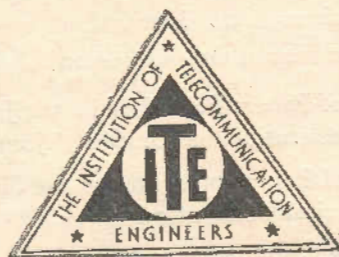


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THE INSTITUTION OF TELECOMMUNICATION ENGINEERS
NEW DELHI

TENTH ANNUAL REPORT
1962-63



NEW DELHI
1963

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(To be sent later)

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ANNUAL REPORT FOR 1962-63

(Report of the Council presented at the Tenth Annual General Meeting of the Institution on 22nd December, 1963.)

The Council of the Institution of Telecommunication Engineers have pleasure in presenting their Tenth Annual Report for the year ending 30th September, 1963 together with the financial accounts in the form approved by the auditors at the 10th Annual General Meeting of the Institution.

The Council record their sincere appreciation of the services performed for the Institution by the Honorary Office bearers and other members of the Institution who gave their time and experience so ungrudgingly in the interests of the Institution.

The Council also wish to acknowledge the co-operation and assistance extended to them throughout the year by the Sustaining members, the various bodies and individuals with whom they were associated in matters relating to the Council's activities.

To keep in the forefront of technical progress is a vital necessity for the professional body. It requires a constant attention on the part of that society to ensure that professional men get the best in their field. To this end, the Council is confident that the members of the Institution will find much interest in this record of work that has been accomplished during the year.

The Council and the various committees of the Institution consisted of the following members :

The Council, 1962-63

President :

Shri Jagdeesh Prasad

Vice-Presidents :

Maj. Gen. R.N. Batra

Dr. P.K. Kapre

Shri A.C. Ramchandani

Honorary Treasurer :

Shri N.V. Gadadhar

Honorary Secretary :

Shri K.R.K. Iyengar

Honorary Joint Secretaries :

Shri T.V. Ramamurthi

Shri R. Seshasayee

Lt. Col. J.N. Shahani

Committees.*Staff & Finance*

Shri Jagdeesh Prasad (Chairman)
 Maj. Gen. R.N. Batra
 Dr. P.K. Kapre
 Shri A.C. Ramchandani
 Shri N.V. Gadadhar
 Shri S.N. Mitra
 Dr. Lal C. Verman
 Shri K.R.K. Iyengar (Secretary)

Editorial

Dr. P.K. Kapre (Chairman)
 Shri B.V. Baliga
 Prof. S.P. Chakravarti
 Shri D.D. Lakhanpal
 Shri R. Seshasayee
 Shri Uma Shankar
 Shri K.R.K. Iyengar
 (Secretary-Main Journal)
 Shri T.V. Ramamurthi
 (Secretary-Student Journal)

Membership

Maj. Gen. R.N. Batra (Chairman)
 Shri N.V. Gadadhar
 Air Comdr. K.A. Joseph
 Shri S.N. Mitra
 Lt. Col. J.N. Shahani (Secretary)

Examination

Shri A.C. Ramchandani (Chairman)
 Dr. Saroj Datta
 Shri S.N. Mitra
 Shri T.V. Ramamurthi
 Prof. S. Sampath
 Brig. B.J. Shahaney
 Gr. Capt. T. Srinivasan
 Shri R. Seshasayee (Secretary)

Library and Building

Shri Jagdeesh Prasad
 (Chairman)
 Shri P.M. Agerwala
 Shri S.N. Mitra
 Shri C.P. Vasudevan
 Dr. Lal C. Verman
 Shri K.R.K. Iyengar
 (Secretary)

Local Centres

BANGALORE : Shri S.K. Kanjilal (Chairman)
 Shri H.J. Mirchandani (Secretary)
 BOMBAY : Shri B.C.S. Maiya (Secretary)
 CALCUTTA : Shri R.R. Juneja (Chairman)
 JABALPUR : Prof. V.V. Sarwate (Chairman)
 Shri P.C. Pal (Secretary)
 MADRAS : Prof. K.S. Hegde (Secretary)

The following members retired from the Council.

Shri P.M. Agerwala (Vice President)
 Shri B.V. Baliga
 Shri N.V. Gadadhar
 Dr. P.K. Kapre
 Shri D.D. Lakhanpal
 Shri S.N. Mitra
 Brig. B.J. Shabani
 Lt. Col. J.N. Shahani

The Council wish to place on record their grateful thanks to the retiring members, who have given their valuable time and effort so willingly in the service of the Institution.

The following members have been duly elected to the Council in accordance with the Bye law 39 to 44.

Shri S.M. Agarwal
Gr. Capt. K.S. Chopra
Col. K.S. Garewal
Col. K.K. Mehta
Shri M.L. Sastry
Shri N.V. Shenoi
Shri C.P. Vasudevan

The Council extend their warm congratulations to the new members and express their hope that with their support, the Institution will gain added strength in the coming year.

The Council for 1963-64 consist of the following members :

1. Maj. Gen. R.N. Batra
2. Shri S.M. Agarwal
3. Prof. S.V.C. Aiya
4. Brig. T. Barreto
5. Prof. S.P. Chakravarti
6. Gr. Capt. K.S. Chopra
7. Dr. Saroj Datta
8. Col. K.S. Garewal.
9. Prof. K.S. Hegde
10. Shri K.R.K. Iyengar
11. Air. Cdre. K.A. Joseph
12. Shri S.K. Kanjilal
13. Col. K.K. Mehta
14. Shri Jagdeesh Prasad
15. Shri A.C. Ramchandani
16. Prof. S. Sampath
17. Shri M.L. Sastry
18. Shri R. Seshasayee
19. Shri N.V. Shenoi
20. Shri Uma Shankar
21. Gr. Capt. T. Srinivasan
22. Shri C.P. Vasudevan
23. Dr. Lal C. Verma

1. MEMBERSHIP

The membership of the Institution continued to grow and recorded an increase of 1,027 members. The total number of members of all classes on the 30th September 1963 was 4,013 of whom 373 were Corporate members. The Table I below shows the growth of various categories of members since the inception of the Institution.

TABLE I.

Membership as on	H.F.	F.	M.	A.M.	S.M.	A.	G.	S.	Total
30-9-54	—	—	—	120	—	85	360	385	950
30-9-55	2	—	19	132	—	72	282	244	751
30-9-56	3	1	26	186	—	102	520	446	1284
30-9-57	4	1	27	195	—	79	489	302	1097
30-9-58	5	1	31	243	12	63	466	267	1088
30-9-59	5	1	36	256	13	45	456	238	1050
30-9-60	5	3	35	273	13	36	484	607	1456
30-9-61	4	3	39	288	14	36	471	1121	1976
30-9-62	6	10	39	300	15	35	492	2089	2986
30-9-63	5	10	44	314	16	35	523	3066	4013

1,265 applications were received by the Membership Committee during the year and 1,028 new members were elected and 1,023 joined the Institution. Five women members were admitted to the Institution bringing the number of women members to 15 in all classes. (Associate members—2, Graduates—2 and Student members—11).

The list of Corporate and Graduate members of the Institution as on 30th September 1963 is given in the Part II of the Report. Members are requested to kindly intimate to the secretariate any change in their address or qualifications for necessary correction.

The Council wish to thank the Membership Committee for their arduous and complicated task in the selection of various categories of the members during the year.

Every year the Institution is faced with the lapse of membership subscriptions even after repeated reminders. No body wishes to be in arrears intentionally but somehow the payment of the membership fee in due time has perhaps escaped the attention of the members. This year also the number of members in arrears is

quite large. The number of members in arrears for one year is 853 and two years is 296. All the members are once again appealed to ensure prompt payment. To help the members whose names have been deleted from the membership the Council have decided that such members can be readmitted in the same class to which they belonged by paying the admission fee and the current year's membership subscription fee. The Council wish to draw the attention of the members to this particular point.

2. JOURNALS

The Journal has maintained its steady progress and is now recognised as one of the important technical periodicals in the field of telecommunication. The highlight of this year is that of converting the bimonthly into a monthly issue from August 1963. With this, the Council hope to include greater number of articles on technological and scientific research in the country. In addition in July 1963 the Institution, in co-operation with the Central Electronic Engineering Research Institute, Pilani brought out a special issue on "Electronic Devices" as arising from the papers read at the proceedings of the special symposium on "Electronic Devices" held in December 1962 at Pilani.

The Editorial Committee invites specialists to contribute review papers on certain subjects where a large amount of research work has already been done. Such papers are very useful for reference purpose as they are complete with up-to-date bibliography and also give a connected account of the present state of knowledge on the subject.

The number of papers published in the Journal of the Institution during the year was 51 compared to 35 in the year 1961-62.

The Journal is supplied to all the members of the Institution free of charge. The copies of the Journal supplied are given below :

Year	Number of Journals Supplied	
	Members	Subscribers
1961-62	897	157
1962-63	952	198

Students' Quarterly Journal is another important publication of the Institution, which is meant to cater to the needs of the beginners in the profession and students in particular, for supplementing their studies in preparing for the Graduateship Examination. The Journal which contains technical papers, books reviews etc. is widely read and appreciated. Non-student members have also begun to show keen interest in this Journal. The subscription rate for the non-student members is Rs. 5. The contributors to the Students' Quarterly Journal are paid an honorarium.

The Editorial Committee invite contributions from all those in the field, so that their knowledge and experience will become available to the student members.

The Council appreciate the work carried out by the Editorial Committee in converting the bimonthly journal into a monthly one and making the publications of the Institution a great success. A list of papers that have been published in the Journal of the Institution and the Students' Journal are given in the Part II of the Report.

The cost of producing the Journal has been mounting steadily and the Council are aiming to obtain a greater advertisement revenue to set against the increased costs. The total number of advertisement pages printed in the Journal of the Institution during the year 1962-63 was 156 compared to 122 in the year 1961-62. The revenue received from advertisements during the year was Rs. 11,350 compared to Rs. 7,512 in the year 1961-62.

The Advertisement position of the Journal of the Institution has considerably improved. This has been undoubtedly due to the efforts of the Editorial Committee and in particular to their distinguished Chairman, Dr. P.K. Kapre.

The Council also wish to express their thanks to the various organisations who have taken up space for advertisement in the Journals. The Council take this opportunity to request all the Radio and Electronic firms in India and abroad to utilise the space of the Journals for advertising their products. This will not only serve the interests of advertisers but also the professional telecommunication engineers in the country and abroad will be informed of the new products in electronic and allied subjects. It will also assist the Journal in making it financially self-supporting.

3. I.T.E. AWARD

The contributions published in the journal are being widely read and abstracted all over the world. To encourage greater number of leading research workers to send their contributions to the Journal, the Council decided to make an award of Rs. 500 to the best contributor of original research paper. This award is presented at the Annual General Meeting of the Institution. The Council hope that this incentive would encourage young generation of engineers and scientists in India to undertake valuable original work and to contribute their papers to the Journal of the Institution. The I.T.E. Award is open to members as well as to non-members.

The third award for the year 1962 was awarded to Dr. C.S.G.K. Setty, Reader in Radiophysics and Electronics in the University of Delhi for his paper on "Observations of Ionospheric F Layer at Night" which appeared in the January and March 1961 issues of the Journal of the Institution. Hearty congratulations are accorded to Dr. C.S.G.K. Setty for his valuable contribution. The citation is

given on page 7. The Prize Award Committee consisted of the following members :

Shri C.P. Vasudevan
Prof. S.K. Mitra
Prof. H. Rakshit
Prof. S.P. Chakravarti
Shri T.V. Ramamurthi

The Council wish to express their thanks to the members of the Prize Award Committee for their valuable assistance in selecting the best contributor of original research paper for the Award.

The Council sincerely [thank Dr. Setty, recipient of the I.T.E. Award in donating the award of Rs. 500 to the National Defence Fund.

4. EXAMINATIONS

An important milestone in the progress of the Institution has been holding Graduateship Examination twice a year in May and November. It is hoped that this examination will lead to the wide acceptance of its being a major qualifying route for professional telecommunication engineers. These examinations were being held at Agra, Bangalore, Bombay, Calcutta, Delhi, Ernakulam, Jabalpur, Madras and Poona. There were many requests from student members of the Institution in and around Hyderabad and Lucknow for opening centres for the examination at these two places. The Council considered these requests and opened additional examination centres at Hyderabad and Lucknow during the year.

The Council also amended the Examination Regulations 11 and para 4 of 12 of the Graduateship Examination during the year.

Existing Regulation 11 :

"Candidates intending to sit for Graduateship Examination consisting of two sections—Section A and Section B may appear for both sections in one sitting subject to Regulation 5. Candidates desiring to take the Sections in two or more sittings should complete Section A before taking Section B. Candidates may also be permitted to appear for one or more parts of Section A at one sitting".

Revised Regulation 11 :

"Candidates intending to sit for Graduateship Examination consisting of two sections—Section A and Section B may appear for one or both Sections in one sitting subject to Regulation 5. Candidates may also be permitted to appear for one or more parts of Section A at one sitting".

Existing Regulation 12, Para 4 :

"When a candidate takes both Sections A and B simultaneously, subject to Regulation 5, and passes in Section B and fails in Section A he will be permitted to complete Section A at subsequent examinations".

Revised Regulation 12, Para 4 :

"When a candidate takes both Sections A and B simultaneously, subject to Regulation 5, passes in Section B and fails in Section A, he will be required to pass Section A within five years, of passing Section B in order to be declared to have passed the Graduateship examination.

The Council also revised the list of referees and made it more broad based. The list of referees is published in the Part II of the Report.

In the year under review examinations were held in November 1962 and May 1963.

The number of candidates taking examination has increased. Table II shows steady growth in the number of candidates who are taking up the Graduateship Examination of I.T.E.

