

ANNUAL REPORT 1988-89

**SATYENDRA NATH BOSE NATIONAL CENTRE
FOR BASIC SCIENCES**

(Estd. 1986)

DB 17: SECTOR 1, SALT LAKE CALCUTTA - 700 064



**SATYENDRA NATH BOSE NATIONAL CENTRE
FOR BASIC SCIENCES
Calcutta**

ANNUAL REPORT

April 1, 1988 to March 31, 1989

The objectives for which the Satyendra Nath Bose National Centre for Basic Sciences was established in June 1986 are :

To foster, encourage and promote the growth of advanced studies in selected branches of basic sciences ;

To conduct original research in theoretical and mathematical sciences and other basic sciences in frontier areas, including challenging theoretical studies of future applications ;

To provide a forum of personal contacts and intellectual interaction among scientists within the country and also between them and scientists abroad ;

To train young scientists for research in basic sciences.

In order to translate these objectives into reality a campus on a 15 acre plot of land in Block JD, Sector III, Salt Lake City, is in the process of being built. At the moment the Centre operates from a rented house situated at DB 17, Sector I, Salt Lake City, Calcutta-700 064.

Academic Programmes

Workshop/Symposia/Seminars

S. N. Bose National Centre organized and was the venue of the first national workshop dealing with 'Chaotic Phenomena in Physical Systems' held from February 7 to 17, 1989. This workshop was an outgrowth of the first Indian Summer School (IIS) on the subject held at the Indian Institute of Science, Bangalore, in August, 1986. Unlike the earlier school, however, participants in the present workshop were exclusively Indian. A total number of 27 outstation invitees and a large number of senior scientists based in Calcutta were engaged in intensive research oriented discussions on the latest developments in a field of physics which has witnessed remarkable growth in recent years. Stress was laid on the participants' own recent research work, reviews of recent outstanding

contributions from the world over and on future collaborative work involving Indian Scientists. Outstation participants came from Pune, Madras, Gandhinagar, Cochin, New Delhi, Pondicherry, Bombay, Tiruchirapalli and Patiala. This was the Centre's first venture in organizing a national workshop on its own premises. It was not easy for this newly created Centre to organize such a workshop of rather long duration attended by eminent scientists from all over the country. However, from the replies to a questionnaire given to the participants, it appears that the participants considered it a success both in terms of academic interaction and smooth management. They also decided to hold another workshop on 'Critical Phenomena in the Early Universe' to be sponsored by the Centre in the near future.

On February 18 and 19, 1989, the Centre organized a two-day discussion on the theme 'The Community of Physics Teachers and the Satyendra Nath Bose National Centre for Basic Sciences'. The purpose behind the exercise was to bring together some members of Indian Associations of Physics Teachers (IAPT), Indian Physical Society (IPS), Indian Physics Association (IPA) and several physics teachers to discuss the role the Centre is expected to play in the teaching of Physics. Eleven Professors of Physics, some of whom hold positions in the associations mentioned, took part in the discussion.

The Centre co-sponsored the IVth SERC School in 'Condensed Matter Physics' (CMP) on Physics of Semiconductors held in December 1988 at the IIT, Kharagpur and was one of the sponsors of the Second International Conference on Cryogenics organized by the Indian Cryogenics Council held in December 1988.

It contributed towards holding of a symposium on 'Radiation Physics' held at the Bose Institute during November-December, 1988, and a workshop on 'Mathematical Models in Biology and Medicine' held in February 1989 at the Indian Institute of Chemical Biology.

The Centre was the Joint Convener of the National Seminar on 'Sixty Years of Dirac Equation' held in January 1989 at Visva Bharati. The Seminar emphasized the impact of Dirac's contribution in the development of modern theoretical physics. A total of about 30 outstation participants from all over India were involved in it. Besides, there was a large number of local scientists who took part in the discussions that continued for three days.

Seminars organised by the S. N. Bose Centre

During the period under review the S. N. Bose National Centre organized the following seminars :

1. 'Schroedinger Equation in Yang-Mills Theory'—Professor J. Islam,

Research Centre for Mathematical and Physical Sciences, University of Chittagong, Bangladesh (June 13, 1988).

2. 'Periodic and Quasiperiodic Instanton'—Professor A. Chakravarti, Centre de Physique Theorique, Ecole Polytechnic, Palaiseau, France (August 30, 1988).

3. 'Nonlinear Sigma Models and Renormalization'—Professor P. K. Mitter, Laboratoire de Physique Theorique et Hautes Energies, Universite P et M Curie, Paris (September 1988).

4. 'Inflationary Scenarios of the Early Universe' Parts I & II—Dr. S. Mallick, Saha Institute of Nuclear Physics (September 12 and 29, 1988).

5. 'Use of X-ray techniques for carcinogenic materials'—Professor K. Das Gupta, Texas Tech University, Lubbock, Texas, USA (October 11, 1988).

6. (a) 'Ferroelectric Phase Transition'

(b) 'Dielectric and Spectroscopic studies'—Dr. M. Srinivasan, Indian Institute of Science, Bangalore (November 1988).

7. (a) 'Fermi Surface in $YBa_2Cu_3O_7$ '

(b) 'Electronic Structure of Disordered Materials'—Dr. R. S. Rao, Physics Department, Tampere University of Technology, Tampere, Finland (November 17, 18, 1988).

8. 'High Critical Temperature Superconductivity and Magnetism'—Professor T. M. Rice Federal Institute of Technology (ETH) Zurich, Switzerland (January 13, 1989).

9. 'Analogy and Mathematical Thinking'—Prof. E. Knobloch, Technical University, Berlin, Federal Republic of Germany (February 1, 1989).

10. 'Electrical Properties of Porous Media with Interfacial Charges'—Dr. P. N. Sen, Oxford University and Schlumberger (March 2, 1989).

11. 'Ion Sources for Isotope Separator'—a general survey Dr. A. Mazumdar, Philipps University, Marburg, West Germany (March 1989).

List of Lectures by the Centre's Staff

1. 'Some Results by Moessbauer Spectroscopy'—C. K. Majumdar, Institute of Physics, Bhubaneswar (Oct. 25, 1988).

2. (a) History of the Development of Condensed Matter Physics in India from 1900 onwards.—(Inaugural Lecture).

(b) Conventional Superconductivity (3 hours).

(c) Antiferromagnetism and the Resonating Valence Bond State of the Majumdar—Ghosh Hamiltonian ($1\frac{1}{2}$ hours)—C. K. Majumdar at the 'College on the Electronic Properties of Condensed Matter', Bombay IIT (December 1 to 3, 1988).

3. 'Resonating Valence Bond in Magnetism and Superconductivity'—C. K. Majumdar at Second Conference on Mathematical Physics at Chittagong, Bangladesh, (December 17—19, 1988).

4. 'Theory of Transport Properties (Boltzmann Equation and Kubo formulas)'—C. K. Majumdar—IV SERC School on Physics of Semiconductor at IIT, Kharagpur (January 1989).

Research Activities

The Centre has started research activities in mathematical physics, particle physics and condensed matter physics.

The activities in condensed matter physics centre on Moessbauer studies with ^{57}Fe isotope and high temperature superconductivity. The latter is carried out jointly with workers in Saha Institute of Nuclear Physics (SINP) and Central Glass and Ceramic Research Institute (CGCRI), Calcutta. Some collaboration has been started with the neighbouring Variable Energy Cyclotron Centre.

The work on mathematical physics by Dr. A. Chatterjee concerns the $1/N$ expansion where N is a suitably defined large number. Applications to the strong field Zeeman problem and multidimensional polaron problem are planned. Dr. Shivakumar has been working on boson-to-fermion transmutation in Polyakov's model in $2+1$ dimension and on consistent treatment of higher spin fields.

Publications

1. Positron Annihilation Studies in High Temperature Superconductors $\text{Y Ba}_2 \text{Cu}_3 \text{O}_{7-x}$ and $\text{Ho Ba}_2 \text{Cu}_3 \text{O}_{7-x}$ —P. Mandal, A. Poddar, P. M. G. Nambissan, P. Choudhury, B. Ghosh, P. Sen and C. K. Majumdar—*Journal of Physics C : Solid State Physics*, 21, 3151—3157 (1988).

