

**ESTIMATES COMMITTEE**  
**1957-58**

**FIFTEENTH REPORT**

**(SECOND LOK SABHA)**

**MINISTRY OF EDUCATION AND SCIENTIFIC  
RESEARCH**

**TECHNICAL EDUCATION  
PART II**



**सत्यमेव जयते**

**LOK SABHA SECRETARIAT**

**NEW DELHI**

**April, 1958**

**Price Rs. 1.06**

Page 45, S.No. 62, *read* 'Armed' for 'Arm'

Page 48, line 2 of the foot-note; *read* '\*\*' for '\*' before 'Includes'

Page 51, line 9; *read* 'of' for 'or'

Page 57, item 13; *read* 'Council' for 'Council'

Page 58, item 1(2); *read* 'Kakinada' for 'Kakinda'

Page 63, S.No. 3, line 1, *insert* 'a' after 'only'

Page 63, S.No. 3, line 4; *insert* 'qualified' after 'Kharagpur'

Page 64, S.No. 7, line 1; *read* '1955' for '1946'

Page 64, S.No. 7, line 3; *read* 'exceed a' for 'exceeda'

Page 66, S.No. 13, line 10; *delete* 'U.S.A'

Page 68, S.No. 22, line 20; *read* 'given' for 'made'

Page 69, S.No. 24, line 6; *read* 'beyond' for 'beyoned'

Page 75, S.No. 47, line 3; *read* 'Ministry of Scientific Research and Cultural Affairs' for 'Ministry of Education and Scientific Research'

## CORRIGENDA

**To the Fifteenth Report of the Estimates Committee  
on the Ministry of Education and Scientific Research  
on the subject 'Technical Education'**

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Page 9, item (g) in the Table; *read* 'inclusive' for 'inclusion'

Page 12, lines 5-6; *read* 'Non-recurring' over 'Buildings' and  
'Equipment'

Page 12, para 15, last line; *delete* 'U.S.A.'

Page 13, para 17, item (v); *read* 'Electrical' for 'Electric'

Page 16, para 25, line 7: *read* ' ' for ' ;' after 'candidates' and  
'The' for 'the'

Page 17, line 3 from bottom. *read* 'given' for 'made'

Page 23, para 38, line 7; *read* 'controlled' for 'controlle'

Page 28, para 48, line 2 from the bottom. *read* 'Institutes' for  
'Institute'

Page 32, para 55, lines 9-10; *delete* ', ' after 'Secondary' and  
'Commission'

Page 34, para 57, line 5; *read* 'craftsmen' for 'craftsman'

Page 34, para 57, line 7; *read* 'Rs. 14.72 crores' for 'Rs 14.72  
crores'

P T O.

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1957-58

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\*Ceased to be a member of the Committee with effect from the 2nd April, 1958.

## INTRODUCTION

I, the Chairman, Estimates Committee having been authorised by the Committee to submit the Report on their behalf present this Fifteenth Report, on the Ministry of Education and Scientific Research on the subject of 'Technical Education—Part II'.

2. The Committee wish to express their thanks to the Officers of the Ministry of Education and Scientific Research for placing before them the material and information that they wanted in connection with the examination of the estimates.

NEW DELHI;  
*The 7th April, 1958.*

BALVANTRAY G. MEHTA,  
*Chairman,*  
*Estimates Committee.*

## **I. THE INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR**

### **A. Introduction**

In the year 1945, the Government of India appointed a Committee of Industrialists and Educationists, under the Chairmanship of the Late Shri N. R. Sarkar, to survey the entire field of Technical Education in India and to make concrete recommendations in that regard. The Sarkar Committee recommended the establishment of four Higher Technological Institutes, one each in the four regions of the country. Referring to the scope of the Higher Technological Institutes, the Sarkar Committee have stated:—

“The Committee recognize the importance, in the interest of efficiency and economy, of co-ordinating the facilities to be provided in the proposed Higher Technical Institutions with those already available or likely to be provided in specialised Technical or Research Institutions and with the Technological (including applied science) Departments of the Universities. The Committee feel that the exact nature of this organisation can only be settled in consultation with the authorities concerned. However, they recommend, as a general principle, that while each Higher Technical Institution should provide instruction up to the graduate stage in all the main technical subjects likely to be of use to the region which it is designed to serve, it should leave post-graduate instruction in the subjects concerned to specialised institutions where such exist and are capable of satisfying the anticipated demands. Moreover, the Committee suggest that the extent of the provision to be made in each subject at the under-graduate stage should also be determined after careful consideration of the contribution which can be made by existing institutions (including Universities) in the region.”

Referring to the size of the Eastern Region Institute, the Sarkar Committee stipulated an under-graduate student body of 2,000 and for 1,000 seats in post-graduate departments. The proportion of under-graduate to post-graduate students was to be 2:1. The Sarkar Committee also postulated that the standard for graduation should be not lower than that at a first class institution abroad, for example B.Sc., (Tech.) of Manchester or B.Sc., of the Massachusetts Institute of Technology, U.S.A.

2. The Indian Institute of Technology, Kharagpur, began its work in the year 1950. The first batch of about 200 students was admitted in July, 1951 and classes were started in August, 1951.



To enable the Institution to function as a Corporate Body it has been declared as one of national importance as stipulated in entry 64 of list I of the Seventh Schedule of the Constitution, and has been incorporated under the Indian Institute of Technology (Kharagpur) Act, 1956.

### **B. Revised Capacity**

3. The Committee were informed that the original plan of the Sarkar Committee was modified to make provision for a total strength of 1,800 students in the Institute, 1,200 at the first degree level and 600 at the post-graduate level. They were told that the modification was necessitated, mainly, by the inadequacy of the financial provision at the time of its establishment in the year 1951, when prices had gone up considerably, in relation to the previous estimates framed by the Sarkar Committee, on the basis of which the Scheme was drawn up and sanctioned by Government. Another reason, the Committee were told, was the situation of unemployment, prevailing at that time, among the engineering graduates which required the Board of Governors of the Institute to go slow with the original plan. *The second reason offered seems to indicate that the proper appreciation of the requirements of technical personnel during the Second Five Year Plan was lacking.* Since it has now become known that more and more engineering graduates are necessary, the Committee were informed that the Institute had increased the number of under-graduate seats, which was 1,415 in the year 1957-58. *The Committee consider that looking to the amount that the Government is spending on the Institute, the number of students is quite small. They feel that vigorous steps ought to have been taken to see that the best use was made of the facilities provided.*

4. In respect of the post-graduate courses, the Committee understand that there were only 94 students on the Roll of the Institute in the year 1957-58, against the modified capacity of 600 seats. The Committee were told that it was not actually a case of dearth of students but of poor staying power due to the creation of a great many opportunities for employment of engineering graduates in the country, which was undergoing a process of industrial development. Looking to the conditions as they were existing today, the Committee were further informed that there was no guarantee for a research student to secure a better start even after undergoing the prescribed research course. Another reason, the Committee were told, was the small number of scholarships awarded for post-graduate studies. *Since the Institute has been specially designed and equipped for higher research in engineering and technology and since the courses have been evolved to meet the growing needs of industries and to help the technological institutions with the supply of qualified teachers, the present position regarding the number of post-graduate students in the Institute is a matter of concern. The Committee suggest that the question of shortage of students in post-graduate courses may be examined in detail and suitable steps taken to induce more students*

*to take up post-graduate courses. Offering liberal scholarships, and recognition of post-graduate training by way of offering better start in life are some of the methods by which more students can be attracted for post-graduate work.*

### C. Admissions

5. The Committee were informed that candidates were selected for admission to under-graduate courses in the Institute according to the result of an entrance examination held at different centres all over the country. The last entrance examination was held at 26 centres and about 4,500 candidates appeared for it. Candidates who qualify themselves in the written examination are called for medical and *viva voce* examination at Kharagpur, where final selections are made. The Committee were told by the representative of the Ministry that only a small number of candidates who appeared at the entrance examination conducted by the Institute qualified themselves for admission to the Institute in accordance with the standard laid down and that the authorities of the Institute had to pick up students who had not qualified themselves at the entrance examination with a view to filling in the available number of seats. *The Committee suggest that the matter should be examined in detail with a view to ensure that adequate number of suitable candidates are forthcoming for admission.*

6. In the following table, the Committee have analysed the figures of admission for under-graduate courses during the year 1955-56:—

Name of the State	No. of candidates appeared for admission examination	No. of candidates selected for admission	No. of students who actually took admission
(1)	(2)	(3)	(4)
Delhi . . . . .	150	64	43
Punjab . . . . .	190	75	69
Uttar Pradesh . . . . .	472	75	66
<b>TOTAL (A)</b> . . . . .	<b>812</b>	<b>214</b>	<b>178</b>
West Bengal . . . . .	625	70	40
Bihar . . . . .	165	9	6
Orissa . . . . .	79	25	23
<b>TOTAL (B)</b> . . . . .	<b>869</b>	<b>104</b>	<b>69</b>

(1)	(2)	(3)	(4)
Rest of the States in India (C)	607	117	83
<b>GRAND TOTAL (D)</b>	<b>2288</b>	<b>435</b>	<b>330</b>
Percentage of (A) to (D)	35.5	49.2	
Percentage of (B) to (D)	37.9	23.9	
Percentage of (C) to (D)	26.5	26.9	

The Committee have observed that while the largest number of candidates, nearly 38 per cent (869) had appeared for examination from the contiguous States of West Bengal, Bihar and Orissa, only 104 candidates were selected for admission, i.e., 24 per cent of the total number of selectees. As against this, 214 candidates i.e., nearly 49 per cent had been selected from the States of Delhi, Punjab and Uttar Pradesh, out of the total number of 435 candidates selected for admission. From the rest of the States in India, 117 candidates i.e. nearly 27 per cent were selected. The total number of candidates belonging to Scheduled Castes, Scheduled Tribes and Backward Classes was 108, out of which 49 candidates were selected for admission and 28 actually took admission. These figures seem to indicate that even though the entrance examination to the Indian Institute of Technology, Kharagpur, is being held all over India, there is a marked disproportion in regard to the number of candidates admitted to the Institute from different regions. The Committee suggest that the reasons for this marked disproportion may be analysed in detail with a view to see whether a more even distribution is possible without, in any way, sacrificing the principle of merit.