TABLE II

Examination year	Total number of Candidates		Pass Percentage	
	May	November	May	November
1956	22	—	4.5	—
1957	26	—	0.0	—
1958	47	—	2.2	—
1959	58	—	5.1	—
1960	190	236	4.4	5.1
1961	299	376	7.33	10.1
1962	600	1177	6.41	5.90
1963	1444		6.84	

There is a large number of candidates who have passed the Graduateship examination in parts.

The Council gratefully thank the Examination Committee for the considerable spade work such as selection of examiners, moderation of question papers and marks and declaration of the results of the two examinations. In this connection, the Council wish to thank the Chairman and the Honorary Secretary of each local centre, the professors of many colleges, universities and technological institutes and members of the profession for help in conducting the examination.

It has been observed that the percentage of student members successful in passing Graduateship Examination is low. The Council is already seized with this problem and have various measures regarding training facilities under active consideration.

It is gratifying to note that the Ministry of Defence has made a good start in imparting part-time training to the Students who are preparing for the Grad. I.T.E. Examination. This is a significant step towards assisting persons in the profession to achieve academic standards. The tutorial colleges for such training have now been functioning at Bangalore, Bombay, Delhi, Jabalpur and Poona.

The Council express their warmest thanks to the Ministry of Defence and their Staff at these tutorial Colleges for their good work during the past year in support of the Institution's programme of activities.

Studentship award

The Council has decided to give studentship Award to the value of Rs. 100 to the candidate who is adjudged as having the best performance in both the subjects of Section B. It is hoped that this award will encourage candidates to show outstanding performance. The first award will be made after the final examination of November 1963 and will continue to be awarded for each examination.

5. LIBRARY

A well equipped library of its own is a boon to any professional Institution. With the kind assistance received from the Ministry of S.R. & C.A. the Institution is able to initially build up the library to meet the needs of our members. Institution has supplied a set of text books to local centres and to telecommunication tutorial college, New Delhi. This arrangement will to some extent meet the requirements of students members in their studies for Grad. I.T.E. Examination.

During the year under review, 1,700 books on telecommunication engineering and allied subjects were added to the library bringing the total to 2,000. The library also contains dictionaries, encyclopedia, reference books etc. Apart from the books there are 700 bound journals. The Institution also received 98 leading journals throughout the world in exchange with the journal of the institution. The list of these Journals is published in the Part II of the Report.

6. BUILDING

Negotiations are in progress with the Institution of Town Planners for owning three floors in the proposed multistoreyed building which they propose to construct in Indra-Prastha Estate and with the Ministry of Education for obtaining appropriate grant for the purpose.

Simultaneously steps have also been taken to get an allotment of a suitable land from Delhi Land and Development Authorities for constructing a building for the Institution.

7. STAFF AND ACCOMMODATION

The office of the Institution is housed in F/12, South Extension Part II, Ring Road, New Delhi-16.

The accommodation even now, is inadequate to meet the growing requirements of library, reading room and office. The Council hope to move the secretariat into another building which will serve more effectively the needs and activities of the Institution.

The staff of the Secretariat consisted of the following :

Asst. Secretary	1	Typist-Clerk	3
Technical Superintendent	1	Accounts Clerk	1
Stenographer	1	Librarian	1
Office Assistant	1	Daftry	1
Accountant	1	Peons	2
Stenotypist	1	Chowkidar	1
U.D.C.			

The above staff includes the following additional posts created during the year to cope with the increased activities of the Institution specially for accounts and examination :

Accountant	1
Office Assistant	1
Daftry	1

The following posts have also been created during the year to meet the ever increasing activities of the Institution due to conversion of the bimonthly journals into a monthly, increase of work in the membership and examination divisions :

Office Assistant	(Membership)
Stenotypist	(Journal)
Typist	(Despatch)
Peon	

Steps are being taken to fill up these posts.

8. LOCAL CENTRES

To propagate the objectives of the Institution and to serve effectively its various members who are drawn from all parts of the Country, local centres play a very important role. The Institution have local centres at Bangalore, Bombay,

Calcutta, Jabalpur, Madras and Poona. These centres provide members in such areas with the opportunity of taking a direct part in an Institution activity. The Council record their appreciation of the work that Chairmen and Secretaries at these centres did in arranging lectures and discussions, promoting drive for new members and conducting Grad. I.T.E. Examination.

At Delhi, the Institution arranged the following lectures, which were widely appreciated.

<i>Name</i>	<i>Subject</i>
1. Prof. S.V.C. Aiya, Head of Electrical Comm- unication Indian Institute of Science, Bangalore.	"Place of Atmospheric Noise in Communication System Planning".
2. Prof. Dr. Isreal L. Kagonov, Lenin Prize Laureate of 1962. Head of the Industrial Elec- tronics Chair at the Moscow Power Institute, U.S.S.R.	Modern Development of Industrial Electronics
3. Dr. W.L. Everitt Dean College of Engineering University of Illinois U.S.A.	Some Aspects of Feed back Control
4. Prof. S. Sampath Head of Electrical Engg. Dept. Indian Institute of Technology Madras	Electron Tubes.
5. Shri C.P. Revet International Telephone and Telegraphs Co.	Penta Conta Cross bar Switching Systems

The Institution is very grateful to the speakers who so kindly agreed to give the above lectures.

9. NINTH ANNUAL GENERAL MEETING

The ninth Annual General Meeting of the Insitution of Telecommunication Engineers was held at Manak Bhayan, Mathura Road, New Delhi on 7th December 1962. Shri Jagjivan Ram, the then Union Minister for Transport and Communica-
tion, inaugurated the function,

Dr. Lal C. Verman, in his Welcome Address pointed out the progress made in membership, examination, library and other local activities. He announced that the Institution has decided to contribute its modest share by investing from its Reserve a sum of Rs. 30,000 in the National Defence Bonds.

Shri Jagdeesh Prasad, Member, P & T Board was then installed as the President by the retiring President Dr. Lal C. Verman. Shri Jagjivan Ram, in his address emphasized the importance of communication in the day-to-day life, more so, the importance of telecommunication engineering has assumed now, in the context of emergency. He stressed the importance of research both fundamental and applied. He added that a proper approach for research problems, healthy competition and independent thinking were, essential for any investigation to succeed. He was therefore happy to see that a start had been made by the Institution in this direction.

Shri Jagdeesh Prasad, the President, then addressed the meeting. He surveyed the various developments in the field of telecommunications in the country and outlined the present position in this field covered by the P & T Department. The meeting was concluded, with a vote of thanks by Shri C.P. Vasudevan, Director, Telecommunication Research Centre, P & T Directorate, New Delhi.

10. SIXTH TECHNICAL CONVENTION

The Sixth Technical Convention of the I.T.E. was held on 8th and 9th December, 1962. The technical convention was attended by Engineers and Scientists from Civil Aviation Department, New Delhi; College of Engineering and Technology, New Delhi; National Physical Laboratory, New Delhi; Birla College of Engineering, Pilani; Ministry of Defence, New Delhi; Central Electronics Engineering Research Institute, Pilani; Institute of Armament Studies, Poona; All India Radio, New Delhi; Indian Institute of Technology, Madras; Tata Institute of Fundamental Research, Bombay and Ministry of Scientific Research & Cultural Affairs, New Delhi. Shri Vasudevan gave an informative review of the forthcoming developments in micro-wave communication system shortly to be introduced by the P. & T. Department.

The first session was devoted to papers on Microwave electronics and electronic systems. Shri C.P. Vasudevan, Director, Telecommunication Research Centre, Posts and Telegraphs, New Delhi presided over the session. In this session five papers were presented out of which three were from the National Physical Laboratory, New Delhi; one each from the College of Engineering and Technology, New Delhi and the Research Department of All India Radio.

The second session of the Convention consisted of subjects on Acoustics, Audio Engineering and Systems Engineering. Dr. N.B. Bhatt, Director, Solid State

Physics Laboratory, Defence Research and Development Organisation, New Delhi was the Chairman. In all nine papers were presented of which three were from All India Radio, New Delhi, two from the Defence Research and Development Organisation, New Delhi and one each from the Ministry of Defence, Central Electronics Engineering Research Institute, Pilani, Institute of Armament Studies, Poona and the Civil Aviation Department, New Delhi.

The third session covered the subjects pertaining to Ionospheric propagation and Space Communication and was presided over by Shri Jagdeesh Prasad, Member (Telecommunication Development), P & T Board, New Delhi.

The fourth and final session of the convention was presided over by Shri T.V. Ramamurthi, Officer-on-Special Duty, National Physical Laboratory, New Delhi. This session covered yet another important field in telecommunication Engineering, namely vacuum tubes, solid state devices, line communication, radar beacon, direction ~~finder~~ and receivers.

Another feature of the Technical Convention was the exhibitions of Electronic components and test equipment. The following were the participants in the exhibition: 1. Associated Instrument Manufacturers Private Ltd., New Delhi; 2. Eastern Electronics, Faridabad; 3. Toshniwal Bros. Private Ltd., Bombay; 4. Bharat Electronics Ltd. The Institution is grateful to all those who helped to participate in the exhibition and for demonstrating various test equipment manufactured in India.

11. DEATHS

The Council record with deep regret the death of Prof. S.K. Mitra Honorary Fellow of the Institution, on August 13, 1963.

1. LIST OF HONORARY FELLOWS AND FELLOWS OF THE INSTITUTION.

Honorary Fellows :

Honorary Fellows of the Institution are distinguished persons in their own fields and their names are given below :

RADHAKRISHNAN, S., D. Litt. (Agra), D. Litt. (Allahabad), D. Litt. (Andhra), D. Litt. (Annamalai), L. L. D. (Banaras Hindu Univ.), D. L. (Cal.), L. L. D. (Jabalpur), D. Litt. (Lucknow), L. L. D. (Madras), L. L. D. (Mysore), L. L. D. (Osmania), D. Litt. (Patna), D. Sc. (Roorkee), D. Litt. (Saugar), D. Litt. (Visvabharathi).

Foreign Universities : L. L. D. (Bagota), L. L. D. (Brussels), L. L. D. (Buenos Aires), D. Litt. (Cambridge), L. L. D. (Ceylon), L. L. D. (Columbia, U. S. A.), L. L. D. (Hawaii Univ.), L. L. D. (Howard), L. L. D. (London), L. L. D. (Maing), L. L. D. (McGill Canada), L. L. D. (Mexico), L. L. D. (Oberlin, U. S. A.), D. C. L. (Oxford), L. L. D. (Prague), L. L. D. (Rome), L. L. D. (Sofia Univ.), L. L. D. (Wroslaw).

Other Distinctions : Vidyachakravarti Kelaniya Parivina, Fellow of the British Academy, Pour Le merite-Germany, Hony. Fellow of the Academy of Sciences of the Republic of Rumania, Hony. Fellow of the Academy of Sciences of the Republic of Mongolia, Hony. Professor—University of Moscow, Professor Emeritus Calcutta University, Professor Emeritus Oxford University, Honorary Fellow of All Souls College Oxford, Sarvagama Sarvabuma-Calcutta Sanskrit College, Goethe Plaque, Master of Wisdom Mongolia, German Book-sellers Peace Prize—1961, Wlodzimierz Pietrzak Prize by Warsaw University for Philosophical Science, Bharatabhusamani—Institute of Indology, Dwarka. President of the Republic of India, New Delhi.

SIR EDWARD APPLETON, G. B. E., K. C. B., F. R. S., Nobel Laureate, Principal & Vice-Chancellor Edinburgh Univ., The Old College, South Bridge, Edinburgh-8.

KANTABET, S.R., Retired Director General, Overseas Communications Service, Bombay, "Sai Kripa" 1205/5, Apt Road, Poona-4.

KOTHARI, D.S., M. Sc., Ph. D., F. N. I.; Chairman, Univ. Grants Commission, Rafi Marg, New Delhi.

THACKER, M. S., D. Sc. (Hc), D. Litt. (Hc), B. Sc. (Engg.), M.I.E.E. (Lond.), M.I.M. (Lond.) M. Inst. F. (Lond.), M. I. E., M. I. R. E., M. Ind. I. M. M. Ele. Chem. S., F. Am. I. E. E., F. I. A. Sc., Member, Planning Commission, Yojna Bhawan, New Delhi.

Fellows

The Fellows of the Institution elected by the Council so far are as follows :

Year of Election		Service on Council
1962	AGARWALA, P. M., C. E. (Hons.), Member (Telecom, Operation), Psots & Telegraphs, P. & T. Dte., New Delhi.	1955-57 V.P. 1957-58 P. 1958-59 1959.

Year of Election		Service on Council
1962	AIYA, S. V. CHANDRASEKHAR (Prof.), M.A. (Cantab). M. I. E.E. (Lond.), Head of the Department of Electrical Communication Engg., Indian Institute of Science, Bangalore.	1953-57 V.P. 1958-59 P. 1959-60 1960.
1962	BALIGA B. V., B. A., D. I. I. Sc., Managing Director, Bharat Electronics Ltd., Jalahalli, Bangalore.	V.P. 1953-57 P. 1957-58 1959.
1956	BATRA, B.R., 9, National Court, 13, London Street, Calcutta-16.	P. 1953-55 1955-59
1959	IYAPPA, A.C., (Lt. Gen.) Master General of Defence Ordinances, Ministry of Defence, New Delhi.	V.P. 1953-55 P. 1955-56 1956-62
1962	RAKSHIT, H. (Prof.), D. Sc., F. Inst. P., F. N. I., Head of the Department of Electronic & Electrical Communication Engg., Indian Institute of Technology, Kharagpur, West-Bengal.	
1962	SARWATE, M. B. Ph. D., D. I. I. Sc., Dy. Secretary General, International Telecommunication Union, Geneva.	1958-59 1959-60
1959	SREENIVASAN, K., (Prof.) B. Sc., D. I. I. Sc. M. I. E.E. (Lond.), M.A.I.E.E. S. M. I. R. E., I. A. S. Director, Madras Institute of Technology, Chromepet, Madras.	V.P. 1953-56 P. 1956-57 1957-61
1962	VASUDEVAN, C. P., B. E., Director, Telecommunication Research Centre, Posts & Telegraphs, P & T Dte., New Delhi.	1955-58 1959-60 V.P. 1960-62
1962	VERMAN, LAL, C., B.S. (Engg. Michigan), M. S., Ph. D. (Cornell) F. Inst. P. M. I. E., F. N. I. Director, Indian Standards Institution, Honorary Adviser to Government of India on Standardization, Manak Bhawan, 9, Mathura Road, New Delhi.	1953. V.P. 1956-58 V.P. 1959-60 P. 1960-62 1962.

