Harish-Chandra Research Institute

CHHATNAG ROAD, JHUNSI, ALLAHABAD - 211 019

ANNUAL REPORT

(2013-14)

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About the Institute

Early Years

The Harish-Chandra Research Institute is one of the premier research institutes in the country. It is an autonomous institute fully funded by the Department of Atomic Energy, Government of India. Till October 10, 2000 the Institute was known as Mehta Research Institute of Mathematics and Mathematical Physics (MRI) after which it was renamed as Harish-Chandra Research Institute (HRI) after the internationally acclaimed mathematician, late Prof Harish-Chandra.

The Institute started with efforts of Dr. B. N. Prasad, a mathematician at the University of Allahabad, with initial support from the B. S. Mehta Trust, Kolkata. Dr. Prasad was succeeded in January 1966 by Dr. S. R. Sinha, also of Allahabad University. He was followed by Prof. P. L. Bhatnagar as the first formal Director. After an interim period in January 1983, Prof. S. S. Shrikhande joined as the next Director of the Institute. During his tenure the dialogue with the Department of Atomic Energy (DAE) entered into decisive stage and a review committee was constituted by the DAE to examine the Institute's future. In 1985 N. D. Tiwari, the then Chief Minister of Uttar Pradesh, agreed to provide sufficient land for the Institute and the DAE promised financial support for meeting both the recurring and non-recurring expenditure. In January 1990, about 66 acres of land was acquired in Jhunsi, Allahabad and the Institute came up at this site.

Prof. Shrikhande was followed by Prof. H. S. Mani who took over as the Director in January 1992. With his joining and the shift to the new campus at Jhunsi in 1996, the Institute's activities picked up pace. This phase of rapid growth still continues.

New Phase

After a distinguished tenure of about nine years Prof. Mani retired in August 2001 and the charge was taken over by Prof. R. S. Kulkarni. After Prof. Kulkarni's tenure, Prof. Amitava Raychaudhuri was the Director from July 19, 2005 to May 15, 2011. Prof. Jayanta Kumar Bhattacharjee, the current Director, took over in April 29, 2012. The Institute continues to be devoted to fundamental research in diverse areas of mathematics and theoretical physics. Research is carried out by faculty members, visiting members, post-doctoral fellows and Ph. D. students.

Since 1992 the Institute has attracted worldwide attention, as is evident from the recognition received by many of its members. Several members of the Institute have been recognised for their scientific contribution. Prof. B. Mukhopadhyaya, Prof. Pinaki Majumdar, Prof. Rajesh Gopakumar and Prof. Ashoke Sen have been awarded the S.S. Bhatnagar prize for work done at HRI. Prof. Gopakumar has also received the Swarnajayanti Fellowship of the Department of Science & Technology and the ICTP Prize for 2006. The outstanding contribution of Prof. Ashoke Sen has been recognised by a Fellowship of the Royal Society, the award of Padmashri and Padmabhushan and the award of one of the first Fundamental Physics Prize (2012) from the Yuri Milner Foundation. He was the only recipient of the prize from all of Asia.

Prof. Rajesh Gopakumar was awarded the TWAS physics prize in October 2013 and he won the G D Birla prize in physical sciences for the year 2013 earlier this year. Prof. Aditi Sen De received the Buti foundation award of the Indian Physics Association for the year 2013. Prof. Raj Gandhi was awarded the "Fermilab Intensity Fellowship" which would allow him to work at Fermilab for a considerable period.

Research in Mathematics

The mathematics group at HRI carries out research in several areas. In algebra, work is done on algebraic groups and related structures, the theory of groups and group rings, representation theory, and infinite-dimensional Lie algebras. Work in analysis is in the field of harmonic analysis of Lie groups.

Activity in geometry includes discontinuous groups and Riemann surfaces, algebraic topology, variational problems on manifolds, Chow groups of rational surfaces, and moduli of vector bundles. The number theory group works on algebraic, analytic and combinatorial number theory, automorphic forms and cryptography.

Research in Physics

Research in Physics at HRI is carried out in the fields on astrophysics, condensed matter physics, quantum information and computing, high energy phenomenology and string theory. In astrophysics, work is done on the cosmic microwave background, large scale structure formation and galaxy

evolution. Main areas of activity in condensed matter physics are strongly correlated electron systems, mesoscopic systems, quantum Hall effect and superconductivity. In string theory, perturbative and non-perturbative aspects of string theory and quantum field theory are being actively investigated. Research in neutrino physics, strong interactions, lattice gauge theory, supersymmetry and various aspects of physics beyond the standard model is done in high-energy phenomenology. The Institute is a member of the India-based Neutrino Observatory (INO) collaboration.

The Institute has a residential campus in Jhunsi, Allahabad with a library, state of the art computational facility and fast Internet link to the outside world. There is an active graduate program and a large traffic of visiting scientists and students.

Director's Report

Once again the past year (2013-2014) was eventful for HRI scientist. Prof. Ashoke Sen was given M.P. Birla Golden Jubilee Award, Prof. Rajesh Gopakumar won the G.D. Birla award and the TWAS physics prize, Prof. Aditi Sen De was awarded the Buti Foundation prize and Prof. B. Ramakrishnan and Dr. A.K. Pati were elected fellows of the National Academy of Sciences, India. In addition, one of our ex-students Dr. Soumya Das (currently at IMSc., Chennai) was given Young Scientist award. That certainly is a lot of recognition for a small institute like ours.

Academic activities flourished with a significant number of important publications in physics and mathematics. The number of applications for our integrated Ph.D. programme and the regular Ph.D. programme and the number of Post-Doctoral applications remained high as ever. Short term visitors arrived almost every week and the visiting student programme (VSP) remained extremely popular. The winter months saw a spate of conferences and workshops. The Physics groups organised the meeting on Quantum Information Processing an Applications during 02-08 Dec., 2013, the Strings group organised a Workshop on Black Hole Information Paradox during 03-06 Feb., 2014, the Condensed Matter Group organised a Conference on "Transport in Topological Insulators: during 09-12 July, 2013, "School and Workshop on Physics of Cold Atoms" during 10-16 Feb., 2014 and also "The Third International Symposium on Clusters, Cluster Assemblies and Nano Scale Materials" (ISCANM-III) during 11-14 March, 2014. Prof. Boris Keyser of Fermilab gave a general talk on "Neutrinos get under your skin" on 28th March, 2014 for the Foundation Day lecture which was jointly organised by the High Energy Physics Group (RECAPP & Neutrino). The High Energy Physics Group also organised The Instructional Workshop on Particle Physics "Sangam@HRI 2014" during 24-29 March, 2014. The Mathematics Group organised a workshop on "Harmonic Analysis, Topology and Geometry, Algebraic Curves, Schur's multipliers and IMS lecture series in HRI. This year the IMS lecture was given by Mahan Maharaj of Vivekanand University, Belur. The summer program in mathematics (SPIM) continued to draw eager participants from across the country. This program for college students which exposes them to learn mathematics by thought and reason is extremely popular and draws students from neighbouring countries as well. A week long science program in Hindi has also been conducted, as usual, to help local students get a real feel for scientific logic.

As in other years, HRI conducted Science talent test in mathematics and physics for school students on the Allahabad area. Students of 10^{th} and 12^{th} grade from various schools in Allahabad appeared for the test. The toppers were awarded prizes in a special function organised in HRI which was held in 18th February, 2014. The high point of the evening was an enthralling lecture by Prof. Joseph Oesterle of University of Paris on Ramanujan.

The stalemate in construction persists as the last year because of the order passed by the Allahabad High Court in a public interest litigation of 2006 about the pollution of Ganga. This year has also been marked by the visit of several DAE officials on the administration front. Under Secretary (Budget), Deputy Controller of Accounts, Joint Secretary (Finance and R& D), Director of Administration visited during this year for various discussions. Also, HBNI Director visited the Institute and had a long discussion with faculty regarding the academic expansion of the Institute. He also met our graduate students. There have been some changes on the personnel front. Prof. Sudhakar Panda has been given lien to join as Director, IOP, Bhubaneswer. While Mr. Umesh Kumar Singh, Stores Purchase Officer has been given lien to join Indian Zoological Survey of India, Kolkata. Dr. Hemangi Shah has joined the Mathematics faculty. Mr. Prabhat Kumar, P.A. to Director has retired in the course of the year.

Jayanta Kumar Bhattacharjee
Director

Important Achievements of the Institute

The significant achievements of HRI in the last one year can be clarified under the following heads:-

High Energy Physics: HRI is now a formal collaborator of the Long Baseline Neutrino Experiment (LBNE). This is one of the most ambitious experimental project in fundamental physics for the next decade. Neutrino interactions with matter are as yet ill-understood. It is expected that unraveling this will answer the very basic question of why our universe is made up of matter with no antimatter around. The project is being undertaken by Femilab, USA and it is an important achievement for HRI to be a part of the supporting theory group for this high priority project.

Condensed Matter Physics: HRI has been at the forefront of high performance computing in India over the last few years. In the last year, spectacular success has been achieved in one of the most remarkable aspects of condensed matter physics in the last decade – the BCS-BEC crossover in a gas of cold fermions. While a huge amount of work has been done and techniques developed world wide over the last several years, most of them do not work in the presence of spatial inhomogeneities. The real space auxiliary field approach developed in HRI has been found to Ge-tailor – made for handling such complications. This is a very significant break through.

Quantum Information: One of the important pieces of information required for development of ultra high speed quantum computers and communication channels is the min time of evolution from one quantum state to another. A new HRI result given a tight bound on this evolution time and should be enormous importance in days to come.

Strings Etc.: Internationally recognised contributions out of HRI last year with quite a few of them exploring ways of using gauge gravity duality in wider setting than had been envisaged before.

Mathematics at HRI: Important advances in number theory, group representation and differential equations were made in the course of the year.

Governing Council

1. Prof. M. S. Raghunathan Chairman	School of Mathematics Tata Institute of Fundamental Research Homi Bhabha Road, **Mumbai – 400 005**
2. Prof. R. Balasubramanian	Director Institute of Mathematical Sciences CIT Campus, Taramani, **Chennai – 600 113**
3. Ms. Meenakshi Rawat	Director, Finance Nominated by Joint Secretary(F) DAE, Govt. of India, Ch. Shivaji Maharaj Marg, **Mumbai – 400 001**
4. Mr. Pradeep R. Baviskar	Joint Secretary (R& D) DAE, Govt. of India, Anushakti Bhavan, Ch. Shivaji Maharaj Marg, **Mumbai – 400 001**
5. Dr. J. N. De	BH-135, Sector II Salt Lake, **Kolkata – 700 091**
6. Prof. Narendra Kumar	Raman Research Institute C.V. Raman Avenue, Sadashivnagar, **Bangalore – 560 080**
7. Prof. H. S. Mani	2, Fourth Cross Street, Durga Colony, Sembakkam **Chennai - 600 073**
8. Director, Higher Education (Ex-officio)	Higher Education, U.P. Near G.P.O., Civil Lines, **Allahabad – 211 001**

9. Mr. S. L. Mehta	4, Clive Row **Kolkata – 700 001**
10. Mr. Avnish Mehta	4, Penn Road **Kolkata – 700 027**
11. Mr. Rajnish Mehta	4, Penn Road, **Kolkata – 700 027**
12. Prof. J.K. Bhattacharjee Director	Harish-Chandra Research Institute Chhatnag Road, Jhunsi, **Allahabad – 211 019**

Summary of Research Activities in Mathematics

Schanuel's conjecture has been proven for an uncountable set of Liouville numbers. Also, found a characterization for bases with a property that the number of summands required to write any integer in the given base is log log *n*.

