

All-India Council for Technical Education

Proceedings of the
5th Meeting
1950

Ministry of Education
Government of India
1954

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**Proceedings of the
Fifth Meeting of the All-India
Council for Technical Education**

Held at Calcutta on the 24th and 25th July 1950



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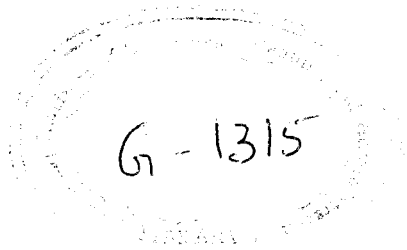
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**MINISTRY OF EDUCATION
GOVERNMENT OF INDIA**

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Proceedings of the 5th Meeting of the All-India Council for Technical Education held at Calcutta on the 24th and 25th July, 1950

The 5th meeting of the All-India Council for Technical Education was held at Calcutta on the 24th and 25th July, 1950, in the Government House, Calcutta. The session was inaugurated by His Excellency the Governor of West Bengal on the 24th July, 1950, at 11 a.m. and was followed by the presidential speech of the Hon'ble Shri N. R. Sarker. The text of the speech may be seen at Appendix A.

The speech of His Excellency was received with great acclamation.

The Chairman of the Council, the Hon'ble Shri N. R. Sarker, thanked His Excellency on behalf of the Council and addressed the meeting. The text of the address may be seen at Appendix B.

The Hon'ble Minister for Education, West Bengal, thanked His Excellency the Governor, and the distinguished visitors for gracing the occasion. He drew special attention to the problem of developing State Government technical institutions, which as a result of the stoppage of block development grants by the Central Government, had suffered greatly. He hoped that the Council would make suitable recommendations in this regard so that the coordinated development of all the technical institutions in India could take place.

The Council adjourned for ten minutes during which His Excellency went round and met the members.

The business session of the Council started at 12-15 p.m. (Agenda at Annexure I). The following were present :

- (1) The Hon'ble Shri N. R. Sarker—*Chairman*
- (2) Dr. Tara Chand—Educational Adviser to the Government of India.

Ministries of the Government of India

- (3) Shri S. Ranganathan (Ministry of Commerce)
- (4) Shri Brij Narayan (Ministry of Finance)
- (5) Dr. J. N. Ray (Ministry of Industry and Supply)
- (6) Dr. N. Das (Ministry of Labour)
- (7) Shri F. C. Badhwar (Ministry of Railways)
- (8) Shri N. B. Chatterji (Ministry of Works, Mines and Power)
- (9) Shri H. P. Mathrani (Ministry of Transport)
- (10) Dr. Gyan Chand (Cabinet Secretariat)

Parliament of India

- (11) Dr. P. S. Deshmukh
- (12) Shri Biswanath Das
- (13) Pandit Lakshmi Kanta Maitra
- (14) Prof. Yashwant Rai

State Governments (Part A)

- (15) The Hon'ble Minister for Education, Assam (Shri Motiram Bora)
- (16) Joint Director of Technical Education, Bombay (Shri J. A. Taraporewala)
- (17) Dr. V. S. Jha (Government of Madhya Pradesh)
- (18) Shri S. A. Iyengar (Government of Madras)
- (19) Dr. H. B. Mahanti (Government of Orissa)
- (20) Shri S. N. Kapur (Government of Punjab)
- (21) The Hon'ble Minister for Industries, Uttar Pradesh (Shri K. D. Malaviya)
- (22) The Hon'ble Minister for Education, West Bengal (Shri H. N. Chowdhury)

State Governments (Part B)

- (23) Shri B. N. Jha (Government of Madhya Bharat)
- (24) The Hon'ble Minister for Education, Mysore
- (25) The Principal, Engineering College, Pilani (Shri V Lakshminarayanan)

Industry, Commerce and Labour

- (26) Mr. T. G. May, Associated Chambers of Commerce of India
- (27) Prof. M. P. Gandhi } Federation of Indian Chambers of
- (28) Shri K. S. Munshaw } Commerce and Industry
- (29) Shri G. V. Apte } Employers' Federation of India
- (30) Dr. K. Venkataraman }
- (31) Shri V. Chakkarai Chettiar, All-India Trade Union Congress
- (32) Shri J. N. Mitra, Hind Mazdoor Sabha
- (33) Shri S. Guruswami, All India Railwaymen's Federation

Association of Principals of Technical Institutions (India)

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

Institution of Engineers (India)

- (36) Shri N. K. Mitra
- (37) Dr. Shiv Narayan

Indian Institute of Architects

- (38) Shri C. M. Master

National Planning Series Committee

- (39) Dr. J. C. Ghosh
- (40) Prof. K. T. Shah

Indian Chemical Society

- (41) Dr. P. C. Mitter

Shri G. K. Chandiramani—Secretary.

The following were unable to attend :

- (1) Prof. J. N. Mukherjee (Ministry of Agriculture)
- (2) Dr. S. S. Bhatnagar (Council of Scientific and Industrial Research)
- (3) Shri P. M. Menon (Ministry of Health)
- (4) Shri S. Boothalingam (Ministry of Industry and Supply)
- (5) Shri T. P. Bhalla (Ministry of Communication)
- (6) Secretary, Ministry of Defence
- (7) Shri A. N. Khosla (Central Board of Irrigation)
- (8) Nawab Muhammad Ismail Khan (Parliament of India)
- (9) Director of Industries, Bihar
- (10) Shri N. C. Chakravarty (Saurashtra Government)
- (11) Director of Education, Jammu and Kashmir
- (12) Mr. J. A. Murray, Associated Chambers of Commerce of India
- (13) Shri P. N. Sinha } All India Organisation of Industrial
- (14) Shri B. B. Joshi } Employers
- (15) Shri Hariharanath Shastri. }
- (16) Shri Noor Mohammed Shaikh } Indian National Trade
- (17) Shri Nirmal Kumar Sen } Union Congress
- (18) Kumari Maniben Kara, Hind Mazdoor Sabha
- (19) Dr. Mata Prasad }
- (20) Shri B. H. Zaidi } Central Advisory Board of Education
- (21) Dr. A. L. Mudaliar }
- (22) Pandit Govind Malaviya } Inter-University Board (India)
- (23) Shri Fazal Ibrahim Rahimtoola } Nominees of the Govern-
- (24) Dr. A. H. Pandya } ment of India

Dr. P. S. Deshmukh desired that a general discussion on the requirements of technical personnel might precede the consideration of the agenda. In his opinion, this was a very important matter as the development of facilities for technical education depended on a correct estimate of the requirements. Conflicting views had been expressed in different quarters in this behalf and he felt that this was a fit occasion for a discussion of the matter, so that the apprehensions which seemed to prevail in certain quarters regarding wastage of public money on new ventures might be allayed.

Dr. J. C. Ghosh referred to the work done by Scientific Manpower Committee in this connection and agreed that the Committee's estimates were based on the assumption that the various development plans of Government and industries would be fully implemented. Conditions had changed and, therefore, a review of the estimates was necessary. He thought that the Ministry of Education should have a permanent nucleus staff which should be constantly engaged on a review of the needs of technical personnel.

The general view was that the Coordinating Committee should give full consideration to this matter and appoint a small sub-committee for the purpose.

On behalf of the Government, Dr. Tara Chand welcomed the appointment of such a committee to guide the Government in its development plans.

Dr. Gyan Chand, representative of the Cabinet Secretariat, stressed the desirability of the sub-committee collaborating with Government departments and the Planning Commission.

The Council decided that the Coordinating Committee should go into this question fully and appoint a small sub-committee to estimate the requirements with the assistance of the staff which might be provided by the Ministry of Education for the purpose. The Council further directed that there should be no slackening of efforts in the implementation of the approved development plans on account of the proposed review of the requirements of technical personnel.

ITEM No. 1.—*To report that the proceedings of the fourth meeting of the All-India Council for Technical Education held at Calcutta on the 28th April, 1949, were confirmed by circulation.*

It was reported that the proceedings of the fourth meeting had been circulated and confirmed.

ITEM No. 2.—*To report that the following changes had taken place in the membership of the Council, since its last meeting.*

<i>Constituency</i>	<i>Change</i>
Ministry of Commerce	Shri S. Ranganathan replaces Shri K. K. Chettur.
Ministry of Industry and Supply	Shri S. Boothalingam replaces Shri M. P. Pai.
Ministry of Labour	Dr. N. Das replaces Shri S. Lall.
Ministry of Works, Mines and Power	Shri M. P. Pai replaces Shri D. L. Majumdar.
Parliament of India	Pandit Lakshmi Kanta Maitra replaces Shri S. C. Majumdar.
Government of Orissa	Dr. H. B. Mahanti replaces Shri Bijayanand Patnaik.
Government of Punjab	The Hon'ble Minister for Industries replaces the Hon'ble Minister for Finance.
Part (B) States—	
The Hon'ble Minister for Education, Mysore	replaces Syed Ali Akbar, Director of Public Instruction, Mysore
Shri N. C. Chakravarty	} replace The Hon'ble Minister for Education, Madhya Bharat
Shri Bhaironath Jha	
The Principal, Engineering College, Pilani	replaces Major D. L. Deshpande
The Director of Education, Jammu and Kashmir	replaces Education Commission, Baroda
All-India Organisation of Industrial Employers	Shri P.N. Sinha } replace Shri B.B. Joshi } Shri M. A. Master Dr. K. A. Hameid

E. Craftsmen Training Scheme

The Secretary informed the Council that the following information had been made available in regard to the Craftsmen Training Scheme :

The details of the scheme had been circulated by the Ministry of Labour to the State Governments and except for the Governments of Madhya Pradesh, Madras, Mysore and Pepsu from whom replies were awaited, all other Governments had accepted the scheme. The selection and posting of trainees to the training centres or institutes was in progress and up to the end of June 1950, 3,966 trainees were on the rolls. Training had started at all the centres.

The Council noted with satisfaction that the scheme for the technical and vocational training of adult civilians had been launched by the Central Government and decided that detailed information be supplied to the members regarding the various centres and the members under training at each centre in the various trades.

G. Private Candidates and All-India Examinations

Some members were of the view that the Council should permit private candidates to take its examinations. The question was discussed at great length and it was resolved that the question of permitting private candidates to appear at the examinations conducted by the All-India Board of Technical Studies in Commerce and Business Administration be referred to the Coordinating Committee for further consideration. It was not considered desirable to permit private candidates to take the Council's examinations in other branches.

ITEM No. 5(a).—*To consider a note on the activities of the All-India Boards of Technical Studies.*

The Council took note of the decisions of the Coordinating Committee taken at its meeting held on the 8th May, 1950, in regard to :

- (i) the duration of the part-time course in Town Planning for engineers and architects,
- (ii) the number of hours per session for the courses of the Board of Technical Studies in Engineering and Metallurgy, and
- (iii) the results of the All-India Examinations in Commerce.

The Council was informed that the Chairman of the Board of Technical Studies in Engineering and Metallurgy had granted provisional affiliation to the Government Engineering College, Jubbulpore, for the All-India Diploma Course in Engineering.

ITEM No. 5(b).—*To consider the suggestion that an annual convocation be held for the conferment of All-India Diplomas on successful candidates.*

The Council accepted the recommendation of the Coordinating Committee that there should not be any convocation for the purpose of conferring All-India Diplomas on successful candidates, but that the affiliated colleges may arrange to make formal awards on the occasion of their respective college days.

ITEM No. 6(a).—*To receive a note on the progress of the scheme for strengthening of engineering and technological institutions.*

The Council was informed that the Visiting Committee for the Annamalai University would be inspecting the Engineering College of the University during the month of August.

The Council endorsed the recommendation of the Coordinating Committee that the payment of recurring grants should be in the shape of block grants on the basis of average salaries and not on the basis of actual expenditure. If, however, for any reasons the Central Government preferred the "actual expenditure" basis, the Council recommended that the adjustment against the advance grant should not be one-sided and that, if the institution concerned actually incurred a larger expenditure, it should receive the balance of admissible grant in the following year. The Council also expressed the view that, if the recurring grants were to continue to be given on the basis of actual expenditure, the maximum amount of recurring grant assessed for the various institutions would require to be revised in upward direction.

ITEM No. 6(b).—*To appoint representatives of the Council on the Advisory Committee of the university institutions receiving grants-in-aid under the scheme for the strengthening of engineering and technological institutions.*

The Council appointed the following as representatives on the Advisory Committees of university institutions :

- | | |
|---|-------------------------|
| 1. College of Engineering, Banaras Hindu University | Shri J. A. Taraporewala |
| 2. College of Mining and Metallurgy, Banaras Hindu University | Dr. S. R. Sen Gupta |
| 3. Allagappa Chettiar College of Technology, Madras | Dr. J. N. Ray |
| 4. Jeypore Vikram Deo College of Technology, Andhra University | Shri P. N. Joshi |
| 5. Department of Applied Physics, Calcutta University | } Prof. M. S. Thacker |
| 6. Department of Radio Physics and Electronics, Calcutta University | |
| 7. Department of Applied Chemistry, Calcutta University | Dr. Mata Prasad |
| 8. College of Engineering and Technology, Aligarh Muslim University | Dr. S. S. Bhatnagar |
| 9. Department of Chemical Technology, Bombay University | Dr. J. C. Ghosh |

ITEM No. 7.—*To consider the proceedings of the first meeting of the Joint Committee of the Boards on the question of Training in Industrial Administration and Business Management.*

The Council noted that an expert committee had been appointed for the Eastern region to prepare details of post-graduate courses and to suggest how training facilities should be organised in that region.

The Council further noted that Dr. J. C. Ghosh, the Chairman of the Joint Committee, was reconstituting the expert committee for the Western region in consultation with Shri P. N. Joshi, Principal, Victoria Jubilee Technical Institute, Bombay.

ITEM No. 8.—*To consider the report of the Sub-Committee on the question of suitable salary scales for instructional staff of technological institutions.*

The following recommendations were accepted :

- (i) That the nomenclature of the various posts be—
 - (a) Professors
 - (b) Associate Professors
 - (c) Readers
 - (d) Lecturers
 - (e) Instructors
- (ii) That the scales of pay for the above posts be—
 - (a) Professors : Rs. 1,000-50-1,250 plus personal allowance depending upon the eminence of the person appointed.
 - (b) Associate Professors : Rs. 800-1,000
 - (c) Readers : Rs. 600-1,000
 - (d) Lecturers : Rs. 300-25-600-E.B.-25-750
 - (e) Instructors : Rs. 250-25-350.
- (iii) That the posts of Instructors be tenure posts of five years and that at the end of this period, either the incumbents should earn promotion to higher posts or should leave the institutions.
- (iv) That the above scales of pay for Professors, Associate Professors and Readers should be admissible only when the incumbents have had some amount of research work to their credit or have had wide professional experience.
- (v) That the qualifications for the various posts may be :

Professors, Associate Professors or Readers : A good degree plus five years' research or industrial experience. A part of this may have been spent in teaching.

Lecturers : A good degree plus three years' experience as above.
- (vi) That the Superintendent of the workshop may be at par with any of the above categories depending on (a) the qualifications and experience of the incumbent and (b) the scope and size of the institution. Also that the staff be allowed private practice subject to limits placed by the Principal and the Governing Body.

ITEM No. 9.—*To consider the report of the Sub-Committee of the Coordinating Committee for the establishment of National Technical University.*

The Secretary read out a letter received from Dr. Lakshmana-swami Mudaliar communicating the views of the Vice-Chancellors of some of the universities on the question of investing the All-India Council for Technical Education with powers to confer degrees. This was in response to a letter addressed to the representatives of the State Governments and Inter-University Board on the All-India Council, requesting that they may obtain views of their respective constituencies on this question before the Council meeting in July. Dr. Mudaliar while circulating this letter to the Vice-Chancellors of the universities had also expressed his own views in the matter (Dr. Mudaliar's letter together with enclosures is at Annexure II).

The Secretary also read out a telegram received from Pandit Govind Malaviya (Annexure III) and a letter received from the Government of West Bengal (Annexure IV).

This was followed by a lengthy discussion during which views both for and against investing the Council with powers to confer degrees were expressed. The Hon'ble Minister for Education, West Bengal, pointed out that even if the All-India Council for Technical Education is constituted into a university, the degrees or diplomas conferred by it may be in recognition of courses of instruction and practice materially different from those of academic degrees conferred by universities. The general view, however, was that the question required further consideration.

The Council decided to hold a special session after three months to consider the question. The Council accepted in principle the view that it should be a statutory body and not merely a body established by executive authority of the Government.

ITEM No. 10.—*To receive a note on the deliberations of the Joint Committee of the All-India Council for Technical Education and Inter-University Board.*

The Council decided to communicate the following observations to the Joint Committee :

- (i) That in place of 'Tele-communication Engineering' as one of the branches for basic degree, there may be 'Communication Engineering'.
- (ii) That the number of working hours inclusive of hours spent in visits to factories may be 36 hours per week.
- (iii) That the recommendation of the Joint Committee in regard to the arrangement of the four-year course (inclusive of practical training) be not accepted and that the universities and other bodies concerned should be left free to arrange the course as they think fit, provided the total duration is four years, inclusive of practical training.
- (iv) That in the subjects for post-graduates specialisation, the Joint Committee may consider if 'Transmission and Utilisation' may not substitute 'Utilisation' and further whether 'Power System Design' may not also be included.

- (v) That in the light of the opinion expressed by the Council that the arrangement of the courses be left to the universities and institutions, the electives recommended by the Joint Committee may be taken up in the final year of the course in the college and not necessarily in the fourth year.
- (vi) In regard to the nomenclature and qualifications of the teaching staff, the Council decided that the report, as approved, of the sub-committee appointed by it may be sent to the Joint Committee for its information.

ITEM No. 11.—Grants to Government Technical Institutions

- (a) To consider notes from the Governments of West Bengal and Madhya Pradesh regarding grants to State institutions.
- (b) To consider Assam Government's request for financial assistance to H.R.H. the Prince of Wales Technical School, Jorhat.

The Coordinating Committee had appointed a Sub-Committee consisting of the following to consider the question :

1. Dr. P. S. Deshmukh (Convenor)
2. Dr. J. C. Ghosh
3. Shri P. N. Joshi
4. Shri G. K. Chandiramani (Secretary)

This Committee met on the morning of the 25th July, 1950, and submitted a report for the consideration of the Council (Annexure V).

The Council accepted the recommendations of the Sub-Committee as follows and resolved that the Central Government be requested to take appropriate action in the matter :

- (i) That the Central Government should give immediate financial assistance for capital expenditure to implement plans relating to the Engineering College, Poona, Government Engineering College, Jubbulpore, and Bengal Engineering College, Sibpur, and that such grants be limited to 50 per cent of the actual capital expenditure.
- (ii) That the respective State Governments concerned with the above plans be requested to review them in the light of existing financial difficulties with a view to effecting economies. The revised plans would be examined by the Committee and recommendations made to the Council in regard to grants for future years.
- (iii) That further information be sought in regard to the expenditure yet to be incurred on the institution or development of degree courses in the following institutions :
 - (a) Scheme for the establishment of a Mechanical and Electrical Engineering College and the Subordinate Mechanical Engineering Class at Sindri (Bihar)
 - (b) Engineering College, Ahmedabad (Bombay)
 - (c) Engineering College, Kakinada (Madras)
 - (d) Government Engineering College, Jubbulpore (Madhya Pradesh)

Information may also be obtained with regard to the progress already made.

- (iv) That in regard to the scheme of Assam Government to convert H.R.H. the Prince of Wales Technical School into a college, until financial conditions improved, the needs of Assam may be met by fixing a suitable quota of seats for Assam students in the Higher Technical Institute for the Eastern region and other institutions which are in receipt of grant-in-aid from the Central Government.
- (v) That further information be obtained from the Orissa Government if the re-organisation plan of the Orissa School of Engineering at an estimated cost of Rs. 17,13,000, contemplated provision of degree courses in the institution.

ITEM No. 12.—*To consider a note from the Government of West Bengal for popularising the All-India Diplomas in Commerce.*

The Council noted that the Central Government had already taken measures as proposed by the Government of West Bengal.

ITEM No. 13.—*To consider the suggestion of the Government of Bombay on a common vocabulary of scientific terms in Hindi.*

The Educational Adviser informed the Council that the Central Advisory Board of Education had already accepted the recommendations of the University Education Commission made on similar lines.

ITEM No. 14.—*To consider a note from the Ministry of Works, Mines and Power, Government of India, on training of power engineers.*

The Sub-Committee appointed by the Coordinating Committee to examine the entire question of requirements for training of power engineers met on the 23rd July, 1950 and submitted its report (Annexure VI). This report was considered by the Coordinating Committee which recommended :

- (i) that the facilities at the Indian Institute of Science, Bangalore, be fully utilised for training of power engineers ;
- (ii) that this training be followed by further training abroad until such time as the electrical industry be established in the country ; and
- (iii) that a Standing Committee of the All-India Council for Technical Education be appointed to collaborate with the Standing Committee of the All-India Power Engineers Conference.

In regard to the constitution of the Standing Committee, the Coordinating Committee proposes that Dr. J. C. Ghosh and Shri V. Laxminarayanan should constitute this Committee.

The Council resolved to accept the recommendations of the Coordinating Committee.

ITEM No. 15.—*To consider a note from the Ministry of Transport, Government of India, on the establishment of a Central Institute*

for Automobile Engineering and Transport Administration and Operation.

The Council noted the decisions of the Coordinating Committee, viz., that Dr. J. C. Ghosh, Director, Eastern Higher Technical Institute and the representatives of the Ministry of Transport may discuss the matter and make concrete proposals. The Council resolved that Shri P. N. Joshi, Principal, Victoria Jubilee Technical Institute, may also be associated in the discussions.

ITEM No. 16.—*To discuss the draft bill for the registration of engineers in India.*

Some members were of the view that the Council as constituted at present may not be able to perform the functions envisaged in the bill and the Council for the Registration of Engineers should be entirely composed of engineers. It was decided that the views of the Institution of Engineers (India) should be made available to the members and that further consideration may be given to the matter at the special session of the Council to be convened after three months. Meanwhile, members directly interested would communicate their views to the Secretary of the Council.

Shri N. K. Mitra, representative of the Institution of Engineers, undertook to supply to members the necessary information regarding this measure in so far as the Institution of Engineers was concerned.

ITEM No. 17.—*To report that Dr. Shiv Narayan has been nominated by the Chairman*

- (i) *on the Pre-Engineering Examination Board constituted by the Central Government, and*
- (ii) *on the Engineering Division Council of the Indian Standards Institution for the term 1st April, 1950 to 31st March, 1953*

The Secretary further informed the Council that the constitution of the Central Advisory Board of Education had been revised and gave representation to the All-India Council for Technical Education. The Chairman had nominated Dr. P. S. Deshmukh and Dr. S. R. Sen Gupta as representatives of the Council on the Central Advisory Board of Education.

