿ⁻¹ B. 3.2ⁿ C. 3.2ⁿ⁺¹ D. 3.2ⁿ⁻¹
28	An infinite sequence has no	A. nth term B. Last term C. Sum D. None of these
29	Find the geometric mean between 4 and 16	
30	If 5,7 and 9 are A.Ms between a and b, then a and b is equal to	A. 2 and 12 B. 1 and 10 C. 3 and 11 D. -7 and 2
31	-2, 1, 4, 7,.... is _____	A. Harmonic sequence B. Arithmetic sequence C. Geometric sequence D. Arithmetic series
32	Find the next two terms of 7, 9, 12, 16,...	A. 18, 20 B. 19, 22 C. 20, 25 D. 21, 27
33	Arithmetic mean between x - 3 and x + 5 is	A. x + 1 B. x + 2 C. x + 3 D. x + 4
34	If the pth, qth, and rth terms of an A.P. are in G.P:., then the common ratio of the G.P. is	
35	If all members of a sequence are real numbers then it is called	A. A.P B. Real Sequence C. G.P D. None of these
36	If p, q, r and in A.P., a is G.M. between p and q and b is G.M. between q and r, then a^2, q^2, $b^2$are in	A. A.P. B. G.P. C. H.P. D. None of these
37	The series obtained by adding the terms of a geometric sequence is called	A. Infinite series B. Arithmetic series C. Geometric series

		C. Geometric series D. Harmonic series
38	The element range of sequence are called	A. Series B. progression C. Members D. Terms
39	A function whose domain is a subset of natural numbers is called _____	A. Identity function B. Sequence C. Onto function D. Series
40	Question Image	A. A.P. B. G.P. C. H.P. D. None of these
41	The 10th common term between the series 3+7+11+..... and 1 + 6 +11 + ... is	A. 191 B. 193 C. 211 D. None of these
42	Question Image	A. 12 B. 13 C. 14 D. 15
43	The 7th term of the A.P 7,11,15,is	A. 24 B. 31 C. 26 D. 23
44	The 31 term of the A.P 5,2,-1.....is	A. -82 B. 82 C. 85 D. -85
45	Given two numbers a and b. Let A denote the single A.M. between these and S denote the sum of n A.M.'s between them. Then S/A depends upon	A. n, a, b B. n, a C. n, b D. n
46	The seventh term of an A.P whose first term is P and common difference is q. is	A. P-6q B. P+6q C. P-4q D. P-nq
47	if a_9 =19,a9=31 are the 6th and 9th term of an A.P. and d=4 is the common difference, then 18th term of the sequence is	A. 65 B. 67 C. 71 D. 75
48	3, 6, 12,.... is	A. A.P B. G.P. C. H.P. D. None of these
49	The third term of a G.P. is the square of first term. If the second term is 8, then the 6th term is	A. 120 B. 124 C. 128 D. 132
50	Question Image	A. 1, 1/2, 0 B. 1, 2, 1 C. 1, 2, 3 D. 1, 2, 0
51	A sequence whose reciprocal is an A.P is called	A. Oscillator B. H.P C. G.P D. None of these
52	Question Image	
53	The sum of an indicated number of terms in a sequence is called	A. sequence B. progression C. Series D. Mean
54	The harmonic mean between a and b is	
55	an - an-1 will be common difference in an A.P if	A. n = 1∀n∈ N B. n>1∧n∈N C. n∈Z D. None of the above
		A. a geometric sec B. an arithmetic series