A conjecture has been formulated for finite commutative semigroups generalizing some classical results in the case of finite abelian groups; in collaboration, this conjecture has been verified in some classes of important finite commutative semigroups, including group-free semigroups, elementary semigroups, and archimedean semigroups with certain constraints.

The work done in harmonic analysis in the last one year concerns about four problems. The first one is concerned with a Hardy sobolev inequality for the twisted laplacian. The twisted Laplacian, being the magnetic laplacian in the plane corresponding to several particles in the plane acted upon by a magnetic potential perpendicular to the plane. Thus this result extends the previously known result for the usual Laplacian to the case of magnetic Laplacian for several particles in the plane acted upon by a constant magnetic field. The approach involves the spectral theory of the twisted Laplacian.

Computed the order of the group of class-preserving outer automorphisms of all groups of order p6 and studied the groups of order p7 with abelian automorphism groups.

Constant Mean curvature surfaces arise in nature as interfaces between two fluids when the pressure difference is constant. The pressure difference is proportional to the mean curvature.

During this year, the main focus has been research on Constant Mean Curvature surfaces and completed the work on interpolation of two closed real analytic curves by piecewise minimal surfaces (mean curvature zero) and looking into the interpolation problem of two closed real anayltic curves by constant mean curvature surfaces of non-zero mean curvature (CMC surfaces). Secondly, we are examining the question of when CMC are algebraic curves (i.e. locally given by the zero set of a polynomial of 3

variables). Of the regular CMC surfaces, it is known that only the sphere and the cylinder (and the planar minimal surfaces) are algebraic and investigating the non-regular cases. There are many examples of non-regular minimal surfaces which are algebraic curves. We are investigating the cases of non-regular CMC surfaces which are not minimal.

Working on vector bundles over real algebraic varieties and also been working on generalisations of the Atiyah-Weil criterion for the existence of holomorphic or algebraic connections in vector bundles.

Local fields and their extensions arise naturally in the study of number fields. The unramified extensions are easy to classify. Ramified extensions can be tame or wild. Building upon classical work, a coherent picture of all tame extensions of a local field and verify various compatibilities was obtained.

Convolution sums of the divisor sums have been evaluated and these have been used to give formulas for the number of representations of a positive integer by certain quadratic forms. An affirmative answer has been obtained for a question of S. Bocherer concerning the differential operators on Jacobi forms.

Suppose that each square of a natural number is given a colour, one from a palette of K different colours, where K is an integer ≥ 1. Then one may ask for the smallest number s so that for every large enough natural number is expressible as a sum of no more than s squares, all of the same colour. This number s will in general depend on the number of colours in the palette, that is, K. It was proved, with the collaboration, that s cannot be much larger than K^2. This improves much on the previous estimate. It is likely that the true size of s is around K and work is in progress to prove this fact. If done, it would essentially answer a question posed by the Hungarian-American mathematician A. Sarkozy.

A Lie Torus is a multi-loop algebra with some more conditions on it. With the collaboration, work is going on in finding the irreducible, integrable modules for Lie torus with finite dimensional weight spaces with respect to its Cartan subalgebra.

Summary of Research Activities in Physics

The Physics group at HRI consists of 23 faculty members, an equal number of post-doctoral fellows (PDF), and about 75 research scholars working toward their Ph. D. The members of the group carry out research in five major areas of Physics, *viz.* Astrophysics, Condensed Matter Physics, High Energy Physics, Quantum Information and Computation, and String Theory. The quality of research carried out is reflected in the high impact that the group publications receive and the national/international recognitions the members have received in the past and continue to receive. In addition to offering Master's level and advanced courses for the students at HRI, the faculty members attend several conferences, both in India and abroad, and also visit other institutes, universities, and colleges and give lectures on the latest activity in several areas of theoretical physics. The group runs an outreach program that receives a large number of undergraduate and graduate students from all over India to carry out projects on various topics of current research interest and hosts a visitors' program that attracts a large number of scientists from India and abroad. The group also organizes instructional schools to introduce young researchers and students to emerging areas and many conferences/workshops where latest research is discussed. Another outreach activity is the talent search examination conducted for senior school students in Allahabad to motivate them to pursue research in physics. We envisage an expansion of these activities in coming years and plan to start a new, unique Master's program at HRI that will train students to pursue inter-disciplinary research. A detailed summary of the work carried out by individual groups is given below.

Astrophysics

The astrophysics group consists of a faculty member, a PDF, and a Ph.D. student. The group encourages young, bright undergraduate and post-graduate students from India and abroad to visit the group and to work with the members of the group. Several such students visit the group every year. Many of them publish research papers based on the work done (in collaboration with the astrophysics group members) during their stay at HRI. Members of the group also work in collaboration with scientists from various research institutes abroad, mainly from the USA, various countries of Europe, Japan, China, and Taiwan.

Research work done by members of the group is essentially focused on various aspects of gravitational physics, with particular emphasis on high-energy astrophysical phenomena and the general theory of relativity. Work is being carried out on various aspects of quantum field theory in curved space-time, accretion processes onto astrophysical black holes, analogue gravity phenomena, galactic centre astrophysics, and applications of dynamical systems approach to address relativistic fluid dynamics under the influence of strong gravity. The group has published/communicated seven papers in international journals with high impact factor.

Condensed Matter Physics

The condensed matter group at HRI carries out several fundamental studies on novel materials. Insights obtained from these studies will help achieve new technological applications, a better understanding of nontrivial properties that they exhibit and the new physical principles that emerge in a collection of large number of constituents. The main focus areas are spin transport in nanoscale systems, strongly correlated fermionic or bosonic systems, electronic structure and morphology of nano systems, and topological quantum matter.

A non-equilibrium density matrix formulation for quantum coherent spin transport, valid for both single and multi channels, has been developed and spin and charge conservation have been formulated. Its consequences for unitarity of scattering matrix in spin space have been discussed and its relevance for non-Abelian hydrodynamics and transport in mesoscopic Kondo systems is being studied. The effect of electron-electron interactions in new phases is being explored. There is ongoing work on correlated quantum systems, in particular, disordered superconductors, frustrated magnets, metal-insulator transitions, ultracold atoms, superconductivity competing with other phases, and coexistence of magnetic phases. These employ locally developed theoretical and computational tools to probe the spatial structure and thermal fluctuations in these systems, even in presence of imperfections and geometrical constraints. Some related problems are competition between electron-electron interaction and electron-phonon interaction and the supersolidity in a mixture of bosonic and fermionic atoms. Spin imbalanced Fermi gas was looked at with a view toward understanding the physics near the tricritical point in the phase diagram, which has also been extended to study modulated phases (FFLO).

The research on nanomaterials focuses on physical properties of atomic clusters and oxide materials. Since atomic clusters have to be deposited on a substrate, we studied the properties and morphology of several combinations of atom clusters and substrates. Our studies have shown that graphite can be a good support to exploit properties of free standing sliver clusters. In contrast, a two dimensional sheet made of graphene, boron, and nitrogen allows iron clusters to retain their magnetic properties and assemble together, which can be potentially used to build self assemblies of iron clusters and use their magnetic properties in appropriate technology. Study of lead-palladium oxide doped with cobalt has shown them to be a good candidate for spintronics applications, a new age equivalent of traditional electronics technology.

In recent times, it has been realized that there are several materials that cannot be classified according to the traditional "Landau paradigm", but need to be described based on the topology or global properties of their many-body ground state quantum wave functions. Due to the fact that these states are formed by topological effects that are insensitive to disorder and scattering, it is expected that they may play an important role in technological applications in spintronics and quantum computing. We have been studying some aspects of these new topological phases, including new layered materials with relativistic electronic band structures such as silicene and germanene. Study of topological superconducting phases with nontrivial emergent excitations is also being pursued.

High Energy Physics

The members of the group have been mainly working in two fields: neutrino and collider physics. Neutrinos are tiny, very light particles, which hardly interact with ordinary matter, but which have an important impact in many areas of physics. The main unresolved questions in neutrino physics today are the precise magnitude of the masses of different neutrino species, their mixing pattern, and its bearing on the rest of particle physics. Members of the neutrino physics group have worked on models to explain some of the properties of neutrinos and studied their signals at various experiments. In particular, they are actively involved in the development and physics studies of the India-based Neutrino Observatory (INO), which is planned as India's largest basic science project. It will measure the properties of neutrinos by detecting neutrinos generated in the atmosphere and using long-baseline neutrino beams. Other important results include work on the fluxes of ultra

high energy neutrinos in the presence of physics beyond the Standard Model.

The collider physics group is working under the umbrella of the Regional Centre for Accelerator-based Particle Physics (RECAPP) at HRI. The group mainly focuses on systematic studies of physics signals at the Large Hadron Collider (LHC), the biggest ever international experiment in the history of fundamental science, which has started its operation in Geneva a few years ago. The LHC, which is expected to shed light on the fundamental issue of the origin of mass of elementary particles, has recently discovered a new particle which behaves in most aspects like the long sought Higgs boson, the last missing piece of the Standard Model, although further detailed studies are needed. The LHC experiments, its data on the Higgs boson, and the prospects of testing new physics ideas in near future are being actively explored at HRI. The LHC is also expected to directly produce amongst other new particles, the so-called dark matter particles, a mysterious invisible component of the Universe that could help to solve the question as to why there is much more matter than antimatter in the universe. The group has intensively worked on all these aspects, mostly in the context of supersymmetric extensions of the Standard Model. Work on the implications of a non-standard Higgs sector, extended gauge symmetries, and extra space-time dimensions has also been carried out and studied in detail. Since hadronic activities play an important role at the LHC, perturbative quantum chromodynamics predictions for new physics signals as well as important Standard Model processes have also been studied in detail.

Quantum Information and Computation

Quantum information and computation is an emerging area of research that promises to qualitatively change our abilities to communicate and compute. It is important for the country to acquire a critical mass of researchers and engineers in quantum technologies to be a part of this change. The quantum information and computation group at HRI consists of three faculty members, one INSPIRE faculty, 5 PDFS, and 10 Ph.D. students. The group continues to maintain research contacts with other research groups, both theoretical and experimental, in different institutes in India and abroad (mainly in Europe, Singapore, Canada, and the US). The group hosts junior and senior visitors for short research stays from all over India and abroad. In particular, they encourage students from other institutes to come for short research stays, as part of their general manpower development program.

Several members of the group have presented invited lectures in different institutes in India and abroad to disseminate the research performed by the group. The group has produced 12 research papers in different journals including Physical Review Letters, Physical Review, New Journal of Physics, *etc.*, during the past academic year. One article in New Journal of Physics is included in that journal's ``Highlights of 2013". A faculty member has recently been elected as Fellows of the Indian Academy of Science and the National Academy of Science. Another faculty member have received the Buti Foundation Award from the Indian Physics Association.

The Quantum Information and Computation (QIC) group works on a variety of topics in quantum information and its interface with many body physics. Two of the topics that are actively pursued are monogamy of entangled states and erasure of information in quantum systems. The group also carries out work on quantum information aspects of non-equilibrium many-body systems and information protocols to distinguish magnetic states in frustrated systems.

String Theory

The string theory group explored various aspects of black hole physics, higher spin theories, string amplitudes, AdS/CFT, flux compactifications, and cosmology. Micro-state counting of black hole degrees of freedom was investigated using quiver quantum mechanics and certain rigorous results were derived on degeneracies of pure Higgs states. The duality between higher spin theories in three dimensional AdS space and two dimensional CFTs was developed further, making steps in the direction of embedding them into string theory. The study of the simplest gauge-string duality involving matrix models and topological strings was also successfully put to test by a comparison of correlators. Models of inflation based on open string tachyon as well as models of quintessence for dark matter were analyzed. A non--BPS 16 derivative interaction in the effective action of type IIB string theory was shown to exist by explicit computation of correlators. A study of supersymmetry breaking in certain flux compactifications was carried out. Preliminary study of cosmological inflation involving multiple fields was also carried out. A relation was established between stochastic quantization and holographic renormalization group in the AdS/CFT correspondence.