2. Moessbauer Study of the Corrosion Products of Mild Steel formed in Sodium Sulphate and Sodium Nitrate Solution—K. Choudhury, D. Das, S. Mukherjee and C. K. Majumdar—*Journal of Materials Science Letters* : 7, 1331—1332 (1988).



3. Positron Annihilation Studies in High temperature superconductors—P. Mandal, A. Poddar, P. M. G. Nambissan, P. Choudhury, B. Ghosh, P. Sen and C. K. Majumdar—Proc. Third Asia Pacific Physics Conference at Hongkong June 1988 (World Scientific, Singapore 1989) Vol. 2, p. 1167.

4. Positron Annihilation Studies in High temperature Superconductors—P. Sen and C. K. Majumdar : Proc. International Symposium on High temperature Superconductivity at University of Rajasthan, Jaipur, July 6–8, 1988 (Oxford and IBH Pub. Co. Pvt. Ltd. 1989) pp. 295–300.

5. Moessbauer, XRD and Positron Annihilation Studies of Natural Magnetites—D. Das, K. Choudhury, C. K. Majumdar, P. M. G. Nambissan and P. Sen—DAE Solid State Physics Symposium, Bhopal (1988).

6. 'Can we accumulate scientific wisdom?'—C. K. Majumdar, *Physics Teacher* 30 (1988) pp (i) to (iii).

Short term visiting Fellows at the centre

S. N. Bose National Centre had the privilege of having quite a few distinguished scientists from other parts of India as well from overseas as short term visiting fellows. Of the better known scientists who visited the Centre, the following can be mentioned : Prof. P. K. Mitter, Laboratoire de Physique Theorique et Hautes Energies, Universite P et M Curie, Paris ; Prof. K. Das Gupta, Texas Tech University, Lubbock, Texas, USA ; Dr. M. Srinivasan, Indian Institute of Science, Bangalore ; Dr. R. S. Rao, Physics Dept., Tampere University of Technology, Tampere, Finland ; Prof. T. M. Rice, Federal Institute of Technology (ETH) Zurich, Switzerland ; Prof. E. Knobloch, Technical University, Berlin, Federal Republic of Germany ; and Dr. A. Mazumdar Phillipps University, Marburg, West Germany.

Computer Training Course

The Computer Course for College Teachers concentrated on training in Microsoft Dist Operating System (MS DOS) and a version of BASIC for mathematical calculations (GWBASIC) available on Quantum Workstations of Hewlett—Packard. The teachers are encouraged to sit at the machine and run the programmes themselves. They are also given some ideas of menu-driven software like Wordstar for wordprocessing. Once the training of the first batch is over, a more formal course will be planned on the machine HP 9000 plus the workstations involving FORTRAN and other higher level languages.

Library

The Library of the S. N. Bose National Centre subscribed to 16 journals (4 foreign and 12 Indian) during the year. The four foreign journals are :

- (a) Physical Review Letters
- (b) Physics Letters (Section A)
- (c) Physics Letters (Section B)
- (d) Physics Report

Indian journals are :

- (a) Pramana
- (b) Journal of Astrophysics and Astronomy
- (c) Proceedings (Mathematical Sciences)
- (d) Proceedings (Earth and Planetary Sciences)
- (e) Bulletin of Materials Sciences
- (f) Proceedings (Chemical Sciences)
- (g) Sadhana (Engineering Sciences)
- (h) Journal of Biosciences
- (i) Journal of Genetics
- (j) Proceedings (Plant Sciences)
- (k) Proceedings (Animal Sciences)
- (l) Current Sciences

The Library acquired 88 new books over the year. During the workshop on 'Chaotic Phenomena in Physical Systems' (held from February 7 to 17, 1989) the library undertook the responsibility of offering information service to scientists interested in this field. As a part of that commitment the library is currently offering Title Service to the participants of that workshop, who came from different universities/research institutes of India.

At the moment the library is using Wordstar 2000 for wordprocessing and DBASE III for library records.

Construction of the new Campus

Boundary Wall

The 15 Acre plot of land in block JD, Sector III, Salt Lake City which will house the future campus of the S. N. Bose National Centre has now been

walled. The construction of the boundary wall started on 21.3.1988 and was completed on 7.10.1980. The wall is 1135 running metre long and about 2 metre high (1.5 metre of solid brick and 0.5 metre barbed wire fence). It has two openings on two sides. The total cost for erecting this wall has been Rs. 10,30,357.20.

Master Plan

Four firms of architects—Ghosh, Bose and Associates, Engineering Services International Pvt. Ltd., ACME Consultant Pvt. Ltd., and Ballardie Thompson and Mathews Pvt. Ltd. submitted Master Plans and all of them made presentations explaining the special features of their plan to the members of the Construction Committee and answered questions which members asked. At its August 3, 1988 meeting the Governing Body decided to help the Director in the matter of choosing the Master Plan. It was suggested that Mr. R. D. John, Adviser, Space Department Bangalore—a person with lot of experience in construction of campuses—and Mr. B. K. Chaturbedi, Joint Secretary and Financial Adviser, Department of Science & Technology, be requested to associate themselves with the process of selection of the Master Plan. Accordingly, a special meeting of the Construction Committee was held on November 1, 1988, at the office of the Director, S. N. Bose National Centre at Salt Lake City. At that meeting all the members of the Construction Committee and Messrs John and Chaturbedi were present. It was unanimously decided that the plan submitted by Ghosh Bose and Associates (GBA) was preferable to others. The Director, however, was requested to negotiate with the company about the rates. Eventually GBA agreed to accept 3.75% of the executed cost of the project (instead of 4% which they had originally asked for) for rendering total services (as defined by the UGC booklet in recommendation of different types of buildings) to the Centre in its efforts to build its campus in JD Block Sector III, Salt Lake City, On December 8, 1988, the Director finally appointed GBA as the Consultant Architect. GBA now are on the job of preparing the drawings for all the buildings of the future campus. Hopefully the Centre will be able to submit a complete plan for the campus to the Salt Lake Authority for its approval sometime in July. The Construction Committee and the Administration of the Centre are in constant touch with the architects who, in response to suggestions from them, are making necessary alterations to the design.

Soil Investigation

The GBA suggested that in order to avoid any structural problem it was advisable that the Centre gets the soil of the campus site tested before

undertaking construction work. This advice was well-taken and tender was floated asking for quotations for the work. Four companies which responded to are : K. N. Dadina Pvt. Ltd., Engicon Indian Pvt. Ltd., Civil Engineering Testing Company and Geo-technical Exploration. The Centre prepared a chart comparing the price and other data supplied by each company and forwarded the documents to GBA to make recommendation. GBA recommended that Engicon India Pvt. Ltd. should be appointed to do the work of soil investigation for the Centre. In the opinion of GBA the company does have a reputation for quality work and it so happened that they had also asked for the lowest fee for doing the job. In January 1989 Engicon submitted its report. It looks like to ensure sound structure the Centre has to go for piling before buildings are constructed. The total cost for the soil investigation stood at Rs. 20,636.00.

Landscaping of the site

At its meeting held on March 20, 1989, the Construction Committee advised the Director to begin work of landscaping the future campus without delay. The committee felt that the large campus would look aesthetically unattractive if it did not have enough trees and other plants to add colour to the view. It takes time for trees to grow. It was, therefore, thought desirable to plant avenue trees without delay so that by the time the Centre moves to the new campus it would not look that barren. Accordingly, the administration got in touch with The Globe Nursery, one of the biggest names in horticulture in India and negotiations are now going on with the company for the planting of avenue trees.

Choice of a builder

The Centre has a legal obligation to get the plot of land duly registered before it begins to construct buildings on the site. Under normal circumstances registration of 15 acres of land would involve payment of huge amount of money (possibly over Rs. 20 lakhs) as stamp duty. The administration of the Centre, in order to save that money, began to explore possibilities for obtaining exemption from payment of stamp duties for registration. We are glad to report that exemption from payment of stamp duty has already been received in respect of 10 acres of land which came as a gift from the Government of West Bengal to the Centre. Negotiations are now going on with the state government for exemption of the remaining five acres of land which have been bought by the Centre from the Metropolitan Development Department.

This, in a way, has resulted in delay in beginning the work of construction.