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

ANNEXURE I

ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION—FIFTH MEETING

Agenda

1. To report that the proceedings of the fourth meeting of the All-India Council for Technical Education held at Calcutta on the 28th April, 1949 were confirmed by circulation.
2. To report changes in the membership of the Council.
3. To receive the minutes of the eighth and the ninth meetings of the Coordinating Committee held on the 12th January, 1950, and the 8th May, 1950 respectively.
4. To receive a report on the action taken on the various recommendations of the Council, and Coordinating Committee.
5. All-India Boards of Technical Studies—
 - (a) To receive a note on the activities of the Boards.
 - (b) To consider the suggestion that an annual convocation be held for the conferment of All-India Diplomas on successful candidates.
6. Scheme for the strengthening of engineering and technological institutions—
 - (a) To receive a note on the progress of the scheme.
 - (b) To appoint representatives of the Council on the advisory committees of the university institutions receiving grants-in-aid under the scheme.
7. To consider the proceedings of the first meeting of the Joint Committee of the Boards on the question of training in Industrial Administration and Business Management.
8. To consider the report of the Sub-Committee on the question of suitable salary scales for instructional staff of technological institutions.
9. To consider the report of the Sub-Committee of the Coordinating Committee for the establishment of National Technical University.
10. To receive a note on the deliberations of the Joint Committee of the All-India Council for Technical Education and the Inter-University Board.
11. Grants to Government Technical institutions—
 - (a) To consider notes from the Governments of West Bengal and Madhya Pradesh regarding grants to State institutions.
 - (b) To consider Assam Government's request for financial assistance to H.R.H. the Prince of Wales Technical School, Jorhat.
12. To consider a note from the Government of West Bengal for popularising the All-India Diplomas in Commerce.

13. To consider the suggestion of the Government of Bombay on a common vocabulary of scientific terms in Hindi.
14. To consider a note from the Ministry of Works, Mines and Power, Government of India, on training of power engineers.
15. To consider a note from the Ministry of Transport, Government of India, on the establishment of a Central Institute for Automobile Engineering and Transport Administration and Operation.
16. To discuss the draft bill for the registration of engineers in India.
17. To report that Dr. Shiv Narayan has been nominated by the Chairman—
 - (i) on the Pre-Engineering Examination Board constituted by the Central Government, and
 - (ii) on the Engineering Division Council of the Indian Standards Institution for the term 1st April, 1950 to 31st March, 1953.
18. Any other business.

NOTE.—The portion in italics in notes on some of the items gives the recommendations/decisions of the Coordinating Committee made/taken at its ninth meeting held on 8th May, 1950.

ITEM No. 1.—*To report that the proceedings of the fourth meeting of the All-India Council for Technical Education held at Calcutta on the 20th April, 1949, were confirmed by circulation.*

The proceedings were circulated to the members. In the absence of any suggestions regarding changes in the content of the proceedings the same may be deemed to have been confirmed by circulation.

ITEM No. 2.—*To report changes in the membership of the Council.*

Since the last meeting of the Council fresh nominations have been received from various constituencies resulting in the following changes:

<i>Constituency</i>	<i>Change</i>
Ministry of Commerce.	Shri S. Ranganathan replaces Shri K. K. Chettur.
Ministry of Industry and Supply	Shri S. Boothalingam replaces Shri M.P. Pai.
Ministry of Labour	Dr. N. Das replaces Shri S. Lall.
Ministry of Works, Mines and Power.	Shri M. P. Pai replaces Shri D. L. Majumdar.
Parliament of India	Pandit Lakshmi Kanta Maitra replaces Shri S. C. Majumdar.
Government of Orissa	Dr. H. B. Mahanti replaces Shri Bijayanand Patnaik.

<i>Constituency</i>	<i>Change</i>
Government of Puniab	The Hon'ble Minister for Industries replaces the Hon'ble Minister for Finance
Part (B) States—	
The Hon'ble Minister for Educatoin, Mysore	replaces Syed Ali Akbar, Director of Public Instruction, Mysore
Shri N. C. Chakravarty } Shri Bhaironath Jha }	replace The Hon'ble Minister for Education, Madhya Bharat
The Principal, Engineering College, Pilani	replaces Major D. L. Deshpande
The Director of Education, Jammu and Kashmir	replaces Education Commission, Baroda
All-India Organisation of Industrial Employers	Shri P. N. Sinha } Shri B. B. Josii } replace Shri M. A. Master Dr. K. A. Hameid
Federation of Indian Chamber of Commerce and Industry	Shri M. P. Gan- } dhiu .Shri } replace Shri K. D. Jalan K. C. Munshaw } Shri Sri Ram
Indian National Trade Union Congress	Shri N. M. Sheikh and Shri Nirmal Kumar Sen are additional nominees
Central Advisory Board of Education	Dr. Mata Prasad } Shri B. H. Zaidi } replace Sardar Bahadur Ujjal Singh, Shri S. M. Azam
Institution of Engineers (India)	Dr. Shiv Narayan } Shri N. K. Mitra } replace Shri N. V. Modak Shri C. E. Preston
Indian Institute of Architects	Shri C. M. Master replaces Shri H. N. Dallas
Indian Chemical Society	Dr. P. C. Mitter replaces Dr. B. C. Guha

2. The present composition of the Council is as follows :

Chairman	1. Shri 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 India

Ministry of Agriculture	3. Prof. J. N. Mukerjee, Director, Indian Agricultural Research Institute, New Delhi.
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- Ministry of Commerce . . . 4. Shri S. Ranganathan, I.C.S., Joint Secretary, Ministry of Commerce, New Delhi.
- Council of Scientific and Industrial Research. . . 5. Dr. S. S. Bhatnagar, 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. Shri P. M. Menon, I.C.S., Joint Secretary, Ministry of Health, New Delhi.
- Ministry of Industry and Supply. . . 8. Shri S. Boothalingam, 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. Dr. N. Das, I.C.S., D.G.R. & E., Ministry of Labour, New Delhi.
- Ministry of Communications 11. Shri T. P. Bhalla, Director General of Civil Aviation, New Delhi.
- Ministry of Railways . . . 12. Shri F. C. Badhwar, Member, Railway Board.
- Ministry of Defence . . . 13. Secretary, Ministry of Defence, New Delhi.
- Ministry of Works, Mines and Power. 14. Shri M. P. Pai, 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.
- Parliament of India . . . 18. Nawab Mohammad Ismail Khan, 210-A, Sardar Bazar, Mustafa Castle, Meerut.
- . . . 19. Dr. Panjabrao Shamrao Deshmukh, Amraoti.
- . . . 20. Shri Biswanath Das, Hospital Road, Berhampore, District Ganju, B.N. Railway, Orissa.
- . . . 21. Pandit Lakshmi Kanta Maitra, P.O. Krishnagar, West Bengal.

22. Prof. Yashwant Rai, House No. 285, Pucca Bagh, G.T. Road, Jullundur City.

State Governments (A)

- Government of Madras 23. The Hon'ble Minister for Education, Madras.
- Government of West Bengal 24. The Hon'ble Minister for Education, West Bengal or his nominee.
- Government of Bombay 25. Joint Director of Technical Education, Bombay.
- Government of Bihar 26. The Director of Industries, Bihar.
- Government of Assam 27. The Hon'ble Premier of Assam
- Government of Orissa 28. Dr. B. H. Mahanti, M.Sc., Ph.D., Additional Secretary, Development Department, Government of Orissa, Cuttack.
- Government of Punjab 29. The Hon'ble Minister for Industries, Punjab.
- Government of Uttar Pradesh 30. The Hon'ble Minister for Industries, Uttar Pradesh, or his representative.
- Government of Madhya Pradesh 31. Dr. V. S. Jha, Secretary, Department of Education, C.P. and Berar, Nagpur.

State Governments (B)

- Mysore 32. The Hon'ble Minister for Education, Mysore.
- Saurashtra 33. Shri Naresh Chandra Chakravarty, Principal, Technical Institute, Morvi.
- Madhya Bharat 34. Shri Bhaironath Jha, Director of Education, Madhya Bharat, Indore.
- Rajasthan 35. The Principal, Engineering College, Pilani.
- Jammu and Kashmir 36. The Director of Education, Jammu and Kashmir, Srinagar.

Industry, Commerce and Labour

- Associated Chambers of Commerce of India, Calcutta. 37. Mr. J. A. Murray, c/o Jardine Skinner and Co., Calcutta.
38. Mr. T. G. May, c/o The General Electric Co. (India), Magnet House, Chittaranjan Avenue, Calcutta.
- All-India Organisation of Industrial Employers, New Delhi. 39. Shri P. N. Sinha, c/o M/s Birla Bros. Ltd., 8, Royal Exchange Place, Calcutta.
40. Shri B. B. Joshi, c/o Federation of Baroda State Mills and Industries, Baroda.

- Federation of Indian Chambers of Commerce and Industry, New Delhi. 41. Prof. M. P. Gandhi, c/o Gandhi & Co., Jain Mansion, Sir Pherozshah Mehta Road, Fort, Bombay.
42. Shri K. C. Munshaw, c/o Shri Ram Krishna Mills, Co., Railwayपुरa, Ahmedabad.
- Indian National Trade Union Congress. 43. Shri Harihar Nath Shastri, Kanpur.
44. Shri Noor Mohammed Sheikh, Secretary, Textile Labour Association, Gandhi Majoor Savalay, Ahmedabad.
45. Shri Nirmal Kumar Sen, c/o B.P.N.T. U.C., 115/2, Dharmtalla St., Calcutta.
- Employer's Federation of India, Bombay. 46. Shri G.V. Apte, Superintendent of Training, The Tata Iron and Steel Co., Ltd., Jamshedpur (via Tatanagar).
47. Dr. K. Venkataraman, D.Sc., Director Department of Chemical Technology, Bombay University, Matunga, Bombay.
- All-India Trade Union Congress. 48. Shri V. Chakkarai Chettair, Vice-President, A.I.T.U.C., Sarafali Mansion, Broadway, Madras, G.T.
49. Vacant.
- The Hind Mazdoor Sabha . 50. Kumari Maniben Kara, 7, Huges Road, Cumbala Hills, Bombay.
51. Shri J. N. Mitra, 22-B, Southern Avenue, Kalighat, Calcutta.
- All-India Railwaymen's Federation. 52. Shri S. Guruswami, General Secretary, All-India Railwaymen's Federation, Mylapore, Madras.
- Central Advisory Board of Education. 53. Dr. Mata Prasad, Principal, Royal Institute of Science, Bombay.
54. Shri B. H. Zaidi, Chief Minister, Rampur State, Rampur.
- Inter-University Board (India) 55. Dr. A. L. Mudaliar, Vice-Chancellor, Madras University.
56. Pandit Govind Malaviya, Vice-Chancellor, Banaras Hindu University, Banaras.
- Association of Principals of Technical Institutions (India). 57. Dr. S. R. Sen Gupta, Principal, Bengal Engineering College, Sibpur, Howrah.
58. Shri P. N. Joshi, Principal, Victoria Jubilee Technical Institute, Matunga, Bombay
- Institution of Engineers (India). 59. Dr. Shiv Narayan, 978, Naiwara, Delhi.
60. Shri N. K. Mitra, 16, Hindusthan Road, Rash Behari Avenue, Calcutta.

- Indian Institute of Architects 61. Shri C. M. Master, 34-38, Hamam Street, Fort, Bombay.
- National Planning Service Committee. 62. Prof. K. T. Shah, Secretary, National Planning Service Committee, Bombay.
63. Dr. J. C. Ghosh, Director-General of Industry and Supply, New Delhi.
- Indian Chemical Society, Calcutta. 64. Dr. P. C. Mitter, Calcutta.
- Nominees of the Government of India. 65. Sir Fazal Ibrahim Rahimtoola, Ismail Building, Hornby Road, Bombay.
66. Dr. A. H. Pandya, 'Kumkum', 50-A, Pedder Road, Bombay.
- Secretary Shri G. K. Chandiramani, B.E., A.M.I.E., Deputy Educational Adviser to the Government of India (Technical), Ministry of Education, New Delhi.

ITEM No. 3.—*To receive the minutes of the eighth and the ninth meetings of the Coordinating Committee held on the 12th January, 1950 and the 8th May, 1950, respectively.*

Eighth Meeting

The eighth meeting of the Coordinating Committee of the All-India Council for Technical Education was held at Calcutta on the 12th January, 1950. The following are the main decisions or recommendations of the Committee :

1. A Sub-Committee consisting of the following was appointed to consider the question of establishment of a National Technical University in India:—

1. Dr. J. C. Ghosh (Convener)
2. Shri M. P. Gandhi
3. Shri A. N. Khosla
4. Shri N. K. Mitra
5. Dr. S. R. Sen Gupta
6. Shri J. A. Taraporewala
7. Shri G. K. Chandiramani (Secretary)

The report of the above Committee is placed before the Council separately under item No. 9.

2. The Committee approved of certain panels of experts to be associated with Selection Committees of the Victoria Jubilee Technical Institute, Bombay, and the College of Engineering, Jadavpur, for the selection of professors.

3. The Committee appointed a small Sub-Committee consisting of Shri J. A. Taraporewala and the Secretary of the Council to visit the Engineering College, Annamalai University, with a view to ascertaining if the expenditure incurred by the institution since the last visiting committee was there could be considered as adequate contribution by the University to cover one-third of the cost of development from that date.

4. In accordance with the terms and conditions of grants to non-university institutions the Committee requested the Central Government to appoint visiting committees consisting of two members to visit the College of Engineering and Technology, Jadavpur, and the Victoria Jubilee Technical Institute, Bombay, with a view to reporting to the Council whether the grants given have been properly utilised and also whether proper standards of teaching and examination have been maintained.

5. The Committee fixed the quotas for admission of extra State students to the institutions receiving grants from Central Government on the recommendation of the Council.

6. The Committee considered the question of grants to new non-Government institutions and to Government institutions which have been established and which on account of the stoppage of development grants from the Central Government would not receive the assistance of that Government through the State Governments. The Committee was of the considered opinion that both Government and non-Government institutions should be entitled to receive consideration for direct grants from the Central Government for development. The Committee also laid down the types of institutions for which the Council may make recommendations to the Government :

- (i) institutions which have been established for a fairly long time and require assistance for improvement and strengthening ; and
- (ii) new institutions which obtained the approval of the Council before coming into existence.

In order to ensure coordinated development and to see that institutions are started only to meet the requirements of the country, the Committee resolved that any institution desiring to come into existence should first submit its scheme to the Council and obtain its approval before it can be entitled to consideration for grants from Government. The Committee examined the requests of the following colleges for assistance and decided not to recommend any grants to them :

1. Madras Institute of Technology, Chrompet
2. National Institute of Engineering, Hoshiarpur
3. New Engineering College, Sangli
4. B. V. Bhoomraddi College of Engineering and Technology, Hubli
5. College of Engineering, Ahmedabad.

7. The Committee appointed a Sub-Committee consisting of the following to consider the question of nomenclature of the various posts and their salary scales in engineering and technological institutions :

1. Dr. Tara Chand (Chairman)
2. Dr. J. C. Ghosh
3. Shri J. A. Taraporewala
4. Shri G. K. Chandiramani (Secretary)

The report of the Sub-Committee is separately placed before the Council under Item No. 8 of this agenda.

8. On the question of training in Refrigeration and Air-Conditioning the Committee expressed the view that the subject may be introduced as an elective in the Mechanical Engineering course and that for the training of operators for maintenance and servicing the Directorate General of Resettlement and Employment and the State Governments should be asked to organise facilities.

9. The Committee endorsed the views of the All-India Boards of Technical Studies in Commerce & Business Administration and Engineering and Metallurgy that it would not be in the best interests of maintaining proper standards of education to permit private candidates to appear for the All-India Examinations.

10. The Committee was of the view that provision of courses in Agricultural Engineering deserves immediate attention and referred the matter to the All-India Board of Technical Studies in Engineering for consideration and report.

11. The Committee resolved that the attention of the State Governments and universities be drawn to the all-India courses and in particular to the special feature regarding part-time instruction provided therein. It was further resolved that Governments and universities should be requested to take tangible action with a view to popularising the courses.

12. The Committee approved the revised examination scheme for Intermediate and the All-India Diploma Courses in Architecture as recommended by the Board.

13. The Committee accepted the recommendations of the All-India Board of Technical Studies in Engineering and Metallurgy that no special arrangements need be made for preparing C.P.W.D. employees for the All-India Examinations in Engineering and that the normal rules of the Diploma scheme should apply to them; and further in view of the age limit regulations having been since revised, arrangements be made to prepare the employees for the Associate Membership Examination of the Institution of Engineers (India).

14. The Committee decided that the All-India Diploma holders be permitted to use, in recognition of the conferment, an abbreviation, *viz.*, N. D. standing for the words "National Diploma". The Branch of Engineering or Technology in which the Diploma holder has qualified may be indicated within parenthesis after the abbreviation N. D.

15. The Committee referred the question of training in Industrial Safety Engineering to the All-India Board of Technical Studies in Chemical Engineering and Chemical Technology for examination and report.

16. The Committee appointed a Sub-Committee consisting of the following to consider the question of training within industry and to formulate a concrete scheme :

1. Dr. J. C. Ghosh (Chairman)
2. Shri M. P. Gandhi
3. Shri B. B. Joshi
4. Kumari Maniben Kara
5. Shri J. A. Taraporewala
6. A representative of the Ministry of Labour
7. Shri G. K. Chandiramani (Secretary)

17. The Committee approved of a new scheme of examination for the All-India Diploma in Electrical Engineering.

18. The Committee decided to recognise the Diplomas awarded by the Boards of Technical Studies working under the aegis of the Association of Principals of Technical Institutions (India) prior to their being taken over by the Council; and further recommended to the Government that the recognition accorded to the Council's Diploma for entry into the Central Services may be extended to the A.P.T.I. Diploma.

Ninth Meeting

19. At its ninth meeting held at Puri on the 8th May, 1950, the Coordinating Committee considered the present agenda for the fifth meeting of the Council and made recommendations regarding the various items. On some of the items the Coordinating Committee also took decisions. The recommendations or decisions of the Coordinating Committee on each item are given in italics at the end of each item of the agenda.

The Coordinating Committee also considered the following items :

- (i) It was reported to the Committee that Mr. V. Narahari Rao had resigned the Chairmanship of the All-India Board of Technical Studies in Commerce and Business Administration and had therefore ceased to be a member of the Coordinating Committee. The Committee nominated Mr. A. P. Benthall of Calcutta in his place. If for any reason Mr. Benthall did not accept, Shri da Costa, Editor, Eastern Economist, would take his place.
- (ii) In order to facilitate flow of students from outside institutions to institutions affiliated to the All-India Council for Technical Education for pursuing the All-India Courses it was considered desirable to frame migration rules governing the migration of such students to institutions affiliated to the Council. Towards this end the Committee adopted the following migration rules :
 1. When a student of another university or institution desires to migrate to an institution affiliated to the All-India Council for Technical Education to pursue an All-India Course, the particular stage of the course to which he may be admitted shall in all cases be decided by the relevant All-India Board of Technical Studies, except when the student wishes to join the first year of the course. In the latter case, the minimum admission qualification, etc., laid down for the course shall apply.
 2. Every student thus migrating shall produce :
 - (a) a Leaving or Transfer Certificate signed by the Principal of the last institution and certifying to the satisfactory conduct of the student and mentioning the highest examination he has passed, and
 - (b) a certified copy of all the entries against his name in the Enrolment Register of his university or institution.

3. A Migration Fee of ten rupees shall be paid by the student while he is admitted to the institution affiliated to the All-India Council for Technical Education.

(iii) In pursuance of the decision of the Coordinating Committee taken at its meeting held on the 12th January, 1950, the College of Engineering, Jadavpur and the Victoria Jubilee Technical Institute, Bombay, were requested to submit the reports of the Selection Committees to the Central Government before actually making appointments. In view, however, of the difficulties in this behalf explained by the Principal, Victoria Jubilee Technical Institute, Bombay, the Committee decided that the reports of the Selection Committees should be sent to the Government of India, which will send their comments within a month of the receipt of the report.

ITEM No. 4.—*To receive a report on the action taken on the various recommendations of the Council and the Coordinating Committee.*

A. Membership of the Council

At its meeting held on the 28th April, 1949, the Council considered the question of giving enhanced representation to the Indian National Trade Union Congress and the Chairman had assured that the claims of that organisation for greater representation would be given due consideration. The number of seats allotted to that organisation has now been increased from one to three.

B. Membership of the Coordinating Committee

2. The constituency comprising the State Governments of the Southern region consists of two members only, *viz.*, the Hon'ble Minister for Education, Madras, and the Hon'ble Minister for Education, Mysore. The question of representation of this constituency on the Coordinating Committee has not yet been settled on account of the desire of both the Governments for representation on the Committee. The reconstituted Committee is, therefore, as follows :

- (1) Shri N. R. Sarker, 237, Lower Circular Road, Calcutta (Chairman)
- (2) Dr. Tara Chand, M.A., D.Phil., Educational Adviser to the Government of India (Ex-officio)
- (3) Chairman of the All-India Board of Technical Studies in Commerce and Business Administration, Auditor General of India, Simla (Ex-officio)
- (4) Dr. H. L. Roy, Chairman of the All-India Board of Technical Studies in Chemical Engineering and Chemical Technology, c/o College of Engineering and Chemical Technology, Jadavpur, 24 Parganas (West Bengal) (Ex-officio)

- (5) Shri N. K. Mitra, Chairman of the All-India Board of Technical Studies in Engineering and Metallurgy, 16, Hindusthan Road, Rash Behari Avenue, Calcutta (*Ex-officio*)
- (6) Shri V. N. Chandavarkar, Chairman of the All India Board of Technical Studies in Textile Technology, c/o N. Sirur and Co., Ltd., 70, Forbes Street, Fort, Bombay (*Ex-officio*)
- (7) Shri. C. M. Master, Chairman of the All-India Board of Technical Studies in Architecture and Regional Planning, 34-38, Hamam Street, Fort, Bombay (*Ex-officio*)
- (8) Shri Rathindra Nath Tagore, Chairman of the All-India Board of Technical Studies in Applied Art, Shantiniketan, West Bengal (*Ex-officio*)
- (9) Shri A. N. Khosla, Chairman of the Central Water, Power, Irrigation and Navigation Commission, Curzon Road, New Delhi (Government of India)
- (10) Dr. P. S. Deshmukh, M.P., Amraoti (Parliament of India)
- (11) Joint Director of Technical Education, Bombay State, Bombay (Representative of Parts A and B States of Western region)
- (12) Vacant (Representative of Parts A and B States of Southern region)
- (13) The Hon'ble Minister for Education, West Bengal, Calcutta (Representative of Parts A and B States of Eastern Region)
- (14) Principal, Engineering College, Pilani (Rajasthan) (Representative of Parts A and B States of Northern Region)
- (15) Shri M. P. Gandhi, c/o Gandhi, and Co., Jain Mansion, Sir Pherozshah Mehta Road, Fort, Bombay (Employers)
- (16) Kumari Maniben Kara, Hughes Road, Cumbala Hill, Bombay (Employees)

- (17) Pandit Govind Malaviya, Vice-chancellor, Banaras Hindu University, Banaras (Central Advisory Board of Education and Inter-University Board)
- (18) Dr. S. R. Sen Gupta, B.Sc. (Glas.), Ph.D. (Glas.), Principal, Bengal Engineering College, Sibpur, Howrah (Professional Associations)
- (19) Dr. A. H. Pandya, 'Kumkum', 50-A, Pedder Road, Bombay (Nominee of the Chairman)
- (20) Dr. J. C. Ghosh, D.Sc., F.N.I., Director General of Industry and Supply, New Delhi (Nominee of the Chairman)

RECOMMENDATION OF THE COORDINATING COMMITTEE

The Coordinating Committee at its meeting held on the 8th May, 1950, recommended to the Council the following addition to the resolution passed by the Council at its 1st meeting held in April/May, 1946 in regard to the constitution and functions of the Coordinating Committee—

'For election from a particular constituency to the Coordinating Committee, in the event of a tie the Chairman shall decide as to who shall represent the constituency.'