Another area of focus is string phenomenology in an endeavor to connect string theory to particle physics and cosmology. Developments in

mechanisms for modulii stabilization have paved the way for constructing models of particle physics and cosmic inflation, and further work along this direction is being carried out.

Library

The Institute's library is one of the best-equipped libraries in the region. Being the library of a research institute, it provides the required support to the academic and research activities. It remains open on all working days from 8 am to 2 am including Saturdays. It also remains open during the Sundays and the Gazzetted holidays from 10 a.m. to 6 p.m. It has added 304(Three hundred and four) books including 78 gifted books to its fold. It increased the total number of books to 21154 (Twenty one thousand one hundred and fifty four) which includes 1077 gifted books. It has also added 201 bound volumes of the journals during the period from 1st April 2013 to 31st March 2014. It has increased its bound volume collection to 35420. The institute's library has a total collection of 56574 (Fifty six thousand and five hundred seventy four) books and bound volumes. The library has subscribed to 178 journals during this period. This includes 96 online journals.

During the current year we have procured/added the Archives of Springer in Mathematics and Statistics, American Institute of Physics (AIP) Archives, IOP (Institute of Physics) Archives too in our collection.

The physical stock verification has been recently completed with the help of PDT (Portable Data Terminal) for collection of Bar Codes. The whole collection is 'Bar Coded' and equipped with 'Tattle Tapes' for security. It reflected no loss of any title in the category of books or journals.

Our library is facing a lot of space problem. As we know that "***the library is a growing organism***" the need for space is increasing accordingly. We had already planned for 2.5 folds increase of our present space. The construction of the same is also in the full swing which will allow the library space increase horizontally. Recently we have provided the latest systems to our users for browsing the library OPAC and related search. We enriched our Digital Library Depository of the HRI, which includes submitted articles, thesis, lectures etc. The library web page has been updated which provides more detailed information about the library such as subscribed databases, archives, library rules, library staff, list of online journals, online link to the Video lectures and other useful links. The emphasis was also given to procure maximum number of journals on line. We have been providing on-line access of periodicals to our users for 96(Ninety six) titles.

We have provided the Web Enabled library catalogue to our users. The library can be termed as a completely automated library system, which includes acquisition, cataloguing, circulation, search modules etc. The on-line catalogue has increased the opportunities of the use of our library resources by the neighboring organizations such as INSDOC, TIFR etc. through the Document Delivery Services (DDS). Normally we provide the DDS on request through post, at very nominal cost, but requests have also been honoured through e-mails. We had encouraged the use of the library by providing the library consultation facilities to research scholars from neighboring institutes. We had strengthened our library security with the implementation of Electro-magnetic Tattle Tapes to reduce losses.

Computer Centre

1. All the important packages were upgraded on the servers such as Mail, Webmail, DNS, SSH, DHCP, Proxy, LDAP and Firewall for the better, reliable and secure performance.

2. Newer versions of different flavors of Linux operating systems were upgraded on the desktops.

3. New versions of several applications softwares and packages were loaded on users' systems, computer centre systems and conference room systems, which provided the researchers to do their numerical and analytical calculations faster and obtain more precise results.

4. Computing related to conferences were held in the conference computer room.

5. Two split ACs were installed in the UPS room.

6. The Internet bandwidth was also substantially upgraded to 150 Mbps so that online access to the journals subscribed by HRI can be downloaded quickly.

7. Tendering process has been initiated for the purchase of 20 desktop computers for Ph.D. students.

8. Tendering process has been initiated for upgrading the entire campus-wide network to increase accessibility, speed, and the reliability.

9. Tendering process has been initiated for the replacement of old SMF batteries for the centralised online UPS systems.

Current activities and plans :

1. Purchase of 20 desktops for Ph.D. students is being initiated.

2. Up-gradation of the numerical softwares, Mathematica and Matlab, with several new features, which will help the researchers to carry out their calculations with more advanced techniques.

Construction Activity

Activities related to building construction work from February-2013 is affected due to order of Hon'ble High court in regard to PIL no. 4003 of 2006 related to Ganga pollution The Hon'ble High Court has passed an order that no construction shall be carried out within the 500 meters of Highest Flood Level (HFL) of river Ganges in the year 1978. As per report submitted to Hon'ble High Court, HRI fall within this prohibited zone. HRI has filed an application in Court for relief against this order as HRI has its own Sewage Treatment Plant (STP) with almost zero discharge and cannot cause pollution to river Ganges. The decision of Court in our case is still awaited therefore from last one year major construction activity is almost stopped.

Some miscellaneous works related maintenance/modifications were carried out during this financial year.

- Refurbishing of Nutrino cluster Room
- Supply & fixing of Flow meter in water/sewer line
- Supply & fixing PVC flooring in a room at 1st floor of Library building
- Modification work related to expansion in RECAPP area
- Internal electrification in the office space of Neutrino & RECAPP project
- SITC of Tower AC in the office space of Recapp & Neutrino project

Note on Persons with Disabilities & SC/ST

This Institute is devoted to theoretical research in the field of Physics and Mathematics, is financially supported by the Department of Atomic Energy, Government of India. Its activities are overseen by the Governing Council and its day-to-day activities are administered by the Director of the Institute. The Institute has a very limited number of sanctioned positions, which are evenly distributed between the Academic & Administrative posts. The Institute does not have any specific scheme catering to persons with disabilities and therefore there is no specific budget allocated in this regard. The recruitment of Academic members is done based on merit whereas recruitment in other sections of the Institute is done through an open advertisement. However, the Institute is sensitive to the subject of recruitment of persons with disabilities and would support such persons as and when the occasion arises.

Also the Institute is aware of its social obligation towards representation of Scheduled Castes and Scheduled Tribes in its services and follows the appropriate norms in recruitment.

Vigilance and Security Report

There is nothing specific to report from vigilance/security point of view for the period upto 31st March, 2014. The Institute follows the instructions received from DAE time to time pertaining vigilance/security matters.

Further, we have ensured the submission of Annual Return (APRs) of all eligible employees as on 31/03/2013, they have scrutinized and have also been put up on the Institute website as per the mandatory requirement.

Auditor's Report

1. We have audited the attached Balance Sheet of Harish-Chandra Research Institute, Allahabad as at 31st March, 2014 and also the Income and Expenditure Account for the year ended on that date annexed thereto. These financial statements are the responsibility of the management of the Institute. Our responsibility is to express an opinion on these financial statements.

2. We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining on a test basis, evidence supporting the accounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

3. Subject to our comments as per annexure – "A" read with significant accounting policies and notes on accounts appearing in Schedule-11 annexed hereto, we report that:

    a. We have obtained all the information and explanation, which to the best of our knowledge and belief were necessary for the purpose of our audit.
    b. In our opinion, proper books of accounts as required by law have been kept by the Institute, so far as it appears from our examination of the books.
    c. The Balance Sheet and Income and Expenditure Account dealt with by this report are in agreement with the books of accounts.
    d. In our opinion and to the best of our information and according to the explanations given to us, the said accounts give a true and fair view:
        i. In case of Balance Sheet, of the state of affairs of the Institute as at 31st March, 2014.

ii. In case of Income and Expenditure Account, of the excess of Expenditure over income of the Institute for the year ended on that date.

For Vibhuti Agrawal & Co.
Chartered Accountants

Sd./-
(Vibhuti Agrawal)
Proprietor
M.No. 073789

Place : Allahabad
Dated: 11.08.2014

Annexure "A" to the Auditor's Report

(Referred to in paragraph 3 of our Report of even date)

1. An amount of Rs.4,78,50,030/- has been shown as CWIP of which construction has stopped through ADA order.
2. An amount of Rs.77,51,070/- has been advanced to M/s Kharaujha Builders against construction of CWIP and has become overdue and is of unsecured nature.
3. Amount recoverable against completed projects shown as claims recoverable and Advance for Journals are outstanding since long. Institute should take necessary steps to recover or write off the following amounts:

A.	NBHM Grant-K. Gangopadhyay	Since 2007	Rs.47,533.00
B.	NBHM Grant-Joseph Samuel	Since 2007	Rs.17,030.00
C.	DST-SFT Manoj Kumar	Since 2007	Rs.33,961.00
D.	NBHM Fellowships	Since 2009	Rs.1,85,867.00
E.	HNB Garhwal University	Since 2010	Rs.40,000.00
F.	Ramanujan Maths Society (DST)	Since 2012	Rs.8,750.00
G.	INO Conference Recover	Since 2012	Rs.7,84,525.00

4. VAT is not being paid on pantry receipts though the Institute is registered with the VAT Department.
5. Interest received on Fixed Deposit of Infosys Foundation (Rs.25,00,000), being accounted on net basis (excluding TDS) in books of accounts. Interest as such neither accounted for as income nor TDS is claimed, though TDS is being reflected in Form 26AS.
6. No interest during the year on security deposit with UPSEB is received.
7. Institute has carried out a physical verification of fixed assets. The quantitative & value reconciliation are being done with fixed assets register as such we are unable to comment whether financial records are in agreement with physically verified fixed assets.

8. Balance of EMD, Security Deposits, Sundry Creditor, Loan & Advances and Claims Recoverable etc. are subject to confirmation, reconciliation and consequential adjustments thereof.
9. Previous Year's figures have been regrouped or rearranged wherever necessary.

Place : Allahabad
Dated: 11.08.2014

For Vibhuti Agrawal & Co.
Chartered Accountants

Sd./-
(Vibhuti Agrawal)
Proprietor
M.No. 073789

Harish-Chandra Research Institute

CHHATNAG ROAD, JHUNSI, ALLAHABAD - 211 019

Auditor's Report & Annual Accounts

For the year 2013-14

Harish-Chandra Research Institute

Chhatnag Road, Jhunsi, Allahabad, Uttar Pradesh 211 019

Balance Sheet as at March 31st, 2014

Liabilities	Sch	as at 31-Mar-2014		Assets	Sch	as at 31-Mar-2014	
CORPUS / CAPITAL FUND			**34945732.61**	**Fixed Assets**	**5**		**139388764.15**
Opening Balance		*16005087.76*		*Land & Building*		*157401477.85*	
Add:Assets Capitalization Plan Grants		*58303507.25*		*Furniture & Fixtures*		*46149445.32*	
Add:Assets Capitalization Non-Plan Grants		*18770304.00*		*Other Assets*		*42981843.54*	
Add:Receipts of earlier years		*4543615.00*		*Library Assets*		*212725128.92*	
Less:Expenses of earlier years		*-2592942.00*		*Machinery & Equipments*		*229698910.96*	
Less:Transferred from Income & Expenditure A/c		*-60083839.40*		*Misc. Equipments*		*5663958.41*	
				Gross Value of Fixed Assets		694620765.00	
DAE - Non Recurring Grants (XI Plan)	**1**		**29098276.00**	*Less: Depreciation Reserve*		*-555232000.85*	
XI Plan Grant Receipts		*362668000.00*					
XI Plan Grants Utilisation		*-333569724.00*		**Capital Work in Progress**	**6**		**47850030.00**
				Admin Building Under Construction		*8545811.81*	
DAE - Non Recurring Grants (XII Plan)	**2**		**23146786.94**	*Community Centre Annexe Under Construction*		*3701880.31*	
XII Plan Grant Receipts		*64120000.00*		*Engineering Section Building Under Construction*		*8780508.98*	
XII Plan Grants Utilisation		*-40973213.06*		*Hostel Building Under Construction*		*26821828.90*	
Other Grants & Receipts	**3**		**10468459.50**	**Investments**	**7**		**5319507.00**
DST Projects		*1515984.50*		*FDR with BoB*		*2500000.00*	
NBHM Projects		*1911327.00*		*FDR With SBI*		*2155227.00*	
Swarna Jayanti Fellowships		*250277.00*		*Interest Accrued on Investments*		*664280.00*	
Inspire Faculty Award-R.Prabhu		*1191178.00*					
JC Bose Fellowship to Dr.Ashoke Sen		*742089.00*		**Current Assets**	**8**		**126943853.65**
Ramanujan Fellowship-Dr.Anshuman Maharana		*440936.00*		*Cash-in-hand*		*47930.25*	
CSIR		*455701.00*		*Bank Accounts*		*90299448.07*	
Infosys Foundation Grants		*2902735.00*		*Postage in Hand/Franking (B/S)*		*4860.12*	
Other Grants		*1058232.00*		*Advance for Journals*		*19566810.54*	
				Deposits (Asset)		*6216348.67*	