2. LIST OF MEMBERS OF THE INSTITUTION.

Total Number of Members of the Institution is 44 and they are as follows :

Year of Election		Service on Council	Year of Election		Service on Council
1962	AGARWAL, S.M., B. Sc., Dy. Director General, P. & T. Dte., New Delhi	1957-58 J.S. 1958-59 1959-60	1955	BHATT, N.B., (Dr.), M.Sc., D.I.I. Sc., Sc. D. (Mass), Director, Solid State Physics Labs. Lucknow Road, Delhi-6.	1953-5 V.P. 1957-5 1958-6 1962.
1962	BATRA, R.N., (Maj. Gen.), Director of Signals, Sig. Officer-in-Chief, Sig. Directorate, Army Headquarters, New Delhi.	1953-56 V.P. 1962 V.P. 1963	1955	CHAKRAVARTI, S.P., (Prof.) M.Sc. (Phys.), M.Sc. (Engg.), M.I.E.E., D.I.C. Sen. MIRE, Fellow A.Sc. (Bangalore), M.I.E., Director, Defence Science, Lab., Metcalf House, Delhi-6.	1953-5 V.P. 1957-5 1958-6 1962.
1955	BHASHYAM, S.R., B.E. (Hons.) Sr. Member I.R.E. (New York), Post-Master General, Madras Circle, Madras.				

Year of Election		Service on Council	Year of Election		Service on Council
1962	CHAMAN LAL, M. Sc., (Phys.), Add. Chief Engineer, All India Radio, New Delhi.		1955	KAPRE, P.K., (Dr.) M.Sc., Ph.D. (Lond.), A. M. I. E. E., D. I. C. (Lond.), M.I.E., M.I.M., B.L., Industrial Director, Philips India Limited, 53, Jorbagh, New Delhi-3.	1956-59 V.P. 1960-63
1955	CORNELIUS, C. A., B. Sc. (Engg.) Gen. Manager, Calcutta Tele- phones, Telephone Bhawan, 84, Dalhousie Square, Calcutta.		1957	LAKHANPAL, D.D., B.A., B.Sc. (Elec. Engg.), Director, Murphy Radio of India Ltd., 29, New Queen's Road, Bombay-4.	1953-56 V.P. 1956-57 1960-63
1958	GADADHAR, N. V., B. E. (Elec.), D.I.I. Sc., Senior Counciller, International Radio Consultative Committee, International Tele- comm. Union, Geneva.	S. 1956-58 S. 1958-59 T. 1960-63	1955	MAHALINGAM, N., B. A., A.M.I.E.E. (Lond.), 83, Ansari Street, Coimbatore-9	T. 1953-56
1963	GAREWAL, K.S., (Col), B.Sc. (Phy.), Sig. Directorate, Army Head- quarters, New Delhi.		1961	MEHTA, K.K., (Col.), B.Sc. AM Brit. IRE, Chief Inspector (Electronics), Inspectorate of Electronic Equipment, Ministry of Defence (CGDP), Hebbal, Bangalore.	1959-60
1962	GUPTA, I.K., B. Sc., C.E. (Hons.), Manager, Bombay Telephones WKSP., Gill St., Jacob Circle, Bombay.		1962	MEHTA, V., (Col.), B.Sc., Army Headquarters, M.G.O's Branch, Procurement Progressing Org., D.H.Q. P.O., New Delhi-11.	
1955	JAGADESH PRASAD, B.E. (Hons.), Member (Tele. Com. Dev.) Posts & Telegraphs, New Delhi.	1955-56 1957-60 1961-62 P. 1962-63	1960	MUTHANNA, M.S., B.E., M.I.E., General Manager, Bombay Telephones, Teleph. Bhavan, Colaba, Bombay.	
1955	JOSEPH, K.A., (Air Commodore), B.Sc., (Engg.), Mem. Aero. S.I., A.M. Brit. I.R.E., Dip. Marconi College (Chelm.), Director of Sig- nals, Air Head Qrs., New Delhi	V.P. 1958-61 1962-63	1955	NATARAJAN, R., B.A., 417, 17th Cross, Malleswaram, Bangalore- 3.	1953-55
1963	JOSHI, C.P. M. Sc., State Radio Officer, Police Radio Headquar- ters, Mahanagar, Lucknow (U.P.)		1955	RAMAMURTI, T.V., B.E. (Elec), D.I.I.Sc. Officer on Special Duty, National Physical Labora- tory, Hillside Road, New Delhi.	1959-60 J.S. 1960-63
1962	JOHN BROWN, M.A., Ph. D., A.M.I.E., S.M.I.R.E., College of Engg. & Technology, Hauz Khas, New Delhi.		1955	RAMCHANDANI, A.C., B. Sc., B.Sc. (Tech.) Manchester, M.I.E.E. A.M.C.T., Retd. Chief Engi- neer A.I.R., Secy. I. T. E., F-12, South Extn. Area, Part II, Ring Road, New Delhi-16.	1953-56 1957-58 V.P. 1958-60 V.P. 1961-63 1962-63
1955	KANJILAL, S. K., B.E., Dy. Director General, P. & T. Directorate, Parliament Street, New Delhi.	1955-57 1958-59 T. 1959-60 1960-61 1962	1963	RAMANATHAN, A.R., B.E., (Mech.), M. Sc. (E.E.), A.M.I.E., AM Brit., I.R.E., Director of Com- munication, Civil Aviation Dept., Talkatora Road, New Delhi.	

Year of Election	Service on Council	Year of Election	Service on Council
1959	RAO, B. V., C/o Shri M.V. Basrur, Executive Engineer, Northern Railway, P.O. Chopan, Dist. Mirzapur (U.P.).	1962	SUNDARAM, K.N., M.A. (Phy.) Asst. Educational Adviser, Room No. 84, M-Block, Ministry of S.R. & C.A., New Delhi.
1959	RAO, C.R., M.Sc., D.I.I.Sc., Representative, I.C.A.O. Middle-east Office, 10, Hassan Sabri, Zamaleh, Cairo, U.A.R.	1957-59	SUNDRAM, P.S.M., B.Sc. (Engg.), C/o United Nations Technical Asst. Board, Khartoum, Sudan.
1957	RAO, V.V.L., (Prof.), B.E., (Elec.), D.I.C. (Lond), Dip. M.S.W.C. (Chelms), Principal, College of Engg., Ananthapur, A.P.	1953-53	SWARUP, SHANTI, B.E. (Hons.), M.I.E., General Manager, P. & T., Workshop, 5, Council House Street, Calcutta-1.
1955	RAU, B.S., B.E., (Elec.) Managing Director, Hindustan Teleprinter, Ltd., Madras.	1955-56 T. 1956-57 1959-62	THADANI, H.R., M.Sc., (Tech. Manchester), C/o Electrical Machines Corporation Pvt. Limited, Post Box No. 800, Calcutta.
1962	SARWATE, V. V., B. Sc., M.Sc. (Wireless) Dip. I.I. Sc., M. S. (Elec. Comm.), Prof. & Head of the Dept., Dept. of Telecomm. Engr., Govt. Engg. College, Jabalpur, (M.P.)	1961	TOSHNIWAL, G. R. (Dr.), D. Sc., Sen. M.I.R.E., F.N.I., Managing Director, Toshniwal Bros. Pvt. Ltd., 'Rival', Katcheri Road, Ajmer.
1955	SASTRY, M. L., B. Sc. (Engg.), A.M.I.E.E., Chief Engineer, All India Radio, New Delhi.	1956-59	VAISH, R.C., B.E., C/o Singhania & Co., 7, Council House Street, Calcutta.
1953	SENGUPTA, N.K., B. Sc. (Engg.), Managing Director, Hindustan Cables Limited, Rupnarainpur, Dist. Burdwan, W.B.	1958-61 1962	VENKATARAMAN, KRISHNA, M.A. (Physics), Engineer-in-charge, H.P.T., All India Radio, Avadi Camp, Madras.
1962	SESHASAYEE, R., B.E., (Hons.), Dy. Director, Telecommunication Research Centre, P & T Directorate, New Delhi.	M. 1961-62 1962-63 J.S. 1962-63	VENKITESHWARAN, S.P., B.A. (Hons.), F.A. Sc., F.N.I., M.Ae. S.I., Asst. Director, National Aeronautical Lab., Jayamahall Road, Bangalore-1.
1958	SEYMOUR, J.W., System Engineer, RCA International Division Clerk, New Jersey, U.S.A.	1959	WAGLE, M.M., B.Sc., (Elec. & Mech.), Dip. M. S. W. C. (Chelms), Engineer-in-charge, Rural Broadcasting, Eros Building, Bombay.
1954	SHANKER, UMA, Managing Director, Indian Telephone Industries Ltd., Bangalore.	1957-60 1962-63	

3. LIST OF ASSOCIATE MEMBERS OF THE INSTITUTION

Year of Election	Service on Council	Year of Election	Service on Council	
1955	ABUJA, I.S., Asst. Director, Communications, Civil Aviation Dept., New Delhi.	1957	BAIJ, NATH, (Sqn. Ldr.), T-1, 2, 3, Married Officers' Qrs., Air Force, Palam, Delhi Cantt.	
1957	AHLUWALIA, J.C., (Maj.), A.I. Dip. (E. E.), A.M.I.E. 204 Inf. Workshop Coy. E.M.E. C/o 56 A.P.O.	1954	BALASUBRAMANIAN, A. S., B. Sc., D. I. I. Sc., Dy. Planning Officer, All India Radio, Akashvani Bhavan, New Delhi-1.	
1954	AIYAR S.S., B. Sc. (Engg.) D. I. I. Sc. Dy. Chief Engineer, All India Radio, New Delhi.	S. 1955-58	1957	BALASUBRAMANIAN, T. V., B. Sc. (Hons.), Divisional Engineer, Phones, Hyderabad.
1954	AMBERDEKAR, W. S., (Maj), B. Sc., AHBTI, (Tech.), Western Command Signal Regt. Simla-8.	1955	BALASUNDARAM, N., B.Sc. (Phys). Eastern Electronics, New Township, Faridabad.	
1959	Anand, J. C., (Maj.), B. Sc., (Hons.), M.I.R.E. Dip. Marconi College, Asst. Superintendent (Development), HQ. Inspectorate of Electronic Equipment, Bangalore.	1955	BANERJEE, B.M., M.Sc. (Phys.), Reader, Institute of Nuclear Phys., 92, Acharya Prafulla Ch. Road, Calcutta.	
1962	ARUNACHALAM, V., B.A. (Hons) Div. Engr. Telegs. Incharge, Tele. Commn. Trg. Centre, Trivandrum, Kerala State.	1960	BARAL, S.S., B. Sc. (Hons.) M.Sc., D.Sc. Head of the Dept. of Phys. and Communication Engg., B.E. College, Howrah.	
1960	ASIRVADHAM, D., (Maj), B. A., Directing Staff, Offensive Support Wing, School of Land & Air Warfare, Secunderabad.	1954	BARRETO, T. (Brig), School of Signals, MHOW. (M.P.)	1956-59 1961-62 1962-63
1960	AWASTHI, Y. S., (Maj.), B.A., JCEC, Room No. 112, 'H' Block, DHQ, P.O. New Delhi-11.	1954	BASU, A., (Maj.), M. Sc., (Phys.), A.M. Brit. IRE., S. W. D. T., Defence Science Labs., Delhi.	
1962	BADRINATH, H.V., B.Sc. (Hons.), E-144, "E" Type Qrs. Moti Bagh II, New Delhi-8.	1957	BASU, L.M. C/o Burmah Oil Co., (Pipe Lines) Ltd., 1/1 Lower Circular Road, Calcutta-20.	
1954	BAHL, K.N., B.A., Controller of Commn., Dum Dum Airport, Calcutta-28.	1954	BASU, M.K., M. Sc., Asst. Wireless Advisor, Dept. of P & T., Ministry of Transport and Communication, New Delhi.	
1956	BAHL, S.K., (Maj), B.Sc., A.M.I.E. Weapons & Eqpt. Directorate, General Staff Branch, Army H.Q., New Delhi.	1954	BASU, P. K., M. Sc. (Wireless), Transcription Officer, All India Radio, Broadcasting House, New Delhi.	
		1954	BATRA, M.N., (Brig), C/o National Defence College, New Delhi.	

