Biography of Srinivasa Ramanujan

Date of Birth: 22 December 1887   **Place of Birth:** Erode, Tamil Nadu

- **Srinivasa Ramanujan** was one of India's greatest mathematical Geniuses. He made substantial contributions to the analytical theory of numbers and worked on elliptic functions, continued fractions, and infinite series.

- In 1900 he began to work on his own on mathematics summing geometric and arithmetic series. Ramanujan was shown how to solve cubic equations in 1902 and he went on to find his own method to solve the quintic. The following year, not knowing that the quintic could not be solved by radicals, he tried (and of course failed) to solve the quintic.

- By 1904 Ramanujan had begun to undertake deep research. He investigated the series $\sum(1/n)$ and calculated Euler's constant to 15 decimal places. He began to study the Bernoulli numbers, although this was entirely his own independent discovery.

- He continued his mathematical work on hypergeometric series and investigated relations between integrals and series. He was to discover later that he had been studying elliptic functions.

- Continuing his mathematical work Ramanujan studied continued fractions and divergent series in 1908.. He devoloped relations between elliptic modular equations in 1910 and Published a brilliant research paper on Bernoulli numbers in 1911 in the *Journal of the Indian Mathematical Society* he gained recognition for his work. Despite his lack of a university education, he was becoming well known in the Madras area as a mathematical genius.

- On 16 March 1916 Ramanujan graduated from Cambridge with a Bachelor of Science by Research (The degree was called a Ph.D. from 1920)

- Ramanujan's dissertation was on highly composite numbers and consisted of seven of his papers published in England.

- Ramanujan Independently discovered results of Gauss, Kummer and others on hyper geometric series.

- On July 1909, during this period Ramanujan had first paper published a 17-page work on Bernoulli numbers that appeared in 1911 in the Journal of the Indian mathematical Society.

- On 18 February 1918 Ramanujan was elected as fellow of the Cambridge Philosophical Society

- 21 February 1918 his name appeared on the list for election as a fellow of the Royal Society of London. He had been proposed by an impressive list of mathematicians. Namely Hardy, MacMahon, Grace, Larmor, Bromwich, Hobson, Baker, Littilewood, and Nicholson.

- The Department of Mathematics, Indian Institute of Technology (IIT) Madras celebrates his birth day on 22nd December of every year by organizing a National Symposium On Mathematical Methods and Applications (NSMMA) by inviting Eminent Indian and foreign scholars.

- A prize for young mathematicians from developing countries has been created in the name of Ramanujan by the International Centre for Theoretical Physics (ICTP), in cooperation with the International Mathematical Union , who nominate members of the prize committee.

- The Shanmugha Arts, Science, Technology & Research Academy (SASTRA), Tamil Nadu in South India, has instituted the SASTRA Ramanujan Prize of $10,000 to be given annually to a mathematician not exceeding the age of 32 for outstanding contributions in an area of mathematics influenced by Ramanujan's work.

- Ramanujan left a number of unpublished notebooks filled with theorems that mathematicians have continued to study

- On the 125th anniversary of his birth, India declared the birthday of Ramanujan, December 22, as 'National Mathematics Day and also declared the year 2012 would be celebrated as the National Year of Mathematics .