However, the Director and the Administrative Officer have had discussions with quite a few reputed builders to explore the possibility of their taking over the work of construction. The firms they have met include National Buildings Construction Corporation (NBCC), Engineering Projects India Limited (EPI), (both are Government of India undertakings), Mackintosh Burn—a Government of West Bengal undertaking, Martin Burn and Larsen & Toubro—both very reputed private construction companies. The Centre had also enquired about the possibility of the work being done by the construction unit of the Department of Space based at Bangalore. Unfortunately, the response from that organization has been negative. It is hoped that within a very short period a builder would get chosen and the actual construction work would begin.

Guest house

The Governing Body at its meeting of August 3, 1988, asked the Director to rent an apartment to house visiting scientists. Accordingly, in October last year an apartment with three bed rooms, living rooms, kitchen facilities, two bathrooms, was rented at Rs. 2500 a month. It has been furnished. We are pleased to report that many of our distinguished visiting scientists and wellwishers who stayed there appreciated the facilities provided in our small guest house.

Staff situation

At its first meeting held on August 28, 1987, the Governing Body approved of the posts of the Administrative Officer, a Librarian, an Administrative Assistant (Accounts), a Stenographer, two Lower Division Clerks and one helper. All these posts have been filled in.

At the same meeting the Governing Body also created four visiting post-doctoral fellowships. Three PDFs accepted the offer from the Centre. A person who was offered the fourth position declined the offer. The Centre is now thinking of an alternative candidate to fill up the vacancy.

At its subsequent meeting held on August 3, 1988 the Governing Body approved of the posts of Scientific Officer, an Office Superintendent, two posts of Lower Division Clerk and a post of Helper. It also created two more academic posts. Selection for all these posts have also been made. The present list of the staff members is given below :

Acquisition of Assets

The HP 9000 Computer/Microprocessor Development System which the Centre bought from the USA arrived in March this year. CMC—a Government

of India undertaking reputed for this work in Computer—has been commissioned to prepare the site for installation of the Computer at the Centre's present office. The Centre has also bought some lecture aids (e.g. overhead projector) to facilitate the work of scientists during seminars and conferences.

Finance

The accounts of the Centre from the inception to March 31, 1988 were audited in September, 1988 by Roy & Bagchi, Chartered Accountants. The office of the Director of Audit, Government of India audited the accounts of the Centre from inception to March 31, 1988 in March, 1989.

Copies of the Proposed Budget for 1989-90 and Statement of Expenditure for 1988-89 are given in the Annexures to this Annual Report. Copies of the Audit Report of accounts 1987-88 by Roy and Bagchi are available for inspection.

The Finance Committee is scheduled to meet on April 27, 1989. At that meeting the Committee, inter alia, is expected to consider the proposed budget of the Centre for the Financial Year 1989-90 and examine the expenses incurred by it during the last financial year.

Work of other Committees

The Academic Programme Advisory Committee met on June 1, 1988. The meeting took place at the office of the Department of Science & Technology, New Delhi. The Selection Committee for the recruitment of the academic staff of the S. N. Bose National Centre for Basic Sciences met once during the year (December 2, 1988) and made recommendations for appointments in different categories of academic positions.

A draft of the Bye-Laws of the S. N. Bose National Centre has been prepared and copies have been circulated to members of the Committee on Bye-Laws. A series of meetings need to be held to discuss the draft and agree on a final version. The next meeting has been scheduled to be held on April 26, 1989.

The Governing Body, at its first meeting, decided that the Centre's Committee on Purchase should have an academic staff as one of its members. In the absence of any senior member of the academic staff, the Committee could not be formed. As the Centre is about to hire some senior academic staff, the Committee on Purchase will soon be formed.

Centre's Staff as on March 31, 1989

1. Dr. Chanchal Kumar Majumdar	....	Director
2. Dr. Jyotirmoy Pal Chaudhuri	....	Administrative Officer
3. Dr. Santi Gopal Basu	....	Librarian
4. Dr. Ashok Chatterjee	....	Post Doctoral Fellow
5. Dr. M. Sivakumar	....	—Do—
6. Mr. Apurba Kanti Sarkar	....	Aministrative Assistant (Accounts)
7. Mr. Sunish Kumar Deb	....	Stenographer
8. Mr. Tapan Kumar Sen	....	Junior Assistant
9. Mr. Sukanta Mukherjee	...	—Do—
10. Mr. Joydeep Kar	....	—Do—
11. Mr. Prosenjit Talukdar	....	—Do—
12. Mr. Pradip Kumar Bose	....	Helper
13. Mr. Partha Chakraborty	....	—Do—

NOTE

The Department of Science and Technology has communicated the following budget provision for the S. N. Bose National Centre for Basic Sciences during the financial year 1989-1990 through its letter no. G. 20011(14)/89— B & A dated May 15, 1989.

Budget Estimates 1989-90

Plan

Rs. 95,00000.00/-

Non-Plan

ANNEXURE
REVISED ESTIMATES 1988-1989

Sl. No.	Item	Actuals			B.E. 1988-89	Actual upto 8/88
		1985-86	1986-87	1987-88		
1	2	3	4	5	6	7
1.	Xerox Machine	—	—	0.97	—	—
2.	Typewriters	—	—	0.37	0.20	0.10
3.	Small Equipment	—	—	0.24	0.20	0.07
4.	Boundary Wall*	—	—	0.10*	2.00	6.52
5.	Office Building including Library and Computer House, Internal Roads, Hostels and Guest Houses	—	—	—	85.00	—
6.	Overhead Reservoir & Water Supply Net Work	—	—	—	10.00	—
7.	Campus Plan	—	—	0.28	0.30	—
8.	Computer**	—	—	9.45	—	—
9.	Campus Land***	—	—	—	—	—
10.	Furniture, Fans & Lights, ACs & Installation of Telephones †	—	—	1.21	1.00	0.93
11.	Library Books & Journals	—	—	0.55	1.50	1.08
12.	Purchase of a Staff Car	—	—	—	1.00	—
		—	—	13.17	101.20	8.70

* The total provision for boundary wall in 1987-88 and 1988-89 was Rs. 11,06,000.00. The actual cost was Rs. 10,38,937.20.

** The grant for the computer was Rs. 5 lakh from DST and Rs. 5 lakh from donation. So far Rs 1,00,001.00 has been received from donation.

*** The West Bengal Government Metropolitan Development Department in its letter no. 1308 dated 9.4.1987 informed the Centre that this further amount Rs. 60,694.00 was due from the Centre for the land. This has been paid.

† Includes the expenditure for furnishing the guest house as per the resolution of the Governing Body at its meeting on August 3, 1988 and the installation of air conditioners for the Computer-Room.

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(PLAN CAPITAL)

AND BUDGET ESTIMATES 1989-90

(RUPEES IN LAKHS)

Requirement for 9/88 to 3/89	R.E. 1988-89	Variation between BE & RE 1988-89	B.E, 1989-90	Variation between RE 1988-89 and BE 1989-90	Reasons for varia- tion between Col. 10 & 12
8	9	10	11	12	13
—	—	—	—	—	—
0.10	0.20	—	.20	—	—
0.12	0.20	—	.20	—	—
4.54	2.03	—	—	—	—
85.00	85.00	—	100.00	—	—
10.00	9.00	(-1.0)	—	—	—
0.30	0.19	(-0.11)	—	—	—
—	—	—	—	—	—
0.61	0.61	—	—	—	—
1.18	2.11	(+1.11)†	1.15	—	—
1.17	1.75	(+0.25)	2.25	—	—
1.00	1.00	—	—	—	—
104.02	102.06		103.80		

ANNEXURE

Sl. No.	Head of Account Major Head/Minor Head Detailed Head/Sub-head	Actuals			B.E.	Actuals
		1985-86	1986-87	1987-88	1988-89	upto 8/88
1	2	3	4	5	6	7
1.	Salaries	—	35,696	1,66,081	6,80,544	90,909
2.	Office Expenses	—	—	3,29,400	4,71,500	1,69,957
	Total Provision		35,696	4,95,481	11,52,044	2,60,866
	Recoveries to be taken as reduction in expenditure	—	—	—	—	—
	Net Provision	—	35,696	4,95,481	11,52,044	2,60,866

—I (Contd.)