56	1/2,1/3,1/4,1/5.....is	B. an arithmetic series C. finite sequence D. an infinite sequece
57	If a_1, r are first term and the common ratio respectively then the sum of an infinite geometric series is	
58	The formula an = arn-1represents	A. nth term of G.P B. Sum of the first n terms C. G.M between a and b D. None of these
59	The 6th term of an arithmetic sequence whose first term is 3 and common difference in zero is	A. 18 B. 6 C. 3 D. 0
60	Write the first four terms of the sequence if $a_n= (-1)^n n^2$	A. -1, 4, -9, 16 B. 1, -4, 9, 16 C. 1, 4, 9, 16 D. None of these
61	In following question, a number series is given with one term missing. choose the correct alternative that will same pattern and fill in the blank spaces.1 , 4, 9, 16, 25, x	A. 35 B. 36 C. 48 D. 49
62	Sum of first n terms of an arithmetic series is	
63	If $a_1= a_2= 2$, $a_n= a_{n-1}- 1$ (n > 2), then $a_5$is	A. 1 B. 0 C. -1 D. -2
64	No term of a harmonic sequence can be	A. 0 B. 1 C. 2 D. 3
65	Question Image	A. 1/2 B. 2 C. 1/4 D. 4
66	Question Image	
67	A Series which does not coverage to a Unique sum is called	A. Harmonic Series B. Oscillatroy Series C. Arithmetic Series D. None of these
68	H_1, H_2, H_3, ... $H_n$are called n harmonic means between a and b if a, H_1, H_2, H_3, ... H_nb are in	A. H.P. B. G.P. C. A.P. D. None of these
69	If Sn is a definite number as $n \to \infty$,then the geometric series is	A. Convergent B. Divergent C. Oscillatroy D. None of these
70	Question Image	
71	An infinite arithmetic series is always	A. Convergent B. Oscillatory C. Divergent D. None of these
72	Let $S_n$denote the sum of the first n terms of an A.P. If $S_{2n}= 3 S_n$: $S_n$is equal to	A. 4 B. 6 C. 8 D. 10
73	In an A.P,a +(n-a)d is	A. 1st term B. General term C. Last term D. None of these
74	The fifth term of an A.P. Whose first term is 5 and common difference is 3,is	A. 20 B. 17 C. 25 D. 30
75	If $S_r$denotes the sum of the first r terms of a G.P., then S_n, $S_{2n}- S_n$, $S_{3n}- S_{2n}$are in	A. A.P. B. G.P. C. H.P. D. None of these
		A. General term

76	The difference of two consecutive terms of an A.P. is called _____	A. General term B. Common ratio C. Common difference D. None of these
77	The fifth term of the sequence $a_n = 2n + 3$ is _____	A. 13 B. -13 C. 8 D. 3
78	Which term of the A.P 5,8,11,24.....is 320	A. 104th B. 106th C. 105th D. 64th
79	If A, G, H are the arithmetic, geometric and harmonic means between a and b respectively then A, G, H are in	A. A. P. B. G. P. C. H. P. D. None of these
80	Question Image	A. 0 B. 1 C. 2 D. 3
81	The sum of the squares of three distinct real numbers, which are in G.P., is S^2. if their sum isαS then	
82	The difference of two consecutive terms of an A.P is called the	A. Common difference B. Common ratio C. Geometric series D. Geometric mean
83	Question Image	A. 2 B. -3/2 C. 1 D. 0
84	If x,y are two -ve distinct numbers then	A. A>G>H B. A<G<H C. A=G=H D. None of these
85	The nth term of an A.P is (3n+5) Its 75th term is	A. 26 B. 7 C. 21 D. Cannot be determined
86	If a_1, r and $a_n$are the first term, common ratio and the nth term respectively of a G. P. then a_n=	A. a₁rⁿ B. a₁rⁿ⁻¹ C. a₁rⁿ⁺¹ D. a₁r
87	Let the sequence 1, 2, 2, 4, 4, 4, 4, 8, 8, 8, 8, 8, 8, 8, 8, ... where n consecutive terms have the value n, then 1025th term is	A. 2⁹ B. 2¹⁰ C. 2¹¹ D. 2⁸
88	Question Image	A. 2²- n - 1 B. 1 - 2⁻ⁿ C. n + 2⁻ⁿ-1 D. 2ⁿ- 1
89	If b_1, b_2, b_3, ... are in G.P. with first term unity and common ratio r, then the minimum value of b_1- b_3+ $b_5$is equal to	A. 3/4 B. 1/4 C. 1 D. None of these
90	The series obtained by adding the terms of an arithmetic sequence is called the	A. Infinite series B. Harmonic series C. Geometric series D. Arithmetic series
91	If the domain of sequence is finite set then the sequence is called	A. geometric sequence B. infinite sequence C. finite sequence D. arithmetic sequence
92	Question Image	
93	The sum of first 60 natural numbers is	A. 1830 B. 3660 C. 1640 D. 1770
94	1,1/3,1/5,1/7,1/9..... is a	A. geometric sequence B. finite sequence C. infinite sequence

