

# Harish-Chandra Research Institute

Chhatnag Road, Jhunsi, Allahabad - 211 019



## ANNUAL REPORT

(2016-17)

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## About The Institute

### History

The Harish-Chandra Research Institute is one of the premier research institutes in the country. It is an autonomous institution fully funded by the Department of Atomic Energy (DAE), Government of India. Till 10th Oct 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 acclaimed mathematician, the late Prof Harish-Chandra.

The Institute started with the 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 DAE entered into decisive stage and a review committee was constituted by the DAE to examine the Institute's future. In 1985 Shri 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. 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. After him Prof. Sumathi Rao officiated as Acting Director till April 28, 2012. Prof. Jayanta Kumar Bhattacharjee was the next Director and continued till April 9, 2017. Prof. Pinaki Majumdar, the current Director, took over on April 10, 2017.

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, a proposal to start a M.Sc

program from August 2017, and a large traffic of visiting scientists and students.

## Research

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 scientists, post-doctoral fellows and Ph.D. students.

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.

The areas of research in physics are 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 systems, mesoscopic systems, and the study of clusters and nanomaterials. 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.

## Recognition

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. Ashoke Sen, Prof. B. Mukhopadhyaya, Prof. Pinaki Majumdar and Prof. Rajesh Gopakumar have been awarded the Shanti Swarup Bhatnagar prize. Prof.

Gopakumar also received the Swarnajayanti Fellowship, and the ICTP Prize. 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. In 2017 the Institute was recognised as being among the top 10 research centers in India by the Nature journal.

## Director's Report

The life of a scientific institution consists of research, teaching, and the exchange of ideas. In the few paragraphs below I look at HRI during 2016-17 in the light of these activities.

The exchange of ideas is vital in a fast moving scientific world. In 2016-17 HRI as usual hosted a large number of scientific meetings. These include a Number Theory meet in September 2016, a workshop on Geometry and Analysis in Oct 2016, and a meet on Combinatorics and Number Theory in February 2017. The September meeting was also a celebration of Prof. S. D. Adhikari's 60th birthday. Training programs in mathematics included the Summer Program in Mathematics (SPIM), during summer 2016, and the Annual Foundation School in December 2016.

The physics groups also organised several meetings. These include the Indian Strings Meeting (ISM), hosted at IISER Pune, in December 2016 and a Young-Quantum meet organised by the Quantum Information group. There were also meetings to celebrate the contributions of two senior colleagues - a meeting on Low Dimensional Quantum Systems in February 2017 to celebrate Prof. Sumathi Rao's 60th birthday and a set of lectures on Fluid Mechanics, Nonlinear Dynamics, and Statistical Physics in March 2017 on the occasion of Prof. J. K. Bhattacharjee's 65th birthday.

In addition to the formal training programs for B.Sc and M.Sc students we held our annual Talent Search examination for school level children in Allahabad and a week long Vaigyanik Karyashala in hindi to encourage dissemination of science in the vernacular.

Teaching has always been a part of academic life at HRI but we mainly teach a small number of students who go on to do research with us. This year we embark on a more ambitious program. We have laid the groundwork for starting a stand alone M.Sc program in physics from August 2017. This way the benefit of the teaching program will hopefully spread much wider. We have also gone a long way in setting up a teaching laboratory for physics, a novelty in an institution devoted to theory!

Finally research. Fourteen Ph.D students graduated from HRI during 2016-17. Prof. Sumathi Rao was elected a Fellow of the Indian Academy of

Sciences, and also honoured as an ‘Outstanding Referee’ by the American Physical Society. On top of these, HRI was ranked among the top 10 research institutes in India by the Nature magazine. This is a matter of some pride since HRI is tiny, about a tenth in size, compared to other institutions in the list. We should strive to maintain and improve this position.

**Prof. Pinaki Majumdar**  
**Director**

## Governing Council

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Joint Secretary (Finance)  
Govt. of India  
Deptt. of Atomic Energy  
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Deptt. of Atomic Energy  
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**Mumbai – 400 001**
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BH-135, Sector II  
Salt Lake,  
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6. Prof. S.M. Chitre  
Chair, Academic Board  
University of Mumbai  
Department of Atomic Energy  
Centre for Excellence in Basic  
Sciences (UM-DAE-CBS)  
Health Centre Building  
University of Mumbai  
Kalina Campus,  
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7. Prof. H. S. Mani  
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## Academic Staff

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### Physics

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## Administrative Staff

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23.	Shri Kamlesh Thakur	Bearer (Canteen Cadre)	-
24.	Shri Ramakant Dixit	Peon/Watchman	-
25.	Shri Kamta Prasad	Peon/Watchman	-
26.	Shri Rajesh Kumar	Safaiwala	-
27.	Shri Munna Lal	Gardener	-

## Summary of Research Activities in Mathematics

### Number Theory

A problem of A. Sarkozy state the chromatic versions of the well-known facts that every natural number is a sum of four squares and likewise, that every sufficiently large natural number is the sum of no more than four prime numbers. This work was nearly an optimal answer to this problem. Also, we tackled the analogue problem for squares. More over, we are exploring another problem of Sarkozy and Erdos. Another question, states that given a natural number  $n$ , how thin a subset  $A$  of the integers exist which satisfy the property that every sufficiently large natural number can be expressed as  $a_1 \dots a_n + a_{n+1}$  with  $a_i \in A$  for every  $i$ . We have got a nearly optimal answer when  $n \geq 3$  and the work is in progress for  $n=2$ .

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. Given two L-functions, it is of great interest to number theorists to know whether they both are same or not? We have given a criterion in terms of the upper density of coefficients at prime indices such that a Hecke eigenform will be a character twist of another. We also obtained an effective Joint distribution of eigenvalues of Hecke operator.

We have shown a finiteness result for the solutions of the Diophantine equation  $u_{n_1} + u_{n_2} + \dots + u_{n_t} = p^z$  with  $n_1 \geq n_2 \geq \dots \geq n_t \geq 0$ . Moreover, we explicitly find all the powers of three which are sums of three balancing numbers using the lower bounds for linear forms in logarithms. We completely solve the Diophantine equation  $(x+1)^3 - (x+2)^3 + \dots - (x+2d)^3 + (x+2d+1)^3 = z^p$ , where  $p$  is prime and  $x, d, z$  are integers with  $1 \leq d \leq 50$ . In another work, we completely solve the Diophantine equation  $(x-2)^5 - (x-1)^5 + x^5 - (x+1)^5 + (x+2)^5 = z^n$ , where  $x, z$  and  $n$  are integers with  $n \geq 2$ .

We have constructed a nice family of imaginary quadratic fields each with class number divisible by a given integer  $g > 1$ . It is also proved that such a family has infinitely many members. D. Byeon and E. Lee proved that there are infinitely many imaginary quadratic fields whose ideal class group has an element of order  $2g$ ,  $g$  being a positive integer, and whose discriminant

has only two prime factors. In this context, we have proved a similar result, but the discriminant has exactly  $n$ -prime factors. In fact, this result is also true for real quadratic fields. We have also provided a lower bound on the number of such fields.

We have extended the asymptotic behaviour of the Riesz sum associated to the classical cusp forms of level 1 to higher levels. This is done by using the properties of the corresponding Rankin-Selberg L-functions and the symmetric square L-functions. The main term of this estimation gives information about the non-trivial zeros of the Dirichlet L-functions and was giving information about the non-trivial zeros of the Riemann zeta-functions.

## Algebra and Geometry

We study Schur multiplier of central product of two arbitrary groups. First we present a reduction arguments and then get two embeddings, one into the Schur multiplier and the other one from the Schur multiplier. These embeddings help in computing the Schur multiplier of central product of groups.

In another work, we have parametrised the set of primitive solvable extensions of an arbitrary field and worked it out explicitly in the case of a local field with finite residue field. We have also shown that the local reciprocity isomorphism satisfies a certain orthogonality relation.

Tensor triangular geometry is a study of tensor triangulated categories using algebro-geometric methods. The role of Zariski topology from algebraic geometry is played by Bousfield localizations. Similarly Balmer observed that the role of étale morphism is played by separable monads via Eilenber-Moore construction. Along the way Balmer asked for an existence of triangulated structure on the Eilenber-Moore category associated to an exact monad. We partially answered this question of Balmer using the notion of enhancement of triangulated categories and DG monads. We also extended some results of Balmer and studied some examples like twisted and equivariant derived categories.

The classification of thick subcategories of a singularity category was achieved by Stevenson for local complete intersection rings. This work is in

progress and we are trying to extend these results to the case of graded singularity categories introduced and studied by Orlov.

We studied a functorial construction of moduli of equivariant pure sheaves. We are trying to extend the results to get the similar functorial construction for the moduli space of parabolic bundles via Biswas-Seshadri correspondence and Kronecker-McKay quivers.

We obtain complete explicit classification of biconservative hypersurfaces in 4-dimensional Riemannian space form with exactly three distinct principal curvatures. We study f-biharmonic and bi-f-harmonic submanifolds in both generalized complex and Sasakian space forms. First, we prove necessary and sufficient condition for f-biharmonicity and bi-f-harmonicity in the general case and then obtained many particular cases. Some non-existence results are also obtained.

## Analysis and Geometry

We have extended the previously known result of Mockenhaupt, Sogge and Seeger to more general class of Fourier integral operators with amplitude functions that depends on the space time variable also. Using a duality argument we provide a simpler proof, and our local smoothing estimate requires only minor decay condition on a few derivatives of the amplitude function, with respect to the space time variables.

We show that Asymptotically harmonic and Einstein manifolds of dimension 4 is either  $RH^4$  or  $CH^2$ . proved that: Asymptotically harmonic manifolds with minimal horospheres are flat. We prove the existence of manifolds with almost maximal volume entropy which are not hyperbolic.

A series of results concerning reproducing kernel Hilbert spaces, related to the factorization of their kernels. In particular, it is proved that for a large class of spaces isometric multipliers are trivial. One also gives for certain spaces conditions for obtaining a particular type of dilation, as well as a classification of Brehmer type submodules.

We also associated a family of Dirichlet spaces with locally finite rooted directed trees. We then studied the unitary equivalence problem of multiplication operators on these spaces.

We have worked on Geometric quantization and have calculated the dimension of the Hilbert space of quantization of Vortex Moduli. We have also quantized Toda systems, described the Hilbert space of quantization, found unitary representations and described coherent states.



## Summary of Research Activities in Physics

The physics division at HRI has five groups - High Energy Physics, Astrophysics, Quantum Information and Computing, Condensed Matter Physics and String Theory. We summarise the work of each group over the past year below:

### High Energy Theory

A number of important contributions have come from this group in the context of new physics search at the Large Hadron Collider (LHC) as well as future proposals of an electron-positron and electron-proton collider experiments. The contributions have been mainly focussed in giving shape to new phenomenological frameworks beyond the Standard Model (BSM) of particle physics that involve extended scalar/gauge sectors, extra spatial dimensions and supersymmetry while proposing new ways of unravelling such scenarios at experiments. The group has made significant efforts in studying new ideas about fundamental physics extracted from the available information on the already discovered Higgs boson and in designing and contributing to new computational toolboxes which would aid and help future studies in the area. The other important aspects of nature such as properties of dark matter and neutrinos and their implications on collider signals has been an equally active area of research of the group members.