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Year of Election	Service on Council	Year of Election	Service on Council
1955	BATRA, S. K., (Lt. Col.), B.A. Armoured Div. Signal Regt., Jhansi.	1954	BHATTACHARJEE, D. C., B. Sc. (Hons.), D.I.I.Sc., Director Staff Training School, All India Radio, New Delhi.
1956	BEDI, S.S., (Lt. Col.), B.A.-C-123, Defence Colony, New Delhi.	1959	BHATTACHARJEE, D.N., B.Sc., (Hons.) M. Sc. (Applied Phys.) 1539 Napier Town, Jabalpur.
1960	BENEDETTI, E.J., M.Sc., (South- ampton Univ.), M. A., (Phil.), M.A. (Divinity), Principal, St. Xavier's Technical Institute, Bombay.	1959	BHATTACHARYA, A.B., Manager, Ericsson Telephone Sales Corpn., A.B., No. 5 Commis- sariat Rd., Calcutta.
1962	BEOTRA, R. C., (Capt.), H. Q. CEME, I, Armoured Divn., Jhansi, (U. P.)	1954	BHIDE, V.M., (Lt. Col.), Liaison Officer of B.E.L., Room No. 229, "P" Block, DHQ. P.O. New Delhi-11.
1958	BHAGVAT, G. K., (Dr.) B. E., (Hons. Telecomm.) Dr. Ing. (Munich), Fl. No. 13, Inderpuri, Sion West, Bombay.	1958	BISWAS, G., Sqn., Ldr., Air Force Officers Mess, Sector 9, Chandig- raha.
1961	BHARARA, H. L., B. A., (Hons.), Divisional Engg. Phones, Agra.	1959	BISWAS, N.N., (Dr.) B.Sc. (Hons.), Ph. D. (Engg.) D. I. I. Sc., A. I. I. Sc., A. M. A., Engg., Univ. of Telecom. I. R. E., Reader in Telecom. Eng., Uni- versity of Roorkee, Roorkee.
1960	BHARMA, N.C. Sqn. Ldr. B. Sc. B.E. (Hons.), A. M. I. E. H.Q. Eastern Air Command, I.A.F., (Ex. HQ. No. 1, Group I.A.F.) C/o 56, A.P.O.	1954	BOSE, K.K., (Dr.) B.E., Dip. Elec. Com. Engg. (Munich), Dr. Engg. (Munich), Asst. Prof. Indian Inst. of Tech. Kharag- pur.
1960	BHASIN, B., (Maj), A. I. Dip. E.E., A.M.I.E., A.M.M.E.A., Dte. of Production & Inspection (Electronics), Room No. 236, P. Block (CGDP) Ministry of Defence, New Delhi.	1961	CHAKRABARTY, D.P., B. E. E., Associate Professor of Electri- cal Engg., Madhav Engg. College, Gawalior.
1957	BHAT, V.J., B.Sc. (Elec. & Mech.), Indian Radio and Electronics Corporation, 13/14, Rani Bldg., Prarthana Samaj, Bombay-4.	959	CHAKRABARTY, D.C., (Capt.), Police Radio Officer, Punjab, Simla-3.
1956	BHATNAGAR, H. M., Technical Manager, National Ekco Radio and Engineering Co. Ltd., Bombay.	1958	CHAKRABARTY, S.K., (Sqn. Ldr.), Air Force Station, Chandigarh.
1956	BHATNAGAR, U.S., Telecommn. Research Centre, 4th Floor, D.G.P. & T. Bld., Parliament St. New Delhi.	1958	CHAND, SATISH. (Sqn. Ldr.), B.Sc. (Engg.), C/o L. Chandra Bal Goela, Asia Chemicals Ltd., 3, East Park Road, Shidipura, Karol Bagh, New Delhi-5.

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Year of Election		Service on Council	Year of Election		Service on Council
1954	CHANDRA, H., (Wg. Cdr.), M.Sc., (Phys.), D. I. I. Sc., Base Signal Repair Unit, Air Force, Poona.	M. 1958-61 J.S. 1959-60	1954	DATTA, SAROJ., (Dr.), M. Sc., Ph. D., & D. I. C. (Lond.), Controller, Radio Construction & Development Unit., Safdarjung Airport, New Delhi.	1961-62 1962-63
1954	CHANDRA, KESHAV, M.Sc., Project Officer, All India Radio, Calcutta.		1954	DE SARKAR, S.S., B.Sc. (Hons.), M.Sc., (App. Phy.), Dist. Sig. & Telecom. Engrs., North Eastern Railway, Gorakhpur.	
1954	CHATTERJEE, B., (Dr.) B.Sc. (Hons.), M. Sc., Ph. D., (Elec. Comm. Engg.), F. I. P. S., M. I. R. E., U. S. A., Commn. Engg. Dept., Indian Institute of Tech., Kharagpur, S.E. Rly.		1957	DESHPANDE, V.D., (Lt. Col.), Western Command Sig. Regt. Simla.	
1954	CHIPLUNKAR, V. N., M. Sc. (Phys.), Lecturer, Dept. of Elec. Commn. Engg., Indian Institute of Science, Bangalore.		1960	DEUTLER, H.U., Dip. Eng. Tech. (Darmstadt), Managing Director, Siemens Engg. and Mfg. Co., Ltd., Post Box No. 543, New Delhi.	
1960	CHOUDHURY, N. K. D., M. Sc. (Phys.), M.S. (Elec. Engg.), Asst. Director, Central Building Research Institute, Roorkee.		1960	DIWAN, R. D., (Capt.), 106, Commn. Zone., Sig. Regt. (T.A.), (P & T), Ballygunge Maidan Camp., Calcutta-19.	
1960	CHOUDHURY, M., (Dr.) B. Sc. (Hons.), M. Sc. Ph. D., D. I. C., Professor of Electronics, Birla College of Engg., Pilani.		1960	DUTTA, SAMBHUJATH, B. Sc. (Hons.) B. E. E., Project Engineer, (Comms.) Damodar Valley Corporation, 27, Anderson House, Calcutta.	
1956	CHOUDHURY, S.S., (Lt. Col.) B.Sc. HQ, No. 114 Lloyds Road, Madras-6.		1960	FANDERLINDEN, R. B., (Capt.), J.C.E.C., Room No. 110, H. Block, New Delhi-11.	
1954	CHOPRA, K.S., (Gr. Capt), Command Sig. Officer, HQ. Western Air Command, Palam, New Delhi-10.		1960	FERRIS, W.V., (Maj.), B.Sc. No. 1, Technical Trg. Regt., Signal Trg. Centre, Jabalpur.	
1958	DAMODARAN, M., (Sqn. Ldr.), No. 3, G.T.S., Jalahalli, Bangalore.		1954	GADRE, B.K., B.Sc., D. I. I. Sc. M.I.E., Narayan Nivas, D.L. Vaidhya Road, Dadar, Bombay.	
1957	DAS, D.B., (Wg. Cdr.), Wayside Hall, Mussoorie.		1954	GAIROLA, S.N., (Brig.), M.Sc. (Phys), A.M. Brit. IRE., Chief Signal Officer, HQXV Corps, C/o 56 A.P.O.	
1961	DAS, N.D., (Capt.) B.Sc. (Hons), M.A., 5 Tech. Trg. Regiment, Jabalpur (M.P.)		1954	GANESAN, V., (Gr. Capt.), B. Sc. (Hons), Defence Research & Devpt. Lab., Chandragan Gutta Lines, Hyderabad-5 (A.P.),	
1957	DAS PARESH NATH, B.Sc., (Hons.) M. Sc. (App. Phy.) Asst. Professor, Jalpaiguri Engg. College, P.O. Dangujhar, Jalpaiguri (W.B.)				

Year of Election	Service on Council	Year of Election	Service Coun
1955	GHOSE, A.K., B.Sc. (Hons.), M.Sc. (Appl. Phys.), Reader in Line Communication Engg. College, Banaras Hindu Univ., Varanasi.	1955	GOYAL, H.M., (Capt.), B.Sc. (Phys), Secy. J.C.E.C., Room No. 110, H. Block DHQ, P.O., New Delhi.
1960	GHOSE, S.C. (Sqn. Ldr.), Officer Commanding, Central School Trade Test Board, Air Force, Bangalore.	1957	GUPTA, J. Das, M.Sc., (Phys.), Meteorologist, India Met. Dept., The Observatory Workshop, Lodi Road, New Delhi-3.
1954	GHOSH, A.C., M. Sc., Station Engr., All India Radio, Cuttack.	1957	GUPTA, J.S., B.E. (Elec.), Associate Professor in Elec. Engg., Madhav Engg. College, Gwalior.
1957	GHOSH, B. M., B.Sc., 21 Mahatma Gandhi Road, Bangalore.	1960	GUPTA, RANJIT DAS, B.Sc., Engineer, Indian Telephone Industries Ltd., Bangalore.
1960	GHOSH, P.K., B.Sc., M.S., 34, Aurangzeb Road, New Delhi.	1957	GUPTA S.M., Asst. Director of Communications, Civil Aviation Dept., Talkatora Road, New Delhi.
1960	GILL, KULWANT Singh, (Lt. Col), 19 Inf. Div. Sig. Regt., C/o 58 A.P.O.	1960	GUPTA, R.K., (Maj.), A. M. I. E., Army Head Quarters, Signal Regt., New Delhi.
1955	GILL, P.S., (Lt. Col.), B. A. Signals Dte., G. S. Branch, Army HQ., New Delhi.	M. 1956-57	
1962	GOGATE, V. M., B. Sc., Grad. Brit. I. R. E., 6A/28, W. E. A., Karol Bagh, New Delhi-5.	1960	HARRIS, G. S. (Sqn. Ldr.) No. 1 Officers' Mess, Indian Air Force, Agra.
1954	GOKARN, G. D., B. Sc. (Phys.), Director, Overseas Communication Service, Parliament Street, New Delhi.	1954	HART, M.B., (Lt. Col.) No. 1, Tech. Trg. Centre, Sig. Trg. Centre, Jabalpur.
1954	GODRY, K.S., (Lt. Col.), B.A. Dip. M. S. W. C. AM. Brit. I.R.E., D.C.S.O., P. & T. Staff (TA), Ambala Cantt.	1962	HATTANGADY, V. R., B. Sc., M.A. Pri., I.R.E., India International, Administration Office, Bombay Air Port, Santa Cruz, Bombay-29.
1954	GOPALAKRISHNAN, K. N., B. Sc. (Hons), D.I.I.Sc., Radio Construction & Development Unit, Safdarjung Airport, New Delhi.	1955	HEGDE, K.S., B. E. M. A. (Engg.), Prof. in Telecommunications, Govt. Engg. College, Guindy, Madras.
1954	GOPALAN, S., 22, Luz Avenue, Mylapore, Madras-4.	1959	IYENGAR, K. R. K., B.Sc. (Hons.), D.I.I.Sc., M.S. (Elec. Engg.), J.S. 1959-60 Wireless Advisor, Dept. of P & T, Ministry of Trans. and Commn., New Delhi.
1955	GOPINATH, K., (Maj.), B. Sc. 6, Tech. Trg. Regt., Ponda (Goa).		
1955	GOWRISHANKAR, S.M., B.E., Dy. Chief Signal and Telecom. Engineer, S.E. Rly., Garden Reach, Calcutta.		

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	1956	JANARDHAN, N. M., B. E. (Telecom.), B.E. (Hons.), (Adelaide University), College of Engg., Guindy, Madras-25.		1954	KAGALWALA, ABID, Chartered Electrical Engr., Glolite Elec., Bombay-3.
	1958	JAYACHANDRA, M.Sc., Chandra Bhawan, 1282, Idgah Colony, Agra.		1960	KALE, R.S., B.Sc. (Hons.), D.R.E. (Bombay), D 84, East Vinay Nagar, New Delhi.
	1959	JOHN, A.G., B.A., M.Sc., Station Eng., All India Radio, Trichur.		1954	KALRA, S.N., Dy. Director General (TFC), Overseas Communication Service, Radio House, Apollo Bunder, Bombay.
	1954	JOSEPH, K. P., B. A., Divisional Engineer, Telegraphs, Trivandrum.		1954	KANE, JOHN, B.Sc. (Hons.) Phys. London, M.Sc. (Phys.) C/o. M/s. Hindustan Elec. Co., 'Thackersay House', P. B. No. 627, Bombay-1.
	1954	JOSEPH, T.T., (Wg. Cdr.), M. A. (Phys), Gen. Manager, Motwane Private Ltd., 127, Mahatma Gandhi Road, Fort, Bombay.	M. 1950-58.	1956	KANT, RAMA, B.Sc., B.Sc. (Engg.), (Elec. & Mech.) Dy. Director General, Planning, Post and Telegraphs, New Delhi.
	1954	JOSHI, A.K., (Lt. Col.), B.A., B.Sc., No. 3 Air-formation Sig. Regt., Delhi-Cantt.		1963	KAPOOR, B.N. (Capt), M.Sc., Inst. of Armament Studies, Kirbee, Poona.
	1954	JOSHI, DINSHAW, F.D., B.Sc., B.E. (Elec & Mech), A. M. I. E., Dir. of P & T, F/71, Sujana Singh Park, Cornwallis Road, New Delhi.		1954	KARNIK, V.R., (Wg. Cdr.), M.Sc., Signals Directorate, Air Headquarters, New Delhi.
	1960	JOSHI, K. L., B. Sc. (Hons), M.Sc., Dip. Radio Comm., Dept. of Electrical Communication Engg., College of Engg., Poona.		1960	KATARYA, C.P. (Maj), B.Sc., Radio Officer, Central Reserve Police, Neemuch.
	1958	JOSHI, M. V., B. E. (Elec. and Mech.), D. I. C. 76, Sunder Nagar, New Delhi-1.		1962	KAUL, P.M., Div. Engineer, Telephones, Bangalore.
	1954	JOWERS, KENNETH, Senior Course in Radio Engg. London, Marconi's Wireless Telegraph Co., New Delhi.		1954	KHANNA, P.R., B.Sc. (Engg.), Ferreira Bldg., Lourdas Colony, Orlem, Malad, Bombay-64.
62-63	1954	JUNEJA, R. R., B. A. Dip. Elec. Com. (Marconi College, Chelmsford), 27, Rowland Road, Calcutta-20.		1960	KHANNA, R.K., B.Sc., M.Sc., L.I.B., D-35, Road No. 1, Andrews Gunj, New Delhi-16.
	1954	JUNEJA, S. V. S., (Lt. Col.) Central Command, Sig. Regt., Lucknow, (U.P.)		1960	KHETERPAL, S.P. (Capt.), M.Sc., 5 Inf. Div., Sig. Regt., C/o. 56 A.P.O.
9-62 2-63				1955	KHURANA, S.R. (Brig.), B.A., M.A., Chief Sig. Officer, HQ. XI Corps., C/o. 56 A.P.O.