#### D. Courses of Study

7. The various under-graduate courses offered by the Institute and their duration are given in Appendix I. The following table gives figures of out-turn of graduates during the years 1951 to 1953.

Students admitted in the year 1954 and thereafter are yet to pass out:—

Year	No. of students admitted	No. of students completing the course	Year of passing	No. of students passed out
1951 . . . . .	239	185	1955	182
1952 . . . . .	293	235	1956	234
1953 . . . . .	307	253	1957	253
1954 . . . . .	299	..	..	..
1955 . . . . .	331	..	..	..
1956 . . . . .	405	..	..	..
1957 . . . . .	392	..	..	..

The Committee were informed that the Institute offered twenty-seven post-graduate courses, each mostly of a year's duration for the award of M. Tech. degree. The courses, Exploration Geophysics and Applied Geology, were of two years' duration. The following table gives the figures of out-turn of post-graduate students during the years 1952 to 1956:—

Year	No. of students admitted	Year of passing	No. of students passed out
1952 . . . . .	18	1954	16
1953 } . . . . .	31	1955	30
1954 } . . . . .	5		
1955 . . . . .	90	1956	53
1956 . . . . .	72*	1957	64

\*16 students are due to pass out in the year 1958.

*The Committee note with concern the drop in the number of admissions during 1956 as compared to 1955. They would like to stress again, that suitable measures should be taken to ensure that the number of post-graduate students increases progressively from year to year.*

8. From the table given in Appendix II, the Committee learn that the percentage of failures or wastage in the year 1956 and 1957 in some of the post-graduate courses, viz., Technical Gas Reaction and High Pressure Technology, Transportation Engineering, Applied

Geology, Exploration Geophysics, Advanced Broadcasting, Farm Machinery and Power was as high as 40 to 50 per cent. The Committee were told that this might be due to the abandonment of those courses, prematurely, by students who, in the meantime, had secured some employment. *The Committee consider this rather unfortunate and recommend that the position about failures or wastage in different courses offered by the Institute, especially in the post-graduate courses, should be analysed in detail and remedial measures taken to arrest this trend.*

9. The Committee noticed that during 1956, the number of students in each of the following post-graduate courses did not exceed a couple of students:—

Course	No. of students
Transportation (Highway) Engineering	2
Technical Gas Reaction and High Pressure Technology	2
Machine Design	2
Applied Botany	1
Farm Machinery and Power	1
Industrial Physics	1
Meteorology	1

In this connection, the Committee were told by representatives of the Ministry that those courses were conducted on the basis of Industrial needs of the country and wherever the number of post-graduate students was small, Members of the staff themselves were usefully engaged in doing some original investigation as it was considered necessary to run such departments in anticipation of the requisite number of students who might turn up in future. The Committee were further told that with the coming up of more developmental projects in the country, more students would be attracted towards post-graduate studies for bettering their future prospects. *The Committee hope that conscientious efforts will be made towards this end. Lack of publicity, specially about future prospects may be one of the reasons of paucity of students. Steps may, therefore, be taken to remedy this.*

10. The Committee had been informed that the Institute had been rendering assistance to scientific bodies and sister organisations with expert advice and technical assistance. Such technical assistance, when requested, was also extended to industrial firms and commercial concerns on payment of suitable fees. In the case of Universities or Government or Semi-Government establishments, the service was either free or a nominal fee to cover incidental expenses was charged. The Department of Architecture and Town Planning had helped several organisations viz. the Viswa Bharati University, the University

of Calcutta, Government of Sikkim, Durgapur Project etc., in Design and Planning of buildings, towns and regional development. The Department of Civil Engineering on request had assisted several organisations in testing soil samples etc. Technical assistance had been extended to a number of docking firms by the Department of Naval Architecture. The Committee were given to understand that industrial undertakings in public sector did not derive adequate benefit of research facilities available at the Institute and showed some diffidence in collaborating and participating in the matter of research problems. *Taking into consideration the potentiality of the various research departments of the Institute in rendering research service to Government Departments, the Committee suggest that problems like the manufacture of special varieties of Steel, Gas Turbines, cheaper type of refrigerators suitable to Railways, etc., should be entrusted to this Institute by Government. At the same time, the Committee feel that Government should examine the feasibility of keeping all the important industrial undertakings, both public and private, well posted with details of research equipment available at the Institute and also the nature of research problems being tackled at the Institute from time to time.*

### **E. Scholarships**

11. The Committee were informed that the Institute offered scholarships to the extent of 25 per cent of the number of students admitted. Two fifths of these scholarships are awarded on merit alone and three fifths on grounds of merit-cum-poverty. The scholarships are awarded on the result of an examination, which is held soon after the commencement of the session. The Committee were given to understand that the second examination held after the entrance examination was for scholarships alone with a view to prevent malpractices at the time of examination. Moreover, under the present system, a poor but meritorious student who passes the Entrance Examination, may not be in a position to join the Institute and then appear for the scholarship examination at Kharagpur. *The Committee, therefore, suggest that the Institute may examine the feasibility of awarding scholarships on the result of the entrance examination held every year for admission to the Institute in order to avoid the strain and expenses consequent upon the holding of two examinations.*

### **F. Staff**

12. There are, at present, 15 departments in the Institute to carry out the various academic activities. The staff position in the year 1957 was 20 Professors (including 2 German Professors, 2 UNESCO experts and 4 Professors under Sisterhood Relations with the University of Illinois) and 165 other teachers. The number of Research Assistants is 20, while the number of non-professional personnel, technical and non-technical is 181. The various categories

of the staff of the Institute have been classified in Statute 9 of the Institute as under:—

(a) *Academic and Administrative*

- (i) Director
- (ii) Deputy Director

(b) *Academic*

- (i) Senior Professor
- (ii) Professor
- (iii) Assistant Professor
- (iv) Librarian
- (v) Senior Scientific Officer
- (vi) Workshop Superintendent.
- (vii) Lecturer
- (viii) Farm Superintendent
- (ix) Assistant Lecturer/Instructor
- (x) Senior Research Assistant
- (xi) Junior Research Assistant

(c) *Administrative*

- (i) Registrar
- (ii) Assistant Registrar
- (iii) Accounts Officer
- (iv) Audit Officer
- (v) Stores Officer
- (vi) Estate Officer

(d) *Technical*

- (i) Foreman
- (ii) Supervisors (Workshop)
- (iii) Mechanic
- (iv) Farm Overseer
- (v) Horticultural Assistant
- (vi) Technical Assistant
- (vii) Draftsman
- (viii) Physical Training Instructor

(e) *Other supporting staff*

- (i) Medical Officer
- (ii) House Surgeon and other Medical staff
- (iii) Chief Stores Keeper

(iv) Storekeeper

(v) Steward

(vi) All other members of the staff not covered by the above classification.\*

From the details furnished by the Institute and reproduced in Appendices III and IV, the number of staff sanctioned and actually working during the years 1954-55 to 1956-57 under the broad categories enumerated above and the total number of students in corresponding years is given in the following table which also gives for comparison the original strength of staff contemplated by the Sarkar Committee, as contained in the Memorandum published in the Part IV of the Report of the Sarkar Committee:—

Category of **staff	Strength contemplated by Sarkar Committee	Actual strength in 1954-55	Actual strength in 1955-56	Actual strength in 1956-57	Sanctioned strength in 1957-58
I	2	3	4	5	6
(a) Academic and Administrative . . . . .	1	1	1	1	2
(b) Academic . . . . .	439	155	181	197	309
(c) Administrative . . . . .	1	3	4	5	6
(d) Technical . . . . .	108	126	197	207	274
(e) Other supporting staff . . . . .	168	306	424	467	536
(f) TOTAL . . . . .	717	591	807	877	1127
(g) Total number of students, inclusive of post-graduate students . . . . .	3000	1101	1249	1373	1415
(h) Net recurring expenditure i.e. total recurring expenditure less the income . . . . .	Rs. 54,64,555	22,86,371	26,72,417	37,50,000†	42,36,000††

\*Include U.D.C.s, L.D.C.s, Lib. Shop/Store Attendants, Library Attendants, Assistant Wardens, Durwans, Chowkidars, Be-tsm n, Peons, M.als, Sweepers etc.