(PLAN REVENUE)

R.E. 1988-89 Anticipated Expenditure 9/88 to 3/89	R.E. 1988-89	Variation between B.E. & R.E. 1988-89 (-)	B.E. 1989-90	Variation between R.E. 88-89 & B.E. 89-90 (+)
8	9	10	11	12
3,69,025.50	4,59,935.50	2,20,308.50	7,85,047	3,25,111.50
3,31,543.00	4,46,500.00	25,000.00	5,77,500	1,31,000.00
7,00,568.50	9,06,435.50	2,45,608.50	13,62,547	4,56,111.50
—	—	—	—	—
7,00,568.50	9,06,435.50	2,45,608.50	13,62,547	4,56,111.50

S. N. BOSE NATIONAL CENTRE FOR BASIC SCIENCES

Budget Estimate 1989-90

PLAN—RECURRING

A. Salaries & Allowances :

1. Director	...	Rs.	96,000.00
2. Administrative Officer	...	Rs.	50,025.00
3. Administrative Asst. (Accounts)	...	Rs.	24,860.00
4. Steno-Typist	...	Rs.	17,040.00
5. Librarian	...	Rs.	36,600.00
6. Superintendent	...	Rs.	17,040.00
7. Jr. Assistants (4)	...	Rs.	45,840.00
8. Helper (2)	...	Rs.	18,072.00
9. C C.A.	...	Rs.	9,960.00
10. H.R.A.	...	Rs.	61,200.00
11. D.A.	...	Rs.	49,410.00
12. Travel for Scientists (Inland and Overseas)	...	Rs.	20,000.00
13. Contribution to P.F.	...	Rs.	40,000.00
14. Visiting P.D.F.	...	Rs.	1,87,200.00
15. Visiting Member Fellows	...	Rs.	50,000.00
16. Scientific Officer	...	Rs.	27,300.00
17. Casual Labour	...	Rs.	25,000.00
18. Medical Claims	...	Rs.	5,000.00
19. Festival Advance	...	Rs.	5,000.00
		Rs.	7,85,047.00

S. N. BOSE NATIONAL CENTRE FOR BASIC SCIENCES**Budget Estimate 1989-90****PLAN—RECURRING****B. Other Expenditure :**

1. Telephone & Trunkcalls	...	Rs.	15,000.00
2. Postage & Telegram	...	Rs.	20,000.00
3. Electricity Charge	...	Rs.	10,000.00
4. Municipal Tax	...	Rs.	500.00
5. Printing & Stationery	...	Rs.	20,000.00
6. Hire of Office Premises	...	Rs.	96,000.00
7. Meeting Expenses	...	Rs.	50,000.00
8. Misc. Expenses (Cont.)	...	Rs.	15,000.00
9. Campus Beautification	...	Rs.	5,000.00
10. Seminar & Other Academic Expenses	...	Rs.	1,50,000.00
11. Director's Research Expenses	...	Rs.	50,000.00
12. Library Books	...	Rs.	75,000.00
13. Library Journals	...	Rs.	1,50,000.00
14. Accommodation for Visiting Scientist	...	Rs.	60,000.00
15. Hire of Transport	...	Rs.	75,000.00
		Rs.	7,91,500.00

S. N. BOSE NATIONAL CENTRE FOR BASIC SCIENCES

Budged Estimate 1989-90

PLAN—RECURRING

C. Maintenance

1. Building Maintenance	...	Rs.	1,000.00
2. Equipment (Service Contract)	...	Rs.	10,000.00
	Total	Rs.	<u>11,000.00</u>

PLAN—NON-RECURRING

D. Equipment

1. Type Writer	...	Rs.	20,000.00
2. Small Equipment	...	Rs.	20,000.00
		Rs.	<u>40,000.00</u>

S. N. BOSE NATIONAL CENTRE FOR BASIC SCIENCES

Budget Estimate 1989-90

PLAN—NON-RECURRING

E. Building :

1. Boundary wall	...	Rs.	
2. Preparatory Work Campus Plan etc.	...	Rs.	
3. Construction of Building	...	Rs.	100,00,000.00
		Rs.	<u>100,00,000.00</u>

F. Furniture & Fixture :

1. Office Furniture, Almirah, Filing Cabinet, Tables etc.	...	Rs.	90,000.00
2. Installation & Airconditioning charge for the Computer	...	Rs.	—
3. Library Almirah	...	Rs.	25,000.00
		Rs.	<u>1,15,000.00</u>

S. N. BOSE NATIONAL CENTRE FOR BASIC SCIENCES

Budget Estimate 1989-90

PLAN—NON-RECURRING

G.

1. Water Supply Installation	...	Rs.	Nil
2. Purchase of a staff car	...	Rs.	Nil
		Rs.	Nil

Total D+E+F+G = (40,000 + 1,00,000 + 1,15,000) = Rs. 1,01,55,000.00

GRAND TOTAL : *

Plan Recurring	...	Rs.	15,87,547.00
Plan Non-Recurring	...	Rs.	1,01,55,000.00
		Total	Rs. 1,17,42,547.00

* This amount will be adjusted according to what is actually made available to the Centre by the Department of Science and Technology.

ANNEXURE
S. N. BOSE NATIONAL CENTRE
Statement of
with effect from
PLAN—

Receipts

		Rs.	P.
To	Grant Received (No. SP/SN/001/88 dt. 18.04.88)	...	4,00,000.00
„	Grant Received (No. SP/SN/001/88 dt. 16.06.88)	...	8,00,000.00

12,00,000.00

—II

FOR BASIC SCIENCES

Expenditure

1.4.88 to 31.3.89

RECURRING

Payments		Rs.	P.
By	Salary & Allowances	2,61,428.35	
„	Contribution to P. F.	12,877.25	
„	Wages (Casual)	40,595.00	
„	Visiting Membership Fellowship	17,355.00	
„	Telephone Charges	14,654.00	
„	Postage	5,207.24	
„	Printing and Stationery	28,622.99	
„	Hire of Office Premises	96,000.00	
„	Hire of Transport	99,643.36	
„	Accommodation for Visiting Scientists (including Rs. 5000/- as advance Rent)	20,000.00	
„	Meeting Expenses	40,519.12	
„	Seminar & Other Academic Expenses	1,54,096.68	
„	Director's Research Expenses	37,723.88	
„	Electricity charges	1,385.17	
„	Service Contract	7,500.00	
„	T.A./D.A. to Staff's attending Seminar	7,996.00	
„	Misc. Expenses (including Insurance Premium of Rs. 15,835.00)	44,179.96	
	TOTAL	8,89,784.00	
	Balance	3,10,216.00	
		<u>12,00,000.00</u>	

S. N. BOSE NATIONAL CENTRE

Statement of
with effect from

PLAN—

Receipts			Rs.	P.
To	Balance C/d from Last year	...	8,48,815.17	
"	Balance C/d from Plan-Recurring of this year	...	3,10,216.00	
"	Grant Received (No. SP/SN/001/88 dt. 18.4.88)	...	14,00,000.00	
"	Grant Received (No. SP/SN/001/88 dt. 16.6.88)	...	30,50,000.00	
"	Grant Received (No. SP/SN/001/88 dt. 15.3.89)	...	45,50,000.00	
"	Donation Received	...	51,000.00	
"	Bank Interest	...	33,254.50	

1,02,43,285.67

FOR BASIC SCIENCES

Expenditure

1.4.88 to 31.3.1989

NON-RECURRING

Payments			Rs.	P.
By	Equipment (Typewriter etc.)	...	25,188.25	
„	Small Equipment	...	9,403.75	
„	Boundary Wall	...	10,30,357.20	
„	Construction of Building	...	27,276.00	
„	Office Furniture	...	80,566.32	
„	Library Almira	...	14,284.85	
„	Furniture & Furnishing accommodation for visiting Scientists	...	72,912.36	
„	Library Books	...	60,090.50	
„	Library Journals	...	77,703.00	
„	Campus Land	...	60,694.40	
„	Installation of air conditioning for Computer (including security deposit for new line)	...	76,189.00	
„	Purchase of Motor Car	...	1,04,817.00	
	TOTAL	...	16,39,482.63	
„	Balance	...	86,03,803.04	
			<u>1,02,43,285.67</u>	

AUDIT REPORTS ' 1988 & 1989

SATYENDRA NATH BOSE NATIONAL CENTRE
FOR BASIC SCIENCES

BIDHANNAGAR, CALCUTTA

STATEMENT OF ACCOUNTS FOR THE YEAR
ENDED 31ST MARCH, 1988

ROY & BAGCHI
CHARTERED ACCOUNTANTS
CALCUTTA : PORT BLAIR

SATYENDRA NATH BOSE NATIONAL
CENTRE FOR BASIC SCIENCES

ROY & BAGCHI
CHARTERED ACCOUNTANTS

DB—17 SECTOR—I, SALT LAKE, CALCUTTA-700 064

AUDITORS' REPORT

We have audited the attached Balance Sheet of the SATYENDRA NATH BOSE NATIONAL CENTRE FOR BASIC SCIENCES, SALT LAKE, CALCUTTA as at 31st March, 1988 and the annexed Income and Expenditure Account and the Receipts and Payments Account for the year ended on that date which are in agreement with the books of accounts and records produced to us.