		C. Infinite sequence D. arithmetic series
95	The A.M. of two numbers is 34 and G.M. is 16, the numbers are	A. 2 and 64 B. 64 and 3 C. 64 and 4 D. None of these
96	If three unequal numbers p, q, r are in H.P. and their squares are in A.P., then the ration p : q : r is	
97	Write the first four terms of the arithmetic sequence 5, 2, -1, ... is	A. 3 B. -4 C. 7 D. 1
98	A number A is said to be the A.M between the two numbers a and b if a, A, b are in	A. A.M B. A.P C. G.P D. G.M
99	The formula an = a +(n-1)d for an A.P is called	A. nth term of an A.P B. Sum of first n terms C. A,M between a and b D. None of the above
100	G is geometric mean between a and b if a, G, b is	A. A.P. B. G.P. C. H.P. D. None of these
101	The sum of n terms of a series is denoted by	A. d B. n C. S_n D. a_n
102	If $a^x = b^y = c^z$ and a, b, c are in G.P. then x, y, z are in	A. A.P. B. G.P. C. H.P. D. None of these
103	The 6th term of the sequence 7,9,12,16.....is	A. 27 B. 32 C. 20 D. 19
104	an -an-1, $\forall n \in N \wedge n>1$ in an A.P is called	A. Common difference B. nth term C. Common ratio D. None of these
105	The nth term of a G.P. is	A. a₁rⁿ B. a₁rⁿ⁺¹ C. a₁rⁿ⁻¹ D. a₁r⁻ⁿ
106	Question Image	A. 15/23 B. 7/15 C. 7/8 D. 15/7
107	If $a_n = 2n - 3$, write the first four terms	A. -3, -1, 1, 3 B. 1, 3, 5, 7 C. -1, 1, 3, 5 D. None of these
108	Every term of a G.P. is positive and also every term is the sum of two preceding terms. Then the common ratio of the G.P. is	
109	Arithmetic mean between a and b is	
110	99th term of the series 2 + 7 + 14 + 23 + 34 + ... is	A. 9998 B. 9999 C. 10000 D. None of these
111	The three consecutive numbers a,$\sqrt{ab}$,b are in	A. G.P B. H.P C. G.M D. None of these
112	If 6th term of a series in A.P, is -2 and 8th term is -8, the first term of the serie is	A. 13 B. -13 C. 18 D. -10
113	If a,b,c are in arithmetic progression, then 1/a,1/b.1/c are in	A. A.M B. G.M C. H.M

		D. G.P
114	If $a_1$and r are the first term and the common ratio respectively then (n + 1)th term of the G.P. is	A. 0 B. a₁rⁿ⁻¹ C. a₁rⁿ⁺¹ D. a₁rⁿ
115	The general term of the A.P. is	A. a₁+ (n - 1) d B. n + (a₁- 1) d C. d + (n - 1) a₁ D. None of these
116	For an A.P common difference d	A. Can be zero B. May or may not zero C. Cannot be zero D. None of these
117	If a, b, c, d, e, f are in A.P.,then e-c is equal to	A. 2(c - a) B. 2(f - d) C. 2(d - c) D. d - c
118	Three consecutive terms of a progression are 30, 24, 20. The next terms of the progression is	
119	If x,y are two positive distinct numbers then	A. A>G>H B. A<G<H C. A=G=H D. None of these
120	Question Image	A. an A.P. B. a G.P. C. a H.P. D. None of these
121	A sequence is a functions whose domain is a subset of the set of	A. Natural numbers B. Real numbers C. Whole numbers D. Rational numbers
122	A number A is called the arithmetic mean between a and b if a, A, b is _____	A. Arithmetic sequence B. Geometric sequence C. Harmonic sequence D. Arithmetic sequence
123	The sum of all 2 digit number is	A. 4750 B. 3776 C. 4895 D. 4905
124	Question Image	
125	The number of divisors of 1029, 1547 and 122 are in	A. A.P. B. G.P. C. H.P. D. None of these
126	If all members of a sequence are real numbers then it is called a	A. Series B. Function C. Real sequence D. Range
127	An A.P. consists of n(odd terms) and its middle term is m. then the sum of the A.P. is	A. 2 mn B. 1/2 mn C. mn D. mn²
128	The numbers of G_1, G_2, G_3..... $G_n$are called n geometric means between a and b is a, G_1, G_2,G_3, ... G_n, b are in	A. H.P. B. A.P. C. G.P. D. None of these
129	No term of a geometric sequence can be	A. 0 B. 1 C. 2 D. 3
130	For an arithmetic series to be convergent it is necessary that the series has	A. Finite terms B. d<0 C. Infinite terms D. None of these
131	A Geometric Series is divergent only if	A. |r|>1 B. |r|≥1 C. |r|=1 D. None of these
	The n numbers A_1,A_2,A_3,.....$A_n$are called an arithmetic means between a and b if	A. An arithmetic series B. An arithmetic sequence