\*\*Based on statute 9 of the Indian Institute of Technology, Kharagpur.

† Based on the revised estimates as contained in the budget of the Ministry of Education for the year 1957-58.

†† Based on the budget estimates of the Institute as furnished in their note. A sum of Rs. 6 lakhs has been deducted as probable income.



	1	2	3	4	5	6
Teacher-pupil ratio <i>i.e.</i> ratio of (g) to (b)		6.8	7.1	6.9	6.9	4.5
Ratio of (g) to (d)		27.7	7.9	6.8	6.6	5.1
Ratio of (g) to (e)		17.8	3.5	2.9	2.9	2.6
<i>Per capita</i> expenditure <i>i.e.</i> (h) divided by (g)		Rs 1,821	Rs 2,076	Rs 2,139	Rs. 2,731*	Rs. 2,993**

*The Committee observe that the total number of students in the Indian Institute of Technology, Kharagpur, had increased by 24.7 per cent during the years 1954-55 to 1956-57, while the corresponding increase in the number of Academic, Technical and other supporting staff was 27 per cent, 64 per cent and 52.6 per cent respectively. These figures are revealing. The Committee feel that the increase, more especially in the category "other supporting staff", was disproportionate to the increase in the number of students. The position as it existed in the year 1956-57 shows that there was one teacher for every seven students, two technical men for every 13 students and one man on the supporting staff for every 3 students. In comparison with the standard laid down by the Sarkar Committee, the strength of staff in the institute is excessive. The Committee suggest that the entire position should be carefully reviewed so as to reduce the strength of staff to actual requirements, or alternatively to increase the admission of students to the original figure contemplated by the Sarkar Committee, so that per capita expenditure can be brought down.*

13. On para. 80 of the Annual Report for the year 1955-56, it is stated as follows:—

“Young members of the staff, particularly those holding temporary posts, do not seem to evince any sustained interest in their work. After a short while when they have gathered some experience and training they are seeking jobs elsewhere. This is rather a discouraging trend. It is, therefore, considered necessary to encourage in every way some of the brilliant young workers, holding either permanent or temporary posts, so that they may settle down to work for some years at least”.

Although the above difficulty is reported by the Department of Chemical Engineering, the Committee have gathered an impression that it was common to all technical institutes in the country. The Committee were told that to attract the best talents in the country to the teaching profession, it was necessary (a) to have good scales wherein maximum can be reached without hurdles, higher start

\* Based on the revised estimates as contained in the budget of the Ministry of Education for the year 1957-58.

\*\* Based on the budget estimates of the Institute as furnished in the note. A sum of Rs. 6 lakhs has been deducted as probable in come

being provided for special qualifications, (b) to rehabilitate teachers socially by restoring the prestige and respect for the teaching profession that used to be given to them in the past. The following table gives the salary scales of the academic staff of the Indian Institute of Technology, Kharagpur:—

S. No.	Post	Salary scale
		Rs.
1	Professor in the Senior Scale	1600—1800
2	Professor	1000—1500
3	Assistant Professor	600—1150
4	Lecturer	350—850
5	Assistant Lecturer	260—500
6	Instructor	260—300
7	Research Assistant Senior	250—500
8	Research Assistant/Junior Technical Assistant	160—330

*These scales of pay appear to be on the high side, and it is a matter for examination whether they would suit the conditions of this poor country. The salary scales of technical and non-technical staff should not be out of proportion to the salary scales of similar staff elsewhere. The justification for these high scales, perhaps, lies in the fact that the private sector is offering such or even better scales of pay to the technically qualified persons. Unless, therefore, correspondingly high scales of pay are offered in the public sector, it would be difficult to attract talented persons for such jobs. The position should, therefore, be carefully examined in consultation with the private sector to arrive at an equitable solution, which will ensure that the best talent will be forthcoming for such institutions in the public sector, without making the cost prohibitive. As regards other conditions of service etc., the Committee understand that the Board of the Indian Institute of Technology, Kharagpur, was competent enough to make necessary changes in the existing rules etc.*

### G. Financial Position

14. The Committee were informed that the Institute had spent an amount of Rs. 3.76 crores on buildings, equipment and furniture upto the end of 1956-57 as per the details given below:—

Buildings	..	Rs. 2.61 crores
Equipment and Furniture	..	Rs. 1.15 crores

In addition, a total sum of Rs. 1.54 crores was spent on recurring account till 1956-57. *The Committee feel that the amount spent on the buildings is excessive. They suggest that, in future, construction of costly prestige buildings should be avoided and stress should*

*be on simplicity in design and purely utility aspect only. During the year 1957-58 the following budget provision was made for the Institute:—*

Recurring	..	Rs. 47·00 lakhs
Non-recurring Equipment	..	Rs. 17·00 lakhs
Buildings	..	Rs. 40·00 lakhs

A provision of Rs. 250 lakhs has been made in the Second Five Year Plan for the development of the Institute.

*15. In view of the important role that science and technology have to play in the rapid industrialisation of the country, the Committee hope that the original target of 3000 students for this Institute would be gradually attained. They also hope that by hard work and steadfastness of purpose, this pioneer institute will attain and maintain a very high standard to justify the claim of being the "Massachusetts Institute of Technology, U.S.A." of India.*

#### **H. Higher Technological Institutes**

16. Besides the existing Indian Institute of Technology, Kharagpur, three more Higher Technological Institutes, one each in Bombay, Madras and Kanpur will start functioning in the Second Plan period. The Western Higher Technological Institute, Bombay will start functioning in July, 1958 and the other two institutes in July, 1959 or 1960. The financial phasing of the Scheme during the plan period is given below:—

Name of Institution	Amount
	(Rs. in lakhs)
1. Western Higher Technological Institute, Bombay	325
2. Northern Higher Technological Institute, Kanpur	200
3. Southern Higher Technological Institute, Madras	200
<b>TOTAL</b>	<b>725</b>

The Committee were informed that some of the foreign experts to be posted in the Institute at Bombay had already arrived and were temporarily posted at Kharagpur for the time being. *The Committee are glad to learn this. They hope that the experience gained at Kharagpur would be fully utilised for establishing the remaining Higher Technological Institutes in the country, more economically.*

## II. THE DELHI POLYTECHNIC, DELHI

### A. Introduction

17. In pursuance of the recommendations of the Wood and Abott Report of 1937 on "Vocational Education in India", the Delhi Polytechnic was started by the Government of India in 1941. Originally, only a Technical High School for training young persons for the supervisory grades in industry was mooted. For this purpose, the old Government High School, Delhi, was converted into the Technical High School of the Delhi Polytechnic, affiliated to the Board of Higher Secondary Education, Delhi, to run the new Technical Higher Secondary Certificate course. The old Government Commercial Institute was also incorporated in the Polytechnic from the inception as the Commerce Department. In 1941, part-time evening certificate courses in Engineering (Electrical and Mechanical), Commerce, Art, Textile, Architecture and Chemical Technology were also started on *ad hoc* measure. In 1942, it was decided to introduce full time professional courses also in all these branches of study and the required staff members were appointed. The Delhi Polytechnic has, at present, the following departments:—

- (i) Architecture
- (ii) Applied Art
- (iii) Chemical Engineering
- (iv) Commerce
- (v) Engineering Civil, Mechanical and Electric
- (vi) Textiles.

The Polytechnic also runs a Technical Higher Secondary School.

### B. Governing Body

18. A copy of the constitution, functions and powers of the present Governing Board of the Delhi Polytechnic is given in Appendix V. The Board performs mostly advisory and governing functions on the basis of which the Central Government carries on its administration. *The Committee recommend that the Governing Body of the Delhi Polytechnic may be delegated more powers to avoid frequent references to the Ministry in its day to day working.*

### C. Development Plan

19. The Committee understand that the Governing Body of the Delhi Polytechnic has prepared a scheme for the development of the institution under the Second Five Year Plan which is under consideration of the Central Government. The scheme envisages the following three aspects of development in stages:

- (i) Consolidation of the existing degree, National Diploma and National Certificate courses in the different branches

of Engineering and Technology and provision of adequate instructional facilities for all these courses. In addition, the institution of degree and national certificate courses in civil engineering is also proposed.

- (ii) Gradual diversification of the Polytechnic type of courses, viz. Diploma and Certificate courses, particularly in those subjects in which trained technicians are urgently needed for the country's development. The establishment of a Department of Printing Technology as the fifth Regional School of Printing is also proposed.
- (iii) Transfer of the University Degree courses to a separate college of Engineering and Technology to be established later on and further diversification of the Polytechnic type of courses in the Institute and providing thereby facilities for training in a wide range of subjects and for the maximum number of students possible.

