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**Proceedings of the fourth meeting of All India
Council for Technical Education held at
Calcutta on the 28th April, 1949**

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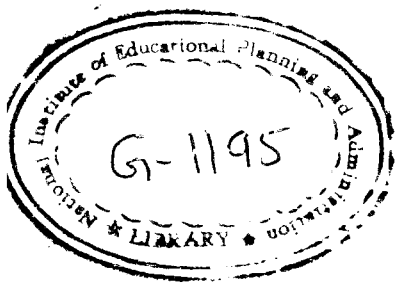
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Proceedings of the fourth meeting of the All India Council for Technical Education held at Calcutta on the 28th April, 1949.

The fourth meeting of the All India Council for Technical Education is held at Calcutta on the 28th April, 1949, under the Chairmanship of Shri R. Sarker. His Excellency Dr. Kailash Nath Katju, Governor of West Bengal, inaugurated the session. The West Bengal Premier, the Hon'ble Dr. C. Roy was also present.

The following members were present :—

1. Shri N. R. Sarker—*Chairman*.
2. Dr. Tara Chand, M.A., D.Phil., *Educational Adviser to the Government of India*.

Ministries of the Government of India.

3. Dr. J. N. Mukerjee (Ministry of Agriculture).
4. Shri C. K. Ray, (Ministry of Commerce).
5. Shri B. B. Ghosh, (Ministry of Defence).
6. Shri S. Ratnam, (Ministry of Finance).
7. Dr. N. Das, (Ministry of Labour).
8. Shri P. L. Gupta, (Ministry of Railways).
9. Shri D. L. Mazumdar, (Ministry of Works, Mines & Power).
10. Dr. Gyan Chand, (Cabinet Secretariat).
11. Shri A. N. Khosla, (Central Board of Irrigation).

Constituent Assembly of India.
(Legislative).

12. Dr. Punjabrao Shamrao Deshmukh.
13. Shri Biswanath Das.
14. Shri Sureshchandra Majumdar.
15. Prof. Yashwant Rai.
16. Nawab Mohammed Ismail Khan.

Provincial Governments.

17. Shri Mohindra Mohan Chowdhury (Government of Assam).
18. Joint Director of Technical Education, Bombay (Shri J. A. Taraporevala).
19. Dr. V. S. Jha (Government of C. P. & Berar).
20. The Hon'ble Minister for Industries, United Provinces (Shri K. D. Malaviya).
21. The Hon'ble Minister for Education, West Bengal (Shri Harindra Nath Chowdhury).

Indian States.

22. Shri Kasturi Raj Chetty, (Mysore State).

Industry, Commerce and Labour.

23. Mr. T. G. May, Associated Chambers of Commerce of India.

24. Shri K. D. Jallan, Federation of Indian Chambers of Commerce & Industry.
25. Lala Shri Ram, Federation of Indian Chambers of Commerce & Industry.
26. Shri Harihar Nath Shastri, Indian National Trade Union Congress.
27. Shri G. V. Apte, Employers' Federation of India.
28. Shri Chakkarai Chettiar, All India Trade Union Congress.
29. Miss Maniben Kara, Indian Federation of Labour.
30. Shri J. N. Mitra, Indian Federation of Labour.
31. Shri S. Guruswami, All India Railwaymen's Federation.

Central Advisory Board of Education.

32. Dr. Mata Prasad,

Inter-University Board.

33. Pandit Govind Malaviya.

Association of Principals of Technical Institutions (India).

34. Dr. S. R. Sen Gupta.
35. Shri P. N. Joshi.

Institution of Engineers (India).

36. Mr. C. E. Preston.

The Indian Institute of Architects

37. Shri H. N. Dallas.

The National Planning Committee

38. Dr. J. C. Ghosh.
39. Prof. K. T. Shah.

Indian Chemical Society, Calcutta.

40. Dr. B. C. Guha.

Nominees of the Government of India.

41. Dr. A. H. Pandya.
- Shri G. K. Chandiramani—(*Secretary*).

The following were unable to attend :—

1. Shri P. M. Menon, (Ministry of Health).
2. Shri M. P. Pai }
3. Dr. J. N. Ray } (Ministry of Industry and Supply).
4. Shri T. P. Bhalla, (Ministry of Communications).
5. Dr. S. S. Bhatnagar, (Department of Scientific Research).
6. Consulting Engineer to the Government of India (Roads), Ministry of Transport.
7. Director of Industries, Bihar.
8. Hon'ble Minister for Finance, East Punjab.
9. Hon'ble Minister for Education, Madras.
10. Shri Bijayanand Patnaik, Government of Orissa.

11. Education Commissioner, Baroda.
12. Hon'ble Minister for Education, Madhyabharat.
13. Mr. J. A. Murray, Associated Chambers of Commerce of India.
14. Shri M. A. Master, All India Organisation of Industrial Employers.
15. Dr. K. A. Hamied, All India Organisation of Industrial Employers.
16. Dr. K. Venkataraman, Employers Federation of India.
17. Shri G. N. Deodhadkar, All India Trade Union Congress.
18. Mr. B. H. Zaidi, Central Advisory Board of Education.
19. Dr. A. L. Mudaliar, Inter-University Board.
20. Shri N. V. Modak, Institution of Engineers (India).
21. Mr. Fazal Ibrahim Rahimtoola, nominated by the Government of India.

2. At the opening of the session, His Excellency Dr. Kailash Nath Katju, Governor of West Bengal was present to welcome the members of the Council.

His Excellency said—

“ I am grateful to you for your kindly inviting me to inaugurate this Fourth Session of the All-India Council for Technical Education. Three years back I had the good fortune to be one of its members and in 1947 I was looking forward eagerly to attending the Council Meeting at Bangalore, but my other engagements intervened and deprived me of that pleasure. Today, two years later, I welcome this opportunity in another capacity of welcoming you to Calcutta and of meeting many old friends. It is a great privilege because your Council is one of the most representative that I know of in India. Governments, Central and Provincial, the Central Legislature, Universities, Chambers of Commerce, Trade Unions and indeed all organisations interested in technical education are fully represented in this Council. It is meet and proper that this should be so because you are called upon to deal with a matter of vital importance to national advancement. I am aware that at present in form this Council is only an advisory body, but it is obvious that advice proceeding from your Council is bound to be so weighty and persuasive that no Government can lightly disregard it. Indeed I am inclined to think that in the last three years you have worked so strenuously as to cover almost the entire field of advice. The Central Government has already accepted your scheme for the establishment of four regional central technical institutes in India. Through your various committees you have almost completed the task of framing syllabuses and courses of study for different branches of technical education. Your various visiting committees have inspected the 14 universities and institutions where high class technical education is imparted, and you have made recommendations for the upgrading and adequate financing of these universities and non-official institutions. I suppose that within a year or so you will have completed the overall survey of technical education in India and the conditions of the problem, and made your recommendations for the reorientation of such education from top to bottom and then will come the proper execution of the schemes recommended by you. That is a matter to which I shall refer again later.

Your labours indeed have shown the vastness of the problem that confronts the country. In spite of all protestations to the contrary India has been so far administered on colonial lines and no serious attempt was made to make India self-sufficient in the matter of technical education. But for the far-sightedness of the revered Pandit Madan Mohan Malaviya and Sir Ashutosh Mukerjee the position would have been even more dismal than

it is today. Out of the 14 universities and other institutions visited by your visiting committees three definitely are in the stage of infancy and out of the remaining eleven, five—three at Banaras and two at Calcutta—owe their origin and present development to the inspiration and wisdom of Pandit Madan Mohan Malaviya and Sir Ashutosh Mukerjee. Otherwise we have this country, with its vast area and nearly 400 millions of people, without any facilities worth the name for technical education. The Provincial Governments during the last 20 years or so have tried to make a start but it was really not substantial, and all tangible efforts, barring some engineering colleges, were represented by a few low grade technical institutions (quite inadequate in number) where instruction of a very elementary character was imparted. Emphasis in education was laid everywhere on the arts side and though it is true that in the realm of science Indian students have made their mark here and abroad, colleges were ill-equipped for science teaching. One of the recent developments, which I consider a very happy augury for the future, is the shift-over to science courses from the arts in our colleges during the last two or three years. Only last week I was delighted to find that out of 1,500 students reading in the Berhampore College in Murshidabad district not less than a thousand had taken up courses in science.

Then again industrial development, meagre as it has been, has been lopsided. While capital and controlling managements may have been Indian, but technical direction has been mostly in the hands of non-Indians and the result is, as your investigations have shown, that we are exceedingly short in technical man-power. Our requirements are numerous. We must become self-sufficient in food and we need also all varieties of consumer goods. Vast resources have to be explored and exploited. Great rivers have to be tamed and turned into streams of plenty and bounty; and darkness of the home and of environment, and ignorance has to be dispelled by intensive electrification of the countryside in India. All this requires patient and devoted labour of thousands upon thousands of technicians and engineers of all grades and that also as early as possible, because really we cannot afford to wait. Freedom has cast upon us grave responsibility for the defence of the country from external aggression. Modern armies, navies and air forces depend upon technicians to build and organise them as well as to keep them going. And the present economic stress must be met forthwith and cannot brook delay. Speed in execution of your schemes therefore is definitely indicated. I trust that the advancement of scientific and technical education will be given top priority by all governments as well as non-official organisations engaged in the field of education. It would be a sad mistake indeed if we minimise for any reason whatever the importance of technical education or the urgency of its development. Knowing as I do of the full appreciation of the present situation by the people of India, young and old alike, I have no doubt whatsoever that as soon as the Central Government is able to establish the four Central Technical Institutes the number of applicants for admission will far exceed their capacity for their absorption. While there may be need for economy elsewhere and we may even go slow in other directions I do hope that adequate funds will be made available for the training in the new technical institutes, as well as in the existing institutions of the largest number of students possible. I know that technical education is expensive and the cost *per capita* is heavy but in the context of present world affairs we cannot afford to think in terms of finance. Risks involved in delay and slowness of programmes are much too great and may be dangerous. I, therefore, strongly hope that the Council will soon be able to finalise sites for the two remaining technical institutes in India and all the four institutes will be established and begin to

function without any avoidable delay. Their efficient management by a small committee of experts and administrators almost in continuous session is of prime importance. My own experience is that considerable reorganisation of our governmental agencies will be necessary before Government can be expected administratively to direct and control these specialised technical institutes. You will no doubt carefully consider this matter and it is possible that you might favour the idea of confiding their managements to small governing boards with semi-autonomous powers. One of the most urgent requirements will be the acquisition of requisite equipment for these institutes and I imagine you will favour such acquisition by competent experts on the spot without such circumlocutions as is inevitable in official routine and procedure devised to meet normal contingencies.

I consider this question of equipment as one of prime importance from another point of view also. Many of the universities and other non-official institutions which your visiting committees have inspected can easily undertake the training of a much larger number of students provided they are assisted in acquiring and setting up additional equipments. I was rather struck by the fact that the number of trainees in most of these institutions, even on the basis of your recommendations, is rather small. It is desirable to utilise the facilities offered by these universities and other institutions to the maximum extent. This is very necessary because do what we may, it will take some time to establish the four Central institutes and it is in the national interest that the number of trainees should be forthwith increased to the highest possible degree.

You have already emphasised the fact that there is shortage of personnel all along the line. We need, not only high class engineers and technicians, but much more so the craftsmen and mechanics to assist the engineers. For each engineer it is said 100 assistants of this description are required. In the Provinces there are some technical institutes for the training of these mechanics and craftsmen but their number is too small and the instruction imparted is also unsatisfactory. I trust that the Provincial Governments all over India will readily avail themselves of the advice of your Council for the purpose of upgrading these Provincial institutes. In particular every effort should be made to secure the co-operation of different industries in imparting practical instruction to the students of these institutes. Theoretical instruction may be given by competent staff of instructors but for practical training our railway workshops, mills and factories offer most suitable opportunities. Many of these mills and factories are equipped with the latest plant while in most of these technical institutes students have only obsolete machineries to work upon.

I mentioned electrification of the countryside. This I consider necessary for several reasons. In the first place it is essential that our industries should be spread out rather than be congested any more in our overpopulated industrial urban areas. It is unfair to skilled and unskilled workers as well as to their technical supervisors and staff to make them live and work in crowded dwellings under unhealthy conditions. Electrification, however, is also essential for the improvement of living conditions in our villages as well as for development of cottage industries. Most of our cottage industries will benefit greatly by power, and availability of power means employment of technicians and also great increase in production. I wonder whether this is a subject, Mr. Chairman, within the sphere of your advisory jurisdiction, but I should very much like that researches should be made for the improvement of implements and processes for the development of our agriculture and cottage industries. The marriage of technical education with cottage industries will definitely prove very fruitful in results.

I am particularly glad to note that you are devoting special attention to standardized courses of practical training and theoretical instruction. Years ago I very well remember the intense anxiety of students in different technical institutions for obtaining diplomas and certificates to which they were really not entitled in view of low standards of the training given in those particular institutes. That led to great heart-burning. It was very difficult to argue with young men smarting under a sense of frustration. It would, therefore, be desirable that every technical institute should follow a standardized course so that no such difficulties may arise in future.

The Central Advisory Board for Education in recommending the establishment of a National Council for Technical Education suggested that there was need for planning technical education on an All-India basis and that the Council should control the policy of technical education generally and deal with all technical institutions above the high school stage except the technological departments of universities. Dealing with this matter the Government of India in their resolution of the 30th November, 1945, expressed the opinion that what was immediately needed was survey by a single competent body of the existing facilities, probable post-war requirements and present and prospective proposals for development in technical education and that for this task of survey and advice it was not necessary that an All-India Council for Technical Education should be endowed with executive administrative or controlling powers of any kind but it should in the first instance be entrusted with advisory functions. Now that you have practically exhausted your advisory jurisdiction, I trust the Central Government will take into consideration the matter where it was left in 1945 and decide whether it would not be proper to enlarge the sphere of activities of this Council and to entrust it with executive and controlling powers.

That brings me to another question. Since 1945 the map of India has altered considerably. While on the one hand India has been divided, on the other hand for administrative purposes it has been exceedingly enlarged by the merger of almost all the Indian States into Unions or with neighbouring Provinces. I dare say that in your deliberations at the Bombay session last year you took into careful consideration the position created by the partition of India, but it is only during the last 12 months that we have witnessed the other notable event, namely, the integration of the States with India. That has made the Council responsible for a Survey of a much wider field than was under contemplation in 1945. The States cover an enormous area and, barring a few, in most of them technical education was utterly neglected. I presume that you are quite alive to this aspect of the matter and that your recommendations will cover the whole of India as at present constituted. The Indian States are mostly very backward in technical education. Only in a few has there been any industrial development of any magnitude. Local conditions differ very much, but I suppose the need for development of technical education is, if anything, much more acute in the States than in the Provinces.

Finally, I would with your leave refer to a matter of some practical importance. I trust that under the direction of the Council our development of technical education will proceed on an even keel bearing in mind the relative requirements of various industries, including those of our national forces. It will be unsatisfactory if the production of trained personnel is not well-balanced leading to a glut in one particular line and scarcity in another. Young men are anxious to take to industrial pursuits and are anxious to undergo technical training. I hope they will not suffer by lack of necessary information. All available talent must be fully employed and unemployment by

reason of excessive supply in any particular field may lead to disappointment and a sense of frustration. World conditions are exceedingly difficult and I wonder whether the hope expressed by you, Mr. Chairman, last year that "in four or five years' time things will have come to some normalcy in the sense that capital equipment and machineries will become freely available" will be fulfilled. Events are moving so fast and in such an erratic fashion that it is difficult to forecast what will happen in the near future. While we may hope for the best, it is desirable that we should apply every ounce of our energy to further the progress of technical education in India so that we may make good our past deficiencies and overcome our present difficulties. Any success that we achieve in this direction, I have no doubt, will be in a large measure due to the guidance given to the country by this Council during the last three years. May your beneficent labours lead to the glory and prosperity of our Motherland in the near future will be the devout prayer of every citizen of India."

3. The Hon'ble Shri N. R. Sarker, said in his address as Chairman of the Council—

"I have great pleasure, indeed, in according you all a most hearty welcome to this meeting. Most of you have come here from the distant corners of the country at no little personal inconvenience. And I am only too keenly aware of the sense of duty which has impelled you to come here and your anxiety to give a more definite and concrete shape to our deliberations at earlier meetings before we hand over our tasks to the next Council. For this is the fourth and last meeting of the present Council. What is more important than the forthcoming constitution of a new Council is the momentous, epochal change in the political status of the country and the consequent broadening and reorientation of the outlook of this Council. We began our work with a disquieting sense of external restraint, of a serious gap between what we might be allowed to attempt and what we should really aspire to and strive for. The sudden and far-reaching change in our political status has changed all that. But if it has removed the external restraints, it has also, let us remember, revealed and brought to the fore our deficiencies in technical personnel for tackling our varied economic problems and development projects. We have, in other words, a far more realistic sense of the magnitude of our tasks.

In these circumstances, following a momentous change which called for a re-examination of our requirements, it is not to be expected that the first council could have a big record of achievements to present, but we can legitimately claim to have made quite a sound beginning and to have laid a strong foundation for our successors to build on. For we have to think of a far bigger superstructure than we took into consideration when we first began our work.

As I have already said, the attainment of freedom has added a special significance to the needs of technical education. Research in our country is the supreme need of the hour for our national economy and our national security. Technical education can no longer be thought of as an additional means of gainful employment for our youth or as but a part of the requisites of **particular projects**. **Men of technical skill and specialised knowledge** are essential today in large numbers as much for the Army, Navy and Air Force of a Free India as for implementing plans of industrialisation and development of agriculture on scientific lines by which alone we can increase our national wealth and alleviate the miseries of the common man. All advanced countries of the world like U.K., U.S.A. and U.S.S.R. could build up their national strength, wealth and prosperity primarily by producing a large crew of

trained technical personnel who were instrumental in executing their various nation-building programmes. Even now, when they may be said to have made tremendous progress, they are spending a lot on extending the facilities of technical education. They overlook no opportunity of securing more and more of trained technicians. In other words, they recognise that full provision for technical education is a *sine qua non* of national greatness and the maintenance of it through sustained progress. India has just crossed the threshold of the temple of freedom, and for a country like ours, which is not only backward in utilising modern technical knowledge, both in her industries and in agriculture, but has also her doubts about the wisdom or necessity of it, the urgency of imparting higher technical education to our young men to train a band of efficient executives and competent managers as also research workers in applied technology is undoubtedly greater than in any other country.

I should like here to say a few words about the aims and functions of technical education in the context of the new set-up. Any system of technical education under the present set-up should have a two-fold aim. The basic and paramount need is, of course, the proper correlation of such education with our industrial and agricultural requirements and other potentialities. Technical education should indeed be a wider and more liberal form of training than it has been in the past ; it must comprehend the scientific principles underlying the process of manufacture as well as the processes themselves and it must link up the sciences of production and business organisation with the arts of design and salesmanship. The changed conditions of business and industry, and the growing competition all around, demand that the technician will not only be a man with knowledge of some of the specialised processes of production but he will also have to be conversant with the principles underlying them, which are so essential for the required measure of adaptability to new technique of manufacture.

Secondly, technical instruction should be broad-based and considered as a form of mental training, a training of the mind, not less than of the hand or of the eye. This aspect has received striking emphasis in the recent report of the Consultative Committee of the English Board of Education. Technical subjects have been found to be capable of providing an all-round education or culture as distinct from vocational training, for those whose mental faculties are more actively stimulated by studies of practical subjects than by what is known as academic study. Technological knowledge, thus conceived, has a valuable contribution to make towards the introduction of greater variety into education at its higher stages and towards satisfying the needs of industry, but also the more vital needs of national life considered in its broadest scope.

It is necessary to emphasise this point. Since even in the West, the cultural significance of technical education had been denied till recently and even now is not fully realised. In India the tendency to look on technical education as something sordid, and not sufficiently elevating is age-old and deep-rooted. But there is enough in the experience of recent years to show that when technical education is imparted along sound lines, it is as sure a means of broadening the outlook as the curricula of a liberal education. Obsession with cultural values does not by itself make them easier of realisation. A sound technical education should not only equip our youth to face the demands of the modern world but it should also instil in him the mental and moral discipline that is necessary to make his skill fruitful in the service of humanity.

The challenge of advancing technology has got to be met. The technological developments connected with the discovery of atomic energy are in themselves of such an extraordinary character that, if properly utilised and

harnessed for constructive purposes, they can work miracles. The advances in the technique of production and processes of manufacture from this angle can usher in a new epoch of plenty. They can point to the way of solving many of our pressing problems which bear no other solution than by creative technical knowledge. For instance, the complex task of turning the slums into habitate islands of peaceful life can better be solved by the application of technical knowledge. Again, by harnessing modern technical methods, the congestion in the cities can be greatly relieved and the present chasm between the country life and the urban can be reduced to a very great extent by making the advantages of the one available to the other. New regions can be reclaimed and so planned and developed that they can offer space for industries to grow in widely dispersed areas. That all these are not theoretical propositions has been revealed by the example of U.S.S.R. where cities have been transposed from the Ukrain to the Urals, and by the U.S.A. where the T.V.A. has transformed a vast waste land into a smiling land of plenty. Technology can, indeed, show the way how even cities can be located purposefully.

We in this country have only inadequately realised how modern scientific and technical knowledge has brought the world closer together and has made it more difficult for us to live differently from other nations even in the externals of daily life. In the past when technocracy was not so advanced as it is today, the far-flung countries of the world were strangers to each other, harbouring queer ideas about one another. But as technical knowledge is being brought into fuller play in the affairs of the nation, distance has been annihilated and the countries of the world, hitherto separated by vast distances, have now come within arm's length of one another, thanks to the Radio and the Aeroplane. Now one country is coming to the aid of the other in times of need in an incredibly short time. The pressure to keep pace with the rest of the world is irresistible. And the age of picturesque differences between one people and another is fairly at an end. Our national uniqueness must be manifested or demonstrated in other spheres.

I have thought it necessary to dwell on this aspect for we are entering into a new epoch in which a new outlook and a new approach to the problem of technical education in India are called for. It is a pleasant thought that what we have done during these few years will be seen to be sound not only from the narrow standpoint which seemed opposite then but also from the broader view which it is now necessary to take. And, with your leave, I shall endeavour to make a brief resume of the work which this Council can claim to have done, thanks to the fine spirit of co-operation which you all have evinced and for which I am personally very grateful.

I will now give you a brief resume of the origin, hopes and achievements of the Council which is now nearing the end of the first three years of its useful life. The All-India Council for Technical Education grew out of the realisation of the Government of India that the advancement of scientific research and technology has not been fully and properly correlated to the needs of industries and agriculture due mainly to the lack of facilities for higher technical education in this country. It was felt that the dearth of an adequate complement of technically qualified men was the real bottleneck to the implementation of a plan of economic development and not, as is generally believed, the question of finance. It was Sir Ardeshir Dalal, at that time the Member for Planning and Development, who first conceived the happy idea of constituting an Ad Hoc Committee, consisting of scientists and businessmen, with a view to advising the Government on the question of higher technical educational facilities in India. I was associated with the Committee as its Chairman. The Committee submitted their interim report recommending

the establishment of not less than four higher technical institutions in four selected regions of India on the lines of the Massachusetts Institute of Technology. It was also recommended that the Institute for the Eastern Region of India should be located near Calcutta and for the Western Region near Bombay.

In the meantime, the Government of India set up the All India Council for Technical Education by a resolution on the 30th November, 1945, to advise the Government on the effective organisation and planning of Higher Technical Education in the country and specifically (a) to survey the whole field of technical education, (b) to consider all immediate projects for the development of technical education and (c) to conduct preliminary investigations with a view to ascertaining the conditions on which the authorities in control of existing institutions would be prepared to co-operate in an All-India Scheme. I was invited to accept the Chairmanship of the Council which was constituted for a term of three years.

