RESUME

1. General information

Name: Arul Shankar
Date of birth: November 2, 1986
Sex: Male
Current occupation: Student (B.Sc. Math 3rd Year)
Course: B.Sc. Honours in Mathematics and Computer Science
Institution: Chennai Mathematical Institute

Address for correspondence:

> CA4, Seabrooke Apartments,
> 4th Seaward Road, Valmiki Nagar
> Chennai, India
> PIN: 600041
> Telephone number: +91 44 24423658

Email ID: `arul@cmi.ac.in`

2. Academic history

2.1. **Overview.** I am currently in the third year of a three-year B.Sc. Honours program in Mathematics and Computer Science at the Chennai Mathematical Institute.

CGPA (first five semesters)	9.88/10
Position in Class	1st

2.2. **Undergraduate course details.** In the Chennai Mathematical Institute, a grade point out of 10 is awarded to each subject. A grade of A corresponds to 10 out of 10, a grade of AB corresponds to 9 out of 10 and so on.

Details of the usual compulsory courses can be found on the page
`http://www.cmi.ac.in/teaching/courses.php?prog=bscm`

I have taken some courses at the graduate level which I enumerate below.
List of advanced courses:

(1) **Algebraic Number Theory** (Semester 4)
Instructor: R. Balasubramanian
Course Content:Unique factorization of ideals in the ring of integers, Finiteness of class number, Group of units, Quadratic and Cyclotomic fields, Zeta functions, Prime number theorem, Dirichlet's theorem.
Grade obtained: A

(2) **Elliptic Curves and Modular Forms** (Semester 4)
Instructor: R. Balasubramanian
Course Content:First properties of elliptics curves, Complex multiplication, Mordell's theorem, Modular Forms over $SL(2, Z)$, Dimensions of spaces of modular forms, Proofs of the first two Ramanujan τ conjectures, L functions, Modular subgroups of SL(2,Z) and modular forms over them.
Grade obtained: A

(3) **Algebra 4** (Semester 5)
Instructor: R. Sridharan
Course Content: Transcendental extentions, Transcendence degree, Luroth's theorem, Iinite Galois theory, Infinite Galois Theory with the Krull topology, Kummer theory.
Grade obtained: A

(4) **Representation Theory** (Semester 5)
Instructor: S. Kannan
Course Content: First two parts of Linear Representations of Finite Groups by J.P.Serre
Grade obtained: AB

(5) **Topics in Representation Theory** (Semester 5)
Instructor: A. Prasad
Course Content: Detailed course content can be found on the page `http://www.imsc.res.in/~amri/topics/`
Among many other things we did Brauer's theorem on the correspondence between irreducible representations in characteristic p and p-regular conjugacy classes and the Brauer-Nesbitt theorem.
Grade obtained: A

(6) **Abelian Varieties** (Semester 5)
Instructor: S. Ramanan
Course Content: Abelian varieties of genus 1, Cohomology of groups, Line Bundles over the Torus, Theta Functions, The Appel Humbert Theorem, Riemann-Roch theorem for curves, Embedding Varieties in Projective Space using Theta functions
Grade obtained: A

2.3. **Summer camps.**

(1) **Microsoft Research Summer School on Algorithms, Complexity and Cryptography** from May 22nd to June 10th, 2006, at the Indian Institute of Science.
(2) I participated in the **CMI-ENS Exchange Programme** held from May 2, 2007 to June 27, 2007 at the Ecole Normale Superieure, Paris. I studied Representations of Quivers and Gabriel's Theorem.

3. OTHER ACTIVITIES/AWARDS

3.1. **Olympiads.**
(1) I secured the first place in the **National Mathematics Talent Competition** in 2001
(2) After writing the **Indian National Mathematics Olympiad** in 2002, I was selected to attend the **International Mathematics Olympiad Training Camp (IMOTC)** in 2002. I was also selected in 2003 and 2004.
(3) I won the **Izhar Hussain Award** for the most elegant solution in the IMOTC 2004.

3.2. **Scholarships.** I am a recipient of a scholarship awarded by the **National Board for Higher Mathematics**.