132	a.A_1,A_2,A_3.....A_n, b is _____	B. An arithmetic sequence C. A geometric sequence D. A harmonic sequence
133	The sum of infinite numbers of terms of an arithmetic series is	A. Finite B. Infinite C. May or may not finite D. None of these
134	Find the sum of the infinite geometric series 2 + 1 + 0.5 + ...	A. 3.5 B. 3 C. 4 D. None of these
135	The common ration of a geometric sequence cannot be	A. 0 B. 1 C. 2 D. 3
136	A,G,H are in	A. A.P B. G.P C. H.P D. None of these
137	The third term of a G.P. is 4, The product of first five terms is	A. 43 B. 45 C. 46 D. None of these
138	pth term of an H.P. is qr and qth term is pr then the rth term of the H.P. is	A. pqr B. 1 C. pq D. pqr²
139	1 + 2 + 3 + ... + n = _____	
140	If G is a G.M between a and b then a,G,b are in	A. A.P B. H.P C. G.P D. None of these
141	For three consecutive terms in A.P middle term is called	A. A.M B. nth term C. Central term D. None of these
142	The nth term of an A.P., is 12-4n. Its common difference is	A. 8 B. 4 C. 4 D. 16
143	Question Image	
144	Let a_1, a_2, a_3, $a_4$and $a_5$be such that a_1, a_2, and $a_3$are in A.P., a_2, $a_3$and $a_4$are in G.P and a_3, $a_4$and $a_5$are in H.P. Then, a_1, $a_3$and $a_5$are in	A. G.P. B. A.P. C. H.P. D. None of these
145	A number H is said to be the H.M. between a and b if a, H, b are in	A. A.P. B. G. P. C. H. P. D. None of these
146	The sides of a right angled triangle are in A.P The ratio of sides is	A. 1:2:3 B. 3:4:5 C. 2:3:4 D. 5:8:3
147	The general term of a sequence is denoted by	A. a₁ B. a_n C. n D. s_n
148	A sequence of number whose reciprocals form an arithmetic sequence is called	A. Geometric sequence B. Arithmetic series C. Harmonic sequence D. Harmonic series
149	H.M. between 3 and 7 is	
150	The consecutive terms of a progressions are 30, 24, 20. The next term of the progression is	
151	Question Image	
152	Question Image	A. 1 B. 2 C. 3/2 D. 5/2

153	The sum of indicated terms of a sequence is called	A. Arithmetic series B. Series C. Harmonic series D. None of these
154	If #n = (n-5)2 + 5, then find #3 x #4.	A. 54 B. 12 C. 4 D. 9
155	If a, b, c are in AP., a, b, c are in G.P. then A, m^2b, c are in	A. A.P. B. G.P. C. H.P. D. None of these
156	The next term of the sequence 1, 2, 4, 7, 11, ... is.	A. 15 B. 16 C. 17 D. 18
157	If A is such that a,A,B are in A.P then A is called	A. A.M B. Common ratio C. Common difference D. None of these