In the inaugural meeting of the Council held in April/May, 1946, it was decided to have under the Council three types of Committees for better facility of work. Pursuant to this, six All India Boards of Technical Studies, one for each of the main branches of technology for laying down uniformly high standards of education in technological subjects, were formed together with a Committee to co-ordinate the activities of these committees and to serve as the Executive organ of the Council. It was decided to establish four Regional Committees to perform the general functions of the Council in selected regions and to supervise the work of the higher technical institutions which were not affiliated to the Universities and which might, with the approval of the Provincial Government concerned, join the All India scheme. Due to uncertainties regarding geographical boundaries of various Provinces and States before and after the Partition, the Regional Committees of the Council could not be set up. The question, however, has been engaging the attention of the Government and as a first step towards the establishment of such Committees, it has been decided by the Government of India to appoint a Special Officer with necessary planning staff for each of the four Regional Committees, the constitution of which has been settled by the Council in consultation with the Government of India and various Provincial Governments.

It was one of the first tasks of the Council to consider the *interim report* of the Ad Hoc Committee, associated with my humble name, on the development of technical institutions in India and the Council endorsed its recommendation regarding the establishment of four Regional Higher Technical Institutions in the East, West, North and South on the lines of the M.I.T. The Government also accepted the principle of the establishment of two of these Higher Technical Institutions, *viz.*, one in the East near Calcutta and the other in the West near Bombay in the first quinquennium from 1947. Through the kind offices of the West Bengal Government a site of an area of 1,200 acres of land with some valuable buildings has been made available to the Government of India free of cost in Hijli near Kharagpur for the Eastern Higher Technical Institution. The planning of the lay-out has now been taken in hand and necessary higher posts have already been advertised simultaneously in India, the U.K. and the U.S.A. and the applications for these posts are being scrutinised. For the Western Institution, the acquisition of a site at North Kurla near Bombay is now already under way. The question of sites for the Southern and Northern Institutions has been engaging the attention of the Council and various connected authorities are being consulted. As the work of establishing the proposed Eastern Higher Technical Institute, which has been given the first priority, is being delayed due to various reasons,

the co-ordinating Committee of the Council suggested to the Government of India that a small Board of Governors may be appointed with a view to expediting the work in the interests of the country as a whole. I am happy to announce that the Government of India have been pleased to accept this suggestion.

The need for strengthening and improving the existing institutions in the country has also been duly emphasised by the Council in its first meeting. Institutions selected for upgrading were inspected by eight Visiting Committees and on scrutiny of these inspection reports, the Co-ordinating Committee recommended that grants to the extent of Rs. 1.5 crores for capital expenditure and Rs. 30 lakhs for recurring expenditure from the Central Revenues be made to 13 Selected Engineering Institutions of the country spread over the whole country. In making recommendations for grants to these institutions, the Council has laid down certain terms and conditions regarding the intake of students, salary of teachers, maintenance of a high standard of instruction and also provision of suitable buildings, equipment etc., which they have to fulfil as conditions precedent to the receipt of the grants. These rules and regulations, I am happy to say, have been agreed to by the Government of India along with their acceptance of the recommendations for grants. A sum of Rs. 13.75 lakhs towards capital expenditure and Rs. 5.78 lakhs as interest free loan for constructing hostels was accordingly sanctioned by the Government of India during 1947-48 to 9 of the 13 institutions mentioned above, and a grant of Rs. 25 lakhs and an interest free loan of Rs. 15.46 lakhs have been made in 1948-49. For the year 1949-50, the Government of India have provided Rs. 60 lakhs for grant and Rs. 15.21 lakhs as loans to these institutions.

The question of achieving uniform standards of technical education in the country had also been taken up with the Inter-University Board and the Co-ordinating Committee has set up a small Committee to work along with the Committee of the Board. Besides this, the Council has appointed a Joint Committee of the All-India Boards of Technical Studies in Textile Technology, Chemical Engineering and Chemical Technology, and Commerce and Business Administration to evolve a scheme for training of engineers and technologists in industrial management and business organisation. The Committee is expected to commence work soon.

The Council also undertook a survey of the existing facilities for technical education and an interim report was submitted. Though the survey could not be a comprehensive one because of the many limitations under which it was conducted we have yet been able to publish a handbook entitled "Facilities for Technical Education" covering ninety-five institutions in the field. The Council had also framed curricula for All India Diploma Courses, of a standard equivalent to that of a University degree in as many as fourteen subjects, which the Government of India have duly recognised as equivalent to degrees in the corresponding subjects for recruitment to services and posts under them.

I feel I should point out here a matter which deserves important consideration. During our term of office we have not been able to correlate the needs of the industries with higher Technical Education in the country in the manner in which it should have been done. Since we held office during the initial years, many other important matters engaged our immediate attention and it was not found possible to maintain the necessary contacts. But I very much hope that our successors in the field will take this matter into their serious consideration and see that a close correlation between Higher Technical

Education and our industries is maintained effectively. This is imperative in view of the fact that industrial employers in our country have not yet fully realised that technical education can play a vital part in the struggle for national prosperity.

Before I close I must extend, on behalf of the Council our grateful thanks to the Government of India for the valuable help and assistance so generously rendered to us by them in our work and the serious and earnest consideration they have given to the suggestions we put forward to them from time to time and also for the highly encouraging manner in which they have accepted and given effect to most of our recommendations.

I would also like to take this opportunity of mentioning the valuable services of our first Secretary, Dr. S. R. Sen Gupta, who has shown such a passionate concern for the well-being of the Council. It is with great regret that we parted company from this old friend and counsellor. We are, however, happy that his services will still be available to the Council as one of its new members representing the Association of Principals of Technical Institutions in India (A.P.T.I.).

I have merely indicated to you the broad features of the activities of the Council since we met for the first time three years ago. For me, this may be in the nature of a swan-song as I shall be laying down your Chairmanship in a few days' time with the ending of the term of office of this Council. We do not claim to have done as much as we desired and far less do I claim, as your Chairman, to have fulfilled your expectations to the desired extent. I am only happy in the thought that it was given to me to work as the Chairman of a Council composed of so many illustrious persons who have rendered distinguished service to the country in various spheres. It is at once a pleasure and a privilege to work with such a team and I extend to each one of you my grateful thanks for your unstinted co-operation and helpfulness throughout the term of my office in the arduous task that the Council had before it. I sincerely feel that when the history of Higher Technical Education in this country will be recorded by any future chronicler, this Council will be remembered for what little it had done to sketch the first Blue-print of an objective scheme of Higher Technical Education in this country".

4. Before proceeding to consider the items on the agenda for the meeting, the Council passed a resolution of condolence on the sad demise of Mr. E. J. C. Herring, a member of the Council representing the Associated Chamber of Commerce of India.

Resolution.

"The All India Council for Technical Education has learnt with deep regret and profound sorrow, the sad news of the death of Mr. E. J. C. Herring, a member of the Council and offers its sincere condolences and sympathies to Mrs. Herring and other members of the bereaved family".

5. The Chairman then invited the members to consider the items on the agenda. (*Annexure I*).

ITEM No. 1.

To report that the proceedings of the third meeting of the All India Council for Technical Education held at Bombay on the 22nd April 1948 were confirmed by circulation to members.

It was reported that the proceedings of the third meeting of the Council were confirmed by circulation to members and copies printed.

ITEM No. 2.

To report that since the second meeting of the Council, the following changes had taken place :—

(a) *Ministries of the Government of India.*

Shri T. P. Bhalla, Director General, Civil Aviation, in place of Shri N. C. Ghose (Ministry of Communications).

A representative of the Cabinet Secretariat in place of Secretary, Development Board.

(b) *Provincial Governments.*

Joint Director of Technical Education in place of the Hon'ble Premier, Bombay. The Hon'ble Premier, Assam, in place of the Hon'ble Minister for Industries, Assam.

(c) *Indian States.*

Education Minister, Madhyabharat Union in place of Shri V. S. Sarvate.

(d) *Industry, Commerce and Labour.*

Mr. T. G. May in place of Mr. E. J. C. Herring, deceased (Associated Chamber of Commerce).

Shri G. N. Deodhadker in place of Shri Vithal Chowdhury (All India Trade Union Congress).

(e) *Central Board of Education.*

Dr. Mata Prasad and Mr. B. H. Zaidi in place of Sardar Ujjal Singh and Mr. S. M. Azam.

(f) *Inter-University Board.*

Pandit Govind Malaviya in place of Dr. Shyama Prasad Mookerjee.

(g) *Association of Principals of Technical Institutions.*

Dr. S. R. Sen Gupta in place of Shri N. N. Sen.

It was further reported that :—

(i) the Indian Federation of Labour had merged with the Hind Mazdoor Sabha, which would henceforth be represented on the Council, and

(ii) the National Planning series Committee had taken the place of National Planning Committee.

Mr. Harihar Nath Shastri representing the Indian National Trade Union Congress pressed for greater representation for his organisation. The Chairman suggested that full facts concerning the membership of the labour organisations etc., should be collected in order that a decision be taken in the matter. He assured Mr. Shastri that the claims of his organisation would receive the Council's earnest consideration.

Resolved that the list of members be recorded. (*Annexure II*).

ITEM No. 3.

To receive and consider the minutes of—

(a) the sixth meeting of the Co-ordinating Committee held at Calcutta on the 14th. October, 1948,

and

(b) the seventh meeting of the Co-ordinating Committee held at Calcutta on the 12th April, 1949. (*Annexures III & IV*).

At its meeting held at Calcutta on the 14th October 1948 the Co-ordinating Committee had expressed the view that about 30 per cent. of the total seats in each of the centrally aided technical institutions should be reserved for students from provinces other than that in which the institution is located.

A point was made that such facilities offered to students from outside the province became ineffective if hostel accommodation was not made available. The Council agreed with this view and desired that the institutions concerned should arrange to provide hostel accommodation for such students and even construct new hostels for the purpose, if found necessary.

A suggestion was made that the reservation of 30 per cent. seats only was inadequate and that the facilities should be shared equally between the provincial students and others. The Council decided to adhere to its previous decision for the present and watch the effect of the proposals made by it.

At its meeting held on the 12th April 1949, the Co-ordinating Committee had recommended Kanpur as the most suitable place for the location of the Northern Higher Technical Institute. In this connection, a letter from the Hon'ble Sardar Ujjal Singh, Minister for Industries & Civil Supplies, East Punjab, to the Chairman, suggesting Jagadhri in East Punjab for the location of the institute was read out. (Annexure V).

The recommendation of the Co-ordinating Committee was based on one major consideration, namely proximity to industries. The *ad hoc* committee on Higher Technological Education (Sarker Committee) had also made the same recommendation. In view of this and in the absence of agreement between Provincial Governments concerned, the Council decided to recommend to the Central Government to locate the Northern Higher Technical Institute at Kanpur. It further recommended that immediate steps be taken to get a suitable site earmarked for the purpose.

The minutes of the sixth and seventh meeting of the Co-ordinating Committee were then recorded.

ITEM No. 4.

To report the action taken by the Government of India on the recommendations made by the Council and to consider matters arising therefrom. (Annexure VI).

(1) *Membership of the Co-ordinating Committee.*

The Commissioner of Education, Baroda, had been selected a member of the Co-ordinating Committee by the representatives of the provinces and states on the Council. It was noted that consequent on the merging of Baroda State with Bombay, the office of the Commissioner of Education, Baroda would cease to exist. It was, however, not considered necessary to take any action in the matter, as a new Co-ordinating Committee had to be constituted with effect from the 30th June 1949 as laid down by the Council at its first meeting.

(2) *Committees of the Council.*

It was noted that one of the four Regional Officers had already taken up his duties and that others were expected to be appointed shortly. The Council considered the work of Regional Committees of great importance in the general scheme of organisation of Technical Education and Training and passed the following resolution.

Resolution.

“ This Council notes with satisfaction the steps being taken by the Government for the setting up of Regional Committees of the Council and requests the Provincial Governments concerned to provide the necessary facilities for accommodating the Regional Offices in close proximity to their offices ”

(3) *Higher Technical Institutions.*

The Council noted with satisfaction the progress made in the preliminary work for the setting up of the Eastern Higher Technical Institution and hoped that the institute would start functioning at an early date. The following resolution was passed in connection with the gift of site made by the Government of West Bengal for this institute.

Resolution.

“ This Council places on record its appreciation of the generous gift of the site for the Eastern Higher Technical Institution made by the Government of West Bengal ”.

(4) *Strengthening of existing technological institutions.*

It was reported that, in addition to advanced capital grants of Rs. 24 lakhs for building and equipment and a loan of Rs. 12.56 lakhs for the construction of students' hostels, the following recurring grants had been sanctioned by the Government of India :

	Rs.
College of Engineering, Banaras Hindu University ..	39,000
College of Mining & Metallurgy, Banaras Hindu University ..	12,000
College of Engineering & Technology, Jadavpur ..	49,000
Total ..	1,00,000

Grants had so far been paid to nine out of the fourteen institutions recommended by the All India Council for Technical Education. The College of Technology, Banaras Hindu University, could not be given any grant as it had not yet agreed to reduce the intake, and to substitute the existing courses for three to four year courses in Chemical Technology as recommended by the Co-ordinating Committee. The University of Bombay had not yet accepted the condition regarding provincial quotas for admission to the Department of Chemical Technology and the cases of the remaining three institutions were under consideration of Government.

Pandit Govind Malviya referred to the recommendations of the Council in regard to the College of the Banaras Hindu University. His feeling was that full use was not being made of the facilities in the various institutions. He suggested that an *ad hoc* committee consisting of prominent scientists and engineers be appointed to study the conditions with a view to making proposals for an increased intake.

The Chairman explained that after mature consideration of the proposals by a scrutinising committee and subsequently by the Co-ordinating Committee, certain recommendations had been made to the Central Government. The basis of these recommendations had been accepted by the Government. If the Council appointed another committee at this stage, it would mean review of

the entire question and the Government would be entitled to stay action on the recommendations made by the Council. Furthermore, a larger intake, if proper standards were to be maintained would require additional grants from the Central Government and the Chairman expressed the view that the Government may not be in a position to provide larger amounts at present.

Pandit Govind Malviya agreed not to press his suggestion.

The Council passed the following resolution in appreciation of the Government's action.

Resolution.

“ This Council expresses its appreciation of the Government of India's efforts to strengthen and develop the existing engineering and technological institutions by means of suitable grants ”.

(5) *Survey of facilities for Technical Education.*

The note was recorded.

(6) *Co-ordination of Technical Education.*

The following resolution was passed.

Resolution.

“ This Council notes with satisfaction the decision of the Government of India that the Ministry of Education should co-ordinate the activities of all the Ministries in the field of Technical Education and recommends that similar arrangements may be made in the Provinces also in the interest of efficient planning of technical educational facilities ”.

(7) *Craftsmen Training Scheme.*

Dissatisfaction with the progress made in the training of craftsmen was expressed by many members. The Council was of the view that both the Industry as well as the Government did not play their part as it was expected. The report of the Advisory Committee on Technical Training was published as far back as 1944-45 but no tangible results had accrued as yet. Apprenticeship facilities were not provided in an organised way even in government-owned workshops and factories. Some sections of the Council suggested appropriate legislation so that the Industry would be forced to provide training courses within their establishments. The following resolution was passed.

Resolution.

“ This Council is of the opinion that immediate steps should be taken by Government to provide training facilities in organised industry and government-owned workshops and factories on the lines indicated in the report of the Advisory Committee on Technical Training (1944-45) for the training of craftsmen in sufficient numbers.

In consideration of the magnitude of the problem and the benefits which will accrue to the Industry, the Council is of the view that part of the cost of training of craftsmen might be borne by the industry and that Government should examine the question of levying a cess on the total wage bill of the Industry for this purpose ”.

(8) *Miscellaneous.*—Secretary's note was recorded.

ITEM No. 5.

To receive a note on the activities of the All India Board of Technical Studies. (Annexure VII).

(1) *Meetings.*—The note was recorded.

(2) *Constitution of Boards.*—The Council accepted the recommendation of the Co-ordinating Committee that Shri J. A. Taraporevala, Joint Director of Technical Education, be appointed as a representative of the Council on the Board of Technical Studies in Applied Art in place of Major D. L. Deshpande who had ceased to be a member of the Council.

(3) *Curricula and syllabus of the All India Courses.*

Lala Shri Ram expressed the view that private candidates should be permitted to take the All India examinations. He considered it essential that such facilities be made available and that attendance at an institution should not be insisted upon.

The representative of the Government of Bombay (Shri Taraporevala) vehemently opposed the suggestion and was of the view that the All India Council for Technical Education should not assume the role of a professional body but should concern itself with laying down educational standards. It was open to people in the profession to appear for examinations conducted by the Institution of Engineers and other similar bodies so that their standard of attainments may be recognised.

It was reported that provision exists in the All India scheme, framed by the Boards of the Council for taking the various courses on a part-time basis, so that deserving persons can avail themselves of these facilities, besides the regular full-time courses in universities and other higher institutions. It was decided that the suggestion of Lala Shri Ram be referred to the various Boards of Technical Studies for further examination.

(4) *Examinations.*—The note was recorded.

(5) *Affiliation Committees.*—The note was recorded.

(6) *Architecture Board—Representation from Technical Employees Association, C.P.W.D.*

The note was recorded.

(7) *Recognition of All India Diplomas.*—The Council was glad to note the decision of the Government of India to recognise the diplomas and expressed the hope that the industry would follow suit.

(8) *Functions of All India Boards of Technical Studies.*

The Council at its first meeting held in 1946 had decided that the various functions relating to the conduct of examinations and declaration of results etc., be performed by the Regional Committees when constituted. For the present, the Boards were doing this job. The All India Board of Technical Studies in Commerce & Business Administration recommended that even after the Regional Committees are constituted, the Boards should continue to perform these functions, as in their opinion the delegation of these functions to the Regional Committees is likely to result in the lowering of standards.

The Council decided not to modify the constitution and functions of the Regional Committees. The transfer of functions relating to the examinations from the Board to the Regional Committees would, however, take place on a date to be decided by the Council.

(9) *General rules for the conduct of examinations.*

The Council endorsed the decision of the Co-ordinating Committee that no hard and fast rule need be laid down in respect of appointment of examiners whose relatives may be appearing at the All India examinations.

(10) *Recognition of the Diploma Courses of the Central Textile Institute, Kanpur, as equivalent to degrees.*

The note was recorded.

(11) *Joint Committee of All India Boards of Technical Studies.*

The note was recorded.

(12) *Training in Radio Engineering.*

The note was recorded.

(13) *Schools for Printing Technology.*

The Co-ordinating Committee of the Council at its seventh meeting held at Calcutta on the 12th April 49 had expressed the view that the establishment of a Printing School was an urgent necessity and had recommended that the Government should take immediate steps in this direction (Item No. 8). The Committee had further recommended that the courses now being framed by the All India Board of Technical Studies in Applied Art may be introduced at the proposed Central School of Printing, which should cater for Provincial needs also until such time as the Provincial schools are established.

Further, this school should also train teachers who could later be usefully employed in the Provincial institutions.

The representative of the Ministry of Works, Mines and Power (Shri D. L. Mazumdar) suggested that in order to implement the recommendation of the Co-ordinating Committee, the Controller of Printing & Stationery, Government of India, may be co-opted on the Board of Technical Studies in Applied Art.

It was pointed out that there was no vacancy on the Board at present. The Board could, however, co-opt the Controller of Printing & Stationery for the specific purpose of considering this scheme.

(14) *Art Teachers Training College.*

The note was recorded.

ITEM No. 6.

To consider a suggestion for the establishment of a National Technical University. (Annexure VIII).

It has been suggested that special institutions such as the Indian School of Mines, Dhanbad, did not, for various reasons, like to affiliate to Provincial Universities. On the other hand, there was general demand for degree courses in preference to diploma or associateship courses provided by such institutes. The establishment of a National Technical University would meet this demand.

The Council considered the question and expressed the view that the time had come when the Council might be invested with statutory powers to confer degrees in technological subjects. The matter, however, required closer examination in consultation with the various universities and other bodies concerned. The Co-ordinating Committee was directed to make recommendations in this behalf after ascertaining the views of the Universities Commission. The Secretary was asked to address the Universities Commission on this subject.

ITEM No. 7.

To consider a note from the P&T Directorate Ministry of Communications, Government of India on the formation of a Central Board for the training of mechanics, linemen, wiremen etc. (Annexure IX).

The P. & T Directorate had suggested the formation of a Central Board, like the City & Guilds Institute of London, to act as an examining body for various trades such as mechanics, wiremen, linemen etc., and to lay down rules and conditions in this behalf. Depending upon the nature of the trade, the training could be arranged in evening classes in suitable institutions. A central examination would ensure uniform standards of attainments and simplify the problem of recruitment in various Government Departments and Industry.

The Council welcomed the idea of the formation of a Central Board for the above purpose and passed the following resolution.

Resolution.

"The Council considers it necessary that a Central Board be set up for the conduct of examinations and awarding certificates in various trades and recommends that the Government of India (Ministry of Labour) may take the necessary action in the matter".

ITEM No. 8.

To consider a note from the Government of C.P. & Berar on the question of provision of courses in Industrial Engineering in Higher Technical Institutions and other Technical Institutions. (Annexure X).

The Council had, at its third meeting held at Bombay in 1948 directed that a Joint Committee representing the Boards of Technical Studies in Engineering, Commerce, Chemical Technology and Textile Technology be constituted for the purpose of drawing up a scheme for the training of technically qualified personnel in Industrial Management and Business Organisation. (Item No. 15 b.). This Committee had since been constituted and was expected to start functioning soon.

The Council decided to refer the memorandum from the Government of C.P. & Berar to this Committee.

ITEM No. 9.

To consider a note from the Department of Scientific Research, Government of India, on the question of training of university graduates in practical technology and Science. (Annexure XI).

The Council desired to bring to the notice of all concerned that the practical aspect of training of scientists and engineers stressed by the Department of Scientific Research had already been recognised by the Boards of Technical Studies in framing the All India Courses.

The Co-ordinating Committee at its meeting held at Bangalore in 1947 has suggested the appointment of a Joint Committee of the Inter-University Board and the Council to review the position of Technical Education in the Universities. The Inter-University Board having agreed to the suggestion, the Co-ordinating Committee had nominated Dr. P. S. Deshmukh, Shri N. K. Mitra and Shri P. N. Joshi on the Joint Committee.

It was decided that the note from the Department of Scientific Research be referred to the Joint Committee for their consideration and appropriate action.

ITEM No. 10.

To consider a note from the Ministry of Works, Mines & Power, on the training of Power Engineers. (Annexure XII).

The Power Engineers Conference convened by the Ministry of Works, Mines & Power and the Standing Advisory Committee set up by it had made certain recommendations in order to augment the supply of engineers for electrical power projects and undertakings.

It was reported that at the instance of the All India Council for Technical Education, certain measures had already been taken by the Government of India to strengthen the existing non-government engineering institutions in the country. Further, the Boards of Technical Studies of the Council had framed All India Diploma courses in Engineering, of the University degree standard, to be covered in three years as against four years in most of the Universities. In regard to the training of personnel abroad, the Co-ordinating Committee had recommended that the modified Overseas Scholarships Scheme formulated by the Ministry of Education may be availed of for the purpose.

The representative of the Ministry of Works, Mines & Power (Shri D. V. Mazumdar) stressed the need for taking concrete measures to meet the situation created by the shortage of trained power engineers. He suggested that the Co-ordinating Committee should examine the question in consultation with the Standing Advisory Committee set up by the All India Power Engineers Conference, to make concrete results.