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Year of Election	Service on Council	Year of Election	Service on Council
1954	KINI, M.M., B.E. (Elec), Director of Planning, Delhi Telephones, Eastern Court, New Delhi.	1955	MADAN, P., (Col.), B. Sc. (Hons), Dip. Marconi College (Chelmsford) Col. I. C. Production, Headquarters Workshop Group, Chitral Lines, Delhi-10.
1954	KOHLI, S.S., M.Sc. Eng.-in-charge, All India Radio, Jullunder.	1955	MAIYA, B. C. S., M. A. (Math), Divisional Engineer Telephones, Amar Bldg., Sir P. M. Road, Bombay-1.
1957	KOTADIA, K.M., (Dr.) B.Sc., (Hons.), D.I.I.Sc., Ph.D., Sr. M.I.R.E., Reader in Radio Physics & Electronics, Univ. School of Science, Gujarat Univ., Ahmedabad-9.	1954	MAJOR, D.S., (Lt. Col.), Petit Mansions, 85, Sleater Road, Bombay-7.
1957	KOTWAL, M.K., (Maj), B.Sc. IV Corps. Sig. Regt., C/o 56 A.P.O.	1954	MALHANS, J. S., (Lt. Col.) Signal Directorate, Army Headquarters, New Delhi.
1958	KRISHNAMOORTHY, K. S., B. Sc. (Hons.) Dip. M. I. T. Cert. Advance Radio Engg. (Marconi College), Officer on Special Duty, Bharat Electronics Limited, Jalahalli, Bangalore.	1955	MALHOTRA, S.K., (Lt. Col.), B.A., Asst. Dir. Reseach & Development Organisation, Ministry of Defence, Room No. 28, P. Block, New Delhi.
1960	KRISHNAMURTHY, N., B.Sc., Dip Tech. (Rad. Comm), M. Sc E-128, Moti Bagh South, New Delhi.	1963	MANI, A., (Miss), B.Sc. (Hons.), Director (Instruments), Meteorological Office, Poona-5.
1956	LAHIRI, D. B., (Maj.) Military Training Regiment, Signal Training Centre, Jabalpur.	1963	MARATHE, B. R., (Dr.) M. Sc., (Works), Ph.D. (Phy.), Dip. Tech. (Adv. Radio Commn.), Senior Scientific Officer, C.E.E.R.I., Pilani, (Raj).
1962	LAL, J., M. Sc., B.E. (Hons), Asst. Chief Engineer, P. & T. Directorate, Parliament Street, New Delhi.	1956	MASAND, C. W., B. Sc. (Engg), D.I.I.Sc., M.S. (Radio Engg.), A.M.I.E., M.A.S.H. R.A.E., Tech. Dir. Masand Industries, Kapurtala.
1958	LAZARUS, N. P., A. M. Brit. IRE, A. R. Ae. S. A. M. Ae S. I., Common. Superintendent, Air India THQ, Bombay-29.	1954	MATANGE, N. D., B. Sc. (Engg.) M.S. (Electronic Engg.), California, Dy. Planning Officer, All India Radio, New Delhi.
1961	LE PELTIER, R.M., (Maj), AMIE (1) U. Commn. Zone, Sig. Regt., Hasting Line, Varanasi Cantt., Varanasi.	1968	MATHEWS, THOMAS, B.Sc., M.Sc., Dip. Tech. (Adv. Radio Commn.), 131, Nehru Road, Santa Cruz, East, Bombay.
1955	LUTHRA, P. N., B. A., Adviser to Governor of Assam, Shillong, (Assam),	M. 1957-55 M. 1957-58	1905 MATHUR, N.S., (Lt. Col.), SO-I (Signals), Signal Trg. Centre, Jabalpur.

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1957 MEHTA, K.M., B.Sc. D.I.I.Sc.
Engineer-in-charge, High Power
Transmitters, All India Radio,
Bombay.

1958 MENNON, G.K., (Sqn. Ldr.), Dip.,
Radio Commn., B.S.R.U.,
Indian Air Force Stn., Poona.

1954 MIRCHANDANI, H.J., B.E., (Mech.
& Elec.), Chief Engineer
(Transmission) Indian Tele-
phone Industries Ltd.,
Bangalore.

1956 MISHRA, S. C., B. Sc., Regional
Manager, Indian Telephone
Industries, 28/F Nalin Sarkar
Street, Calcutta.

1955 MITRA, S.N., M.Sc. (Cal.), M.Sc., J.S. 1950-60
(Cantab), F.N.I. Research H.S. 1960-61
Engineer, A. I. R., Research H.S. 1961-62
Dept. Indraprastha Estate, 1962-63
New Delhi.

1962 MITHAL, G. K., B. E. (Hons.),
Reader in Advance Electronics,
Govt. Engg. College, Jabalpur,
(M.P.).

1957 MITAL, R.N., B.Sc., B.E. (Hons.),
Philips India Ltd., "Philips
House" 7, Justice Chandra
Madhab Road, Calcutta-20.

1955 MITTER, E. A., (Maj.), B. A.
8, Commission Lane, Delhi-6

1960 MOHAN, M. ANANDA, L. E. E.
Senior Tech. Office of the
D. G., Civil Aviation Dept.
Talkatora Rd, New Delhi.

1958 MOHANTY, A. P., B. Sc.
Superintendent of Police
(Signals), Cuttack.

1957 MUKHERJI, S. N., B. Sc. (Hons.),
M. Sc., Governing Director,
W.J. Alcock & Co., 7, Hastings
Street, Calcutta.

1960 MUKHERJI, P. K. (Maj.),
Eastern Command. Sig. Regt.
P.O. Dilkhusa, Lucknow, (U.P.)

1957 MURGAI, B. S., Engg. Officer,
Delhi Telephone District,
Eastern Court, New Delhi.

1959 MUTHUSWAMY, A.S., B.Sc., 23/239/
Paradise Building, Flant Road,
Sion East, Bombay.

1955 NABAR, S. M., B. Sc. (Hons.),
D.I.I.Sc., A.M.I.E., Superinten-
dent of Police (Wireless), Govt.
Flat 'D', Arsanol Rd., Poona-1.

1955 NAGARAJA, N.S., (Dr.) B.Sc.,
(Hons.), Ph. D., D.D. I. I. Sc.,
Lecturer, Indian Institute of
Science, Bangalore.

1953 NAGARAJAN, M.S., M.A., A.M.I.E.,
Electronics Wing, E. M. E.
School, Trimulgherry, P. O.,
Secunderbad-15.

1954 NAGARKAR, P. S., B. E. (Elec.),
D. I. I. Sc., Engineer-in-charge,
All-India Radio, Bangalore-1.

1955 NAGESWARAN, K., M. Sc., (Phys.),
D. I. O., (London), RESA
Company, Mount Road,
Madras.

1954 NAIDU, R.K.R., (Maj.), B.A., "Z"
Commn. Zone, Sig. Regt., C/o
56 A.P.O.

1954 NAIDU, V. K. P., B. A. (Phys.).
International Civil Aviation
Orgn. Technical Assistance
Mission, P.O. Box 1165, Jeddah,
Saudi Arabia.

1954 NAIR, C. U. K., (Lt. Col.), B.A.,
SO I, Signals, H. Q. Southern
Command, Poona.

1960 NAIR, K.K., B.Sc., M.S., D.I.I.Sc.,
Professor of Tele-communi-
cation Engg., College of Engg.,
Osmania University, Hyderabad.

Year of Election	Service on Council	Year of Election	Service on Council
1963	NAIR, V.G., B.A., Regional Engineer, Mtce., Telephone House, Madras-1.	1957	PAL, P.C., B.C., M.Sc., Reader in V.F. & Carrier Telecommunication Engg., Govt. Engg. College, Jabalpur.
1958	NAMBIAIR, K. M. K., (Wg. Cdr.), Air Force Tech. College, Jalahalli, Post Hospital Town West, Bangalore-15.	1954	PALEKAR, D. W., M. Sc., B. Sc., A.C.G.I., A. M. I. E (Lond.), Engr.-in-charge, All India Radio, Tiruchirapalli.
1958	NAMEUDIRIPAD, M., B. Sc., A. M. Brit., I. R. E., St. Albert's College, Ernakulam.	1959	PANDHI, RANBIR, (Sqn. Ldr.), Senior Signal Officer, No. 4, Wing, A. F. Stn., Agra Cantt.
1959	NANDA, C. M., (Lt. Col.), B.A., M.A., C/o National & Grindlays Bank Ltd., 10, Parliament Street, New Delhi.	1954	PANWAR, B. S., (Lt. Col.), Commander, H. Q., Tusker, Signal, Tusk Forces, GREF C/o 56, A.P.O.
1955	NARASIMIAH, B. N., No. 1042, Nagappa Block, Srirampuram, Bangalore.	1955	PATIL, N. A., (Lt. Col.), Officer Commanding, Tech. Wing., School of Signals, Mhow.
1959	NARASIMHAN, P.R., B.E., No. 97, Pandara Road, New Delhi.	1954	PATTABHIRAMAN, J., B.Sc. (Phys.), D. I. I. Sc., Asst. Director of Commn., Civil Aviation Dept., Talkatora Road, New Delhi.
1961	NARASIMHAN, R., (Lt. Col.), C. Sig. 2 Inf. Div., C/o 56 A.P.O.	1954	PATTABHIRAMAN, S., M. A. (Phys.), D.I.I.Sc., Engineer-in-charge, All India Radio, Ahmedabad.
1958	NARAYANAN, V. S., (Sqn. Ldr.), B.Sc., (Hons.), Asst. Director of Signals, Air Head Quarters, Indian Air Force, New Delhi.	1954	PATTERSON, W. D., (Lt. Col.), B.Sc., Sig. Directorate, Army H. Q., D. H. Q. P. O., New Delhi-11.
1954	NARAYANASWAMY, A. S., M. Sc. (Phys.), Engineer-in-charge, All India Radio, Tiruchirapalli.	1954	PICHUMANI, K. K., Divisional Engineer (Retd.), Posts & Telegraphs, 16, Benwells Road, Cant Tiruchirapalli.
1954	NILAKANTAN, P. S., B.A., M. Sc. (Phys.), Cert. Prof. I.I.Sc., Dy. Planning Officer, All India Radio, New Delhi.	1960	PINTO, K.A.J., (Sqn. Ldr.), A. F. Officers Mess, Palam, Delhi Cantt.
1959	OHRI, D. D., (Sqn. Ldr.), Signal Wing, Wireless Experimental Centre, Delhi Cantt.-10.	1960	PRABHU, M. A., B. A. Chief Installation Test Engineer, (VHF), Bharat Electronics, Jalahalli, Bangalore.
1954	PAI, M. V., B. Sc. (Engg.), BEN., A.I.R.E., A.M.I.E. (Ind.) C/o Shri K. G. Pai, "Guru Nanak Niwas" Block No. 8, Plot No. 183, Sion Road (West), Sion, Bombay-22 DD.	1957	PURI, Y. R. (Lt. Col.), H.Q. M. & G. Area, Colaba, Bombay.

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- 1954 RAGHAVACHARI, R., B. Sc. (Hons.), D.I.I.Sc., Maintenance Engineer, All India Radio, New Delhi.
- 1958 RAT, B.K. (Maj.), B.Sc., D.I.I.Sc., School of Signals, Mhow.
- 1958 RAJAGOPAL, D. (Wg. Cdr.), B. Sc., Air Force Technical College, Jalahalli, Bangalore.
- 1954 RAJAGOPALAN, B., B.A., Director of Telegraphs, Nagpur-1.
- 1954 RAJAN, R.M. (Maj.), B.Sc. (Phy.), Eastern Command, Sig. Regt., Lucknow (U.P.).
- 1957 RAJU, T.A., B. Sc. (Phys.), M. Sc., (Radio Physics), D. R. E. Lecturer in Telecommunications, New Engg. College, Vishrambag, Sangli.
- 1954 RAMACHANDANI, D.N., B.E. (Mech. & Elect.), Post Master General, Beaulieu, Bangalore.
- 1960 RAMADOSS, E. N. (Maj.), B.Sc., HW INF., BDE, C/o 56, A.P.O.
- 1962 RAMKRISHNA (Maj), B. Sc., M. A., Registrar, Telecomm. Tutorial College, Chief Inspectorate of Electronics, Ministry of Defence (CGIP), Govt. of India, Hebbal, Bangalore.
- 1955 RAMAN, K. V., B. A. (Phys.), Dy. Gen. Manager, Bombay Telephones, Colaba, Bombay-5.
- 1955 RAMAN, S. (Maj.), M.A. (Maths.), B.Sc. (Phys.), A.M. Brit. IRE., M. I. R. E., E. M. E., Defence Research and Development Lab., Chandrayanagutta Lines, Hyderabad-5.
- 1960 RAMANATHAN, G., B.Sc., D.I.I.Sc., D.I.C. (Lond.) Station Engineer, All India Radio, Patna.

- 1958 RAMANANY, P. U. (Wg. Cdr.), Director of Policy & Plans, Air Headquarters, New Delhi.
- 1955 RANA, S. K., B. Sc., (Hons.), Dy. General Manager, Telephones, Eastern Court, New Delhi.
- 1954 RANGHANATHAN, S.N., B.E. (Elec.), Dy. Director General, Post & Telegraphs, P & T Directorate, New Delhi.
- 1954 RANJIL, H.K. (Maj.), B.E. (Elec.), 116, Kaka Nagar, New Delhi.
- 1956 RAO, B. N., (Maj.), B. Sc. Signals Dte. Gen. Staff Branch, Army HQ., New Delhi.
- 1963 RAO, B.S.S., M.Sc. (Phy.), A. M. Brit. I.R.E., Dip. Tech. (Radio Commn.), Principal, A. V. Parekh Tech. Inst., Rajkot.
- 1963 RAO, G. PRABHAKARA (Capt.), "S" Comn. Zone, Sig. Regt. C/o 56 A.P.O.
- 1958 RAO, G. R. S., B. Sc., M. Sc., D.I.I.Sc. (Hons.), National Ekco Radio & Engg. Co. Ltd., Mahaluxmi, Bombay.
- 1960 RAO, K.L., B. Sc., B. A., D. I. C., M.A. (Cantab), A. M. I. E. E., M. I. R. E., Asst. Research Engineer, All India Radio, New Delhi.
- 1959 RAO, P. L. SHAMA, 124, Krishna-rajendra Road, Basavangudi, Bangalore.
- 1958 RAO, S. (Sqn. Ldr.), No. 3, G.T.S., A.F. Stn., Jalahalli, Bangalore.
- 1958 RAO, V. HANUMANTHA, B. E., (Telecom.), Dy. Suptd., Police Comms., Hyderabad, A.P.
- 1958 RAO, V. KUPPU, B. A., Divisional Engg. Telephones, (Retd.), Posts & Telegraphs, Bombay.