The group has produced a good deal of work in the field of neutrino physics. Members of the group are a part of new ambitious experiments planned to decipher the neutrino properties such as the INO and DUNE collaborations, two planned/up-coming neutrino experiments in India and USA, respectively. Significant work has been done by the group to study the phenomenology at these experiments and focus on extracting the standard neutrino parameters. In addition, impact of new physics such as Lorentz and CPT violation as well as non-standard neutrino interactions and sterile neutrinos have also been extensively studied. Efforts have been made to find ways to disentangle the new physics effects from the standard oscillation physics. Several works of the group has focused on proposing new models that explain the observed dark matter density of the universe in BSM extensions. These have been shown to also simultaneously explain the other observational evidence of new physics such as neutrino masses and mixing

and baryon asymmetry of the universe by studying the related phenomenology of these models at neutrino, flavor and collider experiments. Significant work and effort has been devoted in studying indirect signatures of dark matter through observations in neutrino detectors.

## **Astrophysics**

The astrophysics group at HRI consists of one permanent faculty member, two post doctoral fellows and three Ph.D. students (one of the Ph.D. students is being jointly supervised with some permanent faculty member of S. N. Bose National Centre for Basic Science, Kolkata). The group maintains a rigorous visitor programme under which several (junior and senior) members of the other research/teaching institutes from India and abroad visit every year. For last one year, the members of the group have been working in the field of accretion astrophysics, analogue gravity phenomena, non linear perturbation analysis of large scale flow under relativistic gravity, theory of traversable wormhole, theory of relativistic stellar structure, time series analysis of black hole spectra, decay induced amplitude death of a system of coupled Van der Pol Oscillators, Reissner-Nordstrom black hole with cosmological constant in the Friedman-Robertson-Walker universe, aspects of temporal evolution of wealth distribution within and across dynamic propensity domains in a diverse economy, and on black hole shadow imaging. Members of the group are involved, on regular basis, in reviewing papers submitted to international journals, serving as external referee for grant proposals for countries in European Union, serving as the member of the editorial boards of international journals, and examining Ph.D. thesis as well as serving as the external viva voce examiner for various Ph.D. and MS thesis candidates across India.

## **Quantum Information and Computing**

The quantum theory of nature, formalized in the first few decades of the 20th century, contains elements that are fundamentally different from those required in the classical physics description of nature. One of the most prominent features in quantum physics is the existence of quantum correlations between different quantum systems. In the last academic year, the prominent research topics on which the members of the quantum information and computation group at HRI has worked include a review on concepts and methods associated with quantum correlation measures, known

as quantum discord and quantum work-deficit, state-dependent uncertainty relations for product as well the sum of variances of two incompatible observables, monogamy of quantum correlations, quantum absorption refrigerator, static and dynamical behavior of quantum correlations in one-dimensional and two-dimensional spin models, impossibility of hiding quantum information in composite quantum systems from subsystems, behaviour of quantum correlations in open quantum systems. In particular, we have derived an exact canonical master equation of the Lindblad form for a central spin interacting uniformly with a sea of completely unpolarized spins, and in another work, we have shown that bipartite entanglement can be frozen over time with a proper choice of the many-body substrate, which is in contact with one, or more than one environments via a repetitive interaction.

The quantum information and computation group at HRI consists of three faculty members, ten Ph.D. students, five postdoctoral fellows, and two adjunct professors. The group has produced 20 research articles including a review paper on recent developments of quantum correlations and two chapters of two books in the last academic year. The research articles are published in various international journals like Physical Review A, Physical Review B, Physical Review E, New Journal of Physics, Europhysics Letters, etc. One of our research article has been selected as “Highlights in 2016” by Europhysics Letters. Another research article has been highlighted in NATURE ASIA Jan 2017. We have organised an international-level meeting for young scientists (Young Quantum 2016) which include young students and postdoctoral fellows from India and abroad in the field of quantum information and quantum computing. The group has research contacts with several theoretical and experimental groups in different institutes in India and abroad (mainly in Europe, Singapore, China, Canada, and the US). The group members have mentored several students, and have encouraged junior as well as senior scientists as visitors for short research stays from all over India and abroad, as part of their general manpower development program. Member of QIC group has been invited to join as a panelist in the Nobel Prize Series event organized during the Vibrant Gujarat program in the august presence of honorable Prime Minister during January 2017. Members of the group have presented invited lectures in different institutes in India and abroad and have participated several workshops/conferences to present research activities performed by the group, as well as to forge new collaborations.

## Condensed Matter Physics

The condensed matter group has been working on correlated electron systems, topological systems and materials theory using first principles electronic structure methods.

In correlated electron systems, we have been looking at a regime where the electronic excitations are gapped but low energy collective modes emerge and control the thermodynamics and transport. This is relevant to superconductors and Mott systems. In topological systems, we have been working on transport in Weyl semimetals with a focus on junctions with superconductors. We have shown how electron-electron interactions and softening of edge potentials lead to new phases in spin-resolved edge states. We have also been studying driven quantum systems, where shining light on materials leads to new topological phases.

## String Theory

There are four forces in nature - electromagnetism, electroweak, strong and gravity. Quantum mechanical theories (i.e theories valid at very short distance scales) are well understood for the first three. But so far there is no theory which provides a complete quantum mechanical description of the gravitational force; research in this direction is the subject of quantum gravity. String theory is the leading candidate for a theory of quantum gravity. The string theory group at HRI has explored various directions in string theory over the last year.

Just like the massless photons in electromagnetic theory, quantum theories of gravity contain massless particles associated with the excitations of the gravitational field – these are called gravitons. Recent developments have shown that studying scattering processes involving soft gravitons (gravitons with vanishingly low momentum and energy) can be very important in developing a quantum theory of gravity. Processes involving soft gravitons obey certain identities – the soft graviton theorems. Previous attempts to analyse such low momentum limits focussed on specific theories of gravity. At HRI, new techniques have been developed that could be used to prove soft graviton theorem in any quantum theory of gravity including string theory. Unitarity of superstring field theory has been established. Methods of string field theory have been used to develop computational tools in string

perturbation theory. Studies of quantum entanglement motivated by cosmological solutions of string theory have been carried out.

This has revealed some interesting features of entanglement entropy. Tools have been developed to better understand scattering amplitudes and the low energy effective action of string theory. The production of primordial magnetic fields in the context of inflationary models in string theory has been analysed.

## 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 academics and research activities. It remains open on all the working days from 8:00 a.m. to 2:00 a.m. including Saturdays. It also remains open on Sundays and the Gazetted holidays from 10:00 a.m. to 6:00 a.m. During the period from 1st April 2016 to 31st March 2017, it has added 311 (Three hundred and eleven) books including 107 gifted books to its fold, increasing the total number of books to 22112 (Twenty two thousand one hundred and twelve) which includes 1301 gifted books. It has also added 372 bound volumes of the journals, increasing its bound volume collection to 37201 (Thirty seven thousand two hundred one). The Institute's library has total collection of 59313 (Fifty nine thousand three hundred and thirteen) books and bound volumes. The library has subscribed to 153 journals during this period, which includes 99 online journals. The library has subscribed the JSTOR, a digital library of academic journals and Project Euclid, a growing collection of high-impact, peer-reviewed titles in theoretical and applied mathematics and statistics. The library security has been strengthened with the implementation of Electro-Magnetic Gate and Tattle tapes.

The physical stock verification was recently completed with the help of PDT (Portable Data Terminal). The whole collection of documents is 'Bar coded' and equipped with 'Tattle Tapes' for security. It reflected loss of only two titles in the category of books.

We enriched Digital Library Repository of the HRI, which includes submitted articles, thesis, lectures etc. The library Web page has also been updated which provides detailed information about the library such as subscribed databases, archives, library rules, library staff, list of online journals with their links, online link to video lectures and other useful links. The emphasis was to procure maximum number of journals online. LibSys 7 is used as Library Management Software. Web enabled library catalogue has been provided to the users. The library is aiming to be entered as a 'Completely Automated Library System'. The online catalogue has increased the opportunities to use our library resources by the neighbouring organisations such as INSDOC, TIFR, IMSC etc. through the Document Delivery System (DDS). Normally DDS is provided on request by post, or

by email. The use of library has been encouraged by providing the library consultation facilities to the neighbouring Institutes.

## Computer Centre

1. The computing facilities of the Institute are one of the best in the country. It provides the required support to the academics and research activities and to administrative activities. The computing facilities are available to users round the clock i.e 24x7x365.
2. The entire HRI campus is connected with OFC based 1Gbps backbone providing the network and Internet connectivity to each and every office, hostel and guest house helping the scientists and all the other members on campus to work from any place in the campus even during night hours.
3. All the desktops of the faculty, students, post doctoral fellows and visiting fellows were upgraded with the newer version of Linux operating systems.
4. New versions of several applications software 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.
5. All the important packages were upgraded on Mail, Webmail, DNS, SSH, DHCP+DDNS, Proxy, LDAP and Firewall servers for the better, reliable and secure performance. Firewall rules were modified to increase the security level of the servers.
6. Some additional security features were added in the Mail Servers and other External Servers facing the Internet.
7. During the various conferences computer facilities were provided in the conference computer room to all the participants. Adequate computer support were provided to participants of the conferences.
8. Additional computing support was provided to the visiting scientists and visiting students under Visiting Students Programme (VSP) and Summer Programme in Mathematics (SPIM).
9. 10 desktop computers are being purchased for 2<sup>nd</sup> year Ph.D. Students.



All the other students, faculty members, administrative members, project staff and visitors are already having a desktop on their office desks.

**Current activities and plans:**

1. It is planned to further enhance the performance and security level of Mail, Webmail, NFS, LDAP and firewall servers.
2. It is planned to upgrade all the old Desktops of faculty members, students, post doctoral fellows and administrative members, with the two-year time line.
3. It is planned to purchase a colour printer for the computer centre users.
4. It is planned to upgrade the Video Conference System of the main meeting/discussion room of the Institute.

## 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. According to that, HRI fall within this prohibited range. 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 since last four years all major construction activities are almost stopped.

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

- Supply, installations, testing and commissioning of upgraded EPABX system with physical connectivity & configuration”.
- Rainwater harvesting system near Institute building.
- SITC of Video Conferencing System for Conference Hall & New Lecture Hall (HIGGS) of the Library building.
- Providing & fixing of filtration tank & related civil work in swimming pool.
- Modification/Repairing work of watch towers installed near campus boundary wall.
- SITC of intelligent fire alarm system for Computer centre.
- Modification work (Making Platform & to separate cleaning area) in Kitchen area of Guest House.

## **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 on the basis of their 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. The Institute had advertised one post of Scientist 'E'/Fellow 'E' for person with disabilities but no body was found suitable.

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 up to 31<sup>st</sup> March, 2017. The Institute follows the instructions received from DAE time to time pertaining vigilance/security matters.

We have ensured the submission of Annual Property Returns (APRs) of all eligible employees up to 31.12.2016 and they have been scrutinized.