The Council considered the question of provision of practical training facilities as of paramount importance for the solution of this problem. It was reported that a bill had been introduced in the Central Legislature which would greatly improve the position in this respect in so far as major industries were concerned. All sections of the Council expressed themselves very strongly on this issue and urged the Government to take appropriate steps in the matter.

Resolution.

“ This Council recommends to the Government to take such early steps as it may consider necessary to ensure that government and industrial and commercial concerns in the country provide facilities for the practical training of technological students ”.

The Council decided that the three year courses in Engineering framed by its Boards of Studies should be brought to the notice of all Universities, if not already done. It was further decided that the recommendations made by the Power Engineers Conference and its Standing Advisory Committee should be examined by the Co-ordinating Committee of the Council in consultation with the Standing Advisory Committee.

ITEM No. 11.

To report that—

- (a) *Dr. T. N. Mchta, Head of the Applied Science Department, Delhi Polytechnic, Delhi, and Shri M. P. G. Nair, Principal, Institute of Textile Technology, Travancore University, Trivandrum, have been nominated by the Chairman to represent the Council on the Chemical Division Council (in place of Dr. J. N. Mukherjee) and the Textile Division Council of the Indian Standards Institution respectively.*

- (b) *Shri G. V. Apte, Superintendent of Training, the Tata Iron & Steel Co., Ltd., Jamshedpur, has been nominated by the Chairman to represent the Council on the Advisory Council of the Indian School of Mines and Applied Geology, Dhanbad.*
- (c) *P. N. Joshi, Principal, Victoria Jubilee Technical Institute, Bombay, has been nominated by the Chairman in place of Major D. L. Deshpande, to represent the Council on the Sub-Committee on "Training" of the Central Employment Advisory Committee set up to advise the Director General of Resettlement and Employment.*
- (d) *the Chairman (Ex-officio) and Mr. Fazal Ibrahim Rahimtoola have been nominated to represent the Council on the Indian National Commission set up by the Government of India, for co-operation with UNESCO.*

The report was recorded.

ITEM No. 12.

(a) *To receive a memorandum from the Ministry of Works Mines & Power (Annexure XIII).*

- (i) *regarding recognition of the Diploma of the Indian School of Mines and Applied Geology, Dhanbad, as equivalent to a Degree of a University for purposes of research, higher studies and appointment to Government Services.*
- (ii) *regarding a scheme for imparting post-graduate Practical Training for the Diploma holders of the Indian School of Mines and Applied Geology, Dhanbad and graduates of the Banaras Hindu University, Banaras.*
- (i) *The Council accepted the recommendations of the Co-ordinating Committee that the courses at the Indian School of Mines and Applied Geology, Dhanabad, were of a sufficiently high standard to merit recognition.*
- (ii) *The information was recorded.*

(b) *To consider the request of the Government of the United Provinces for representation on All India Boards of Technical Studies and Regional Committees. (Annexure XIV).*

The Government of the United Provinces had suggested representation of certain Heads of Technical Institutions on four Boards of Technical Studies. Likewise, it had been suggested that two out of the four seats allotted to Technical Institutions on the Regional Committees should be filled by Heads of Technical Institutions in the United Provinces.

The acceptance of these suggestions implied representation of heads of Technical Institutions on the Boards and Regional Committees on a Provincial basis. The Council accepted the view of the Co-ordinating Committee that the constitution as originally laid down was more appropriate for the functions to be performed by the Boards and the Regional Committees. It was within the competence of these bodies to co-opt experts for consideration of any specific matters.

The Hon'ble Minister from U.P. agreed not to press the U.P. Government's point of view.

*Any other business.**(i) Assistance to Government Technical Institutions.*

The representative of the Central Provinces and Berar Government (Dr. V. S. Jha) raised the question of assistance to Government technical institutions for their development. He said that the Central Government had very kindly come forward to assist the Provincial Governments with funds for providing facilities for Basic and Social Education. There was obviously greater reason for the Central Government to give financial assistance to the Provincial Governments for the development of Technical Education. Assistance had been given to established non-government institutions to raise the standard of equipment and instruction and to expand according to plan. Similar assistance should be given to the engineering colleges and technical institutions maintained by the Provincial Governments.

The request for assistance to government institutions was supported by the Hon'ble Minister for Education, West Bengal who expressed the view that by not doing so, the Central Government had made an invidious distinction between government and non-government institutions. In most cases, the slender resources of the Provincial Governments did not permit them to improve their institutions to the desired extent.

The Chairman advised the members not to move any formal resolution on the subject. He had no doubt that the Central Government realised its responsibility towards development of Technical Education and considered it a matter of great urgency. The Central Government had only recently accepted the Council's recommendations involving a capital liability of Rs. 1.5 crores and a recurring liability of nearly Rs. 27 lakhs per annum. He assured the Council that he would take all possible steps to safeguard the interests of Technical Education, no matter where it was imparted, and requested that no formal resolution be passed. The Council accepted the Chairman's suggestion.

(ii) Grant to the College of Technology, Banaras Hindu University.

Pandit Govind Malaviya referred to the question of grant to the College of Technology, Banaras Hindu University and the decision of the Co-ordinating Committee on the request of the Vice-Chancellor of the University to permit 60 admissions every year to the Industrial Chemistry course. He narrated the practical difficulties of the University in reducing the admissions from 100 to 30, as the University had certain commitments to honour.

The Chairman reiterated his view that the recommendations made by the Council and which had been accepted by the Government should not be reviewed now and again, as they would lose all their value. Moreover, the proposals had been made after full and mature consideration. He requested Pandit Malaviya to persuade the University to introduce the three to four year course in Chemical Technology as suggested by the Co-ordinating Committee with the number restricted to 30 in order to qualify for a grant.

The Council decided to adhere to its original recommendation.

6. Dr. Jha proposed a hearty vote of thanks to the Government of West Bengal for the very nice arrangements they had made for the meeting and for the hospitality shown to members. This was passed by the Council unanimously with acclamation.

7. Pandit Malaviya proposed a vote of thanks to Dr. S. R. Sen Gupta, former Secretary of the Council for the very able manner in which he had performed his duties, and whose wide knowledge, sympathies and hard work had enabled the Council to make the progress which it did.

8. All sections of the House joined in the felicitations to the Chairman for his able leadership and sympathetic understanding. The members hoped that Shri Sarker who was completing his first term of office as Chairman, would continue to guide the deliberations of the Council. The Chairman thanked the members in suitable terms.

ANNEXURE I.

Fourth Meeting.

ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION

Agenda.

1. To report that the proceedings of the third meeting of the All India Council for Technical Education held at Bombay on the 22nd April, 1948 were confirmed by circulation to members.
2. To report the present membership of the Council. (Annexure II).
3. To receive and consider the minutes of—
 - (a) the sixth meeting of the Co-ordinating Committee held at Calcutta on the 14th October 1948, and
 - (b) the seventh meeting of the Co-ordinating Committee held at Calcutta on the 12th and 13th April, 1949. (Annexures III & IV).
4. To report the action taken by the Government of India on the recommendations made by the Council and to consider matters arising therefrom. (Annexure VI).
5. To receive and consider a note on the activities of the All India Boards of Technical Studies. (Annexure VII).
6. To consider a suggestion for the establishment of a National Technical University. (Annexure VIII).
7. To consider a note from the P. & T. Directorate, Ministry of Communications, Government of India, on the formation of a Central Board for the training of Mechanics, Wiremen, Linemen, etc. (Annexure IX).
8. To consider a note from the Government of C.P. and Berar, on the question of provision of courses in Industrial Engineering in Higher Technical Institutions and other Technological Institutions in the country. (Annexure X).
9. To consider a note from the Department of Scientific Research, Government of India on the question of training of University Graduates in Practical Technology and Science. (Annexure XI).
10. To consider a note from the Ministry of Works, Mines and Power on the Training of Power Engineers. (Annexure XII).
11. (a) To report that Dr. T.N. Mehta, Head of the Applied Science Department of the Delhi Polytechnic, Delhi, and Mr. M.P.G. Nair, Principal, Institute of Textile Technology, Travancore University, Trivandrum, have been nominated by the Chairman to represent the Council on the Chemical Division Council (in place of Dr. J.N. Mukherji) and the Textile Division Council of the Indian Standards institution respectively.
 - (b) To report that Mr. G. V. Apte, Superintendent of Training, the Tata Iron and Steel Co. Ltd., Jamshedpur, has been nominated by the Chairman to represent the Council on the Advisory Council of the Indian School of Mines and Applied Geology, Dhanbad.
 - (c) To report that Mr. P.N. Joshi, Principal, Victoria Jubilee Technical Institute, Bombay, has been nominated by the Chairman in place of Major D.L. Deshpande, to represent the Council on the sub-committee on "Training" of the Central Employers' Advisory Committee set up to advise the Director-General of Resettlement and Employment.
 - (d) To report that the Chairman (Ex-officio) and Mr. Fazal Ibrahim Rahimtoola have been nominated to represent the Council on the Indian National Commission set up by the Government of India, for co-operation with the UNESCO.

12. Any other business :—

- (a) To receive Memoranda from the Ministry of Works Mines and Power regarding :
- (i) recognition of the Diploma of the Indian School of Mines and Applied Geology, Dhanbad as equivalent to a Degree of a University for purposes of research, higher studies and appointment to Government services.
 - (ii) a scheme for imparting post-graduate Practical Training for the Diploma Holders of the Indian School of Mines and Applied Geology, Dhanbad and graduates of the Banaras Hindu University Banaras.
(Annexure XIII).
- (b) To consider the request of the Government of the United Provinces for representation on All-India Boards of Technical Studies and Regional Committees. (Annexure XIV).

Annexure II

Item No. 2 of Agenda.

ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION.

LIST OF MEMBERS.

- | | |
|---|---|
| Chairman | 1. Mr. N.R. Sarker, 'Ranjani' 237, Lower Circular Road, Calcutta. |
| Educational Adviser to the Government of India. | 2. Dr. Tara Chand, M.A., D.Phil., Educational Adviser to the Government of India, Ministry of Education, New Delhi. |

MINISTRIES OF THE GOVERNMENT OF INDIAREPRESENTATIVES

- | | |
|---|--|
| Ministry of Agriculture | 3. Professor J.N. Mukerjee, Director, Indian Agricultural Research Institute, New Delhi. |
| Ministry of Commerce | 4. Mr. K.K. Chettur, M.A., Joint Secretary, Ministry of Commerce, New Delhi. |
| Council of Scientific and Industrial Research | 5. Dr. Sir S.S., Bhatnagar, O.B.E., D. Sc., F.R.S., Director, Council of Scientific and Industrial Research, New Delhi. |
| Ministry of Finance | 6. Joint Secretary (G) Ministry of Finance, New Delhi. |
| Ministry of Health | 7. Mr. P.M. Menon, I.C.S., Joint Secretary, Ministry of Health, New Delhi. |
| Ministry of Industry and Supply | 8. Mr. M.P. Pai, I.C.S., Joint Secretary, Ministry of Industry and Supply, New Delhi.
9. Dr. J.N. Ray, Deputy Director General (Development), D.G.I. & S., New Delhi. |
| Ministry of Labour | 10. Mr. S. Lall, C.I.E., I.C.S., Secretary, Ministry of Labour, New Delhi. |
| Ministry of Communications | 11. Mr. T. P. Bhalla, Director-General of Civil Aviation in India, New Delhi. |
| Ministry of Railways | 12. Mr. F.C. Badhwar, Member, Railway Board. |
| Ministry of Defence | 13. Secretary, Ministry of Defence, New Delhi. |
| Ministry of Works, Mines & Power | 14. Mr. D.L. Mazumdar, I.C.S., Joint Secretary, Ministry of Works, Mines and Power, New Delhi. |
| Ministry of Transport | 15. Consulting Engineer to the Government of India (Roads), Ministry of Transport, New Delhi. |

- Cabinet Secretariat. 16. Representative of the Cabinet Secretariat, New Delhi.
- Central Board of Irrigation 17. Shri A.N. Khosla, I.S.E., President, Central Board of Irrigation, C/o Secretary, Central Board of Irrigation, Kennedy House, Simla S.W.

CONSTITUENT ASSEMBLY OF INDIA
(LEGISLATIVE)

18. Nawab Muhammad Ismail Khan, 210-A, Sadar Bazar, Mustafa Castle, Meerut.
19. Dr. Panjabrao Shamrao Deshmukh, Amraoti.
20. Shri Biswanath Das, Hospital Road, Berhampore, District Ganjum, B. N. Railway, Orissa.
21. Shri Suresh Chandra Majumdar 1, Burman Street, Calcutta.
22. Prof. Yashwant Rai, C/o Shri Prithvi Singh Azad, M.L.A., P.O. Nayashahz Tehsil Kharar, District Ambala.

PROVINCIAL GOVERNMENTS

- Government of Madras 23. H.M. Education, Madras.
- Government of Bombay 24. Joint Director of Technical Education, Bombay.
- Government of West Bengal 25. The Hon'ble Minister for Education West Bengal or his nominee.
- Government of Bihar 26. The Director of Industries, Bihar.
- Government of Assam 27. Hon'ble the Premier of Assam or
The Director of Industries, Assam.
- Government of Orissa 28. Shri Bijayanand Patnaik, M. L. A., Cuttack.
- Government of East Punjab 29. Hon'ble Minister for Finance, East Punjab.
- Government of United Provinces 30. The Hon'ble Minister of Industries, United Provinces or Representative.
- Government of Central Provinces 31. Dr. V.S. Jha, Director of Public Instruction, C.P. & Berar, Nagpur.

INDIAN STATES.

- Hyderabad-Deccan 32. Syed Ali Akbar, M.A. (Cantab), Director of Public Instructions H.E.H. the Nizam's Government.
- Mysore 33. Director of Public Instruction, Mysore (R. Kasturi Raj Chetty, B.A., B.L., Dip. Edn.)
- Central India States (Holkar Government) 34. Education Ministry, Madhya Bharat, Indore.
- States of Western India, Gujarat and Baroda 35. Education Commissioner, Baroda.
- Madras States, Travancore and Cochin 36. Vacant.

INDUSTRY, COMMERCE AND
LABOUR

- Associated Chamber of Commerce of India, Calcutta
- All India Organisation of Industrial Employers, Bombay
- Federation of India Chambers of Commerce and Industry, New Delhi
- Indian National Trade Union Congress, Bombay
- The Employers Federation of India, Bombay
- The All India Trade Union Congress
- The Indian Federation of Labour, Delhi
- All India Railwaymen's Federation
- CENTRAL ADVISORY BOARD OF
EDUCATION
37. Mr. T.G. May, c/o The General Electric Co. (India) Ltd., Bombay.
38. Mr. J.A. Murray, M/s. Jardine Skinner & Co., Calcutta.
39. Mr. M. A. Master, General Manager, Scindia Steam Navigation Co. Ltd., Scindia House, Ballard Estate, Bombay.
40. Dr. K.A. Hamied, C/o C.I.P., L.A., Manufacturers of Chemical and Pharmaceutical Products, 280, Belassis Road, Byculla, Bombay.
41. Mr. K.D. Jalan, Senior Vice President Indian Chambers of Commerce, 102-A, Clive Street, Calcutta.
42. Sir Shri Ram, 22, Curzon Road, New Delhi.
43. Shri Harihar Nath Shastri, 11/39, Gwaltoli, Kanpur.
44. Mr. G.V. Apte, Superintendent of Training, the Tata Iron and Steel Company Limited, Jamshedpur (via Tata-nagar).
45. Dr. K. Venkatraman, D.Sc., Director Department of Chemical Technology, University of Bombay, Matunga, Bombay.
46. Mr. Chakkarai Chattiar, C/o Madras Provincial Committee of All India Trade Union Congress, 157, Sharaf Ali House Broadway, Madras.
47. Mr. G.N. Deodhadkar, Delyi Building, Parel, Bombay.
48. Miss Maniben Kara, Cumbala Hills, 7, Hunges Road, Bombay.
49. Mr. J.N. Mitra, Indian Federation of Labour, Albert Hall, 15, Bunkim Chatterji Street, Calcutta.
50. Mr. S. Guruswami, General Secretary of the All India Railwaymen's Federation, Mylapore, Madras.
51. Sardar Bahadur Sardar Ujjal Singh, 12, Curzon Road, New Delhi.
52. Mr. S.M. Azam, Education Member, H.E.H. the Nizam's Government Hyderabad (Dn.)

INTER-UNIVERSITY BOARD
INDIA

53. Sir A.L. Mudahar, B.A., M.D.D.Sc., F.R.C.O.G., F.A.C.S., Vice Chancellor of Madras University.

54. Pandit Govind Malaviya, Vice-Chancellor, Banaras Hindu University, Banaras.

ASSOCIATION OF PRINCIPALS OF
TECHNICAL INSTITUTIONS (INDIA)

55. N.N. Sen, Principal, Bengal Engineering College, Sibpore, Howrah.

56. Mr. P. N. Joshi, M.Sc. (Technical) Principal, Victoria Jubilee Technical Institute, Bombay.

THE INSTITUTION OF ENGINEERS
(INDIA)

57. Mr. N.V. Modak, C.F.E., J.B., B.E., M. Inst. C.E., M.I.E. (India), F.R. San. I., "Udyam" near Sivaji Park Bombay 28.

58. Mr. C.E. Preston, M. Engineering (Liverpool), M.B.E., M.I.E., (India) Special Officer, Department of Technical and Vocational Education, Mint Compound, Saifabad, Hyderabad (Deccan).

THE INDIAN INSTITUTE OF AR-
CHITECTS (BOMBAY)

59. Mr. H.N. Dallas, A.R.I.B.A., C/o M/s. Parelkar and Dallas, Medows, House, Medows Street, Fort, Bombay.

THE NATIONAL PLANNING COM-
MITTEE

60. Dr. Sir J.C. Ghosh, D.Sc., F.N.I., Director General of Industry and Supply, New Delhi.

61. Prof. K.T. Shah, University Buildings, Fort, Bombay.

INDIAN CHEMICAL SOCIETY, CAL-
CUTTA

62. Dr. B.C. Guha, D.Sc., Ph.D., F.N.I., Prof. and Head of the Deptt. of Applied Chemistry, University College of Science, 92, Upper Circular Road, Calcutta.

NOMINATED BY THE GOVERN-
MENT OF INDIA

63. Sir Fazal Ibrahim Rahimtoola, C.I.E., B.A., Ismail Building, Hornby Road, Bombay.

64. Dr. A.H. Pandya, Sc.D., M.I.E., 17, Raja Santosh Road, Calcutta.

SECRETARY

Mr. G.K. Chandiramani, B.E., A.M.I.E., Deputy Educational Adviser to the Government of India, Ministry of Education.

ANNEXURE III

Item No. 3(a) of Agenda.

DRAFT PROCEEDINGS OF THE 6TH MEETING OF THE CO-ORDINATING COMMITTEE OF THE ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION, HELD AT CALCUTTA ON THE 4TH OCTOBER, 1948.

1. The sixth meeting of the Co-ordinating Committee of the All-India Council for Technical Education was held at Calcutta on the 4th October, 1948, under the Chairmanship of the Hon'ble Mr. Nalini Ranjan Sarker. The following members were present :—

1. The Hon'ble Mr. Nalini Ranjan Sarker (*Chairman*).
2. Dr. P.S. Deshmukh.
3. The Hon'ble Mr. Krishna Gopal Dutt.
4. Sir J.C. Ghosh.
5. Dr. K.A. Hamied.
6. Miss Maniben Kara.
7. Mr. C. M. Master.
8. Dr. J. M. Mehta.
9. Mr. N. K. Mitra.
10. The Hon'ble Mr. Harendra Nath Choudhury.
11. Dr. H. L. Roy.
12. Dr. S. R. Sen Gupta (*Secretary*).

Sir S. S. Bhatnagar, Dr. Tara Chand, Sir, Vithal Chandavarkar of the Hon'ble Mr. Avinashalingom Chettiar, Mr. N. V. Modak, Sir A. L. Mudaliar, Dr. A. H. Pandya, Mr. V. Narahari Rao and Mr. Rathindranath Tagore were unable to attend.

Dr. D. M. Sen and Mr. A. K. Chanda of the Education Department of the Government of West Bengal and Mr. H.C. Kawlra of the Department of Industries, Government of East Punjab, also attended as Advisers to the Hon'ble Mr. H. N. Choudhury and the Hon'ble Mr. Krishna Gopal Dutt respectively.

(The agenda for the meeting is shown in Appendix I).

Item No. I.

To report that the proceedings of the fifth meeting of the Co-ordinating Committee held at Bombay on the 20th and 21st April, 1948, have been confirmed by circulation to members. (The proceedings were considered by the All-India Council for Technical Education at its third meeting held on the 22nd April '48).

It was reported that the proceedings of the fifth meeting of the Co-ordinating Committee were confirmed by circulation to members.

Item No. II.

To receive a report on the action taken by the Government of India in regard to the recommendations made by the Co-ordinating Committee at its fifth meeting held on the 20th and 21st April, 1948, and by the All-India Council for Technical Education at its third meeting held on the 22nd April, 1948. (Annexure I).

It was decided to record the report on the action taken by the Government of India on the main recommendations of the Co-ordinating Committee and the Council.

The Committee, however, was most dissatisfied with the reported progress on the establishment of the Higher Technical Institutions, and pressed upon the Government to move expeditiously in the matter and, if necessary, adopt unorthodox measures, so that these institutions might be set up and start functioning quickly. The Committee suggested that the funds sanctioned for the establishment of these Institutions should be placed at the disposal of the Co-ordinating Committee or a Governing Body specially constituted for the purpose, with full authority to incur the necessary expenditure in setting up these Institutions, to appoint the staff and take such other action as may be required to bring these Institutions into being without further delay. While the Committee did not wish to pass any resolution on this point which might embarrass the Government, they were emphatically of the opinion that unless the Government made a departure from their usual dilatory procedure it would take an unconscionably long time to set up these Institutions and this delay would be greatly harmful to the national interest and should therefore be avoided at all costs.

At the unanimous request of the Committee the Chairman agreed to take up this question informally with the Government of India to expedite matters.

The Committee was also rather perturbed that the grants recommended by them for the strengthening of 14 Institutions have not yet been sanctioned by the Government of India but that the Government had only made advance grants to some 9 institutions only. The Committee felt that the delay in informing the institutions of the amounts which the Government propose to sanction would only lead to uneconomical use of the money already advanced and also result in unnecessary waste of time and energy, thereby hindering the much-desired improvement in the standard of education. They urged that the Government should without delay inform the institutions of the total amount of grants and loans that will be made available to them in the next three to five years.

At this stage the Hon'ble Choudhury Krishan Gopal Dutt who represented on the Committee the Governments of East Punjab, U.P. and the Madhya Bharat read out a letter addressed to him by the Hon'ble Shri K. D. Malviya, Minister for Development, U.P. regarding the desirability of locating the Northern Higher Technical Institution at Kanpur. The Committee decided that the various Provincial and State Governments of the Northern Zone should jointly consider the question of the location of the Northern Institution and make recommendations for the consideration of the All-India Council for Technical Education. The Hon'ble Ch. Krishna Gopal Dutt was requested to take necessary action in the matter.

Item No. III.

To receive and consider a note on the activities of the All-India Boards of Technical Studies. (Annexure II)

It was decided to record the information. The Committee expressed the opinion that the time was now ripe for the Governments, both Central and Provincial, to do something about the systematic training of artisans for industrial development. The Committee expressed the view that the training of artisans could be financed by levying a cess or tax on the total amount of wages paid to labour by the organised industry. It was brought to the notice of the committee that in France the Organised Industry contributed about 3 per cent. of the wages paid to labour to a fund for the training of artisans. The Committee suggested that each Provincial Government as well as the Central Government might examine the question of levy of cess or other alternatives to find funds for organising the training of artisans.