C. Regional Committees

3. Two Special Officers have been appointed by the Government for the Regional Offices which have commenced functioning at Calcutta and Bombay. Steps will be taken shortly to constitute regional committees as recommended by the Council.

D. Higher Technical Institutions

Eastern Higher Technical Institute

4. In order that the Institute may start functioning effectively at an early date, the Central Government have set up a Board of Governors for the Institute to execute the project and to administer the Institute under the general direction and control of the Central Government.

The Board consists of :

1. Dr. B. C. Roy, Chief Minister, West Bengal (Chairman)
2. Mr. J. J. Ghandy, Resident Director-in-charge, TISCO, Jamshedpur (Member)
3. A nominee of the A.I.C.T.E. (Shri N. R. Sarker) Do.
4. A representative of the Ministry of Education (Dr. Tara Chand) Do.
5. A representative of the Ministry of Finance (Shri Brij Narayan) Do.
6. Director General of Industry and Supply Do.
7. Director, Eastern Higher Technical Institute Do

The Board held its first meeting on the 1st March, 1950.

5. Dr. J. C. Ghosh, D.Sc., F.N.I. has been appointed as Director of the Institute and he has assumed charge of his duties on the 1st May, 1950.

A Selection Committee was constituted by the Government in September, 1949 to interview suitable candidates in the United Kingdom and on the Continent of Europe for appointment as professors at the Institute. The Committee have recommended seven eminent scientists for appointment. One of these (Dr. E. Weingartner) has already joined as Head of the Department of Chemical Engineering. Others are expected to take up their posts soon.

6. Arrangements have been made for renovating the existing buildings on the site of the Institute and preliminary plans for permanent buildings have been drawn up. Plans have also been prepared for the development of the site and for providing the necessary amenities.

7. An officer of the Ministry of Education was placed on special duty at Calcutta to acquire equipment from surplus stores with the Directorate General of Disposals and the Directorate of German Reparations Machinery. Considerable amount of useful equipment, especially for workshops and laboratories, has been obtained.

E. Craftsmen Training Scheme

8. Two schemes of technical training were in operation under the aegis of the Ministry of Labour (D.G.R.E.), one for displaced persons and the other for ex-servicemen. The scheme for the displaced persons has terminated and that for the ex-servicemen is due to terminate shortly. In place of the two schemes, the Central Government have introduced a scheme for the technical and vocational training of adult civilians. This scheme is modelled on the lines recommended by the Advisory Committee on Technical Training except that admissions will be confined for the present to adult civilians instead of to juveniles and that in addition to engineering and building trades, facilities will be provided for training in cottage and small-scale industries. The training will cover two years and consist of two stages. The first stage of 18 months will be spent in a training centre and the second of six months in an industrial undertaking or in the centre itself as may be convenient. It is proposed to utilise the facilities available for practical training in organised industries and government-owned workshops and factories for the training of craftsmen. The scheme envisages training facilities for 10,000 persons of which approximately 7,000 will be for technical trades and the rest for vocational trades.

F. Training of Central P.W.D. Employees

9. The engineering employees of the C.P.W.D. have represented that they should be allowed to take the All-India Diploma examination as private students. The question was considered by the Council at its meeting held on the 22nd April, 1948, and it was decided to refer the matter to the All-India Board of Technical Studies in Engineering and Metallurgy for examination. The recommendations of the Board were reported to the Coordinating Committee and considered on the 12th January, 1950. This may be referred to under item No. 3, Para. 13, of the agenda.

G. *Private Candidates and All-India Examinations*

10. At the last meeting of the Council held at Calcutta in April, 1949, a view was expressed that private candidates should be permitted to take the All-India examinations. The Council decided to obtain the comments of the Boards of Technical Studies in the matter. The All-India Boards of Technical Studies in Commerce and Business Administration, and Engineering and Metallurgy considered the question and advised against such a course on the ground that it would not be in the best interests of maintaining proper standards of education to permit private candidates to appear for the All-India examinations. The Coordinating Committee have endorsed the views of the Boards.

ITEM No. 5.—*All-India Boards of Technical Studies—(a) To receive a note on the activities of the Boards.*

During the period under report the All-India Boards of Technical Studies made considerable progress, specially in connection with the preparation of all-India schemes of Technical education in the various branches of Technology, Commerce and Applied Arts. A brief review of the activities of the Boards is given below :

A. *Meetings*

2. During the period under report meetings of the All-India Boards of Technical Studies in Engineering and Metallurgy, Architecture and Regional Planning, Commerce and Business Administration, Chemical Engineering and Chemical Technology, Textile Technology and their various Sub-Committees were held. Visiting committees, appointed to consider the question of affiliation of institutions to the All-India Council for Technical Education, also met at various places to carry out inspection of the institutions concerned.

B. *Personnel of the Boards*

3. Shri K. D. Jallan, Shri Sri Ram and Shri H. N. Dallas had been appointed by the Council as its representatives on the following Boards :

1. Shri K. D. Jallan—Commerce and Business Administration.
2. Shri Sri Ram—Textile Technology.
3. Shri H. N. Dallas—Architecture and Regional Planning.

The above gentlemen having ceased to be members of the reconstituted Council also ceased to be members of the respective Boards. The Coordinating Committee at its meeting held on the 12th January, 1950, recommended that the following may be appointed to represent the Council on the All-India Boards as shown against their names :

1. Shri M. P. Gandhi—Commerce and Business Administration Board.
2. Shri J. N. Ray—Textile Technology Board.
3. Shri Ratindra Nath Tagore—Architecture and Regional Planning Board.

With a view to giving immediate effect to the above recommendations of the Coordinating Committee, the approval of the members of the Council was obtained by correspondence and the appointments were confirmed.

4. Mr. H. C. Papworth, representative of the Inter-University Board on the Textile Board has now been replaced by Shri V. K. Nandan Menon, Vice-Chancellor, Travancore University.

5. The Federation of the Indian Chambers of Commerce and Industry have nominated Shri Lakshampat Singhania in place of Shri M. P. Gandhi as a representative on the Board of Technical Studies in Commerce and Business Administration.

6. The Chairman, All-India Council for Technical Education, has appointed Dr. S. K. Sen Gupta as an additional member of the Boards of Technical Studies in Chemical Engineering, Architecture and Regional Planning, and Engineering and Metallurgy.

7. The following changes have also taken place in the composition of the Boards :

1. Shri Kasturiraj Chetty, Vice-Chancellor, University of Mysore replaces Shri S. Mohiuddin on the Chemical Engineering Board.
2. Prof. S. K. Roy replaces Dr. Venkataraman on the Chemical Engineering Board.
3. Dr. Daya Swarup replaces Shri N. N. Sen, and
4. Commander R. K. Hodgkins replaces Commander Daya Shankar on the Engineering and Metallurgy Board.

Consequent on the resignation of Shri V. Narahari Rao from the membership of the All-India Board of Technical Studies in Commerce and Business Administration, the Coordinating Committee at its meeting held on the 8th May, 1950, nominated Shri A. P. Benthall of Calcutta in his place. If for any reasons Shri Benthall did not accept Shri da Costa, Editor, Eastern Economist, would take his place.

C. Courses of Study

Architecture

The Architecture Board has finalised the syllabuses and curricula for the All-India Diploma Course in Architecture and Regional Planning (post-Intermediate standards, i.e., 4th and 5th years). The scheme for the final All-India Diploma Examination in Architecture has also been framed by the Board as well as a revised scheme for the All-India Intermediate Examination. The schemes were approved by the Coordinating Committee at its meeting held on the 12th July, 1949, and have been introduced.

8. In order to meet the requirements for the training of personnel in the various aspects of Regional and Town Planning, the Regional Planning Sub-Committee of the Architecture Board has prepared schemes of training on the following lines :

- (i) Full-time course of a standard equivalent to a degree in Town Planning of five years' duration after Matriculation.
- (ii) Part-time course of approximately three years' duration for engineers and architects.

The full-time course would be in two stages—the first stage being of three years' duration and second of two years'. The first stage of the course would be the same as the course now laid down by the

Board for the All-India Intermediate Examination in Architecture. The two-year post-Intermediate course has been specially devised for training in Regional and Town Planning, and the part-time course for the training of architects and engineers in Regional and Town Planning.

DECISION OF THE COORDINATING COMMITTEE

The Committee decided to refer to the All-India Board of Technical Studies in Architecture and Regional Planning the question of duration of part-time course for engineers and architects with a view to examining the possibility of reducing the course to two years.

9. The above schemes of training are being finalised on the basis of Regional and Town Planning courses available in various universities and institutions abroad.

10. In order that due impetus might be given to architectural education in the country, the Board has prepared a scheme for a typical architectural institution. This scheme would serve as a sort of model plan which the State Governments might adopt for the establishment of architectural institutions in their respective regions. According to the scheme State Governments should establish institutions which should provide training facilities at least up to the All-India Intermediate in Architecture stage and students after completing this stage should go to central institutions where facilities for further training, that is, for the fourth and fifth years of the All-India Diploma Course would be available. The details of the course of training in the state institutions would be the same as of the All-India Intermediate Course in Architecture.

Chemical Engineering and Chemical Technology

11. After a close and thorough examination of what should be the ideal pattern of education in Chemical Engineering and Chemical Technology in the light of modern developments, the All-India Board of Technical Studies in Chemical Engineering and Chemical Technology has evolved a new scheme of All-India Diploma Course. The premise for the scheme is that modern trends in Chemical education and training show that hardly any clear-cut differentiation can be made between training in Chemical Technology and training in Chemical Engineering so far *basic training* in the two subjects is concerned and that one merges into another. The new scheme envisages a four-year course (including practical training) and is divided into two stages, namely,

- (i) the first stage called the "Basic Course" of three years' duration during which necessary training is given in the fundamental sciences, workshop, drawing, general Chemical Technology and principles of Chemical Engineering ;
- (ii) advanced stage or Specialisation Course of one year duration during which training is given either in Chemical Engineering or in one of the several branches of Chemical Technology, such as, technology of oils, paints and pigments, fuels and furnaces, etc.

The new scheme was considered by the Coordinating Committee at its eighth meeting. The Committee while agreeing with the Board that the new scheme should be split up into two parts, *viz.*, "Basic Stage" and the "Specialisation Stage", thought that syllabuses of the

new scheme as prepared by the Board needed some revision, specially with a view to reducing the duration of the entire course from four to three years. It was, therefore, decided to refer the scheme back to the Board for re-examination in the light of certain observations made by the Committee.

Engineering and Metallurgy

12. The Radio Engineering Sub-Committee of the Engineering Board has worked out details of the pattern of employment of technical personnel in the field of Communication Engineering as shown below :

<i>Purpose</i>	<i>Category of Personnel</i>
1. For Research and Development :	Persons with high academic qualifications equivalent to first class university degree in Tele-Communication Engineering.
(a) Radar and Microwave Technique	
(b) Electrical Communication Engineering	
2. For Maintenance and Execution of works	Persons with academic qualifications equivalent to a university degree in Tele-Communication Engineering.
3. Supervision	Persons who have undergone a definite course in Radio Engineering of about two to three years' duration after Matriculation standard.
4. Specific operational duties performed by technicians, such as—	Persons who possess practical training in the specific branches extending over a period of one/two years.
(a) Wireless Operators.	
(b) Servicemen	
(c) Mechanics	

13. It has been decided to prepare schemes of training to meet the requirements of the above pattern of technical personnel.

14. The Board is finalising schemes for the All-India Certificate Courses in Engineering (five years' full-time and five-years' part-time), and has appointed a Specialist Committee to finalise the syllabus for the All-India Diploma Course in Metallurgy. The Board has also prepared the draft curricula and syllabuses for Honours or advanced Diploma Course in Civil, Mechanical and Electrical Engineering. According to this scheme the Advanced Diploma course consists of a certain number of compulsory subjects and an elective and the duration of the course would be about 1,400 hours per session.

RECOMMENDATIONS OF THE COORDINATING COMMITTEE

The Committee considered 1,400 hours per session as excessive and directed the Secretary to bring it to the notice of the All-India Board of Technical Studies in Engineering and Metallurgy.

Commerce and Business Administration

15. The Commerce Board has appointed a Committee to revise the syllabus of the All-India Certificate Course in Commerce and Business Administration. The Board has also decided to reduce the duration of the part-time Diploma Course for those who have taken the All-India Certificate Course in Commerce from four to three years part-time. The decision of the Board was endorsed by the Co-ordinating Committee at its eighth meeting.

16. According to the present All-India Diploma Course in Commerce and Business Administration one year's practical training in approved industrial or commercial organisations is compulsory after training in an institution. In order to define the nature and scope of the practical training the Board had appointed a Practical Training Sub-Committee for preparing detailed schemes of practical training in the various branches of Commerce so that the practical training of students might proceed along right lines and according to a definite plan. With the help of the Committee and other experts the Board has now prepared practical training schemes in Company Law and Secretarial Practice, Advanced Accountancy and Auditing, and Insurance. Practical training schemes in Banking, Road Transport, Water Transport and Rail Transport are under preparation. It has been decided that whenever students are sent out for practical training, the training establishments should be asked to arrange for the training according to the approved schemes of the Board.

17. As regards courses of training for the All-India Advanced Diploma in Commerce equivalent in standard to M. Com. of Indian universities, the Board has decided to defer the question for the present as there are no immediate prospects of introducing such an advanced course at this stage.

Textile Technology

18. Schemes for the All-India Diploma Course in Woollen and Worsted Technology and Silk Technology have been finalised by the experts appointed for the purpose and will be considered by the Textile Board at its next meeting.

Applied Arts

19. The comprehensive scheme of training in the various branches of Applied Arts and Crafts as framed by the Board and reported to the Council at its last meeting has been circulated to all State Governments, Art institutions in the country and Art experts, for their comments and suggestions for improvement. The comments and suggestions received from various sources will be considered by the Board at its next meeting.

D. Examinations

20. The following All-India Diploma and Certificate Examinations were held in April/May, 1949 :

All-India Diploma Examinations—

- (i) Electrical Engineering
- (ii) Commerce
- (iii) Chemical Engineering and Technology.

All-India Certificate Examinations—

- (i) Electrical Engineering
(ii) Commerce
(iii) Intermediate Certificate Examination in Architecture

21. An analytical summary of the examinations is given below :

Name of Examination	Examination Centres	No. Appeared	No. Successful		No. Placed in Compartment
			Class I	Class II	

All-India Diploma Examinations

Electrical Engineering	Delhi Polytechnic	65	5	22	17	15	
				44			
Commerce	Alleppy	78	114	..	24	2	35
	Calcutta	10					
	Delhi	17			26		
	Madras	4					
	Mysore	5					
Chemical Engineering	Delhi Polytechnic	14	..	8	2	4	
				10			

All-India Certificate Examinations

Electrical Engineering	Delhi Polytechnic	10	..	2	3	4	
				5			
Commerce	Calcutta	37	44	..	9	..	7
	Delhi	6					
	Mysore	1			9		
Intermediate Exmn. in Architecture	Delhi Polytechnic	38	..	..	17	13
				17			

RECOMMENDATIONS OF THE COORDINATING COMMITTEE

The Committee noted that the results of the All-India Examinations in Commerce had not been satisfactory and desired that the All-India Board of Technical Studies in Commerce should initiate steps to improve the standards of teaching in the affiliated institutions.

22. In addition to the above a supplementary examination for the All-India Diploma in Electrical Engineering, according to the old syllabus, was also held in January, 1950. The results of this Examination were as follows :

Name of Examination	Examination Centre	No. Appeared	No. Successful		No. Placed in Compartment
			Class I	Class II	
Supplementary Examination in Electrical Engineering	Delhi Polytechnic	21	3	12	2
			15		

23. Due to various difficulties some of the Boards of Technical Studies had recommended that the present system of examinations, namely, appointment of two independent examiners for valuation of each examination paper should be discontinued and that each paper should either have one examiner or the paper should be divided into two sections and each section should have one examiner. The Co-ordinating Committee at its eighth meeting considered the suggestion and decided that the existing system should continue for the time being.

E. *Affiliation of Institutions* *Commerce*

24. The Visiting Committees appointed for the following institutions :

1. Delhi Polytechnic, Delhi
2. The City College, Calcutta
3. Government Commercial Institute, Calcutta
4. Y.M.C.A. College of Commerce, Madras
5. S. D. College, Alleppey
6. Champion Metropolitan College of Commerce, Mysore
7. Purison College of Commerce, Ludhiana

inspected the institutions concerned to report to the Board on the desirability or otherwise of granting permanent affiliation to the institutions to the All-India Council for Technical Education for conducting All-India Diploma and Certificate Courses in Commerce and Business Administration. The reports of the Committees will be considered by the Board at its next meeting.

Textile Technology

25. A Visiting Committee appointed by the Board inspected the Textile Technology Department of the Delhi Polytechnic to consider the question of affiliation of the institution to the All-India Council for Technical Education for conducting the All-India Diploma Course in Textile Technology.

Engineering

26. To report to the Board on the desirability or otherwise of granting affiliation to the Government Engineering College, Jubbulpore, a Visiting Committee inspected the institution on the 1st March, 1950. The report of the Committee is under the consideration of the Board.

Architecture and Regional Planning

27. The Bengal Engineering College, Sibpur, has been granted provisional affiliation to the All-India Council for Technical Education for conducting All-India Courses in Architecture and Regional Planning.

F. Training in Refrigeration and Air-conditioning

28. The subject of training in Refrigeration and Air-conditioning was considered by the Engineering Board at its meeting held on the 21st September, 1949. The Board noted that courses of training in Refrigeration and Air-conditioning were available at the College of Engineering and Technology, Jadavpur, and Bengal Engineering College, Sibpur, where the subjects were taught as electives in the Mechanical Engineering degree course. The general principles of the subjects are also being taught as part of the Heat Engine's course in all Engineering Colleges. The Board also noted that provision had been made for advanced training in the subjects at the proposed higher technical institutions. The Board was of the considered view that when the higher technical institutions were fully established according to plan, the bulk of the requirements for trained personnel in the field could be met. Meanwhile, the attention of the Engineering institutions in the country should be drawn to the desirability of either introducing Refrigeration and Air-conditioning as an elective subject in the Mechanical and Electrical Engineering courses or providing for advanced training in the subject at post-graduate stage in the colleges. In this connection the views of the institutions should be sought on the two courses suggested. The Board was also of the opinion that certain limitations in respect of equipment, teachers, etc., might under the existing circumstances in the country operate against immediate introduction of courses of training in all the institutions, and, therefore, the development of training facilities would have to proceed in stages according to the resources of the institutions concerned. In consideration of this situation the Board recommended that it would be best in the initial stages if the necessary training facilities were organised in two or three selected institutions on regional basis.

29. As regards the training of operators for the maintenance, servicing, etc., of refrigeration and air-conditioning plants, the Board was of the view that the necessary training facilities could best be provided through the Ministry of Labour under their Technical Training Programme. It was recommended that this aspect of the question should be referred to the Ministry of Labour (Directorate General of Resettlement and Employment) for examination and necessary action.

30. The above recommendations of the Board were considered by the Coordinating Committee at its eighth meeting. The Committee endorsed the views held by the Board, with the modification that Refrigeration and Air-conditioning may be introduced as an elective

in the basic course in Mechanical Engineering and that, for the training of operators for maintenance and servicing the Directorate General of Resettlement and Employment and the State Governments should be requested to organize necessary facilities.

G. Part-time Instruction for C.P.W.D. Employees for the All-India Diploma Courses

In view of the recent relaxation in the rules and regulations governing the Associate Membership Examination of the Institution of Engineers (India), specially in respect of age limit of candidates, the Engineering and Metallurgy Board recommended that part-time instruction for C.P.W.D. employees should be organised in the Delhi Polytechnic, Delhi, for the Associate Membership Examination of the Institute of Engineers (India) rather than for the All-India Diploma in Engineering. The Coordinating Committee at its eighth meeting endorsed the recommendation of the Board.

H. Private Candidates and All-India Examinations

32. At the instance of the All-India Council for Technical Education the All-India Boards of Technical Studies in Commerce and Business Administration, and Engineering and Metallurgy, examined the question whether or not students who have not undergone instruction for the All-India Diploma courses at an affiliated institution either on part-time or full-time basis be permitted to appear for the All-India Diploma Examination. It was the unanimous opinion of all the Boards that it would not be in the best interests of maintaining proper standards of technical education in the country to permit such candidates to appear for the All-India examinations.

All-India Boards of Technical Studies

ITEM No. 5(b).—*To consider the suggestion that an annual convocation be held for the conferment of All-India Diplomas on successful candidates.*

It has been suggested that with a view to popularising the All-India schemes, an annual convocation be held for the conferment of the All-India diplomas on successful candidates. In support of this suggestion, it is argued that the prevailing system of issuing diplomas without any ceremonial touch does not suit an educational attainment represented by the All-India Diplomas, which are as high in standard as degrees awarded by universities.

2. The above suggestion is placed before the Council for consideration.

RECOMMENDATIONS OF THE COORDINATING COMMITTEE

The Committee recommended that the affiliated colleges may arrange to make formal awards of Diplomas and Certificates on their respective college days.

ITEM No. 6.—*Scheme for the strengthening of Engineering and Technological Institutions.*

(a) *To receive a note on the progress of the scheme*

It was reported at the last meeting of the All-India Council for Technical Education that during 1947-48 and 1948-49, nine out of the fourteen institutions recommended by the Council for grants and loans from Central Revenues had received such grants and loans and the cases of the remaining five institutions, *viz.* the College of Engineering and Technology, Muslim University, Aligarh, the Technical College, Dayalbagh, Agra, the Department of Chemical Technology, University of Bombay, the College of Technology, Banaras Hindu University and the College of Engineering, Annamalai University, were under consideration of the Government.

It has since been decided to give altogether the following grants to four of the above institutions :

(i) *College of Engineering and Technology, Muslim University, Aligarh.*

(a) <i>Capital Grant</i>	Rs.
(i) For college buildings	4,69,000
(ii) For equipment	10,80,000
(b) Ultimate recurring grant	2,42,000

The condition regarding meeting of one-third the total cost of development has been waived.

(ii) *Technical College, Dayalbagh, Agra.*

(a) <i>Capital Grant</i>	
(i) For college buildings	3,12,000
(ii) For equipment	7,24,000
(b) Ultimate recurring grant	1,16,000
(c) Interest-free loan for construction of a hostel repayable in 33 instalments	2,10,000

(iii) *Department of Chemical Technology, University of Bombay.*

(a) <i>Capital Grant</i>	
(i) For college buildings	4,00,000
(ii) For equipment	5,50,000
(b) Ultimate recurring grant	1,00,000
(c) Interest-free loan for construction of students' hostel repayable in 33 instalments	2,29,000

(iv) *College of Technology, Banaras Hindu University.*(a) *Capital Grant**Department of Chemical Technology*

(i) For college buildings	1,12,000
(ii) For equipment	3,25,000

<i>Department of Pharmaceutics</i>	Rs.
(i) For college buildings	50,000
(ii) For equipment	1,57,000
 (b) <i>Ultimate recurring grant</i>	
(i) For Department of Chemical Technology	91,000
(ii) For Department of Pharmaceutics	51,000
Interest-free loan for construction of a students' hostel repayable in 33 instalments.	2,11,000

The university has introduced a four-year course in Chemical Engineering as advised by the Council.