Further, regarding “Declaration of Assets and Liabilities by Public Servants under the Lokayukta Act 2013 for the years 2013-14, 2014-15 & 2015-16, Deptt. Of Personnel and Training has extended the date of submission of all declarations upto 31.12.2016.

# **AUDIT REPORT 2016-17**

## **Audited Balance Sheet**

along with

## **Income & Expenditure Account**

for the year ended on

**31<sup>st</sup> March 2017**



**हरीश-चन्द्र अनुसंधान संस्थान**

(परमाणु ऊर्जा विभाग, भारत सरकार)

छतनाग मार्ग, झुंसी, इलाहाबाद-211 019 (भारत)

**Harish-Chandra Research Institute**

(Department of Atomic Energy, Government of India)

Chhatnag Road, Jhunsi, Allahabad-211 019 (INDIA)

**AMIT OM & Co.**  
CHARTERED ACCOUNTANTS

2<sup>nd</sup> Floor, Dr. Bajaj Building,  
17/23, Tashkand Marg (SP Marg)  
Civil Lines, Allahabad-211 003 (U.P.)  
Ph. No. (0532) 2260 456, 7052952626  
E-mail id: aocald@gmail.com

**AUDITOR'S REPORT**

1. We have audited the attached Balance Sheet of Harish-Chandra Research Institute, Allahabad as at 31<sup>st</sup> March, 2017 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 31<sup>st</sup> March, 2017.
    - 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.

Place: Allahabad  
Date: 06/09/2017

For Amit Om & Co  
Chartered Accountants  
FRN: 011957C

Amit Agarwal  
Partner  
M.No. 400193



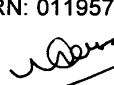
**Annexure "A" to the Auditor's Report**  
(Referred to in paragraph 3 of our Report of even date)

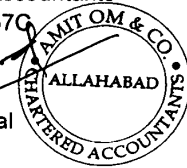
1. An amount of Rs. 4,78,50,030/- has been shown as Capital WIP of which construction has stopped through Hon'ble Allahabad High Court order.
2. Amount recoverable against completed projects shown as claims recoverable. Institute should take necessary steps to recover or write off the following amount :

A. NBHM Grant-K. Gangopadhyay	Since 2007	Rs.47,533.00
B. NBHM Grant-Joseph Samuel	Since 2007	Rs.17,030.00
C. NBHM Fellowships	Since 2009	Rs. 1,85,867.00
D. HNB Garhwal University	Since 2010	Rs. 40,000.00
3. Balance of EMD, Security Deposits, Sundry Creditor, Loan & Advances and Claims Recoverable etc. are subject to confirmation, Reconciliation and consequential adjustments thereof.
4. Physical verification of Fixed Assets is being carried out by the Institute. The quantity and value reconciliation with fixed assets register for all the items is in progress therefore we are unable to comment that financial records are in agreement with assets as recorded in fixed assets register.
5. Compliance with provisions of TDS deduction u/s 194J and u/s 195 of the Income Tax Act, in respect of payments made towards e-journals and books to suppliers, has not been made during the year 2016-17.
6. Previous Year's figures have been regrouped or rearranged wherever necessary.

Place: Allahabad  
Date: 06/09/2017

For Amit Om & Co  
Chartered Accountants  
FRN: 011957G

  
Amit Agarwal  
Partner  
M.No. 400193



**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**BALANCE SHEET AS AT 31<sup>st</sup> MARCH, 2017**

(Amount - Rs.)

	Schedule	Current Year	Previous Year
<b><u>CORPUS / CAPITAL FUND AND LIABILITIES</u></b>			
CORPUS / CAPITAL FUND	1	7,47,48,140.89	10,67,06,493.05
RESERVES AND SURPLUS	2	1,54,46,347.00	1,54,46,347.00
EARMARKED / ENDOWMENT FUNDS	3	10,40,30,341.00	5,44,58,788.00
SECURED LOANS AND BORROWINGS	4	0.00	0.00
UNSECURED LOANS AND BORROWINGS	5	97,88,702.50	1,01,99,361.50
DEFERRED CREDIT LIABILITIES	6	0.00	0.00
CURRENT LIABILITIES AND PROVISIONS	7	36,26,49,783.72	27,79,24,480.43
<b>TOTAL</b>		<b>56,66,63,315.11</b>	<b>46,47,35,469.98</b>
<b><u>ASSETS</u></b>			
FIXED ASSETS	8	18,54,57,612.28	18,31,61,350.60
INVESTMENTS - FROM EARMARKED / ENDOWMENT FUNDS	9	5,57,00,000.00	5,57,00,000.00
INVESTMENTS - OTHERS	10	8,45,25,113.00	95,83,784.00
CURRENT ASSETS, LOANS, ADVANCES ETC.	11	23,62,17,332.03	20,99,39,324.98
MISCELLANEOUS EXPENDITURE (Composite work of Power Line) (to the extent not written off or adjusted)		47,63,257.80	63,51,010.40
<b>TOTAL</b>		<b>56,66,63,315.11</b>	<b>46,47,35,469.98</b>
SIGNIFICANT ACCOUNTING POLICIES	24		

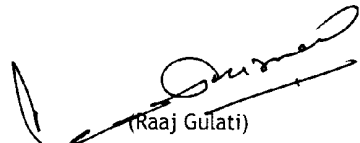
As per our separate report of even date attached

For HARISH-CHANDRA RESEARCH INSTITUTE, ALLAHABAD

For M/s Amit Om & Co.  
Chartered Accountants

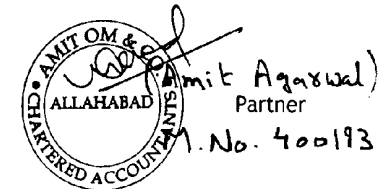
Date: 30-08-17  
Place: Allahabad



  
(Raaj Gulati)  
Accounts Officer

  
(Ravindra Singh)  
Registrar

  
(Pinaki Majumdar)  
Director



06 SEP 2017



**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE PERIOD 01-04-16 TO 31-03-17**

(Amount - Rs.)

<b>INCOME</b>	<b>Schedule</b>	<b>Current Year</b>	<b>Previous Year</b>
Income from Sales / Services	12	51,29,536.75	48,92,688.00
Grants / Subsidies	13	30,14,97,000.00	25,14,00,000.00
Fees / Subscriptions	14	0.00	0.00
Income from Investments (Income on Invest. From earmarked / endow. Funds transferred to Funds)	15	0.00	0.00
Income from Royalty, Publication etc.	16	0.00	0.00
Interest Earned	17	99,53,822.00	10,12,014.00
Other Income	18	21,36,320.00	23,08,535.00
Increase / (Decrease) in stock of Finished goods and works-in-progress	19	0.00	0.00
<b>TOTAL (A)</b>		<b>31,87,16,678.75</b>	<b>25,96,13,237.00</b>
<b>EXPENDITURE</b>			
Establishment Expenses	20	18,30,04,818.00	14,32,23,137.00
Other Administrative Expenses etc.	21	11,30,78,676.71	10,39,16,588.42
Expenditure on Grants, Subsidies etc.	22	0.00	0.00
Interest	23	0.00	0.00
Depreciation (Net Total at the year-end - Corresponding to Schedule 8)		5,89,12,116.49	3,84,85,328.75
<b>TOTAL (B)</b>		<b>35,49,95,611.20</b>	<b>28,56,25,054.17</b>
<b>Balance being excess of Income over Expenditure (A-B)</b>		<b>-3,62,78,932.45</b>	<b>-2,60,11,817.17</b>
Transfer to Reserve / Provisions			
Deferred Revenue Expenses - 33KVA Powerline		-15,87,752.60	-15,87,752.60
Provision for Retirement Benefits		-3,46,50,953.00	-29,48,946.00
Transfer to / from General Fund		-54,13,505.29	-42,60,274.58
<b>BALANCE BEING SURPLUS / (DEFICIT) CARRIED TO CORPUS / CAPITAL FUND</b>		<b>-7,79,31,143.34</b>	<b>-3,48,08,790.35</b>
SIGNIFICANT ACCOUNTING POLICIES	24		

As per our separate report of even date attached

For HARISH-CHANDRA RESEARCH INSTITUTE, ALLAHABAD

For M/s Amit Om & Co.

Chartered Accountants

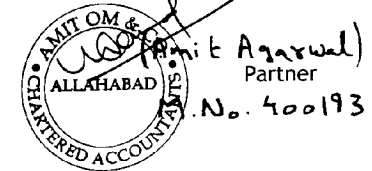
Date: 30-08-17  
Place: Allahabad



*(Signature)*  
(Baa Gulati)  
Accounts Officer

*(Signature)*  
(Ravindra Singh)  
Registrar

*(Signature)*  
(Pinaki Majumdar)  
Director



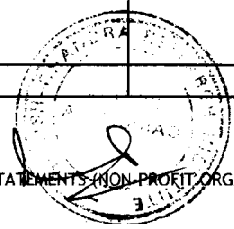
06 SEP 2017

**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31<sup>ST</sup> MARCH, 2017**

(Amount - Rs.)

<b>SCHEDULE 1 - CORPUS / CAPITAL FUND:</b>	Current Year		Previous Year	
	Balance as at the beginning of the year		1,24,45,843.44	
Add: Contributions towards Corpus / Capital Fund		6,23,02,297.45		10,27,86,607.78
Capitalization of assets from Grants	6,16,91,046.17		3,59,58,229.00	
DAE - XII Plan Grants Receipts	28,14,72,000.00		23,86,72,000.00	
DAE - XII Plan Grants Utilizations	-20,02,23,878.80		-14,01,51,075.81	
Receipts & Additions to Fund	17,14,281.00		45,08,287.00	
Expenses / Adjustments of earlier years	-44,20,007.58		-13,92,042.06	
Deduct: Balance of net income / (expenditure) transferred from the Income and Expenditure Account	-7,79,31,143.34		-3,48,08,790.35	
<b>BALANCE AS AT THE YEAR - END</b>		<b>7,47,48,140.89</b>		<b>10,67,06,493.05</b>

<b>SCHEDULE 2 - RESERVES AND SURPLUS:</b>	Current Year		Previous Year	
	<b>1. Capital Reserve:</b>		0.00	
As per last Account				
Addition during the year				
Less: Deductions during the year				
<b>2. Revaluation Reserve:</b>		0.00		0.00
As per last Account				
Addition during the year				
Less: Deductions during the year				
<b>3. Special Reserve:</b>		1,54,46,347.00		1,54,46,347.00
As per last Account	1,54,46,347.00		0.00	
Addition during the year	0.00		1,54,46,347.00	
Less: Deductions during the year	0.00		0.00	
<b>4. General Reserve:</b>		0.00		0.00
As per last Account				
Addition during the year				
Less: Deductions during the year				
<b>TOTAL</b>		<b>1,54,46,347.00</b>		<b>1,54,46,347.00</b>



FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)

**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31<sup>st</sup> MARCH, 2017**

(Amount - Rs.)