On the subject of the recognition of the diploma courses of the Central Technical Institute, Kanpur, as equivalent to degree standard, the Committee agreed with the Boards of Chemical Technology and Chemical Engineering and Textile Technology that in regard to the admission qualification, the period of study and the scope of the courses in the various subjects, both theoretical and practical, the diploma courses of the Central Technical Institute, Kanpur, were below the standard of the degree

courses in the universities. The Committee desired that its views should be communicated to the F. P. S. C., the U. P. Government, the Government of India and other Provincial Governments concerned.

Item No. IV.

To consider the quota of seats to be allotted to Provinces and states in each of the centrally-aided technical institutions. (Annexure III).

The Committee was not in favour of fixing a definite quota for each Provincial Government. They were of the view that about 30 per cent. of the total seats in each Institution should be reserved for students from Provinces other than that in which the institution is located. In every case students should make applications direct to the Institutions concerned and not through the Central, Provincial or State Governments concerned. The outstation applicants should not be called upon to sit for an entrance or a viva voce test for admission, but such applicants should be medically fit and fulfil the minimum educational qualifications, (say a first class intermediate in Science), to be prescribed by each of the Institutions for the extra-provincial students. Students should be selected normally on merit that is on the percentage of marks secured by them in the prescribed examination and the 30 per cent. seats distributed between the Provinces etc. on an equitable basis.

In making admission the Heads of the Institutions concerned should take into account the population of the various provinces and states and the facilities for technical education obtaining therein. Due regard should be given to the claims of students from Provinces which are lacking in facilities for education in the particular branch of study to which admission is sought. For purposes of allotment of seats, the domicile of a student will be determined by that of his guardian, that is to say a non-Bengalee whose guardian normally resides in Bengal, should be regarded as a Bengali for purpose of admission. At the end of the admission the Head of the Institution concerned should submit a report to the Government of India showing how these 30 per cent. seats have been allotted between the Provinces and the States. If this scheme does not appear to work properly the question of fixing definite provincial quotas may be considered.

Item No. V.

To consider the question of relaxation of the restriction in regard to the annual intake of students to the college of Technology (Industrial Chemistry Section) of the Banaras Hindu University (Annexure IV.)

The Committee reiterated that they did not favour the continuance of the two-year industrial chemistry degree course of the Banaras Hindu University. They would prefer a three or four years degree course in Chemical Technology or Chemical Engineering being instituted. They had, however, no objection to the Banaras Hindu University continuing with the two-year degree course but the grant recommended by them was for a three to four years degree course with an annual intake of 30 students. If the Banaras Hindu University College of Technology was prepared to introduce such a course with an annual admission of 30 students the money recommended by the Co-ordinating Committee should be granted by the Government to this College for starting this course on the definite understanding that no portion of this grant should be used for the continuance of the present Industrial Chemistry Course which has outlived its purpose and requires to be changed to suit modern conditions.

Item No. VI.

To consider the report of the Deputy Educational Liaison Officer, Indian Embassy, Washington, U.S.A., on the 56th annual meeting of the American Society for Engineering Education held in June, 1948, and attended by him as an observer. (Annexure V).

It was decided to record the information.

The Committee was of the opinion that the Government of India should depute every year two Principals of Engineering Colleges from India or other properly qualified persons to attend the annual meeting of the American Society for Engineering Education and also to study the working of the American Engineering Institutions.

Item No. VII.

To consider the appointment of a Committee to examine the Merchant Navy Officers Training Committee's report and consider the question of training of personnel for the Merchant Navy, Port Trust etc. as recommended by the All-India Council for Technical Education at its third meeting held in April, 1948. (Annexure VI).

The Committee suggested the names of Mr. A. R. Yusuf, Commander Daya Shankar of the Royal Indian Navy and an Officer of the Mari-time Union for membership of the proposed Committee which the Chairman would appoint in due course.

Item No. VIII.

To receive and consider the report of the sub-committee appointed by the Co-ordinating Committee at its fifth meeting held in April, 1948, to consider the draft regulations for the conduct of All-India Diploma and Certificate Examinations. (Annexure VII).

The draft rules and regulations for the conduct of the All-India Diploma Certificate examinations framed by the sub-committee were approved.

Item No. IX.

To report that Dr. T. N. Melita, Head of the Applied Science Department, Delhi Polytechnic, Delhi, and Mr. M.P.G. Nair, Principal, Institute of Textile Technology, Travancore University, Trivandrum, have been nominated by the Chairman to represent the Council on the Chemical Division Council (in place of Dr. J. N. Mukherjee) and the Textile Division Council respectively of the Indian Standards Institution.

It was decided to record the information.

Item No. IX(b).

To report that Mr. G.V. Apte, Superintendent of Training, the Tata Iron and Steel Co. Ltd., Jamshedpur has been nominated by the Chairman to represent the Council on the Advisory Council of the Indian School of Mines and Applied Geology Dhanbad.

It was decided to record the information.

Item No. X.

To consider the question of re-constitution of the All-India Council for Technical Education on the expiry of the present tenure of office of the non-official members in April, 1949. (Annexure VIII).

The Committee was of the view that although it was a large body the Council had functioned effectively through its Co-ordinating Committee and the Boards of Studies and that the size of the Council should not be reduced atleast for the next term. The Committee further suggested that States' representation should now be increased from 5 to 8.

Item No. XI.

To consider letter dated the 28th September 1948 from Mr. P. N. Joshi, Principal, Victoria Jubilee Technical Institute, Bombay regarding facilities for passed students of the Institute to take the All-India Diploma Examinations.

The Committee recognised that the Diploma holders of the V. J. T. I. have proved their worth in actual practice as Engineers and Technologists. However, as a general rule the Committee decided that an Institution which has been granting degrees or diplomas should, when affiliated to the All-India Council for Technical Education, be permitted to send up for the All-India Diploma examination their old diploma or degree holders for a period of three years from the date of affiliation without requiring such candidates to attend any further course of study in the Institution.

The meeting then terminated with a vote of thanks to the Chair.

APPENDIX I.

CO-ORDINATING COMMITTEE OF THE ALL-INDIA COUNCIL FOR
TECHNICAL EDUCATION.*Sixth Meeting.*

1. To report that the proceedings of the fifth meeting of the Co-ordinating Committee held at Bombay on the 20th and 21st April 1948, have been confirmed by circulation to members. (The proceedings were considered by the All-India Council for Technical Education at its third meeting held on the 22nd April, 1948).
2. To receive a report on the action taken by the Government of India in regard to the recommendations made by the Co-ordinating Committee at its fifth meeting held on the 20th and 21st April, 1948 and by the All-India Council for Technical Education at its third meeting held on the 22nd April, 1948.
3. To receive and consider a note on the activities of the All-India Boards of Technical Studies.
4. To consider the quota of seats to be allotted to Provinces and States in each of the centrally-aided technical institutions.
5. To consider the question of relaxation of the restriction in regard to the annual intake of students to the College of Technology (Industrial Chemistry Section) of the Banaras Hindu University.
6. To consider the report of the Deputy Educational Liaison Officer, Indian Embassy, Washington, U.S.A., on the 56th Annual meeting of the American Society for Engineering Education held in June 1948, and attended by him as an observer.
7. To consider the appointment of a committee to examine the Merchant Navy Officers Training Committee's report and consider the question of training of personnel for the Merchant Navy, Port Trust etc. as recommended by the All-India Council for Technical Education at its third meeting held in April, 1948.
8. To receive and consider the report of the sub-committee appointed by the Co-ordinating Committee at its fifth meeting held in April 1948, to consider the draft regulations for the conduct of All-India Diploma and Certificate Examinations.
9. (a) To report that Dr. T.N. Mehta, Head of the Applied Science Department, Delhi Polytechnic, Delhi, and Mr. M. P. G. Nair Principal, Institute of Textile Technology, Travancore University, Trivandrum, have been nominated by the Chairman to represent the Council on the Chemical Division Council (in place of Dr. J.N. Mukerjee) and the Textile Division Council respectively of the Indian Standards Institution.
- (b) To report that Mr. G.V. Apte, Superintendent of Training, the Tata Iron and Steel Co. Ltd., Jamshedpur, has been nominated by the Chairman to represent the Council on the Advisory Council of the Indian School of Mines and Applied Geology, Dhanbad.
10. To consider the question of reconstitution of the All-India Council for Technical Education on the expiry of the present tenure of office of the non-official members in April 1949.
11. Any other business :—
 - (a) To consider letter dated the 28th September 1948 from Mr. P.N. Joshi, Principal Victoria Jubilee Technical Institute, Bombay, regarding facilities for passed students of the Institute to take the All-India Diploma Examinations.



Annexure IV*Item No. 3(b) of Agenda.*

PROCEEDINGS OF THE 7TH MEETING OF THE CO-ORDINATING COMMITTEE OF THE ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION, HELD AT CALCUTTA ON THE 12TH APRIL, 1949.

The seventh meeting of the Co-ordinating Committee of the All-India Council for Technical Education was held at Calcutta on the 12th April 1949 under the Chairmanship of the Hon'ble Mr. Nalini Ranjan Sarker. The following members were present :—

- (1) The Hon'ble Mr. Nalini Ranjan Sarker (*Chairman*).
- (2) Dr. Tara Chand, Educational Adviser to the Government of India.
- (3) Dr. P.S. Deshmukh.
- (4) The Hon'ble Mr. Harendra Nath Choudhury.
- (5) Dr. J. C. Ghosh.
- (6) Dr. K. A. Hanied.
- (7) Miss Maibeu Kara.
- (8) Mr. C. M. Master.
- (9) Mr. N. K. Mitra.
- (10) Dr. H. L. Roy.

Mr. G. K. Chandiramani (*Secretary*).

Mr. P. N. Joshi and Mr. A. L. Fletcher attended on behalf of Sir Vital Chandavarkar and the Hon'ble Minister for Finance, East Punjab, respectively.

Dr. D. M. Sen and Mr. A. K. Chanda of the Education Department of the Government of West Bengal and Mr. H. C. Kalra of the Department of Industries, Government of East Punjab, attended as advisers to the Hon'ble Mr. Harendra Nath Choudhury and Mr. Fletcher respectively.

Dr. S. R. Sen Gupta, Principal, Bengal Engineering College, Sibpur, and formerly Secretary of the Council, attended by invitation.

The following were unable to attend :—

1. Dr. S. S. Bhatnagar.
2. Sir Vithal Chandavarkar.
3. The Hon'ble Minister for Finance, East Punjab.
4. The Hon'ble Minister for Education, Madras.
5. Dr. J. M. Mehta.
6. Mr. N. V. Modak.
7. Sir A. L. Mudaliar.
8. Dr. A. H. Pandya.
9. Mr. Narahari Rao.
10. Mr. Rathindranath Tagore.

(The agenda for the meeting is shown in Annexure I).

Item No. 1.

To report that the proceedings of the sixth meeting of the Co-ordinating Committee held at Calcutta on the 4th October, 1948, were confirmed by circulation to members.

It was reported that the proceedings of the sixth meeting of the Co-ordinating Committee were confirmed by circulation.

Item No. II.

To consider the agenda for the fourth meeting of the All-India Council for Technical Education.

A gist of the discussion on the various items on the agenda and the resolutions recommended for the consideration of the Council are given below :

Item No. III(a) of the Council's agenda.

Some members desired that the Central Government should issue a directive to the institutions which are receiving grants-in-aid, as regards the quota of seats for the various provinces. The general principles laid down by the Co-ordinating Committee at the sixth meeting for regulating admissions of extra-provincial students necessitated the possession of certain data and this might be made available by the Central Government. Members were informed that the necessary data was presented to the Co-ordinating Committee at the last meeting and this will be supplied to the institutions concerned after being brought up-to-date.

The Committee reiterated its previous decision and observed that definite quotas may be fixed only if the reports from the Principals on the admissions during the coming session indicated the necessity thereof.

Item No. IV of the Council agenda.

The Educational Adviser informed that, since the note was circulated, further progress had been made in two directions :

- (i) *Regional Committees.*—One of the Regional Officers has already taken up his duties and the others are expected to be appointed shortly. It was hoped that the Regional Committees would start functioning before the close of the year.
- (ii) *Higher Technical Institutions.*—As recommended by the Co-ordinating Committee, Government propose to appoint a small Board of Governors for the Eastern Higher Technical Institution to expedite its establishment.

The Committee recommended the following resolutions for consideration of the Council :—

Regional Committees.—“This Council notes with satisfaction the steps being taken by Government for the setting up of the Regional Committees of the Council and requests the Provincial Governments concerned to provide the necessary facilities for accommodating the Regional offices in close proximity to their own offices.”

Higher Technical Institutions.—“This Council places on record its appreciation of the generous gift of the site for the Eastern Higher Technical Institution, made by the Government of West Bengal.”

Strengthening of existing Technological Institutions.—“This Council expresses its appreciation of the Government of India's efforts to strengthen and develop the existing Engineering and Technological Institutions by means of suitable grants.”

Co-ordination of Technical Education.—“This Council notes with satisfaction the decision of the Government of India that the Ministry of Education should co-ordinate the activities of all Ministries in the field of Technical Education and recommends that similar arrangements may be made by the Provinces also in the interests of efficient planning of Technical Education facilities.”

Craftsmen Training Scheme.—“This Council urges on the Government to take immediate steps to implement the recommendations of the Advisory Committee on Technical Training (1944-45) for training craftsmen in sufficient numbers.”

In consideration of the magnitude of the problem and the benefits which will accrue to the Industry, the Council is of the view that the cost of training of craftsmen might be borne by the Industry and that Government may examine the question of levy cess on the total wage bill of the industry for this purpose.”

Item No. V of the Council's Agenda.

Nominee of the Council on the Applied Art Board.—The Committee recommended that Mr. J. A. Taraporewala, Joint Director of Technical Education, Bombay, be appointed as a representative of the All-India Council for Technical Education in place of Major D. L. Deshpande who has ceased to be a member of the Council.

Functions of the Regional Committees.—The Committee noted that the All-India Diploma and Certificate examinations are at present being conducted by the Boards of Technical Studies pending the setting up of the Regional Committees. The Committee was not in favour of modifying the constitution and the functions of the Boards and Regional Committees laid down by the Council. The date from which the Regional Committees will begin to conduct the aforesaid examinations, will be decided by the Council, in due course.

General rules for the conduct of examinations.—The Committee was not in favour of laying down any hard and fast rule and desired that the Boards concerned may exercise their discretion in the matter of appointment of examiners whose relatives may be appearing at the examinations.

Item No. VI of the Council's Agenda.

The Committee recommended that the All-India Council for Technical Education may be given statutory powers to confer degrees in the case of special institutions like the Indian School of Mines and the proposed Higher Technical Institutions, which cannot obviously be affiliated to the Provincial Universities. The Committee, however, considered it desirable to obtain the views of the Universities Commission in the matter and directed the Secretary to take steps accordingly.

The Committee further recommended that the question in all its bearings may be examined by a small committee of the Council when the reactions of the Universities Commission were available.

Item No. VII of the Council Agenda.

The Committee recommended the following resolution for consideration of the Council :—

"The Council considers it necessary that a Central Board be set up for the purpose of conducting examinations and awarding certificates in various trades, and recommends that the Government of India (Ministry of Labour) may take the necessary action in the matter."

Item No. VIII of the Council's Agenda.

The question of provision of facilities for training in Industrial Administration and business Management had been considered by the Council at its last meeting held in Bombay and referred to a Joint Committee of four Boards of Technical Studies of the Council. The Committee recommended that the note from the Government of C. P. and Berar be considered by the Joint Committee referred to above.

Item No. IX of the Council's Agenda.

The Council has already recognised the practical aspect of training and necessary directives were issued to the various Boards of Technical Studies to lay due emphasis thereon in framing the All-India Diploma and Certificate courses. In order to bring this to the notice of the Universities, the Committee recommended that the note submitted by the Department of Scientific Research together with the directives issued by the Co-ordinating Committee on the subject be referred to the Committee which would review the position of technical education in the Universities in collaboration with a committee of the Inter-University Board. (Item No. 7 of the Co-ordinating Committee's agenda).

Item No. X of the Council's Agenda.

In regarding the information and endorsing the proposals made by the Standing Advisory Committee of the Conference of Power Engineers, the Committee desired to bring to the notice of the Ministry of Works, Mines and Power the steps being taken by the Government of India (in the Ministry of Education) at the instance of the All India Council for Technical Education, to strengthen the existing Engineering Instructions in the country. The Committee recommended that the Overseas Scholarships Scheme recently formulated by the Ministry of Education may be availed of, for the training of the required personnel abroad.

Item No. XII(a) (i) of the Council's Agenda.

The Committee was of the view that the standard of courses at the Indian School of Mines and Applied Geology, Dhanbad, was sufficiently high to merit recognition for purposes of research, higher studies and recruitment to Government Services. The Committee recommended that appropriate action be taken to obtain such recognition.

Item No. XII(b) of the Council's Agenda.

The Committee was not in favour of amending the constitution of the Board of Technical Studies to provide for the representation of Heads of Technical Institutions on a Provincial basis. The present constitution was considered more appropriate for the functions to be performed by the Boards.

The Committee was of the view that representation of the Provincial institutions on the Regional Committees as proposed by the Government of U.P. would result in a very large expansion of the membership of the Regional Committees and recommended to the Council that the constitution already laid down may be adhered to.

Item No. III.

- (a) To receive and consider the report of the conference convened by the Hon'ble Finance Minister, East Punjab, to discuss the question of location of the Northern Higher Technical Institution, and to make recommendations to the All-India Council for Technical Education in this behalf.
- (b) To receive and consider letter No. 262(s) XVI-II-219/44 dated the 21st February, 1949, from the Government of the United Provinces on the question of location of the Northern Higher Technical Institution.

The Chairman informed that in deciding the location of the Eastern and the Western Higher Technical Institutions, proximity to the industries had been the major consideration. Judged from this point of view, the location suggested by the conference convened by the Hon'ble Minister for Finance, East Punjab, did not appear to be suitable.

Mr. Fletcher stressed the claim of the East Punjab in view of—

- (i) its central situation in relation to the regional boundaries including Kashmir and Jammu.
- (ii) the backwardness of East Punjab and the stimulating effect that the Institution will provide on its industries.
- (iii) the desirability of avoiding concentration of industries, institutions etc. in particular areas only.

The Chairman considered it important that the institution be located in an industrially well-developed area. Backwardness of a Province could not be a valid consideration for the location of a Higher Technical Institution. The Educational Adviser stated that the Central Government undoubtedly had a responsibility towards the backward provinces for their development but the location of these institutions had to be determined on other considerations.

Dr. Ghosh gave the population figures for the provinces situated within the Northern region and expressed the view that on this consideration also, the institution should be located in the United Provinces.

Dr. Deshmukh was not clear about the necessity of taking a decision regarding the location of the Northern Higher Technical Institution when none of the other institutions had yet been established. It was explained that, in order that the Provincial Governments may set apart a big area of about 1200 acres in or near a fast developing town, an early decision was necessary. A good deal of preliminary work had to be done before an institution was actually set up.

After considering the matter in all its aspects, the Committee came to the conclusion that Kanpur would be the most suitable place for the location of the institution. The suggestion made by the Government of the United Provinces that the Engineering Section of the Institution should be located at Roorkee was not considered practicable.

Item No. IV.

- (a) To approve the All-India Diploma courses in—
 (i) General Industrial Chemistry,
 (ii) Electro-Chemistry,
 (iii) Chemistry of Textiles, and
 (iv) Fuel Chemistry,

framed by the All-India Board of Technical Studies in Chemical Engineering and Chemical Technology.

- (b) To approve the All-India Diploma courses in Textile Technology framed by the All-India Board of Technical Studies in Textile Technology.

- (c) To approve the All-India Intermediate Diploma course in Architecture framed by the All-India Board of Technical Studies in Architecture and Regional Planning.

Members were informed that the instructions issued by the Co-ordinating Committee in connection with the standard of the courses had been carefully observed by the Boards. The Committee approved the various courses.

Item No. V.

To receive and consider a note embodying the views of the All-India Board of Technical Studies in Engineering and Metallurgy on the subject of recognition of Engineering degrees awarded by the College of Engineering and Technology, Jadavpur, for the purpose of post-graduate studies in Indian Universities.

It was reported that the All-India Board of Technical Studies in Engineering and Metallurgy had recommended the recognition of degrees in Engineering of Jadavpur College for purposes of post-graduate studies in Universities. The All-India Board of Technical Studies in Chemical Engineering and Technology had appointed a Visiting Committee and although the formal report was not yet available, it was understood that they were satisfied with the standard for the degrees in Chemical Engineering awarded by the College.

It was decided that the Government of West Bengal be informed of the views of the Boards of Technical Studies and the Ministry of Education may take up the matter with the Inter-University Board.

The Chairman was authorised to take the action indicated above on receipt of the formal report from the All-India Board of Studies in Chemical Engineering and Technology.

Item No. VI.

To receive and consider the report of the All-India Board of Technical Studies in Engineering and Metallurgy on Mr. Proston's paper on 'Post-War Education and Training of Engineering Personnel'.

Members were of the view that the responsibility for Technical Education at all stages should be with the Education Departments of the Central and Provincial Governments. At present different departments dealt with the question and this arrangement was not found satisfactory.

The danger of providing additional facilities without assuring the employment of the products of the institutions had been expressed by the Sub-Committee of the All-India Board of Technical Studies. Dr. Ghosh apprised the Committee of the attitude of the Americans in this behalf. They believed in continual expansion of their facilities so that more men skilled in various arts and trained for various purposes may be thrown out to create new condition for development and progress. The Committee recommended close collaboration between the various departments of the Government in assessing the requirements of technical personnel.

Dr. Ghosh informed that a Central Bill was likely to be brought forward for the promotion of major industries and it envisaged the provision of trade schools within the industry.

The Committee endorsed the view of the All-India Board of Technical Studies in Engineering and Metallurgy regarding the training of craftsmen and recommended that steps be taken to bring to the notice of the Provincial Governments, the necessity of providing training facilities without further delay. The training of craftsmen should be carried out according to the scheme devised by the Advisory Committee on Technical Education (1944-45) and the position should be reviewed after two years.

(c.f. Resolution suggested under item 4 of the Council's agenda).

The action taken by the Board of Technical Studies in connection with the training of overseers and foremen was noted.

Item No. VII.

To appoint a Committee to collaborate with a Committee of the Inter-University Board for reviewing the position of Technical Education in Universities.

The following committee was appointed :—

- (1) Dr. P. S. Deshmukh.
- (2) Mr. N. K. Mitra.
- (3) Mr. P. N. Joshi.

The Secretary of the Council will act as Secretary of the Joint Committee.

Item No. VIII.

To consider a note from the Ministry of Works, Mines & Power on the establishment of a Government Printing School.

The Committee expressed the view that the establishment of a School of Printing was an urgent necessity and recommended that Government may take immediate steps in this direction.

A Committee of the All-India Board of Technical Studies in Applied Art was already engaged in drawing out suitable syllabuses for various courses in Printing Technology. The Committee recommended that these may be introduced at the proposed Central School of Printing, which should cater for Provincial needs until such time as the Provincial schools are established. This school should also train teachers who could later be usefully employed in the Provincial institutions.

Item No. IX.

To consider letter dated the 30th December, 1948, from the Vice-Chancellor Banaras Hindu University regarding the condition of annual intake of students to the Industrial Chemistry Section of the College of Technology of the University.

