

Advanced Instructional School- (Algebra)-2012

July 3rd -21st 2012

Organized at

Indian Institute of Science Education and Research (IISER), Mohali

By

Indian Institute of Science Education and Research (IISER), Mohali

Department of Mathematics, Panjab University, Chandigarh

Conveners

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REPORT

The Advanced Instructional School was held at IISER Mohali from 3rd July 2012 to 21st July 2012. It was organized jointly by Department of Mathematics, Panjab University, Chandigarh and IISER Mohali. The school was inaugurated by distinguished mathematician Professor R.P. Bambah. It was attended by 19 enthusiastic participants, though 30 students had confirmed participation in May. We had students from far off places like IIT Bombay, IIT Guwahati, Bhaskaracharya Pratishthana, Pune and CMI, Chennai. The aim of this school was that talented young students experience excitement and challenge, love of creativity and thrill of tackling problems. The main emphasis was on Representation Theory of finite groups. Each lecture was of one and a half hour and tutorial of two hours.



The school had eminent and dedicated resource persons. The lectures in Representation Theory were delivered by Professor Ravi Kulkarni, (Founder Director of ATM Schools, NBHM). He took keen interest in the programme and spent almost two weeks with us. We also had Professor Murli Srinivasan, Head Department of Mathematics, IIT Bombay who delivered 4 lectures on Representation Theory of Symmetric Groups. Professor Dipendra Prasad, who is a Senior Professor at TIFR Mumbai delivered 3 lectures on Deligne-Lusztig Theory which constructs representations of finite groups of Lie-type in characteristic zero. As a motivation, the work of Green was also reviewed. Another two lectures on Unity of Mathematics were delivered by Professor R.J. HansGill, Emeritus Professor at Panjab University Chandigarh.

As regards resource persons from the Departments of Mathematics, IISER (Mohali) and Panjab University, Chandigarh, Professor Kapil Paranjape and Dr. Dinesh Khurana both delivered six lectures each. Dr. Khurana's lectures were basic as he covered Wedderburn-Artin Theorem and Skolem-Noether Theorem. The conveners Dr. Gurmeet K. Bakshi and Professor Sudesh Kaur Khanduja also delivered 6 lectures each. Among the tutors in this programme were Mr. Sanjeev Kumar, Ms. Sugandha from Department of Mathematics, Panjab University and Dr. Harpreet Kaur, former research student of Dr. Dinesh Khurana and presently Assistant Professor at GNDU, Amritsar. We also had Mr. Rahul from

Bhaskaracharya Parashthana Pune, Ashish Mishra and Soham Pradhan from IIT Bombay who gave tutorials on Representation Theory. On popular demand, Mr. Vikas Jadhav from Bhaskaracharya Parashthana Pune was requested to deliver two lectures on GAP. It may be mentioned that all the tutors were also participants in the programme.



A general course-evaluation was done by participants in the last week of the school. In the valedictory function which was presided over by Professor N. Sathyamurthy, (Director, IISER Mohali), the participants were encouraged to express their candid views about the programme. According to them the programme was well organized. They found that the lectures were motivating and tutorials were interesting and challenging. They were of the opinion that the school would help them in several ways in the years to come. They wished that they could come again to IISER Mohali to attend another AIS.