<b>SCHEDULE 3 - EARMARKED / ENDOWMENT FUNDS</b>	<b>FUND - WISE BREAK UP</b>					<b>TOTALS</b>	
	Harish-Chandra Memorial Award	Infosys Foundation Fund	Infosys Chair Professorship Fund	Shamik Banerjee Memorial Award	Sutapa Sen Memorial Award	Current Year	Previous Year
<b>a) Opening balance of the funds</b>	10,25,248	5,11,27,077	0	10,22,313	12,84,150	5,44,58,788	10,16,461
<b>b) Additions to the Funds:</b>	87,500	37,83,252	5,00,00,000	77,500	1,02,000	5,40,50,252	5,36,54,209
i. Donations / grants	0	0	5,00,00,000	0	0	5,00,00,000	5,22,00,000
ii. Income from Investments made on account of funds	87,500	37,83,252	0	77,500	1,02,000	40,50,252	14,54,209
iii. Other additions (specify nature)	0	0	0	0	0	0	0
<b>TOTAL (a+b)</b>	<b>11,12,748</b>	<b>5,49,10,329</b>	<b>5,00,00,000</b>	<b>10,99,813</b>	<b>13,86,150</b>	<b>10,85,09,040</b>	<b>5,46,70,670</b>
<b>c) Utilisation / Expenditure towards objectives of funds</b>	92,748	43,38,326	0	7,752	39,873	44,78,699	2,11,882
<b>i. Capital Expenditure</b>							
▶ Fixed Assets	0	0	0	0	0	0	0
▶ Others	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	0	0	0
<b>ii. Revenue Expenditure</b>							
▶ Salaries, Wages and allowances etc.	84,000	39,60,000	0	0	29,673	40,73,673	50,000
▶ Rent	0	0	0	0	0	0	0
▶ Other Administrative expenses	0	0	0	0	0	0	0
▶ TDS deducted on Deposits by Banks	8,748	3,78,326	0	7,752	10,200	4,05,026	1,61,882
<b>Total</b>	92,748	43,38,326	0	7,752	39,873	44,78,699	2,11,882
<b>TOTAL (c)</b>	<b>92,748</b>	<b>43,38,326</b>	<b>0</b>	<b>7,752</b>	<b>39,873</b>	<b>44,78,699</b>	<b>2,11,882</b>
<b>NET BALANCE AS AT THE YEAR-END (a + b - c)</b>	<b>10,20,000</b>	<b>5,05,72,003</b>	<b>5,00,00,000</b>	<b>10,92,061</b>	<b>13,46,277</b>	<b>10,40,30,341</b>	<b>5,44,58,788</b>



**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31<sup>ST</sup> MARCH, 2017**

(Amount - Rs.)

<b>SCHEDULE 4 - SECURED LOANS AND BORROWINGS:</b>	Current Year		Previous Year	
1. Central Government		0.00		0.00
2. State Government (Specify)				0.00
3. Financial Institutions		0.00		0.00
a) Term Loans				
b) Interest accrued and due				
4. Banks:		0.00		0.00
a) Term Loans				
▶ Interest accrued and due				
b) Other Loans (specify)				
▶ Interest accrued and due				
5. Other Institutions and Agencies		0.00		0.00
6. Debentures and Bonds		0.00		0.00
7. Others (Specify)		0.00		0.00
<b>TOTAL</b>		<b>0.00</b>		<b>0.00</b>



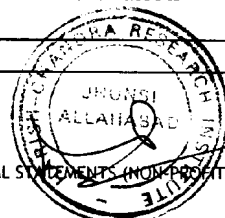
FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)

**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31<sup>ST</sup> MARCH, 2017**

(Amount - Rs.)

<b>SCHEDULE 5 - UNSECURED LOANS AND BORROWINGS:</b>	<b>Current Year</b>	<b>Previous Year</b>
1. Central Government	0.00	0.00
2. State Government (Specify)	0.00	0.00
3. Financial Institutions	0.00	0.00
4. Banks:		
a) Term Loans	0.00	0.00
b) Other Loans (specify)	0.00	0.00
5. Other Institutions and Agencies		
DST Projects	15,04,137.50	16,34,060.50
NBHM Projects	9,21,989.00	11,96,221.00
Swarna Jayanti Fellowships	2,50,277.00	2,50,277.00
Grant From Infosys Foundation	30,20,588.00	31,49,727.00
Contract for Acquisition of Research Services-DRDO	9,35,528.00	0.00
Inspire Faculty Award		
Inspire Faculty Award-R.Prabhu	0.00	5,12,163.00
Inspire Faculty - Pratishruti Saha	6,15,051.00	10,51,879.00
Inspire Faculty - Umesh Vanktesh Dubey	5,72,548.00	0.00
JC Bose Fellowship to Dr.Ashoke Sen	0.00	13,47,461.00
Ramanujan Fellowship-Dr.Anshuman Maharana	7,97,798.00	2,79,405.00
CSIR	7,09,044.00	2,76,343.00
CEFIPRA Research Project	42,767.00	0.00
Science Education Program-Indian National Science Academy	24,850.00	24,850.00
TPSC Fund	38,643.00	38,643.00
IFCPAR Research Project (TP Pareek)	3,55,482.00	4,38,332.00
6. Debentures and Bonds	0.00	0.00
7. Fixed Deposits	0.00	0.00
8. Others (Specify)	0.00	0.00
<b>TOTAL</b>	<b>97,88,702.50</b>	<b>1,01,99,361.50</b>

<b>SCHEDULE 6 - DEFERRED CREDIT LIABILITIES:</b>	<b>Current Year</b>	<b>Previous Year</b>
a) Acceptances secured by hypothecation of capital equipment and other assets	0.00	0.00
b) Others	0.00	0.00
<b>TOTAL</b>	<b>0.00</b>	<b>0.00</b>

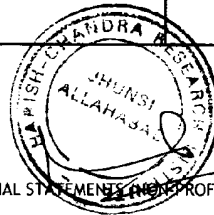


FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)

**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31<sup>st</sup> MARCH, 2017**

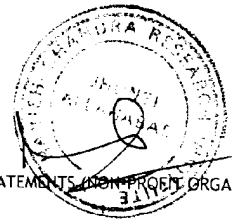
(Amount - Rs.)

<b>SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS</b>	<b>Current Year</b>		<b>Previous Year</b>	
<b>A. CURRENT LIABILITIES</b>				
1. Acceptances		3,00,03,538.00		0.00
Undisbursed Pay & Allowance (7CPC Pension Arrear)	1,51,18,380.00			
Undisbursed Pay & Allowance (7CPC PRIS Arrear)	1,48,85,158.00			
2. Sundry Creditors:				
a) For Goods		0.00		0.00
b) Others		4,75,47,522.45		3,39,41,817.45
Staff Accounts	73,05,948.80		20,16,486.80	
Parties Accounts	1,10,82,200.75		67,48,617.75	
Bills Payable	1,96,62,133.00		1,64,40,704.00	
Earnest Money Deposits	48,25,732.00		35,92,646.00	
Security Deposits	27,74,351.00		34,49,894.00	
Unclaimed bills, Sec & Earnest money & Others	18,97,156.90		16,93,468.90	
3. Advances Received		0.00		0.00
4. Interest accrued but not due on:				
a) Secured Loans / borrowings		0.00		0.00
b) Unsecured Loans / borrowings		0.00		0.00
5. Statutory Liabilities:				
a) Overdue		0.00		0.00
b) Others		39,46,762.40		34,63,857.40
Group Insurance Contribution	8,429.00		9,214.00	
HRI-PF Control A/c	20,72,867.40		21,50,115.40	
NPS-Control A/c	16,79,661.00		12,76,123.00	
NPS-Employees Contribution	28,405.00		28,405.00	
TDS deducted at source-Parties	89,519.00		0.00	
TDS deducted at source-Staff	67,881.00		0.00	



FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)

SCHEDULE 7 - CURRENT LIABILITIES AND PROVISIONS	Current Year		Previous Year	
6. Other current Liabilities		5,68,497.00		0.00
Rajesh Gopakumar (L.S.P.S. Contribution)	2,67,864.00			
Rukmini Dey (L.S.P.S. Contribution)	2,30,110.00			
VR Tiwari (L.S.P.S. Contribution)	70,523.00			
7. Unutilized DAE Grants Recurring (Non-Plan)		96,73,779.87		42,60,274.58
Grant-in-aid released during the year	30,14,97,000.00		25,14,00,000.00	
Add: Unutilized balance of Grants as on 01st April	42,60,274.58		0.00	
Less: Amount Utilized for Establishment Expenses	-18,30,04,818.00		-14,32,23,137.00	
Less: Amount Utilized for Administrative Expenses	-11,30,78,676.71		-10,39,16,588.42	
<b>TOTAL (A)</b>		<b>9,17,40,099.72</b>		<b>4,16,65,949.43</b>
<b>B. PROVISIONS</b>				
1. For Taxation		23,000.00		22,800.00
Audit Fee Payable	23,000.00		22,800.00	
2. Gratuity		5,79,82,316.00		3,59,98,140.00
3. Superannuation / Pension		15,39,41,474.00		15,39,41,474.00
4. Accumulated Leave Encashment		5,89,62,894.00		4,62,96,117.00
5. Trade Warranties / Claims		0.00		0.00
6. Others (Specify)		0.00		0.00
<b>TOTAL (B)</b>		<b>27,09,09,684.00</b>		<b>23,62,58,531.00</b>
<b>TOTAL (A + B)</b>		<b>36,26,49,783.72</b>		<b>27,79,24,480.43</b>

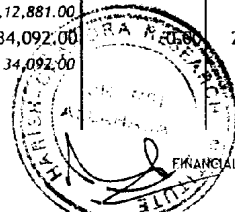


FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)

**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31<sup>st</sup> MARCH, 2017**

(Amount - Rs.)