The Committee understand that the whole scheme is estimated to cost Rs. 173.04 lakhs, but the expenditure during the Plan period would be limited to Rs. 80 lakhs. The estimates of cost appear to be excessive. *The Committee suggest that these should be reviewed by the All India Council for Technical Education to see how these can be suitably reduced specially by reducing the cost of construction of additional buildings which should be simple in design.* Pending the final approval of the scheme, Government have sanctioned the introduction of Degree and National Certificate courses in Civil Engineering in the Delhi Polytechnic. When the scheme is executed fully the training capacity of the Polytechnic for the different engineering and technological subjects will increase from 570 students to 890 students. *In view of the general shortage of engineering and technical personnel in the country, the Committee recommend that the scheme may be finalised and implemented at an early date so that the intake of students may be increased to the proposed revised capacity.*

#### D. Bifurcation of Degree Courses

20. The Committee were informed that the aim of the Polytechnic education was to provide courses from the lowest to the highest standards in a number of subjects and in such a manner that a student having necessary ability might complete courses of different standards which would enable him to qualify himself for the highest. It was for this reason that the Polytechnic when it started conducting the National Certificate and National Diploma courses for a variety of subjects, provided opportunities for students to go through courses of different standards according to their abilities and resources. It was due to historical and other reasons, however, that the National Diploma Courses in the major branches of engineering and technology in the Delhi Polytechnic had to be replaced by degree courses of the Delhi University, which had their own rules and regulations and a

philosophy in consonance with university education. The result, as acknowledged by the Development Committee of the Delhi Polytechnic, had been that while on the one hand, degree courses have not developed to the full standard expected, the National Diploma/Certificate and other courses have made limited progress on the other. The Committee were told that the development programme of the Delhi Polytechnic, contemplating the transfer of degree courses to a college of engineering and technology was awaiting sanction of the Government and the actual transfer of degree courses to a college of engineering would take about one and a half year. *The Committee are of the opinion that the proposed bifurcation of Degree courses from the Diploma/Certificate courses should be effected as soon as possible, so that both degree courses and the Diploma/Certificate courses may develop independently. It is, however, a matter for consideration whether a separate degree college is necessary or whether the three courses (Diploma, Certificate and Degree) can run simultaneously in the same Institution with additional facilities.*

#### E. Commerce Courses

21. The Committee were informed that during the Second Five Year Plan, additional courses of Cost and Works Accountants Parts I and II, Office Equipment, Institute of Bankers Parts I and II, Chartered Accountants Part II, Secretariat Assistants, Inspectors of Co-operatives and Salesmanship, would be started in the Delhi Polytechnic in its Commerce Department. The Committee were told that those courses were only part-time courses of the Commerce Department which provided facilities for those who wanted to appear for examinations held by professional bodies. Further, the idea in starting those courses was to give a practical bias to the study of commerce and other allied courses which could be done only when they were actually conducted in a Polytechnic. *The Committee are of the opinion that there should be more emphasis on the development of engineering and technology courses.*

22. *Regarding the existing degree course in Commerce in the Delhi Polytechnic, the Committee suggest that it should be conducted by the Delhi University instead of by the Polytechnic, to facilitate more admissions to engineering courses.*

#### F. Admissions

23. The Committee have been given to understand that the Delhi Polytechnic is an all India institution, admitting students from all over the country. The admissions are made strictly on merit by the Delhi University Admission Committee for B.E., B.Ch.E., B. Text., B. Arch. and B. Com. and by the Admission Committee of the Governing Body of the Polytechnic for other courses. The Admission

Committees take into account marks secured by applicants in Physics, Chemistry and Mathematics only. *In view of the fact that different Universities and Boards in the country were having different standards of examination, the Committee feel that it might not be possible for the Admission Committees to equate relative merits of applicants seeking admission to the Polytechnic. Asked to state reasons for not holding a competitive examination for admission to the Polytechnic as at Kharagpur, the representative of the Ministry stated that there was the difficulty of providing hostel facilities to students who might turn up in large numbers, if competitive examinations were held by the Delhi Polytechnic. The Committee are not satisfied with the reasons given by the Ministry. They suggest that the Government should take steps to hold an open competitive examination for admission to different courses in the Delhi Polytechnic.*

24. The Committee were informed that the annual admission capacity of the various courses in Delhi Polytechnic, excluding the Technical Higher Secondary School was 540. A statement showing the number of students on rolls during 1955-56, 1956-57 and 1957-58 (expected) is given in Appendix VI. The Committee understand that the number of applications for admission to degree and diploma courses was increasing year after year and many an aspiring applicant had to be refused admission for lack of seats. The Committee were informed that students securing less than 60 per cent marks were advised not to apply for B. E. courses and during the year 1956-57, no student securing less than 68.5 per cent marks in Intermediate Science was called for interview for unreserved seats. *In view of this difficult situation, the Committee suggest that Government should take early steps to increase the number of seats for engineering courses in the Delhi Polytechnic.*

#### G. Reservation of Seats

25. The Committee understand that 10 per cent of the total number of seats in each course was reserved for educationally deficient States *viz.* Assam, Orissa, Jammu & Kashmir, Manipur, Tripura, Himachal Pradesh, Andaman and Nicobar Islands and Laccadive and Amindive Islands. Whenever reserved seats were not utilised by the constituencies concerned, they were filled in as unreserved seats by other candidates, the following statement gives figures of reservation of seats in respect of backward States:—

Course	Intake	Seats reserved	Seats filled 1956-57	Seats filled 1957-58
Bachelor of Engineering	80	8	5	6
Bachelor of Chemical Engineering	30	3	3	..

Course	Intake	Seats reserved	Seats filled	Seats filled
			1956-57	1957-58
Bachelor of Architecture . . . . .	30	3	3	..
Bachelor of Textile . . . . .	30	3	..	..
National Certificate Course in Engineering . . . . .	60	6	6	3
National Diploma in Archi- tecture . . . . .	30	3	..	..
Pre-engineering Course . . . . .	120	12	..	..
National Diploma in Art (Full time) . . . . .	22	2	..	..
National Diploma in Art (Part time) . . . . .	22	2	..	..
<b>TOTAL . . . . .</b>	<b>424</b>	<b>42</b>	<b>17</b>	<b>9</b>

*The Committee are surprised to learn that out of 42 seats reserved for educationally backward States, only 17 and 9 were filled in during the years 1956-57 and 1957-58 respectively and the rest of the seats had been treated as unreserved seats. From the available figures of admission to the Indian Institute of Technology, Kharagpur, for the year 1955-56, the Committee understand that 220 candidates had applied for admission to the Institute from Assam, Orissa, Jammu and Kashmir, Manipur, Tripura, and Himachal Pradesh against 30 percent of the total number of seats reserved for candidates belonging to educationally deficient States, out of which 48 candidates were selected for admission. The above figures indicate that sufficient number of candidates were forthcoming from those States. The Committee consider this unfortunate and suggest that Government should investigate the reasons for non-utilisation of these reserved seats and review the procedure of inviting applications from students belonging to educationally backward States and take suitable measures to see that the allotted quota is not wasted in this manner but is fully utilised. It should also be examined whether all the High Schools in the States concerned are being notified about these reserved seats and whether proper publicity is made in regional language papers.*

26. The Committee understand that 20 percent of the total number of seats in the Delhi Polytechnic were reserved for students



belonging to Scheduled Castes/Tribes. The following statement gives figures of reservation of seats in that regard:—

Course	Total No. of seats available	Seats filled in		
		1955-56	1956-57	1957-58
B.E.	16	4	7	3
B. Ch. E.	6	1	..	..
B. Arch	6	3	6	..
N.C.C.	12	1	1	5
N.D. Arch.	6	2	2	1
Pre-Engineering	24	4	4	3
N.D. Art (P.T.)	4	..	..	..
N.D. Art (F.T.)	4	..	..	..
<b>TOTAL</b>	<b>78</b>	<b>15</b>	<b>20</b>	<b>12</b>

From the figures given above, the Committee observe that very few students belonging to Scheduled Castes/Tribes were taking up engineering and technological studies in the Delhi Polytechnic. During the last three years, viz. 1955-56, 1956-57 and 1957-58 the reserved seats for Scheduled Castes/Tribes were filled in only to the extent of 3.9 5.1 and 3.0 per cent respectively of the total number of seats in the Delhi Polytechnic. The Committee consider this as rather unsatisfactory and suggest that Government should now take proper steps to encourage Scheduled Castes/Tribes students to take up engineering and technological studies.