Secretary apprised the Committee of the discussion he had with the Vice-Chancellor, Banaras Hindu University, after the receipt of the letter under consideration. The Vice-Chancellor had suggested that the grants may be made on the basis of 60 admissions every year and that after the College had worked with that number for some time, a Visiting Committee of the Council may review the position and make recommendations regarding any further reduction of intake if considered necessary.

The Committee reiterated the views expressed by it at its last meeting that no grants be given to the College of Technology for the development of the Department of Industrial Chemistry unless the University agree to introduce a 3 to 4 year course with annual intake of 30 students only.

The Committee recommended that for the present grants may be given for the development of the Department of Pharmaceutics at this Institution.

Item No. X.

To report revised scale of remuneration to be paid to the examiners for practical examinations conducted by the All-India Council for Technical Education.

The information was recorded.

Item No. XI.

To consider the Overseas Scholarships scheme of the Government of India.

Clarification was sought in respect of the financial aspect of the scheme in so far as it relates to the training of teachers drawn from universities. The view was expressed that, since the Central Government were taking interest in the promotion of higher Scientific and technical education, the entire expenditure on such scholars should be borne by the Central Government. The Educational Adviser explained that so long as 'Education' was a transferred subject, the Government of India was not in a position to bear the whole of the expenditure involved in deputing scholars from Provincial universities and institutes, for training abroad. He informed that the Universities Commission was considering the question of Higher Education in the context of the responsibilities of the Central and Provincial Governments.

A suggestion was made that the entire cost of training teachers for the Engineering and Technological Institutions to which grants are being made by the Central Government, may be borne by the Central Government. It was, however, decided to drop the question for the reasons stated above.

It was suggested that a team may be sent to U.K. and U.S.A. to study the facilities and methods employed for the training of "Technician Administrators".

Item No. XI (b).

To receive and consider a letter dated the 7th April 1949 from the Vice-Chancellor, Madras University, regarding capital grant for the Textile Technology Department of the Alagappa Chettiar College of Technology.

The Council's original recommendation that no capital grant should be given for the Textile Technology Department, was based on the assumption that the department formed a part of the Government Textile Institute. It now appeared that the Madras University was contemplating to organise a self-combined Department of Textile Technology, unconnected with the Government Textile Institute. The Secretary of the Council was directed to obtain further particulars to elucidate the position.

The meeting terminated with a hearty vote of thanks to the Chair.

Annexure V

ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION.

Fourth Meeting.

Copy of letter No. 2935-TN-49|23856, dated the 24th April, 1949, from the Hon'ble Sardar Ujjal Singh, Minister for Industries and Civil Supplies, East Punjab, to the Hon'ble Mr. N.R. Sarker, Chairman of the All-India Council for Technical Education.

Owing to other engagements here it will not be possible for me to attend the meeting of the All-India Council for Technical Education which is to take place in Calcutta on the 28th and 29th of this month, I am, as a representative of the Northern Region, interested in placing our point of view before the All-India Council in the matter of the location of the Higher Technical Institute for this Region. At the meeting of the Co-ordinating Committee, which was held in Calcutta on the 12th, it was decided that this Institute should be located at Kanpur. I was represented on that occasion by Mr. Fletcher, and I understand that the decision to locate this Institute at Kanpur had been taken on some previous occasion. I, as representative of the Northern Region, feel very strongly that this Institute should be located at Jagadhri which, I will endeavour to show, is a suitable place for this purpose.

2. The Northern Region consists, as you know, of Jammu and Kashmir, PEPSU, East Punjab, Himachal Pradesh, Delhi Province, Madhya Bharat and U.P. It was unfortunate that the U.P. Government did not send their representative to the meeting which was called by my predecessor at Delhi in December, 1948, for considering this matter. This meeting had been convened at the instance of the Co-ordinating Committee, and the views of those who attended the meeting have already been conveyed to you. A look at the map of this Region will show that Kanpur is not central. The idea of having four such Institutes for our country is for the convenience of the people of these Regions. Kanpur, being at one end of the Northern Region, will be inconvenient to the majority of the units constituting it. As you know, Jammu and Kashmir, PEPSU, East Punjab and Himachal Pradesh are at one end of the Region, and scholars from these units will find it not only expensive but extremely inconvenient to go all the way to Kanpur. Our point of view is that this Institute should be so located as to serve the interests of a maximum number of people living in this Region.

3. The point which apparently influenced the Co-ordinating Committee is that Kanpur has a number of industries and also the Harecourt Butler Technological Institute. While the presence of industries close to the Institute is an advantage, it should not be made the deciding factor, for there are distinct disadvantages in locating an institute in a big town like Kanpur. The greater the congestion of factories and mills in an area, the graver are the labour problems, and the close proximity of labour to an institute of this nature is not a factor which can be ignored. It is perhaps on account of this reason that the Great California Institute of Technology at Los Angeles in U.S.A. is situated at a distance of about 150 miles from the nearest industrial centre. Even the M.I.T., Boston, is over 40 miles from the nearest industrial concentration, while the Virginia Polytechnic Blacksburg is 60 miles from the nearest industrial centre. The immediate presence of industries is thus not the only essential consideration for the location of a higher technological institute.

4. We have recommended Jagadhri for a number of good reasons. It is geographically central to the Region. There is plenty of land available at this place and there will also be, by the end of 1952, sufficient Hydro-Electric Power. Besides, Jagadhri is one of the important industrial towns in East Punjab. In the town itself are :—

- (1) A sugar factory.

- (2) Paper mills.
- (3) Metal industries.

Besides these industries, there are a number of industries located within a radius of 40 to 100, miles of Jagadhri.

These industries are :—

(1) The Upper India Glass Works at Ambala	32 miles
(2) Woollen and Textile Industry at Panipat	85 miles
(3) Rosin and turpentine factory at Ludhiana	100 miles
(4) Rosin and turpentine factory at Nahan	65 miles
(5) Foundry Works at Nahan	65 miles
(6) Dalmia Biscuit Factory at Rajpura	45 miles
(7) Cement Factory at Surajpur	85 miles
(8) Surgical Centre at Sonapat	45 miles

5. Delhi, which has a number of well-established industries, is only about 120 miles away. I may also mention here the proximity of Roorkee to Jagadhri. The boundary of U.P. is only about 10 or 15 miles from Jagadhri. Jagadhri is also a place with a great industrial future which should emerge in two or three years.

Another place which is equally good is Panipat, which is about 50 miles from Delhi and is on the main road and rail communications. Here also sufficient land can be made available free of cost. Panipat is a growing industrial centre with great potential for development.

6. Apart from these considerations, the All-India Council should also look at the problem of location of the Institute from the effect it will have on industrial development of the area. The projects of Nangal and Bhakhra will make available to East Punjab, Himachal Pradesh and PEPSU a considerable amount of Hydro-Electric Power in the near future and industries are bound to grow up in these parts with the advent of this power. This Higher Technological Institute has a positive part to play in the industrial development of the Region and it is, therefore, desirable to locate it in as central a place as possible.

7. The East Punjab Government is prepared to provide all the facilities required for setting up this Institute at Jagadhri or Panipat. We are prepared to give the necessary land free of cost.

8. I would also like to emphasise the consequences of partition on this Region. The industrial structure of the units comprising Kashmir, PEPSU East Punjab and Himachal Pradesh, has been seriously affected by partition and it is necessary to do every thing possible to restore the morale of our industrialists in this Region. Industries have a great future in the area to be served by Nangal and Bhakhra projects, but the location of the Institute at Kanpur will have an adverse effect on their growth.

9. I would, therefore, request you to place these views before the All-India Council when the recommendation of the Co-ordinating Committee comes up before it for consideration.

*Fourth Meeting.**Item No. 4 of Agenda.*

ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION.

Action taken by the Government of India on the recommendations of the All-India Council for Technical Education.

I. *Membership of the Co-ordinating Committee.*—The Council had decided at its last meeting held on the 22nd April, 1948 that there should be four members on the Co-ordinating Committee from among the members representing the Provincial and States Governments on the Council and that the representatives of the Provincial and States Governments from each of the four regions (as defined by the Council for the purpose of constituting the Regional Committees) should elect one member the selection being made through correspondence. In accordance with the above decision the following have been elected to represent the Provinces and States on the Co-ordinating Committee.

- | | |
|--|-----------------|
| 1. The Hon'ble Minister for Education Madras | Southern Region |
| 2. The Hon'ble Minister for Finance, East Punjab | Northern Region |
| 3. The Hon'ble Minister for Education, West Bengal | Eastern Region |
| 4. Commissioner of Education, Baroda | Western Region |

II. *Committees of the Council. All-India Boards of Technical Studies.*—A note on the activities of the All-India Boards of Technical Studies is submitted separately. (Annexure 7).

Regional Committees.—Steps have been taken for the recruitment of Special Officers for the Regional Committees, as recommended by the Council at its last meeting and the Governments of Bombay, Madras, West Bengal and U.P. have been requested to provide accommodation for the Regional Offices.

III. *Higher Technical Institutions.*—The Government of West Bengal have agreed to let the Government of India have, for the location of the Eastern Higher Technical Institution, a site of measuring 1200 acres approx. in Hijli, District Kharagpur free of cost. The planning of the buildings on this site has been taken in hand in consultation with the Architectural organisation of the Central Public Works Department. Preliminary expenditure in connection with the survey of the site and renovation of the existing buildings has been sanctioned. The costs of one Director and eight Heads of Departments for this institution were advertised simultaneously in India, the U. K., and the U. S. A., and applications received are being scrutinised.

The Governments of Mysore, Travancore and Madras have been addressed with a view to ascertaining the suitable sites, for the location of the Southern Higher Technical Institution which these Governments could make available for the purpose.

Pursuant to the suggestion of the Co-operating Committee made at its meeting held on the 4th October 1948, the Hon'ble Minister for Finance East Punjab, convened a conference of the representatives of the various Provincial and States Governments in the Northern Zone to consider the question of the location of the proposed Northern Higher Technical Institution. The conference recommended that the institution be located on a suitable site between Delhi, and Ambala within one hundred miles of the former.

IV. *Strengthening of existing Technical Institutions-Grants-in-Aid.*—The Government of India having accepted in principle are recommendations of the All-India Council for Technical Education that important Engineering and Technological Institutions in the country should be given grants from the Central Revenues for their improvement and expansion, the following advance capital grants and interest free loans were given for the year 1947-48 to 9 out of the 14 institutions covered by the scheme.

Name of the Institution.	Non-Recurring Grant		Interest free loan. Rs.
	For buildings.	For equipment	
1. College of Engg. and Technology, Jadwpur	1,00,000 plus interim grant of Rs. 2,00,000	1,00,000	.. 2,80,000
2. Victoria Jubilee Technical Institute Bombay	1,50,000 plus interim grant of Rs. 2,00,000	50,000	.. 80,000
<i>Banaras Hindu University</i>			
3. College of Engineering	80,000	80,000
4. College of Mining and Metallurgy	30,000	60,000
<i>University of Calcutta.</i>			
5. Department of Applied Physics and Radio Electronics. }	2,00,000	25,000	50,000
6. Department of Applied Chemistry, College of Science and Technology. }			
<i>Madras University.</i>			
7. Alagappa Chettiar College of Technology	50,000	10,000	..
<i>Andhra University.</i>			
8. Jeypore Vikram Deo College of Science and Technology	60,000	10,000	..
<i>Nagpur University.</i>			
9. Laxminarayan Institute of Technology	1,00,000	10,000	28,000
Total	6,60,000	3,15,000	5,78,000
Plus Rs. 4,00,000 interim grant.			

The College of Engineering Annamalai University, Dayalbagh Technical College, Agra and the College of Engineering, Muslim University Aligarh, were informed that grants could be given to them only if they agreed to raise from other sources atleast one third of the total expenditure required to bring the institution up to the requisite standard.

The Banaras Hindu University did not agree to reduce the annual intake of students to the College of Technology as recommended by the Co-ordinating Committee and therefore no grant was given.

The University of Bombay expressed their inability to accept the conditions governing grants and therefore no grant was given to its Department of Chemical Technology.

Detailed development plans on the basis of annual intake recommended by the Council for these institutions, were called for with a view to determining the amount of grant, both recurring and non-recurring, as well as loans for the construction of hostels, that may be sanctioned for 1948-49 and onwards. The examination of these development plans was completed but further action had to be held up for a considerable time pending the approval of the scheme by the Priorities Committee. The Government have now finally decided to implement the scheme.

In view of the various factors which held up the progress of the scheme during the last year, it has been possible to sanction grants and loans for 1948-49, only to the same nine institutions as had received them last year (1947-48). As desired by the Council these institutions have also been informed of the total grants, recurring and non-recurring, and interest free loan for construction of hostels which the Government of India propose to give them for the implementation of their development plans. The cases of the remaining institutions namely the College of Engineering, Annamalai University, the Dayabagh Technical College, Agra, the College of Engineering, Muslim University, Aligarh, the Department of Chemical Technology, Bombay University and the College of Technology Banaras Hindu University, are now under consideration and it is hoped that proposals regarding the grants etc. to be given to them will have been finalised by the end of May 1949. The following grants and loans have been sanctioned for the year 1948-49 on the conditions mentioned in Appendix I.

Name of the Institution.	Non-recurring grant.		Loan.
	For buildings.	For equipment	
1. College of Engg. and Technology, Jadavpur	75,000	5,30,000	6,00,000
2. Victoria Jubilee Technical Institute, Bombay	1,40,000	2,00,000	1,06,000
3. College of Engg. Banaras Hindu University	80,000	4,10,000	1,00,000
4. College of Mining and Metallurgy, Banaras Hindu University	60,000	1,70,000	2,00,000
5. Department of Applied Physics and Radio Electronics, Calcutta University.	70,000	50,000	} 1,50,000
6. Deptt. of Applied Chemistry, Calcutta University ..	90,000	70,000	
7. Allagappa Chettiar College, Madras University	60,000	30,000	..
8. Jeypore Vikram Deo?College of Technology, Andhra University	75,000	1,00,000	..
9. Luxminarayan Institute of Technology, Nagpur University ..	1,00,000	90,000	1,90,000
Total	7,50,000	16,50,000	12,56,000

The progressive totals of the grants and loans so far sanctioned for the above mentioned institutions are shown in Appendix II and a statement of the total grants and loan to be given to each of them is given in Appendix III.

The question of sanctioning recurring grants aggregating to rupees one lakh only for some of the above institutions for 1948-49 is also under consideration.

V. *Survey of facilities for Technical Education.*—At the instance of the Council a comprehensive survey of the facilities for technical education available in the country was conducted and the material collected was assembled and published in the form of brochure entitled 'Facilities for Technical Education in India' (copy laid on the tables). The publication of the brochure has been welcomed in all quarters as it has helped to fill a long-felt need for a sort of national directory of facilities for technical education. It is proposed to issue revised edition of the brochure from time to time.

VI. *Co-ordination of Technical Education.*—It was suggested by the Council at its first meeting that there should be co-ordination of activities in the field of technical education.

To give effect to this suggestion which was accepted by the Government of India, a list of technical subjects indicating the interest of Ministries in each subject and the Ministry primarily responsible for education therein was drawn up and circulated to the Ministries concerned. The list has been approved. The Ministry of Education will henceforth act as the co-ordinating Ministry in the whole field of technical education. Full information regarding the activities of the various Ministries is now being collected.

VII. *Craftsmen Training Scheme.*—(a) *Technical and Vocational Training Scheme for ex-Servicemen.*

Facilities have been provided for the technical, vocational and apprenticeship training for 11,000 ex-servicemen under the scheme and 9,063 persons were actually under training on 31-1-49.

(b) *Training of Refugees.*

At the request of the Ministry of Relief and Rehabilitation and some of the Provincial Governments, a scheme was initiated for giving technical and vocational training to refugees with a view to facilitating their resettlement in normal life. Facilities have been provided under the scheme for the training of 10,500 adult male refugees. In addition, 300 seats have been sanctioned for the vocational training of refugees girls and women. The number of persons undergoing training as on 31-1-49 was 9,715.

(c) *Training of Civilians.*

In view of the additional responsibilities which the Ministry of Labour had to undertake by way of provision of training facilities for refugees, it has not been possible to arrange for the training of young boys as recommended by the Advisory Committee on Technical Training (1944-45). A proposal, however, has been made to the Provincial Governments to introduce the scheme in a slightly modified form for the present. It has been suggested that instead of admitting young boys for training, admissions be confined to adult civilians only and that they be given training for 18 months on the same lines as ex-Servicemen, that is to say, upto Grade II Standard. The Ministry of Labour have undertaken to provide necessary machinery and equipment and also to organise and supervise the training and arrange for the trade testing of the trainees on the conclusion of their course. The Provincial Governments have been asked only to bear the recurring expenditure on account of provision of extra staff, cost of stipends, messing grants to trainees, etc. The Government of C.P. and Berar have agreed to the proposal and 192 seats in 14 technical trades have been sanctioned for the training of adult civilians at the Combined Technical and Vocational Training Centre, Koni Bilaspur. Replies from the other Provincial Governments are awaited.

As regards the training of young boys on the lines recommended by the Advisory Committee, it will be started as soon as circumstances permit.

(d) *Training of Instructors.*

The Central Institute for the training of Instructors came into operation on the 15th May, 1948. One batch of 44 instructors has already completed its training and a second batch of 75 Instructors, including some nominees of Provincial Governments is now undergoing training. The facilities provided for training at the Institute have been expanded and it is proposed to admit a much larger number of Instructors for training in the third batch.

VIII. *Miscellaneous.*—

(a) The Government of India Resolution No. F. 16-10-44-E. 111, dated the 30th November 1945, establishing the All-India Council for Technical Education provided that the tenure of office of non-official members of the Council including the Chairman would be three years, without specifying the date from which the tenure was to be reckoned. In order to remove ambiguity the Resolution has been suitably amended stating that the tenure of office of non-official members of the Council including the Chairman will be three years reckoned from the first day of the first meeting of the Council.

Opportunity has also been taken to replace the words 'Senior All-India Polytechnics' by the words 'Higher Technical Institutions' as recommended by the Council at its last meeting. A copy of the amending resolution is appended (Appendix 4).

(b) At the instance of the Co-ordinating Committee the question of institution of Geophysics Courses for the M.Sc. degree in the Universities was referred to the Inter-University Board. The Inter-University Board has expressed the opinion that in framing these syllabuses the Universities may co-opt experts of the departments concerned to the Boards of Studies or alternatively obtain the opinion of the experts and place them before the Boards of Studies concerned.

(c) At the second meeting of the Council held in May 1947, the question of training of personnel in Marine Engineering and Navigation was discussed and it was decided that the All-India Board of Technical Studies in Engineering and Metallurgy should set up a sub-committee to draw up a scheme of education in Marine Engineering and Navigation. As however the Government of India in the Ministry of Commerce had in the meanwhile appointed a committee to report on the training of personnel for Merchant Navy in India the question of setting up the **proposed sub-committee of the All-India Board of Technical Studies in Engineering and Metallurgy** was kept in abeyance.

The interim report of the Committee appointed by the Commerce Ministry was considered by the Council at its last meeting and it was decided that the Chairman should appoint a small Committee to examine this report and to consider the question of training of personnel for the Merchant Navy, Port Trust etc.

The Co-ordinating Committee considered this question on the 4th October 1948, and suggested that the following be appointed to this Committee :—

(1) Mr. A. R. Yusuf.

(2) Commander Daya Shanker of the Royal Indian Navy, and

(3) One officer of the Maritime Union of India.

Further action in this respect has however been held up, pending the final report of the Commerce Ministry's Committee.

APPENDIX I.
CONDITION GOVERNING GRANTS TO TECHNOLOGICAL
INSTITUTIONS.

- (i) In view of the fact that the All-India Diplomas and University Degrees are expected to be approximately of equivalent standards the syllabuses should, as far as possible be in accordance with the standards to be suggested by a Joint Committee of the Inter-University Board and the All-India Council for Technical Education. It is not contemplated however to encroach on the autonomy of the Universities.
- (ii) (a) The non-University Institutions shall include in the Selection Committees appointed for the purpose of recruitment of staff, independent experts from the panels submitted by the Institution and approved by the All-India Council for Technical Education.
- (b) In the case of Colleges or Departments under the administrative control of Universities, the appointment of staff shall be made by Selection Committee constituted in accordance with the Universities' Acts and rules, or if the appointment of selection committees is not specifically provided for in the University Act, the rules shall be framed with the approval of the Inter-University Board. In every case, the All-India Council for Technical Education shall be acquainted with the rules and regulations for the selection and appointment of the staff.
- (iii) For the non-University Institutions, equipment for laboratories of various types and workshops shall be generally as prescribed by the All-India Council for Technical Education.
- (iv) (a) A Visiting Committee or an Inspector appointed by the All-India Council for Technical Education shall periodically visit the non-University Institutions receiving grants and report to the Council and the Provincial Government concerned whether the grants given by the Government are being properly utilised and also whether proper standards of teaching and examination are being maintained.
- (b) In the case of University Department of Institutions administered directly by Universities, the University concerned shall appoint a visiting Committee in accordance with its own rules. Where such rules do not exist already, the University will be required to frame them in consultation with the University Grants Committee. Such Visiting Committee shall inspect the institutions annually and report to the universities whether the Government grants were being properly utilised in accordance with the conditions laid down. The Universities shall forward copies of all such reports to the All-India Council for Technical Education.
- (v) Where degree course as well as Diploma course of definitely lower standard than the degree in the same subject are being taught, the capital and recurring grant shall be utilised for the promotion of higher Technical education only.
- (vi) Recipients of recurring grant shall bring the salary scale of teaching staff and their qualifications to the level approved by the Central Government in consultation with the Provincial Government and/or Universities concerned, within three years from the date from which the first recurring grant is made.
- (vii) In the case of non-University institutions, the appointment of Professors or Heads of Departments to permanent vacancies that may occur shall be made with in a period of six months and in accordance with the conditions laid down in (i) (a) above. The placing of the present incumbents on Professorial status or status of Heads of the Departments for which grants are being made by the Government shall also be subject to the approval of the Council.

- (viii) The Central Government shall determine in consultation with the Provincial Governments and institutions the quota for each Province for purposes of admissions to the institutions concerned.
- (ix) Capitation fees shall not be charged in respect of students admitted under the quota system fixed by the Central Government.
- (x) (a) The Central Government shall have at least two seats for its nominees on the Managing Committee or the Governing Body of non-University institutions and the All-India Council for Technical Education shall also have two seats thereon. The Principal or the Head of the institution shall be an *ex-officio* member of the Managing Committee or the Governing Body. In all institutions there shall be constituted a College Council on which will be represented the Principal and all Heads of Departments. All academic matters pertaining to the College will be considered by this Council, and the proceedings of the Council shall be submitted to the Managing Committee or the Governing Body as the case may be. The Council shall meet at least twice a year.
- (b) In case of University institutions where there is an Advisory Committee the All-India Council for Technical Education and the Central Government will be represented on it. Where there are no Advisory Committees, the All-India Council for Technical Education shall have the right to appoint an ad-hoc Visiting Committee for the purpose of reporting how the grants given to the institutions were being utilised.
- (xi) The institutions should exercise the utmost economy in their working, as also in respect of expenditure from the grants for buildings and equipment.
- (xii) Such of the equipment as is available in Government surplus stores shall be obtained from that source, and no orders for supply of equipment shall be placed elsewhere without first obtaining a certificate from the Director General of Disposals to the effect that he is unable to arrange supply of the articles in question.
- (xiii) All expenditure to be met out of the grants shall be sanctioned by the Governing Body of the institute or other duly constituted body which ordinarily sanctions such expenditure or by the officers of the institution within the limits of specific authority delegated to them.
- (xiv) Grant under a particular head shall not be utilised for a purpose other than that for which it is intended except with the previous approval of the Government of India.
- (xv) A copy of the yearly statement of accounts of the institution duly audited and showing the amounts spent for the purposes for which grants are made shall be furnished to the Government of India.
- (xvi) Where a grant has been given by the Central Government under specific conditions accepted by University or an institution, the University or institution concerned shall if it does not comply with those conditions, be liable to refund the grant already received, in such manner as may be required by the Central Government and further grants shall be stopped.