Current Liabilities	**4**		**231369415.35**	*Advances for Travel / Abroad Travel*		*279906.00*	
Accounts Payable		*2847813.40*		*Advances Recoverable Ag. Salaries*		*477686.00*	
Payable to Staff		*1553646.80*		*Claims Receivable*		*10050864.00*	
Payable to Parties		*3605798.00*					
Current Bills Payable		*21895433.25*		**Misc. Expenses (ASSET)**			**9526515.60**
Security & Earnest Money Deposits		*10165127.90*		*Deferred Revenue Expenditure (Power Line)*		*9526515.60*	
Provision for Audit fee payable		*24972.00*					
Provision for Retirement Benefits		*191276624.00*					
Total			**329028670.40**	**Total**			**329028670.40**

For HARISH-CHANDRA RESEARCH INSTITUTE, ALLAHABAD

As per our separate report of even date attached
For Vibhuti Agrawal & Co.
CHARTERED
ACCOUNTANTS

Sd./-	**Sd./-**	**Sd./-**	**Sd./-**
(Raaj Gulati)	**(Ravindra Singh)**	**(Jayanta Kumar Bhattacharjee)**	**Vibhuti Agrawal**
Accounts Officer	Registrar	Director	Proprietor

Date: 11-08-2014
Place: Allahabad

Harish-Chandra Research Institute

Chhatnag Road, Jhunsi, Allahabad, Uttar Pradesh 211 019

Income & Expenditure Statement for the year ended on March 31st, 2014

Expenditure	Sch	as at 31-Mar-2014		Income	Sch	as at 31-Mar-2014	
Non-Plan Salary Expenses	**9**		**112195675.00**	**Grants-in-Aid General**			**189200000.00**
Pay & Allowances		74146102.00		*DAE-Recurring (Non-Plan) Salaries*		114100000.00	
Honorarium & Scholarships		3500247.00		*DAE-Recurring (Non-Plan) Non-Salary*		75100000.00	
Fellowships		23709923.00					
CPF (Employer's Contribution)		94512.00		**Non-Recurring Income**			**947153.00**
NPS		1969406.00		*Misc.Receipts (Penalties/LD Clause)*		400740.00	
Pension		2832306.00		*Misc. Receipts (Pension/Gratuity etc.)*		120591.00	
Retirement Benefits (Gratuity Etc.)		2060560.00		*Profit on Sale of Assets*		425822.00	
Medical-Reimbusement		3882619.00					
				Institute & Other Sources Receipts			**14492891.00**
Non-Plan Non-Salary Expenses	**10**		**91142631.00**	**Recurring Receipts**		**13652332.00**	
Overtime Allowances		139450.00		*Licence Fee& Elect.From Rented Buildings*		11162120.00	
Domestic Travel Expenses		1301910.00		*Receipts From Guest House & Pantry*		2490212.00	
Foreign Travel Expenses		499772.00		**Interest Earned**		**581536.00**	
Office Expenses		4514332.00		*Interest on Bank Deposits (A/c 101)*		*578773.00*	
Library & Publications		18406974.00		*Interest on Loans to Employees/staff*		*2763.00*	
Supplies & Materials consumed		438864.00		**Recurring Income**		**69128.00**	
Minor Works & Maintenance		50210035.00		*Firms Registration Fee*		*20500.00*	
Machinery & Equipment		6451805.00		*Misc. Reciepts*		*12318.00*	
Conferences/Seminars		510007.00		*R.T.I. Receipt*		*60.00*	
Motor Vehicles		4768270.00		*Sale of Tenders*		*36250.00*	
Other Expenses		3878740.00		**Recoveries From Salaries Etc.**		**189895.00**	
Audit Fees		22472.00		*Recovery of Accomodation Charges*		*22000.00*	
				Recovery of Cable T.V. Charges		*53100.00*	
				Recovery of Personal Transport		*91837.00*	
				Recovery of Telephone Charges		*16921.00*	
				Recovery of Transport Charges		*6037.00*	

Sub-Total			**203338306.00**	**Sub-Total**			**204640044.00**
Deferred Revenue Expenses-33kva Power			1587752.60	Excess of Income over Expenditure			1301738.00
Depreciation on Assets			51804641.80	Transferred to Corpus / Capital Fund			**60083839.40**
Provisions for Retierment Benefits			7993183.00	*Significant Accounting Policies & Notes on Accounts*	**11**		
Total			**61385577.40**	**Total**			**61385577.40**

For HARISH-CHANDRA RESEARCH INSTITUTE,
ALLAHABAD

As per our separate report of even date attached

For Vibhuti Agrawal & Co.
CHARTERED
ACCOUNTANTS

Sd./-	Sd./-	Sd./-	Sd./-
(Raaj Gulati)	**(Ravindra Singh)**	**(Jayanta Kumar Bhattacharjee)**	**Vibhuti Agrawal**
Accounts Officer	Registrar	Director	Proprietor

Date: 11-08-2014

Place: Allahabad

Schedule 1 forming part of Balance Sheet as at 31st March 2014

XI Plan Grant Receipts

	As on 31-03-13	Year 13-14	As on 31-03-14
Grant-High Performance Scientific Computing	107045000.00 Cr	*5755000.00 Cr*	112800000.00 Cr
Grant-Scientific Computing & Networking	74800000.00 Cr	*5700000.00 Cr*	80500000.00 Cr
Grant-RECAPP	28598000.00 Cr	*7300000.00 Cr*	35898000.00 Cr
Grant-Civil & Infrastructure Development	66245000.00 Cr	*18825000.00 Cr*	85070000.00 Cr
Grant-Housing	47500000.00 Cr	*900000.00 Cr*	48400000.00 Cr
Grand Total (A)	**324188000.00 Cr**	***38480000.00 Cr***	**362668000.00 Cr**

XI Plan Grants Utilisation

	As on 31-03-13	Year 13-14	As on 31-03-14
High Performance Scientific Computing	75205908.00 Dr	*37594092.00 Dr*	112800000.00 Dr
Scientific Computing & Networking	75501597.31 Dr	*4998402.69 Dr*	80500000.00 Dr
Regional Centre- Accelerator Based Particle Physic	29512541.50 Dr	*6385458.50 Dr*	35898000.00 Dr
Infrastructure (Non-Housing)	61723314.10 Dr	*4778333.00 Dr*	66501647.10 Dr
Infrastructure Housing	33664669.90 Dr	*4205407.00 Dr*	37870076.90 Dr
Grand Total (B)	**275608030.81 Dr**	***57961693.19 Dr***	**333569724.00 Dr**
XI Plan Grants (Receipts - Utilisation) (A-B)	**48579969.19**	**-19481693.19**	**29098276.00**

XI Plan Grants Utilisation - Projectwise Break-up

	As on 31-03-13	Year 13-14	As on 31-03-14
1. High Performance Scientific Computing	**75205908.00 Dr**	*37594092.00 Dr*	**112800000.00 Dr**
Mach.&Equipment-Cluster Project	*54422408.00 Dr*	35837996.25 Dr	*90260404.25 Dr*
Supplies & Materials-Cluster Project	*5669151.00 Dr*		*5669151.00 Dr*
Major Work(Elect.&Civil)-Cluster Project	*5269922.00 Dr*		*5269922.00 Dr*
Salaries-Cluster	*1190903.00 Dr*	494597.00 Dr	*1685500.00 Dr*
Domestic Travel-Cluster Project	*175777.00 Dr*		*175777.00 Dr*
Contingency-Cluster Project	*7522094.00 Dr*	1040698.75 Dr	*8562792.75 Dr*
OfficeExpenses-Cluster	411507.00 Dr	*180000.00 Dr*	591507.00 Dr
Office Exp.- Training (Cluster)	27290.00 Dr	*40800.00 Dr*	68090.00 Dr
Consultancy-Cluster Project	*516856.00 Dr*		*516856.00 Dr*
2. Scientific Computing & Networking	**75501597.31 Dr**	*4998402.69 Dr*	**80500000.00 Dr**
Quantum Information Processing & Application	*2874399.00 Dr*		*2874399.00 Dr*
Machinery & Equipment-Sci.Comp.	34787239.31 Dr	*4906608.00 Dr*	39693847.31 Dr
UPS & Batteries-Scientific Computing	9278000.00 Dr		9278000.00 Dr

Band Width-Scientific Computing	22997804.00 Dr		22997804.00 Dr
Books & Softwares-Sci Comp.	1046854.00 Dr		1046854.00 Dr
NKN Project	440681.00 Dr		440681.00 Dr
Major Works-Scientific Comp.	*2525019.00 Dr*		*2525019.00 Dr*
Office Expenses-Scientific Comp.	*364075.00 Dr*		*364075.00 Dr*
Salary-Scientific Comp. Networking	*1187526.00 Dr*	91794.69 Dr	*1279320.69 Dr*

XI Plan Grants Utilisation - Projectwise Break-up (contd…..)

	As on 31-03-13	**Year 13-14**	**As on 31-03-14**
3. Regional Centre- Accelerator Based Particle Phy	**29512541.50 Dr**	*6385458.50 Dr*	**35898000.00 Dr**
Recapp-Machinery & Equipments	*6716903.00 Dr*	183890.00 Dr	*6900793.00 Dr*
Recapp-Backup Media, Printer Supplies,Civil & Elect	3636933.00 Dr	*2376799.50 Dr*	6013732.50 Dr
Recapp-Bandwidth	2517213.00 Dr		2517213.00 Dr
Recapp-Furniture	500016.00 Dr	*76724.00 Dr*	576740.00 Dr
Softwares-Recapp	811749.00 Dr		811749.00 Dr
Recapp-Major Works(Electrical & ACVE)	*174560.00 Dr*	121145.00 Dr	*295705.00 Dr*
Recapp - Salaries	*3919231.00 Dr*	752484.00 Dr	*4671715.00 Dr*
Recapp-Domestic Travel	*2068594.00 Dr*	122918.00 Dr	*2191512.00 Dr*
Recapp-Foreign Travel	*1957124.00 Dr*	346464.00 Dr	*2303588.00 Dr*
Recapp Office Expenses	*158237.50 Dr*	1108366.00 Dr	*1266603.50 Dr*
Recapp- Consultancy	*557655.00 Dr*	153290.00 Dr	*710945.00 Dr*
Collaboration Meetings	*6082503.00 Dr*	*100000.00 Dr*	*6182503.00 Dr*
Instructional Workshop in Particle Physics (RECAPP)	*11823.00 Dr*	*487915.00 Dr*	*499738.00 Dr*
BITS , PILANI (Adv)	*300000.00 Dr*	300000.00 Cr	
Recapp Outside Meeting -Advance		550000.00 Dr	*550000.00 Dr*
University of Kalyani (Adv)		75000.00 Dr	*75000.00 Dr*
University of Mumbai (Adv)	*100000.00 Dr*	100000.00 Cr	
WHEPP13 CONFERENCE (Adv)		100000.00 Dr	*100000.00 Dr*
HIGGSTOP-2013, BITS-Pilani		*230463.00 Dr*	230463.00 Dr
4. Infrastructure (Non-Housing)	**61723314.10 Dr**	*4778333.00 Dr*	**66501647.10 Dr**
Contingencies-Infrastructure (Non Housing)			
BWC Meetings	603872.00 Dr	*10966.00 Dr*	614838.00 Dr
Constructions-NKN Project	147498.00 Dr		147498.00 Dr
Construction-Student Hostel	2432740.00 Dr		2432740.00 Dr
Contingencies-Misc.(Non-Housing)	4021618.00 Dr	*490245.00 Dr*	4511863.00 Dr
Architects Atelier Pvt. Ltd. (Adv.)	*984150.00 Dr*		*984150.00 Dr*
Civil Works -Infrastructure (Non Housing)	*10601143.00 Dr*	2466911.00 Dr	*13068054.00 Dr*
Construction Admin Block	*8545811.81 Dr*	1232861.00 Dr	*9778672.81 Dr*
Construction Community Centre Extn	*3701880.31 Dr*	31201.00 Dr	*3733081.31 Dr*
Construction Engg Section Building	*8780508.98 Dr*	74069.00 Dr	*8854577.98 Dr*