#### H. Staff

27. The Committee understand that the Delhi Polytechnic had been suffering from acute shortage of teaching staff. The following table gives figures of the actual number of teaching staff during the last three years against the corresponding sanctioned strength and the total number of students in the Delhi Polytechnic:

Year	Actual strength of teaching staff,	Sanctioned strength of teaching staff	No. of students
1954-55	101	127	1686
1955-56	100	144	1835
1956-57	100	153	1909

*The Committee observe that the actual strength of teaching staff in the year 1956-57 was far below the sanctioned strength in the year 1954-55. The Committee were informed that the reasons for the shortage of teaching staff were mainly as under:—*

- (a) The recruitment of the gazetted staff being through the Union Public Service Commission, procedural delays are involved.
- (b) Salary scales for the teaching staff are very low as compared to salary scales offered to technical posts in Government Departments, industry etc. Well qualified and experienced persons are not attracted to the teaching positions particularly now when they are so much in demand in industry and various Government Departments.
- (c) Difficulty of residential accommodation in Delhi discourages qualified persons from applying for positions.

Regarding the problem of recruitment of the gazetted staff through the Union Public Service Commission, the Committee were told by the representative of the Ministry that the Union Public Service Commission was not agreeable to treat as valid the panel of selectees recommended by them beyond the period of six months. *The Committee suggest that Government should take up the question of treating the panel of selectees as valid for a period of 12 months or even a longer period with the Union Public Service Commission.*

28. *Regarding the low scales of salary, the Committee are glad to learn that Government had decided to revise the salary scales in the Delhi Polytechnic and make them more attractive from the point of view of qualified persons.*

29. While on the one hand, the Delhi Polytechnic was facing acute shortage of staff, the Committee understand that permanent members of the staff of the Delhi Polytechnic were permitted to apply for two permanent positions outside in a year. The Committee were informed that a permanent Senior Lecturer in the scale of Rs. 500-30-800 was selected by the Ministry of Works, Housing and Supply for appointment to a post carrying the salary scale of Rs. 1300-1800. *The Committee do not quite appreciate the policy of the Governing Body of the Delhi Polytechnic in laying down a general practice of permitting the permanent members of the staff to apply for two permanent positions outside in a year, especially in view of the paucity of trained teaching staff. The Committee feel that this is encouragement to the flight. The Committee hope that Government will consider the matter of flight of technical teaching personnel and evolve a policy for the future guidance of all departments under their control.*

30. The Committee understand that the Delhi Polytechnic had been experiencing some difficulty in securing services of part-time teachers from various Government or Semi-Government departments because, in some cases, Government Departments did not permit their officers to teach on a part time basis at the Polytechnic due to some procedural difficulties. *The Committee suggest that Government should examine the procedural difficulties which were coming in the way of Government Engineering Departments in permitting some of their officers to give part time instruction in the Delhi Polytechnic provided that this can be done without detriment to their normal duties.*

#### I. Teacher- Pupil Ratio and Average cost per student

31. The Committee were informed that the teacher-pupil ratio in the Delhi Polytechnic was 13·8: 1 in respect of senior departments and 21·8:1 in respect of the Higher Secondary Technical School. The average annual cost per student varied from course to course as shown below and the Committee were informed that *per capita* cost of courses compared favourably with other institutions:—

Course	Per capita expenditure
	Rs.
B.E., B.Ch.E., B. Text., B. Arch. Courses . . .	1200 p.a.
B. Com. Course . . . . .	500 p.a.
National Diploma in Art (full time) . . . . .	500 p.a.
National Diploma in Art (part time) . . . . .	400 p.a.
National Diploma in Art and Commerce (Part time).	250 p.a.
Pre-engineering . . . . .	500 p.a.
National Certificate Course (Engineering) . . . . .	700 p.a.

#### J. Buildings, Workshops and Laboratories

32. The Delhi Polytechnic is housed in Kashmere Gate area in old Delhi which is a thickly populated business area. *The Committee gathered an impression that several buildings of the Polytechnic, housing its departments, workshops and laboratories, had been constructed spasmodically as and when a need was felt for additional accommodation. The Committee found that there was absence of co-ordinated planning of the Polytechnic campus as a whole which had resulted in its haphazard growth. The Committee also gathered an impression that the workshop, laboratories and drawing rooms were congested and needed more space. The Committee are of the opinion that the Delhi Polytechnic Campus needs replanning.*

33. The Committee were informed that additional space of about 35,000 square feet would be made available to the Delhi Polytechnic when the accommodation occupied by the Industrial Training Centre, Inspector General of Police, Delhi, and the Regional National Savings

Office, was released in favour of the Polytechnic. *The Committee recommend that Government should take necessary steps early to vacate the premises occupied by the Inspector General of Police, the Regional National Savings Office, the Railway Claims Office and the Industrial Training Centre in favour of the Delhi Polytechnic. Alternatively, the question of shifting the Polytechnic itself to some wider area outside but nearabout Delhi, preferably, near a site of industry should be examined.*

#### K. Estimates, Accounts and Finance

34. A statement showing the estimates sanctioned and actual expenditure incurred during the last three financial years, viz. 1954-55, 1955-56, and 1956-57 is given in Appendix VII. *The Committee observe that during the last three years, only Rs. 18,39,076 had been spent out of the budget grant of Rs. 42,00,800 under non-recurring expenditure. The Committee were informed that the short-fall in expenditure was due to procedural delays involved in procuring the equipment through the Director General of Supplies and Disposals and also due to uncertainties of delivery by manufacturers and suppliers. The Committee were surprised to learn that indents placed by the Delhi Polytechnic in the years 1949-50, 1950-51 and 1951-52 for certain types of equipment had not been fulfilled even in the year 1957-58. The Committee regret to observe the recurring unhealthy feature of the budget grants not being utilised fully, due to some reason or other. This also indicates the necessity of preparing the budget estimates more realistically. The Committee were told that the matter had been taken up with the Director General of Supplies and Disposals and that the backlog would be wiped out early. The Committee suggest that the authorities of the Polytechnic should take effective steps to place indents of equipment sufficiently in advance in future to ensure that the indented equipment was made available at the time when it was required.*

#### L. Library

35. The Committee understand that the Delhi Polytechnic had a good library having 30,000 volumes and a range of about 200 scientific and technical journals. The library was housed in a new building which was proposed to be expanded to three times its original size with spacious reading rooms. The Committee were informed that the seating capacity of the Central Library was 100 at a time and the average daily attendance varied from 250 to 300. The Library is kept open from 9 a.m. to 7 p.m. on all working days and from 9 a.m. to 1 p.m. on Saturdays. The Committee understand that the Library of the Indian Institute of Technology, Kharagpur was kept open for 82 hours a week including Sundays. *The Committee suggest that this Library should also be kept open during such extra hours and also on Sundays and public holidays as would enable students to take its advantage outside the normal working hours of the tutorial and practical classes.*

**M. Extra curricular activities**

36. The Committee understand that a sum of Rs. 10 per annum is charged from students for games and other recreational facilities. The sports activities are organised by a Sports Council and 270 to 300 students participate in various games. The Committee were informed that play grounds were not adequate for the total number of students in the Delhi Polytechnic and that the students did not find much time to participate in games and other extra curricular activities. *The Committee suggest that adequate steps should be taken to encourage students' participation in games by acquiring more playgrounds to meet the normal additional requirement of the total number of students of the Delhi Polytechnic and that the existing playgrounds should be kept in serviceable condition throughout the year.*

### **III. THE SCHOOL OF TOWN AND COUNTRY PLANNING, DELHI**

#### **A. Introduction**

37. The All India Council for Technical Education in their Eighth meeting held in February, 1953 recommended to the Central Government that immediate steps be taken to establish a School of Town and Regional Planning in Delhi in order to fill an important gap in the provision of educational facilities in the country. The Council was of the view that the School should preferably be established as an enterprise of the Institute of Town Planners (India) in accordance with the scheme submitted by it and recommended to the Central Government to give financial assistance to the Institute for this purpose. The School was thereafter established as a joint enterprise with the Institute of Town Planners (India), in 1955, by the resolution of the Government of India, reproduced in Appendix VIII, with the object of providing facilities for education and training in all aspects of rural, urban and regional planning.

#### **B. Constitution**

38. The School of Town and Country Planning is a Society registered under the Societies Registration Act XXI of 1860. Under the Memorandum of Association, executed in September, 1956, one of the objects of the Society is to issue appeals for funds in furtherance of the objects of the Society and to receive grants, subscriptions, donations and gifts for the purpose of the School. But, the Society is entirely financed by the Government of India. It is controlled by the Central Government to the following extent:

- (a) The income and property of the Society, however, derived, shall be applied towards the promotion of the objects thereof as set forth in the Memorandum of Association subject to such limitations as the Government of India may impose. (Art. 3).
- (b) If, on the winding up or dissolution of the Society, there shall remain after the satisfaction of all its debts and liabilities, any property, whatsoever, the same shall not be paid to or distributed among the members of the Society or any of them but shall be dealt with in such manner as the Government of India may determine. (Art. 3).