Year of Election	Service on Council	Year of Election	Service on Council
1957	RAO, V. V., B. Sc., Dy. Wireless Advisor, Ministry of Transport and Communication, New Delhi.	1956	SAMANT, M. G., (Prof.), B. Sc., (Phys) D.I.I.Sc., College of Engg., Poona.
1963	RATAN, J. L., B. Sc., Director of Co-ordination, Police Wireless, Ministry of Home Affairs, Rail Bhawan, Rafi Marg, New Delhi.	1958	SAMPATH, S., (Prof.), B.Sc. (Hons.), D. I. I. Sc., M. S. (Electronic Engg.), Professor, Indian Institute of Technology, Madras.
1957	RAY, A.K. B. Sc. (Hons.), M. Sc., Executive Engineer, Comm. Division, D.V.C., P.O. Maithon Dam.	1957	SAMPSON, D. S., (Sqn. Ldr.), Air Force Station, Bamrauli, Allahabad, (U.P.).
1954	RAY, N. C., M. Sc. (Phys.), D.I.I.Sc., Sr. Superintendent of Police (Radio), Bhopal.	1958	SANDHU, G.S., B.Sc. (Hons.), Asst. Engineer, P & T Directorate, New Delhi.
1962	REDDI, K. L., B.L. (Elec.), Dir., Telegraph Est., P & T Dte., New Delhi.	1959	SANKARAMAN, S., B. E. (Hons), Works Manager (Transmission), Indian Telephone Industries Ltd., Duravani Nagar, Bangalore.
1955	Row, K. S. (Maj.), B. Sc., No. 1. Wireless Experimental Coy., C/o 56, A.P.O.	1954	SAPRE, S. D., (Gp. Capt.), B.A. (Hons), B. Sc., D. I. I. Sc., Director of Studies, Inst. of Armament Studies, Kirkee, Poona.
1955	Row, C. V. SURYANARAYANA (Sqn. Ldr.), B.E., D.I.I.Sc., A.M.I.E., A.M.A.Re.S.I., 15, West Kidwai Nagar, New Delhi-3.	1954	SARIN, D. D., B. Sc. (Engg.), Engineer-in-Charge, High Power Transmitters, All India Radio, Khampur.
1961	ROY, R. Dr., B. Sc. (Hons) M. Sc. (Phis) D. Phil., Reader, Saha Inst. of Nuclear Physics, 92, Acharya Profulla Chandra Road, Calcutta-9.	1954	SARIN, J.C., (Maj.), B.Sc. (Phys.), Grand Brit. IRE, V. Commn., Z. Sig. Regt., C/o 56 A.P.O.
1964	SABHANEY, I.W. (Wg. Cdr.), Dy. C. S. O., H. Q. Operational Command, I. A. F., New Delhi-10.	1954	SAWHNY, R.N.R., Military Attach., Embassy of India in Ethiopia, Addis Ababa, C/o Min: of External Affairs, New Delhi.
1957	SAHDEV, N.L., M.Sc. (Phys.) International Telecommunication Union, Geneva.	1954	SENGAL, J. L., B. A., Scientific & Technical Officer Grade 1, Telecom., Research Centre, P & T Dte., Parliament St., New Delhi.
1955	SAHNI, D. N., (Lt. Col.), B. A. (Hons.), B.E. A. M. Brit. IRE, OLT (Sigs.), Principal, Sainik School, Amravati Nagar, Coimbatore.	1959	SEN, R.C., Dip. Radio Communication from Chelmsford College, 787 A, Block P, New Alipore, Calcutta-33.
1954	SAJNANI, N.B., B.Sc., Munchen-13, Ainmillerstr, 42/VI, West Germany.		

Service on Council	Year of Election	Service on Council	Year of Election	Service on Council
	1954	1958	SINGH, GURMUKH, (Wg. Cdr.), Dip. Elec., Dy. Director, Radio Engg., Directorate of Signals, Air Headquarters, New Delhi.	
1961-62 1962-63	1961	1956	SINGH, HARI, (Lt. Col.), B.Sc. (Hons.), M.Sc., Army H.Q. Sig. Regt., New Delhi.	
	1957	1962	SINGH, HARDAYAL, (Lt.), B.E., Director of Stores, Naval Head- quarters, New Delhi.	
	1955	1954	SINGH, HAZARA, (Lt. Col.), Officer Commanding, Eastern Com- mand Signal Regiment, Lucknow.	
	1956	1954	SINGH, JAGIR, (Wg. Cdr), B.A., No. 6, G.T.S., A.F., Jalaballi, Bangalore-14.	
	1960	1954	SINGH, JASWANT, (Brig.), Chief Sig. Officer, HQ Western Command, Simla-3.	
	1957	1954	SINGH, JOGINDER, (Maj.), B.A., Caffe Branch, Air. H.Q., New Delhi.	
	1951	1954	SINGH, SHIV, (Maj.), Uttar Pradesh Area, Indep. Sig. Co., Bareilly.	
	1954	1954	SINHA, A., Dy. Director, P. & T., Assam Circle, Shillong.	
	1954	1958	SINHA, K.N., (Sqn. Ldr.), B.Sc., D.R.E., Base Sig. Repair Unit, Air Force Stn. Poona.	
	1954	1957	SMITH, D.C., (Maj.), Officer Commanding, 23, Inf. Sig. Coy., C/o 56 A.P.O.	
	1954	1960	SOBTI, B.K., (Capt.), B.Sc. 2, Air Fmn. Sig. Regt., Hospital Town East, Bangalore-14.	
	1954	1959	SRINIVASAN, S., M.Sc. (Phys.), Asst. Director, Indian Standards Institution, New Delhi.	
	1954	1958	SRINIVASAN, T. (Gr. Capt.), B.Sc., M. 1961-62 (Hons.), 12, Wellesly Road 1962-63. Flats, New Delhi-11.	

Year of Election	Service on Council	Year of Election	Service on Council
1954	SUBBURATNAM, S., B.Sc., (Hons.), Meenakashi, Vilas No. 9, Venkata Rama Iyer St., Tiyyagarayanagar, Madras-17.	1954	TASKAR, N.T., B.Sc., B.E., Dy. Director, P. & T., Telecommunication Research Centre, New Delhi.
1960	SUBRAHMANYAM, B.A.S., B.Sc., Asst. Radio Engineer, Medak Circle, Sangareddy, Medak Dt., (A.P.)	1954	THIRUVENKATACHARI, S., B.Sc., (Hons.), D.I.I.Sc., Director, Frequency Assignments, A.I.R., New Delhi.
1955	SUBRAHMANYAM, GANTI, B.E., M.A. (Engg.), E.E., M.I.R.E., Prof. of Telecom. Engg., College of Engg., Kakinada.	1956	TOD, D.S., B.Sc. (Hons.), Manager & Dir., Automatic Telephone and Electric Co. India Ltd., Bangalore.
1957	SUBRAMANYAN, T.R., B.E. (Telecom.), Manager, Electricals Division, Voltas Limited, 7/1, Asaf Ali Road, New Delhi.	1961	TYAGI, B.D., (Maj.), M.E. (Mech.), A.I.D.E.E. (Elec.), A.M.I.E., D.A.D.P.I.L.C.G.I.P., Miny. of Defence, DHQ P.O., New Delhi-11.
1958	SUBRAMANIAN, A., B.A., (Hons.), A.M.I.E.E. Divisional Engineer, Phones, Madras Distt., Madras.	1961	UPASANI, B.P., (Capt.), Defence Service Staff College, Army Wing, Willington S. 1.
1955	SUBRAMANIAN, C.R., B.Sc., (Phys.), M.S., (E.E.), D.I.I.Sc., 12 Jayamahall Road, Bangalore.	1954	VERMA, B.D., (Capt.), B.Sc., B.E. (Hons.), A.M.I.E., E.M.E., Group Officer, (Radar Devices), C.I.L.E., Hebbal P.O., Bangalore-6.
1958	SUBRAMANIAN, T.S., B.Sc. (Engg.), Dy. Director, Telecommunication Research Centre, Post and Telegraphs, New Delhi.	1954	VENKATARAMIAH, Y., B.Sc., (Hons.), A.M.I.E., D.I.I.Sc., Planning Officer, Planning and Development Unit, All India Radio, New Delhi.
1955	SUD, B.D., C.E. (Hons.), M.I.E., General Manager, Delhi Telephones, New Delhi.	1956	VERMA, I.D. (Brig.), Chief Signal Officer, HQ. Eastern Command, Lucknow.
1954	SUJAN, V.B., Dip. Elec. Engg., Faraday House, E.E. College, London 8, Jenkins House, Hornby Road, Appollo Bunder, Bombay.	1959	VIRDEE, K.S., B.Sc., Semi-Conductors, Behind Block No. 25, West Patel Nagar, New Delhi-12.
1954	SURI, R.L., B.A., M.I.E.T. M.A.I.P., F.A.S.A., 8 Queen Mary's Avenue, New Delhi.	1960	VIRDI, T.S., (Lt. Cdr.), Staff Communication Officer, Navy Office, Visakhapatnam-5 (A.P.)
1954	TALWAR, K.N. (Col.), Com-mandant, Sig. Trg. Centre, Jabalpur.	1958	WIG, S.N., (Sqn. Ldr.), Aircraft Manufacturing Dept., Indian Air Force, Kanpur.
1954	TANDON, R.K., M.Sc. (Phys.) B.Sc., (Elec. Comm. Engg., London), ACGI, Senior Scientific Officer, National Physical Laboratory, New Delhi.	1957	YADAV, RAM, B.Sc., Station Engr., All India Radio, Rajkot.

NOTE : The above is the list of corporate members of the Institution as on 30th Sept., 1963. Members are requested to kindly intimate their change of addresses, if any, with their designations and also any mistakes, additions or alterations to their qualifications.

4. LIST OF GRADUATE MEMBERS OF THE INSTITUTION

- ABRAHAM, A., B.Sc., B.Sc. (Elec. Lond.), 5/1 Primrose Road, Off Mahatma Gandhi Road, Bangalore.
- ADUR, M.N., Asst. Tech. Officer, Aeronautical Comm. Station, Dum-Dum, Calcutta-28.
- AGRAWAL, J.P., B.E. (Hons), Lecturer in Telecom., Govt. Engg. College, Jabalpur.
- AIYAR, S., HARIHARA, Asst. Engr., All India Radio, Trichur.
- ANAND, CHETAN (Capt), B.A. (Hons), S.D.O. Telegraphs, 'P' Block, Room No. 129, Raisina Road, New Delhi.
- ANTANI, A.M., B.Sc. (Engg), Asst. Station Engineer, All India Radio, Dharwar.
- APTE, V.K. (Maj), WE Directorate, Army Head Quarters, New Delhi.
- ARORA, R.K., B.Sc. (Hons), D.I.I.Sc., 46 Arthurstone Terrace, Dundee, U.K.
- ARUMUGHAM, P., B.E. (Hons), Asst. Engineer, B.E.L., 656 VI Cross V, Main, Malleswaram, Bangalore.
- AUL, B.C., Asst. Engr., P & T Training Centre, Saharanpur (U.P.)
- AVASIA, R.D., 764, B, Muncherji Joshi Road, Dadar, Bombay.
- BABU, R. HARENDRA, (Flt. Lt.), B.E. (Telecom), No. 4, Napier Lines, Tarband, Secundrabad, A.P.
- BAJAJ, M.S., (Capt), B.Sc. (Hons), Harnam Niwas, Punjabee Mohalla, Ambala Cantt.
- BAKSHY, M.K., (Flt/Sgt.), No. 6 G.T.S., Air Force, Bangalore-14.
- BALASUBRAMANIAN, V., B.Sc. (Hons), D.I.I.Sc., B-45 E, Moti Bagh, New Delhi-3.
- BALLARE, C.V., B.Sc., Dip. Tech. (RC), Chandra Nivas, D/46 Turner Road, Bandra, Bombay.
- BANERJEA, A., B.E., 107, S.P. Mukherjee Road, Calcutta-26.
- BANERJEE, N.N., B.Sc., Asst. Engineer, Phones, Sect. Telephone Exchange, New Delhi.
- BANERJEE, A.K., B.Sc. (Hons), M.Sc., R and D Organisation, Ministry of Defence, DHQ P.O., New Delhi-11.
- BANERJEE, K.K., M.Sc. (Phys.), 6, Shambhu Nath Das Lane, Calcutta-50.
- BANERJEE, R.P., B.Sc. (Hons), M.Sc., Vill. and P.O. Buxarah, Dt. Howrah.
- BANSAL, K.P., Telecom. Research Centre, DG P & T Office, New Delhi.
- BANSAL, S.S., B.Sc. C/o Sri S.P. Bansal, A5/21 Krishna Nagar, New Delhi.
- BANSAL, V.K., Scientific Officer Grad S.C. 2, Dept. of Atomic Energy, Rainwadi Society, Prabha Road, Gudhra, W.R.
- BAPAT, M.D., B.E., All India Radio, Rocklands, Saifabad, Hyderabad-4.
- BARNELA, M.S., M.Sc., D.I.I.Sc., Asst. Engr., All India Radio, Nagpur-1, M.S.
- BARRY, J.K., M.Sc. (Wireless), 36/5 H.R. Barracks, Jabalpur.
- BARVE, G.G., B.E., Div. Engr. Phones, T-45, Atul Grove, New Delhi.
- BASAK, A.K., Line Div., L.R.D.E., High Grounds, Bangalore.
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Hindustan Teleprinters Limited, Madras.
Indian Standards Institution, New Delhi.
Indian Telephone Industries Limited, Bangalore.
Marconi's Wireless Telegraph Co. Ltd., New Delhi.
Motwane Private Limited, Bombay.
Murphy Radio of India Limited, Bombay.
National Ekco Radio & Engineering Co. Ltd., Bombay.
Philips India Limited, New Delhi.
Siemens Engineering & Manufacturing Co. of India Ltd., New Delhi.
Standard Telephone & Cables Limited, New Delhi.

