

5B(1-7)

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- 1) The coefficients of x^p and x^q in the expansion of $(1+x)^{p+q}$ are: (2002)
 - a) equal
 - b) equal with opposite signs
 - c) reciprocals of each other
 - d) none of these
- 2) If the sum of coefficients in the expansion of $(a+b)^n$ is 4096, then the greatest coefficient in the expansion is: (2002)
 - a) 1594 b) 792 c) 924 d) 2924
- 3) The positive integer just greater than $(1+0.0001)^{10000}$ is: (2002)
 - a) 4 b) 5 c) 2 d) 3
- 4) r and n are positive integers, $r > 1, n > 2$ and coefficient of $(r+2)^{th}$ term and $(3r)^{th}$ term in the expansion of $(1+x)^{2n}$ are equal, then n equals: (2002)
 - a) $3r$ b) $3r+1$ c) $2r$ d) $2r+1$
- 5) If $a_n = \sqrt{7 + \sqrt{7 + \sqrt{7 + \dots}}}$ having n radical signs, then by methods of mathematical induction, which is true? (2002)
 - a) $a_n > 7 \forall n \geq 1$ c) $a_n < 4 \forall n \geq 1$
 - b) $a_n < 7 \forall n \geq 1$ d) $a_n < 3 \forall n \geq 1$
- 6) If x is positive, the first negative term in the expansion of $(1+x)^{27/5}$ is: (2003)
 - a) 6th term b) 7th term c) 5th term d) 8th term
- 7) The number of integral terms in the expansion of $(\sqrt{3} + \sqrt[5]{5})^{256}$ is: (2003)
 - a) 35 b) 32 c) 33 d) 34