2. The Annamalai University had requested that the condition requiring it to meet from other sources one-third of the total cost of development of its Engineering College as recommended by the All-India Council for Technical Education be waived and the present sources of revenues at the university in the shape of fees and State subsidies and the capital expenditure already incurred be taken as sufficient contribution by the university. The matter was referred to the Coordinating Committee at its eighth meeting held on the 12th January, 1950. The Committee has appointed a small Visiting Committee to report to the Government whether the expenditure incurred by the institution since the report of the last Visiting Committee could be considered as an adequate contribution of the university to cover one-third cost of development. The Visiting Committee is expected to inspect the institution shortly.

3. It has been decided that the capital grant for a year will be sanctioned for payment in advance in two instalments in May and November, on receipt of the following information :

(a) *To be furnished in April*

Statements from or under the authority of the body in administrative charge of the institution showing :

- (i) unspent balances of previous advances on hand and the anticipated expenditure on buildings and equipment during the half year ending on 30th September; and
- (ii) the actual expenditure during the preceding half year and the progressive total.

(b) *To be furnished in October*

- (i) A copy of the audited accounts of the preceding year ending on 31st March showing the expenditure on buildings and equipment under the development scheme.
- (ii) A statement from or under the authority of the body in administrative charge of the institution showing (a) the expenditure actually incurred during the preceding half

year ending on the 30th September and the progressive total and (b) the unspent balance of previous advances on hand and the estimated expenditure for the rest of the financial year on building and equipment.

4. The recurring grant for each financial year is proposed to be sanctioned during December on receipt of the following information :

- (a) Number of students admitted to the various classes and on the rolls in the sections for which grant is made.
- (b) Audited statement of accounts showing the actual recurring expenditure for the preceding year on permissible items of expenditure and all receipts of the institution.
- (c) A detailed statement from or under the authority of the body in administrative charge of the institution showing :
 - (i) the estimated recurring expenditure of the year ;
 - (ii) the actual expenditure for the first six months, i.e., April to September ; and
 - (iii) the anticipated receipts for the year from fees, benefactions, grants from State Government, etc., and from all other sources from which the recurring expenditure of the institution was being met before the commencement of the scheme.

Until the teaching facilities of the institution are fully improved and expanded, a suitable amount of grant will be sanctioned after considering the progress made after scrutinising the statements mentioned above.

Payments made in any year on account of recurring grants will be treated as advance payments adjustable on the basis of the actual net excess of permissible expenditure over income from all sources if the actual net excess is less than the amounts paid as advances. The adjustments, when required, will be made while making payment of the grant for the following year.

RECOMMENDATIONS OF THE COORDINATING COMMITTEE

The Committee noted the procedure regarding payment of recurring grants to the institutions and strongly recommended that the adjustment on the basis of actual expenditure should not be one-sided and that the institution concerned should be entitled to receive an additional grant in the following year if the admissible expenditure was found to exceed the total resources including the grant actually made by the Government.

The Committee expressed itself in favour of making block grants on the basis of average salaries and was against making grants based on actual expenditure. The Committee was of the view that if the latter basis was adopted, the limit of grants already communicated to the institutions would require to be revised in the upward direction.

5. The following grants and loans have been sanctioned for the year 1949-50 subject to the usual conditions:

Name of Institution	Non-Recurring Grant		Recurring Grant	Interest-free Loan
	For Build-ings	For Equip-ment		
1. College of Engineering & Technology, Jadavpur .	Rs. 8,000	Rs. 1,87,000	Rs. 4,00,000	Rs. ..
2. Victoria Jubilee Technical Institute, Bombay .	..	..	1,02,000	..
3. College of Engineering, Banaras Hindu University .	..	..	1,70,000	..
4. College of Mining & Metallurgy, Banaras Hindu University .	40,000	1,48,000	1,00,000	..
5. College of Technology, Banaras Hindu University				
(i) Deptt. of Chemical Technology .	22,000	16,000	18,000	..
(ii) Deptt. of Pharmaceutics .	10,000	8,000	10,000	..
6. College of Science & Technology, Calcutta Univ.				
(i) Deptt. of Applied Physics .	75,000	..	10,000	..
(ii) Deptt. of Radio Physics & Electronics .	1,67,000	50,000	12,000	..
7. Deptt. of Applied Chemistry, College of Science & Technology, Calcutta University .	1,00,000	..	62,000	..
8. Alagappa Chettiar College of Technology, Madras University (Chemical Technology Deptt.) .	1,82,000	73,000	22,000	..
9. Jeypore Vikram Deo College of Science & Technology, Andhra University .	..	..	40,000	..
10. Dayalbagh Technical College, Agra .	20,000	..	..	..
11. College of Engg. & Technology, Muslim University, Aligarh .	1,56,000	54,000	52,875	..
12. Deptt. of Chemical Technology, Bombay University .	1,30,000	27,000	..	51,000
TOTAL .	9,10,000	5,63,000	9,98,875	51,000

Some of the institutions had large unspent balances in hand from previous year's capital grants for buildings and equipment. Consequently no further capital grants were sanctioned for them.

6. No grant was given during the year to the Luxminarayan Institute of Technology, as the University of Nagpur had expressed its inability to comply with the conditions of grant due to certain legal difficulties in the way of admitting non-Hindu and non-State students to the institution. On a reconsideration of the matter, the university has now agreed to comply with all the conditions and has asked for continuance of the grant-in-aid.

ITEM No. 6(b).—*To appoint representatives of the Council on the Advisory Committees of the university institutions receiving grants-in-aid under the scheme.*

Under clause (x) (b) of the conditions for grants adopted by the All-India Council for Technical Education at its third meeting held on the 22nd April, 1948, the Council is to be represented on the advisory committees of technological institutions of universities receiving grant-in-aid from the Centre. Advisory committees or corresponding bodies have been constituted for the following institutions and it is requested that the Council may nominate one representative on each :

- (i) College of Engineering, Banaras Hindu University;
- (ii) College of Mining and Metallurgy, Banaras Hindu University;
- (iii) Alagappa Chettiar College of Technology, Madras University;
- (iv) Jeypore Vikram Deo College of Science and Technology, Andhra University;
- (v) Department of Applied Physics, Calcutta University;
- (vi) Department of Radio Physics and Electronics, Calcutta University;
- (vii) Department of Applied Chemistry, Calcutta University;
- (viii) College of Engineering and Technology, Muslim University, Aligarh;
- (ix) Department of Chemical Technology, Bombay University.

RECOMMENDATIONS OF THE COORDINATING COMMITTEE

The Committee recommended that the following may be appointed as representatives of the Council on the Advisory Committees of university institutions receiving grants.

- | | |
|--|--------------------------|
| (1) College of Engg. Banaras Hindu University | Shri. J. A. Taraporewala |
| (2) College of Mining and Metallurgy, Banaras Hindu University | Dr. S. R. Sen Gupta |
| (3) Alagappa Chettiar College of Technology, Madras | Dr. J. N. Ray |
| (4) Jeypore Vikram Deo College of Technology, Andhra University | Shri. P. N. Joshi |
| (5) Deptt. of Applied Physics, Calcutta University | } Prof. M. S. Thacker |
| (6) Deptt. of Radio Physics and Electronics, Calcutta University | |

- (7) *Deptt. of Applied Chemistry, Calcutta University* Dr. Mata Prasad
- (8) *College of Engg. and Technology, Aligarh Muslim University* Dr. S. S. Bhatnagar
- (9) *Deptt. of Chemical Technology, Bombay University* Dr. J. C. Ghosh

ITEM No. 7—*To consider the activities of the Joint Committee of the Boards on Training in Industrial Administration and Business Management.*

In pursuance of a resolution of the All-India Council for Technical Education at its meeting held in Bombay in 1948 a Joint Committee of the All-India Boards of the Technical Studies in

1. Commerce and Business Administration,
2. Engineering and Metallurgy,
3. Chemical Engg. and Chemical Technology, and
4. Textile Technology

was set up for the purpose of preparing a scheme for the training of technically qualified persons in Industrial Administration and Business Management. Later on it was thought desirable to associate with this Committee representatives of the Ministries of Finance and Home Affairs of the Government of India and prominent industrialists and educationists so that the object with which the Committee was set up might be fully realised. Shri V. Narahari Rao, Chairman, All-India Board of Technical Studies in Commerce and Business Administration, was first appointed as the Chairman of the Committee. Before the Committee could meet, Shri Narahari Rao resigned from the Chairmanship of the Board as well as of the Committee owing to other preoccupations. Dr. J. C. Ghosh was then appointed as Chairman of the Committee with the approval of the Chairman, All-India Council for Technical Education. The present composition of the Committee is as follows :

1. Dr. J. C. Ghosh (*Chairman*)
2. Prof. M. P. Gandhi
3. Shri K. M. Naik
4. Shri S. D. Oke
5. Shri J. A. Taraporewala
6. Shri P. N. Joshi
7. Shri C. R. Rao
8. Dr. S. R. Sen Gupta
9. Shri A. P. Benthall
10. Shri J. J. Ghandy
11. Shri A. N. Khosla
12. Shri S. B. Bapat (Ministry of Home Affairs)
13. Shri Brij Narayan (Ministry of Finance)

The first meeting of the Committee was held in Calcutta on the 11th May, 1950. A summary of the proceedings of the meeting is given below :

The Committee discussed in detail the nature and scope of training in Industrial Administration and Business Management and how facilities for training should be organised in the country. In this connection, the Committee considered the memorandum prepared in the Secretariat, on the importance of training in Industrial Administration and Business Management, stating as to how such training has been organised in institutions abroad and a draft scheme of suitable courses for this country. The Committee was of the considered view that training in Industrial Administration and Business Management was very important and that in the context of the economic development of the country training in the subject had assumed a new significance in that there was a considerable demand for trained personnel who could be entrusted with the administration and management of industrial enterprises and other productive schemes in the field of agriculture, transport, etc. While facilities for the training of administrators and management personnel have been developed to a considerable extent in the U.K. and the U.S.A., etc., such facilities are totally lacking in India except for what the Central Government has done in the matter of training of recruits to the Indian Administrative Service. A time has now been reached when the problem should be studied in detail and necessary measures adopted for the creation of adequate training facilities within the country. The Committee decided as follows :

- A. Facilities for training in Industrial Administration and Business Management should be organized in the country along the following three lines.
 - (1) At present engineering and technological courses in universities include a certain amount of training in Industrial Administration and Engineering Economics though much importance is not attached to such training. Training in the subject at undergraduate level in all technological courses should continue and it should be given the importance due to it. The training should also be made self-contained so that it may be useful to technology graduates passing out of educational institutions.
 - (2) A specialised post-graduate course in Industrial Administration and Business Management of about 18 to 24 months' duration should be devised generally on the lines on which specialised courses in the subject have been organised in various institutions abroad, specially in Columbia University, Massachusetts Institute of Technology, Harvard School of Business Administration, Manchester College of Technology, etc.
 - (3) As a long-term plan, the Government of India should establish an Administrative Staff College preferably in Delhi where persons from industry, civil, scientific

and technical departments of the Central and State Governments, business organisations, etc., may meet and discuss various problems relating to administration and management; in short, creation of facilities for bringing about cross-fertilisation of ideas of different groups of persons drawn from different fields of activity and to allow them to interact on each other. The college should be established on the lines on which Administrative Staff College in the U. K. has been established.

- B. Facilities for conducting post-graduate courses in Industrial Administration and Business Management as envisaged under A(2) above should in the first instance be developed in certain selected centres on a regional basis. In the Eastern region the post-graduate department for the subject should be immediately created in the Eastern Higher Technical Institute, Hijli. In the other regions, selected universities should be developed for conducting the course preferably by establishing post-graduate departments.

While organising facilities for the post-graduate courses, special provision should be made for the training of those who are already employed in industry, business and Government activities as such persons are the first to be benefited by the training.

- C. For preparing details of the post-graduate courses and to suggest how training facilities should be organised in each region, an Expert Committee should be appointed for each region.

The Expert Committee for the Eastern region should consist of Shri J. J. Ghandy and Shri A. P. Benthall and any other experts to be suggested by these gentlemen.

For the Western region the Expert Committee should consist of Shri Vithal Chandavarkar and Vice-Chancellor, University of Bombay and any other experts to be suggested by these gentlemen.

ITEM No. 8.—*To consider the report of the Sub-Committee on the question of suitable salary scales for instructional staff of technological institutions.*

At its meeting held on the 12th January, 1950, the Coordinating Committee of the Council appointed a Sub-Committee consisting of the following to consider the nomenclature of the various posts and the salary scales in engineering and technological institutions :

1. Dr. Tara Chand (*Chairman*)
2. Dr. J. C. Ghosh
3. Shri J. A. Taraporewala
4. Shri G. K. Chandiramani (*Secretary*)

2. The Committee met on the 15th April, 1950. Dr. S. R. Sen Gupta and Shri A. N. Khosla, members of the Council, attended by special invitation.

3. The Committee have made the following recommendations :

- (i) That the nomenclature of the various posts be :
- (a) Professors,
 - (b) Assistant Professors or Readers,
 - (c) Lecturers, and
 - (d) Instructors.
- (ii) That the scales of pay for the posts be :
- | | |
|---|------------------|
| (a) Professors—not less than | Rs. 1,000 |
| (b) Assistant Professors or Readers | Rs. 600—40—1,000 |
| (c) Lecturers | Rs. 300—25—600 |
| Selection grade | Rs. 600—25—750 |
| (d) Instructors | Rs. 250—25—350 |
- (iii) That the posts of Instructors be tenure posts for five years and that at the end of this period, either the incumbents should earn promotion to higher posts or should leave the institutions.
- (iv) That the above scales of pay for Professors and Assistant Professors or Readers should be admissible only when the incumbents have had some amount of research work to their credit or have had wide professional experience
- (v) That the qualifications for the various posts may be :

Professors or Assistant Professors	First class degree plus five years' research or industrial experience. A part of this time may have been spent in teaching.
Lecturers	A good degree plus three years' experience as above.

4. The recommendations of the Committee are placed for the consideration of the Council.

RECOMMENDATIONS OF THE COORDINATING COMMITTEE

The Committee recommended that the report of the Sub-Committee be adopted with the following modifications :

Para. 3(i).—That the nomenclature of the various posts be :

- (a) *Professors*
- (b) *Associate Professors*
- (c) *Readers*
- (d) *Lecturers*
- (e) *Instructors*

Para. 3(ii).—That the scale of pay for the posts shall ordinarily be :

- (a) *Professors : Rs. 1,000—50—1,250 plus personal allowances depending upon the eminence of the person appointed.*
- (b) *Associate Professors : Rs. 800—1,000.*
- (c) *Readers : Rs. 600—1,000.*
- (d) *Lecturers : Rs. 300—25—600—E.B.—25—750.*
- (e) *Instructors : Rs. 250—25—350.*

Para. 3(iv).—*In place of Professors and Assistant Professors or Readers substitute "Professors, Associate Professors and Readers".*

Para. 3(v).—*That the qualifications for the various posts may be :*

Professors, Associate Professors or Readers.—A good degree plus five years' research and/or industrial experience. A part of this time may have been spent in teaching.

Lecturers.—A good degree plus three years' experience as above.

The Committee further recommended that the Superintendent of the Workshop may be at par with any of the above categories depending on (i) the qualifications and experience of the incumbent and (ii) the scope and size of the institution. Also, that the staff be permitted private practice subject to limits placed by the Principal and the Governing Body.

ITEM No. 9.—*To consider the report of the Sub-Committee of the Co-ordinating Committee for the establishment of National Technical University.*

At its meeting held on the 12th January, 1950, the Coordinating Committee of the All-India Council for Technical Education appointed a Sub-Committee to consider the question of establishment of a National Technical University, in all its aspects and to report to the Coordinating Committee on the desirability and feasibility of establishing such a university.

2. The Sub-Committee held two meetings, the first on the 18th March, 1950 and the second on the 15th April, 1950 when the following attended :

- (1) Dr. J. C. Ghosh
- (2) Shri M. P. Gandhi
- (3) Shri A. N. Khosla
- (4) Dr. S. R. Sen Gupta
- (5) Shri J. A. Taraporewala
- (6) Shri G. K. Chandiramani (*Secretary*)

Dr. Tara Chand, Educational Adviser to the Government of India, participated in the discussions of the meeting held on the 15th April, 1950.

3. The Sub-Committee was unanimously of the view that, for the attainment of uniformly high standards of education in Engineering and Technology, it was necessary that institutions not forming part of unitary regional universities be affiliated to one central organization. In course of time, this organization should develop and have constituent colleges. The organisation itself might also then undertake teaching.

4. The Sub-Committee was further of the view that the All-India Council for Technical Education with certain changes in its composition and functions, as suggested hereafter, could usefully perform the role of the proposed organisation. The nucleus of such an organisation already exists in the machinery at present conducting All-India Examinations under the aegis of the Council.

5. In consideration of the above, the Committee recommended :

- (i) that a bill be introduced in the Parliament giving the All-India Council for Technical Education the power to confer degrees in engineering and technological subjects on students of colleges not affiliated to regional universities and to hold examinations therefor. The Council should continue to perform the advisory functions also as at present;
- (ii) that, to begin with, the Council should affiliate only such institutions as do not form a part of unitary regional universities. It should be open to such institutions to affiliate for selected courses or all courses. At a future date, the question of having constituent colleges of the Council may be considered;
- (iii) that in order that the Council may perform the functions of the Court of a university, its composition should be as follows :
 1. President of the Council The President of the Union of India
 2. Vice-President of the Council An eminent person
 3. Educational Adviser to the Government of India (*Ex-officio*)
 4. One representative of the Council of States.
 - 5-6. Two representatives of the House of the People.
 - 7-10. Four representatives of the Central Government.
 - (a) Ministry of Communications;
 - (b) Ministry of Industry and Supply;
 - (c) Department of Scientific Research;
 - (d) Ministry of Works, Mines and Power.
 - 11-28. Eighteen representatives of the State Governments (one from each State).
 - 29-40. Twelve representatives of Industry, Commerce and Labour to be nominated by the President.
 41. One representative of the Inter-University Board.
 42. One representative of the Central Advisory Board of Education.
 43. President, National Institute of Sciences.
 44. President, Association of Principals of Technical Institutions (India).
 45. President, Institution of Engineers (India).
 46. President, Indian Institute of Architects.
 47. President, Indian Chemical Society.
 48. President, Central Board of Irrigation and Power.
 - 49-50. Two representatives of the affiliated institutions.

All members of the Executive Committee not otherwise nominated or elected.

Ten nominees of the President (Representatives of the Centrally Administered Areas to be provided here).

(iv) that the meetings of the Council may be held once annually and be presided over by the President and in his absence, the Vice-President and in the absence of both the President and the Vice-President, by the Chairman of the Executive Committee;

(v) that the Coordinating Committee of the Council be designated as the Executive Committee and that its composition be as follows :

1. Chairman To be appointed by the President. (For the present, the Educational Adviser to the Government of India be appointed as Chairman.)
2. One member of Parliament.
- 3-6. Four representatives of State Governments (One from each region).
- 7-8. Two Heads of engineering and technological institutions (One of them to be Director, Eastern Higher Technical Institute).
9. One teacher from the affiliated colleges.
- 10-11. Two members elected by the Council.
- 12-14. Three representatives of the faculties (one each).
- 15-16. Two nominees of the President.

All members of the Executive Committee should be nominated or elected from amongst the members of the Council.

(vi) that the meetings of the Executive Committee be held at least four times a year;

(vii) that an Academic Council be constituted as follows:

Chairman of the Executive
Committee (*Ex-officio*)—*Chairman*.

Chairmen of all the Boards of Studies.

All principals of affiliated institutions.

Fifteen teachers from affiliated institutions.

One representative of the National Institute of Sciences.

One representative of the Association of Principals of Technical Institutions (India).

One representative of the Institution of Engineers (India).

One representative of the Indian Institute of Architects.

One representative of the Indian Chemical Society.

One representative of the Central Board of Irrigation and Power.

Ten nominees of the President to represent other interests.

(viii) that three faculties be constituted, each consisting of not more than twenty members :

The faculties may be designated—

- | | |
|---|--|
| (a) Faculty of Engineering . | (incorporating the existing Board of Studies in Engineering and Metallurgy); |
| (b) Faculty of Technology. | (incorporating the existing Board of Studies in Chemical Engineering and Chemical Technology and Textile Technology); |
| (c) Faculty of Applied Arts, Architecture and Business Administration | (incorporating the existing Boards of
(1) Applied Art,
(2) Architecture and Regional Planning, and
(3) Commerce and Business Administration). |

(ix) that the composition of the Faculties be as follows:

- | | |
|---|----------------------|
| 1-6 Members of the Council assigned to the Faculty by the Council. | Not more than six. |
| 7-8 Principals of the institutions assigned to the Faculty by the Academic Council. | Not more than two. |
| 9-13 Teachers of subjects assigned to the Faculty by the Academic Council. | Not more than five. |
| 14-17 Other persons on account of their expert knowledge appointed by the Academic Council. | Not more than four. |
| 18-20 Persons co-opted by the Faculty. | Not more than three. |

(x) that the Faculties should have the power to constitute committees of courses. For the present, the following committees of courses should be constituted:

- Engineering and Metallurgy.
- Chemical Engineering and Chemical Technology.
- Textile Technology.
- Applied Arts.
- Architecture and Regional Planning.
- Commerce and Business Administration.

Such committees of courses should consist of not more than twelve members.

(xi) that the Executive Committee should have the power to constitute committees for recognition.

6. The matter has been examined by the Ministry of Education in consultation with the Ministry of Law. Government of India, who have advised that there would be no legal bar to the introduction of such a bill.

RECOMMENDATIONS OF THE COORDINATING COMMITTEE

The Coordinating Committee recommended that the report of the Sub-Committee with slight modifications as indicated below be adopted by the Council. The Committee further recommended that the Sub-Committee be requested to frame rules for the formation of Committees of courses contemplated under part 5 Section X.