APPENDIX II.

Statement showing amounts given to Institutions during 1947-48 and 1948-49 and progressive total in lakhs of rupees.

	Buildings.			Equipment.			Loan for Hostel.		
	1947-48	1948-49	Progressive Total	1947-48	1948-49	Progressive Total	1947-48	1948-49	Progressive Total
1. College of Engg. & Technology, Jadavpur ..	1.00 plus interim grant of 2.00	0.75	1.75 plus interim grant of 2.00	1.00	5.30	6.30	2.80	6.00	8.80
2. Victoria Jubilee Technical Institute, Bombay ..	1.50 plus interim grant of 2.00	1.40	2.90 plus interim grant of 2.00	0.50	2.00	0.50	0.80	1.06	1.86
3. College of Engineering, B. H. U.	Nil	0.80	0.80	0.80	4.10	4.90	0.80	1.00	1.80
4. College of Mining and Metallurgy, Banaras Hindu University.	Nil	0.60	0.60	0.30	1.70	2.00	0.60	2.00	2.60
5. College of Science and Technology, Calcutta University.									
Depts. of Applied Physics	*2.00	0.37	*3.60	*0.25	0.50	1.45	*0.50	*1.50	*2.00
Deptt. of Radio Physics and Electronics		0.33			Nil				
6. Deptt. of Applied Chemistry		0.91			0.70				
7. Allagappa Chettiar College, Madras University ..	0.50	0.60	1.10	0.10	0.30	0.40	Nil	Nil	Nil
8. Jeypore Vikram Deo College, Andhra University ..	0.60	0.75	1.35	0.10	1.00	1.10	Nil	Nil	Nil
9. Luxminarayan Institute of Technology, Nagpur ..	1.00	1.00	2.00	0.10	0.90	1.00	0.28	1.00	1.28

*For all three departments.

APPENDIX III.

Statement of total grants proposed to be paid to the Institutions (Figures in lakhs of rupees).

	Buildings.	Equipment	Recurring	Loan.
1. College of Engg. & Technology, Jadaupur.	3.83	21.77	5.99	13.91
2. Victoria Jubilee Technical Institute, Bombay	7.18	9.87	2.99	1.83
3. College of Engg., Banaras Hindu University	2.50	16.87	4.11	2.18
4. College of Mining and Metallurgy, Banaras Hindu University.	3.11	6.85	1.36	3.17
5. College of Science and Technology, Calcutta University.				
(a) Department of Applied Physics	3.17	2.70	0.33	2.54
(b) Department of Radio Physics and Electronics	3.10	2.10	0.49	
6. Deptt. of Applied Chemistry, College of Science and Technology, Calcutta University.	4.52	2.81	1.20	
7. Allagappa Chettiar College	2.92	1.13	0.72	Nil.
8. Jeyapore Vikram Deo College of Technology Andhra University.	3.80	3.90	0.88	Nil
9. Luxminayan Institute of Technology, Nagpur	5.07	3.51	Nil	2.07

APPENDIX IV.

No. F. 1-15|48-T-2.
Government of India,
Ministry of Education,

New Delhi 2, the 10th March, 1948.

Resolution.

The following amendments are made in the Resolution of the Government of India in the Department of Education (now Ministry of Education) No. F. 16-10|44-E. III, dated the 30th November, 1945 as subsequently amended up to the 6th December, 1947.

In the said Resolution :

1. in paragraph 2(b) for the words 'Senior All-India Polytechnics' the words 'High-grade Technological Institutions' shall be substituted,
2. in paragraph 3 (ii) after the words 'The tenure of office of the non-official members including the Chairman will be three years; the words 'reckoned from the first day of the first meeting of the Council and the Council will be reconstituted every three years thereafter' shall be added.

Ordered that a copy of this Resolution be communicated to all Provincial Governments and Minor Administrations and all Ministries of the Government of India.

2. Ordered that the Resolution be published in the Gazette of India for information.

P. N. KIRPAL,

for *Secretary to the Government of India,*
Ministry of Education.

To,

The Publisher,
Gazette of India,
New Delhi.

Copy forwarded to :—

1. All members of the All-India Council for Technical Education.
2. The Secretary, Cabinet Secretariat.
3. The following institutions :
 - (i) The Secretary, The Indian Federation of Labour 30, Faiz Bazar, Delhi.
 - (ii) The Secretary, All-India Railwaymen's Federation Mylapore, Madras.
 - (iii) The Secretary, the Institutions of Engineers (India) P.O. Box No. 669, Calcutta.

- (iv) The Secretary, All-India Organisation of Industrial Employers, 28, Feroze Shah Road, New Delhi.
- (v) The Secretary, Associated Chambers of Commerce of India, 2, Netaji Subhash Road, Calcutta.
- (vi) The Secretary, The Employer's Federation of India, Patel House, Churchgate Street, Bombay.
- (vii) The Secretary, The Federation of Indian Chambers of Commerce and Industry, 28, Ferozeshah Road, New Delhi.
- (viii) The Secretary, All-India Trade Union Congress, Model House, Proctor Road, Girgaon, Bombay.
- (ix) The Secretary, Inter-University Board of India No. 10-A, Cavalry Lines, Delhi.
- (x) The Secretary, Association of the Principals of Technical Institutions in India, Delhi Polytechnic, Delhi.
- (xi) The Secretary, Indian Institute of Architects, Hornby Road, Bombay.
- (xii) The Secretary, National Planning Committee, University Buildings, Fort, Bombay.
- (xiii) The Secretary, Indian National Trade Union Congress, Mazdoor Manzil, Bombay.

By order,

Sd. G. K. CHANDIRAMANI,
For Secretary.

Annexure VII

*Fourth Meeting.**Item No. V of Agenda.*

ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION

Memorandum.

A note reviewing the activities of the All-India Boards of Technical Studies since the last report to the All-India Council for Technical Education in April 1948, is appended hereto. Decisions of the Council are requested on the following items :—

1. *Paragraph 2—Constitution of the Boards.*

To nominate a representative on the All-India Board of Technical Studies in Applied Art in place of Major D.L. Deshpande, formerly representing the Council on that Board and who has since ceased to be a member of the Council.

2. *Paragraph 8—Functions of the All-India Boards of Technical Studies in relation to other Committees of the Council.*

To consider the following recommendation of the All-India Board of Technical Studies in Commerce and Business Administration :—

That the following functions at present, assigned to the Regional Committees may be excluded from their scope of functions and delegated to the Boards at least for the next five years :—

- (i) To appoint Boards of Examiners, taking into consideration the recommendations of the Board of Technical Studies concerned and to arrange for the proper conduct of examinations.
- (ii) To Publish the results of the examinations.
- (iii) To send reports to the Co-ordinating Committee about the conduct of examinations periodically.

3. *Paragraph 9—General rules for the Conduct of Examinations.*

To consider the recommendation of the Commerce Board that in future all examiners should inform the Board if any of their relatives appear at the examinations of the Board so that necessary answer papers of such candidates may be valued by other examiners.

REVIEW OF THE ACTIVITIES OF THE ALL-INDIA BOARD OF TECHNICAL STUDIES SINCE THE
LAST REPORT TO THE ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION IN APRIL,
1948.

1. *Meetings.*

1. The following meetings were held during the period under report:—

- (1) Examination Committee of the All-India Board of Technical Studies in Architecture and Regional Planning held on the 12th June 1948 in New Delhi.
- (2) Examination Committee of the All India Board of Technical Studies in Chemical Engineering & Chemical Technology—24th June, 1948 at Bombay.
- (3) Examination Committee of the All India Board of Technical Studies in Commerce & Business Administration—2nd July 1948 at New Delhi.
- (4) Examination Committee of the All India Board of Technical Studies in Engineering & Metallurgy—5th July 1948 at Calcutta.
- (5) Syllabus Committee of the All India Board of Technical Studies in Applied Art—25th & 26th July, 1948 at New Delhi.
- (6) All India Board of Technical Studies in Architecture & Regional Planning on 10th September 1948 at New Delhi.
- (7) All India Board of Technical Studies in Commerce & Business Administration—13th September 1948 at New Delhi.
- (8) All India Board of Technical Studies in Engineering & Metallurgy and its Syllabus Committee—10th and 12th September, 1948 at New Delhi.
- (9) All India Board of Technical Studies in Chemical Engineering & Technology and its Syllabus Committee—23rd and 24th September, 1948 at New Delhi.
- (10) All India Board of Technical Studies in Textile Technology and its specialists Committee—27th and 28th September 1948, at New Delhi.
- (11) All India Board of Technical Studies in Applied Art and its Specialists Committee 30th September and 1st October, 1948 at New Delhi.
- (12) Syllabus Committee of All India Board of Technical Studies in Architecture & Regional Planning, 8th October, 1948 at New Delhi.
- (13) Examination Committee of the All India Board of Technical Studies in Chemical Engineering and Chemical Technology—8th December 1948 at Calcutta.
- (14) Examination Committee of the All India Board of Technical Studies in Engineering and Metallurgy—9th December 1948 at Calcutta.
- (15) Examination Committee of the All India Board of Technical Studies in Commerce & Business Administration—14th December 1948 at New Delhi.
- (16) Affiliation Committee of the All India Board of Technical Studies in Commerce & Business Administration—15th December 1948 at New Delhi.
- (17) Syllabus Committee of the All India Board of Technical Studies in Architecture & Regional Planning—22nd December 1948 at New Delhi.
- (18) Examination Committee of the All India Board of Technical Studies in Architecture and Regional Planning—23rd December 1948 at New Delhi.
- (19) All India Board of Technical Studies in Architecture and Regional Planning—22nd February, 1949, at New Delhi.

- (20) Practical Training Sub-Committee of the All India Board of Technical Studies in Commerce & Business Administration—25th February, 1949 at Calcutta.
- (21) Visiting Committee for College of Engineering & Technology, Jadavpur appointed by the All India Board of Technical Studies in Chemical Engineering and Chemical Technology—1st March, 1949 at Calcutta.
- (22) Syllabus Committee of the All India Board of Technical Studies in Chemical Engineering and Chemical Technology—2nd March, 1949, at Calcutta.

2. Constitution of the Boards.

The reconstitution of the All India Boards of Technical Studies has since been completed. The membership of the reconstituted Boards may be seen in Appendix "A". The Chairman of the various Boards are shown below:—

- (i) Architecture & Regional Planning—Mr. C. M. Master.
- (ii) Commerce & Business Administration—Mr. V. Narahari Rao.
- (iii) Engineering & Metallurgy—Raj Bahadur N. K. Mitra.
- (iv) Chemical Engineering & Chemical Technology—Dr. H. L. Roy.
- (v) Textile Technology—Sir Vithal N. Chandavarkar.
- (vi) Applied Art—Mr. Rathindra Nath Tagore.

3. Curricula and Syllabuses of the All India Courses.

(a) The All India Board of Technical Studies in Textile Technology has approved the curricula and detailed syllabuses of studies for the All India Diploma courses in Textile Technology in the following branches:—

- (a) Cotton.
- (b) Rayon & Staple Fibre.
- (c) Jute & Bast Fibres.

The Board has also approved the syllabus for the All India Certificate course in Coir Technology.

The syllabuses for the All India Diploma Courses in Woollen & Worsted Technology are being revised by the Specialists concerned.

(b) The All India Board of Technical Studies in Applied Art has approved courses of studies for the All India Diploma & Advanced Diploma Courses in—

- (i) Drawing & Painting.
- (ii) Sculpture.
- (iii) Commercial Art.
- (iv) Crafts.

and also the All India Certificate Course in Commercial Art & Art Teachers Training Course. As desired by the Board the Syllabuses have been circulated to all Provincial Governments art institutions and other organisations in the country, interested in art education, for comments.

The Syllabus Sub-Committee of the Board is at present busy framing syllabuses for courses in other important crafts such as Cane Craft, Leather Craft, Stage Craft, Paper Machine, Glass & Ivory, etc.

The main features of the scheme as approved by the Board, are outlined below:—

A. All India Diploma Courses.

- (i) Total duration—5 years.
- (ii) Two examinations would be held by the Board during this period—one at the end of the third year and the other at the end of the fifth year.

- (ii) Subjects for the first years of the course would be common to all branches. In the third year elementary instruction in that special branch of Art in which the student wishes to qualify will be made available and the last two years of the course will be devoted to study of the special branch.

Students passing the third year examination would be entitled to the Intermediate Diploma in Applied Art.

B. *Advanced Diploma Course.*

- (iv) Duration varies from one to two years after acquiring the All India Diploma.

(c) The All India Board of Technical Studies in Commerce and Business Administration has considered the question of raising the admission qualification for the All India Diploma course in Commerce from Matriculation to Higher Secondary Certificate as well as sandwiching the practical training between the sessions. It has been the decision of the Board that one year's post-collegiate practical training should be made compulsory and the training should not be sandwiched between the sessions in the form of short term training. As regards admission qualification, the Board has decided that the question of stepping up the qualification to a pass in the Higher Secondary Examination should be considered at a later stage after the plan of the Central Advisory Board of Education has been implemented in all the Provinces and states.

The Board has appointed a special Committee to frame the details of a Practical training scheme for Commerce Students.

(d) The All India Board of Technical Studies in *Architecture and Regional Planning* has finalised the revised syllabus for the first 3 years of the All India Diploma Course in Architecture & Regional Planning as drafted by the Syllabus Sub-Committee.

(e) The All India Board of Technical Studies in *Engineering and Metallurgy* has decided that for the training of potential overseers and Foremen for industry and Government Departments two types of courses in Engineering should be devised—a full time course and a part time course—each of 5 years duration and both leading to All India certificates.

The Board has also decided that the minimum admission qualification for the part time course need not be rigidly prescribed but may be left to the discretion of the institution concerned so that the peculiar needs and conditions of each locality or region might be met in this regard. The syllabus should however be so devised as could be followed by a candidate whose educational attainments correspond to Matriculation Standard.

With a view to ensuring the manning of industry by competent foremen, charge-men, etc., the Board has recommended that every industrial concern should allow 1½ days off every week to all such employees and apprentices as are desirous of taking the part-time courses. The Board has directed the Syllabus Sub-Committee to formulate detailed syllabi and curricula of study separately for the full-time and the part-time All India Certificate Courses in the light of the above decisions.

The Board has also appointed a specialists Committee for the revision of the All India Diploma course in Metallurgy.

(f) The All India Board of Technical Studies in *Chemical Engineering and Chemical Technology* has finalised the syllabuses for the All India Diploma courses in (i) General Industrial Chemistry, (ii) Electro Chemistry, (iii) Textile Chemistry and (iv) Fuel Chemistry. The Board is of the opinion that the syllabuses are comprehensive as well as intensive and that it might not be possible to cover them within three years unless specially gifted students are selected for admission to the course and that an average student might require four years to do full justice to the syllabuses prescribed. The Board has therefore decided that attempts should be made to cover the syllabuses within three years and that in case experience showed that it was not possible to do so, the course should be extended to four years. The Board has also appointed specialists Committees to frame All India Diploma Courses in *Chemical Engineering and Leather Technology*.

The following examinations were conducted during the period under report:—

- (1) All India Intermediate Examination in Architecture.
- (2) All India Diploma Examination in Engineering.
- (3) All India Certificate Examination in Engineering.
- (4) All India Diploma Examination in Commerce.
- (5) All India Certificate Examination in Commerce.
- (6) All India Diploma Examination in Chemical Technology.

Detailed reports on the results of above Examinations received from the respective Examination Committees were placed before the Co-ordinating Committee at its meeting held on the 4th October, 1948 at Calcutta.

Arrangements have been made for holding the following All India Diploma and Certificate Examination in April 1948:—

All India Diploma Examinations.

Engineering.
Chemical Engineering & Technology.
Commerce.

Centres.

Delhi.
Delhi.
Alleppey (S. India).
Calcutta.
Delhi.
Madras.
Mysore.

All India Certificate Examinations.

Engineering.
Commerce.

Centres.

Delhi.
Calcutta.
Delhi.
Mysore.
Delhi.

Architecture (Intermediate).

5. Affiliation Committees.

The Affiliation Committee of the All India Board of Technical Studies in Commerce and Business Administration has decided that before permanent affiliation is granted to any institution, the institution should be inspected by a Visiting Committee. Accordingly the Board has set up visiting committees to inspect and report the following institutions:—

- (1) Bombay Education Institute, Bombay.
- (2) Delhi Polytechnic, Delhi.
- (3) City College, Calcutta.
- (4) Champion Metropolitan College of Commerce, Mysore.
- (5) Gann's Shorthand Institute, Aligarh.
- (6) Y.M.C.A. College of Commerce, Madras.
- (7) S. D. College, Alleppey.

6. Architecture Board—representation from the Technical Employees Association, C.P.W.D. Nature of architectural education.

On a representation made by the Technical Employees Association, C.P.W.D. seeking permission to appear for the examinations conducted by the All India Boards of Technical Studies, the Architecture Board has decided that private candidates and architectural Assistants working in the C.P.W.D. or in approved concerns should be given every opportunity irrespective of age and other considerations to appear for the examinations of the Board provided that they satisfy the rules already formulated by the Board in respect of testimonies, duration of training in an architect's office, etc.

It is also the considered opinion of the Board that private candidates should attend evening classes in architectural institutions wherever such facilities are available. The Board has decided to revise the relevant rules to read as follows:—

“As an interim measure private candidates may be permitted to take the All India Intermediate Examination in Architecture on production of proof of employment for at least four years in an Architect’s office approved by the Board and the submission of prescribed testimonies in regard to studies. Such candidates are also required to satisfy the Board that they have successfully passed the elementary and preliminary examinations of the courses before offering themselves for the Intermediate examination.”

7. Recognition—All India Diplomas.

The Government of India have, in consultation with the Federal Public Service Commission, decided to recognise the following diplomas awarded by the All India Council for Technical Education as equivalent to the degrees awarded by recognised Indian Universities as shown below for purpose of direct recruitment to services and posts under the Central Government:—

<i>Name of the diploma.</i>	<i>Equivalent recognised degree or diploma.</i>
Diploma in Chemical Engineering or Chemical Technology of Industrial Chemistry.	Degree in Chemical Engineering or Chemical Technology or Applied Chemistry.
Diploma in Architecture.	Degree in Architecture or A.I.I.A., or R.I.B.A., Diploma.
Diploma in Commerce.	Bachelor’s Degree in Commerce.
Advanced Diploma in Commerce.	Master’s degree in Commerce.
Diploma in Art.	Degree in Art or the Diploma of the Schools of Art.
Diploma in Civil Mechanical, Electrical, Metallurgical, and Mining Engineering.	Degree in Engineering in the respective Branches.
Diploma in Textile Technology.	Degree in Textile Engineering or Technology.

9. Functions of the All India Boards of Technical Studies in relation to other Committees of the Council.

The All India Board of Technical Studies in Commerce and Business Administration at their meeting held on the 13th September, 1948, considered the functions of the All India Board of Technical studies in relation to other Committees of the Council, *viz.*, Co-ordination Committee and Regional Committees. It was the unanimous opinion of the Board that the delegation of the following functions:—

- (i) to appoint Boards of Examiners, taking into consideration the recommendations of the Boards Technical Studies concerned and to arrange for the proper conduct of examinations,
- (ii) to publish the results of the examinations,
- (iii) to send reports to the Co-ordinating Committee about the conduct of examinations periodically.

to the Regional Committees was likely to cause lowering of the Standards and other complications. The Board therefore recommended to the All India Council for Technical Education that the above functions be excluded from the scope of functions of the Regional Committees, and delegated to the Boards at least for the next five years.

9. General rules for the conduct of Examinations.

The Commerce Board is of the view that in future all examiners should inform the Board if any of their relatives appear at the examinations of the Board so that necessary answer papers of such candidates may be valued by other examiners. The Board has recommended that this be incorporated in the General rules for the examinations.

10. *Recognition of the Diploma Courses of the Central Textile Institute, Kanpur, as equivalent to degree standard.*

At the instance of the Director of Industries (Education), United Provinces, the question whether the courses provided at the Government Central Textile Institute, Kanpur, can be deemed to be at par with the degree courses of the Universities was considered by the All India Boards of Technical Studies in Chemical Engineering and Chemical Technology and Textile Technology, at their last meetings. The Boards were of the view that the scope of the various subjects (both theoretical and practical) of the diploma courses of the institute was below the standard of degree courses in Universities. In arriving at this conclusion the Boards took note of the minimum educational qualifications for admission, the duration of courses and also the syllabuses of study. That textile Technology Board urged that in the interest of maintaining efficient standards the Government of United Provinces should withdraw the recognition already accorded by them to the Diploma.

At its last meeting held on the 4th October, 1948, the Co-ordinating Committee of the All India Council for Technical Education endorsed the above view of the All India Boards of Technical Studies and desired that the same should be communicated to the F.P.S.C., U.P. Government, the Government of India and other Provincial Governments concerned. The Government of United Provinces have accordingly been addressed.

11. *Joint Committee—All India Board of Technical Studies.*

The Boards of Technical Studies in Engineering, Commerce, Chemical Technology and Textile Technology have welcomed the resolution of the All India Council for Technical Education regarding the setting up of a Joint Committee for the purpose of drawing up a scheme for the training of technically qualified personnel in industrial management and business organisation and have appointed the following representatives to serve on the Joint Committee:

Commerce and Business Administration ..	Mr. V. Narahari Rao.
	Prof. M. R. Gandhi.
	Mr. K. M. Naik.
Textile Technology	Sir Sri Ram.
	Mr. S. D. Oke.
Engineering & Metallurgy	Mr. J. A. Taraporevala.
	Rai Bahadur A. N. Khosla.
Chemical Engineering & Chemical Technology	Principal P. N. Joshi.
	.. Mr. C. R. Rao.

Mr. V. Narahari Rao has been nominated as the Chairman of the Committee by the Chairman of the All India Council for Technical Education.

12. *Training in Radio Engineering.*

At its meeting held on the 17th September, 1948, the All India Board of Technical Studies in Engineering and Metallurgy considered the question of training in Radio Engineering. It was felt that as there was considerable demand for Radio Engineers of all categories, facilities for post-graduate specialisation in the subject as well as for the training of radio service engineers should be organised. The Board appointed a sub-committee to examine the facilities available at present in the country for training in Radio Engineering, and the requirements for Radio Engineers and to suggest how best the necessary training might be organised.

13. *Schools for Printing Technology.*

The question of establishment of Printing Schools was referred to all Provincial Governments for their opinion. The Provincial Governments have generally approved of the scheme. The Governments of East Punjab, Assam, C.P. and Berar have expressed desire to establish Printing Schools in their respective territories provided

Government of India agree to finance them wholly or in part. **The Government of Orissa** have suggested that instead of starting separate Schools in individual Provinces there should be four high grade Printing schools at four important centres, namely Delhi, Calcutta, Bombay and Madras. The Government of Bihar have informed that they have under consideration the question of re-organisation of the existing Printing and Technical Schools at Gulzarbagh, Patna, for admitting larger numbers of students for training in various subjects. The Government of Bombay have suggested that instead of establishing a school of Printing separately in the Presidency, the Commercial Art Section of the Sir J. J. School of Art, Bombay may be developed with advantage.