<b>SCHEDULE 8 - FIXED ASSETS</b>										
<b>DESCRIPTION</b>	<b>GROSS BLOCK</b>				<b>DEPRECIATION</b>				<b>NET BLOCK</b>	
	<b>Cost / valuation As at beginning of the year</b>	<b>Additions during the year</b>	<b>Deductions during the year</b>	<b>Cost / valuation at the year-end</b>	<b>As at the beginning of the year</b>	<b>On Additions during the year</b>	<b>On Deductions during the year</b>	<b>Total up to the Year-end</b>	<b>As at the Current year-end</b>	<b>As at the Previous year-end</b>
<b>A. FIXED ASSETS:</b>										
1. <b>LAND:</b>	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00
a) Freehold										
b) Leasehold										
2. <b>BUILDINGS:</b>	15,74,01,476.85	0.00	0.00	15,74,01,476.85	12,07,66,601.97	36,63,487.49	0.00	12,44,30,089.46	3,29,71,387.39	3,66,34,874.88
a) On Freehold Land	15,74,01,476.85	0.00	0.00	15,74,01,476.85	12,07,66,601.97	36,63,487.49	0.00	12,44,30,089.46	3,29,71,387.39	3,66,34,874.88
b) On Leasehold Land										
c) Ownership Flats/Premises										
d) Superstructures on Land not belonging to the entity										
3. <b>PLANT MACHINERY &amp; EQUIPMENT</b>	3,09,11,083.61	24,98,413.00	6,20,706.00	3,27,88,790.61	2,32,92,298.40	14,24,473.83	-4,52,422.00	2,42,64,350.23	85,24,440.38	76,18,785.21
AC & Stabilizers	1,59,01,536.60	4,27,640.00	6,20,706.00	1,57,08,470.60	1,16,42,390.90	6,09,911.96	-4,52,422.00	1,17,99,880.85	39,08,589.75	42,59,145.70
Elevator	8,85,000.00	19,55,000.00		28,40,000.00	8,07,691.51	3,04,846.27		11,12,537.79	17,27,462.21	77,308.49
Fire Alarm System	7,41,872.00	1,15,773.00		8,57,645.00	5,51,227.49	45,962.63		5,97,190.12	2,60,454.88	1,90,644.51
Fire Extinguishers	4,88,708.00			4,88,708.00	3,50,574.01	20,720.10		3,71,294.11	1,17,413.89	1,38,133.99
Generator Sets	1,00,20,602.30			1,00,20,602.30	72,79,106.53	4,11,224.37		76,90,330.90	23,30,271.40	27,41,495.77
Telescope	27,31,044.00			27,31,044.00	25,23,676.10	31,105.19		25,54,781.28	1,76,262.72	2,07,367.90
Scientific Equipments	1,42,320.71			1,42,320.71	1,37,631.86	703.33		1,38,335.19	3,985.52	4,688.85
4. <b>VEHICLES</b>	5,08,165.00	0.00	0.00	5,08,165.00	4,75,314.29	4,927.61	0.00	4,80,241.90	27,923.10	32,850.71
Car-Maruti	4,79,417.00			4,79,417.00	4,53,632.07	3,867.74		4,57,499.81	21,917.19	25,784.93
Bicycles & Rickshaw Trolley	28,748.00			28,748.00	21,682.22	1,059.87		22,742.09	6,005.91	7,065.78
5. <b>FURNITURE, FIXTURES</b>	2,52,58,826.23	-15,78,746.00	0.00	2,36,80,080.23	1,60,82,161.17	7,59,791.91	1,71,663.00	1,70,13,616.08	66,66,464.15	91,76,665.06
Furniture & Fixture-Office.	2,43,14,204.81	-15,78,746.00		2,27,35,458.81	1,54,92,390.26	7,24,306.86	1,71,663.00	1,63,88,360.11	63,47,098.70	88,21,814.55
Furniture & Fixture-Guest House	9,44,621.42			9,44,621.42	5,89,770.91	35,485.05		6,25,255.96	3,19,365.46	3,54,850.51
6. <b>OFFICE EQUIPMENT</b>	69,85,280.25	36,29,620.00	7,33,511.00	98,81,389.25	50,07,466.54	7,31,088.41	-6,49,221.00	50,89,333.95	47,92,055.30	19,77,813.71
Electronic Typewriter	1,74,422.25			1,74,422.25	1,30,205.38	6,632.53		1,36,837.91	37,584.34	44,216.87
Fax Machine	8,120.00			8,120.00	5,907.37	331.89		6,239.27	1,880.73	2,212.63
Projector	23,38,236.00	18,320.00		23,56,556.00	14,44,817.70	1,36,760.74		15,81,578.45	7,74,977.55	8,93,418.30
Xerox Machine	28,01,317.00	1,21,300.00	2,38,989.00	26,83,628.00	20,07,818.97	1,01,371.36	-1,73,866.00	19,35,324.32	7,48,303.68	7,93,498.04
Telephone Equipments & Appt.	16,63,185.00	34,90,000.00	4,94,522.00	46,58,663.00	14,18,717.13	4,85,991.88	-4,75,355.00	14,29,354.01	32,29,308.99	2,44,467.88
7. <b>COMPUTER / PERIPHERALS</b>	26,25,35,854.90	3,50,13,308.00	70,895.00	29,74,78,267.90	24,14,66,414.50	3,36,07,112.04	-70,808.00	27,50,02,718.54	2,24,75,549.36	2,10,69,440.40
Cluster Computer - Xth Plan	2,15,73,474.00			2,15,73,474.00	2,15,47,936.53	15,322.48		2,15,63,259.01	10,214.99	25,537.47
Cluster Computer - Xlth Plan	4,06,84,085.00			4,06,84,085.00	3,33,87,801.86	43,77,769.88		3,77,65,571.75	29,18,513.25	72,96,283.14
Computers & Peripherals	16,42,35,010.60	3,25,26,427.00	5,475.00	19,67,55,962.60	15,27,22,303.99	2,64,20,195.16	-5,471.00	17,91,37,028.16	1,76,18,934.44	1,15,12,706.61
U.P.S. & Batteries	1,99,84,873.80	74,000.00	65,420.00	1,99,93,453.80	1,91,60,882.96	4,99,542.50	-65,337.00	1,95,95,088.46	3,98,365.34	8,23,990.84
Software	1,60,58,411.50	24,12,881.00		1,84,71,292.50	1,46,47,489.16	22,94,282.00		1,69,41,771.16	15,29,521.34	14,10,922.34
8. <b>ELECTRIC INSTALLATIONS</b>	2,59,41,726.56	34,092.00		2,59,75,818.56	1,87,12,388.75	7,33,157.02	0.00	1,94,45,545.77	65,30,272.79	72,29,337.81
Electrical Fittings	2,45,73,828.51	34,092.00		2,46,07,920.51	1,74,80,527.89	7,12,739.26		1,81,93,267.15	64,14,653.36	70,93,300.62
Solar lights	5,33,349.00			5,33,349.00	5,33,330.26	14.99		5,33,345.25	3.75	18.74
Geysers	8,34,549.05			8,34,549.05	6,98,530.60	20,402.77		7,18,933.36	1,15,615.69	1,36,018.45



FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)



SCHEDULE 8 - FIXED ASSETS										
DESCRIPTION	GROSS BLOCK				DEPRECIATION				NET BLOCK	
	Cost / valuation As at beginning of the year	Additions during the year	Deductions during the year	Cost / valuation at the year-end	As at the beginning of the year	On Additions during the year	On Deductions during the year	Total up to the Year-end	As at the Current year-end	As at the Previous year-end
9. LIBRARY BOOKS	25,68,74,783.92	2,10,47,722.17	0.00	27,79,22,506.09	20,81,66,914.80	1,74,38,897.82	0.00	22,56,05,812.62	5,23,16,693.47	4,87,07,869.13
<i>Back Vol. Of Journal</i>	12,48,22,919.00	2,00,87,342.17		14,49,10,261.17	9,22,38,009.61	1,31,68,062.89		10,54,06,072.50	3,95,04,188.67	3,25,84,909.39
<i>Books &amp; Journal</i>	13,20,51,864.92	9,60,380.00		13,30,12,244.92	11,59,28,905.18	42,70,834.93		12,01,99,740.12	1,28,12,504.80	1,61,22,959.74
10. TUBEWELLS & W.SUPPLY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11. OTHER FIXED ASSETS	1,06,53,574.62	10,46,637.00	3,25,185.00	1,13,75,026.62	77,89,891.92	5,49,180.37	-2,66,841.00	80,72,231.29	33,02,795.33	28,63,682.70
<i>Coolers</i>	11,02,686.00			11,02,686.00	8,16,744.60	42,891.21		8,59,635.81	2,43,050.19	2,85,941.40
<i>Kitchen Equipments</i>	14,06,292.00	28,389.00		14,34,681.00	10,54,028.91	57,097.81		11,11,126.73	3,23,554.27	3,52,263.09
<i>Refrigerators</i>	9,25,977.80			9,25,977.80	5,67,468.68	53,776.37		6,21,245.05	3,04,732.75	3,58,509.12
<i>Television</i>	4,10,448.70			4,10,448.70	3,51,102.67	8,901.90		3,60,004.57	50,444.13	59,346.03
<i>Room Heaters</i>	2,11,843.98			2,11,843.98	1,65,535.95	6,946.20		1,72,482.16	39,361.82	46,308.03
<i>Washing Machine</i>	4,59,010.00	14,275.00	37,400.00	4,35,885.00	2,41,395.43	29,173.44	-24,706.00	2,45,862.87	1,90,022.13	2,17,614.57
<i>Water Filter &amp; Aqua guards</i>	7,70,088.00	11,999.00	43,840.00	7,38,247.00	5,17,833.84	33,061.97	-24,388.00	5,26,507.81	2,11,739.19	2,52,254.16
<i>Bar Coding &amp; Security Equip.</i>	12,73,870.00			12,73,870.00	11,59,768.33	28,525.42		11,88,293.75	85,576.25	1,14,101.67
<i>Audio/ Video Equipemnts</i>	20,46,198.00	9,38,035.00	2,43,945.00	27,40,288.00	13,22,966.28	2,12,598.26	-2,17,747.00	13,17,817.54	14,22,470.46	7,23,231.72
<i>Tullu Pump</i>	1,75,585.44			1,75,585.44	1,32,758.16	6,424.09		1,39,182.25	36,403.19	42,827.28
<i>Gym. Equipments</i>	2,38,873.00			2,38,873.00	1,38,009.95	15,129.46		1,53,139.41	85,733.59	1,00,863.05
<i>Health Center Equipment</i>	2,99,569.00	45,000.00		3,44,569.00	2,01,734.51	21,425.17		2,23,159.68	1,21,409.32	97,834.49
<i>Misc. Equipments</i>	13,33,132.70	8,939.00		13,42,071.70	11,20,544.60	33,229.07		11,53,773.67	1,88,298.04	2,12,588.10
<b>TOTAL OF CURRENT YEAR</b>	<b>77,70,70,772.94</b>	<b>6,16,91,046.17</b>	<b>17,50,297.00</b>	<b>83,70,11,522.11</b>	<b>64,17,59,452.34</b>	<b>5,89,12,116.49</b>	<b>-12,67,629.00</b>	<b>69,94,03,939.83</b>	<b>13,76,07,582.28</b>	<b>13,53,11,320.60</b>
<b>PREVIOUS YEAR</b>										
<b>B. CAPITAL WORK-IN-PROGRESS</b>										
Admin Building under Construction	Hon'ble High Court of Allahabad, UP Stay on constructions near Ganga river. Construction is held up.								85,45,811.81	85,45,811.81
Community Centre Annexe under Construction									37,01,880.31	37,01,880.31
Engineering Section Building under Construction									87,80,508.98	87,80,508.98
Hostel Building under Construction									2,68,21,828.90	2,68,21,828.90
<b>TOTAL</b>								<b>18,54,57,612.28</b>	<b>18,31,61,350.60</b>	



**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31<sup>ST</sup> MARCH, 2017**

(Amount - Rs.)