- (i) that a bill be introduced in the Parliament giving the All-India Council for Technical Education the power to confer degrees, diplomas and certificates in Engineering, Technology and Commerce and to hold examinations therefor: the Council should continue to perform the advisory functions also as at present;
- (ii) that, to begin with, the Council should affiliate only such institutions as do not form part of unitary universities. It should be open to the Council to affiliate such institutions for selected courses or all courses. The Council have the power to establish constituent colleges; and
- (iii) that in order that the Council may perform the functions analogous to the Court of a university, its composition should be as follows:

1. *The Visitor* *The President of the Union of India.*
2. *The President of the Council.*
3. *The Educational Adviser to the Government of India (Ex-Officio).*
- 4-5. *Two representatives of the Council of States.*
- 6-10. *Five representatives of the House of the People.*
- 11-16. *Six representatives of the Central Government.*
 - (a) *Ministry of Communications*
 - (b) *Ministry of Industry and Supply*
 - (c) *Department of Scientific Research*
 - (d) *Ministry of Works, Mines and Power*
 - (e) *Ministry of Railways*
 - (f) *Ministry of Defence*
- 17-34. *Eighteen representatives of the State Governments (one from each State).*
- 35-46. *Twelve representatives of Industry, Commerce and Labour to be nominated by the Visitor.*
47. *One representative of the Central Advisory Board of Education.*
48. *President of the Inter-University Board.*
49. *President, National Institute of Science.*
50. *President, Association of Principals of Technical Institutions (India).*
51. *President, Institution of Engineers (India).*
52. *President, Indian Institute of Architects.*
53. *President, Indian Chemical Society.*
54. *President, Central Board of Irrigation and Power.*
- 55-56. *Two representatives of the affiliated institutions.*
- 57-61. *Five nominees of the Visitor (Representatives of the Centrally Administered Areas to be provided here along with other interests).*

and all members of the Executive Committee, not otherwise nominated or elected.

(iv) that the Council should ordinarily meet at least once annually, the meeting to be presided over by the Visitor and in his absence, by the President and in the absence of both, by the Chairman of the Executive Committee :

(v) that the Coordinating Committee of the Council be designated as the Executive Committee and that its composition be as follows :

1. Chairman. To be appointed by the Visitor (For the present, the Educational Adviser to the Government of India be appointed as Chairman).

2. One member of Parliament.

3-6. Four representatives of State Governments (one from each region).

7-8. Two Heads of Engineering and Technological Institutions (one of them to be Director, Eastern Higher Technical Institute).

9. One teacher from the affiliated colleges.

10-11. Two members elected by the Council.

12-14. Deans of the Faculties (one each).

15-16. Two nominees of the Visitor.

(vi) that the meetings of the Executive Committee be held at least four times a year;

(vii) that an Academic Council be constituted as follows:—

Chairman of the Executive Committee (Ex-officio)—
Chairman.

Deans of the Faculties.

Chairman of the Committees of Courses.

All principals of affiliated institutions.

Fifteen teachers from affiliated institutions.

One representative of the National Institute of Sciences.

One representative of the Association of Principals of Technical Institution (India).

One representative of the Institution of Engineers (India).

One representative of the Indian Institute of Architects.

One representative of the Indian Chemical Society.

One representative of the Central Board of Irrigation and Power.

Ten nominees of the Visitor to represent other interests.

(viii) that three Faculties be constituted, each consisting of not more than twenty members.—

The faculties may be designated :

- (a) Faculty of Engineering (incorporating the existing Board of Studies in Engineering and Metallurgy);
- (b) Faculty of Technology (incorporating the existing Board of Studies in Chemical Engineering and Chemical Technology and Textile Technology);
- (c) Faculty of Applied Arts, Architecture and Business Administration. (incorporating the existing Boards of
- (1) Applied Art,
 - (2) Architecture and Regional Planning, and
 - (3) Commerce and Business Administration).

(ix) that the composition of the Faculties be as follows :

- 1-6. Members of the Council assigned to the Faculty by the Council Not more than six.
- 7-8. Principals of the institutions assigned to the Faculty by the Academic Council. Not more than two.
- 9-13. Teachers of subjects assigned to the Faculty by the Academic Council Not more than five.
- 14-17. Other persons on account of their expert knowledge appointed by the Academic Council. Not more than four.
- 18-20. Persons co-opted by the Faculty Not more than three.

(x) that the faculties should have the power to constitute Committees of Courses. For the present, the following Committees of Courses should be constituted :

Engineering and Metallurgy,
 Chemical Engineering and Chemical Technology,
 Textile Technology,
 Applied Arts,
 Architecture and Regional Planning,
 Commerce and Business Administration.

Such Committees of Courses should consist of not more than twelve members.

(xi) that the Executive Committee should have the power to constitute committees for recognition of institutions and such other committees as may be considered necessary.

ITEM No. 10.—To receive a note on the following deliberations of the Joint Committee of the All-India Council for Technical Education and the Inter-University Board.

At its meeting held on the 12th April, 1949, the Coordinating Committee appointed a small committee consisting of the following

to collaborate with a committee of the Inter-University Board to review the position of Technical education in the universities and to lay down the general principles to be observed at the universities :

1. Dr. P. S. Deshmukh
2. Shri N. K. Mitra
3. Shri P. N. Joshi

It was further decided that the Secretary of the Council may act as Secretary of the Joint Committee.

2. The above decision of the Coordinating Committee was reported to the Council at its last meeting held in April, 1949.

3. The Inter-University Board was apprised of the decision and the following sub-committee was appointed by the Board with powers to co-opt two additional members to collaborate with the committee of the Council:

1. Dr. A. L. Mudaliar
2. Dr. S. R. Sen Gupta
3. Lt. Col. Paul
4. Dr. K. Venkataraman
5. Shri M. Sen Gupta

4. The Joint Committee held its first meeting at Madras on the 8th November, 1949 and discussed in detail the various problems pertaining to Engineering and Technological education in universities, with special reference to the duration of the degree course in Engineering, the duration of practical training, the scope of the basic and specialisation studies in the degree course, etc. The Joint Committee also considered legislative measures which would be necessary for the organisation of practical training in factories and industrial concerns, problems of cooperation between educational institutions and industry, schools of apprenticeship training and other cognate matters. After a thorough exchange of views amongst the members, the Joint Committee met again on the 20th February, 1950 in Madras to finalise recommendations on the various questions.

5. The Committee have made the following recommendations :

(i) (a) The basic degree in Engineering should be provided in following branches :

Civil Engineering,
Mechanical Engineering,
Electrical Engineering, and
Tele-Communication Engineering.

(b) The course should be an integrated one of four years' duration, of which at least six months should be devoted to practical training outside the institution.

(c) A number of electives in each of these main branches should be introduced in the final year of the course.

The provision of electives in the course should not be construed as giving specialised training to the students. It would, however, enable the students to specialise in that subject later, if they so desire, by means of post-graduate courses.

- (d) In the choice of the electives, consideration should be given to the needs of the particular region, the training facilities that are available and practical instruction that may be possible in that region.
- (ii) There should be not less than 180 working days in the year, exclusive of the days of examination, with no less than 33 hours per week.
- (iii) Of the four years for the basic degree, the first two academic years or 18 months will be common to all branches; the third year may be common in part to allied branches, while the fourth year will be entirely devoted to the branch offered.
- (iv) Certain courses like Mining and Metallurgy, Marine Engineering, etc., should be integrated courses planned on a separate basis.
- (v) For post-graduate specialisation, provision should be made in the following branches :
- (a) Civil branch Highway Engineering, Public Health Engineering, Irrigation Engineering, Structural Engineering, Advanced Hydraulics, Dam Construction, Soil Mechanics, Dock and Harbour Engineering, Transportation including Railway Engineering.
- (b) Mechanical branch Production Engineering, Automotive Engineering, Textile Engineering, Forest and Agricultural Engineering, Refrigeration and Air Conditioning, Aeronautical Engineering, Meteorology, Power Plant Engineering.
- (c) Electrical branch Power Generation and High Voltage Engineering, Electrical Measurements and Measuring Instruments, Electric Traction, Utilisation, Electrical Machinery Design.
- (d) Tele-Communication Engineering—Advanced Electronics.
- (vi) Post-graduate studies in the above branches should lead to a Master's degree in the Faculty of Engineering. The duration of the course would depend upon the particular subject taken for specialised study but the course should ordinarily be of one year's duration in most cases and should not extend beyond two years including the practical training.
- (vii) As regards electives, one or two papers in the fourth year of the degree course may be in the branch of study which may be considered as electives in the sense that a little more advanced study will be expected in the particular subject than is usual for the ordinary degree course, and each student should take one, preferably two electives.
- (viii) The Master's degree in Engineering may be taken by the submission of a thesis with an examination (written and practical) in one of the basic subjects, after approved

research, or by taking an advanced course in one of the specialities followed by an examination including a project scheme (dissertation) to be submitted before the examination.

- (ix) Facilities should be made available for research in all the engineering and technological institutions.
- (x) The nomenclature and qualifications of teaching staff in the university institutions should be as follows :
 - (a) Professors,
 - (b) Associate Professors,
 - (c) Reader or Assistant Professors,
 - (d) Lecturers,
 - (e) Demonstrators,
 - (f) Workshop Superintendent to be on par with any of teaching posts above on the basis of qualifications.

Professors should hold besides an engineering degree, a higher qualification in the particular speciality, preferably with research experience and teaching experience. It is desirable that the professors should have had practical experience and this should be treated as an additional qualification for the post. Recruitment to this grade should be by special advertisement for which readers and assistant professors and others will also be eligible. For an associate professor, the qualifications will be more or less the same as for the professor.

The reader or assistant professor should possess besides the basic qualification, a higher qualification or practical experience which should preferably be for a minimum period of five years.

6. The Committee considered in detail the position of All-India Diplomas and their relation to course of studies in the universities. The Committee was of the opinion that to enable the All-India Diploma holders to qualify for higher degrees of universities, they should be allowed to sit for the university first degree examination without putting in the terms. The universities should, however, provide facilities for post-graduate study and research for competent All-India Diploma holders and in this connection recommended that higher diplomas of the standard of M.Sc. and Ph.D. degrees of universities may be instituted by the All-India Council for Technical Education.

7. The Joint Committee has constituted an Engineering Subcommittee to frame details of syllabuses for basic degrees. It has also constituted a Sub-Committee for Technology to suggest details of the basic course and specialities on similar lines as for Engineering.

RECOMMENDATIONS OF THE COORDINATING COMMITTEE

The Committee suggested the following changes for consideration of the Joint Committee:

Para 5(i)(a).—"Tele-Communication Engg." may be substituted by "Communication Engg."

Para 5(ii).—The number of working hours may be not less than 36 hours per week.

Para 5(iii).—May be omitted, the universities and other bodies concerned being left free to arrange the courses as they think fit.

Para 5(v)(d).—"Tele-Communication Engg." may be substituted by "Communication Engg."

Para 5(vii).—The words "fourth year" may be substituted by the words "final year".

Para 5(x) & (xi).—A copy of the report of the Sub-Committee of the Council to recommend nomenclature and pay scales of the post in engineering and technological institutions may be sent to the Joint Committee.

ITEM No. 11.—Grants to Government Technical Institutions.

(a) *To consider notes from the Governments of West Bengal and Madhya Pradesh regarding grants to State institutions.*

The memoranda submitted by the two State Governments are reproduced below :

(i) *From the Government of West Bengal*

The plan for the development of the Bengal Engineering College which is one of the post-war schemes approved by the Government of India was sanctioned by the Government of West Bengal in November 1943. In 1949-50, it was possible to make a beginning with the implementation of the plan by recruiting some brilliant Indian and foreign scientists, technologists and engineers on the staff, placing orders for some of the much needed equipment and commencing the construction of the college buildings. However, ever since the Government of India stopped grants for reasons of economy to the Provincial Governments, the development plan has almost come to a standstill. Another problem concerns the admission of a large number of students in advance because the plan was expected to be implemented in three years. The result is that the State Government is now faced with the following difficulties :

(a) For the large number of students admitted, there is not enough instructional space, laboratory equipment or hostel accommodation.

(b) Only the ground floor of the building has been put up but it cannot be made ready for occupation unless funds are available.

(c) The highly qualified teaching staff are unable to proceed with their research work for want of equipment, accommodation and funds.

It is understood that perhaps other Government colleges who have expanded their scope under the development scheme are faced with a similar situation.

It is suggested that colleges of Engineering and Technology being responsible for training engineers and technicians required in connection with productive schemes, should be treated for development purposes on a separate footing by the Governments, both Union and the State and it is submitted that the Union Government should continue to make grants to the State Governments for completing the development of the institutions of Engineering and Technology which they have undertaken with the approval of the Government of India.

(ii) *From the Government of Madhya Pradesh*

The Government of India had very kindly come forward to assist the State Governments with funds for providing facilities for Basic and Social education. There is obviously greater reason for the Central Government to give financial assistance to the State Governments for the development of Technical education. In most cases, the slender resources of the State Governments did not permit them to improve their institutions to the desired extent. Assistance, it is understood, had been given to established non-government institutions to enable them to raise the standard of equipment and instruction and also to expand their activities according to plan. Similar assistance needs to be given to Government Engineering colleges and Technical institutions.

2. The present position is that on the recommendations of the Council, the Central Government have already sanctioned a scheme for grants to certain non-Government Engineering and Technological institutions of standing for their improvement and strengthening. Government institutions were financed indirectly by the Central Government through the block development grants to the States which have now been stopped.

3. The question of direct grants to institutions, governmental or otherwise, was considered by the Coordinating Committee at its eighth meeting. Attention is invited in this connection to item 3 of the agenda.

4. The Council may like to make recommendations to the Central Government in this matter.

RECOMMENDATIONS OF THE COORDINATING COMMITTEE

The Committee viewed with concern the effect of stoppage of block development grants from the Central Government for the development of State Government Engineering and Technological institutions and appointed a sub-committee consisting of the following to examine the question and to report to the Council at the next meeting :

1. Dr. P. S. Deshmukh(Convenor)
2. Dr. J. C. Ghosh
3. Shri P. N. Joshi
4. Shri G. K. Chandiramani(Secretary)

(b) *To consider the Assam Government's request for financial assistance to H.R.H. The Prince of Wales Technical Institute, Jorhat.*

The memorandum on the subject submitted by the Assam Government is reproduced below :

Introduction.—Feeling the need of a full-fledged institution for Higher Technical education within the State of Assam, the Government of Assam convened a conference of Technical Experts at Jorhat on October 28th, 29th, 1948. They recommended, after examining a scheme for the expansion and improvement of H.R.H. The Prince of Wales Technical School, the only premier Technical institution in Assam belonging to the Government, and inspecting its site, buildings, etc., that the said school could conveniently be developed to the status of a college for Technical education for conferring degrees or diplomas in the following categories of courses at present :

- A. Senior Course Senior Diploma or Degree courses of five years' duration adopting syllabus of Senior Diploma Course of the All-India Council for Technical Education:
 Electrical Engineering—for 20 students per year.
 Mechanical Engineering—for 20 students per year.
 Civil Engineering—for 15 students per year.
- B. Junior Course Junior Diploma Course of four years' duration adopting syllabus of Junior Diploma Course in Engineering of All-India Boards.
 Electrical Engineering—for 40 students per year.
 Mechanical Engineering—for 40 students per year.
 Automobile Engineering—for 20 students per year.

In order to effect the development of the school in accordance with recommendations of the Committee, staff of the highest quality obtainable are required as detailed under. The pay-scales to be offered are also given below :

- (i) Principal—(One) in the grade of Rs. 1,500 to Rs. 2,000 p.m.
- (ii) Professors or Heads of Departments—(Three) in the grade of Rs. 800 to Rs. 1,200 p.m.
- (iii) Senior Lecturers—(Nine) in the grade of Rs. 600 to Rs. 1,000 p.m.
- (iv) Lecturers and Workshop Foremen—(Twenty-three) in the grade of Rs. 300 to Rs. 600 p.m.
- (v) Demonstrators—(Ten) in the grade of Rs. 260 to Rs. 450 p.m.
- (vi) Workshop Instructors—(Twelve) in the grade of Rs. 150 to Rs. 300 p.m.
- (vii) Mechanics—(Twenty) in the grade of Rs. 80 to Rs. 150 p.m.

Though the school was a promising institution before the war in the field of Elementary Technical education in the State of Assam, it was hard hit by the last World War and had to be reorganised. It is at present in the very early stage of its development and as such it has practically nothing in the shape of equipment for laboratories, workshops, library, etc., in comparison to what are necessary for a full-fledged college of Engineering. The list of equipment for the establishment of a proper workshop and laboratories as supplied by the Government of India would alone cost about 28 lakhs of rupees.

Besides these, the construction of buildings to house various necessities of the college such as workshops, classrooms, laboratories, hostels, staff quarters, etc., are required, as, except for some buildings of its own purchased from the military, there is nothing to contribute to the college. As the existing school compound is unable to accommodate any new constructions such as staff quarters, hostels, etc., acquirement of land to the tune of at least 25 acres is another great requirement. The existing buildings also require a lot of additions and alterations before these are made suitable for housing workshops, laboratories, classrooms, etc., for the college. Furniture, electrification of buildings, sanitary fittings, water supply installation and such other modern needs of an institution are also there, and funds for these are also to be provided. The non-recurring funds necessary for the purpose of the development of the institution and the annual recurring grants for its running and maintenance are as given under :

Capital Non-recurring Expenditure for Purchase of Equipment and Construction of Buildings, etc., for the College

A. BUILDINGS, FURNISHING, ELECTRIFICATION, ETC.	Rs.
1. Constructional work of additions and alterations on the existing buildings to convert these to workshops, laboratories, library, classrooms, office, godown, etc.	5,00,000
2. Hostel buildings with 45,000 sq. ft. of floor area to accommodate 300 students	6,00,000
3. Staff quarters with total floor area of 60,000 sq. ft.	7,20,000
4. Furniture for college	50,000
5. Electrification of buildings	60,000
6. Sanitary fittings	50,000
7. Water Supply installation	30,000
8. Fencing and drainage	30,000
B. ACQUISITION OF LAND FOR STAFF QUARTERS, HOSTELS, ETC.: 25 acres	1,00,000
C. EQUIPMENTS : Tools, plants, apparatus for laboratories and workshops, etc.	28,00,000
D. SPORTS OUTFIT, ETC., INCLUDING MILITARY TRAINING OUTFIT	20,000
E. LIBRARY AND COMMON ROOM EQUIPMENTS WITH BOOKS	2,00,000
F. MEDICINES, ETC., INCLUDING CONSTRUCTION OF A HOSPITAL FOR THE COLLEGE	30,000
G. STORES, CONSUMABLE AND NON-CONSUMABLE	1,00,000
TOTAL	52,90,000

The total non-recurring fund will be in the neighbourhood of Rs. 53,00,000 which can be spread over a period of three or four years.

*Annual Recurring Expenditure for Maintenance and Running of the
College (Showing the Initial and Final Stages)*

	Initial	Final
I. Pay of Staff	Rs.	Rs.
A. Officers of teaching staff	2,24,400	4,16,400
B. Establishment of teaching staff	46,080	85,920
C. Office establishment	11,196	16,884
D. Hostel staff	5,240	8,280
E. Medical staff	2,880	5,640
F. Staff for Military and Physical Training	3,120	5,760
TOTAL	2,92,916	5,38,884
II. Cost of living allowance @ 12½ per cent on average	36,614	67,348
III. Travelling allowance of staff	7,000	7,000
IV. Remuneration to visiting professors, engineers, etc.	2,000	2,000
V. Stipends, etc.	5,000	9,600
VI. Purchase of books, newspapers, periodicals, etc.	10,000	10,000
VII. Rates and taxes	10,000	20,000
VIII. Repairs to buildings	10,000	20,000
IX. Purchase of consumable goods	24,000	24,000
X. Pay of contingency menials	3,000	3,000
XI. Other non-contract contingencies	5,000	5,000
XII. Office expenses	10,000	10,000
XIII. Furniture	2,000	2,000
XIV. Workshops tools and plants	20,000	20,000
XV. Laboratory equipments	10,000	10,000
XVI. Grant-in-aid for games, etc.	2,000	2,000
XVII. Purchase of medicines, etc.	3,000	3,000
XVIII. Remuneration to examiners.	3,000	3,000
TOTAL	4,55,530	7,56,832

Anticipated Receipts from Tuition Fees. Sale Proceeds etc.

	Rs.
I. Fees and other dues	50,000
II. From sale proceeds	25,000
TOTAL	75,000

Abstract of Expenditure and Receipts for Implementation of the Scheme

	Rs.
1. Capital non-recurring expenditure	53,00,000
2. Total recurring expenditure—	
Initial (Annual)	4,55,530
Final (Annual)	7,56,832
3. Receipts (Annual)	75,000

The Government of Assam are unable to meet the above huge amount for the implementation of the Scheme and therefore pray that financial help in the shape of annual contribution should be given to the State for the implementation of the Scheme.

2. The Council may like to make recommendations to the Central Government in the matter.

DECISION OF THE COORDINATING COMMITTEE

The Committee referred the requests of the Government of Madhya Pradesh and the Government of Assam to the Sub-Committee appointed under item 10(a)(i).

ITEM No. 12—*To consider a note from the Government of West Bengal for popularising the All-India Diplomas in Commerce.*

The Government of India and the Union Public Service Commission have recognised the All-India Diploma and the All-India Advanced Diploma in Commerce and Business Administration as equivalent to B.Com. and M.Com. degrees of Indian universities respectively for purposes of employment in the Central Services. But still the courses have, according to the Government of West Bengal, not been popular; and that, too, in spite of the fact that the All-India courses are, from the utility point of view, superior to university degree courses, the defect of the latter being preponderance of academic bias and lack of practical training. The Government of West Bengal have, therefore, suggested the following measures for making the All-India Diploma course more popular with the student community :

- (a) The State Governments should be induced to offer the same recognition to the diplomas as the Central Government have done.
- (b) The organisations where successful candidates are placed for the compulsory practical training should be requested to see that the training imparted is of an all-round character and at the same time, specialised in one particular line for which the trainee has natural aptitude and inclinations. It should be emphasised that the training is intended not to make the students competent for clerical jobs but to call out the capacities latent in them for shouldering the responsibilities of business executives.
- (c) The Chartered Accountants Regulations Act, 1949, makes a discrimination between a B.Com. and the holder of an All-India Diploma in Commerce with regard to the period of service under Article 10 or as Audit Clerks required of them for admission to the final Chartered Accountants Examination. This discrimination is rather unfair to the diploma holder and should be done away with.

2. As regards the above suggestions, it may be stated that the question of securing due recognition from the State Governments for the All-India Diplomas is being actively pursued in the Ministry of Education and the State Governments have been requested to extend the same recognition to the All-India Diplomas as accorded by the Central Government. As regards practical training, a committee of specialists appointed by the All-India Board of Technical Studies in Commerce and Business Administration have prepared comprehensive schemes of practical training in Secretarial Practice

and Company Law, Banking, Insurance, Transport and other branches of Commerce and Business Administration. The schemes have been so designed as fully to meet the requirements of one year's compulsory practical training provided for in the All-India Diploma course and lay down for the guidance of the students and the organisations concerned, the nature and scope of the practical training. The schemes also provide for the training of the students to occupy executive positions in the various lines of commercial activity. It is intended shortly to introduce the schemes in all organisations where All-India Diploma students are sent to for training.

3. According to the Chartered Accountants Regulations Act, the period of Articled clerkship for the final examination is three years for B.Com. graduates and four years for the holders of All-India Diploma in Commerce. As the All-India Diploma is considered equivalent to B.Com. of an Indian university and the diploma course provides adequate practical training also, the Institute of Chartered Accountants have been urged to reduce the duration of Articled clerkship for All-India Diploma holders from four to three years.

DECISION OF THE COORDINATING COMMITTEE

The Committee recorded the note of the Government of West Bengal on popularisation of the All-India Diplomas in Commerce. The Committee noted that the Ministry of Education, Government of India, had already taken action in the matter.