#### **C. Composition of the Governing Body**

39. Out of the present 9 members of the Board of Governors (Appendix IX), 3 members represent the various Ministries of the Government of India. The Secretary of the Ministry of Education

and Scientific Research, Department of Scientific Research and Technical Education, is the Chairman of the Board of Governors. *The Committee suggest that the feasibility of appointing a non-official as the Chairman, may be examined.*

40. The Memorandum of Association and Rules and Regulations of the School came into force after the registration of the School as a Society was made on 11th September, 1956. Before that, as per the Government Resolution, the representative of the Ministry of Finance was *ex-officio* Honorary Treasurer. The official who was deputed by the Ministry of Finance to serve as a Member on the Board of Governors, continued to serve till December, 1956, when he retired. The Committee understand that the Ministry of Finance had not appointed any representative on the Board of Governors thereafter. The Committee also understand that as a matter of policy, the Ministry of Finance were not prepared to appoint any representative on the Board of Governors of a non-governmental institution and that they did not like the idea of their officers serving as Honorary Treasurers. *The Committee are of the opinion that a representative of the Finance Ministry should be on the Board in view of the fact that the funds of the Society are entirely financed by the Government of India.*

#### D. Meetings of the Board

41. From the date of registration of the Society, *i.e.* the 11th September, 1956 till the 10th September, 1957, the Board of Governors met only twice; although, they are required to meet at least once in every three months under Rule No. 11 (i) of Rules and Regulations. *The Committee consider this rather unfortunate. There is no point in making elaborate Rules and Regulations, if they are not to be observed.*

#### E. Participation by the Institute of Town Planners (India)

42. The Committee were given to understand that the Institute of Town Planners (India), was the only professional institution functioning in the country and that its membership included all qualified town planners in the country. Apart from serving on the Board of Governors and thus participating in the administration and management of the affairs of the School, the Committee were informed that the Institute of Town Planners was providing the following assistance:

- (a) Services of expert lecturers on honorary basis.
- (b) Participation of the staff and students of the School in seminars, conferences, discussions etc. held by the Institute.

The Committee were also informed that during the year 1956-57, the Institute provided the services of 5 expert lecturers without remuneration, who worked on an average 8 hours per week for the School, besides providing the services of visiting specialists.

### F. Working

43. The Committee were informed that the School of Town and Country Planning was established on the 1st July, 1955, when only the Director was appointed. The first course in Town and Country Planning was commenced in some temporary accommodation provided by the Delhi Polytechnic in August, 1956. During the intervening period, the following posts were sanctioned and filled in:

Designation	No. of posts
Director . . . . .	1
P.A. to Director . . . . .	1
Clerk . . . . .	1
Peons . . . . .	2
Senior Draftsman . . . . .	1
Architectural Assistant . . . . .	1

The first batch of 9 students,—two for the Intensive Course and seven for the Diploma Course, was admitted in August, 1956. Details of the additional posts sanctioned and filled in during the year 1956-57, are given in Appendix X. The following pay scales have been sanctioned for the academic staff in the School of Town and Country Planning Delhi:—

Sl. No.	Post	Pay Scale
		Rs.
1	Director and Professor of Planning . . . . .	1600—100—2000
2	Associate Professor of Planning . . . . .	1000—50—1500
3	Assistant Professor of Planning . . . . .	600—1150
4	Senior Lecturer . . . . .	500—800
5	Librarian . . . . .	275—500
6	Technical Assistant . . . . .	160—330
7	Field Assistant . . . . .	180—350

*The Committee note that these salary scales are even higher than those prevailing in Universities and other high grade Engineering and Technological Institutions in the country, and suggest that they should be suitably reviewed to bring them in conformity with the pay scales in other sister institutions.*



## G. Finance and Accounts

44. During the years 1955-56 and 1956-57, the following grants were paid by Government for meeting the entire expenditure of the School:—

Year and nature of grant	Amount of grant	Expenditure incurred	Unspent Balance
	Rs.	Rs.	Rs.
1955-56 :			
Non-recurring . . . . .	9,062	9,062	..
Recurring . . . . .	37,938	25,320	12,518
1956-57 :			
Non-recurring . . . . .	4,00,000	28,410	3,71,590
Recurring . . . . .	79,518	53,632	25,886

During the year 1957-58, eleven students were admitted, thus making a total of seventeen students (out of 9 students of the previous year, one student gave up the course and two students completed their Intensive Course) in the School. The Board of Governors have approved the following budget estimates for the year 1957-58:—

Non-recurring expenditure	Rs. 9,16,650
Recurring expenditure	Rs. 1,68,820.

The Committee understand that the Governing Board of the School of Town and Country Planning has submitted a scheme to the Government which stipulates non-recurring expenditure of Rs. 11,96,638 and recurring expenditure of Rs. 2,53,190 for a total student body of 75 (50 diploma and 25 Intensive Course). The Committee also understand that the Government of India have sanctioned an amount of Rs. 12,95,437 as non-recurring expenditure. The question of sanctioning the recurring expenditure is under their consideration. *The Committee observe that the annual expenditure per student in the School of Town and Country Planning during the year 1956-57, was Rs. 5,900. On the basis of the budget estimates for the year 1957-58, sanctioned by the Board of Governors, the probable expenditure per student works out to Rs. 9,900 per annum. Besides the quantum of direct expenditure incurred by the School out of the grant of the Central Government, the Committee understand that students sponsored by State Governments were in receipt either of a stipend of Rs. 100 p.m. or the deputation pay. The Committee are of the opinion that the annual expenditure incurred per student is on the high side and suggest that suitable measures should be taken to reduce it.*

## H. Courses of Study

45. The Committee understand that the School is conducting two types of courses, viz. the Intensive and the Diploma Course. The method of selection for these courses is as follows:—

### *Intensive course:*

This course is open only to qualified engineers, architects and others working in the field of Town and Country Planning in a responsible capacity. Selection is made only from those candidates who are sponsored by State or Local Governments. The qualifications, experience etc. of the sponsored candidates are examined by the Admission Committee of the Board and selection is made on the recommendations of the Committee.

### *Diploma Course:*

The Diploma Course is open to candidates who possess the following qualifications:

- either (i) Intermediate Examination in Architecture of the All India Council for Technical Education or equivalent,
- or (ii) approved degree or diploma course in Civil Engineering,
- or (iii) Master's or Honours degree in Geography, Sociology, Economics or Law.

46. The Committee were informed that the question of recognising the Diploma awarded by the School of Town and Country Planning by the Central Government was considered by the Assessment Board of the All India Council for Technical Education and that the matter had been referred to a Special Committee. *The Committee feel that the matter of granting recognition to the Diploma Course of the School of Town and Country Planning should be expedited in view of the fact that the first batch of six students was due to pass out in 1958.*

47. *The Committee observe that emphasis was given to several aspects of Town Planning, whereas Rural Planning was practically non-existent. The Committee recommend that Government should take early steps for introducing a course in Rural Planning.*

48. The Committee understand that the Indian Institute of Technology, Kharagpur, is conducting a post-graduate course in Regional Planning (Town and Country Planning) leading to the degree of Master of Technology. This course has been specially designed to

provide trained personnel for undertaking co-ordinated regional development in the country through comprehensive socio-economic as well as physical plans which deal with the use and development of land and its resources on a regional basis. Seven students received their Master's degree in the year 1957 and five more were expected to receive their degree in the year 1958. The Committee were told by the representative of the Ministry that the standard of the M.Tech. course in Kharagpur and the standard of Diploma course in the School of Town and Country Planning, Delhi was the same. Referring to the Intensive Course of the School of Town and Country Planning, the representative of the Ministry added that it was specially meant for those who were actually employed in Town Planning work and that the Indian Institute of Technology, Kharagpur, was not conducting a course of that type. Referring to the small number of students in the School of Town and Country Planning, the representative of the Ministry told the Committee that it was due to the fact that it was not fully developed having no building of its own. *The Committee are not convinced with the reasons stated by the representative of the Ministry, especially in view of the fact that even a fairly developed institution like the Indian Institute of Technology, Kharagpur, having a similar post-graduate course in Regional Planning (Town and Country Planning) leading to the degree of M.Tech., was experiencing great dearth in the number of post-graduate students. The Committee are not convinced about the justification for running a separate institution of the type of the School of Town and Country Planning with all its separate paraphernalia for a single post-graduate course. The Committee, therefore, suggest that Government should examine the feasibility of conducting the post-graduate course in Town and Country Planning as one of the post-graduate courses in the Engineering and Technological College, proposed to be established in Delhi. The feasibility of introducing a diploma course at Kharagpur and other Technological Institute, besides a degree course in this subject, should also be examined.*

### I. Building

49. The Committee were also told by the representative of the Ministry that the building of the School of Town and Country Planning was in the process of construction in the Indraprastha Estate at an estimated cost of Rs. 10,46,429. *The Committee suggest that Government might utilise that building with suitable additions and alterations for the proposed Engineering and Technological College in Delhi.*

## IV. REGIONAL OFFICES OF THE MINISTRY OF EDUCATION

### A. Introduction

50. The Ministry of Education and Scientific Research is having four Regional Offices, one each in the four regions of the country. The offices at Bombay and Calcutta were established in the year 1950-51, while those at Madras and Kanpur were established in the year 1955-56. \*The main activities of the Regional Offices relate to the following:

- (i) To secure practical training facilities in industry and other establishments for the students of technical institutions;
- (ii) To survey the facilities of technical education and training and to prepare detailed plans for development of technical education in the region on the advice of the Regional Committee;
- (iii) To bring about liaison between industry and technical institutions and between the Central Government and the State Government concerned in the matter of technical education;
- (iv) To advise on the standard of courses to be adopted in the institutions and to watch over the progress of the development of the institutions obtaining grants from the Central Government;
- (v) To function as the Secretariat of the Regional Committees concerned of the All India Council for Technical Education.