The above views of the Provincial Governments were considered by the All India Board of Technical Studies in Applied Art at their last meeting and it has agreed that there is sufficient scope for establishing printing schools in different parts of the country to meet the requirements of the printing trade. The Board was of the opinion that there should be a full time diploma course equivalent to degree in printing technology, the duration of the course being three to five years with a pass in Matriculation as the minimum admission qualifications, and also short-term, full time and part-time Artisan Certificate or Competency Course. The Board set up a Special Committee to frame curricula and syllabuses for the courses.

14. *Art Teachers training College.*

The Applied Art Board is of the considered opinion that there is a great need for establishing a Central College for the training of art teachers who would be required in considerable numbers for developing Art Institutions in the country. The Board has appointed a Sub-Committee to work out a detailed scheme for the establishment of an Art Teachers' Training College.

APPENDIX 1 TO ANNEXURE VII.

Item No. 5 of Agenda.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

List of personnel of the All India Board of Technical Studies in Commerce and Business Administration.

- | | |
|--|--|
| 1. Chairman | 1. Mr. V. Narahari Rao, C.S.I.,
I.C.S., Auditor General of India,
Simla.
(Nominee of the Co-ordinating Com-
mittee). |
| 2. Representative of the A.I.C.T.E. .. | 2. Mr. K. D. Jallan, C/o. Messrs.
Soorajmal Nagarmal, 8, Dalhousie
Square (East), Calcutta. |
| 3 & 4. Representatives of the A.P.T.I. (I). | 3. Principal S. N. Agarwal, M.A.,
F.R.E., G.S., College of Commerce,
Wardha.
4. Mr. M. J. Antia, M.A., LL.B.,
I.E.S., (Retd.) "Rupayatan" 69,
Marine Drive, Bombay. |
| 5. Representative of the Employees
(Indian National Trade Union Congress). | 5. Mr. Deben Sen, M.L.A., Secretary,
Bengal Provincial Branch of Indian
National Trade Union Congress, Cal-
cutta. |
| 6. Representative of Employers ..
(Federation of Indian Chambers of
Commerce & Industry). | 6. Prof. M. P. Gandhi, C/o. Gandhi &
Co. Jan Mansions, Sir Pherzeshah
Mehta Road, Fort Bombay. |
| 7 & 8. Representatives of the Professional
bodies concerned.
(Indian Institute of Bankers, Bom-
bay). | 7. Mr. M. L. Tannan, O.B.E., "The
Cliff", Carmecheal Road, Bombay.
8. Mr. G. Basu, B.A., R.A., F.S.A.A.,
F.I.C., F.C.S.I., 6, Hastings Street,
Calcutta. |
| &
(Cost and Works Accounts Institute,
Calcutta). | |
| 9. Representative of the Inter-University
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University, Lucknow. |
| 10-12. Nominees of the Co-ordinating Com-
mittee of the A.I.C.T.E. | 10. Mr. R. G. Saraiya, O.B.E., Vasant
Vihar, 85, Nepean Sea Road, Bombay
11. Mr. M. B. T. Chidambaram Chettiar,
Bedford House, Vepery, Madras.
12. Mr. K. M. Naik, G.D.A., R.A.,
General Manager; Associated In-
dustrial Development Co., Ltd., 67,
Stephen House, 4, Dalhousie Square,
Calcutta. |
| 13-15. Co-opted Members. | 13. Mr. A. P. Benthall, President, As-
sociated Chambers of Commerce, P.O.
280, Royal Exchange, Calcutta.
14. Dr. V. K. R. V. Rao, Director,
School of Economics, Delhi University,
Delhi.
15. Prof. M. J. Ghosh, Head of the
Commerce Department, Allahabad Uni-
versity, Allahabad. |

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

List of Personnel of the All India Board of Technical Studies in Engineering and Metallurgy.

1. Chairman. 1. Mr. M. K. Mitra, M.I.E., 16, Hindustan Road, Rash Behary Avenue. (Nominee of the Institutions of Engineering (India)).
2. Representative of the A.I.C.T.E. 2. Mr. A. N. Khosla, I.S.E., Chairman, Central Waterways, Irrigation and Navigation Commission, Curzon Road, New Delhi.
- 3 & 4. Representatives of the A.P.T.I. (I). 3. Mr. N. N. Sen, Plot No. 13, 16-17 Gareha 2nd Lane, Calcutta.
4. Dr. K. C. Chakko, College of Engineering, Annamalai University, Annamalaiagar (S. India).
5. Representative of Employees. 5. Mr. Michal John, President, Tata Iron and Steel Workers' Organisation, Jamshedpur. (Representing Indian National Trade Union Congress).
6. Representative of Employers. 6. Mr. Karan Chand Thapar, 5, Royal Exchange Place, Calcutta. (Representing All India Organization of Industrial Employers).
7. Representatives of the Professional Bodies concerned. (Institution of Engineers India). 7. Mr. H. J. Mullenoux, M.I.E. A.M. I.S.E., A.R.I.E. (U.S.A.) A.I.L.E., 32, Pali Hill, Bandra, Bombay.
8. Representative of the Inter-University Board of India. 8. Mr. M. Sen Gupta, B.Sc. (Cal), B.Sc. (Eng) Hons. Glas., M.I.E.E. (Lond) M.I.E. (India) A.M.I.E. Mech. E. (Lond) C.P.E. (Glas) F.I.P.S., Banaras Hindu University, Banaras.
- 9-12. Nominees of the Co-ordinating Committee of the A.I.C.T.E. 9. Mr. N. S. Gupchup, B. E. (Bombay) B.Sc. (Edin) A.M.I.E. (Ind) A.M.I.E. (England) Bakul Mansions, Vincent Road, Matunga, Bombay-19.
10. Mr. J. A. Taraporewala, B.Sc. (Edn.), M.I.E. Joint Director of Technical Education, Elphinston Technical High School Building, Dhobi Talao, Bombay.
11. Dr. J. J. Rudra, M.B.E., M.A., B.Sc. Ph.D., A.I.I.S.C., M.I.E.E., Mem. A.I.E.E., Principal, College of Engineering, Sindri (Bihar).
12. Mr. G. C. Mitter, O.B.E., M.Sc., F.R.I.C., F.N.I. Chief Technical Adviser to H.M.'s Mint, Church Gate, Fort, Bombay.

13-15. Co-opted Members.

13. Professor M. S. Thacker, Indian Institute of Science, Bangalore.
14. Mr. N. D. Gulati, Deputy Secretary, Ministry of Works Mines and Power, New Delhi.
15. Commander Daya Shankar, Naval Headquarters, New Delhi.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

List of personnel of the All India Board of Technical Studies in Applied Art and Chemical Technology.

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| 3 & 4 Representatives of the A.P.T.I. (I). | 3. Dr. N. N. Gobbole, Principal, College of Technology, Banaras Hindu University, Banaras.
4. Dr. K. Venkatraman, D.Sc., Head of Department of Chemical Technology, Bombay University, Matunga, Bombay. |
| 5. Representative of Employees. | 5. Mr. V. B. Marathi, B.Sc., C/o. Maritime Union of India, National Insurance Building, Hornby Road, Fort, Bombay. (Representing Indian Federation of Labour). |
| 6. Representative of Employers. | 6. Mr. C. R. Rao, Technical Adviser, The Tata Chemicals Ltd., Bombay. (Representing Employers Federation of India). |
| 7 & 8. Representative of the Professional Bodies concerned. | 7. Dr. A. Nagaraja Rao, Eastern Chemical Company (India) Dougall Road, Ballard Estate, Bombay. (Representing Indian Chemical Manufacturers Association).
8. Dr. S. Krishna, Biochemist, Forest Research Institute, Dehradun. (Representing Indian Chemical Society). |
| 9. Representative of the Inter-University Board of India. | 9. Mr. S. Mohiyuddin, M.A., LL.B., M.E.D. Vice-Chancellor, Mysore University, Mysore. |
| 10-12. Nominees of the Co-ordinating Committee of the A.I.C.T.E. | 10. Mr. S. J. P. Sen, General Manager, Bengal Chemical and Pharmaceutical Works Ltd., 94, Chittaranjan Avenue, Calcutta.
11. Dr. B. C. Guha, D.Sc., Ph.D. F.N.I., Professor and Head of the Applied Chemistry University College of Science, 92, Upper Circular Road, Calcutta.
12. Mr. M. P. G. Nair, T. T. N. F., I. T. I., Government of Madras, Madras. |

13-15. Co-opted Members.

13. Principal P. N. Joshi, M.Sc., (Tech), Victoria Jubilee Technical Institute, Matunga, Bombay.
14. Dr. G. P. Kane, D.Sc., Department of Chemical Technology, Matunga, Bombay.
15. Mr. M. A. Govinda Rau, M.A., Ph.D. (Lond). Director, Allagappa Chettiar College of Technology, Guindy, Saidapet P.O. Madras.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

List of Personnel of the All India Board of Technical Studies in Architecture and Regional Planning.

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| 2. Representative of the A.I.C.T.E. | 2. Mr. H. N. Dallas, A.R.I.B.A., C/o
M/s. Parelkar & Dallas, Medows House,
Medows Street, Fort, Bombay. |
| 3 & 4. Representatives of the A.P.T.I.
(1). | 3. Mr. John Terry, Head of Architecture
Department, Delhi Polytechnic, Delhi.
4. Mr. B. D. Puri, Thomason College of
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| 5. Representative of Employees | 5. Mr. T. R. Ganesan B.E., President,
Engineering and Foundry Workers
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(Representing All India Trade Union
Congress). |
| 6. Representative of Employers. | 6. Mr. Maganlal Bhikhabhai Patel, C/o
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65, Baroda.
(Representing All India Organization
of Industrial Employers). |
| 7&8. Representatives of the Professional
Bodies concerned. | 7. Mr. Walter George, F.R.I.B.A.,
A.R.C.A., 1, Scindia House, New
Delhi.
(Representing Indian Institute of Archi-
tects).
8. Mr. B. R. Kagal, M.I.E., (Ind)
Chief Town Administrator, The Tata
Iron and Steel Co. Ltd., Jamshedpur.
(Representing Institution of Engineers
(India)). |
| 9. Representative of Inter-University
Board of India. | 9. Mr. L. M. Chitale, Oriental Buildings,
Armenian Street, G.T. Madras. |
| 10-12. Nominees of the Co-ordinating Com-
mittee of the A.I.C.T.E. | 10. Dr. O. H. Keenigsburger, Director of
Housing, Ministry of Health, New Delhi.
11. Mr. G. B. Deelalikar, Chief Archi-
tect, C.P.W.D., New Delhi.
12. Mr. Srish Chander Chatterji, Archi-
tect, 49, Malanga Lane, Calcutta |
| 13-15. Co-opted Members. | 13. Prof. S. S. Reuben F.R.I.B.A.,
Head of The Architecture Department,
Sir J.J. School of Art, Bombay.
14. Mr. S. K. Jogelakar, Town Planner,
Central Public Works Department, New
Delhi.
15. Mr. Vishwanath Parsad, Architect to
the Government of Bihar, Patna. |

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

List of Personnel of the All India Board of Technical Studies in Textile Technology.

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1. Chairman. 1. Sir Vishan N. Chandavarkar, M[Sc].
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Bombay.
(Representing Employers Federation of
India).
- 3 & 4. Representatives of the A.P.T.I. 2. Sir Sri Ram, 22, Curzon Road, New
Delhi.
- 3 & 4. Representatives of the A.P.T.I. 3. Mr. P. N. Joshi, M.Sc. (Tech) Prin-
(I). cipal, V.J.T.I., Matunga, Bombay.
4. Mr. H. B. Shroff, Deputy Director of
Industries (Education) Government of
United Provinces, Kanpur.
5. Representative of Employers. 5. Mr. K. T. Side, B.Sc., LL.B., C[o].
Girni Kamgar Union, Dalvi Building,
Polbawadi, Parel, Bombay-12.
(Representing All India Trade Union
Congress).
- 6&7. Representatives of the Professional 6. Mr. S. D. Oke B.Sc., (Manchester)
Bodies concerned. L.T.M. (Hons). Manager, The Jam
Mills, No. 1, Lalgaug, Parel, Bombay.
- Textile Association (India). 7. Mr. V. R. Manohar, L.T.M., Cdg.,
& Spg., Master, Indian Manufacturing
Co. Ltd., Jacob Circle, Bombay, II.
8. Representative of the Inter-University 8. Mr. H. C. Papworth, M.A., C.B.E.,
Board of India. Pro-Vice-Chancellor, Travancore Uni-
versity, Travandrum.
- 9-12. Nominees of the Co-ordinating Com- 9. Mr. J. O. Lal, C[o]. The Cawnpore
mittee. Woollen Mills, Ltd., Kanpur.
- 10-12. Nominees of the Co-ordinating Com- 10. Seth Amritlal Hargovindas, C[o]. The
mittee of the A.I.C.T.E. Ahmedabad Cotton Mfg. Co. Ltd.
Railway-pura, Ahmedabad.
11. Dr. Layji Thoria, Dr. Ing. (Germany)
Technical Adviser, The Travancore
Rayons Ltd., Perambavoor, N. Travancore.
12. Mr. M. P. G. Nair, B. T. N. Fm.,
(Saxony Spinn. Techn. (Bohemia))
Principal, Institute of Textile Tech-
nology, University of Travancore,
Travandrum.
- 13-15. Co-opted Members. 13. Mr. D. F. Kapadia, Head of the Tex-
tile Manufacturing Department, Victo-
ria Jubilee Technical Institute, Matun-
ga Bombay.
14. Mr. Shamsuddin Khan, Superinten-
dent of Sericulture to the Government
of Mysore, Bangalore.
15. Mr. C. R. Nodder, M.A. (Cantab).
Director, Technological Research Labo-
ratory, Indian Central Jute Committee,
Calcutta.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

List of personnel of the All India Board of Technical Studies in Applied Art.

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|--|---|
| 1. Chairman | 1. Mr. Rathindranath Tagore, Santiniketan (West Bengal).
(Nominee of the Co-ordinating Committee). |
| 2. Representative of the A.I.C.T.E. | <i>Vacant.</i> |
| 3 & 4. Representatives of the A.P.T.I. (I). | 3. Mr. Atul Bose, 74, Bondel Road, Ballygunge, Calcutta.
4. Mr. D. P. Roy Chowdhury, M.P.E., Principal, Government School of Arts & Crafts, Madras. |
| 5. Representative of Employees. | 5. Mr. Kalyani Kaffekar, M.A. C/o Indian Federation of Labour, Albert Hall, 15, Paniki Chatterjee Street, Calcutta.
(Representing the Indian Federation of Labour). |
| 6. Representative of Employers. | 6. Mr. Chinubhai Chimanbhai C/o Ahmedabad Mill Owners Association Ahmedabad.
(Representing All India Organization of Industrial Employers). |
| 7 & 8. Representatives of the Professional Bodies concerned. | 7. General Secretary, Indian Institute of Art in Industry, 15, Park Street, Artistry House, Calcutta.
(Representing the Indian Institute of Art in Industry).
8. Mr. Anil Ray Choudhury, Secretary, All India Fine Art & Crafts Society, Parliament Street, New Delhi.
(Representing the All India Fine Arts and Crafts Society). |
| 9. Representative of Inter-University Board of India. | 9. Prof. N. K. Sidhanta, Lucknow University, Lucknow. |
| 10-12. Nominees of the Co-ordinating Committee of the A.I.C.T.E. | 10. Mr. Ratan Batra, Ratan Batra Studio Ltd., Feroze Shah Mehta Road, Bombay.
11. Dr. Stella Kramerisch, Professor of Indian Art, Calcutta University, 4, Shambhunath Pandit Street, Calcutta-20.
12. Mr. V. N. Adarkar, G. D. Art. (Ptg) F.R.S.A. F.C.I.A.D., (Honoris Causa) (Eng.) Deputy Director, Sir J. J. School of Art, Bombay. |
| 13-15. Co-opted members. | 13. Mr. H. K. Dass C/o. Eagle Litho-graphing Co., Ltd., 20, Christopher Road, Entally, Calcutta.
14. Mr. Lalit Sen, Principal, Government School of Arts & Crafts, Lucknow.
15. Mr. R. N. Chakravarty, Principal, Government School of Arts, Calcutta. |

Item No. 6 of Agenda.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

MEMORANDUM

Arising out of a letter from Dr. J. W. Whitaker, Ex-principal, Indian School of Mines, Dhanbad, in regard to the desirability of establishing a National Technical University for the award of Degrees in technological subjects to students coming from Institutions not affiliated to any of the Provincial Universities, Dr. J. C. Ghosh has suggested that the question be considered by the All India Council for Technical Education. Copy of Dr. Ghosh's letter to Dr. S. R. Sen Gupta the then Secretary of the Council in this connection together a copy of Dr. Whitaker's letter to him is reproduced below.

The Council may consider the question and make recommendations for consideration of the Central Government.

Copy of letter dated the 22nd/23rd November 1948 from Dr. Ghosh to Dr. Sen Gupta.

I enclose herewith an original letter from Dr. J. W. Whitaker, Principal of the School of Mines, Dhanbad. He has raised the question of establishment of a National Technological University, which will award technological degrees to all the Indian Institutions which are not affiliated to any particular Provincial University. I shall be glad to have your views on the subject and if necessary, this question may be discussed at a future meeting of the All India Council of Technical Education.

Copy of letter dated the 25th October 1948 from Dr. J. W. Whitaker to Dr. J. C. Ghosh.

The students of the Indian School of Mines are anxious that they should be awarded a *degree*, and not a diploma, at the end of their course. This raises the issue of a *National University* or affiliation to a *local university*.

The latter course is not desirable for a National College, but the former is for several reasons. Other colleges may be interested. Can anything be done

I gather that under the new constitution the local University has a right of veto if we wish to award *degrees*—even under a National University. Would you enquire? Bangalore and Roorkee may be concerned.

ANNEXURE IX.

*Fourth Meeting.**Item No. 7 of Agenda.*

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

MEMORANDUM

The P. & T. Department employs a large number of mechanics, wiremen and linemen every year. There is an arrangement by which special training is given to certain categories of staff in a special training school run by the P. & T. at Jubbulpore. The scope of the training school at Jubbulpore is very limited. It is suggested that the All-India Council of Technical Education consider the formation of a central board like the City and Guilds Institute of London which would be an examining body for various trades. The training in theoretical and practical may be imported to the trades by evening classes or Polytechnic institutes run by private bodies or provincial governments. The central board like City and Guilds Institute may however be examining body so that a certificate from this body will assure a certain minimum qualification from which recruitment of personnel for various cadres in the P. & T. and also other administrations can be done. The following trades are suggested :—

1. Electric Wiremen.
2. Mechanics for internal combustion engines.
3. Mechanics for radio transmitters and receivers.
4. Automobile mechanics.
5. Carpentry.
6. Smithy.
7. Turners.
8. Welders.
9. Masons.
10. Linemen, etc. etc.

Item No. 8 of Agenda.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

MEMORANDUM

PROVISION OF COURSES IN INDUSTRIAL ENGINEERING IN THE INSTITUTES OF HIGHER TECHNICAL TRAINING AND OTHER TECHNOLOGICAL INSTITUTIONS OF THE COUNTRY.

No facilities are available at present for such training. After completing his technical education, an engineer has to find his way into the Industrial field where many other important economic, financial, production, organizational and management problems arise. These problems of the structure of the industry are as basic as the technical aspect and it is very necessary that every technically trained person has knowledge and appreciation of them. This knowledge forges a link between the controllers, the financiers and the policy makers and the engineer and will enable him to occupy administrative and managerial positions, where he will be of great assistance in building up the industries.

Some of these problems concern :

- (1) Industry and Industrial processes : study of the economic and organizational aspects in application of a technical process.
- (2) Industrial controls : Theory and Practice of executing plans of management.
- (3) Engineering and Industrial surveys and reports : definitions, project, scope, extent and limitations.
- (4) Industrial economics : costs and their use, analysis, determination and adjustment of economic burden.
- (5) Industrial plant operation : organization, location layouts, flows of materials and services.
- (6) Work analysis : Theory of motion and the time study, work simplification.
- (7) Engineering and industrial statistics.
- (8) Industrial personnel and labour relations : Job evaluation, human characteristics, training and education.
- (9) Product development and research.

The Council is requested to consider the necessity and details of organizing such courses.

ANNEXURE XI.

*Fourth Meeting.**Item No. 9 of Agenda.*

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.

MEMORANDUM

Training of University graduates in practical technology and Science.

Broadly speaking, the chief distinction which exists between the University graduates of this country and those of the United Kingdom lies in the more intensive practical training given in Great Britain. In other words, there is emphasis more in Great Britain on the importance of doing experiments, of checking results, of testing apparatus, of cleaning and repairing apparatus, and of using and becoming familiar with machines, and of their potentialities. The use of the hands seems by comparison to be neglected in Science and Engineering training in India. In the United States of America the emphasis on the practical training is still greater than in Great Britain, and Applied Science and Engineering and Industrialisation have made and are making greater strides in that country than elsewhere in the world. In view of increased industrialisation in India, it would seem desirable that increased attention should be given to this aspect of University training, even if theory has to be curtailed.

ANNEXURE XII

Item No. 10 of Agenda.

MINISTRY OF WORKS, MINES AND POWER

Training of Power Engineers.

The training of Power Engineers has been exercising the attention of the Central and Provincial Governments for a considerable time now and the All India Power Engineers' Conference, convened by the Ministry of Works, Mines and Power in February 1949, discussed the subject at considerable length and finally adopted the following Resolution :—

“This Conference views with concern the present serious shortage of technical personnel for the power supply industry and strongly submits that immediate steps be taken to produce the requisite personnel as expeditiously as possible and to this purpose :

- (a) to augment and strengthen the existing polytechnic and under graduate technological university engineering colleges and research institutions with equipment and staff where necessary ;
- (b) to arrange for a practical course of training under competent supervision in the various power projects and industries under way in the country ;
- (c) to consider the question of admission to the Power Engineering Department under formation of the Indian Institute of Science to practising engineers with necessary academic qualifications ;
- (d) to seriously consider the early introduction of the refresher course at the Indian Institute of Science ;
- (e) to arrange to send only senior practising engineers, who have made their mark, for training abroad in specific projects and subjects and not the general apprenticeship training hitherto obtained, and that such personnel would form a pool at the Centre, from which various electricity authorities could draw ;
- (f) that a Standing Advisory Committee consisting of the following be immediately set up to go fully and further into this question :—
 1. Shri N. N. Iengar—*Chairman*.
 2. Shri K. P. P. Menon.
 3. Shri S. A. Gudkary.
 4. Shri P. B. Advani.
 5. Shri M. Hyath.
 6. Shri S. S. Kumar.
 7. Shri M. S. Thacker—*Secretary*.

2. In pursuance of the recommendations made by the All India Power Engineers' Conference, the Standing Advisory Committee mentioned above met at Bangalore on 28th March 1949, and after further discussion formulated the following proposals for the consideration of the Government of India :—

PROPOSALS.

1. All Governments to be asked to assess the requirements of their Provinces or States of Engineers and Technicians for the next ten years with reference to the Projects contemplated. To achieve the above object they be required to—

- (1) strengthen the staff and facilities in the existing colleges and institutions to increase the output as far as possible ; and

(2) to increase the number of collegas.

Note :—It is known that some provinces and States have taken steps in this direction, but the request is that all provinces and States be urged in this behalf. If there are requests for funds to implement the above, they may be viewed sympathetically.

II. All Universities, Colleges and Institutions and authorities concerned may be requested if the output of these institutions cannot be increased immediately by suitable reduction of the total period of training in the Institutions. This could be accomplished by increasing the number of working days in the year with additional staff and equipment wherever required.

III. That the Central Government be requested to arrange training facilities in the various power systems in the country and to make them available for trainees from different Provinces and States.