Power Requirement & Air-Conditioning	*20626122.00 Dr*		*20626122.00 Dr*
Salaries - Infrastructure -Non Housing	*1277970.00 Dr*	472080.00 Dr	*1750050.00 Dr*
5. Infrastructure Housing	**33664669.90 Dr**	*4205407.00 Dr*	**37870076.90 Dr**
Hostel Building	26821828.90 Dr	1596903.00 Dr	28418731.90 Dr
PDF Housing (Married Appt)	3600213.00 Dr	2608504.00 Dr	6208717.00 Dr
Advance to DCSEM for Conf Centre & GH	*2000000.00 Dr*		*2000000.00 Dr*
Contingencies-Misc (Housing)	*1242628.00 Dr*		*1242628.00 Dr*
Grand Total (1+2+3+4+5)	**275608030.81 Dr**	***57961693.19 Dr***	**333569724.00 Dr**

Schedule 2 forming part of Balance Sheet as at 31st March 2014
XII Plan Grant Receipts

	As on 31-03-13	**Year 13-14**	**As on 31-03-14**
Grant-Scientific Information Retrieval Development	**1800000.00 Cr**	***11600000.00 Cr***	**13400000.00 Cr**
Grant-Special & Thematic Events in Mathematics	**1000000.00 Cr**	***2850000.00 Cr***	**3850000.00 Cr**
Grant-Analysis & Geometry (STEM)	*100000.00 Cr*	650000.00 Cr	*750000.00 Cr*
Grant-Explicit Class Field Theory (STEM)	*100000.00 Cr*	150000.00 Cr	*250000.00 Cr*
Grant-Group Theory & Representation Theory (STEM)	*300000.00 Cr*	450000.00 Cr	*750000.00 Cr*
Grant-Number Theory (STEM)	*500000.00 Cr*	1600000.00 Cr	*2100000.00 Cr*
Grant-Advanced Research Facility for Theoretical Ph		***36248000.00 Cr***	**36248000.00 Cr**
Grant-Centre for String Interactions (ARFTP)		2641000.00 Cr	*2641000.00 Cr*
Grant-Cluster for Strongly Corelated Systems (ARFTP		9600000.00 Cr	*9600000.00 Cr*
Grant-Computing Facilities for T Physics (ARFTP)		19400000.00 Cr	*19400000.00 Cr*
Grant-Physics of Quantum Matter (ARFTP)		1547000.00 Cr	*1547000.00 Cr*
Grant-QIC (ARFTP)		3060000.00 Cr	*3060000.00 Cr*
Grant-RECAPP, Neutrino Physics & Astrophysics		***6772000.00 Cr***	**6772000.00 Cr**
Grant-Cosmology & High Energy Astrology		298000.00 Cr	*298000.00 Cr*
Grant-Neutrino Physics and Particle		3870000.00 Cr	*3870000.00 Cr*
Grant-RECAPP		2604000.00 Cr	*2604000.00 Cr*
Grant-Infrastructure Development	**2000000.00 Cr**	***1750000.00 Cr***	**3750000.00 Cr**
Grant-Expansion of HRI Campus	**100000.00 Cr**		**100000.00 Cr**
Grand Total (A)	**4900000.00 Cr**	***59220000.00 Cr***	**64120000.00 Cr**

XII Plan Grants Utilisation

	As on 31-03-13	Year 13-14	As on 31-03-14
Sc.Information Retrieval Development (Library)	**597556.00 Dr**	***10456499.00 Dr***	**11054055.00 Dr**
Special and Thematic Events in Mathematics (STEM)	**294563.00 Dr**	***2979204.00 Dr***	**3273767.00 Dr**
Analysis and Geometry		406862.00 Dr	406862.00 Dr
Explicit Class Field Theory		195103.00 Dr	195103.00 Dr
Group Theory & Representation Theory of Lie Algebra	112914.00 Dr	471242.00 Dr	584156.00 Dr
Number Theory	181649.00 Dr	1905997.00 Dr	2087646.00 Dr
Advance Research Facility for Theoretical Physics	**892701.00 Dr**	***21412655.06 Dr***	**22305356.06 Dr**
Centre for String Interaction	892701.00 Dr	1713654.00 Dr	2606355.00 Dr
Cluster for Strongly Correlated Systems		3919501.25 Dr	3919501.25 Dr
Computing Facilities for Theoretical Physics		12609476.81 Dr	12609476.81 Dr
Physics of Quantum Matter		1030095.00 Dr	1030095.00 Dr
Quantum Computing & Information Processing		2139928.00 Dr	2139928.00 Dr
RECAPP, Neutrino Physics & Astrophysics	**500165.00 Dr**	***3826870.00 Dr***	**4327035.00 Dr**
Cosmology and High Energy Astrophysics		189654.00 Dr	189654.00 Dr
Neutrino Physics and Particle Astrophysics	500165.00 Dr	3235635.00 Dr	3735800.00 Dr
RECAPP		401581.00 Dr	401581.00 Dr
Expansion of HRI Campus-Purchase of Additional Land	**13000.00 Dr**		**13000.00 Dr**
Grand Total (B)	**2297985.00 Dr**	***38675228.06 Dr***	**40973213.06 Dr**

XII Plan Grants (Receipts - Utilisation) (A-B)	**2602015.00**	**20544771.94**	**23146786.94**

XIIth Plan Utilisation - Projectwise Break-up

	As on 31-03-13	Year 13-14	As on 31-03-14
1. Sc.Information Retrieval Development (Library)	**597556.00**	**10456499.00**	**11054055.00**
Library-Machinery & Equipment		*46464.00 Dr*	*46464.00 Dr*
Library-Softwares		*1105491.00 Dr*	*1105491.00 Dr*
Library-Standing Series	*597556.00 Dr*	*698455.00 Dr*	*1296011.00 Dr*
Library-Supplies & Materials		*8466381.00 Dr*	*8466381.00 Dr*
Library-Office Expenses & Contingencies		*139708.00 Dr*	*139708.00 Dr*
2. Special and Thematic Events in Mathematics (STEM)	**294563.00**	**2979204.00**	**3273767.00**
Analysis and Geometry		***406862.00 Dr***	**406862.00 Dr**
Analysis & Geometry-Domestic Travel		122660.00 Dr	*122660.00 Dr*
Analysis & Geometry-Office Expense & Contingency		7750.00 Dr	*7750.00 Dr*
Analysis & Geometry-Consultancy & Meetings		276452.00 Dr	*276452.00 Dr*
Explicit Class Field Theory		*195103.00 Dr*	**195103.00 Dr**

Explicit Class Field Theory-Supplies & Material		109438.00 Dr	*109438.00 Dr*
Explicit Class Field Theory-Domestic Travel		58665.00 Dr	*58665.00 Dr*
Explicit Class Field Theory-Consultancy & Meeting		27000.00 Dr	*27000.00 Dr*
Group Theory & Representation Theory of Lie Algebra	**112914.00 Dr**	***471242.00 Dr***	**584156.00 Dr**
GTLT-Domestic Travel		*26708.00 Dr*	*26708.00 Dr*
GTLT-Foreign Travel	*90914.00 Dr*	*228263.00 Dr*	*319177.00 Dr*
GTLT-Consultancy & Collab Meetings	*22000.00 Dr*	*46250.00 Dr*	*68250.00 Dr*
Instructional School on Schur Multiplicators:13-14		*170021.00 Dr*	*170021.00 Dr*
Number Theory	**181649.00 Dr**	***1905997.00 Dr***	**2087646.00 Dr**
Number Theory-Machinery & Equipment		*52200.00 Dr*	*52200.00 Dr*
Number Theory-Supplies & Materials		*39996.00 Dr*	*39996.00 Dr*
Number Theory-Domestic Travel	*77185.00 Dr*	*634017.00 Dr*	*711202.00 Dr*
Number Theory-Foreign Travel	*90984.00 Dr*	*574083.00 Dr*	*665067.00 Dr*
Number Theory-Office Expense & Contingency	*1480.00 Dr*	*95985.00 Dr*	*97465.00 Dr*
Discussion Meeting-II on Algebraic Curves (NT)		*220767.00 Dr*	*220767.00 Dr*
Number Theory-Consultancy & Collab Meetings	*12000.00 Dr*	*288949.00 Dr*	*300949.00 Dr*
3. Advance Research Facility for Theoretical Physics	**892701.00**	**21412655.06**	**22305356.06**
Centre for String Interaction	**892701.00 Dr**	***1713654.00 Dr***	**2606355.00 Dr**
String Interaction-Machinery & Equipment		*253050.00 Dr*	*253050.00 Dr*
String Interaction-Supplies & Materials		*40590.00 Dr*	*40590.00 Dr*
String Interaction-Domestic Travel	*98054.00 Dr*	*311399.00 Dr*	*409453.00 Dr*
String Interaction-Foreign Travel	*271453.00 Dr*	*304799.00 Dr*	*576252.00 Dr*
String Interaction-Office Expense & Contingency	*240.00 Dr*	*242747.00 Dr*	*242987.00 Dr*
String Interaction-Consultancy & Collab Meeting	*37079.00 Dr*	*630469.00 Dr*	*667548.00 Dr*
Advance for FTAG 2013		*50000.00 Dr*	*50000.00 Dr*
Indian Strings Meeting 2012 (ISTM 2012)	*400000.00 Dr*	*400000.00 Cr*	
National Strings Meeting2013 (Adv.)		*200000.00 Dr*	*200000.00 Dr*
String Interaction-Honorarium	*85875.00 Dr*	*80600.00 Dr*	*166475.00 Dr*
Cluster for Strongly Correlated Systems		***3919501.25 Dr***	**3919501.25 Dr**
Cluster for Strongly Co System-Mach & Equipments		*55625.00 Dr*	*55625.00 Dr*
Cluster for Strongly Co System-Supplies & Materials		*2605146.00 Dr*	*2605146.00 Dr*
Cluster for Strongly Co System-Off Exp & Contingency		*1258730.25 Dr*	*1258730.25 Dr*