APPENDIX I.

List of Articles Published during 1962-63.

Vol. 8 No. 6 (November 1962).

- A Practical Comparison between different Methods of Calculating Skywave Field Intensity by K.C. Chadha.
- One Operational Amplifier Simulates Third Order Systems with a Lead and a Time Constant by L.K. Wadhwa and H.S. Rao.
- The Radiation Patterns Produced by Linear Array of Half-wave Dipoles Coupled Electromagnetically to a Two-wire Transmission Line by Dipak L. Sengupta.
- A Comparative Study of the Performance of a Class C Harmonic Generator with Fractional Sine Wave, Isosceles, Triangle and Rectangular Pulse Drive by K.S. Patel.
- Development of a Scintillation Counter System for X-rays by A.E. Kiss and N. Patra.
- International Radio Consultative Committee by M.D. Sant.

Vol. 9 No. 1 (January 1963).

- Hard Tube Automatic Pulse Repetition Frequency Doubler by S.V. Dabadghao.
- A.C. Series Motor Speed Control with Silicon-controlled Rectifiers by R.H. Murphy and K. P.P. Nambiar.
- Application of Tunnel Diodes in Trigger Circuits by M.N. Srikanta Swamy.
- A Low Frequency Random Noise Generator by T.N. Shiva Shankar.
- The Development of a Gas-Counter X-ray Intensity Monitor and the Associated Electronic Apparatus by A.E. Kiss and N. Patra.

Vol. 9 No. 2 (March 1963).

- Why does Indian talent miss its world position in Telecommunications—Some Reasons from an Educational Angle by K.N. Sundaram.
- Corpuscular Radiation and the Ionospheric Anomalies by Chaman Lal.
- Design of Triode Receiving Type Tubes by S. Sampath and K. Venkataramanan.
- Backward Waves in Homogeneous Waveguides by John Brown.
- Transistor Tester by R. Krishna.
- Very Low Current Operation of Transistor Amplifier by K.K. Shrivastava.

Vol. 9 No. 3 (May 1963).

- Amplification Factor in Triodes with Elliptic Grids Having Support Rods by N. Seshagiri.
- A Transistorized D.C. Servoamplifier with High Gain by G.N. Acharya.
- Tactical Consideration in the Design of a Beam Rider System by A. Prabhakar.
- Short Wave C.W. Transmission as Affected by Spread-F Condition by B.V. Krishnamurthy and B. Ramachandra Rao.
- A Transistorized Low Capacitance Meter by B.S. Sonde.
- Fabrication of a Fused Silicon Diode by K.S. Balain.
- Effects of Negative Current Feedback by J.C. Advani.
- One Operational Amplifier Simulates Third Order System with Double Lead by L.K. Wadhwa.

Vol. 9 No. 4 (July 1963).

- Fabrication of a Germanium Computer Diode by K.S. Balain.
 On Surface Leakage and Breakdown in P-N Junction by P.R. Dastidar.
 Thermal Conductivity of Irradiated Semiconductors by J.K.D. Verma.
 Electrical Properties of the Solid Solution Systems $Cd_3As_2 + Zn_3As_2$ by A.K. Sreedhar.
 Study of the Electrical Properties of $BaTiO_3$ doped with Antimony by J.K. Sinha.
 A Vacuum Furnace for Growing Semiconductor Crystals by R.Y. Deshpande.
 Ultramicrowave Generation by Cerenkov Interaction with Electron Beams by B.D. Nag Chaudhuri.
 Optimum Energy Gap for P-N Junction Photovoltaic Solar Energy Converters by A.U. Momin and A.P.B. Sinha.
 Semiconductor Charged Particle Detectors by M.M. Farooqui.
 A Study of InAs Hall Generator as a Circuit Element by A.N. Daw and S.K. Datta.
 Electroless Nickel Plating and its Applications by C. Ambasankaran and K.A. Sarojini.
 A Review of Some Design Procedures for Receiving Type Electron Tubes by S. Sampath and K. Venkataramanan.
 Electrostatic Focusing Systems for Intense Electron Beams by S.I. Molokovsky.
 Elimination of Higher Order Aberrations in 'Curved Axis' Telescopic Lens in Cylindrical Electrostatic Fields by C.S. Upadhyay.
 An Improved Beading Technique for Electron Gun Assembly by N.C. Vaidya and Davinder Singh.
 Design of a 5 kw. Electron Beam Furnace by C. Ambasankaran and S.K. Iyyengar.
 Studies on Vacuum Process Evaluation by P. Vijendran.
 The Cavity Cathode by B.H. Wadia, C. Balakrishnan and K.K.S. Garewal.

Vol. 9 No. 5 (August 1963).

- Development of Reflex Klystrons by L. Torstensson, N.C. Vaidya, K. Chandra, S. Rama Gopal and R.C. Vatsa.
 Transistorized Operational D.C. Amplifier by Col. V. Mehta and Maj. A. Basu.
 Design of Transistor Oscillators for Radio Receivers by M.V. Joshi.
 Audio Frequency Electronic Wattmeters by W.J. Jirafe.

Vol. 9 No. 6 (September 1963).

- Noise Measurement in Typical Auditoria in New Delhi by N.D. Matange and P.R. Narasimhan.
 Pentaconta Crossbar Systems by C.P. Rivet.
 Height of Occurrence of Shower Meteors by M. Srirama Rao and P. Ramesh.
 L.F. Transistor Feedback Amplifier by H.P. Jaiswal.

List of Articles Published in the Students' Journal during 1962-63.

Vol. 4 No. 1 (December 1962).

- Voltage Stabilizers Using Glow Tubes by S. Sampath.
 The Artificial Line by V. Ramachandran.
 Television System—VI.

Vol. 4 No. 2 (March 1963).

Network Representation of Uniform-Transmission Lines by V. Ramachandran.
The Teleprinters by U.S. Bhatnagar.
Capacitors in Radio Receivers by R. Ramaswamy.
Television System—VII.

Vol. 4 No. 3 (June 1963).

Speech and Hearing by R. Seshasayee.
The Propagation Characteristics of Lumped Loaded Line by V. Ramachandran.
Open and Short Circuit Parameters of Two-Terminal Pair Networks by T.A.R. Bhat.

Vol. 4 No. 4 (September 1963).

Transmission Lines by R. Seshasayee.
The Circuit Diagram—Part II.
The Teleprinter—II by U.S. Bhatnagar.



APPENDIX II.

List of Papers Presented at the Sixth Technical Convention.

1. Backward Waves in Homogeneous Waveguides—Dr. John Brown.
2. An Observation of loss of Balance in a Microwave Magic Tee Bridge of Unequal Arms of when having a Cavity in one of the Arms—K. G. Goyal and R. Parshad.
3. A New Method for Measuring Impedance at Microwave Frequencies I—R. Parshad and R. C. Tyagi.
4. A New Method of Measuring Impedance at Microwave Frequencies II—K. G. Goyal and R. Parshad.
5. A new Method of Measuring the "Q" of Single Output Cavities Using Magic Tee—G. R. Babu.
6. The Effect of Nearby Power Transmission Lines on the Radiation Efficiency and Horizontal Pattern of Vertical Medium Wave Aerials—A. K. Sen and S. C. Mazumdar.
7. Measurement of Noise Level in some Typical Auditoria in New Delhi and their Comparison with Standard Criteria Evolved for Similar Concert and Conference Halls—N. D. Matange and R. Narasimhan.
8. Frequency Spectra of Indian Music and Musical Instruments—S. G. Ranade.
9. Direction and Width Controller in Stereophony—D. Guha and H. L. Chopra.
10. The Application of the SSB Technique to Mobile Wireless Communications—Maj. B. K. Rai.
11. Statistical Linearization of Non-linear Control Systems—T. N. Shiva Shankar.
12. One Operational Amplifier Simulates Third Order Systems with Double Lead—L. K. Wadhwa.
13. Technical Considerations in the Design of a Beam Rider Missile System—Alladi Prabhakar.
14. Public Address System for Airports—K. N. Gopala Krishnan.
15. The Simulation of Third Order Systems with a leading Time Constant by a Single Operational Amplifier—L. K. Wadhwa.
16. A Radio Method of Observing Solar Flares and Forecasting of Sudden Ionospheric Disturbances—S. N. Mitra.
17. Solar Flares and F Region Critical Frequencies—R. K. Suryanarayana.
18. Some Peculiarities Observed in the Ionisation Densities of the F2 Layer—C. S. R. Rao and Mangal Sain.
19. F2 Layer Characteristics of the Ionosphere during Equinox—C. S. R. Rao and Mangal Sain.
20. A Method for Calculating the Sky Wave Field Intensity Produced by Short Wave Transmitter in the Tropical Region—M. R. Rao and S. C. Mazumdar.
21. Measurement of Cosmic Noise Absorption at Delhi on 18.9-Mc/s—M. K. Rao.
22. A Transistorised D. C. Servo-amplifier with High Gain—G. N. Acharya.
23. Fabrication of a Fused Silicon Diode—S. K. Balain.
24. Design of Triode Receiving Type of Tubes—S. Sampath and K. Venkataramanan.
25. Transistor Feed back Amplifiers—H. P. Jaiswal and V. G. Rao.
26. Transistor Circuit in Tifrac Magnetic Type Memory—M. V. Pitke and S. V. Rangaswamy.
27. Some Problems in the Design of a Transistorised Automobile Radio Receiver—Hausila Singh.

General.

28. Why does Indian Talent Miss World Position in Telecommunication. Some Reasons from Our Educational Angle—K. N. Sundaram.
29. To Initiate Standardisation of Test Equipment—T. V. Ramamurthy and G. R. Toshniwal.

APPENDIX III.

LIST OF REFEREES

The following is the panel of referees appointed at the different towns in accordance with regulation 5 (a) (ii)

ANDHRA PRADESH

Shri T.V. Balasubramanian, Divisional Engineer (Phones), Hyderabad.
Shri Ganti Subrahmanyam, Professor of Telecom. Engineering, College of Engineering, Kakinada.
Prof. V.V.L. Rao, Principal, Government Engg. College, Ananthapur.

DELHI

Shri S.M. Agarwal, Dy. Director General, P & T Directorate, New Delhi.
Shri S.S. Aiyar, Planning Officer, All India Radio, Akashvani Bhavan, New Delhi.
Brig. M.N. Batra, C/o National Defence College, New Delhi.
Air Cmdr. K.A. Joseph, Director of Signals, Air Headquarters, Vayusena Bhavan, New Delhi.
Col. P. Madan, Col. I.C. Production, Headquarters Workshop Group, Chitral Lines, New Delhi-10.
Shri M.M. Kini, Director of Planning, Post & Telegraphs, Eastern Court, New Delhi.
Shri Rama Kant, Dy. Director General, Planning, P & T Directorate, New Delhi.
Dr. Saroj Datta, Controller, Radio Construction & Development Unit, Civil Aviation Department, Safdarjung Air Port, New Delhi.
Shri M.L. Sastry, Chief Engineer, All India Radio, Broadcasting House, New Delhi.
Lt.-Col. S.S. Bedi, C-123, Defence Colony, New Delhi.

GUJARAT STATE

Dr. K.M. Kotadia, Reader in Physics, University School of Science, Gujarat University, Ahmedabad.
Shri S. Pattabhiraman, Engineer-in-Charge, All India Radio, Ahmedabad.

KERALA STATE

Shri A.G. John, Station Engineer, All India Radio, Trichur.
Shri M.N. Namboodripad, Lecturer, St. Albert's College, Ernakulam.

MADHYA PRADESH

Brig. T. Baretto, School of Signals, Mhow.
Shri P.C. Pal, Reader in V.F. & Carrier Comm. Engg., Govt. Engineering College, Jabalpur.
Prof. V.V. Sarwate, Head of the Dept., Dept. of Telecomm. Engg., Govt. Engineering College, Jabalpur.
Col. K.N. Talwar, Sig. Trg. Centre, Jabalpur.

MADRAS STATE

Shri S.R. Bhashyam, Post Master General, Madras Circle, Madras.
Prof. K.S. Hegde, Professor of Telecom., College of Engineering, Guindy, Madras.
Shri K. Nageswaran, C/o RESA Company, 3/16, Mount Road, Madras-2.

Shri K.K. Pichumani, 16, Benwells Road, Cant Tiruchirapalli.

Shri B.S. Rau, Managing Director, Hindustan Teleprinter Ltd., Madras.

Prof. S. Sampath, Professor of Electrical Engineering, Indian Institute of Technology, Madras-36.

Prof. K. Sreenivasan, Director, Madras Institute of Technology, Chromepet, Madras.

MAHARASHTRA STATE

Wg. Cdr. H. Chandra, Base Signal Repair Unit, Indian Air Force, Poona.

Shri K.L. Joshi, Department of Electrical Comm. Engg., College of Engineering, Poona.

Shri S.N. Kalra, Deputy Director General, Overseas Comm. Service, Radio House, Apollo Bunder, Bombay.

Shri D.D. Lakhanpal, 29, New Queen's Road, Bombay.

Shri K.N. Mehta, Engineer-in-Charge, High Power Transmitters, All India Radio, Malad, Bombay.

Shri M.S. Muthanna, General Manager, Bombay Telephones, Telephone Bhavan, Colaba, Bombay.