### B. Territorial Jurisdiction

51. The territorial jurisdiction of the Regional Committees of which the Regional Offices are functioning as the Secretariat, is as under:

#### 1. Northern Region

States: Punjab, Uttar Pradesh, Rajasthan and Jammu and Kashmir, Union Territories: Delhi and Himachal Pradesh.

#### 2. Eastern Region

States: Assam, West Bengal, Bihar, Orissa.

Union Territories: Manipur, Tripura and Andaman and Nicobar Islands.

### 3. Western Region

States: Bombay, Madhya Pradesh.

### 4. Southern Region

States: Madras, Andhra, Mysore and Kerala.

Union Territories: Laccadive, Minicoy and Amindivi Islands.

### C. Finance and Budget

52. The actual expenditure incurred by Government on **Regional Offices** during the year 1954-55 to 1956-57 and the estimated expenditure during the year 1957-58 is as under:

Year	Expenditure
	Rs.
1954-55 . . . . .	87,000
1955-56 . . . . .	1,46,000
1956-57 . . . . .	2,06,000
1957-58 . . . . .	3,20,300*

\*Budget estimates.

The Committee understand that the above expenditure is mostly related to the salaries of staff employed in Regional Offices.

### D. Functions of Assistant Educational Advisers in Regional Offices

53. Each of the four Regional Offices is in charge of an Assistant Educational Adviser, supported by gazetted and non-gazetted staff. The Assistant Educational Adviser, in charge of the Regional Office, acts as *ex-officio* Secretary to the respective Regional Committee. He also serves as a member, representing the Central Government on the Managing Committee of non-government institutions situated within the jurisdiction of the Regional Office. The Committee were told that the Central Government is merely participating in the development by giving certain assistance and not controlling the institutions as such. The Regional Officers watch the progress by attending meetings, by means of 'quarterly control' statements and by means of visits to the institutions. The Committee understand that the Assistant Educational Adviser in charge of the Eastern Regional Office was representing the Central Government on Managing Committees of 32 aided institutions situated within his region. In the meetings of the Managing Committees of such institutions, the Assistant Educational Advisers are supposed to represent the Centre's point of view and hold a watching brief and attend meetings whenever there is something on the agenda which is of importance and interest to the Central Government. *The Committee feel that it is a formidable task for a single officer to be on Managing Committees of such a large number of institutions. The Committee are not sure whether he can do justice to his work with such a heavy work load. The Committee suggest that the existing procedure of nominating the same official representative on various Governing Bodies/Managing Committees of institutions receiving grants-in-aid may be revised and suitable non-officials may be appointed in their places.*

### E. State Boards of Technical Education

54. The Committee understand that the following States have set up their own Boards of Technical Education: (1) Assam, (2) West Bengal, (3) Bihar, (4) Orissa, (5) Bombay, (6) Madras, (7) Andhra Pradesh, and (8) Rajasthan. They also understand that Madhya Pradesh, Mysore, Kerala, Punjab and Uttar Pradesh have agreed to set up their Boards in the near future. The functions of the Regional Committees and the constitution and functions of the State Boards of Technical Education are given in Appendices XI and XII respectively. The Committee were told that the main function of the State Board was on the academic side, *viz.*, conducting examinations, maintaining proper standards of examinations, supervising institutions and providing facilities for their development and progress, and that they would be expected to prepare a programme for the development of Technical Education in respect of that particular State. The Regional Committees take a regional view of problems relating to Technical Education and examine the development programmes prepared by the States within their jurisdiction and make recommendations to the All India Council for Technical Education. The representative of the Ministry explained that in the matter of development work it was the Regional Committee and not the State Board that visited the institutions for assessing the development cost. According to him this had two advantages: (i) as there were two participants in the development programme, *viz.*, the Centre and the State Government, the Regional Committee, on behalf of the All India Council for Technical Education, could take an overall view of the programme, (ii) the Regional Committee was in a better position to achieve inter-State co-operation in giving practical training to students of one State in the institutions in another State. *While the Regional Committees have been useful so far in securing the co-operation of contiguous States forming a region in pooling all the knowledge of the region as a whole and in giving practical training to students of one State in another, the Committee feel that there is no justification for this additional tier, with the establishment of the State Boards of Technical Education with more or less similar functions, in most of the States.* Moreover, the State Boards are fully representative bodies, having members drawn from industry, commerce, universities, technical institutions and the All India Council for Technical Education. *The Committee do not conceive any serious difficulty in the State Boards of Technical Education performing the functions now under the charge of the Regional Committees and the Regional Offices. The Committee, therefore, suggest that Government might take steps for merging the functions of the Regional Committees with the State Boards of Technical Education and abolishing the Regional Offices of the Ministry of Education and Scientific Research gradually with the establishment of the State Boards of Technical Education in all the States.* The necessary co-ordination amongst the various State Boards on an all-India basis may be maintained by the All India Council for Technical Education through its Co-ordinating Committee. The Zonal Councils, established under the States Reorganisation Act, will do the co-ordinating work within the zones, where necessary.

## V. TECHNICAL TRAINING SCHEMES AT PRE-MATRICULATION STAGE

### A. Introduction

55. The immediate purpose of education in relation to Industry is to secure to Industry the services of better qualified men to work as skilled and semi-skilled workers. The improvement in the content and the method of education will make for increasing efficiency in industry and contribute to its expansion. This will lead to the development of industry which in turn will make for profitable employment becoming available to increasing numbers. Unfortunately, the progress in the field of technical education in this country during the last century has been practically nil. The Secondary Education Commission, observed that the position in this respect in 1953, was not very different from what it was in 1882. One of the reasons given by the Commission for the slow progress in this field was as under:—

“There has not been sufficient co-ordination and co-operation between the different departments of Government. Some institutions were under the Director of Industries, others were under the Director of Labour and the rest under the Director of Education.”

*The Committee observe that this is the condition even now to some extent. With the growing development of industry and its expansion and the keen desire of the people to utilise the natural resources of the country to their best advantage, the demand for skilled and semi-skilled workers will increase rapidly and continuously in future. The Committee propose to deal here with some of the important technical training schemes at pre-matriculation stage.*

### B. Technical Schools

56. Generally, skilled and semi-skilled workers take up their occupation after their high school studies. It is, therefore, at this stage that students should be guided and directed to secure training in different occupational and trade courses depending upon the pattern of industries situated within a particular area. On recommendations of the Secondary Education Commission, the Ministry has reoriented secondary education in the country to meet the above demand. Facilities for scientific and technical education are being gradually extended in multipurpose schools or technical higher secondary schools. Another scheme of Technical schools is under the examination of the National Council for Vocational Trades. It stipulates the observance of the same hours of work per day as a

factory and also the benefit of the normal vacations as in a school. The work-load in a factory is 48 hours per week and about 50 weeks in the year. The work-load in the technical school would be 42 hours per week and 40 weeks in a year. The rest of the period would be spent in the vacation, other holidays and examinations. In the first two years, academic studies and trades' training would receive generally equal importance. In the final year, the emphasis would be shifted to the students' professional training, but the element of general education would continue to remain in the curriculum. The boys would also receive workshop training of about 60 per cent of the total number of hours spent on theory. Subjects like General Science, Mathematics, Humanities and languages would constitute about 25 per cent of the total course. Each Technical School will have provision for the admission of 60 boys every year and a student enrolment of about 200 for all the three years of the course. Another feature of Technical Schools will be that no fees would be charged to students. On the other hand they would be paid small stipends of the value of Rs. 20/- p.m. for the first two years and Rs. 30/- p.m. in the final year. Hostel accommodation of the dormitory type would be provided in each school for upto 50 per cent of the boys. It is estimated that a model Technical School would require non-recurring expenditure of Rs. 6,01,000 for buildings and equipment and recurring expenditure of Rs. 1,52,000 per annum. An amount of Rs. 1,75,000 would also be required for the construction for the hostel building. The Committee understand further that 61 Technical Schools would be established in different States during the period of the Plan. The following are details of the proposed location of Technical Schools:—

State	No. of Schools
Kerala	18
Bombay	2
Madhya Pradesh	5
Punjab	6
Jammu and Kashmir	4
Rajasthan	4
West Bengal	7
Bihar	10
Orissa	2
Tripura	1
Assam	1
Himachal Pradesh	1
	61

*It seems that the scheme has not evoked sufficient interest in many States. The Committee suggest that the reasons for this may be ascertained and the States which have not so far taken sufficient interest in the scheme may be persuaded to do so.*



### C. Technical Training Schemes of the Ministry of Labour

57. The Committee understand that a number of training schemes have been included in the programme of the Ministry of Labour. As stated in the Second Five Year Plan, the technical and vocational training scheme of the Ministry of Labour envisages the stepping up of annual admissions in craftsman training courses from 10,500 to 31,400 by the end of the Second Plan at an estimated expenditure of Rs. 14.72 crores. The Ministry is conducting 62 Craftsmen Training Institutes and Centres throughout the country where training is imparted in 28 technical trades and 17 vocational trades. The list of these 62 Craftsmen Training Institutes is given in Appendix XIII. The courses are comprehensive enough to enable persons undergoing them successfully to establish independent trades or join some industries as skilled craftsmen.