XIIth Plan Utilisation - Projectwise Break-up			(contd…..)
	As on 31-03-13	**Year 13-14**	**As on 31-03-14**
Computing Facilities for Theoretical Physics		***12609476.81 Dr***	**12609476.81 Dr**
Computing Facilities-Machinery & Equipment		332397.00 Dr	*332397.00 Dr*
Computing Facilities-Bandwidth		*5148101.50 Dr*	5148101.50 Dr
Computing Facilities-Supplies & Materials		*7430.00 Dr*	7430.00 Dr
Computing Facilities-Major Works		23950.00 Dr	*23950.00 Dr*
Computing Facilities-Salaries		333397.31 Dr	*333397.31 Dr*
Computing Facilities-Off. Expense & Contingency		6741426.00 Dr	*6741426.00 Dr*
Computing Facilities-Consultancy & Collab meetings		22775.00 Dr	*22775.00 Dr*
Physics of Quantum Matter		***1030095.00 Dr***	**1030095.00 Dr**
Physics of Quantum Matter-Mach. & Equipments		*117320.00 Dr*	*117320.00 Dr*
Physics of Quantum Matter-Supplies & Materials		*15260.00 Dr*	*15260.00 Dr*
Physics of Quantum Matter-Domestic Travel		*127220.00 Dr*	*127220.00 Dr*
Physics of Quantum Matter-Foreign Travel		*110189.00 Dr*	*110189.00 Dr*
Physics of Quantum Matter-Off. Exp & Contingency		*16600.00 Dr*	*16600.00 Dr*
ISCANM-III (11-14, March 2014)		*235085.00 Dr*	*235085.00 Dr*
JBNSTS (Advance)		*50000.00 Dr*	*50000.00 Dr*
Physics of Quantum Matter-Consultancy & Meetings		*127086.00 Dr*	*127086.00 Dr*
School and Workshop on Cold Atoms (10-17 Feb,2014)		*231335.00 Dr*	*231335.00 Dr*
Quantum Computing & Information Processing		***2139928.00 Dr***	**2139928.00 Dr**
QIC-Machinery & Equipment		*282567.00 Dr*	*282567.00 Dr*
QIC-Supplies & Materials		*3770.00 Dr*	*3770.00 Dr*
QIC-Domestic Travel		*184348.00 Dr*	*184348.00 Dr*
QIC-Foreign Travel		*400000.00 Dr*	*400000.00 Dr*
QIC-Office Expenses & Contingencies		*81470.00 Dr*	*81470.00 Dr*
QIPA - 2013		*916089.00 Dr*	*916089.00 Dr*
QIC-Consultancy & Collab Meetings		*271684.00 Dr*	*271684.00 Dr*
4. RECAPP, Neutrino Physics & Astrophysics	**500165.00**	**3826870.00**	**4327035.00**
Cosmology and High Energy Astrophysics		***189654.00 Dr***	**189654.00 Dr**
Cosmology & HE Astro-Domestic Travel		*50699.00 Dr*	*50699.00 Dr*
Cosmology & HE Astro-Office Exp.& Contingencies		*54000.00 Dr*	*54000.00 Dr*
Cosmology & HE Astro-Consultancy & Colla Meeting		*84955.00 Dr*	*84955.00 Dr*
Neutrino Physics and Particle Astrophysics	**500165.00 Dr**	***3235635.00 Dr***	**3735800.00 Dr**
Neutrino Physics-Supplies & Materials	*100872.00 Dr*	*168109.00 Dr*	*268981.00 Dr*
Neutrino Physics-Domestic Travel	*54938.00 Dr*	*226783.00 Dr*	*281721.00 Dr*
Neutrino Physics-Foreign Travel	*334381.00 Dr*	*399136.00 Dr*	*733517.00 Dr*
Neutrino Physics-Office Expense & Contingencies	*974.00 Dr*	*1669338.00 Dr*	*1670312.00 Dr*
Instructional Workshop in Particle Phy (Neutrino)		*274115.00 Dr*	*274115.00 Dr*

Neutrino Physics-Consultancy & Collab Meetings	*9000.00 Dr*	*98154.00 Dr*	*107154.00 Dr*
WHEPP13 CONFERENCE (Adv)		*400000.00 Dr*	*400000.00 Dr*
RECAPP		***401581.00 Dr***	**401581.00 Dr**
RECAPP(XII)-Domestic Travel		*189856.00 Dr*	*189856.00 Dr*
RECAPP(XII)-Foreign Travel		*85845.00 Dr*	*85845.00 Dr*
RECAPP(XII)-Office Exp & Contingencies		*20880.00 Dr*	*20880.00 Dr*
RECAPP(XII)-Consultancy & Collaboration Meetings		*105000.00 Dr*	*105000.00 Dr*
5. Expansion of HRI Campus-Purchase of Additional Land	**13000.00**	**0.00**	**13000.00**
Major Works-Expansion of Land	*13000.00 Dr*		*13000.00 Dr*
Grand Total (1+2+3+4+5)	**2297985.00 Dr**	**38675228.06 Dr**	**40973213.06 Dr**

Schedule 3 forming part of Balance Sheet as at 31st March 2014

Other Grants & Receipts	**As on 31-03-13**	**As on 31-03-14**
DST Projects	**1506847.50 Cr**	**1515984.50 Cr**
Serc School	27566.50 Cr	27566.50 Cr
DST Project - Aarti Girdhar	924.00 Cr	924.00 Cr
DST-Project (Satya Deo)	58528.00 Cr	24661.00 Cr
DST-Projet(NASI)-Satya Deo	366923.00 Cr	449233.00 Cr
Grant-Indo-German(DST-DFG) Jt.Research Project	1013600.00 Cr	1013600.00 Cr
India-UK Workshop (DST)	*39306.00 Cr*	
NBHM Projects	**1000272.00 Cr**	**1911327.00 Cr**
Library Committee Meeting	925782.00 Cr	921989.00 Cr
Advanced Instructional School		*546800.00 Cr*
NBHM Fellowships(Year 13-14)		*371292.00 Cr*
NBHM Fund	*54490.00 Cr*	*51246.00 Cr*
NBHM Ph.D Scholarship Grant to Navin Kumar Jha	*20000.00 Cr*	*20000.00 Cr*
Swarna Jayanti Fellowships	**522808.00 Cr**	**250277.00 Cr**
Inspire Faculty Award-R.Prabhu	**1002158.00 Cr**	**1191178.00 Cr**
JC Bose Fellowship to Dr.Ashoke Sen	**651274.00 Cr**	**742089.00 Cr**
Ramanujan Fellowship-Dr.Anshuman Maharana		**440936.00 Cr**
CSIR	**146504.00 Cr**	**455701.00 Cr**
CSIR-Spl.Hon.SSB Awardees	500.00 Cr	500.00 Cr
CSIR- A. Mishra	*35750.00 Cr*	*35750.00 Cr*
CSIR-Arvind Kumar (SPM-Fellowship)		*225197.00 Cr*
CSIR-Grant	*69221.00 Cr*	*69221.00 Cr*
CSIR-H Mishra	*41033.00 Cr*	*41033.00 Cr*
CSIR-Mritunjay Kumar Verma (SPM- Fellowship)		*84000.00 Cr*
Infosys Foundation Grants	**2838954.00 Cr**	**2902735.00 Cr**
Grant From Infosys Foundation	*2500000.00 Cr*	*2500000.00 Cr*
Interest on Investment of Infosys Grant	*338954.00 Cr*	*402735.00 Cr*
Other Grants	**4712626.00 Cr**	**1058232.00 Cr**

DAE-SRC Outstanding Research Investigator Award	1813264.00 Cr	
IFCPAR Research Project(T.P.Pareek)	420300.00 Cr	355482.00 Cr
India - EU Research Project	167459.00 Cr	617459.00 Cr
Indo-Australia E.CST Felloship to Dr. Manoj Kumar	967097.00 Cr	21097.00 Cr
Parliament Standing Committee Visit Grant	1142052.00 Cr	
KVPY Summer Programme Support	*40000.00 Cr*	
Provision for Payment of Honorarium to Staff	*99930.00 Cr*	*1670.00 Cr*
Science Education Prog-Indian National Science Acad	*23881.00 Cr*	*23881.00 Cr*
TPSC Fund	*38643.00 Cr*	*38643.00 Cr*
Grand Total	**12381443.50 Cr**	**10468459.50 Cr**

Schedule 4 forming part of Balance Sheet as at 31st March 2014

Current Liabilities	**As on 31-03-13**	**As on 31-03-14**
Accounts Payable	**6668504.40 Cr**	**2847813.40 Cr**
HRI-PF Control A/c	*2003943.40 Cr*	*1616112.40 Cr*
Group Insurance Contribution	*10307.00 Cr*	*9850.00 Cr*
Interest on Bank Deposit	*2471531.00 Cr*	
NPS-Control A/c.	*2044327.00 Cr*	*1195761.00 Cr*
NPS-Employees' Contribution	*138396.00 Cr*	*26090.00 Cr*
Duties & Taxes	**313900.00 Cr**	
TDS Deducted at Source-Parties	*167241.00 Cr*	
VAT Deducted	*146659.00 Cr*	
Staff Accounts	**1151766.80 Cr**	**1553646.80 Cr**
Parties Accounts	**4705979.00 Cr**	**3605798.00 Cr**
Bills Payable	**8905170.00 Cr**	**21895433.25 Cr**
Security & Earnest Money Deposits	**10024654.90 Cr**	**10165127.90 Cr**
Earnest Money Deposits	*3755507.00 Cr*	*4544097.00 Cr*
Security Deposits	*4673019.00 Cr*	*4023227.00 Cr*
Unclaimed Deposits(Security & Earnest Money)	*1596128.90 Cr*	*1597803.90 Cr*
Provisions	**183305913.00 Cr**	**191301596.00 Cr**
Audit Fee Payable	*22472.00 Cr*	*24972.00 Cr*
Provision-Pension, Gratuity, EL Encashment	**183283441.00 Cr**	**191276624.00 Cr**
Provision-Pension	*133841000.00 Cr*	*150343053.00 Cr*
Provision-Gratuity	*18343000.00 Cr*	*18901081.00 Cr*
Provision-EL Encashment	*31099441.00 Cr*	*22032490.00 Cr*
Grand Total	**215075888.10 Cr**	**231369415.35 Cr**