Lt.-Col. Y.R. Puti, HQ M. & G. Area, Colaba, Bombay.

Shri G.R.S. Rao, National Ekco Radio & Engineering Co. Ltd., Mahaluxmi, Bombay.

Prof. M.G. Samant, Department of Electrical Comm. Engineering, Engineering College, Poona.

MYSORE STATE

Prof. S.V. Chandrasekhar Aiya, Head of the Department of Electrical Communication Engineering, Indian Institute of Science, Bangalore.

Col. K.K. Mehta, Inspectorate of Electronic Equipment, Ministry of Defence, (CGDP), Bangalore.

Shri N.V. Shenoi, General Manager, Indian Telephone Industries Ltd, Dooravani Nagar, Bangalore.

Shri Uma Shankar, Managing Director, Indian Telephone Industries Ltd, Dooravani Nagar, Bangalore.

ORISSA STATE

Shri A.C. Ghosh, Station Engineer, All India Radio, Cuttack.

Shri A.P. Mohanty, Superintendent of Police (Signals), Cuttack.

PUNJAB STATE

Brig. Jaswant Singh, Chief Signal Officer, HQ Western Command, Simla.

Shri S.S. Kohli, Engineer-in-Charge, All India Radio, Jullundur.

Shri Shanti Swarup, Post Master General, Punjab Circle, Ambala Cantt.

UTTAR PRADESH

Shri A.K. Ghose, Reader in Line Communication Engineering, Engineering College, Banaras Hindu University, Varanasi.

Shri C.P. Joshi, State Radio Officer, U.P. Circle, Police Radio Section, Dilkusha, Lucknow.

WEST BENGAL

Shri A.S. Balasubramanian, Engineer-in-Charge, All India Radio, Eden Gardens, Calcutta.

Dr. K.K. Bose, Assistant Professor, Department of Communication Engineering, Indian Institute of Technology, Kharagpur.

Shri C.A. Cornelius, General Manager, Calcutta Telephones, Telephone Bhavan, 34, Dalhousie Square, Calcutta.

Shri R.R. Juneja, 27, Rowland Road, Calcutta-20.

Shri Keshava Chandra, Project Officer, All India Radio, Eastern Project Circle, Calcutta.

ASSAM STATE

Shri P.N. Luthra, Adviser to Governor of Assam, Shillong.

APPENDIX IV.

List of Journals Received in Exchange of the Journal of the Institution.

1. A. T. E. Journal, Automatic Telephone and Electric Co., Strowger Works, Liverpool.
2. A. W. A. Technical Review, Amalgamated Wireless Australasia. 554, Parramatta Road, Ashfield, New South Wales.
3. Acta Electronica, 23, Rue du Retrait, Paris-20, France.
4. Actr Polytechnica Scandinavica (Formerly: Acta Polytechnica)—Scandinavian Council for Applied Research, Stockholm 5.
5. Aerial—Marconi's Wireless Telegraph Co. Ltd., Marconi House, Chelmsford, Essex.
6. Alta Frequenza—Associazione Elettrotecnica Italiana, Via San Paolo 10, Milan.
7. Ann. Radioelect Annales de Radioelectricite—Compagnie Generale de T. S. F. Centre d'Information et de Documentation, 12, Rue Carducci, Paris 19.
8. Annales de Telecommunication, Centre National d'Etude des Telecommunications Paris.
9. Australian Journal of Applied Science, Commonwealth Scientific and Industrial Research Organisation, 314 Albert Street, East Melbourne, C.2, Victoria.
10. Australian Journal of Physics, Cammonwealth Scientific and Industrial Research Organisation, 314, Albert Street, East Melbourne, C.2, Victoria.
11. Bell Laboratories Record, Bell Telephone Laboratories, 463, West Street, New York.
12. Bell System Technical Journal, Bell Telephone Laboratories, 463, West Street, New York.
13. Bibliography of Scientific Publications of South and South East Asia, National Physical Laboratory, Hillside Road, New Delhi.
14. British Communications and Electronics, Heywood & Co. Ltd., Drury House, Russell Street, Drury Lane, London—W. C. 2.
15. Brown-Boveri Review—Brown, Boveri and Company Ltd., Baden (Switzerland).
16. Bruel and Kjaer Technical Review—Bruel and Kjaer, Naerum, Denmark.
17. Bulletin of All India I.M.D.A., 127, Dadabhai Naoroji Street, Bombay.
18. Bulletin of the Institution of Engineers (India), 8, Gokhale Road, Calcutta.
19. Cables et Transmission, SOTELEC, 16, Rue de la Baume, Paris 8.
20. Communications and Electronics, American Institute of Electrical Engineers, New York.
21. E. T. J. Japan—Electrotechnical Journal of Japan, Institute of Electrical Engineers of Japan (Denki-Gakai), Yurakucho, Chiyoda-ku, Tokyo.
22. Electrical and Mechanical Engineering Transactions, Institution of Engineers, Australia.
23. Electrical Communication, International Telephone and Telegraph Corporation, 67, Broad Street, New York 4, N. Y.
24. Electrical Engineering Abstracts—Institution of Elec. Engineers, Savoy Place, London—W.C. 2.
25. Electrical-India, 14, Sidh Prasad, Ghatkopar Mahu Road, Bombay-71.
26. Electro-Technology, High Grounds, Bangalore.
27. Electrotechniek, Radactie Electrotechniek, Zwarteweg 1, Den Haag (Holland).
28. Electronic Engineering, Morgan Brothers, 28, Essex Street, Strand, London W.C. 2.

29. Electronic Technology, Iliffe and Sons, Dorset House, Stamford Street, London, S.E. 1.
30. Elektronik, Francis-Verlag, 13 B, Munchen-37.
31. Electrotechnics, Indian Institute of Science, Bangalore-3.
32. Elektrotech. Obzor—Elektrotechnicky, Obzor—Krakovska u.c. 8, Prague 2.
33. Engineering and Science, Indian Institute of Technology, Madras-36.
34. English Electric Journal, English Co., Stafford.
35. Entwicklungs Berichte der Siemens & Halske AG, Munchen-25, Hofmannstr-51.
36. Ericsson Review, L.M. Ericsson, Stockholm-32.
37. G.E.C. Journal of Science & Technology, Erith, Kent.
38. G.E.C. Telecommunications, Central Electric Co. Ltd., Telephone, Radio and Television Works, Coventry.
39. Geomagnetism i Aerologia (Russian)—The Library of the Academy of Sciences of the USSR, Exchange Department, Leningrad—V. O. 164, Birgevaja Linija-1, U.S.S.R.
40. Het PTT-Bedrijf—The Netherlands PTT-Netherlands Postal and Telecommunication Services, 12, Kortenaekade, The Hague, Netherlands.
41. Hewlett-Packard Journal, Hewlett-Packard Co., 257, Page Mill Road, Palo Alto, California.
42. IBM Journal of Research & Development, Post Box 218, Yorktown Heights, New York.
43. Indian Journal of Meteorology and Geophysics, Meteorological Department, Civil Lines, Delhi-8.
44. Indian Journal of Physics and Proceedings of the Association for the Cultivation of Science, 2 and 3, Lady Wellington Road, Calcutta.
45. Indian Journal of Theoretical Physics, 4/1, Mohan Bagan Lane, Calcutta.
46. Industrial India—All India Manufacturer's Organisation, 4th Floor, Co-operative Insurance Building, Sir Phirozshah Mehta Road, Bombay.
47. Insdoc List, Insdoc, National Physical Laboratory, Hillside Road, New Delhi.
48. Ionospheric Data, National Physical Laboratory of India, Hillside Road, New Delhi.
49. I.S.I. Bulletin, Indian Standards Institution, 'Manak Bhavan', New Delhi.
50. Jodrell Bank Annals (Astronomical Contributions from the University of Manchester), Jodrell Bank Experimental Station, Lower Withinton, Macclesfield, Cheshire.
51. Journal of the Acoustical Society of America, American Institute of Physics, 335, East 45th Street, New York-17, N. Y.
52. Journal of the Aeronautical Society of India, Aeronautical Society of India, 13-B Indraprastha Estate, New Delhi.
53. Journal of Applied Meteorology, American Meteorological Society, 45, Beacon Street, Boston, Mass.
54. Journal of the Audio Engineering Society, Post Box No. 12, Old Chelsea Station, New York 11, N. Y.
55. Journal of the Franklin Institute, Benjamin Franklin, Parkway at Twentieth St., Philadelphia 3, Pennsylvania.
56. Journal of Geophysical Research, 5241 Broad Road, Northwest, Washington 15.
57. Journal of the Indian Institute of Science, Bangalore.
58. Journal of the Institute of Electrical Communication Engineers of Japan, 2-8 Fujimicho Chiyoda-ku, Tokyo.
59. Journal of the Institution of Engineers India, 8, Gokhale Road, Calcutta.
60. Journal of the Institution of Military Engineers, College of Military Engineering, Kirkee, Poona.

61. *Journal of Mathematics and Physics*, Massachusetts Institute of Tech., Cambridge-39, Mass.
62. *Journal of the Radio Research Laboratories*, Ministry of Posts & Telecommunications, Kokubunji, P.O. Kitatama-gun, Tokyo.
63. *Journal of Scientific Research*, Banaras Hindu University, Varanasi.
64. *Journal of Research of the National Bureau of Standards*, U. S. Government Printing Office, Washington 25, D.C.
65. *Journal of Scientific and Industrial Research*, Council of Scientific and Industrial Research, Old Mill Road, New Delhi.
66. *Journal of the Society of Motion Picture and Television Engineers*, 55, West 42nd Street New York-36, N. Y.
67. *Journal of the University of Bombay*, Fort, Bombay-1.
68. *Marconi Review*, Marconi's Wireless Telegraph Company, Marconi House, Chelmsford.
69. *Memoirs of Scientific and Industrial Research*, Osaka University, Osaka, Japan.
70. *New Zealand Journal of Science*, Department of Scientific and Industrial Research, Post Box No. 8018, Wellington.
71. *Noise Control*, Published for the Acoustical Society of America by the American Institute of Physics, 335, East 45th Street, New York-17, N. Y.
72. *Onde Electrique*, 1' *Onde Electrique*, Societe des Radioelectriciens, 10, Avenue Prierre Larousse, Malakoff (Seine).
73. *Pakistan Journal of Science*, Pakistan Association for the Advancement of Science, University Institute of Chemistry, Lahore.
74. *Pakistan Journal of Scientific Research*, Pakistan Association for the Advancement of Science, University Institute of Chemistry, Lahore.
75. *Philips Research Reports*, Philips Gloeilampenfabrieken, Eindhoven, Holland.
76. *Philips Technical Review*, Philips, Gloeilampenfabrieken, Eindhoven, Holland.
77. *Philips Telecommunication Review*, Philips, Gloeilampenfabrieken, Eindhoven.
78. *Post Office Electrical Engineers' Journal*, Institution of Post Office Electrical Engineers, G. P. O. 2-12, Gresham Street, E.C. 2.
79. *Poste E Telecomunicazioni*, via della Vite, 107, Rome.
80. *Proceedings of the Cambridge Philosophical Society*, Free School Lane, Cambridge.
81. *Proceedings of the Institution of Electrical Engineers—Part B (Radio and Electronic Engineers)* Savoy Place, London W. C. 2.
82. *Proceedings of the Institution of Radio Engineers Australia*, Science House, Gloucester Street, Sydney.
83. *Proceedings of National Electronics Conference*, 228 North La Salle Street, Chicago-1, Illinois.
84. *Q. S. T. American Radio Relay League*, 38, La Salle Road, West Hartford, Connecticut.
85. *R. C. A. Review*, Radio Corporation of America, R. C. A. Laboratories Division, Princeton, New Jersey.
86. *Radio and Electronics*, 6, Shailaja, Peddar Road, Bombay-26.
87. *Radio Man*, Radio Place, Chandni Chowk, Delhi.
88. *Radio Television*, Radio Place, Chandni Chowk, Delhi.
89. *Radio Times of India*, 27, New Queen's Road, Bombay.
90. *Rundfunktechnische Mitteilungean*, Institute for Rundfunktechnik, Mittelweg, 113, Hamburg 13.
91. *Revista Electrotecnia*, Association Argentina de Electrotecnicos, Posadas, 1657, Buenos Aires.

92. Revista de Telecommunication, Consejo Technico de Telecommunication, Palacio de Comunicaciones, Madrid.
93. Rozprawy Elektrotechniczne, Panstwowe Wydawnictwo Naukowe, Krakowskie Przedmiescie 79, Warsaw.
94. Science and Engineering—Indian Society of Engineers, 12-B, Netaji Subhas Road, Calcutta-1.
95. Scientica Sinica, 9, Wang Fu Ta Chlick, Peking, China.
96. Sdelovaci Technika Krakovska 8, Prague II (Czechoslovakia).
97. Slaboproudy Obzr, Krakovska 8, Prague II.
98. Sound Recording and Reproduction, 3, Coombe Gardens, New Malden, Surrey.
99. Technical Journal of Japan Broadcasting Corporation—NHK (Japanese) Japan Broadcasting Corporation, Tokyo (Japan).
100. Technische Mitteilungen P. T. T. Schweizerische Post-Telegraphen und Telephon Verwaltung, Speicher gasse 6 Bern.
101. Technical News Bulletin-National Bureau of Standards, U. S. Department of Commerce, Washington-25, D. C.
102. Telecommunications, Ridge Road, Jabalpur.
103. Telecommunication Journal of Australia, Telecommunication Society of Australia, Box No. 4050, G. P. O., Melbourne, Victoria, Australia.
104. Teleteknik, 16, Kannikegade, Aarhus C. Denmark.
105. Telonde'—Compagnie Generale de Telegraphie San Fil, 70, Boulevard Haussman, Paris-8 (France).
106. U. S. R. I. Information Bulletin, 7, Place Emile Danco, Brussels.
107. Wireless World, Iliffe and Sons, Dorset House, Stamford Street, London S. E. 1.