IV. The Central Government be requested to formulate or utilise any existing scheme for deputation abroad, for

- (1) training in higher direction, planning and construction of projects ;
- (2) specialised training.

For Item (1) engineers of not less than ten years responsible experience and for Item (2) engineers with not less than 5 years responsible experience and having aptitude in respective branches, be selected.

V. That the Central Electricity Commission be requested to pursue the matter with a view to implementing the recommendation.

VI. That the Standing Advisory Committee formed at the Power Engineers' Conference may continue to send their suggestions in regard to the above to the Central Electricity Commission.

ANNEXURE XIII.

Item No. 12 of Agenda.

GOVERNMENT OF INDIA

MINISTRY OF WORKS, MINES AND POWER.

A memorandum on the subject of the Recognition of the Diploma of the Indian School of Mines and Applied Geology, Dhanbad as equivalent to a degree of a University, for purposes of research, higher studies and appointment to Government Services.

The Indian School of Mines is a high grade Institution imparting education in Mining Engineering and Geology. It was established in 1926.

2. The Inter-University Board, India, recommended to the Government of India in 1932 that the Certificate and the Diploma awarded by the Indian School of Mines, Dhanbad (now renamed as Indian School of Mines and Applied Geology) might be recognised as equivalent to B.Sc. and B.Sc. (Hons) or M.Sc. examinations of an Indian University respectively for the purpose of admission to the public services.

3. The question was also considered in consultation with the Federal Public Service Commission and the Government of India arrived at the conclusion that the issue of a general declaration recognising the Certificate and the Diploma awarded by the School for purposes of admission to the public services was open to objection and therefore they dropped the proposal. The Government of India, however, issued specific orders recognising the Certificate and the Diploma of the School for certain specialist posts.

4. The School has now been recognised on the lines of the recommendations made by the Reorganisation Committee of the Indian School of Mines with a view to expand its activities and to raise it to a standard as near as possible as that of the Royal School of Mines, London. In para. 51 of the Report, an extract of which may be seen in Appendix I to this Memorandum, the Committee has recommended that the Diploma of the School should be reorganised as equivalent to M.Sc. degree of a University for the purpose of (1) post-graduate work or for higher courses of studies *e.g.*, Ph.D., and (2) for admission to competitive examination in Engineering and Applied services. (The Certificate of the School has now been abolished as recommended by the Reorganisation Committee and all students are required to take the 4-year Diploma course). The Government of India consider that for the future industrial development of the country it is necessary that the Diploma holders of the School should have facilities for post-graduate research work or for higher studies or for the competitive examinations without being first required to take a University Degree and feel inclined to agree to the recommendation made by the Reorganisation Committee of the School. It may be mentioned here that only those candidates who have passed the Intermediate Examination of a recognised Indian University are eligible for admission into the School. Further admissions into the School are made on the results of an entrance examination which is both qualifying and competitive. The details of the revised curriculum for geology and mining as recommended by the Reorganisation Committee may be seen in Appendix II. The teaching staff of the School is composed of competent persons some of whom possess high British academic qualifications. A list of the teaching staff may be seen in Appendix III.

5. The Diploma of the School has been approved by the Secretary for Mines Great Britain under section 9(6) of the (British) Coal Mines Act, 1911, and the holders of the Diploma are accordingly entitled to claim exemption from two of the five years' Mining experience normally required of applicants for First or Second Class certificates of competency under the Act. The University of London has also recognised the School in connection with the University examinations for the B.Sc.

Degree in Engineering (Mining). It may also be mentioned here that according to existing decisions the holders of the Diploma of the School are eligible for appointments to :—

- (i) The Geological Survey of India :
- (ii) The Mines Department : provided the candidates also hold a Colliery Manager's Certificate granted under the Indian Mines Act :
- (iii) The Indian School of Mines :
- (iv) The Coal Department of State Railways :
and
- (v) Class II posts in the Northern India Salt Revenue Department and the Survey of India.

6. This Ministry have also taken up separately, the question of securing recognition of the Diploma of the School by foreign Universities, especially those in U.K. as equivalent to a degree of a British University.

APPENDIX I

EXTRACT FROM THE REPORT OF THE REORGANISATION COMMITTEE OF THE INDIAN SCHOOL OF MINES, DEHRAAD.

Another disability, which the Committee understand the students suffer from is that Indian and Foreign Universities do not recognize the Diploma as equivalent to a degree. This means that when these students want to take up other courses in the Universities, say, the Ph.D. course, they are first required to take a Degree of the University. This is also a great hardship. Government should take the matter up at once with the appropriate authorities with a view to recognizing the diploma as equivalent to the M.Sc. degree of a University. If this is done, many of the disabilities which the students have to undergo at present will disappear and they will also have wider avenues of employment.

APPENDIX II

1. *Revised curriculum for Geology.*

First Year :—(ALL COMMON WITH MINING STUDENTS).

1. Geology (2 lectures and 1 practical per week).
2. Physics.
3. Mathematics.
4. Mechanics.
5. Chemistry.
6. Surveying.
7. Building estimation.
8. Machine Drawing.
9. Engineering Workshop practice.
10. Excursions.
11. Vacation training in coal and mica mining.

Second Year :—(COMMON WITH MINING STUDENTS).

1. Geology (3 lectures and 2 practicals per week).
 2. Mining.
 3. Surveying.
 4. Mechanical Engineering in part only.
 5. Electrical Engineering in part only.
 6. Fuel Technology.
 7. Excursions.
 8. English.
-

Second Year—Extra Course.

{	'A'	1. <i>Geology Department.</i> — (3 lecturers, 2 practicals per week and Camptraining).	1. Optical Mineralogy.
		2. <i>Physics Department.</i> -- 2 lecturers and 1 practical per week).	2. Petrology.
		3. <i>Chemistry Department.</i> — (1 lecture & 1 practical per week).	3. Geological Surveying.
		4. French and German (Optional).	4. Palaeontology.
			5. Structural Geology.
			6. Indian Geology.
			7. Camp work.
			8. Solid Geometry & Spherical Trigonometry.
			9. Crystal optics.
			10. Advances course in Electricity and Magnetism.
			11. Principles of gravity measurement.
			12. Principles of Physical Chemistry.
			13. Microchemical and other analytical tests on economic minerals and ores.

Third Year.

Subjects common with Mining students.

Subject quite separate.

{	'B'	1. Metal Mining.	1. General Geology.
		2. Assaying.	2. Economic Mineralogy.
		3. Surveying.	3. Crystallography & Principles of Geophysics.
		4. First Aid & Tropical Hygiene.	4. Palaeontology.
		5. Mine Accountants.	5. Indian Geology.
		6. English.	6. Ore Deposits.
			7. Coal Geology.
			8. Vacation & Camp training.
			9. French & German (Optional).

Fourth Year

{	'C'	1. Metallurgy.	1. All the Third Year Courses (Geology) Quite separate.
		2. One Dressing.	2. Petroleum Geology.
		3. Mineral Economics and Estimation.	3. World stratigraphy in general.
			4. Vertebrate & Invertebrate Palaeontology.
			5. Engineering Geology.
			6. Geo-physical prospecting.
			7. Thesis (Field work Reports).
			8. German and French (Optional).

2. *Revised curriculum for Mining.*

First year.—The basic sciences (mathematics, Physics, including magnetism and electricity) and mechanics of I.Sc. curriculum, revised as considered necessary plus more advanced mathematics, including instruction in use of the slide rule, and practical applications of chemistry beyond I.Sc. syllabus, e.g., elementary fuel technology, water technology (boiler feed water, water analysis, mine water), Mine gases. **Elementary physical and organic chemistry and the chemistry of explosives.**

General principles of geology, as illustrated by the coal-fields. Structural and field geology.

Machine Drawing and Workshop Practice, including carpentry as related to pattern making.

The elementary principles employed in mining of coal, as illustrated locally.

Visits to works, mines and places of geological interest in the vicinity.

Courses of practice in English Composition, reading and writing of technical reports of an elementary nature.

Second year :—Co-ordinate geometry, projection of solids, more advanced trigonometry, differentiation and integration; graphical methods.

Fuel Technology, water and gas analysis, with special reference Fuel Technology, water and gas analysis, with special reference to mine water and gases.

Thermo-chemistry, Statistics, hydrostatic and hydraulic—basic principles, Continuation of Machine Drawing.

Geology.—The main rock types, sedimentary, metamorphic and igneous rocks, Tectonic geology and the fundamental geological process of weathering sedimentation Structural and field geology outcrops, faults, etc. More detailed study of geological structure of Jharia and Raniganj coalfields. The elements of palaeontology as related to Indian geology, especially the geology of mining areas. The main Indian stratigraphical groups. (This course should be a concise summary and separate from that required by the geology students) Minerals and ores, with special reference to Indian conditions. Fundamentals of petrology. Recognition of important rock types minerals and common ores in hand specimen. Determinative mineralogy, restricted to minerals of importance to mining men.

Engineering.—Strength of materials and methods of testing. Heat engines Thermodynamics. Internal combustion engines, both petrol and diesel. The diesel engine locomotive as used in underground mining. Boiler and engine testing. Hydraulics. Basic principles of transmission of power. Practical applications of electricity in engineering. Theory of construction and operation of dynamos, electric motors, transformers. Lay-out of supply stations. Telephones and their use in mining operations. Electric lighting and underground illumination. Underground traction system, both mechanical and electrical.

THE INDIAN ELECTRICITY RULES

(This course continues into the Third Year). Second and third years.

(*Mining*.—Geological aspects of manner of occurrence of mineral and ores as affecting methods of extraction.

Prospecting.—Boring operations; drills of various types, percussive, churn, rotary and core drilling. Interpretation of borehole records; importance in mining of sedimentary deposits.

Sinking.—Vertical and inclined shafts. Sinking in wet and running ground.

Development.—Lay out and development of mining operations, pit-bottoms main and district roads.

Miner's tools, including those used in boring.

Explosives and their substitutes. The laws affecting the use of explosives. Methods of Stowing. "Bumps" and rockbursts.

Timbering and roof support.—Other materials used for roof support Subsidence underground fires and their prevention. The Indian Coal Mines Stowing Board.

Systems of working.—Stratified deposits, especially coal. Maintenance of working plans and of plans of abandoned workings. Opencast working methods in ore and coal mining. Ventilation and fire control. Mine gases and dusts, and their control. Natural and artificial ventilation. Air conditioning in deep mines. The Kolar Goldfield. Underground fires; stoppings; recovery methods Laws of flow of air types of fans, estimating amount of air required and capacity of fans. Ventilation plans. Automatic gas warning lamps.

Underground lighting, safety lamps, flame and electric lamps. The lamp room Special methods of face lighting. Lighting of picking belts.

Drainage and pumping.—Main and auxiliary pumps. Drainage by adits. Precautions against irruption.

Types of mine waters and choice of materials for pump construction.

Power supply at mines.—(Dealt with in Engineering Department also). Transmission of power by steam, steel cables hydraulic power, compressed air and electricity. Special precautions in fiery mines.

Winding equipment; equipment of vertical and inclined shafts. Winding and guide ropes, their testing and maintenance.

Mine accidents, mine rescue and recovery work. The Indian Mines Rescue stations.

Preparation of coal for the market, screening hand picking, mechanical clearing. The washability of coal. The Indian Coal Grading Board and systems of grading in general.

Valuation of coal mines.—Preparation of technical reports. Estimating.

Legislation.—The Indian Coal Mines Regulations. Regulations regarding storage and use of explosives, Relations with Department of Mines.

Hygiene and sanitation.—Gases, mine dusts, effects of temperature and humidity on health. Prevention of diseases both directly due to mining and related to climate. Malaria control.

Mining machinery and power supply at mine (Engg. Dept.) Third and Fourth Years.

(Continuation of work of Second Year q. v. 0.52).

Steam winding and haulage engines. Electric winding. Compressed air machinery. Types of compressors. Operation and maintenance of drills. Coal cutting machinery mechanical loader and conveyors. Pumping machinery. Ore dressing machinery, crushers, concentrating tables screens, etc., and their mechanical construction and operation. Surface equipment, banking, screening, sizing and washing machinery. Ventilation fans. Transmission of power. (Certain aspects of the above are dealt with from the point of view of the mining engineer in the Mining Department).

In the Third and Fourth Years materials of construction are tested in the Engineering Laboratory. These include timbers, cement and concrete, mild steel, cast iron, steel wires and winding cables. Electrical machinery is also tested for insulation and the students are given experience in finding of electrical faults and remedying them. In the Mining Department they obtain experience in haulage rope splicing and in capping of winding ropes. Experiments in fan testing, hydraulics and boiler tests are also included in the course, spaced throughout the Third and Fourth Years.

Fuel Technology.—Continued into Third Year. (See Second Year syllabus).

Assaying.—Third Year. Course for students taking Certificate in Metal Mining.

Fourth Year.—Students possessing Certificate in Coal Mining take this course in the Fourth Year.

Method of analysis of mineral products and ores, especially ores of gold, silver, copper, zinc, lead tin, nickel, iron, manganese. Assaying of gold, silver and tin ores by furnace methods.

Elementary pyrometry.

Theories of sampling of mineral products, including coal.

Materials of construction.—(This is dealt with under various heads at present, e.g., Building Estimation, Materials of Construction.)

First Year.—Building materials, bricks, stones, timber, iron and steel, etc. Types of construction, brickwork, stone masonry, earthwork and its measurement, design.

Quarters for workers at mines. Design of chimneys, boiler seatings, etc. Strength of materials. Selection of road making and concrete materials. (Continued into Third Year to coincide with lecturers in Mining and Engineering subjects).

METALLIFEROUS MINING AND ORE DRESSING

Ore deposits. General geological aspects. The important ores of India. Prospecting methods.

Working of different types of deposits, *e.g.*, gravel, open-cast and deep-seated ores.

Development of and method of working veins, lodes etc. Drilling. Supports. Underground methods of transport and hoisting.

Mine sampling and valuation (as distinct from valuation of coal and other sedimentary deposits.).

Ventilation of metal mines; special problems.

Special features of metalliferous ore mining and mica, mining ladders, travelling ways.

Technical Reports. The Indian Metalliferous Mining Regulations.

Relations with the Department of Mines.

Oil Mining.—(This is not adequately dealt with at present, being covered by the staff of the Geology Department which is competent to deal only with manner of occurrence of oil deposits and elementary principles of oil getting.)

Development of oilfields. Drilling, lining, plugging wells.

Field methods of exploring oil fields.

Transport, storage and refining.

Surveying; Topographical and Mine Surveying.—(Four Year course. As it has been decided to curtail somewhat the amount of tuition in the Fourth Year course the full course is summarised. The staff to be appointed will apportion the curriculum throughout the four years in such manner as to suit the other adjustment decided on. In general, topographical surveying is dealt with in the First Year Course, which geology students also take. In the Second, Third and Fourth Years all students spend one full month at a Mining Survey Camp. Geology students spend the same period at a Geology Survey Camp, but it is recommended that their one month period spent hitherto as Second Year students will be retained as a part of the Geology curriculum.)

Measurements of distances and areas.—Instruments used ranging lines, chain surveying, calculation of areas. Plotting and drawing. Magnetic needle, Miner's dial, prismatic compass, loose needle, fast needle surveying Plane Table.

Calculations of areas and volumes. The tachometer.

Levelling: barometer, hypsometer, the spirit level, Dumpy and Y-levels.

Calculations of volumes cuttings, embankments, etc. Railway curves. Problems on Co-ordinations.

The theodolite. Traversing on the surface and underground.

Mine plans and sections.—The law relating to mine plans.

Estimating and other office work.

Metallurgy, including ceramics and pyrometry.

Third and Fourth Years.—(This subject has to have more time devoted to it than hitherto. It is not proposed to add to the number of metals dealt with the additional time being used to deal more adequately with the subject and to give additional tuition in metallography, including practical work which is not at present included).

Metallurgical processes, types of furnaces and ore dressing machinery related directly to metallurgy. Pyrometry (see also "Assaying" curriculum). The chemistry of iron smelting (this will be covered partly if time permits in the First and Second Years). The manufacture of steel from pig iron. The metallurgy of other common metals of special importance to India, including copper, manganese, silver, gold, zinc, tin, nickel and tungsten.

The elementary principles of metallography. The iron-carbon diagram. Heat treatment of steels and of other metals. The main types of binary alloys and their equilibrium diagrams.

APPENDIX III

LIST OF TEACHING STAFF OF THE INDIAN SCHOOL OF MINES AND APPLIED GEOLOGY,
DHANBAD.

Principal.—R. P. Sinha, B.Sc. Min. & Met. (Edin), Ph.D. (Edin), Associate Horiod-Watt College, Edinburgh, First Class colliery Manager's Certificate.

Department of Mining :—

Professor of Mining and Surveying.—S. K. Bose B. Sc. (Calcutta), A.R.S.M., B.Sc. (Hons), Mining (London), A Inst. M.M.

Professor of Coal Mining and Mining Machinery.—D. N. Prasad, A.I.S.M., M.M.G.I., F.G.M.S., First Class Colliery Manager's Certificate.

Lecturer I in Mine Surveying.—

Lecturer I in Mineral Dressing.—K. Majumdar, M.Sc., M.A. I.M.E., A.R.I.C.

Lecturer I in Metalliferous Mining—

Lecturer I in Coal Mining Machinery—

Demonstrator.—B. Sen F.G.M.S.

Demonstrator.—S. N. Ghosh, B.Sc., (Mining) B.H.U.

Department of Geology :—

Professor of Geology.—N. L. Sharma M.Sc. (B.H.U. and Liv'pl.) F.G.M.S. M.M.G.I., M.I.S.E.

Lecturer I in Mineralogy and Petrology—

Lecturer II in Stratigraphy and Palaeontology.—Tyagaraja Narasimhan, M.Sc., F.G.M.S.

Lecturer II.—Y. K. Agrawal, M.Sc., (B.H.U.) F.G.M.S., A.M.G.I.

Demonstrator.—N. V. R. Subrahmanyam B.Sc., (Hons) (Andhra).

Department of Engineering :—

Professor of Mechanical and Electrical Engineering.—N. R. Das Gupta B.Sc., (Hons.) (Cal). B. Eng. (Sheffield).

Lecturer I in Mechanical Engineering.—G. K. D. Upadhyaya, A.H.W.C. (Edin), A.M.I.E.E.

Lecturer I in Electrical Engineering—

Lecturer II in Mechanical Engineering.—N. Sreenivasan, B.E. (Mech.) A.M.I.E.E.

Lecturer II in Electrical Engineering.—M. S. Pai, B.A., B.Sc., (Eng) London.

Foreman Instructor—C. P. Sen Gupta.

Assistant Foreman Instructor—Ahibhusan Mukherjee.

Demonstrator—

Demonstrator—

Department of Chemistry and Assaying :—

Professor of Chemistry and Assaying—H. N. Das Gupta D.S.

Lecturer I in Assaying—B. B. Niyogi, B.Sc., (Calcutta) F.R.I.C.

Lecture II—J. N. Chakraverty, B.Sc., (Hons) (Patna). A.I.I.S.T., A.S.T.A.

Demonstrator—M. R. Basu, B.Sc. (Calcutta).

Demonstrator—

Department of Physics and Mathematics :—

Lecturer I and Head of the Department—J. Dhar, M.Sc., (Calcutta) A, Inst. P, F.G.M.S.

Lecturer II—S. N. Mitra, M.Sc., (Calcutta).

Demonstrator—B. C. Upadhyaya B.Sc., (Calcutta).

Department of English, German and French :—

Lecturer I in English German and French and Honorary Librarian—Lemuel Sadoc, M.A., (Allahabad) Ph.D. (Frankfurt).

Memorandum regarding the scheme for imparting post-graduate Practical Training for the diploma-holders of the Indian School of Mines and Applied Geology, Dhanbad and graduates of the Banaras Hindu University, Banaras.

The Reorganisation Committee of the Indian School of Mines, Dhanbad, recommended that a minimum scholarship of Rs. 150 per month for a period not exceeding 2 years be paid to all graduates in Mining from the Indian School of Mines and Applied Geology, Dhanbad, and also from the Banaras Hindu University, during the post-graduate practical training which is essential in order to make them eligible for the Second Class Mine Managers' Certificate under the Coal Mines Regulations framed under the Indian Mines Act or any equivalent certificate which may be introduced under the Metalliferous Mines Regulations.

The Government of India have accepted the recommendation but have agreed to grant the scholarships at the rate of Rs. 100 p.m. only. The cost of the Scholarships granted to the Coal Mining Students will be shared half and half between the Government and the Coal Mining Industry.

Annexure XIV.

Fourth Meeting.

Item No. 12(b) of the Agenda.

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION

MEMORANDUM

The Government of the United Provinces have requested (*vide* their letter reproduced below) that they should have one representative on each of the following All-India Boards of Technical Studies :—

- (a) Textile Technology,
- (b) Chemical Engineering & Technology,
- (c) Engineering and Metallurgy,
- (d) Applied Arts.

The constitution of the Boards is as follows :—

Representative of the All-India Council for Technical Education ..	1
Representative of the Association of Principals of Technical Institutions (India)	2
Representative of the Employees	1
Representative of the Employer	1
Representative of the Professional Bodies concerned	2
Representative of the Inter-University Board	1

and 4 other specialists to be nominated by the Co-ordinating Committee.

The suggestion if accepted, would result in an expansion of the membership of the Boards. At present no representation is given to the Provincial Governments directly, the institutions being represented through the Association of Principals of Technical Institutions and other constituencies.

The Government of the United Provinces have suggested the names of two Principals for membership of the Regional Committee to represent the Technical Institutions constituency. The constitution, however, provides for the representation of Technical Institutions through election. The relevant clause in this connection reads

“Four members to represent the Technical Institutions within the region to as follows :—

be elected by Heads of Technical Institutions which are affiliated to the University or recognised by the All-India Boards of Technical Studies set up by the Council and also of such other institutions as may be approved by the Co-ordinating Committee of the Council.”

COPY OF LETTER NO. 65(S) XVIII, DATED THE 30TH MARCH, 1949, FROM THE GOVERNMENT OF THE UNITED PROVINCES.

I am directed to say that, although the United Provinces have a large number of technical institutions, yet they are not represented on the various Boards of Studies Committees of the All India Council for Technical Education. At present only Shri H. B. Shroff, officiating Deputy Director of Industries (Education) (he has since retired) and Shri L. M. Sen, Principal of the Government School of Arts and Crafts, Lucknow, are associated with the Council and the Board of Technical Studies and Applied Arts, respectively. Both these gentlemen, however, are represented in the Council in their capacities. As the training in technical institutions must conform to the curriculum etc., prepared by the Council, it is necessary that the Provincial Government should maintain close touch with the work of the various Boards of the Council. They, therefore, recommend that the following representatives of the various Government Technical Institutions may be nominated to the Board of Studies or Committees noted against each of them.

U.P. Government nominees

- | | |
|---|--|
| 1. <i>Board of Studies.</i> | |
| (a) Textile Technology. | Principal Government Central Textile Institute, Lucknow. |
| (b) Chemical Engineering. | Head of Chemical Technology, Government Central Textile Institute, Kanpur. |
| (c) Engineering and Metallurgy. | Principal Government Technical Institute, Lucknow. |
| (d) Applied Arts. | Principal, Government School of Arts and Crafts, Lucknow. |
| 2. <i>All India Council of Technical Education.</i> | Deputy Director of Industries (Education). |
| 3. <i>Regional Committee.</i> | 1. Deputy Director of Industries (Education). |
| (a) two representatives of the Provincial Government within the region. | 2. Principal, Harcourt Butler Technological Institute, Kanpur. |
| (b) Four representatives of the Technical Institutions. | Principal Government Technical Institute, Lucknow. |
| | 2. Principal, Government Central Textile Institute, Kanpur. |

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