<b>SCHEDULE 9 - INVESTMENTS FROM EARMARKED / ENDOWMENT FUNDS</b>	<b>Current Year</b>	<b>Previous Year</b>
1. In Government Securities		
FDR with BoB (Harish Chandra Memorial Award)	10,00,000.00	10,00,000.00
FDR with BoB (Infosys Foundation Fund)	5,00,00,000.00	5,00,00,000.00
FDR with BoB (Infosys Fund)	25,00,000.00	25,00,000.00
FDR with BoB (Shamik Banerjee Memorial Award)	10,00,000.00	10,00,000.00
FDR with BoB (Sutapa Sen Memorial Award)	12,00,000.00	12,00,000.00
2. Other approved Securities	0.00	0.00
3. Shares	0.00	0.00
4. Debentures and Bonds	0.00	0.00
5. Subsidiaries and Joint Ventures	0.00	0.00
6. Others (to be specified)	0.00	0.00
<b>TOTAL</b>	<b>5,57,00,000.00</b>	<b>5,57,00,000.00</b>

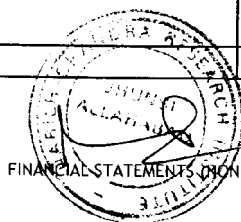
<b>SCHEDULE 10 - INVESTMENT - OTHERS</b>	<b>Current Year</b>	<b>Previous Year</b>
1. In Government Securities	0.00	0.00
FDR with SBI (Mehta Group)	22,39,187.00	22,39,187.00
Short Term Deposits with BoB	8,22,85,926.00	73,44,597.00
2. Other approved Securities	0.00	0.00
3. Shares	0.00	0.00
4. Debentures and Bonds	0.00	0.00
5. Subsidiaries and Joint Ventures	0.00	0.00
6. Others (to be specified)	0.00	0.00
<b>TOTAL</b>	<b>8,45,25,113.00</b>	<b>95,83,784.00</b>



**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31<sup>ST</sup> MARCH, 2017**

(Amount - Rs.)

<b>SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC.</b>	<b>Current Year</b>		<b>Previous Year</b>	
<b>A. CURRENT ASSETS:</b>				
1. <u>Inventories:</u>				
a) Stores and Spares		0.00		0.00
b) Loose Tools		0.00		0.00
c) Stock-in-trade		0.00		0.00
Finished Goods	0.00		0.00	
Work-in-progress	0.00		0.00	
Raw Materials	0.00		0.00	
2. <u>Sundry Debtors:</u>				
a) Debts Outstanding for a period exceeding six months		0.00		0.00
3. <u>Cash balances in hand</u> (including cheques / drafts and imprest)		6,055.00		76,858.00
Cash in hand	6,055.00		76,858.00	
4. <u>Bank Balances:</u>				
a) <u>With Scheduled Banks:</u>		19,80,76,677.24		17,88,57,011.02
On Current Accounts				
S.B.I. (M.B.) Current A/c	7,22,459.47		7,23,091.97	
On Deposit Accounts (includes margin money)	0.00		0.00	
On Savings Accounts				
Bank of Baroda - 30070100006893 (A/c 101)	10,78,51,135.53		4,75,76,336.43	
Bank of Baroda - 30070100006902 (A/c 102)	1,38,28,577.00		11,03,35,049.89	
Bank of Baroda - 30070100011078 (A/c 108)	1,94,44,991.64		1,39,63,414.88	
Bank of Baroda - 30070100011079 (A/c 109)	30,07,169.85		32,08,519.85	
HRI Endowments Account - 30070100015151	5,09,79,448.75		12,85,210.00	
NPS-Bank Account - 30070100012526	22,42,895.00		17,65,388.00	
b) <u>With non-Scheduled Banks:</u>				
On Current Accounts				
On Deposit Accounts (includes margin money)				
On Savings Accounts				
5. Post Office-Savings Accounts		0.00		0.00
<b>TOTAL (A)</b>		<b>19,80,82,732.24</b>		<b>17,89,33,869.02</b>

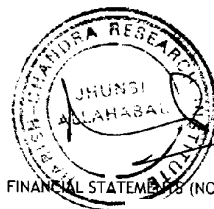


SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)	Current Year		Previous Year	
<b>B. LOANS, ADVANCES AND OTHER ASSETS</b>				
1. <u>Loans:</u>				
a) Staff				
b) Other Entities engaged in activities / objectives similar to that of the Entity				
c) Other (specify)				
2. <u>Advances and other amounts recoverable in cash or in kind or for value to be received:</u>				
a) On Capital Account				
b) Prepayments				
Advances for Journals		2,35,69,293.00		2,10,14,666.17
Allahabad Mathematical Society (Adv)	9,250.00		5,950.00	
Alliance Books Suppliers (Pvt) Ltd (Adv)	1,60,915.00		1,01,369.00	
Allied Pub.Subs.Agency (Adv)	51,53,205.00		11,69,913.00	
Calcutta Mathematical Society (Adv)	3,250.00		2,750.00	
Cyber Media (India) Ltd (Adv)	3,275.00		3,575.00	
D.S. Information Services Pvt. Ltd (Adv)	17,10,904.22		15,12,056.22	
D.S. Subscription Agency (Adv)	11,13,004.00		10,52,347.00	
Duke University Press (Adv)	91,818.00		1,70,389.00	
Globe Publications. N.Delhi (Adv)	19,85,943.38		15,22,005.19	
IGroup Infotech India Pvt Ltd (Adv)	2,50,085.00		2,08,403.00	
Indian Academy of Science (Adv)	7,800.00		6,483.00	
Indian Mathematical Society (Adv)	1,000.00		1,000.00	
Institute of Mathematical Sciences (Adv)	14,722.00		14,722.00	
Institute of Physics Publishing Ltd (Adv)	17,34,348.00		16,66,561.08	
International Subscription Agency (Adv)	71,71,405.84		97,90,657.84	
IO Technologies and Services P Ltd (Adv)	6,000.00		0.00	
Lakshmi Periodicals & Books Pvt Ltd (Adv)	8,32,853.88		9,99,779.05	
Macmillan Publishers Ltd (Adv)	1,75,278.00		0.00	
M/s JSTOR USA (Adv)	21,190.00		39,531.00	
Narosa Information Services (Adv)	17,87,012.00		13,56,312.11	
Nature Publishing Group (Adv)	0.00		1,98,977.00	
The Institute of Mathematics (Polish Academy of Sci.) (Adv)	70,006.00		73,570.00	
Total I.T. Solution (Adv)	12,66,027.68		11,18,315.68	

SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.) B. <u>LOANS, ADVANCES AND OTHER ASSETS (Contd.)</u>	Current Year		Previous Year	
c) Others				
Abroad Travel Advance		7,44,325.00		1,68,038.00
Travel Advance		1,47,356.00		1,19,836.00
LTC Advance		23,000.00		34,655.00
Hemangi Madhusudan Shah (LTC Adv)	0.00		34,655.00	
J. Yadav (LTC Adv)	23,000.00		0.00	
Festival Advance		5,850.00		40,950.00
Medical Advance		0.00		1,00,000.00
Seema Agarwal (Medical Adv.)	0.00		1,00,000.00	
Vehicle Advance		45,721.00		63,012.00
Kamta Prasad (Motor Cycle Adv)	0.00		6,000.00	
R.P.Sharma (Vehicle Adv. )	22,500.00		28,500.00	
Sanjeev Nagar ( Vehicle Adv )	0.00		6,000.00	
V.P.Tiwari(Vehcle Adv.)	20,172.00		20,172.00	
Interest Accrued on Loans-Vehicle	3,049.00		2,340.00	
Deposits (Asset)		75,88,669.67		63,56,383.67
Fixed Deposits-Securities(in Hand)	46,84,989.00		34,52,703.00	
Security With Balmer Lawrie & Co. Ltd.	25,000.00		25,000.00	
Security With Gas Service	39,900.00		39,900.00	
Security With Telephone Deptt.	2,64,580.67		2,64,580.67	
Security With UPSEB	25,74,200.00		25,74,200.00	
d) Postage in Hand (Franking Machine)		2,286.12		79.12
3. <u>Income Accrued:</u>				
a) On Investments from Earmarked / Endowment Funds				
b) On Investments - Others		44,39,703.00		15,75,213.00
Interest Accrued on Investments	11,46,831.00		9,12,268.00	
Interest Accrued on Short Term Dep.with Banks	32,92,872.00		6,62,945.00	
c) On Loans and Advances				
d) Others (includes income due unrealised - Rs.     )				
4. <u>Claims Receivable</u>				
Claims Receivables (Staff)		93,992.00		55,446.00
Claims Receivables (Parties)		5,47,162.00		6,37,715.00



<b>SCHEDULE 11 - CURRENT ASSETS, LOANS, ADVANCES ETC. (Contd.)</b>		<b>Current Year</b>		<b>Previous Year</b>	
<b>B. LOANS, ADVANCES AND OTHER ASSETS (Contd.)</b>					
Amount Recoverable Against Completed Projects/scheme			2,90,430.00		3,33,141.00
Finance Officer, H.N.B. Garhwal University	40,000.00			40,000.00	
Grant Receivable-DST-SFT (Manoj Kumar)	0.00			33,961.00	
Grant Receivable-NBHM (Krishnendu Gongopadhyay)	47,533.00			47,533.00	
Grant Receivable-NBHM (PROF. JOSEPH SAMUEL)	17,030.00			17,030.00	
NBHM Fellowships	1,85,867.00			1,85,867.00	
Ramanujan Math Society (DST Meeting)	0.00			8,750.00	
Payments Against Ongoing Sponsored Projects/Schemes			6,36,812.00		5,06,321.00
ATI (DAE, Mumbai)	24,530.00			0.00	
Grant Receivable CSIR (Mritunjay Kumar Verma)	0.00			46,783.00	
Grant Receivable-JEST Examination	0.00			74,782.00	
Indian Institute of Technology-Gauhati	30,000.00			30,000.00	
International Conference "B Physics at the LHC"	593.00			593.00	
ISCQI-2008-Bhubaneswar	25,000.00			25,000.00	
JEST Examination Expenses	5,00,689.00			2,73,163.00	
Registrar IIT Kanpur	6,000.00			6,000.00	
Registrar, IIT, Roorkee	50,000.00			50,000.00	
<b>TOTAL (B)</b>			<b>3,81,34,599.79</b>		<b>3,10,05,455.96</b>
<b>TOTAL (A + B)</b>			<b>23,62,17,332.03</b>		<b>20,99,39,324.98</b>



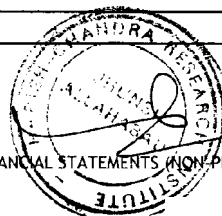
FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)

**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**SCHEDULE FORMING PART OF INCOME AND EXPENDITURE FOR THE PERIOD 01-04-16 TO 31-03-17**

(Amount - Rs.)

<b>SCHEDULE 12 - INCOME FROM SALES / SERVICES</b>	<b>Current Year</b>	<b>Previous Year</b>
1) Income from Sales		
a) Sale of Finished Goods	0.00	0.00
b) Sale of Raw Material	0.00	0.00
c) Sale of Scraps	4,82,805.00	0.00
2) Income from Services		
a) Labour and Processing Charges	0.00	0.00
b) Professional / Consultancy Services	0.00	0.00
c) Agency Commission and Brokerage	0.00	0.00
d) Maintenance Services (Equipment / Property)	0.00	0.00
e) Others (Specify)		
Receipts from Guest House & Pantry	38,81,212.00	44,87,723.00
Misc. Receipts from Penalties / LD Clause	7,65,519.75	4,04,965.00
<b>TOTAL</b>	<b>51,29,536.75</b>	<b>48,92,688.00</b>

<b>SCHEDULE 13 - GRANTS / SUBSIDIES</b>	<b>Current Year</b>	<b>Previous Year</b>
(Irrevocable Grants & Subsidies Received)		
1) Central Government	30,14,97,000.00	25,14,00,000.00
2) State Government(s)	0.00	0.00
3) Government Agencies	0.00	0.00
4) Institutions / Welfare Bodies	0.00	0.00
5) International Organisations	0.00	0.00
6) Others (Specify)	0.00	0.00
<b>TOTAL</b>	<b>30,14,97,000.00</b>	<b>25,14,00,000.00</b>



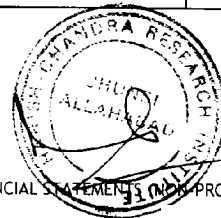
FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)

**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**SCHEDULE FORMING PART OF INCOME AND EXPENDITURE FOR THE PERIOD 01-04-16 TO 31-03-17**

(Amount - Rs.)