ITEM No. 13.—*To consider the suggestion of the Government of Bombay on a common vocabulary of Scientific terms in Hindi.*

An extract from the letter of the Government of Bombay suggesting the inclusion of this matter in the Agenda for consideration of the Council is produced below :

A time has now come when it is essential in the interests of scientific progress and communication among scientists that a common vocabulary is evolved. Attempts are at present made by a number of interested parties to evolve their own special terminology. One such attempt has been made by Dr. Raghuvira. A like attempt but on a much simpler plane, is now being made by Mr. P. G. Shah, a member of the Bombay Public Service Commission, for use in Gujarati. It is quite likely that there may be corresponding terms in different languages of the country. If all these attempts succeed, then it would mean that a child when it does a scientific subject in its mother-tongue, will use one expression; when it learns Hindi and it is presumed that Hindi will be the common language of the people in the University stage in a few years—a child will have to re-learn all the terms in Hindi. As for a number of years there will be only few scientific books in Hindi, the student will be reading and using the English terminology in science. It would therefore appear that the average student will be called upon to learn at least three words for the same object, one in his own mother-tongue, a second in Hindi and a third in English.

The easiest solution to our difficulties would, therefore, appear to be to borrow wholesale all the major English terms where their equivalents do not exist in our own languages.

Even though a student may be educated right upto the University stage in his own mother-tongue, it will be easy for him then to read English books.

In this connection it may be stated that the problem was discussed by the Association of Principals of Technical Institutions at their annual meeting held on 26th February, 1950, at Banaras. There, an overwhelming majority were of the opinion that English terms be borrowed wholesale for use in Hindi, where their equivalents in use were not available.

2. The problem has been considered by a committee of the Central Advisory Board of Education appointed in 1944 and the committee's main recommendations were as follows :

- (i) that for the development of scientific studies in India it is desirable to adopt a common terminology, and
- (ii) that in order to maintain the necessary contact between scientific development in India and similar developments in other countries the scientific terminology for India should consist of—
 - (a) an international terminology, in its English form, which will be employable throughout India, and
 - (b) terms borrowed or adapted from Indian languages.

The Board has accepted these recommendations. These recommendations were reiterated by a conference of Vice-Chancellors in May, 1948.

3. The University Education Commission have also considered the problem and their recommendations are summarised below :

- (i) International technical and scientific terminology be adopted, the borrowed words be properly assimilated, their pronunciation be adapted to the phonetic system of the Indian language and their spellings fixed in accordance with the sound symbols of Indian scripts.
- (ii) A Board consisting of scientists and linguists be appointed to prepare a scientific vocabulary of words which will be common to all Indian languages and also to arrange for the preparation of books in different sciences to be rendered into all Indian languages.

4. The views of the Council are solicited.

RECOMMENDATIONS OF THE COORDINATING COMMITTEE

The Committee recommended that the suggestions of the Government of Bombay be accepted. In this connection, it was noted that the CABE had recently accepted the recommendation of the University Education Commission in the matter made on similar lines.

ITEM No. 14.—*To consider a note from the Ministry of Works, Mines and Power, Government of India, on the training of Power Engineers.*

The note submitted by the Ministry of Works, Mines and Power is reproduced below :

At the Fourth meeting of the All-India Council for Technical Education held at Calcutta on 28th April, 1949, the following resolution was adopted on the training of Power Engineers :

“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 recommended that the three-year courses in Engineering framed by its Board of Studies should be brought to the notice of all universities and decided that the recommendations made by the Power Engineers' Conference and its Standing Advisory Committee should be examined by the Coordinating Committee of the Council in consultation with the Standing Advisory Committee.

2. The recommendations made by the Standing Advisory Committee of the Power Engineers' Conference together with the action taken on them so far are detailed below :

Recommendation No. I

The State Governments be asked to assess the requirements of their power systems in respect of engineers and technicians for the next ten years and to consider strengthening and increasing the number of existing institutions in order to increase their output as far as possible.

Action Taken

Though the Scientific Manpower Committee has already made an assessment of the country's requirement of engineers for a period of ten years, it was considered desirable that the State Governments should periodically keep on reviewing their requirements and making arrangements for training the required number of technical personnel in the specialised branches in which such personnel is required. Accordingly, on the 29th July, 1949, the Central Electricity Commission issued a circular letter to the Chief Engineers of all States requesting them to assess their requirements of engineers and technicians for the next five to ten years, with reference to the projects contemplated. This circular has also been issued to large public electric supply undertakings most of which have expansion schemes. Replies are still coming in.

It may be mentioned that the Central Government have already accepted a scheme for the improvement and expansion of 14 established non-government engineering and technological institutions involving a capital expenditure of nearly Rs. 1.5 crores and an ultimate recurring expenditure of nearly Rs. 27 lakhs per annum. The State Governments have also made adequate provision in their five-year development plans for the expansion of their technical institutions. No further action is therefore considered necessary at this stage.

Recommendation No. II

Universities and other institutions imparting Technical education be requested to consider increasing the output of their institutions if necessary by reducing the period of training to three years and by increasing the number of working days in that year.

Action Taken

The All-India Council for Technical Education has framed a three-year course of instruction in various branches of Engineering, which has been circulated to State Governments and universities. A Joint Committee of the Inter-University Board and the All-India Council for Technical Education Board has already been appointed to review the position of technical education in universities, and this body was expected to consider the question of duration of courses in relation to demands.

Recommendation No. III

The Central Government be requested to arrange training facilities in the various power systems.

Action Taken

(a) Consultations on the question of training of student engineers have been held between the Central Electricity Commission (CEC) (acting on behalf of the Standing Advisory Committee) and the Ministry of Education.

The Central Electricity Commission have issued a circular letter to all the major public electric supply undertakings suggesting that each power system should afford facilities for practical training at its power stations, overhead transmission lines and distribution systems for as many engineers as it is possible, irrespective of whether or not these men are absorbed in their own power systems. As a certain number of trainees might prove unsuitable for the specific duties for which they were being trained, it was essential that a larger number of trainees than those required be trained. It was also impressed upon the Electric Utilities that a certain number of power systems might not have the facilities for training the necessary number of men required by them, so that facilities for such training would have to be provided on power systems in other States where requisite facilities were available. The Central Electricity Commission, while proposing that they would undertake the work of coordinating practical training facilities in conjunction with the Ministry of Education, asked the views of the authorities in charge of the power systems on the following questions in particular :

- (i) whether a one-year period of training was adequate; and
- (ii) whether the power systems could give stipends to cover the cost of living to a limited number of students in order to attract and secure such men for the power supply industry, without taking any commitment as regards their later unemployment.

On the period of training, the Central Electricity Commission realised that one year was perhaps too short a period for an apprenticeship, but keeping in mind the present shortage of trained men, suggested that the power systems consider the possibility of selecting a certain number of apprentices at the end of the first year of training, with a view to giving them a more specialised training for another

period of one year in order to make them qualified for useful employment in the power systems themselves or elsewhere. The advantage of awarding stipends was also stressed, as such a system enabled the employer to bind the apprentice to a contract so that he could not leave the apprenticeship without completing it and without the permission of the employer.

The replies received from the various undertakings have been compiled and a consolidated statement sent to the Ministry of Education. Briefly stated, the power systems in three States are in a position to train an aggregate number of 108 apprentice engineers, but the question as to whether a stipend can be given to them, and if so, what the value of the stipend should be, is still to be decided by the Governments concerned. Four power systems are in a position to accept an aggregate of 53 apprentice engineers with small stipends of approximately Rs. 30 p.m. while nine power systems are in a position to take for training an aggregate of 93 apprentices but without the payment of any stipend. Apart from the above, six power systems have arrangements for the training of 73 engineers from various Technical colleges on their power systems with suitable stipends, but the facilities available are already fully utilised. Thus, a total number of 307 apprentice engineers can be given training. The position has, however, to be reviewed from time to time and statistics maintained of the actual outturn of engineers trained each year in various sections of power systems.

(b) The Ministry of Education also issued a circular letter to the Principals of all technical institutions in the country asking them to ascertain and advise on the number of graduate and diploma holding engineers who desired facilities for training on electric power systems. Replies have been received by them from 20 technological institutions asking for facilities for the training of 323 engineering students. Replies from 17 institutions are still awaited. It should be noted that most of the institutions desire stipends for trainee engineers. The Ministry of Education are now in correspondence with the Principals of various Engineering institutions advising them of the facilities offered and asking them to nominate students to the various utilities where facilities for training can be arranged by the Central Electricity Commission.

The Ministry of Education, as a result of the recommendations of the Scientific Manpower Committee, are arranging to give a limited number of stipends (Rs. 150 p.m. for graduate apprentices and Rs. 75 p.m. for diploma holders) tenable for a period of two years, to selected students for training in various establishments including power systems. The question of linking up the awards made under the auspices of the Scientific Manpower Committee with the practical training facilities available is under the consideration of the Ministry of Education. In this connection the following aspects should be carefully noted :

- (i) In some States where the power systems are just building up their organisations, the systems are at present obliged to accept some fresh graduates on their staff without practical training owing to the general shortage of trained personnel. There is, therefore, a tendency among fresh

graduates to look for immediate employment after leaving college, in preference to seeking opportunities for practical training, with the result that it is becoming difficult to attract sufficient number of engineers for training in the Electric Power Utility field. The present situation in which engineers are recruited directly to junior posts means that engineers are often placed in office without the proper field experience which, in turn, will hamper the development of those qualities that are required for filling up senior positions.

- (ii) It has been found in some cases that when the apprentices are notified of a vacancy for training without stipend, many of them fail to report for duty while several leave the apprenticeship after a short period on securing employment elsewhere. This leads not only to dissatisfaction in the minds of the authorities in charge of the power systems but also makes it difficult for facilities to be secured at a later stage. It is, however, expected that the grant of stipends by the Scientific Manpower Committee will greatly mitigate this difficulty. It is nonetheless essential that State Governments should plan their manpower requirements sufficiently ahead of the completion of the projects and arrange to train selected personnel in the power systems of other State Governments where training facilities may be available. For this purpose, the State Governments requiring the services of such personnel should give stipends to trainees selected by them when the Central Electricity Commission will be able to arrange for their training in one or more of the power systems of the other States.

Recommendation No. IV

Formation or utilisation of any existing scheme for deputation abroad, of engineers with five to ten years' experience.

Action Taken

The Central Electricity Commission are aware of the need for utilising every opportunity to send engineers abroad for training but realise that, in the present state of general financial stringency, the Central or State Governments will find it difficult to send any considerable numbers abroad.

2. Attention is invited to paragraph one of the note regarding joint consultations by the Coordinating Committee and the Standing Advisory Committee of the Power Engineers' Conference. It is for consideration as to what further action should be taken in the matter.

DECISION OF THE COORDINATING COMMITTEE

The Committee appointed a Sub-Committee to examine the entire question of requirements and training of Power Engineers and to report to the Council at the next meeting, with the following members:

1. Dr. K. P. P. Menon (Convenor)
2. Dr. S. R. Sen Gupta
3. Shri Lakshminarayan

ITEM No. 15.—*To consider a note from the Ministry of Transport, Government of India, on the establishment of a Central Institute for Automobile Engineering and Transport Administration and Operation.*

The Ministry of Transport, Government of India, have suggested that Central Institutes should be established in India for advanced study and training in Automobile Engineering and Transport Administration and Operation on an all-India basis, which would act "as an incentive to skilled labourers working in the various automobile workshops to acquire greater knowledge of transport, both practical and theoretical, and to help in increasing the availability of technical personnel for which there will be a greater demand with the progress of nationalisation of motor transport in the various States".

2. This question was considered at a meeting held on the 27th July, 1949, at New Delhi between representatives of the Central Government including the Ministry of Education and Provincial Transport Commissioners/Controllers. During the discussions, the representative of the Ministry of Education stated that the Central Government had already decided to set up two Higher Technical Institutions for advanced Technical education, one at Hijli and the other at Bombay. Sites for both these institutions had already been selected and the Hijli institution was expected to start functioning during 1950 and the Bombay institution in a couple of years. At both these institutions, facilities would be provided for training in Automobile Engineering.

3. As the question of setting up two institutions for advanced training in Automobile Engineering has been actively considered in the Ministry of Education and some progress has been made, the Ministry of Transport have stressed that the question of training in Transport Administration and Operation should also be considered. It is suggested by that Ministry that, if this question cannot be dealt with in the two Higher Technical Institutions, it may be referred to the All-India Council for Technical Education for opening a separate institution for the purpose.

RECOMMENDATIONS OF THE COORDINATING COMMITTEE

The Committee suggested that the representatives of the Ministry of Transport may discuss the matter with the Director of the Eastern Higher Technical Institute (Dr. J. C. Ghosh) and make concrete proposals for consideration of the Council.

ITEM No. 16.—*To discuss the draft bill for the Registration of Engineers in India.*

The Government of India in the Ministry of Works, Mines and Power propose to enact a bill for the regulation of the profession of engineers in India. A summary of the essential provisions of the bill is given below :

Objectives

Whereas it is expedient to provide for the regulation of the profession of engineers and for that purpose, to establish a Council of Engineers, it is hereby enacted as follows :

CHAPTER I

PRELIMINARY

1. *Short Title, Extent and Commencement*

This Act may be called the Engineers Act, 1949. It extends to all the Provinces of India and also to other acceding States to the extent to which the Dominion Legislature has power to make laws for that State with respect to the matters dealt with in this Act. It shall come into force in any Province or acceding State on such date or dates as the Central Government may, by notification in the official Gazette, appoint.

2. *Interpretation*

In this Act "Council" means the Council of Engineers of India constituted under (1) above; "prescribed" means prescribed by rules or regulations made under this Act; "Recognised Qualification" means any engineering qualification specified in the first or second schedule; "Register" means the Register of Engineers maintained under the Act; "Registered Engineer" means any person possessing any of the recognised qualifications whose name is, for the time being, entered in the register.

CHAPTER II

THE COUNCIL OF ENGINEERS OF INDIA

3. *Constitution and Composition of the Council.*

The Central Government may, as soon as may be, constitute a Council consisting of the following members :

- (a) one member elected by the members of the Senate of each of the universities in the States of India having a Faculty of Engineering ;
- (b) one member elected by the members of the Governing Body of each of the engineering institutions specified in the first schedule ;
- (c) one member elected by the Registered Engineers from each of such regional constituencies as may be specified in this behalf by the Central Government, by notification in the official Gazette ;
- (d) ten members nominated by the Central Government ;
- (e) ten members nominated by the Council of Institution of Engineers (India);
- (f) one member nominated by each Provincial Government ;
- (g) nine members chosen to represent the acceding States in the prescribed manner.

4. The Council shall be a body corporate by the name of the Council of Engineers (India) having perpetual succession and a common seal with power to acquire and hold property, both movable and immovable and shall by the said name sue or be sued.

5. There shall be a President and a Vice-President who shall be elected by the members of the Council from among themselves in the prescribed manner : provided that for one year from the first

constitution of the Council after the commencement of this Act, the President shall be a person nominated by the Central Government from among the members of the Council who shall hold office during the pleasure of the Central Government.

6. *Office and Servants of the Council*

The Council shall appoint a Registrar who shall be the Secretary to the Council and shall have such powers and perform such duties as may be assigned by or under this Act. The Council may also appoint such other officers and servants as it deems necessary to enable it to carry out its functions under this Act.

The Council may constitute from among its members an executive committee and such other committees as the Council deems necessary to carry out the purposes of this Act.

CHAPTER III

REGISTRATION OF ENGINEERS

7. *Qualifications for Entry of Names in the Register.*

Any of the following persons shall be entitled to have his name or the name of the association entered in the register :

- (a) any person who possesses any of the recognised qualifications : provided that in the case of any person who is not domiciled in India the Council may prescribe such further conditions as it may think fit ;
- (b) any person who possesses any of the qualifications specified in the 3rd schedule and who is not less than 30 years of age ;
- (c) any firm or company or association or other body of individuals whether incorporated or not which is engaged in the business of engineering, provided that the business of such association so far it relates to engineering, is under the control, management and supervision of a Registered Engineer.

8. *Description of Persons whose Names are Entered in the Register*

(a) Any person possessing any of the recognised qualifications shall on his name being entered in the register be entitled to take and use the words "Registered Engineer" after the name as a part of the description of his professional status.

(b) Any person possessing any of the qualifications specified in the 3rd schedule shall on his name being entered in the register be entitled to take and use the words "Associate Registered Engineer" after his name as a part of the description of his professional status.

9. *Effect of Non-Registration*

(i) After the expiry of one year from the coming into force of this Act :

- (a) no certificate required by or under any law from an engineer shall be valid unless it is granted by a Registered Engineer;

- (b) no suit or proceeding for the recovery of any fee, reward or emoluments for or in respect of any work done as an engineer shall be instituted in any court by or on behalf of any person unless that person has his name entered in the register.

(ii) After the expiry of two years from the coming into force of this Act no person other than a Registered Engineer shall, except with the sanction of the Central Government hold any appointment as an engineer under the Central or Provincial Government or the Government of an acceding State, or in any school, college, university, or other institution which is supported either wholly or partially by public or local funds.

10. *Power to Acquire Information as to Course of Study, Training and Examinations*

The Council may require every institution which grants any recognised qualification specified in the first schedule to furnish all information as to the course of study and training and examinations to be undergone for obtaining such qualifications and as to any other matter connected therewith.

11. *Inspection and Examination*

(i) The Council may appoint as many inspectors as it deems necessary to attend any examination held by the institutions which grant recognised qualifications specified in the first schedule;

(ii) Inspectors appointed in (i) above shall submit reports to the Council on the sufficiency of every examination at which they attend and of any other matter with regard to which the Council may require them to report provided that such inspectors shall not in any way interfere with the course of examinations.

12. *Recognition of Qualifications*

Any authority or institution in a Province of India or an acceding State which grants an engineering qualification not specified in the first schedule may apply to the Central Government to have such qualification recognised; and the Central Government after consulting the Council and after such other inquiry as it thinks fit may, by notification in the official Gazette, amend the first schedule so as to include such qualification therein.

13. *Withdrawal of Recognitions*

(i) When the Council is satisfied after such inquiry as it thinks fit that the course of study, training and examination of an institution which grants any recognised qualification specified in the first schedule are not such as to make the persons obtaining such qualification fit to be Registered Engineers, the Council may submit a report to the Central Government recommending the withdrawal of recognition from such institutions.

(ii) The Central Government may, after considering the report of the Council and making such further inquiry as it thinks fit, withdraw, by notification in the Gazette, recognition from that institution on such terms and conditions and for such period as it thinks fit and the first schedule shall be deemed to be amended accordingly.

14. *Qualifications Granted Outside India*

(i) Where the Central Government is satisfied after consulting the Council and making such inquiry as it thinks fit that an engineering qualification granted by any authority in any country outside India is of such a standard as to make the persons obtaining such qualifications fit to be Registered Engineers, the Central Government may, by notification in the Gazette, amend the second schedule so as to include such qualification therein.

Provided that no person other than a person domiciled in India possessing such qualifications shall be qualified to have his name entered in the Register unless by the law and practice of that country persons domiciled in India are permitted to enter and practice as engineers in that country.

CHAPTER IV

REGISTERS

15. The Council shall maintain in the prescribed manner a Register of Registered Engineers which shall include the following members :

- (a) In the case of persons other than an association—his full name, date of birth, domicile, residential and professional addresses, the date on which his name is entered in the register, his qualifications, any other particulars which may be prescribed;
- (b) In the case of an association—its corporate name, if any, or any name by which it is commonly known, its address, any other particulars which may be prescribed.

16. The register shall in every year on or before a date to be fixed in this behalf by the Council cause to be printed and published in the prescribed manner a list of the names and qualifications of all persons (including associations) for the time being entered in the register with such particulars as have been prescribed and on the publications of such a list, the previous lists, if any, should be deemed to be superseded. Every court or authority shall presume that the latest list published under the Act is correct and that any person whose name is not entered in the list, is not a Registered Engineer.

CHAPTER V

REGIONAL COUNCIL

17. *Constitution and Functions of Regional Councils*

(i) The Council may constitute such regional councils as and when it deems fit for one or more of the regional constituencies that may be specified by the Central Government.

(ii) The regional councils shall be constituted in such manner and exercise such functions as may be prescribed.

CHAPTER VI

MISCELLANEOUS

(i) The members of the Council and the officers and servants of the Council should be deemed to be public servants within the meaning of the Indian Penal Code.

The Central Government may, by notification in the official Gazette, make rules to carry out the purposes of this Act.

SCHEDULES

THE FIRST SCHEDULE

(See paragraphs 2, 12 and 13)

Recognised qualifications granted in the Provinces of India and acceding States.

1 Recognised Engineer- ing Qualifications	2 Engineering Institution	3 Abbreviation for Registration	4 Remarks
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THE SECOND SCHEDULE

(See paragraphs 2 and 14)

Recognised qualifications granted outside India.

THE THIRD SCHEDULE

[See paragraphs 7(b) and 8(b)]

The views of the Council are sought on the draft provisions of the proposed bill.

RECOMMENDATIONS OF THE COORDINATING COMMITTEE

The Committee recognised the necessity for a measure of this kind so that engineers may be registered. The Committee, was, however, of the view that a separate Council as contemplated in the bill was unnecessary and that the All-India Council for Technical Education could perform this role. A bill is proposed to be introduced to give statutory powers to the Council and this additional function could be included in the list of functions. The matter would be considered by the Council at the next meeting.

ITEM No. 17.—*To report that Dr. Shiv Narayan has been nominated by the Chairman*

- (i) *on the Pre-Engineering Examination Board constituted by the Central Government, and*
- (ii) *on the Engineering Division Council of the Indian Standards Institution for the term 1st April, 1950, to 30th March, 1953.*

As a result of the reorganisation of the educational system in Delhi consequent on the introduction of a three years' degree course at the Delhi University, a Pre-Engineering course of two years' duration after Matriculation has been introduced at the Delhi Polytechnic.

The course provides instruction of a standard equivalent to Intermediate Science of Indian universities. The subjects for the course include Drawing & Workshop in addition to those normally taught for the Intermediate Science Examination and the final examination has been recognised by the Government and most of the universities as equivalent to Inter-Science for relevant purposes.

An independent Examination Board constituted by the Central Government, conducts the final examination. The composition of the Board is as follows :

1. President of the Association of Principals of Technical Institutions (India)—*Ex-officio* Chairman.
2. Honorary Secretary, Association of Principals of Technical Institutions (India).
3. Principal of a recognised Engineering College nominated by the Association of Principals of Technical Institutions (India).
4. Dean of the Faculty of Science, Delhi University.
5. President of the Institution of Engineers (India) or his representative.
6. Principal, Delhi Polytechnic.
7. A representative of the All-India Council for Technical Education.

The term of office of members is three years.

Dr. Shiv Narayan has been nominated by the Chairman to represent the Council on the Board.

2. Shri H. N. Srivastava, Additional Chief Engineer, Posts & Telegraphs, had been nominated by the Chairman in January, 1948, to represent the Council on the Engineering Division Council of the Indian Standards Institution. His term of office expired on the 31st March, 1950. The Chairman has now nominated Dr. Shiv Narayan (retired Principal, College of Engineering, Poona) as a member of the Council in Shri Srivastava's place.