In our opinion and the best of our information and according to the explanations given to us, the Balance Sheet, Subject to our observations per Schedule—“I” annexed hereto, gives a true and fair view of the state of affairs of the centre and the Income and Expenditure gives a true and fair view of the excess of Income over Expenditure for the year.

1A, Raja Subodh Mullick Square,
Calcutta-700 013.
The 30th day of September, 1988

Sd/- ROY & BAGCHI
CHARTERED ACCOUNTANTS

SATYENDRA NATH BOSE NATIONAL
CENTRE FOR BASIC SCIENCES

ROY & BAGCHI
CHARTERED ACCOUNTANTS

SCHEDULE—I (ANNEXTURE TO THE AUDITOR'S REPORT)

1. CURRENT LIABILITIES :

(a) Sundry Creditors—

(i) M/S Hewlett Packard Rs. 8,35,538

The above represents the cost of one "COMPUTER" to be imported from Hewlett Packard inclusive of the bank charges of Rs. 4,176 for opening an irrevocable confirmed letter of credit opened with Indian Overseas Bank, Salt Lake Branch. The bank transferred on 26th April, 1988 from the Current Account to One-hundred percent Margin Account a sum of Rs. 8,31,362 and also debited bank charges of Rs. 4.176 aggregating to Rs. 8,35,538.

Pending receipt of the above computer from the foreign supplier, the centre has debited "COMPUTER" account in the fixed Assets with a corresponding credit to the above account under sundry creditors.

(ii) Blue Star Limited Rs. 1,09,200/-

The above represents the cost of a "MINI-COMPUTER" purchased during the year the payment whereof was made during the financial year 1988-89.

As the above "MINI-COMPUTER" was received during the year 1987-88, the centre has adjusted the cost of the computer by debiting the "COMPUTER" account under "FIXED ASSETS" with a corresponding credit to the above account under "SUNDRY CREDITORS".

(iii) Director Research :

Basic & Synthetic Chemical Private Limited Rs. 9,984.60

The above represents the cost of "Vaccum Pump" (A/C Director Research unit) purchased during the financial year 1987-88, but the payment whereof was made during the financial year 1988-89.

As such, the centre has adjusted the cost of the above asset by debiting the "Vaccum Pump" under the Fixed Assets with a corresponding credit to the above account under "SUNDRY CREDITORS".

2. LOANS AND ADVANCES :

- (i) Deposit with the Landlord for office premises Rs. 16,000/-

The above represents the amount of deposit against rent paid to Sri Jagat Bandhu Chowmik, the landlord of the office premises at DB 17, Sector-I, Salt Lake, Calcutta-700 064 equivalent to two months rent bearing no interest either to be refunded back to the Tenant by the landlord at the expiry of the term of tenancy or sooner termination thereof.

In terms of the Tenancy Agreement, the agreement is for two years effective from 15th June, 1987.

Although, the tenancy agreement stipulates the commencement of the tenancy effective from 15th June, 1987, but the possession of the 1st floor was made on 15th day of July, 1987.

3. Seminar and other Academic Expenses Rs. 99,068/-

The above represents the following expenditures duly approved by the Finance Committee of the Centre :

- (i) Workshop and symposium on Many Body Effect in Quantum Chemistry—Rs. 80,000 (Rupees eighty thousand only)
- (ii) National Seminar on Materials (IPS, IACS)—Rs. 4,000/-
- (iii) Physics through experiments—Rs. 1,000/-
- (iv) Regional Meeting on High T C super conductor (January 25, 1988) Rs. 1,568.00
- (v) National symposium on scattering theory at I.A.C.S. Rs. 7,500.00
- (vi) (Satellite) Meeting on radiation physics, Bose Institute Rs. 5,000.00

Total Rupees : 99,068/- (Rupees Nintynine thousand and Sixty eight only)

1A, Raja Subodh Mullick Square,
Calcutta-700 013
The 30th day of September, 1988

Sd/- ROY & BAGCHI
CHARTERED ACCOUNTANTS

(4)

SATYENDRA NATH BOSE NATIONAL CENTRE

DB—17, SECTOR—I, SALT LAKE

BALANCE SHEET AS AT

<u>FUND AND LIABILITIES</u>	<u>Rs.</u>	<u>P.</u>	<u>Rs.</u>	<u>P.</u>
<u>GENERAL FUND :</u>				
Excess of Income over				
Expenditure for the year			5,30,617.79	
<u>CAPITAL FUND (NON-RECURRING GRANTS) :</u>				
From the Government of India				
For non-recurring Expenditure	9,00,000.00			
„ Boundary wall	7,00,000.00			
	<u>16,00,000.00</u>			
„ Donation received from J. Bose				
for the purchase of a computer	50,001.00		16,50,001.00	
	<u>50,001.00</u>			
<u>CURRENT LIABILITIES :</u>				
Sundry Creditors				
M/S Hewlett Packard	8,35,538.00			
„ Blue Star Limited	1,09,200.00			
	<u>9,44,738.00</u>			
Director Research :				
M/S Basic & Synthetic Chemical Private Ltd.	9,984.60			
Liabilities for Expenses outstanding				
Salary for Dearness Allowance	480.00			
Audit Fees	1,250.00			
Other Liabilities :				
Loan from Indian Association for the				
Cultivation of Science for 1986-87	5,330.00			
For 1987-88	11,132.96	16,462.96	9,72,915.56	
	<u>11,132.96</u>	<u>16,462.96</u>	<u>9,72,915.56</u>	
			<u>31,53,534.35</u>	

AUDITORS' REPORT

In terms of our separate report of even date.

1A, Raja Subodh Mullick Square,
Calcutta-700 013..

The 30th day of September, 1988

Sd/- ROY & BAGCHI
CHARTERED ACCOUNTANTS

(5)

FOR BASIC SCIENCES

CALCUTTA-700 064

31ST MARCH, 1988

ROY & BAGCHI

CHARTERED ACCOUNTANTS

PROPERTY AND ASSETS		Rs.	P.	Rs.	P.
<u>FIXED ASSETS :</u>					
As Per Schedule "A" annexed				12,82,053.33	
<u>CURRENT ASSETS :</u>					
Bank Balance with Indian Overseas Bank (Salt Lake Branch) on Savings Bank Account				18,08,991.42	
<u>LOANS & ADVANCES :</u>					
Deposit with the landlord for office premises for rent			16,000.00		
Advances recoverable :					
From Indian Association for the Cultivation of Science		40,000.00*			
From Prof. C. K. Majumdar		<u>6,459.60</u>	<u>46,459.60</u>	62,459.60	
* Received by the Indian Association for the Cultivation of Science on end April, 1988					
<u>31,53,534.35</u>					