<b>SCHEDULE 14 - FEES / SUBSCRIPTIONS</b>	Current Year	Previous Year
1) Entrance Fees	0.00	0.00
2) Annual Fees / Subscriptions	0.00	0.00
3) Seminar / Program Fees	0.00	0.00
4) Consultancy Fees	0.00	0.00
5) Others (Specify)	0.00	0.00
<b>TOTAL</b>	<b>0.00</b>	<b>0.00</b>
<b>Note</b> - Accounting Policies towards each item are to be disclosed		

<b>SCHEDULE 15 - INCOME FROM INVESTMENTS</b> (Income on Invest. From Earmarked / Endowment Funds transferred to Funds)	Investment from Earmarked Fund		Investment - Others	
	Current Year	Previous Year	Current Year	Previous Year
1) Interest				
a) On Govt. Securities	0.00	0.00	0.00	0.00
b) Other Bonds / Debentures	0.00	0.00	0.00	0.00
2) Dividends:				
a) On Shares	0.00	0.00	0.00	0.00
b) On Mutual Fund Securities	0.00	0.00	0.00	0.00
3) Rents	0.00	0.00	0.00	0.00
4) Others (Specify) Interest on Fixed Deposits with Banks	40,50,252.00	14,54,209.00	0.00	0.00
<b>TOTAL</b>	<b>40,50,252.00</b>	<b>14,54,209.00</b>	<b>0.00</b>	<b>0.00</b>
<b>TRANSFERRED TO EARMARKED / ENDOWMENT FUNDS</b>	<b>-40,50,252.00</b>	<b>-14,54,209.00</b>		



FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)

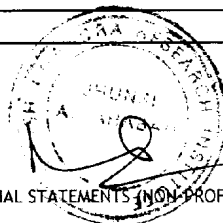


**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**SCHEDULE FORMING PART OF INCOME AND EXPENDITURE FOR THE PERIOD 01-04-16 TO 31-03-17**

(Amount - Rs.)

<b>SCHEDULE 16 - INCOME FROM ROYALTY, PUBLICATION ETC.</b>	Current Year	Previous Year
1) Income from Royalty	0.00	0.00
2) Income from Publications	0.00	0.00
3) Others (Specify)	0.00	0.00
<b>TOTAL</b>	<b>0.00</b>	<b>0.00</b>

<b>SCHEDULE 17 - INTEREST EARNED</b>	Current Year	Previous Year
1) On Term Deposits:		
a) With Scheduled Banks	38,06,060.00	0.00
b) With Non-Scheduled Banks	0.00	0.00
c) With Institutions	0.00	0.00
d) Others		
On Security Deposit (UPPCL)	2,30,976.00	0.00
2) On Savings Accounts:		
a) With Scheduled Banks	59,11,126.00	10,11,070.00
b) With Non-Scheduled Banks	0.00	0.00
c) Post Office Savings Accounts	0.00	0.00
d) Others	0.00	0.00
3) On Loans:		
a) Employees / Staff	5,660.00	944.00
b) Others	0.00	0.00
4) Interest on Debtors and Other Receivables	0.00	0.00
<b>TOTAL</b>	<b>99,53,822.00</b>	<b>10,12,014.00</b>
<b>Note</b> - Tax deducted at source to be indicated		



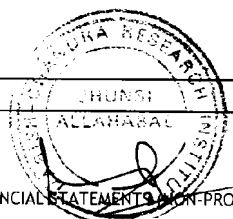
FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)

**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**SCHEDULE FORMING PART OF INCOME AND EXPENDITURE FOR THE PERIOD 01-04-16 TO 31-03-17**

(Amount - Rs.)

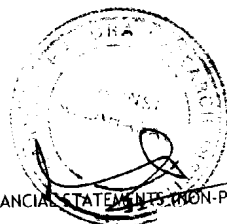
<b>SCHEDULE 18 - OTHER INCOME</b>	Current Year	Previous Year
1) Profit on Sale / disposal of Assets:		
a) Owned assets	0.00	0.00
b) Assets acquired out of grants, or received free of cost	46,748.00	3,93,719.00
2) Export Incentives realized	0.00	0.00
3) Fees for Miscellaneous Services		
Licence fees & Elect. from rented buildings	9,94,666.00	7,73,811.00
4) Miscellaneous Income		
Firms Registration Fee	2,500.00	3,600.00
Misc. Receipts	1,82,050.00	2,75,420.00
RTI Receipts	40.00	0.00
Sale of Tenders	34,040.00	32,240.00
Xeroxing Receipts	1,095.00	0.00
Recovery of License fees & Accomodation charges	5,60,462.00	5,97,270.00
Recovery of Cable TV charges	48,300.00	49,500.00
Recovery of Personal Transport	1,02,469.00	1,04,118.00
Recovery of Telephone charges	5,308.00	8,902.00
Recovery of Transport charges	1,58,642.00	69,955.00
<b>TOTAL</b>	<b>21,36,320.00</b>	<b>23,08,535.00</b>

<b>SCHEDULE 19 - INCREASE / (DECREASE) IN STOCK OF FINISHED GOODS &amp; WORK IN PROGRESS</b>	Current Year	Previous Year
a) Closing Stock		
▶ Finished Goods	0.00	0.00
▶ Work-in-progress	0.00	0.00
b) Less: Opening Stock		
▶ Finished Goods	0.00	0.00
▶ Work-in-progress	0.00	0.00
<b>TOTAL</b>	<b>0.00</b>	<b>0.00</b>

  
 FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)

(Amount - Rs.)

	Current Year	Previous Year
<b>SCHEDULE 20 - ESTABLISHMENT EXPENSES</b>		
a) Salaries and Wages		
Salary	7,85,45,619.00	7,70,81,041.00
Fellowship	4,09,05,844.00	4,02,77,675.00
PRIS	1,40,18,521.00	28,89,690.00
Pension	39,17,037.00	37,25,619.00
b) Allowances and Bonus		
Professional Update Allowance (Academic)	11,21,250.00	75,000.00
Update Allowance (Admin)	2,31,250.00	20,000.00
Children Education Allowance	5,70,900.00	6,52,949.00
EL Encashment (LTC)	3,98,675.00	4,16,212.00
Leave Travel Concession	3,37,963.00	5,77,612.00
	0.00	0.00
c) Contribution to Provident Fund	0.00	0.00
d) Contribution to Other Fund (specify)		
NPS	32,33,355.00	24,63,434.00
e) Staff Welfare Expenses		
Health Centre Expenses	25,23,318.00	25,74,658.00
Employees' Medical Benefits	17,08,269.00	14,16,319.00
f) Expenses on Employees' Retirement and Terminal Benefits		
Commutation of Pension	56,97,650.00	37,23,778.00
EL Encashment on Retirement	23,01,539.00	9,34,236.00
Gratuity	21,40,183.00	14,34,904.00
g) Others (Specify)		
Honorarium	3,81,251.00	11,03,773.00
Contingency Grant to SRF's / JRF's	30,29,055.00	38,56,237.00
7th CPC Arrears	2,16,06,562.00	0.00
Expenses Earlier Years	3,36,577.00	0.00
<b>TOTAL</b>	<b>18,30,04,818.00</b>	<b>14,32,23,137.00</b>

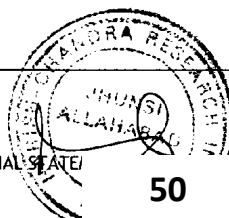


FINANCIAL STATEMENTS (NON-PROFIT ORGANISATIONS)

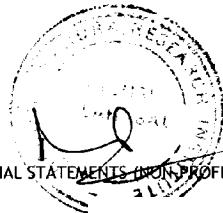
**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
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(Amount - Rs.)

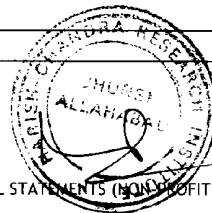
<b>SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES ETC.</b>	<b>Current Year</b>	<b>Previous Year</b>
a) Purchases		
Computer & Peripherals (Recurring)	7,08,004.00	1,55,746.00
Purchase of Capital Items (Mach/Equip/Motor Car etc.)	6,72,291.00	7,42,257.00
Furniture & Fixtures	10,398.00	59,300.00
Store Purchase (Supplies & Materials)	7,93,920.00	8,37,533.00
b) Labour and processing expenses		
Emergency Duty Allowance	83,000.00	84,700.00
Overtime	14,900.00	38,700.00
c) Cartage and Carriage Inwards	0.00	0.00
d) Electricity and power	2,58,21,920.00	2,53,49,177.00
e) Water Charges	0.00	0.00
f) Insurance	0.00	0.00
g) Repairs and maintenance		
Air Conditioner Maintenance	20,17,806.00	20,27,020.00
Aqua Guard Maintenance	94,740.00	44,788.00
Civil Maintenance	23,31,173.00	27,29,641.00
Computer Maintenance	5,32,158.00	4,18,937.00
Electrical Installations Maintenance	13,04,162.00	13,62,647.00
Equipment Maintenance	8,35,669.00	2,54,778.00
Fire Extinguisher Maintenance	83,616.00	1,28,042.00
Gas Bank Maintenance	21,450.00	9,600.00
Generator Maintenance	20,28,053.00	11,81,541.00
Lawns Maintenance	12,31,321.00	12,29,411.00
Photocopier Maintenance	48,120.00	65,986.00
Security Services Maintenance	1,19,87,550.00	1,13,18,613.00
Swimming Pool Maintenance	36,700.00	2,53,217.00
Watch & Ward and House-keeping services	2,07,92,193.00	1,84,31,941.00
h) Excise Duty	0.00	0.00