ANNEXURE II

UNIVERSITY OF MADRAS

University Buildings,
Triplicane, Madras 5.
11th July, 1950.

Sir A. L. Mudaliar, Vice-Chancellor, University of Madras and Chairman, Standing Committee of the Inter-University Board of India.

To

The Secretary to the Government of India,
Ministry of Education, New Delhi.

Sir,

Ref : Your letter No. F.1/2/50/T.2, dated the 19th May, 1950.

With reference to your above communication forwarding report of the sub-committee suggesting that a Bill be enacted empowering the All-India Council for Technical Education to confer degrees in Engineering, Technology and Commerce on students of colleges not affiliated to regional universities, I have the honour to inform you that the opinions of the universities were invited by me from the Vice-Chancellors through a circular letter of the 1st June, 1950, of which a copy is enclosed, and I am to inform you that all the Vice-Chancellors who have replied have endorsed the views contained in my circular letter. This subject was also considered at the last meeting of the Standing Committee of the Inter-University Board held on the 8th instant, which, while endorsing the views of the Chairman, has *RESOLVED* that the Ministry of Education and the All-India Council for Technical Education be informed accordingly, and that in this connection the opinions obtained from the various universities on the proposal of the Council be also transmitted to the Ministry of Education and the Council. I am accordingly forwarding to you extracts of the letters received from the universities for your information.

I request that the views of the Standing Committee and the universities be placed before the All-India Council at its next meeting.

Yours faithfully,
(Sd.) A. L. MUDALIAR,
Chairman,

Standing Committee of the Inter-University Board.

INTER-UNIVERSITY BOARD

Statement of the replies received from universities to circular letter of the Chairman of the Standing Committee on the proposal of the All-India Council for Technical Education to confer degrees in Technology, Engineering and Commerce.

1. AGRA

“I am in entire agreement with you that the suggestion that the All-India Council for Technical Education should confer degrees in Engineering, Technology and Commerce on students of colleges not affiliated to regional universities and to hold examinations for them is fundamentally wrong and cuts at the root of University education in several respects.”

2. ALIGARH

“I am definitely of opinion that this recommendation if put into force will fatally affect the healthy all-round growth of Indian universities and will help in producing an extremely undesirable type of narrow-minded, visionless but powerful organisations without the saving grace of a liberalising outlook. I see no reason why there should be any Engineering colleges not affiliated to the regional universities. I am definitely and strongly opposed to this proposal.”

3. ALLAHABAD

“Agree generally with your views. The conflict between Provincial universities and centrally administered universities should for obvious reasons be avoided.”

4. ANNAMALAI

“It must be the function of the All-India Council for Technical Education only to lay down standards in the field of Technical education for degrees and diplomas and the Council should serve as an advisory body. It should not be allowed to usurp the functions of a university, nor shall the body be raised in status to that of a university for purposes of awarding degrees and diplomas. A conflict may arise between universities and the Council if the latter is empowered to grant degrees.”

5. BANARAS

“Entirely at one with the views expressed in your letter.”

6. BOMBAY

“The syndicate are in perfect agreement with the views expressed by you in your letter of 1st June, 1950.”

7. CEYLON

“I must express my agreement with you and say that I regard the proposals as subversive of all accepted university principles. I trust that the Council will consider the effect which such a proposal, if carried out, would have in countries where Indian degrees are given recognition.”

8. DELHI

“The University of Delhi fully endorse the views expressed by the Chairman of the S.C. in his circular letter dated 1st June. If an extraneous body is allowed to confer degrees in Engineering Technology and Commerce, the university will have to go without a Faculty of Engineering and Technology, and the scope of the activities of the Faculty of Social Sciences will be considerably reduced. The university cannot approve of the proposal to invest the All-India Council

for Technical Education with concurrent authority over affiliated or unaffiliated institutions within its territorial jurisdiction. The position becomes all the more anomalous in the case of the University of Delhi on account of its federative character. The university have no objection if technological institutions in India follow the examples of those in other countries and award diplomas to their students after satisfying themselves as to their proficiency in the subject in which they received instruction. But to confer a degree should be the special privilege of a university. Any diversion on the lines now suggested by the All-India Council for Technical Education will create interminable difficulties and will encourage constituent colleges to secede from the university. This apprehension is not unfounded. Sometime ago, the Delhi Polytechnic applied for affiliation to the University of Delhi in certain specified subjects. After the university had taken the trouble of getting the Delhi Polytechnic inspected by competent experts from other universities, and after the Executive Council had decided to grant that institution affiliation in two subjects, the authorities of Delhi Polytechnic decided to avail themselves of the privileges extended to it by the university. The All-India Council for Technical Education should function in the same way as the Medical Council is now doing and its cooperation in maintaining and improving standards of teaching and examination in the subjects in which it is specially interested will be quite welcome to the universities but to convert itself into a technological university with unlimited jurisdiction all over India may lead to unhealthy competition with the existing universities."

9. GAUHATI

"I am opposed to the recommendations that the All-India Council for Technical Education should confer degrees in Engineering, Technology and Commerce on students of colleges not affiliated to regional universities and hold examinations therefor. The recommendation ignores the territorial jurisdiction of the universities and if accepted, will establish the principle of extra-territorial jurisdiction which the Inter-University Board has already rejected. The functions of the All-India Council for Technical Education should be restricted to the regulation of standards, and it may also operate as a visiting and inspecting agency in the field of higher technical education on the lines of the All-India Medical Council for the maintenance of uniform standards for the degrees and diplomas."

10. JAMMU AND KASHMIR

"I do not think it is desirable that the recommendation made by the Coordinating Committee of the All-India Council for Technical Education should be accepted."

11. MADRAS

"The subject was considered by the Syndicate, which felt that the suggestion was of far-reaching consequence to the universities, that it was fundamentally opposed to the views expressed frequently by the universities in general and by the Inter-University Board regarding the jurisdiction of universities and the aims and objectives of universities, and that it would cut at the root of University education in many respects..... The Syndicate has therefore resolved that the university must definitely express its opinion against the

All-India Council for Technical Education being given the power to confer degrees on students qualifying out of institutes situated within the territorial jurisdiction of university or otherwise."

12. *POONA*

"I entirely agree with your views and have nothing to add."

13. *RAJPUTANA*

"I suggest that the A.I.C.T.E. may confer diplomas and certificates and not degrees, which are conferred usually by universities."

14. *SAUGAR*

"Certainly, I am not in favour of any such measures which are likely to weaken the strength of regional universities."

15. *TRAVANCORE*

"I am entirely in agreement with your views in the matter."

16. *UTKAL*

"I fully agree with your views expressed in your letter."

Replies have not been received from

- | | | | |
|-------------|------------|------------|-------------|
| 1. Andhra | 4. Lucknow | 7. Osmania | 10. Rangoon |
| 2. Baroda | 5. Mysore | 8. Panjab | |
| 3. Calcutta | 6. Nagpur | 9. Patna | |

INTER-UNIVERSITY BOARD

Sir A. L. Mudaliar, M.D., D.C.L. (Oxon), D.Sc., LL.D., FRCOG., FACS.,
Vice Chancellor, University of Madras, and Chairman of Standing
Committee.

University Buildings.
Chepauk, Madras.
1st June, 1950.

To

The Vice Chancellor,
Delhi University.

Sir,

I am herewith enclosing a copy of the letter from the Secretary to the Government of India, Ministry of Education, asking for my views as a representative of the Inter-University Board on the recommendations that the All-India Council for Technical Education should confer degrees in Engineering, Technology and Commerce on students of colleges not affiliated to regional universities and to hold examinations therefor. I consider this suggestion is of such far-reaching consequence to the universities concerned that it is of the utmost importance that all universities should consider the suggestion seriously and should make known their views as soon as possible, so that when the Council meets in July, I may be in a position along with my colleague on the Council, Dr. N. K. Sidhanta, to place the views of the universities before the Council.

2. In my view this suggestion is fundamentally opposed to the views expressed frequently by the Inter-University Board regarding the jurisdiction of universities and the aims and objectives of universities.

3. When the All-India Council for Technical Education was formed, there was no suggestion that it will take on the functions of universities and confer degrees. In fact the main objective was to cooperate with universities (i) in laying down standards in the field of technological education; (ii) to visit technological institutions and to up-grade them so as to fulfil their purpose effectively; (iii) to recommend to the Government of India for grants to such universities or colleges; (iv) to recommend the institution and maintenance of four higher technological Institutes in the Eastern, Western, Southern and Northern zones; and (v) to grant All-India National Diplomas which will be recognised all over India and will approximate the Degrees conferred by the universities.

4. To enable these functions to be effectively fulfilled, it was decided that regional committees should be formed. Such regional committees have so far not been brought into existence.

5. The Universities Commission recommended and the Central Advisory Board at its recent session accepted a resolution that a Council of Technical Education should be established through this Council on the lines of the All-India Medical Council for regulating standards and as a visiting and inspecting agency to lay down uniform and minimum standards in the field of Technical education for degrees and diplomas.

6. The suggestion now put forward cuts at the root of University education in many respects :

- (i) The Inter-University Board while accepting as a member the newly instituted Technical University at Roorkee expressed the view that it was not desirable to establish such institutions as universities as from the very nature of their definition, they should be more comprehensive and should have many faculties to justify their being called universities. Except in a few American institutions where the terms 'Colleges', 'Universities', 'Institutes', are loosely applied, in most countries universities are concerned and should be concerned with the activities of many faculties.
- (ii) In the very interests of technological studies, it is obvious that such studies would benefit greatly if they are carried on where scientific studies in other fields and in fundamental sciences are being carried on and it is for this reason that the Inter-University Board felt strongly that the establishment of a Technical University was not desirable.
- (iii) The suggestion that an All-India Technological University should be established and should have the power of affiliating colleges situated in the regions of the different universities cuts at the very root of the principle of territorial jurisdiction of Indian universities that it seems necessary that the universities should in no uncertain terms make their views known to the Government of India. On more than one occasion such a move was strongly resented

as when the late Sir Ziauddin Ahmed sought to introduce a bill in the old Legislative Assembly to permit the Aligarh University to affiliate colleges all over India. Such a power given to the proposed Technological University may result in not only colleges not affiliated to universities seeking affiliation but also in colleges already affiliated, dis-affiliating themselves and seeking affiliation to the proposed Technological University.

- (iv) If in the field of technological education, it is proposed to establish a Technological University, there is no reason to doubt that in other fields also such demand may be made which could not be resisted. Why should not the All-India Medical Council claim such a privilege? And later we may have All-India Veterinary University, All-India Agricultural University, All-India Legal Studies University, All-India University of Pedagogy and similar universities. Why should not the National Institutes of Chemistry; Physics, etc., claim the same privilege and wish to affiliate colleges of science to the proposed universities?

7. There is another aspect of the question which merits serious consideration. Such an important and far-reaching subject should have been mooted first in the Council and not in the Coordinating Committee which is only the executive organ of the Council entrusted with the task of implementing the decisions of the Council. It was *ultra vires* of the power of the Coordinating Committee to have considered such an important subject.

As this is a most important and vital matter, I request you to let me have your views before the 30th June, so that these may be placed before the Council when it meets in July.

Yours sincerely,
 (Sd.) A. L. MUDALIAR,
Chairman,
Standing Committee of Inter-University Board.

ANNEXURE III

TELEGRAM DATED 23RD JULY, 1950, FROM SHRI GOVIND MALAVIYA, BANARAS CANTT. TO SECRETARY, ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION, GOVERNMENT HOUSE, CALCUTTA.

Deeply regret unable attend meetings Coordinating Committee Council owing acute attack diarrhoea. Am emphatically opposed to proposal establish statutory central body for affiliating Technical institutions all over India. This will make healthy growth Technical education institutions, impossible. Possibility gravest injury involved. Appeal members Council not accept proposal. Regional universities should affiliate all institutions within their area to degree or diploma course as envisaged by Council for National diplomas. Failing this request Council allow central body affiliate institutions for conferment diplomas only. Will be grateful your reading out this telegram to meeting Council.

ANNEXURE IV

GOVERNMENT OF WEST BENGAL, EDUCATION DEPARTMENT

Calcutta,

No. 50T/24-50

24th July, 1950.

From

Dr. D. M. Sen,
Secretary to the Government of West Bengal,

To

The Secretary to the Government of India,
Ministry of Education.

Sir,

I am directed by the Hon'ble Minister for Education, West Bengal, to refer to your letter No. F. 1-2/50-T.2, of the 30th May, 1950 in which the Hon'ble Minister for Education was requested to obtain the views of the Governments of Assam, Orissa, and Bihar on the proposal of the Coordinating Committee regarding the establishment of a National Technical University. The views of the State Governments concerned are furnished below :

Assam and Orissa : Agree with the views recommended by the Coordinating Committee.

Bihar : No reply.

West Bengal : Is in general agreement with the recommendations. Some of the details of the scheme may require closer examination.

Yours faithfully,

(Sd.) D. M. SEN,

Secretary to the Government.

ANNEXURE V

REPORT OF THE SUB-COMMITTEE APPOINTED TO CONSIDER THE QUESTION OF FINANCIAL ASSISTANCE TO THE STAFF GOVERNMENT TECHNICAL INSTITUTIONS FOR THEIR DEVELOPMENT

The Committee had before it a list of schemes concerning Technical education approved by the Central Government together with their estimated cost of development and the actual expenditure incurred upto 31st March, 1949.

Having regard to its terms of reference, the Committee confined itself to the consideration of schemes relating to government institutions only. The Committee was further of the opinion that the recommendations of the Council in regard to financial assistance should be restricted to institutions providing courses of degree standard or its equivalent.

Having decided the basis, the Committee proceeded to consider the various schemes.

The observations of the Committee on the various schemes are as follows :

ASSAM

Both the approved schemes related to Technical schools and therefore were outside the scope defined by the Committee. The Committee had, however, before it a representation from the Assam Government to convert the H.R.H. Prince of Wales Technical School into a college at a capital expenditure of Rs. 52,90,000. The Committee was of the opinion that until financial conditions improved, the needs of Assam in regard to training for courses of degree standard, may be met by fixing a suitable quota of seats for students from Assam in the Higher Technical Institute for the Eastern region, and other institutions which are receiving grants-in-aid from the Central Government.

BIHAR

The scheme for the establishment of a Mechanical and Electrical Engineering College and the Subordinate Mechanical and Engineering classes at Sindri was considered. The Committee desired that details of estimated expenditure separately for the college section and the subordinate classes should be obtained and submitted to it for further consideration. Information relating to progress made already in the implementation of the scheme and the expenditure incurred should also be obtained.

BOMBAY

Two schemes, *viz.*, expansion of the Engineering College, Poona, and the establishment of an Engineering College at Ahmedabad, were considered. So far as expenditure on the scheme of development of the Engineering College at Poona was concerned, the Committee

observed that most of the expenditure originally estimated had already been incurred. The Committee was of the opinion that financial assistance should be given if necessary to complete the project.

As regards the Engineering College at Ahmedabad, the Committee desired to obtain further information indicating the expenditure separately for degree and diploma courses and the progress made so far.

MADHYA PRADESH

The Committee considered the scheme for the establishment of a Government Engineering College at Jubbulpore. The Committee had before it the request of the Madhya Pradesh Government also which was referred to it by the Coordinating Committee. The Committee was of the opinion that the State Government should be helped to complete the project and that full information should be obtained regarding the provision made for the establishment of degree courses.

MADRAS

The scheme for the Engineering College, Kakinada, was considered. The Committee desired that for this college also information be obtained as for the Engineering College, Ahmedabad.

ORISSA-

The scheme for the reorganisation of the Orissa School of Engineering at an estimated cost of Rs. 17,13,000 was considered. It was not clear to the Committee if the State Government intended to provide degree courses in the institution. The Committee desired that information be obtained in this connection and also if the original estimated cost of Rs. 17,13,000 was expected to cover the expenditure on the provision of such facilities.

PUNJAB

The Committee observed that the approved scheme of the Punjab Government had not been started.

UTTAR PRADESH

None of the schemes of this State came within the scope defined by the Committee.

WEST BENGAL

The Committee considered the scheme for the development of the Bengal Engineering College, Sibpur and noted that on account of lack of finance, the scheme had not been able to progress. The Committee was of the opinion that the Central Government should give financial assistance for the implementation of this plan.

Summarising, the Committee recommended that the Central Government should give immediate financial assistance for the implementation of plans relating to—

- (1) Engineering College, Poona,
- (2) Government Engineering College, Jubbulpore, and
- (3) Bengal Engineering College, Sibpur.

Further that information as detailed in the above paragraphs be obtained from other institutions.

The Committee further recommended that in so far as grants for 1950-51 are concerned, the Central Government should assist the three institutions mentioned in the previous paragraphs to the extent of 50 per cent of the actual capital expenditure. The respective State Governments concerned should be requested to review the plans in the light of the existing financial difficulties with a view to effecting economies. The revised plans may be submitted to this Committee for examination and recommendation in regard to grants for future years.

ANNEXURE VI

REPORT OF THE SUB-COMMITTEE ON TRAINING OF POWER ENGINEERS

In dealing with the question of training of Power Engineers, it was found necessary to have a clear conception of what is meant by "Power Engineer". According to the Committee, a Power Engineer should be a specialist to deal with problems connected with the development of power resources, and its generation, transmission and utilisation. Such specialisation will cover both thermal and hydro-electric power.

2. The Committee felt that having regard to the wide range of experience envisaged in the training of such engineers, such specialists will have to be evolved from among those in the profession and employed in large utilities and power systems in the country. An engineer after finishing his course of studies in an Engineering college will join a public utility undertaking as a junior engineer (and not a paid or unpaid apprentice where he gets no responsible work) and in course of time, will work in the various branches of the utility. This will cover a period of five or six years, when he may be considered to have gained an all-round experience. It should be possible for the management to pick out the most promising from among their personnel who have had such experience in a responsible position and earmark them for more specialised training, preferably abroad, in large power systems, manufacturing concerns and with consulting engineers dealing with the design of large power stations. When he returns to this country after such a course of training, he should be able to shoulder a more responsible position in the development of power resources of the country.

3. An attempt has been made recently for introducing an advanced theoretical training in the Indian Institute of Science, Bangalore, where it is the intention to admit, besides engineering graduates, practising engineers who are already employed in the various power systems for specialised post-graduate studies in Power Engineering. It is understood that the laboratories at Bangalore in this new department consist of modern high pressure boilers and turbo alternators equipment for testing high voltage switchgear and lines and also a network analyser, besides provision for research in electrical and hydraulic engineering. With such facilities it is not unreasonable to expect that some of the engineers who undergo training there, will in due course, form the nucleus of the staff for the various States in this country to deal with problems connected with power development. From what has been said above, in the view of the Committee, it seems obvious that we cannot train raw graduates in Power Engineering as such, except for the operational and maintenance side for which the existing system of training has been found quite adequate. It is also clear therefore that so far as the training in the country of Power Engineers as such is concerned, the system of two years' stipends for apprenticeship will not be of material help, and till

such facilities are available in this country, we will have to send some of our bright, experienced and young engineers for further training abroad in large power systems and with consultants and manufacturers.

4. In view of the long range implication of these proposals, this Committee would suggest that a Standing Committee of the All-India Council for Technical Education be constituted which may be associated with the Standing Committee of the All-India Power Engineers' Conference, 1949, in accordance with the latter's resolution No. X.

(Sd.) S. R. SEN GUPTA

(Sd.) V. LAXMINARAYAN

(Sd.) K. P. P. MENON

APPENDIX A

TEXT OF THE INAUGURAL SPEECH DELIVERED BY HIS EXCELLENCY THE GOVERNOR OF WEST BENGAL ON 24TH JULY, 1950

His Excellency said :

“This is the second time that you, Sir, have accorded me the privilege of inaugurating a new session of this important Council. The 15 months since we met last has been a difficult period, not only in the history of India but in the history of the world. We have been passing through ups and downs, days of mounting hope and days of descending fear and despair and of almost a sense of helplessness to control and direct the passage of events, gravely affecting the welfare of mankind. And now the world is faced with war-like operations, euphemistically called police action, in a part of the world known, as recently as 50 years ago, as the hermit kingdom, so peace-loving and quite were its people. You and I are fully conscious of the paramount importance of Technical and Technological education for our national development, but the other side of the picture not seldom passes before my eyes and mind. Thanks, for instance, to the discoveries and efforts of technicians and technologists, by the time that South Korea is ‘liberated’ for the benefit of South Koreans, whether by the United Nations or by North Koreans, a large part of South Korea would have been destroyed. In India we fondly cherish the intense hope that the skill and knowledge of the young men and women, who may pass through the portals of the great technical and technological institutes which, under your expert advice, will soon be established throughout India, may be directed primarily for the alleviation of human suffering, raising the standard of living of the common people of this ancient land and promoting its material welfare and prosperity. I was very glad the other day to pay a brief visit to Hijli near Kharagpur. To us in West Bengal it is a matter for joy that soon the great Eastern Higher Technical Institute will begin to function at Hijli. I sometimes wonder whether members of the Council realise the great contribution which the State Government has made towards the implementation of this great scheme. Not only has it placed at the disposal of the Government of India a very large area (about 1 200 acres of very valuable land) but the buildings standing thereon are themselves splendid and costly. Midnapore district is one of the biggest in Bengal, and some years ago there was a proposal to divide the district into two parts, and Hijli was selected as the headquarters of the new district, and the buildings which have now been handed over by the State Government for the purpose of the institute were constructed for accommodating all administrative and other offices and constitute a very substantial and, indeed, handsome block. I am indeed happy that this imposing edifice will now be utilised for a great nation-building purpose. The Government of India will no doubt incur a large expense, recurring and non-recurring, on this Institute, but the initial contribution by the State Government has been by no means insignificant.

May I also in this connection say how deeply I appreciate the constitution of a Board of Governors for the management of this institute? These four big institutes throughout India enshrine in themselves great hopes and aspirations of the coming generations, and it is of the highest importance that their management should lie in efficient hands. Not only should the personnel of these governing

bodies be well-qualified but they should, so to say, be almost in continuous session so that the day-to-day management of the institute may proceed with the utmost smoothness and serious problems arising from time to time might be met and solved without any avoidable delay.

As the Hijli Institute will in all likelihood be the first to start functioning, I imagine it will also become the model for the other three sister institutes in different parts of India. I do hope that these sister institutions will also be established in the very near future. I am particularly keen about the one in the Northern zone. Kanpur is rightly regarded as the industrial capital of Northern India, and the early establishment of a modern technical and technological institute in Kanpur is bound to accelerate industrial progress in that part of the country.

