	GUESS PAPER - 5
	MATHS - 2A AIMSTUTORIAL.IN
	SECTION - A
I.	Answer ALL the following Very Short Answer Questions: [10 x 2 = 20]
1.	Write the conjugate of (3 + 4i) (2 - 3i).
2.	Show that complex numbers z satisfying $z^2 + \overline{z}^2 = 2$.
3.	Find $\left(\frac{\sqrt{3}}{2} + \frac{i}{2}\right)^5 - \left(\frac{\sqrt{3}}{2} - \frac{i}{2}\right)^5$.
4.	If the equation $x^2 - 6x + 5 = 0$ and $x^2 - 3ax + 35 = 0$ have a common root then find a.
5.	If 1, 2, 3 and 4 are the roots of x^4 + ax^3 + bx^2 + cx + d = 0, then find the values of a, b, c and d.
6.	Find the number of functions from set A containing 5 elements into a set B containing 4 elements.
7.	If ${}^{12}C_{(s+1)} = {}^{12}C_{(2s-5)}$ then find s.
8.	Find the coefficient of x ⁹ and x ¹⁰ in the expansion of $\left(2x^2 - \frac{1}{x}\right)^{20}$.
9.	Coefficient of variation of two distributions is are 60 and 70 and their standard deviation are 21 and 16 respectively.
10.	On an average rain falls on 12 days in every 30 days, find the probability that, rain will fall on just 3 days of a given week.
п.	Answer any FIVE of the following Short Answer Questions: $[5 \times 4 = 20]$
11.	Show that the four points in the Argand plane represented by the complex numbers 2 + i, 4 + 3i, 2 +5i, 3i are the vertices of a square.
12.	If the expression $\frac{x-p}{x^2-3x+2}$ takes all eral values for $x \in R$ then find the bounds for p.
13.	Find the number of ways of forming a committee of 4 members out of 6 boys and 4 girls such that there is atleast one girl in the committee.
14.	A teacher wants to take 10 students to apark. He can take exactly 3 students at a time and will not take the same group of 3 students. i) each student can go to the park ii) the teacher can go to the park
15.	Resolve $\frac{x^2-3}{(x+2)(x^2+1)}$ into partial fractions.
16.	The probability for a contractor to get a road contract is 2/3 and to get a building contract is 5/9. the probability to get atleast one contract is 4/5. Find the probability that he gets both the contracts.
17.	State and prove multiplication theorem on Probability.

