ECAT Pre Engineering Entry Test

Sr	Questions	Answers Choice
1	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
2	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
3	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
4	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
5	The number of divisors of 1029, 1547 and 122 are in	A. A.P. B. G.P. C. H.P. 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	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
8	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
9	Question Image	
10	Question Image	A. 1/2 B. 2 C. 1/4 D. 4
11	The sum of the squares of three distinct real numbers, which are in G.P., is S^2. if their sum isαS then	
12	Question Image	
13	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
14	Three consecutive terms of a progression are 30, 24, 20. The next terms of the progression is	
15	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
16	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
17	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.

	a_3, a_4 and a_5 are in H.P. Then, a_1, a_2 and a_5 are in	C. H.P. D. None of these
18	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	
19	The consecutive terms of a progressions are 30, 24, 20. The next term of the progression is	
20	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	
21	Question Image	A. 2²- n - 1 B. 1 - 2⁻ⁿ C. n + 2⁻ⁿ-1 D. 2ⁿ- 1
22	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
23	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
24	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
25	If the pth, qth, and rth terms of an A.P. are in G.P:., then the common ratio of the G.P. is	
26	Question Image	A. 1 B. 2 C. 3/2 D. 5/2
27	Question Image	
28	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	
29	99th term of the series 2 + 7 + 14 + 23 + 34 + ... is	A. 9998 B. 9999 C. 10000 D. None of these
30	Question Image	A. A.P. B. G.P. C. H.P. D. None of these