Sd/- J. Pal Chaudhuri
ADMINISTRATIVE OFFICER

Sd/- C. K. Majumdar
DIRECTOR

SATYENDRA NATH BOSE NATIONAL CENTREDB—17, SECTOR—I, SALT LAKE,INCOME AND EXPENDITURE ACCOUNT FOR

EXPENDITURE	AMOUNT	
	Rs.	P.
To Salary & Allowance—Payment made	1,23,192.00	
Add: Outstanding expenses for		
Dearness Allowances	480.00	
		1,23,672.00
„ Contribution to P. F. for Director		6,201.25
„ Insurance Premium under deposit linked Insurance		17.80
„ Wages		31,844.00
„ Travelling Expenses		2,940.00
„ Visiting Membership Fellowship		7,753.80
„ Telephone Charges		20.00
„ Postage & Telegram		2,538.20
„ Printing & Stationery		12,150.01
„ Hire of Office Premises		66,838.65
„ Audit Fees		1,250.00
„ Hire of Transport & Conveyance		26,667.50
„ Seminar & Other Academic Expenses		99,068.00
„ Director Research Expenses		4,157.00
„ Contingency		13,087.80
„ Campus Plan		28,000.00
„ Service Contract		312.00
„ Electric Charges		826.00
„ Meeting Expenses		13,398.20
„ Installation of Telephone line		24,000.00
„ Excess of Expenditure incurred by I.A.C.S. during 1986-87 in respect of salary		5,330.00
„ Excess of Income over Expenditure and Transferred to Balance Sheet		5,30,617.79
		<u>10,00,690.00</u>

1A, Raja Subodh Mullick Square
Calcutta-700 013

The 30th day of September, 1988

Sd/- ROY & BAGCHI
CHARTERED ACCOUNTANTS

(7)

FOR BASIC SCIENCES

CALCUTTA-700 064

THE YEAR ENDED 31ST MARCH, 1988

ROY & BAGCHI

CHARTERED ACCOUNTANTS

INCOME	AMOUNT	
	Rs.	P.
By Grant Received from Government of India for Plan Expenditure	10.00.000.00	
„ Sale of Tender Forms		690.00

10,00,690.00

Sd/- J. Pal Chaudhuri
ADMINISTRATIVE OFFICER

Sd/- C. K. Majumder
DIRECTOR

SATYENDRA NATH BOSE NATIONAL CENTRE
DB—17, SECTOR—I, SALT LAKE,
RECEIPTS AND PAYMENTS ACCOUNTS FOR

RECEIPTS	GRANT RECD. By I.A.C.S.	GRANT RECD. BY CENTRE	TOTAL
To Grant received from Govt. of India	5,00,000.00	—	5,00,000.00
„ „		14,00,000.00	
„ „		3,35,000.00	
„ „, Transferred by I.A.C.S.		<u>3,65,000.00</u>	21,00,000.00
„ Sale of Tender Form		690.00	
„ Donation for Computer		<u>50,001.00</u>	50,691.00
„ Loan from I.A.C.S.			11,132.96

N.B. Grant received from
Govt. of India

Plan-Recurring	10,00,000.00
Non-Recurring	<u>16,00,000.00</u>
	<u>26,00,000.00</u>

5,00,000.00

21,50,691.00

26,61,823.96

1A, Raja Subodh Mullick Squire
Calcutta-700 013

The 30th day of September, 1988

Sd/- ROY & BAGCHI
CHARTERED ACCOUNTANTS

FOR BASIC SCIENCESCALCUTTA-700 064THE YEAR ENDED 31st March, 1988

ROY & BAGCHI

CHARTERED ACCOUNTANTS

PAYMENTS	EXP. INCURRED	EXP. INFURRED	TOTAL
	BY I.A.C.S.	BY CENTRE	
By Salary and Allowances	1,23,192.00	—	1,23,192.00
„ Contribution to P.F.	6,201.25	—	6,201.25
„ Insurance Premium under D.L.I.	17.80	—	17.80
„ Wages	17,544.00	14,300.00	31,844.00
„ Travel	2,940.00	—	2,940.00
„ Visiting Membership Fellowship	4,140.00	3,613.80	7,753.80
„ Telephone Charges	20.00	—	20.00
„ Postage & Telegram	2,319.20	219.00	2,538.20
„ Printing & Stationery	10,938.41	1,211.60	12,150.01
„ Hire of Office Premises (Including deposit against rent of Rs. 16,000/-)	66,838.65	16,000.00	82,838.65
„ Hire of Transport & Conveyance	17,353.00	9,314.50	26,667.50
„ Conveyance	17,353.00	9,314.50	26,667.50
„ Meeting Expenses	13,160.00	238.20	13,398.20
„ Seminar & Other academic Exp.	39,068.00	60,000.00	99,068.00
„ Director Research Exp.	7,888.00	4,129.00	12,017.00
„ Contingency Expenditure	11,542.50	1,545.30	13,087.80
„ Advance	—	46,459.60	46,459.60
„ Xerox Machine	—	97,040.00	97,040.00
„ Campus Plan	—	28,000.00	28,000.00
„ Service Contract	—	312.00	312.00
„ Electric Charges	—	826.00	826.00
„ Type Writer	37,393.25	—	37,393.25
„ Equipment	18,965.70	5,009.93	23,975.63
„ Boundary Wall	5,200.00	3,380.00	8,580.00
„ Furniture & Fixture	38,244.75	2,120.00	40,364.75
„ Seminar Room Chairs	11,075.40	—	11,075.40
„ Conference Table	8,482.85	—	8,482.85
„ Library Almirah (Store-Well)	25,946.49	—	25,946.49
„ Fans and Light Fittings	11,156.40	—	11,156.40
„ Installation of Telephone	24,000.00	—	24,000.00
„ Books & Journal	7,505.31	47,980.60	55,485.91
„ Cash at Bank (Indian Overseas Bank, Salt Lake)	—	—	18,08,991.42
	<u>5,11,132.96</u>	<u>3,41,699.58</u>	<u>26,61,833.96</u>

Sd/- J. Pal Chaudhuri
ADMINISTRATIVE OFFICER

Sd/- C. K. Majumdar
DIRECTOR

SATYENDRA NATH BOSE NATIONAL CENTRESCHEDULE OF**SCHEDULE—A**

Date	Particulars	Bill No. & Name of the Suppliers
27.11.87	Director Research Exp.	M/S Gyanic Instrument
31.3.88	,, (Vacum Pump)	M/S Basic & Synthetic Pvt. Ltd.
31.3.88	Computer	M/S Hewlett Packard Asis Ltd.
31.3.88	,,	M/S Blue Star Limited
31.3.88	Xerox Machine Type Writer (Manual & Electronics)	M/S Modi Xerox M/S Remington Rand of India Ltd.
		M/S P. C. L.
18.8.87	Small Equipment (Duplicating Machine)	M/S Gestetner Co. Pvt. Ltd.
31.3.88	(Photo Phone)	M/S Theatre Equipment, Bill No. 272, dt. 20.3.88
	Boundry Wall	—
18.8.87	<u>Furniture & Fixture</u> (Table, Chair etc.)	M/S Carona Steel Invoice No. CS/GI/10
7.8.87	3 Pcs. Glassdoor Storewell @ Rs. 3614.01 each	M/S Godrej & Boyce Mfg. Pvt. Ltd.
3.7.88	Table, Chair, Almirah	Carona Steel Invoice No. CS/G/I-1/87

FOR BASIC SCIENCESROY & BAGCHI
CHARTERED ACCOUNTANTSFIXED ASSETS

Order No. and Date	Total	
	Rs.	P.
	7,860.00	
No. 14, 28.3.88	<u>9,984.60</u>	17,844.60
No. 17, 29.3.88	8,35,538.00	
No. 16, 30.3.88	<u>1,09,200.00</u>	9,44,738.00
No. 10, 8.2.88	<u>97,040.00</u>	97,040.00
—(i)—	6,386.46	
—(ii)—	6,139.97	
No. 5, 31.12.87	<u>24,866.82</u>	37,393.25
—	18,965.70	
No. 15, 30.3.88	<u>5,009.98</u>	23,975.68
—	<u>8,580.00</u>	8,580.00
SNB/OF/33 29.7.87	10,856.00	
SNB/OF/26 July '87	10,842.03	
SNB/OF/3 2.7.87	<u>15,512.00</u>	
	<u>37,210.03</u>	

SATYENDRA NATH BOSE NATIONAL CENTRESCHEDULE OFSCHEDULE—A

Date	Particulars	Bill No. & Name of the Suppliers
31.3.88	Office Almirah	Nisha Trading Co. NT/03/88
	30 Pcs. seminar Chairs @ Rs. 335/- each	M/S Swastik Enterprise
6.11.87	Library Almirah (Glassdoor Storewell, Table etc.)	M/S Godrej & Boyce Proforma BWP/BR/KD/F
28.9.87	Conference Table	M/S Godrej & Boyce Mfg. Pvt. Ltd.
	Light & Fans	Bill Sent to IACS
	Library Books	M/S Dasgupta & Co. Bill No. 2774 Sarat Book House Bill No. 563 -do- No. 926/87-88 -do- No. Publication A/C. fifty ICVE Sarat Book House Bill No. 931/87-88 -do- No. -do- No. 564 -do- No. 565 -do- No. 710

