ECAT Mathematics Online Test

Sr	Questions	Answers Choice
1	A card is drawn from a pack of cards numbered 1 to 52, the probability that the number on the card is a perfect square is	A. 1/13 B. 2/13 C. 7/52 D. None of these
2	A coin is tossed. If head comes up, a die is thrown but if tail comes up, the coin is tossed again. The probability of obtaining a head and an even number is	A. 1/8 B. 2/8 C. 3/8 D. None of these
3	An unbiased die is thrown. Then the probability of getting a prime is	A. 1/2 B. 2/3 C. 3/4 D. None of these
4	Three unbiased coins are tossed. Then the probabilities of getting two heads is	A. 3/8 B. 1/8 C. 1/4 D. None of these
5	Two balanced dice are tossed once, the sample space when the integers on the faces of two dice are the same is	A. {(1, 1), (2, 2), (3, 3)} B. {(4, 4), (5, 5), (6, 6)} C. {(1, 1), (2, 2), (3, 3), (4, 4), (5, 5), (6, 6)} D. None of these
6	The number of divisors of 1029, 1547 and 122 are in	A. A.P. B. G.P. C. H.P. D. None of these
7	The number of divisors of 1029, 1547 and 122 are in	A. A.P. B. G.P. C. H.P. D. None of these
8	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
9	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
10	Question Image	
11	Question Image	A. 1/2 B. 2 C. 1/4 D. 4
12	The sum of the squares of three distinct real numbers, which are in G.P., is S^2. if their sum isαS then	
13	Question Image	
14	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
15	Three consecutive terms of a progression are 30, 24, 20. The next terms of the progression is	
16	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
17	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
18	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
19	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	
20	The consecutive terms of a progressions are 30, 24, 20. The next term of the progression is	
21	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	
22	Question Image	A. 2²- n - 1 B. 1 - 2⁻ⁿ C. n + 2⁻ⁿ-1 D. 2ⁿ- 1
23	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
24	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
25	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
26	If the pth, qth, and rth terms of an A.P. are in G.P:., then the common ratio of the G.P. is	
27	Question Image	A. 1 B. 2 C. 3/2 D. 5/2
28	Question Image	
29	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	
30	99th term of the series 2 + 7 + 14 + 23 + 34 + ... is	A. 9998 B. 9999 C. 10000 D. None of these