Schedule 5 forming part of Balance Sheet as at 31st March 2014

Fixed Assets & Depreciation Reserve	As on 31-03-13	As on 31-03-14
a. Land & Building	**150237007.85 Dr**	**157401477.85 Dr**
Building	*150237006.85 Dr*	*157401476.85 Dr*
Land	*1.00 Dr*	*1.00 Dr*
b. Furniture & Fixtures	**45006798.32 Dr**	**46149445.32 Dr**
Electrical Fittings	*23287665.51 Dr*	*24246564.51 Dr*
Furniture & Fixtures	*21719132.81 Dr*	*21902880.81 Dr*
c. Other Assets	**42022024.54 Dr**	**42981843.54 Dr**
Guest House HRI-Assets	*4870350.34 Dr*	*5039970.34 Dr*
A.C. & Stabilizers	*14831653.60 Dr*	*15585122.60 Dr*
Bicycles & Rickshaw Trolley	*22548.00 Dr*	*28748.00 Dr*
Car-Maruti Esteem	*479417.00 Dr*	*479417.00 Dr*
Coolers	*937086.00 Dr*	*937086.00 Dr*
Electronic Type Writers	*174422.25 Dr*	*174422.25 Dr*
Elevator	*885000.00 Dr*	*885000.00 Dr*
Fax Machine	*8120.00 Dr*	*8120.00 Dr*
Fire Alarm System	*741872.00 Dr*	*741872.00 Dr*
Fire Extinguisher	*488708.00 Dr*	*488708.00 Dr*
Generator Sets	*10020602.30 Dr*	*10020602.30 Dr*
Geysers	*804019.05 Dr*	*834549.05 Dr*
Projector	*1692516.00 Dr*	*1692516.00 Dr*
Solar Lights & Batteries	*533349.00 Dr*	*533349.00 Dr*
Telescope	*2731044.00 Dr*	*2731044.00 Dr*
Xerox Machines & Stabilizers	*2801317.00 Dr*	*2801317.00 Dr*
d. Library Assets	**185199777.92 Dr**	**212725128.92 Dr**
Back Vol. of Journals (ASSET)	*83245519.00 Dr*	*83245519.00 Dr*
Bar Coding Equip. & Security Systems-Library	*1273870.00 Dr*	*1273870.00 Dr*
Books & Journal	*100680388.92 Dr*	*128205739.92 Dr*
e. Machinery & Equipments	**194244561.71 Dr**	**229698910.96 Dr**
Cluster Computer (XIth Plan)	*52249760.00 Dr*	*52249760.00 Dr*
Cluster Computer (Xth Plan)	*21573474.00 Dr*	*21573474.00 Dr*
Computers & Peripherals	*95466487.41 Dr*	*128653285.66 Dr*
Software	*9263627.50 Dr*	*10369118.50 Dr*
UPS & Batteries	*15691212.80 Dr*	*16853272.80 Dr*
f. Misc. Equipments	**5567139.41 Dr**	**5663958.41 Dr**
Audio / Video Equipments	*1872119.00 Dr*	*1956098.00 Dr*
Gym.Equipments	*238873.00 Dr*	*238873.00 Dr*
Health Centre Equipments	*299569.00 Dr*	*299569.00 Dr*
Misc.Equipments	*1311922.70 Dr*	*1319212.70 Dr*
Scientific Equipments	*142320.71 Dr*	*142320.71 Dr*
Telephone Equip.& Appliances	*1702335.00 Dr*	*1707885.00 Dr*

Gross Value of Fixed Assets (a+b+c+d+e+f)	***622277309.75 Dr***	***694620765.00 Dr***
Less: **Depreciation Reserve**	**511656283.05 Cr**	**555232000.85 Cr**
Grand Total	**110621026.70 Dr**	**139388764.15 Dr**

Schedule 6 forming part of Balance Sheet as at 31st March 2014

Capital Work in Progress	**As on 31-03-13**	**As on 31-03-14**
Admin Building Under Construction	*8545811.81 Dr*	*8545811.81 Dr*
Community Centre Annexe Under Construction	*3701880.31 Dr*	*3701880.31 Dr*
Engineering Section Building Under Construction	*8780508.98 Dr*	*8780508.98 Dr*
Hostel Building Under Construction	*26821828.90 Dr*	*26821828.90 Dr*
PDF Married Apptt Building Under Construction	*3600213.00 Dr*	
Grand Total	**51450243.00 Dr**	**47850030.00 Dr**

Schedule 7 forming part of Balance Sheet as at 31st March 2014

Investments	**As on 31-03-13**	**As on 31-03-14**
FDR with BoB	*2500000.00 Dr*	*2500000.00 Dr*
FDR With SBI	*2155227.00 Dr*	*2155227.00 Dr*
Interest Accrued on Investments	*491859.00 Dr*	*664280.00 Dr*
Grand Total	**5147086.00 Dr**	**5319507.00 Dr**

Schedule 8 forming part of Balance Sheet as at 31st March 2014

Current Assets	**As on 31-03-13**	**As on 31-03-14**
Cash-in-hand	**8116.25 Dr**	**47930.25 Dr**
Bank Accounts	**78011255.61 Dr**	**90299448.07 Dr**
Bank of Baroda - 30070100006893(A/c 101)	*10589869.72 Dr*	*6762468.18 Dr*
Bank of Baroda-30070100006902(A/c 102)	*43918754.19 Dr*	*59092056.19 Dr*
Bank of Baroda - 30070100011078(A/c 108)	*11843295.88 Dr*	*13013679.88 Dr*
Bank of Baroda - 30070100011079(A/c 109)	*2457281.85 Dr*	*2445422.85 Dr*
NPS-Bank A/c (30070100012526)	*2319048.00 Dr*	*1556446.00 Dr*
S.B.I. (M.B.) Current A/c	*64904.97 Dr*	*723876.97 Dr*
Short Term Deposits with BoB	*5477594.00 Dr*	*5477594.00 Dr*
Interest Accrued on Short Term Dep. with Banks	*1340507.00 Dr*	*1227904.00 Dr*
Postage in Hand/Franking(B/S)	**2317.12 Dr**	**4860.12 Dr**
Advance for Journals	**19281127.00 Dr**	**19566810.54 Dr**
Allahabad Mathematical Society (Adv)	*12000.00 Dr*	*5500.00 Dr*
Alliance Books Suppliers (Pvt.)Ltd. (Adv)	*134897.00 Dr*	*156849.00 Dr*
Allied Pub.Subs.Agency (Adv)	*839691.00 Dr*	*960408.00 Dr*
Astronomical Society of India (Adv)	*250.00 Dr*	*0.00 Dr*
Calcutta Mathematical Society (Adv)	*5000.00 Dr*	*917.00 Dr*

D.S. Information Services Pvt. Ltd. (Adv)	*1557288.00 Dr*	*1743064.00 Dr*
D.S. Subscription Agency (Adv)	*707379.00 Dr*	*1015604.00 Dr*
Duke University Press (Adv)		*151479.00 Dr*
Globe Publications, N.Delhi (Adv)	*1172198.00 Dr*	*2034759.00 Dr*
IGroup Infotech India Pvt. Ltd. (Adv)	*137463.00 Dr*	*181629.00 Dr*
Indian Academy of Science (Adv)	*11700.00 Dr*	*5913.00 Dr*
Indian Mathematical Society (Adv)		*12000.00 Dr*
Informatics (Adv)	*19970.00 Dr*	*0.00 Dr*
Institute of Mathematical Sciences (Adv)		*93237.00 Dr*
Institute of Physics Publishing Ltd. (Adv)	*1808068.00 Dr*	*0.00 Dr*
International Subscription Agency (Adv)	*8417800.00 Dr*	*9282389.54 Dr*
Instytut Mathematyczny Pan (Adv)	*160760.00 Dr*	*0.00 Dr*
Journal De Theorie Des Nombries De Bordeaus (Adv)	*8.00 Dr*	*0.00 Dr*
Lakshmi Periodicals & Books Pvt. Ltd. (Adv)	*1195278.00 Dr*	*899944.00 Dr*
M/s JSTOR USA (Adv)	*10692.00 Dr*	*0.00 Dr*
Narosa Information Services (Adv)	*1667815.00 Dr*	*1764350.00 Dr*
Nature Publishing Group (Adv)	*402763.00 Dr*	*180251.00 Dr*
Ramanujan Mathematical Society (Adv)	*2450.00 Dr*	*2300.00 Dr*
Total I.T.Solution (Adv)	*1017657.00 Dr*	*1076217.00 Dr*

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Schedule 8 forming part of Balance Sheet as at 31st March 2014		(contd…..)
Current Assets	**As on 31-03-13**	**As on 31-03-14**
Deposits (Asset)	**6215956.67 Dr**	**6216348.67 Dr**
Fixed Deposits-Securities (in Hand)	*3334276.00 Dr*	*3337668.00 Dr*
Security with Gas Service	*39900.00 Dr*	*39900.00 Dr*
Security with Telephone Deptt.	*267580.67 Dr*	*264580.67 Dr*
Security with UPSEB	*2574200.00 Dr*	*2574200.00 Dr*
Advances for Travel/Abroad Travel	**283461.00 Dr**	**279906.00 Dr**
Advances Recoverable Ag. Salaries	**277609.00 Dr**	**477686.00 Dr**
Loans & Advances (Staff)	*3000.00 Dr*	*9.00 Dr*
Festival Advance	*39000.00 Dr*	*29250.00 Dr*
Medical Advance	*123395.00 Dr*	*353005.00 Dr*
Vehicle Advance	*112214.00 Dr*	*63422.00 Dr*
Computer Advance		*32000.00 Dr*
Claims Receivable (a+b+c+d+e)	**12231937.00 Dr**	**10050864.00 Dr**
a. Amount Recoverable Against Completed Projects / scheme	**1117666.00 Dr**	**1117666.00 Dr**
Finance Officer, H.N.B. Garhwal University	*40000.00 Dr*	*40000.00 Dr*
Grant Receivable-DST-SFT (Manoj Kumar)	*33961.00 Dr*	*33961.00 Dr*
Grant Receivable-NBHM (K. Gongopadhyay)	*47533.00 Dr*	*47533.00 Dr*
Grant Receivable-NBHM (Joseph Samuel)	*17030.00 Dr*	*17030.00 Dr*
INO Conference-Recoverable	*784525.00 Dr*	*784525.00 Dr*
NBHM Fellowships	*185867.00 Dr*	*185867.00 Dr*

Ramanujan Math Society (DST Meeting)	*8750.00 Dr*	*8750.00 Dr*
b. Other-Claims Receivables (Staff)	**401136.00 Dr**	**131934.00 Dr**
c. Others-Claims Receivables (Parties)	**10065130.00 Dr**	**8214361.00 Dr**
d. Payments Against Ongoing Sponsored Projects / Schemes	**648005.00 Dr**	**584140.00 Dr**
Grant Receivable From DST (Suvrat Raju)	*235223.00 Dr*	*0.00 Dr*
Grant Receivable-JEST Examination	*134385.00 Dr*	*129411.00 Dr*
Indian Institute of Technology-Guwahati	*30000.00 Dr*	*30000.00 Dr*
International Conference "B Physics at the LHC"	*593.00 Dr*	*593.00 Dr*
ISCQI-2008-Bhubaneshwar	*25000.00 Dr*	*25000.00 Dr*
JEST Examination Expenses	*20226.00 Dr*	*193136.00 Dr*
Kerala School Of Mathematics	*0.00 Dr*	*150000.00 Dr*
Mrityunjay Kumar Verma (CSIR Fellowship)	*146578.00 Dr*	*0.00 Dr*
Registrar, IIT Kanpur	*6000.00 Dr*	*6000.00 Dr*
Registrar, IIT Roorkee	*50000.00 Dr*	*50000.00 Dr*
e. Interest Accrued on Loans-Computer to Staff	*0.00 Dr*	**2763.00 Dr**
Grand Total	**116311779.65 Dr**	**126943853.65 Dr**

Schedule 9 forming part of Balance Sheet as at 31st March 2014

Non-Plan Salary Expenses	Year 13-14	
a. Pay & Allowances		**74146102.00 Dr**
Employees Remunerations	*72782805.00 Dr*	
Children Education Allowance	*610511.00 Dr*	
LTC to Staff	*1082997.00 Dr*	
Recovery of License Fee	*330211.00 Cr*	
b. Honorarium & Scholarships		**3500247.00 Dr**
Teaching Grant-Academics	*291192.00 Dr*	
Honorarium	*755821.00 Dr*	
Contingency Grant to SRF's/JRF's	*2453234.00 Dr*	
c. Fellowships		**23709923.00 Dr**
d. CPF (Employer's Contribution)		**94512.00 Dr**
e. NPS		**1969406.00 Dr**
f. Pension		**2832306.00 Dr**
g. Retirement Benefits(Gratuity Etc.)		**2060560.00 Dr**
Commutation of Pension	*578759.00 Dr*	
EL Encashment on Retirement	*559170.00 Dr*	
Gratuity	*922631.00 Dr*	
h. Medical-Reimbusement		**3882619.00 Dr**
Health Centre Expenses	*1938082.00 Dr*	
Medical Assistance Indoor	*975929.00 Dr*	
Medical Assistance Outdoor	*422194.00 Dr*	
Medical Assistance Prolonged Treatment	*642511.00 Dr*	
Medical Assistance-Spl.Procedures	*467131.00 Dr*	
TA/DA - for Medical Purpose	*49814.00 Dr*	
Contributory Medical Scheme(CMS)	*613042.00 Cr*	
TOTAL (a+b+c+d+e+f+g+h)		**112195675.00 Dr**