ROY & BAGCHI

FOR BASIC SCIENCES

ROY & BAGCHI
CHARTERED ACCOUNTANTS

FIXED ASSETS

Order No. and Date		Total	
		Rs.	P.
B/F	37,210.03		
SNB/OF/206			
31.3.88	<u>2,120.00</u>		
	39,330.03		
Add increase price	<u>1,034.72</u>	40,364.75	
SNB/OF/66			
21.8.87	<u>11,075.40</u>	11,075.40	
—	<u>25,946.49</u>	25,946.49	
—	<u>8,482.85</u>	8,482.85	
—	<u>11,156.40</u>	11,156.40	
—	39,758.00		
—	3,073.59		
—	929.48		
2			
7.9.87	3,880.47		
SNB/MF/17	805.00		
—	4,664.48		
3(7.9.87)	263.25		
—	225.00		
—	63.00		
—	<u>1,823.64</u>	55,485.91	
		<u>12,82,083.33</u>	

**SATYENDRA NATH BOSE NATIONAL CENTRE
FOR BASIC SCIENCES**

BIDHANNAGAR, CALCUTTA

**STATEMENT OF ACCOUNTS FOR THE YEAR
ENDED 31ST MARCH, 1989**

ROY & BAGCHI
CHARTERED ACCOUNTANTS
CALCUTTA : PORT BLAIR

ROY & BAGCHI
CHARTERED ACCOUNTANTS

AUDITORS' REPORT

We have examined the attached Balance Sheet of the SATYENDRA NATH BOSE NATIONAL CENTRE FOR BASIC SCIENCES, SALT LAKE, CALCUTTA as at 31st March, 1989 and the annexed Income and Expenditure Account and Receipts and Payments Account for the year ended on that date which are in agreement with the books of accounts and records produced to us.

Subject to Notes on Accounts attached, in our opinion and to the best of our information and according to the explanations given to us the Balance Sheet annexed hereto gives a true and fair view of the state of affairs of the Centre and the Income and Expenditure gives a true and fair view of the excess of Income Over Expenditure for the year.

1A, Raja Subodh Mullick Square,
Calcutta-700 013.
Dated : 1st September, 1989

Sd/- ROY & BAGCHI
CHARTERED ACCOUNTANTS

k.g.

S. N. BOSE NATIONAL CENTRE
FOR BASIC SCIENCES
SALT LAKE, CALCUTTA

ROY & BAGCHI
CHARTERED ACCOUNTANTS

NOTES ON ACCOUNTS FOR THE YEAR ENDED 31st MARCH, 1989

1. Interest on Fixed Deposit accrued to date has not been provided for in the accounts.
2. Tax deducted at source from salary could not be deposited on time.
3. As per past practice no depreciation has been charged on Fixed Assets.
4. Physical verification of Fixed Assets has not been conducted during the year.
5. Fixed Assets Register does not contain as to the location or situation of the Assets.
6. An amount of Rs. 60,694.40 has been shown as consideration for Campus Land included in Fixed Asset schedule which was paid on 28.10.88 but the Lease Agreement with appropriate authority has been executed on 7.8.1989.
7. Surplus of Grants from Govt. of India for Plan Expenditure have been transferred to General Fund Account.
8. There exists scope of improvement in the maintenance of accounts and records.

Sd/- ROY & BAGCHI

k.g.

SATYENDRA NATH BOSE NATIONAL CENTRE
DB—17, SALT LAKE
BALANCE SHEET AS AT

<u>FUND AND LIABILITIES</u>	Rs.	P.
<u>GENERAL FUND :</u>		
Balance as per last account	5,30,617.79	
<i>Add</i> : Excess of Income over Expenditure for the year	3,34,791.76	8,65,409.55
<u>CAPITAL FUND (NON-RECURRING GRANT) :</u>		
Balance as per last account	16,50,001.00	
<i>Add</i> ; Received during the year :		
From Govt. of India grant for non-recurring Expenses	44,50,000.00	
Donation from J. Bose for purchases of Computer	50,000.00	
Donation from Prof. K. Dasgupta	1,000.00	
	45,01,000.00	61,51,001.00
<u>CURRENT LIABILITIES :</u>		
Sundry Creditors		9,849.90
<u>OTHER LIABILITIES :</u>		
Outstanding Liabilities (as per Sch. B)	25,162.13	
Security Deposit	19,825.00	
Others	27,024.00	72,011.13
		70,98,271.58

AUDITORS' REPORT

In terms of our report of even date.

1A, Raja Subodh Mullick Square,
Calcutta-700 013.

The 1st day of September, 1989

k.g.

Sd/- ROY & BAGCHI
CHARTERED ACCOUNTANTS

FOR BASIC SCIENCES
CALCUTTA-700-064
31.03.89

ROY & BAGCHI
CHARTERED ACCOUNTANTS

<u>PROPERTY AND ASSETS</u>		Rs.	P.
<u>FIXED ASSETS :</u>			
Per Schedule "A" annexed		27,69,185	05
<u>CURRENT ASSETS :</u>			
Cash and Bank Balances in hand	6,052.27		
With Indian Overseas Bank on Current Account	40,84,952.59		
Fixed Deposit with Indian Overseas Bank	49,590.00		
Stock of Printing & Stationery	5,697.06		
Stamp-in-hand	404.70	41,46,696.02	
<u>LOANS AND ADVANCES :</u>			
Deposits for Rent	21,000.00		
Security Deposits	11,970.00		
Advance to Suppliers	1,10,402.95		
Advance to Indian Association for Cultivation of Science	24,038.00		
Prepaid Expenses (Unexpired Insurance Premium)	13,540.00		
Other Advances	351.40		
Advance for Contingency Expenses	1,087.56	1,82,339.91	
		<u>70,98,271.58</u>	

Sd- J. Pal Chaudhuri
ADMINISTRATIVE OFFICER

Sd- C. K. Majumdar
DIRECTOR

SATYENDRA NATH BOSE NATIONAL CENTRE
DB—17, SALT LAKE
INCOME AND EXPENDITURE ACCOUNT FOR

EXPENDITURE	AMOUNT
Salary & Allowances	2,61,428.35
Centre's Contribution to C.P.F.	12,877.25
Wages	40,595.00
Director Research Expenses	25,392.90
Electric Charges	1,385.17
Hire of Transport	99,643.36
Hire of Office Premises	96,000.00
Contingency Expenses	19,232.64
Printing & Stationery	22,925.93
Seminar & Other Academic Expenses	1,47,656.68
Service Contracts	7,500.00
Service Connection Charge	24,962.00
Visiting Member Fellowship	17,520.00
Postage & Telegram	4,802.54
General Insurance Premium	2,295.00
Telephone & Trunk Calls	14,654.00
Hire of Typewriters	500.00
Office Furnishing Expenses	3,502.00
Guest House Rent	15,000.00
Guest House Expenses	18,220.06
Charges for Air-Conditioning	5,757.50
T. A./D. A. to Staffs Attending Seminar	7,996.00
Transport & Conveyance	1,770.45
Electrical Fittings	2,263.79
Bank Charges	1,063.00
Meeting Expenses	40,519.12
Audit Fees	3,000.00
Excess of Income over Expenditure	
Transferred to General Fund Account	3,34,791.76
	12,53,254.50

1A, Raja Subodh Mullick Square,
Calcutta-700 013.

The 1st day of September, 1989.

k.g.