This Council has taken under its sheltering and fostering care 14 universities and non-official technical institutes for upgrading and further improvement and development, and it is a matter of satisfaction to all interested in Technical education that the Government of India, in accordance with your advice, has made substantial grants, capital and recurring, to them for that purpose. We all hope that the public funds so applied will yield beneficent results all round, but the limitation of what I may call your advisory jurisdiction to these non-official technical institutions has led to a very curious result. The Government of India, I imagine, did not, at the time when they sought your advice, think that they needed it in regard to the comparatively few official technical institutions like the Sibpur Engineering College, because the Government very likely thought that they knew all about the needs of these official institutions and that ample provision and improvement by and through the process of development had been made for their development grants made to different provinces. These development grants, I suppose you are already aware, have met with an unkind fate, and the Government of India in the Finance Ministry has, owing to considerations of financial stringency, radically curtailed or even stopped some of these grants. The curious result now is that while the Government of India in the Ministry of Education is undertaking large schemes at substantial expense for the development of Technical education through the financing of the existing non-official institutions and even establishing new ones, the Government of India at the same time is making it exceedingly difficult for the existing official technical institutions to develop further. Taking the case of the Sibpur Engineering College, as an example of many others similarly situated in different parts of India, we had large improvement schemes on hand; college buildings were in process of construction, hostels were planned and new additional equipment was being confidently expected in a few months, and now owing to the stoppage of the development grants, the college is left in the lurch and its further progress is retarded. I understand that this matter has already engaged the attention of your Coordinating Committee and will probably engage your attention too. It is worthy of your immediate consideration and I do hope that you will tender your advice upon it to the Government of India without any avoidable delay.

That brings me to an important aspect of planning. There is general agreement about the necessity of planned development. Uncoordinated and unplanned development is not only lopsided but may

lead to duplication of effort and waste of public funds. Planning is the more imperative because in so far as big schemes are concerned, many transcend Provincial boundaries and will require inter-State co-operation, and therefore very careful and well-considered preparation. But planning is not an end in itself. The end is the implementation of a particular plan. It is obvious that plans for their implementation require both national effort as well as public funds. It is equally obvious that the country is passing through days of financial stringency and unlimited public funds are not available for many desirable schemes. Nevertheless, I respectfully suggest that when once a plan has been approved of, it should be executed irrespective of every consideration. The planning authority might be informed beforehand of the extent of the funds which the Central or the State Government, as the case may be, is prepared to allocate for the implementation of any particular kind of plans, and the planning authority should be instructed to prepare its plans within those limits. But when once that has been done and the plans are approved, then there should be no hesitation, no halting and turning back, so to say, in midstream, and dropping or even slowing down of the plan altogether, barring, of course, for reasons of an exceptional national emergency. This abandonment or even slowing down of schemes, while in the process of execution, not only leads to waste of public funds but may also have very adverse and undesirable psychological effects on the public mind. When once a plan for any big scheme is approved of and its execution commenced, naturally great expectations are roused. People acclaim it as a coming event of great national significance, which will be the harbinger of well-being and prosperity to millions on a large scale. To use a village phrase, there is an immense boosting of such plans by everybody on all sides. People are told just to wait a few years more, and the shape of things to come is painted before them in the most lively and attractive colours, and then suddenly one fine morning we are told that, owing to financial stringency or some such reason, the scheme has been abandoned, and the promised heaven recedes from our vision. In Bengal we experienced this feeling of frustration when we learnt that the Damodar Flood Prevention Dam Scheme was no longer under active consideration, and similarly last week I read with great regret a newspaper report that the further execution of the Rihand Dam in the Mirzapur district of Uttar Pradesh had been abandoned and all machinery, stores and staff diverted elsewhere. I had myself dreamt for years and years of this Rihand Dam as a source of immense power and now I wonder whether that dream will ever become a reality in my lifetime. I do hope that the newspaper report is not accurate and that the scheme has not been really abandoned, nor has it involved the loss of a crore and a half on fruitless expenditure. That statement, I am sure, is incorrect.

These great hydro-electric projects raise great hopes and hundreds and thousands of young men flock to our technical and technological institutions of various kinds looking forward to honourable careers of public service in industries which will come into being and grow as a result of completion of these projects. But if we abandon them and at the same time go on with development of technical and technological institutes, then we may find ourselves landed one day in the wastes of unemployment.

At present there is a considerable shortage of technically qualified personnel, not only among the higher grades, such as engineers, but also among their assistants, craftsmen and technically-trained workers, and it is also true that there is considerable room for absorption of these qualified craftsmen in our cottage industries. But when all is said and done, industrial expansion must keep pace with the expansion of and facilities for technical and technological training. For this industrial expansion on a large scale, in the final analysis, cheap power is indispensable and that cheap power can only be made available by well-planned but gigantic multi-purpose hydro-electric projects. This Council necessarily concentrates its attention on facilities for Technical education, but the allied subject of employment of qualified trainees is even more important. Today it is our good fortune that our young men and women are taking in an increasing measure to technical and scientific training. Demand in all colleges and universities for expansion of science courses is ever-growing. This modern tendency is no doubt caused to some extent by a patriotic urge to make good the deficiency under which India is labouring at present, but I imagine there is also the expectation that a technical course will lead to early and gainful employment. If that expectation is unfortunately not fulfilled, then the sense of frustration may be acute and not unjustified. Establishment therefore of new industries or expansion of the old ones whether under State control or by private enterprise, is a prime necessity, and money urgently necessary for bringing about this industrial expansion must be found, even though people have to undergo some hardship in the process. Leaving aside Defence requirements for the moment, rehabilitation of displaced persons and food make, these days, great demands on the public exchequer. Agriculture, however, is an industry and requires expert agricultural engineers and qualified assistants for development, and money spent on Technical education as well as industrial expansion will go equally towards rehabilitation of displaced persons as well as increase our food production. Technical education covers a vast field—really every branch of national life. In some fields we have made considerable progress in others I fear that we still lag far behind our ancestors. Take, for instance, architecture. Mentioning as an example, the famous Orissa temples rank as wonderful specimens of the architect's skill in the world. We seem to have lost that skill. I am not thinking merely of the skill of the sculptor as an artist but also of the builder. When I was in Orissa, it frequently occurred to me that we should make an effort to recapture that skill. I am not fully conversant with the facilities provided for acquiring skill as an expert architect. One might think that there is room for an all-India college of architecture where instruction might be given in the different designs and descriptions of architecture with which our country abounds. The need for the establishment of one or two all-India technical or technological institutes is also worthy of our examination. Among other things, it will promote a sense of national solidarity among our engineers and technologists and also a sense of comradeship among them. Friendship formed in these national institutions should prove of great national advantage later when these men come to occupy positions of great executive responsibility, both in the field of planning and execution.

In conclusion, may I venture to repeat what I said last year that your advisory jurisdiction seems to have almost exhausted itself. I trust that the Central Government will now endeavour to extend its

activities in other fields. The Council is without doubt the most representative organisation, in the fullest sense of the word, of India as a whole. No weightier can be imagined. Instead of duplicating agencies or setting up new bodies, it will be in the national interest to utilise to the fullest extent the experience and wisdom of this Council in every way.

And finally, may I venture to draw again your attention to the large areas which were formerly Indian States but have now, by our great good fortune, become administratively absorbed in the great Indian Union. I myself hail from Madhya Bharat and I know personally how backward the people of these States are in the matter of Technical education. They have been grossly neglected in the past and they deserve from this Council great sympathy and encouragement and every help.

May God grant that your labours may redound to the glory and prosperity of India."

APPENDIX B

TEXT OF THE SPEECH DELIVERED BY THE HON'BLE SHRI N. R. SARKER,
FOLLOWING THE INAUGURAL ADDRESS BY H. E. THE GOVERNOR OF WEST
BENGAL.

Shri Sarker said :

“I accord you a most cordial welcome to this Annual Meeting of the All-India Council for Technical Education. As you are all aware, the Council has been reconstituted for another term of three years and this, in fact, is the first meeting after its reconstitution. The new Council is now called upon to build upon the foundation which was well laid by the old and to set up the structure of a highly organised system of Technical education in this country upon which much of our future material progress so largely depends. To this great task I specially extend a hearty welcome to those who are new to the Council and, I hope and trust, their association with the Council will prove of great value.

The circumstances leading to the establishment of the Council are well known to you ; yet, I think, in the present context it bears repetition inasmuch as it may offer a useful background for the work before the Council and a key to the sense of urgency with which the Government of India had been viewing the problem of Technical education in the country. In March 1944, the Government of India appointed an Advisory Committee on Technical Training which surveyed the limited field of training facilities for craftsmen and submitted a Report embodying a scheme for training for young men leading upto a National Certificate of Craftsmanship. Subsequently, another Committee, consisting of scientists and businessmen, was appointed and I was associated with it as its Chairman. This Committee was called upon to advise whether, with a view to ensuring an adequate supply of higher technical personnel which would be necessary for the post-war development of the country, it was desirable to have a Central Institution on the model of the Massachusetts Institute of Technology with a number of higher institutions affiliated to it, or to have a number of higher institutions on a regional basis, or any other type of organisation.

The Committee submitted its interim report in due course recommending the establishment of four Higher Technical Institutions on a regional basis, one each in the North, South, East and West. It also recommended that the institute for the Eastern region of India should be located near Calcutta ; and that for the Western region near Bombay. In fact, these two have been taken up as a priority job. In the meantime the All-India Council for Technical Education was constituted in November, 1945, to survey the needs of the country as a whole in the field of higher technical education and also to advise on the establishment of Higher Technical Institution of the type envisaged by the *ad hoc* Committee appointed earlier for the purpose. I was invited to accept the Chairmanship of the Council which was constituted for a term of three years. With this meeting we enter into our second term.

As the Council enters upon this second term of office, I do not claim that we can present before the country a formidable record of achievements; but, I believe, I can, on your behalf, make this modest claim that we have made a good beginning; and in certain directions we are proceeding well according to plan and making good progress. Particularly in respect of Higher Technical Institutes, considerable spade work has been done. You are all aware that of the four proposed Higher Technical Institutions, one for the Eastern region to be located at Hijli in West Bengal has now far advanced so far as its preliminary works are concerned and efforts are being made to get it going as early as practicable. In order to ensure expedition, the Government of India, on the recommendation of the Council have appointed a Seven-Member Board of Governors to look after its affairs as a priority job. The Board is fortunate in having the Hon'ble Dr. B. C. Roy, the Chief Minister of West Bengal, as its Chairman and under his energetic direction, the Board is already on the stride. The Government of West Bengal have been good enough to provide lands for the Institution at Hijli as also certain existing buildings and structures, which, by necessary adjustments, can be utilised for the purpose of the Institution. The Government of Bombay also have kindly assured us to secure necessary land for the Institution to be located in the Western region. We are particularly gratified that Dr. J. C. Ghosh, who is such a valuable member of the Council and whose great experience and knowledge have always been so readily made available to us, has assumed the Directorship of the Institute in the Eastern region and, I think I share the feelings of you all when I say that his stewardship of the Institute, somewhat new of its kind in this country, is bound to be its greatest asset. The selection of suitable staff for this Institute is now in progress and candidates have been interviewed in the United Kingdom and the Continent. This is also proving a not too easy job, as, not only in India but also in every other country in the world, highly qualified technical men are not easily available, at least within our means. But as we all know, the success of higher institutions of this type very largely depends on the quality of the staff with highest academic and technical qualifications. Nevertheless I am glad to be able to report that several eminent scientists have been already selected for top appointments and they are taking up their posts. The construction work of the Institute and the renovation of existing structures are proceeding apace and good amount of necessary equipment, specially for workshop and laboratories, has also been secured. As regards the Institute to be located in Western India, the Government of Bombay have provisionally selected a site; and as for the Northern and Southern, the preliminaries regarding the site, etc., have not yet been finalised. As I said, the Council has assigned priority to the Eastern and Western Institutes. At present we have none of this type in the country and our need for them is extremely urgent.

The task of the Council has not been confined to the tackling of the question of establishing new Higher Technical Institutions only; the question of strengthening and upgrading the existing institutions has also engaged its earnest attention and good progress has been made in this direction also. The first Council made a survey of the technical institutions all over the country and selected 14 for immediate upgrading and strengthening. The Council recommended that grants and loans from the Central Revenues, both capital and recurring, should be made to these institutions. The council, however,

specified certain terms and conditions to be fulfilled by the institutions receiving the grants and loans. These terms and conditions included specifications regarding the intake of students, the maintenance of a proper standard of teaching, salary of teachers, building and equipment, etc. The Government of India accepted the recommendations of the Council both as regards the grants and loans as well as the conditions attached to them. They have agreed to grant large sums to various Engineering and Technological institutions in the country under the scheme of the All-India Council for Technical Education. Capital grants for building and equipments and interest-free loans under this scheme approximate to Rs. 1 crore 34 lakhs of which Rs. 51.63 lakhs is for buildings, Rs. 99.93 lakhs for equipment and Rs. 32.20 lakhs interest-free loan. The ultimate recurring grant is Rs. 24.18 lakhs. Accordingly, large grants were made and interest free loans granted to selected institutions for specified purposes. A sum of Rs. 13.75 lakhs towards capital expenditure and Rs. 5.78 lakhs interest-free loans for constructing hostels were sanctioned by the Government of India during 1947-48 to nine out of 14 institutions mentioned above, and a grant of Rs. 25 lakhs and interest-free loans amounting to Rs. 12.56 lakhs were sanctioned in 1948-49. During 1949-50, grants and loans were sanctioned to another four out of the remaining five institutions. The case of the fifth institution, the Annamalai University, is soon to be decided on receipt of the Report of a Visiting Committee which is expected to inspect the institution shortly and to go into certain representations made by it. The total amount of grants and loans sanctioned for 1949-50 to 12 institutions is Rs. 25.23 lakhs, of which Rs. 9.10 lakhs is granted for building, Rs. 5.6 lakhs for equipment, Rs. 9.99 lakhs is recurring grant and Rs. 51,000 is interest-free loan.

The Council also took upon itself the task of raising the standard of existing system of Technical education and bringing about a uniformity which may tend to improve the standard of existing courses. When the scheme of upgrading 14 non-Government institutions was accepted, it was understood that the State Governments would be able to upgrade their own institutions from their own resources or from Development Grants from the Centre. It is now apprehended that some of the State Governments are in such financial difficulties that they are not able to do so, or even to complete the schemes of development which have already been taken in hand. A proposal to help such State institutions from Central sources through the All-India Council for Technical Education is before you and I have no doubt that it will receive due and sympathetic consideration.

In regard to diplomas and certificates which the Council is awarding, certain principles have been formulated and those are since being followed. The All-India Council for Technical Education directed that the standard of the All-India Diploma and Certificate Courses should be equivalent to that of university degree and Foremanship Courses, respectively. The Council also directed that in so far as the diploma courses are concerned greater emphasis should be laid on the practical side of the courses. The idea was that while the All-India Diploma Courses should be equivalent in standard to that of the degree course in universities, they should not be rival courses but should be designed to fulfil the specific needs of the industry. As regards All-India Certificate Courses, the Council directed that

these courses should be designed to afford opportunities to persons engaged in full-time or part-time industrial or engineering occupations to acquire further knowledge in the subjects relating to their professions so that they could be more useful. With this end in view the various All-India Boards of Technical Studies have so far finalised a number of courses and given affiliation to a number of institutions for certain courses of study. A number of other institutions have also applied for affiliation to the Council for All-India Courses in respect of certain branches of a study.

With a view to achieving uniformity in syllabuses and the standard of teaching in various technical institutions, the Coordinating Committee of the Council appointed a small committee of three members to collaborate with a Committee of the Inter-University Board in order to make an appraisal of the position of Technical education in the universities and to lay down the general principles to be observed at the universities. The Interim Report of the Joint Committee has now been received and its recommendations, are before the present meeting of the Council for your consideration. You will find that the Committee has expressed the view that the basic degree in Engineering should be provided in four main branches; further that the course of studies in each of these branches should be an integrated one of four years' duration; and that there should also be provision for post-graduate specialisation. The Committee has also expressed its views on the position of the All-India Diplomas and their relation to courses of studies in the universities. The Committee has recommended that in order to enable the All-India Diploma-holders to qualify for higher degrees of universities, they should be allowed to sit for the University First Degree Examination without putting in the terms. Personally I feel, however, that the universities should recognise the All-India Diplomas as equivalent to their own degrees and thus fall in line with the decision of the Union Public Service Commission. The Council had also appointed different All-India Boards of Studies for different branches of Technology as well as Commerce and Applied Arts for the preparation of All-India courses. The work so far done in this direction has been notable. Several Boards, on different branches of Engineering, have already finished their work and drawn up syllabuses and curricula for their respective branches of study.

This is the main line along which our efforts have so far been directed. The output of work so far done by the Council during the past three years may not be quantitatively very flattering, but, I think, qualitatively we may claim to have made a good beginning without trying to bite more than we could possibly chew, bearing in mind the condition through which the country has been passing. In the past we had neglected industry and agriculture as much as we neglected the technical and scientific training necessary for their improvement in the modern context. Until recently, therefore, we had been persisting with the bullock-cart speed while the world before us was moving forward in galloping strides. With the achievement of freedom, however, the raising of the standard of living of the people has been assigned the topmost position in every blue-print of our national reconstruction. And if this is to be achieved, industry and agriculture must progress, and we must harness science and technology to our aid just in the manner as some other countries

have done, notably Soviet Russia and the U.S.A. All this indeed has created a new sense of urgency for a rapid expansion of Technical education in the country to aid the cause of our material progress.

At the moment our deficiency in technical man-power is well known, while at the same time we have planned for a multi-pronged attack against our various economic ills. The various river-valley projects, constructional schemes and other large-scale projects are designed to serve the basic purpose of raising the standard of living of the people. The implementation of these schemes has brought us face to face the technical man-power problem which is found to be one of our greatest bottle-necks. In fact we are hopelessly running short not only of technicians and engineers and craftsmen, etc., but also of persons capable of planning big projects and undertaking big responsibilities in a big way. It may be that in certain lines we may have a fairly good number of qualified men, but since Engineering training in the country had generally proceeded on an unplanned way, we have had a glut in some specified lines, while, in others equally important, we have had extreme paucity. This is the crux of the problem that the Council is called upon to solve and create conditions not only for the expansion and consolidation of all grades and types of Technical education in this country, but what is of more importance, also for effecting necessary improvement in the standard and efficiency of the training along up-to-date lines. The existing facilities for Technical education in the country, even taking into account what progress we have been able to make during the last few years, fall far short of the requirements of the country, and they need to be vastly increased. We have at present about 60 institutions throughout India imparting instructions in Engineering and Technology but these admit annually only 3,200 students for degree courses and 4,500 students for diploma courses. The total sum of the facilities for the needs of a vast country like ours, is too inadequate and we require these facilities to be multiplied several times to meet short-term requirements. I may give you some facts in this connection about the latest position of technical training in some of the Western countries. You may be interested to learn that in Halifax, Bradford and Huddersfield, three of the literally scores of centres for technical training in Britain, there are 9,500 students going through an advanced course. We have only a handful of students in the technological departments of our universities, whereas the number of students in the various technological departments of the British universities was 5,000 in 1938. This number has now increased to 11,000. These figures were quoted in the British House of Lords the other day when a very interesting debate developed on the position of technological training in Britain. In course of the same debate one speaker mentioned the intake of students in the Technological Universities in Western Germany. In that small part of the previous undivided Germany, it is stated there are as many as eight technical universities. One of them, Aix-la-Chapelle, has 3,000 students and it is said that although it is not the smallest, it is by no means the biggest Technical University in Western Germany—it is somewhere about half the way. On this basis, the number of technical students in the universities of Western Germany is to be reckoned at somewhere around 24,000. England, Germany, or U.S.A. are, of course, highly industrialised countries where the vast army of trained technicians can easily find scope for employment and absorption.

The conditions in India may not offer similar scope at the moment. But as India becomes industrialised, as she must, a vaster field must open up; and at the same time, such qualified and trained persons may themselves provide the urge and momentum and the equipment for a more rapid industrialisation.

I have mentioned the examples of these leading countries of the West—the position of Technical education in America is more advanced than that in Britain—not to prove that our progress has been little for this is evident in itself, but just to give an idea of the magnitude of the task before us. We have, however, made a small but creditable beginning and we have now to build upon our own achievements from year to year. We are not to despair of our future by contemplating the great lead which some other countries have over us; but we are to go steadily ahead, from one forward position to another until we reach the goal of an all-round development of Technical education in the country.

In this connection, the proposal recently mooted for the coordination of higher technical education in the country through a central organisation or university—by whatever name it may be called—deserves close attention. For it is felt that our programme of upgrading the technical institutions in the country and maintaining in them a uniform standard of teaching emphasises the need of such an organisation. I may mention in this context that the Coordinating Committee of the Council, at its meeting held on the 12th January last, appointed a Sub-Committee to consider the question of establishing a National Technical University in all its aspects and to report on the desirability and feasibility of establishing such a university. The Sub-Committee, whose recommendations you will find included in the agenda, has unanimously approved the idea of such a central organisation which, in course of time, might develop into an affiliating as well as a teaching body.

If Technical education is to be developed in this country in all its branches, as it should, and on the highest level possible, the need for a central organisation of the status of a university—by whatever name it may be called—can hardly be gainsaid. If I may venture to give my own personal reaction, such an institution is necessary not only for upgrading the standards of affiliated Technical colleges, but also for promoting post-graduate specialisation in the various branches of technological science. For the country needs not only technicians but also technologists. The two terms which sound and look almost alike are indeed very much apart in their meaning and real significance. In fact, a technician is a man who, in the normal course, without aspiring ever to reach one of the directing positions in industry, is nevertheless fully competent to carry out in a responsible manner approved techniques which are either common knowledge or specially prescribed by the management of business. A technologist, on the other hand, can be defined in the words of the Barlow Report as a man “capable of appreciating the latest progress in the research laboratories and applying the results to practical engineering or processes in industry”. As happily put by Lord Chorley, President of the Association of University Teachers in Britain, while the technologist is the commissioned officer of the industrial army, the technician is the non-commissioned officer. While it will be the main responsibility of Technical schools and colleges to turn out good technicians, a Technological University will be in a position to turn out

highly trained technologists or the commissioned officers of the industrial army. No doubt the engineering and technological faculties of many of the universities in our country are performing this function at present, and they will continue to do so to an increasing extent in the future as well; but with increasing needs of the country for good technicians as well as technologists, I think ample room may be found for the establishment and development of a central organisation or a Central Technological University which may bear the main burden of developing and propagating technical studies, both post-graduate and under-graduate. At present, the hands of the universities are too full not only with ever increasing number of faculties but also with continuous holding of examination and other administrative problems connected with affiliated bodies. In the midst of these pre-occupations, the needs of Technical education may not receive the same attention as it deserves, and all such institutions as are not at present under any university control may, therefore, be usefully brought under a Central Technological University where the special problems of Technical education in the light of the needs of industry may receive exclusive attention. In England, there is a growing feeling to bring Technical education under a separate university where the specific needs and problems of this particular branch of training may have sole attention without being jammed in a conglomeration of innumerable faculties. But, of course there also opinion is not unanimous and it is useless to expect unanimity in a question like this. I do not also expect unanimity of opinion in this matter in our country, and all I can say is that this is a question which deserves critical consideration in the interest of advanced technological study in our country.

I must, in conclusion, express my sincere thanks to the Ministry of Education, Government of India, for the unfailing help and cooperation extended to us in all matters and the weight and consideration given to our decisions and recommendations. This has indeed facilitated our task and made our course comparatively easy. The fact that the Council has pursued its task so far without much fanfare and flourish, and with little ostentation, does not detract from its steady and sound achievements, in certain limited directions. As I said, our task is vast, and the responsibility we have assumed is great, and in this task, it is only a steadiness of purpose and will to do that can carry us to success. With this feeling let us address ourselves to the task today."

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