Schedule 10 forming part of Balance Sheet as at 31st March 2014

Non-Plan Non-Salary Expenses	Year 13-14	
a. Overtime Allowances		**139450.00 Dr**
b. Domestic Travel Expenses		**1301910.00 Dr**
c. Foreign Travel Expenses		**499772.00 Dr**
d. Office Expenses		**4514332.00 Dr**
Furniture & Fixture	*44238.00 Dr*	
Pur.& Maint. of Office Equipment	*2102701.00 Dr*	
Stationary & Printing	*356776.00 Dr*	
Postage	*69794.00 Dr*	
Canteen	*971199.00 Dr*	
Telephone,Telex,Telegrams Etc.	*969624.00 Dr*	
e. Library & Publications		**18406974.00 Dr**
Current Journals	*18128268.00 Dr*	
Publication of Report	*62672.00 Dr*	
Purchase of Books	*216034.00 Dr*	
f. Supplies & Materials consumed		**438864.00 Dr**
g. Minor Works & Maintenance		**50210035.00 Dr**
Civil Maintenance	*2560707.00 Dr*	
Maintenance of Lawns	*2160200.00 Dr*	
Maintenance of Security Services	*10393997.00 Dr*	
Watch & Ward and House-Keeping Services	*15021836.00 Dr*	
Electricity Charges	*20073295.00 Dr*	
h. Machinery & Equipments Maintenance		**6451805.00 Dr**
Maintenance of Elect.Installations	*1489778.00 Dr*	
Maintenance of Generator	*2636050.00 Dr*	
Misc.Euipments-Purchase & Maintenance	*597903.00 Dr*	
Maintenace of Aqua Guards	*84945.00 Dr*	
Maintenance of Air-Conditioners	*1328937.00 Dr*	
Maintenance of Fire Extinguishers	*167645.00 Dr*	
Maintenance of Gas Bank	*68836.00 Dr*	
Maintenance of Photocopiers	*77711.00 Dr*	
i. Conferences/Seminars		**510007.00 Dr**
j. Motor Vehicles		**4768270.00 Dr**
k. Other Expenses		**3878740.00 Dr**
Guest House Maintenance	*2463607.00 Dr*	
Consultancy & Legal Expenses	*67220.00 Dr*	
Advertisement	*442195.00 Dr*	
Bank Comm.	*30088.00 Dr*	
Binding Charges	*13840.00 Dr*	
Cable TV Expenses	*191340.00 Dr*	
Liveries	*18726.00 Dr*	
Misc. Expenses	*29368.00 Dr*	

News Paper & Periodicals	*59638.00 Dr*	
Office Expenses	*90559.00 Dr*	
SPIC-MACAY Chapter	*30000.00 Dr*	
Sports & Other Activities	*118913.00 Dr*	
Swimming Pool Maintenance	*190842.00 Dr*	
TDS on Fixed Deposits	*132404.00 Dr*	
l. Audit Fees		**22472.00 Dr**
Grand Total (a+b+c+d+e+f+g+h+i+j+k+l)		**91142631.00 Dr**

HARISH CHANDRA RESEARCH INSTITUTE ALLAHABAD

SCHEDULE-11 FORMING PART OF BALANCE SHEET AND INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31st MARCH 2014

SIGNIFICANT ACCOUNTING POLICIES & NOTES ON ACCOUNTS

Basis of Accounting

1. The accounts are prepared under historical cost convention on an accrual basis.
2. Accounting policies not specifically referred to otherwise are consistent and inconsonance with generally accepted accounting principles except as stated in Sl.Nos.9, 10 & 12 below.
3. Figures of the previous year and current year have been regrouped wherever necessary to confirm classification.

Fixed Assets

4. Fixed Assets are stated at cost of acquisition inclusive of freight, duties, taxes and incidental expenses related to the acquisition. The Fixed Assets are subject to physical verification.
5. Realization made from Sale of Assets & Scrap is taken as Non-Recurring Income in the year of receipt.

Depreciation

6. Depreciation on Fixed Assets has been provided on written down value method as per rates specified in the Income Tax Act, 1961.

A. Land	:	NIL	G. Computer/Peripherals	:	60%
B. Building	:	10%	H. Electrical Installations	:	10%
C. Plant, Machinery & Equipment	:	15%	I. Books & Journals	:	25%
D. Vehicles	:	15%	J. Other Fixed Assets	:	15%
E. Furniture & Fixtures	:	10%	K. Solar Lights & Systems	:	80%

6.1 Depreciation has been charged for the full year on additions made during the year. No Depreciation is charged on assets, which is sold during the year.

Investment

7. Investments are valued at cost plus interest accrued thereon.

Plan Funds

8. Assets purchased from Plan & Non-Plan funds during the year for Rs.7,70,73,811.25 have been capitalized under the appropriate heads of accounts of Fixed Assets.

Funds for Projects/Schemes

9. All grants in respect of projects/schemes are accounted on realization basis. The unspent amount of grants received in respect of the projects/schemes is shown under Current Liabilities in the Balance Sheet under the head "Receipts against ongoing sponsored projects/schemes" and excess of payments made over the grants received in respect Project/schemes are shown under Current Assets in the Balance Sheet under the head "Payments against ongoing sponsored Projects/Schemes".

Expenses

10. Consumable, stores and stationary are charged to the Income and Expenditure Account in the year of its purchase.
11. Email, VSAT facility, Internet/Broadband charges, Annual Maintenance charges of fixed assets, Up-date Allowances, PRIS are charged to the Income & Expenditure account in the year of its payment. Rent receipts are taken into Income & Expenditure account on cash basis.
12. Deferred Revenue Expenditure incurred on composite work of Power Line is to be written off $1/10^{th}$ per year over a period of ten years.

Income/Receipts

13. Interest income on UPPCL deposit and bank accounts are recognized on receipt basis.

Retirement Benefits

14. Provision for accrued liability towards Gratuity, Leave Encashment and Pension has been made on actuarial valuation basis.
15. Interest Liability on NPS balances has not been provided for.

Taxation

16. Since there is no taxable income as per the provisions of Income Tax Act 1961, provision for Income Tax has not been made.

As per our separate report of even date attached.
Vibhuti Agrawal & Co.
Chartered Accountants

	Sd./-	Sd./-	Sd./-
	(Raaj Gulati)	(Ravindra Singh)	(Jayanta K Bhattacharjee)
Proprietor	Accounts Officer	Registrar	Director

Place: Allahabad
Date: 11-08-14

Action Taken on Auditors Report – FY 2013-14

S.No.	Notes on Accounts	Compliance
1.	An amount of Rs.4,78,50,030/- has been shown as CWIP of which construction has stopped through ADA order.	The construction work of four buildings 'Hostel', Extension of Institute Building, Library, Computer Centre', 'Engineering Building' and 'Community Centre Annexe' was stopped in Feb 2013 due to the ruling of Hon'ble High Court, Allahabad. The Hon'ble High Court has passed an order that no construction shall be carried out within the 500 meters of Highest Flood Level (HFL) of river Ganges in the year 1978. According to the report of Adjunct Curie appointed by Hon'ble High Court, HRI falls within this prohibited zone of 500 meters. This was reported to the Governing Council in its meeting dated 20-03-2013. Out of the four, two buildings namely 'Engineering Building' and 'Community Centre Annexe' were ready and is now in our possession/use. 2. In the last BWC meeting held on 15-03-2014 (the decisions of the BWC meeting were subsequently approved by the Governing Council), Joint Secretary (Finance) opined that in case the necessary relief is not forthcoming, the force majeure clause may have to be invoked and the contract foreclosed by mutual consent. Accordingly our proposal for foreclosure was sent to DAE vide letter no HRI/157/641 dated 03-06-2013. Till date, Hon'ble High Court has not allowed the construction hence foreclosure was necessary. 3. The foreclosure issue of HRI was examined by DAE and vide their letter no 23/3(1)/2013/HRI/R&D-II/891 dated 20-01-2014, the DAE had advised that the work order for this construction work was issued by the Director, HRI as per delegation of the powers, hence, it has been decided by the competent authority that issue of foreclosure can be decided at HRI level. 4. Subsequently, after the concurrence of BWC, the foreclosure proposal was placed before the Governing Council (GC) and GC in its meeting dated 23-05-2014 approved the proposal of foreclosure. According, foreclosure OM No. HRI/GC-01/2014/897/867 dated 17th June 2014 has been issued. 5. As per foreclosure proposal approval and in conjunction of the provisions of the contract, foreclosure is being finalised and all the advances and payments to the contract are being adjusted accordingly.
2.	An amount of Rs.77,51,070/- has been advanced to M/s Kharaujha Builders against construction of CWIP and has become overdue and is of unsecured nature.	

3.	Amount recoverable against completed projects shown as claims recoverable and Advance for Journals are outstanding since long. Institute should take necessary steps to recover or write off the following amounts: A. NBHM Grant- K. Gangopadhyay Since 2007 ₹47,533.00 B. NBHM Grant- Joseph Samuel Since 2007 ₹17,030.00 C. DST-SFT Manoj Kumar Since 2007 ₹33,961.00 D. NBHM Fellowships Since 2009 ₹1,85,867.00 E. HNB Garhwal University Since 2010 ₹40,000.00 F. Ramanujan Maths Society (DST) Since 2012 ₹8,750.00 G. INO Conference Recoverable Since 2012 ₹7,84,525.00	The Institute has written to NBHM for its realisation and is also following it up with DST for recovery of these amounts. For HNB Garhwal University the Institute has to receive utilisation certificate for adjustment of the advance against expenses. Regarding INO conference, we have already written several letters to TIFR, Mumbai for its realisation. The Institute is still following it up regularly.
4.	VAT is not being paid on pantry receipts though the Institute is registered with the VAT Department.	The total pantry sales is less than Rs.5/- lacs hence, no VAT is to be deposited. Further, we plan to surrender our VAT Registration and may apply for Tax Deduction Number after taking advice from our Tax Consultant.
5.	Interest received on Fixed Deposit of Infosys Foundation (Rs.25,00,000), being accounted on net basis (excluding TDS) in books of accounts. Interest as such neither accounted for as income nor TDS is claimed, though TDS is being reflected in Form 26AS.	The observation of the Auditors is noted for future compliance.
6.	No interest during the year on security deposit with UPSEB is received.	The Institute is following it up with UPSEB officials and it is expected that interest will be received soon during this financial year as per discussion with UPSEB officials.
7.	Institute has carried out a physical verification of fixed assets. The quantitative & value reconciliation are being done with fixed assets register as such we are unable to comment whether financial records are in agreement with physically verified fixed assets.	After the Balance Sheet is finalised an Asset Register showing physical quantity as well as location of the asset is being done and will be completed shortly.
8.	Balance of EMD, Security Deposits, Sundry Creditor, Loan & Advances and Claims Recoverable etc. are subject to confirmation, reconciliation and consequential adjustments thereof.	The Institute has already written letters to parties towards confirmation of their EMDs, Security Deposits, Sundry Creditor, Loan & Advances and Claims Recoverable etc. A drive has also been initiated to release all old EMDs etc.
9.	Previous Year's figures have been regrouped or rearranged wherever necessary.	This is a standard accounting procedure being followed every year.

Sd/-
(Amit Roy)
Internal Auditor &
Accounts Officer (Officiating)

Sd/-
(Ravindra Singh)
Registrar

Sd/-
(J.K.Bhattacharjee)
Director