<b>SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES ETC.</b>	<b>Current Year</b>	<b>Previous Year</b>
i) Rent, Rates and Taxes		
Rent & Electricity Charges of Trivenipuram Hostel	4,55,597.00	4,58,612.00
Rent & Electricity Charges of 10 KG Marg City Guest House	2,41,607.00	1,95,025.00
Rent & Electricity Charges of Jhunsi Hostel	3,80,597.00	3,96,129.00
j) Vehicles Running and Maintenance		
Renting of Vehicles	44,70,235.00	40,25,083.00
Insurance of Esteem Car	3,085.00	2,428.00
Petrol expense of Car	76,666.00	55,437.00
Repair & Maintenance of Car	15,963.00	64,709.00
k) Postage, Telephone and Communication Charges		
E-mail & Internet Charges	4,89,058.00	6,73,817.00
Newspaper & Periodicals	60,017.00	56,828.00
Postage	86,839.00	91,302.00
Telephones-Office	6,99,814.00	7,82,129.00
Telephones-Residential	46,307.00	45,519.00
l) Printing and Stationary	3,02,490.00	4,95,972.00
m) Travelling and Conveyance Expenses		
Foreign Travel Expenses	0.00	0.00
TA/DA - Staff	8,21,415.00	7,60,461.00
TA/DA - Council Members	64,983.00	2,08,230.00
TA/DA - Visitors	2,15,251.00	1,23,209.00
Ticket Cancellation Charges	37,328.00	32,591.00
n) Expenses on Seminar / Workshops		
Colloquium	27,000.00	26,000.00
Council Meeting Expenses	86,256.00	0.00
Foundation Day Programme	0.00	12,698.00
Harish Chandra Lecture Series	0.00	5,000.00
HRI-Girdhari Lal Mehta Lecture Series	0.00	27,850.00
JEST Examination (Physics)	0.00	86,692.00
JEST Examination (NBHM-Maths)	0.00	15,418.00
Rajbhasha Programme	93,295.00	1,15,365.00
SPIC-MACAY Chapter	30,655.00	63,391.00



<b>SCHEDULE 21 - OTHER ADMINISTRATIVE EXPENSES ETC.</b>	<b>Current Year</b>	<b>Previous Year</b>
Summer Program in Mathematics (SPIM)	2,32,501.00	4,32,251.00
Talent Search Examination	51,487.00	51,863.00
o) Subscription Expenses		
Current Journals Subscription (During the year)	2,00,87,342.17	2,20,88,945.12
Purchase of Books	76,203.00	50,897.00
Publication of Report	1,00,399.00	71,328.00
p) Expenses on Fees	0.00	0.00
q) Auditors Remuneration	23,200.00	25,650.00
r) Hospitality Expenses		
Canteen	13,01,835.50	8,14,793.00
Guest House	28,45,548.50	29,03,615.00
s) Professional Charges		
Consultancy Expenses (Taxation & Others)	33,002.00	1,25,517.00
Consultancy & Legal Expenses	64,630.00	99,676.00
t) Provision for Bad and Doubtful Debts / Advances	0.00	0.00
Arbitration Award (M/s Anandeshwar C&E P Ltd.)	60,80,000.00	0.00
u) Irrecoverable Balances Written-off	0.00	0.00
v) Packing Charges		
Binding Charges	69,300.00	1,52,700.00
w) Freight and Forwarding Expenses	0.00	0.00
x) Distribution Expenses	0.00	0.00
y) Advertisement and Publicity	6,94,195.00	4,58,786.00
z) Others (Specify)		
Bank Comm.	82,153.54	31,433.30
Cable TV Expenses	1,87,740.00	1,86,690.00
Misc. Expenses	41,561.00	57,486.00
Office Expenses	2,28,658.00	5,31,128.00
Losss on Sale of Assets	2,35,513.00	62,860.00
Sports & Other Activities	1,09,198.00	1,64,922.00
TDS on Fixed Deposit (HRI)	3,80,608.00	62,578.00
<b>TOTAL</b>	<b>11,30,78,676.71</b>	<b>10,39,16,588.42</b>



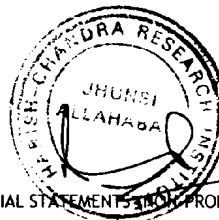
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**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**SCHEDULE FORMING PART OF INCOME AND EXPENDITURE FOR THE PERIOD 01-04-16 TO 31-03-17**

(Amount - Rs.)

	Current Year	Previous Year
<b><u>SCHEDULE 22 - EXPENDITURE ON GRANTS, SUBSIDIES ETC.</u></b>		
a) Grants given to Institutions / Organisations	0.00	0.00
b) Subsidies given to Institutions / Organisations	0.00	0.00
<b>TOTAL</b>	<b>0.00</b>	<b>0.00</b>
<b>Note</b> - Name of the Entities, their Activities along with the amount of Grants / Subsidies are to be disclosed.		

	Current Year	Previous Year
<b><u>SCHEDULE 23 - INTEREST</u></b>		
a) On Fixed Loans	0.00	0.00
b) On Other Loans (including Bank Charges)	0.00	0.00
c) Others (specify)	0.00	0.00
<b>TOTAL</b>	<b>0.00</b>	<b>0.00</b>



**HARISH CHANDRA RESEARCH INSTITUTE, ALLAHABAD**  
**SCHEDULE FORMING PART OF THE ACCOUNTS FOR THE PERIOD ENDED 31-03-17**

**SCHEDULE 24 - SIGNIFICANT ACCOUNTING POLICIES**

**1. ACCOUNTING CONVENTION**

1.1 The financial statements are prepared on the basis of historical cost convention, unless otherwise stated and on the accrual method of accounting.

1.2 Figures of the previous year and current year have been regrouped wherever necessary to confirm classification.

**2. INVESTMENTS**

2.1 Investments are valued at cost plus interest accrued thereon.

2.2 Cost includes acquisition expenses like brokerage, transfer stamps.

**3. FIXED ASSETS**

3.1 Fixed Assets are stated at cost of acquisition inclusive of inward freight, duties and taxes and incidental and direct expenses related to acquisition.

3.2 Assets purchased from Plan funds Rs.4,07,41,433.00 & Non-Plan funds Rs.2,09,49,613.17 during the year have been capitalized under the appropriate heads of accounts of Fixed Assets.

3.3 Realization made from Sale / Buy-back of Assets is taken as Non-Recurring Income in the year of receipt and Profit / Loss accounted for.

3.4 Realization made from Sale of Scrap is taken as Non-Recurring Income in the year of receipt and Profit / Loss is to be accounted for.

**4. DEPRECIATION**

4.1 Depreciation is provided on written down value method as per rates specified in the Income-tax Act, 1961.

4.2 In respect of additions to fixed assets during the year, depreciation is considered on full year basis.

4.3 No Depreciation is charged on assets, which is sold during the year.

**5. EXPENDITURE**

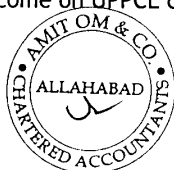
5.1 Consumable, stores and stationary are charged to the Income and Expenditure Account in the year of its purchase.

5.2 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.

5.3 Deferred revenue expenditure (Composite work of Power Line) is written off over a period of 10 years from the year it is incurred.

**6. INCOME / RECEIPTS**

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





## 7. GOVERNMENT GRANTS/SUBSIDIES

7.1 Government grants/subsidy are accounted on realization basis.

7.2 The unspent amount of grants received in respect of the projects/schemes is shown under Current Liabilities in the Balance Sheet under the head "Unutilized DAE Grants Recurring (Non-Plan)"

7.3 Excess of payments made over the grants received in respect Projects/schemes are shown under Current Assets in the Balance Sheet under the head "Payments Against Ongoing Sponsored Projects/Schemes"

## 8. RETIREMENT BENEFITS

8.1 Liability towards gratuity payable on death/retirement of employees is accrued based on actuarial valuation.

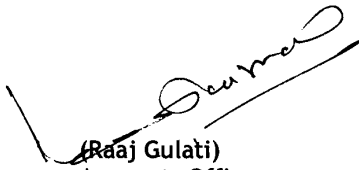
8.2 Provision for accumulated leave encashment benefit to the employees is accrued and computed on the assumption that employees are entitled to receive benefit as at each year end.

## 9. TAXATION

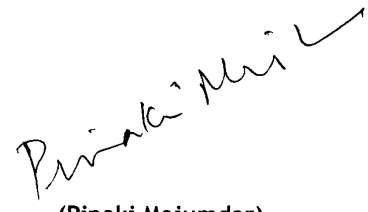
9.1 TDS on Library Journals Subscriptions payments to vendors if any will be realized on actual values of supplies after accession and inclusion in Library assets.

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

For HARISH-CHANDRA RESEARCH INSTITUTE, ALLAHABAD

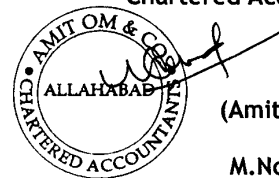
  
(Raj Gulati)  
Accounts Officer

  
(Ravindra Singh)  
Registrar

  
(Pinaki Majumdar)  
Director

Date: 30-08-17  
Place: Allahabad

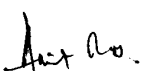
For M/s Amit Om & Co.  
Chartered Accountants

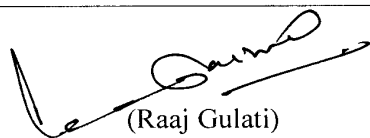


(Amit Agarwal)  
Partner  
M.No. 400193


## Action Taken on Auditors Report – FY 2016-17

S.No.	Notes on Accounts	Compliance
1.	An amount of Rs.4,78,50,030/- has been shown as Capital WIP of which construction has stopped through Hon'ble Allahabad High Court order.	In regard to a PIL No.4003 filed in relation to Ganga Pollution, the Hon'ble High Court 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 a result, the construction activity of the Institute was stopped since February 2013. The matter is still subjudice, the entire amount spent on construction has been shown as Capital Work in Progress.
2.	Amount recoverable against completed projects shown as claims recoverable. 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. NBHM Fellowships Since 2009 Rs.1,85,867.00 D. HNB Garhwal University Since 2010 Rs.40,000.00	Regarding recovering from NBHM, the Institute has referred this matter to DAE vide letter Nos.HRI/392/1150 dated 06/07/2016 and HRI/392/2157 dated 10/10/2016 for permission to write-off these amounts as per the directives of the Governing Council Meeting dated 13/04/14. The concurrence of DAE is still awaited. Regarding HNB Garhwal University, we have to receive an Utilization Certificate from them for adjustment of this amount. We have sent 02 letters to them, their reply is also awaited.
3.	Balance of EMD, Security Deposits, Sundry Creditor, Loan & Advances and Claims Recoverable etc. are subject to confirmation, Reconciliation and consequential adjustments thereof.	This is a routine practice followed by the Institute, initiated after the finalization of Balance Sheet seeking confirmation from parties on their EMDs, Security Deposits, Sundry Creditor, Loan & Advances and Claims Recoverable etc. There has been no dispute to any outstanding claim so far.
4.	Physical verification of Fixed Assets is being carried out by the Institute. The quantity and value reconciliation with fixed assets register for all the items is in progress therefore we are unable to comment that financial records are in agreement with assets as recorded in fixed assets register.	The Annual Physical verification of assets as per Asset Register is in progress department wise, no discrepancy has been noticed so far.
5.	TDS deduction u/s 194J and u/s 195 of the Income Tax Act, in respect of payments made towards e-journals and books has not been made for payments made to suppliers during the year 2016-17.	TDS on Payments made to Library Journals Subscription, if any, will be realized after actual values of supplies made and after their accession and inclusion in library assets. We will also talk to other DAE Institutes on this issue to arrive at a consensus.
6.	Previous Year's figures have been regrouped or rearranged wherever necessary.	This is a standard accounting procedure being followed every year.

  
(Amit Roy)  
IA&AO

  
(Raaj Gulati)  
Accounts Officer

  
(Ravindra Singh)  
Registrar

  
(Pinaki Majumdar)  
Director