Sd/- ROY & BAGCHI
CHARTERED ACCOUNTANTS

(7)

FOR BASIC SCIENCES
CALCUTTA-700 064
THE YEAR ENDED 31st MARCH, 1989

ROY & BAGCHI
CHARTERED ACCOUNTANTS

INCOME	AMOUNT
Grant Received from Government of India for Plan Expenditure	12,00,000.00
Bank Interest	33,254.50

12,33,254.50

Sd/- J. Pal Chaudhuri
ADMINISTRATIVE OFFICER

Sd/- C. K. Majumdar
DIRECTOR

SATYENDRA NATH BOSE NATIONAL CENTRE
DB—17, SECTOR—1, SALT LAKE,
RECEIPTS AND PAYMENTS ACCOUNTS FOR

RECEIPTS	AMOUNT	
	Rs.	P.
Bank balance with I. O. B., Salt Lake		18-08,991.42
Grant received from the Govt. of India :		
Recurring :	12.00.000.00	
Non-recurring :	44.50.000.00	56,50,000.00
Donation for Computer		50.000.00
Donation from Prof. K. Dasgupta		1,000.00
Bank Interest		33,254.50
Employees' Income Tax	17,746.00	
Employees' Professional Tax	847.00	
Employees' Contribution to P.F.	706.00	19,359.00
Earnest money received		500.00
Retention money from Contractors		19,825.00
Contractor's Income Tax		7,165.00
Advance Received from Indian Association for the Cultivation of Science	7,50,085.45	
Others	5,372.04	7,55,457.40

83,75,552.41

1A, Raja Subodh Mullick Square,
Calcutta-700 013.
The 1st day of September, 1989

Sd/- ROY & BAGCHI
CHARTERED ACCOUNTANTS

FOR BASIC SCIENCES
CALCUTTA-700 064

ROY & BAGCHI
CHARTERED ACCOUNTANTS

THE YEAR ENDED 31s MARCH, 1989

PAYMENTS	AMOUNT	
	Rs.	P.
Salary & Allowances	2,61,908.55	
Wages (Casual)	40,595.00	
Centre's contribution to C.P.P.	8,786.25	
Director's Research expenses	37,093.85	
Electricity charges	1,385.17	
Hire of Transport	93,943.36	
Hire of Office Premises	88,000.00	
Office Contingency expenses	19,232.64	
Printing & Stationery	28,178.66	
Seminar & other Academic expenses	1,46,859.88	
Service Contract	7,500.00	
Service Connection charge	24,962.00	
Visiting Member Fellowship	17,520.00	
Postage & Telegram	5,207.24	
General Insurance Premium	15,835.00	
Telephone & Trunkcalls	14,654.00	
Hire of Typewriters	500.00	
Office Furnishing expenses	3,502.00	
Guest House Rent	12,500.00	
Guest House expenses	18,220.06	
Installation charge for Air-conditioners	5,757.50	
T.A./D.A. to staffs attending seminar	7,096.00	
Transport & Conveyance	1,770.45	
Electrical Fittings	2,263.79	
Meeting expenses	40,519.12	
Guest House Furniture	54,692.36	
Small Equipment	9,403.75	
Books & Journals	1,37,793.56	
Car pus Land	63,694.40	
Air-conditioning Machine	33,600.00	
Office Equipment	25,188.25	
Furniture & Fixture	95,765.22	
Outstanding Audit Fees	1,250.00	
Bank Charges	1,063.00	
Payments to Sundry Creditors	9,54,722.00	
Advance Payments to Suppliers	1,10,402.55	
Security deposit with W.B.S.E.B.	11,370.00	
Security deposit with Dept. of Telecommunication	100.00	
Fixed Deposit with I.O.B., Salt Lake	49,590.00	
Boundary Wall	10,30,356.80	
Advance to Indian Association for the Cultivation of Science	7,80,586.41	
Others	351.40	
Construction of Building		7,80,937.81
Deposit with Land lord of Guest House		17,426.50
Balance —		5,000.00
Bank balance with I. O. B.	40,94,952.59	
Cash balance in hand	6,052.27	
		83,75,552.41

Sd/- J. Pal Chaudhuri
ADMINISTRATIVE OFFICER

Sd/- C. K. Majumdar
DIRECTOR

SATYENDRA NATH BOSE NATIONAL CENTRE
DB—17, SECTOR—1, SALT LAKE,
FIXED ASSET

SCHEDULE—A

<u>OFFICE EQUIPMENT</u>	<u>Opening Balance as at 1.4.88</u>	<u>Addition during the year</u>
Xerox Machine	97,040.00	—
Typewriters	57,393.25	6,742.05
Fixograph	—	6,401.05
Binder Machine	—	9,854.00
Weighing Machine	—	1,258.15
Calculator	—	933.00
	<u>1,34,433.25</u>	<u>25,183.25</u>
 <u>FURNITURE & FIXTURE</u>		
Office Furniture	59,923.00	79,821.32
Library Furniture	25,946.49	8,698.90
Fans & Clocks	11,156.40	7,345.00
	<u>97,025.89</u>	<u>95,765.22</u>
 <u>GUEST HOUSE FURNITURE</u>		
Refrigerator	—	6,600.00
Water Heaters	—	4,300.00
Fans	—	1,710.00
Emergency Lights	—	1,240.00
Clock	—	135.00
Other Furniture (Cots, Dining Chairs, Tables etc.)	—	40,707.36
	<u>—</u>	<u>54,692.36</u>

k.g.

FOR BASIC SCIENCES
CALCUTTA-700 064
SCHEDULE

ROY & BAGCHI
CHARTERED ACCOUNTANTS

<u>Adjustment during the year</u>	<u>Closing Balance as at 31.03.89</u>
—	97,640.00
—	44,135.30
—	6,401.05
—	9,854.00
—	1,258.15
—	933.00
—	<u>1,59,621.50</u>
—	1,39,744.32
—	34,645.39
—	18,401.40
—	<u>1,92,791.11</u>
—	6,600.00
—	4,300.00
—	1,710.00
—	1,240.00
—	135.00
—	40,707.36
—	<u>54,692.36</u>

Sd/- ROY & BAGCHI

SATYENDRA NATH BOSE NATIONAL CENTRE
DB—17, SECTOR—1, SALT LAKE,
FIXED ASSETS

SCHEDULE—A

<u>SMALL EQUIPMENT</u>	<u>Opening Balance as at 1.4.88</u>	<u>Addition during the year</u>
Duplicating Machine	18,965.70	—
Projector (Photo Phone)	5,009.98	—
Voltage Stabiliser	—	9,131.00
Others	—	272.75
	<u>23,975.68</u>	<u>9,403.75</u>
Books & Journals	55,485.91	1,37,793.56
Director Research Equipment	17,844.00	12,330.98
Boundary Wall	8,580.00	10,30,357.20
Construction of Building	—	27,276.00
Computer	9,44,735.00	—
Campus Land	—	60,694.40
Air-conditioning Machine	—	33,600.00
Total	<u><u>12,82,083.33</u></u>	<u><u>14,87,101.72</u></u>

k.g.

FOR BASIC SCIENCES
CALCUTTA-700 064
SCHEDULE (contd.)

ROY & BAGCHI
CHARTERED ACCOUNTANTS

<u>Adjustment during the year</u>	<u>Closing Balance as at 31-03-89</u>
-	15,965.70
-	5,009.98
-	9,131.00
-	272.75
<u>-</u>	<u>33,379.43</u>
-	1,05,279.47
-	30,175.58
-	10,58,937.20
-	27,276.00
-	9,44,738.00
-	60,994.40
-	33,600.00
<u>-</u>	<u>27,69,185.05</u>

Sd/ ROY & BAGCHI

SATYENDRA NATH BOSE NATIONAL
CENTRE FOR BASIC SCIENCES
DB-17, SECTOR-1, SALT LAKE, CALCUTTA-700 064

ROY & BAGCHI
CHARTERED ACCOUNTANTS

STATEMENT OF OUTSTANDING LIABILITIES
AS ON 31st MARCH, 1989

SCHEDULE—B

Director Research Expenses	630 00
Guest House Rent	2,500.00
Seminar & Other Academic Expenses	796.80
Hire of Transport	5,700.00
Contribution of CPF	4,091.00
Printing & Stationery	444 33
Hire of Office Premises	8,000.00
Audit Fees	3,000 00
	<hr/>
	25,162.13
	<hr/>

SCHEDULE—C

ADVANCE TO SUPPLIERS :

Hindustan Motors Limited	1,04,113 00
Dewar's Garage	704.00
Remington Rand	5,585.95
	<hr/>
	1,10,402.95
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Sd/- ROY & BAGCHI

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