### D. Need for Co-ordination

58. The Committee were informed by the representative of the Ministry that the Ministry of Labour had set up the National Council for Vocational Training which took into account the various training schemes in operation in the private and public sectors with a view to formulate specific programmes of training, standardisation and certification of tradesmen. They were further informed that the All India Council for Technical Education was concerned with technical education above the high school stage only and that there was no co-ordinating authority for the functions of the two Councils. *The Committee consider this rather unfortunate. The Committee feel that the various stages of education and training are inter-related in such a manner that real development is not possible without close co-ordination, especially when the subjects are being dealt with by more than one Ministry. The Committee are of the view that there should be some agency in the Government of India which would be in a position to take an over-all and comprehensive view of the various aspects and stages of technical training imparted by the different Ministries, making it possible for trainees to derive the maximum benefits of the schemes without much additional cost. Prima facie there is scope for rationalisation, standardisation and integration of existing training facilities. In this connection, the Committee would like to reiterate their earlier recommendation contained in the 55th Report on the estimates of the Ministry of Defence:—*

"The Committee feel that co-ordinated efforts on the part of all the Ministries of the Government and the industries concerned are urgently called for to solve this vital problem from an all-India angle. At present, every big industry either sets up its own schools to train the technical personnel required by it or prefers to get trained men on a small scale from a neighbouring training institution. The Committee consider that such com-

partmental approach to this stupendous problem is a waste of the limited resources of the country in respect of training facilities which involve finance, equipment, buildings, instruments, instructors etc. They also feel that such facilities existing in Government Factories in general and in Ordnance Factories, in particular, should be available for training skilled workers in the entire country. They therefore recommend that the All India Council for Technical Education in association with other interested Ministries and private industries should conduct a thorough survey of the existing facilities for technical training in the country, including those available in the various industrial undertakings, and then draw up a co-ordinated plan to meet the present and future requirements of technical personnel in the various industries in the country, both in the public and in the private sectors.

The Committee consider that such co-ordination, besides utilising the existing facilities to the maximum possible advantage would also make for standardisation of training in the various trades in all the institutions."

59. *The Committee suggest that the feasibility of transferring the training programme of the Labour Ministry to the new Ministry of Culture and Scientific Research, under the All India Council for Technical Education, to secure better overall co-ordination, should be examined.*

NEW DELHI;  
The 7th April, 1958.

BALVANTRAY G. MEHTA,  
Chairman,  
Estimates Committee.

## APPENDIX I

(Vide PARA 7)

*List of Under-graduate Courses in the Indian Institute of Technology, Kharagpur*

<i>Course</i>	<i>Duration</i>	<i>Degree</i>
1. Civil Engineering . . . . .	4 years	B. Tech.
2. Mech. Engineering . . . . .	4 years	B. Tech.
3. Elect. Engineering . . . . .	4 years	B. Tech.
4. Geology & Geophysics . . . . .	3 years	B.Sc. (Hons.)
5. Electrical Engineering (Electronics & Communication) . . . . .	4 years	B. Tech.
6. Agricultural Engineering . . . . .	4 years	B. Tech.
7. Metallurgical Engineering . . . . .	4 years	B. Tech.
8. Mining Engineering . . . . .	4 years	B. Tech.
9. Chemical Engineering . . . . .	4 years	B. Tech.
10. Architecture . . . . .	5 years	B. Arch.
11. Naval Architecture and Marine Engi- neering . . . . .	5 years	B. Tech.

## APPENDIX II

(Vide PARA 8)

*Results of Post-graduate Courses in the Indian Institute of Technology,  
Kharagpur*

Year of admission	Courses of study	Nos. admitted	Nos. passed out in year	Remarks
1	2	3	4	5
1952	1. Production Technology (ME) 2. Combustion Engg. & Fuel Economy (Ch. E.)	8 10 <hr style="width: 50px; margin: 0 auto;"/> 18	7 in 1954 9 in 1954	Total 16 passed in 1953-54.
1953	1. Production Technology (ME) 2. Combustion Engg. & Fuel Economy (Ch. E.) 3. Industrial Engg. & Management (ME) 4. Technical Gas Reaction & High Pressure Technology (Ch.)	10 10 8 3 <hr style="width: 50px; margin: 0 auto;"/> 31	10 in 1955 7 in 1955 7 in 1955 2 in 1955	Total 30 passed in 1955.
1954	1. Mechanical Handling of Materials (ME)	5	4 in 1955	
1955	1. Mechanical Handling Machine (ME) 2. Mechanism & Vibrations (ME) 3. Production Technology (ME) 4. Structural Engineering (CE) 5. Transportation Engineering (CE)	4 4 10 6 7	4 in 1956 4 in 1956 8 in 1956 6 in 1956 4 in 1956	Total 53 passed in 1956.

1	2	3	4	5
	6. Soil Mech. & Foundations (CE)	3	3 in 1956	
	7. Hydraulics & Water Power Eng. (CE)	9	7 in 1956	
	8. Regional Planning (ARP)	7	7 in 1957	
	9. Comb. Engg. & Fuel Economy (Ch. E.)	4	3 in 1956	
	10. Applied Geology (Ge.)	8	4 in 1957	
	11. Exploration Geophysics (Ge.)	6	3 in 1957	
	12. Design of Elect. Machinery (EE)	8	7 in 1956	
	13. Tech. Gas Reaction & High Pressure Tech. (Ch.)	5	3 in 1956	
	14. Industrial Physics (Ph.)	3	1 in 1956	
	15. Advanced Broadcasting Engg. (E & ECE)	6	3 in 1956	
		90		
1956	1. Design of Elec. Machinery (EE)	6	5 in 1957	
	2. Structural Engg. (CE)	13	12 in 1957	
	3. Hydraulic & Water Power Engg. (CE)	5	5 in 1957	
	4. Transportation (Highway) Engg. (CE)	2	2 in 1957	
	5. Comb. Engg. & Fuel Economy (Ch. E)	4	4 in 1957	
	6. Advanced Broadcasting Engg. (EECE)	5	4 in 1957	
	7. Tech. Gas Reaction & High Press. Tech. (Ch.)	2	2 in 1957	
	8. Prod. Tech. (ME)	6	5 in 1957	
	9. Industrial Engg. (ME)	5	5 in 1957	
	10. Machine Design (ME)	2	2 in 1957	
	11. Design of Turbo Machinery (ME)	3	2 in 1957	
	12. Applied Botany (Ag E)	1	1 in 1957	
	13. Farm Machinery & Power (Ag E)	1	Nil	
	14. Industrial Physics (Ph.&M)	1	1 in 1957	
				Total 64 passed in 1957.

1	2	3	4	5
15. Meteorology (Ph. M) . .	1	..	Due to pass out in August 1958	Do.
16. Applied Geology (Ge) .	4			Do.
17. Exp. Geophysics (Ge) .	6			Do.
18. Regional Planning (ARP) .	5			Do.
		72		

### APPENDIX III

(Vide PARA 12)

*Up-to-date sanctioned posts in the Indian Institute of Technology, Kharagpur*

Serial No.	Designation of Post	Number	
		Permanent	Temporary
1	2	3	4
1.	Director . . . . .	1	..
2.	Deputy Director . . . . .	1	..
3.	Registrar . . . . .	1	..
4.	Assistant Registrar . . . . .	2	..
5.	Store Officers . . . . .	1	..
6.	Works Superintendent . . . . .	1	..
7.	Chief Medical Officer . . . . .	1	..
8.	Medical Officer . . . . .	1	..
9.	Accounts Officer . . . . .	1	..
10.	Librarian . . . . .	1	..
11.	Audit Officer . . . . .	1	..
12.	Officer on Special duty . . . . .	..	1
13.	Farm Superintendent . . . . .	1	..
14.	Pathologists and House Surgeon . . . . .	1	..
15.	Head of the Deptt. Prof. in Senior Scale . . . . .	12	..
16.	Professor . . . . .	16	..
17.	Assistant Professor . . . . .	53	..
18.	Senior Scientific Officer . . . . .	1	..
19.	Lecturer . . . . .	92	..
20.	Instructor . . . . .	18	..
21.	Supervisor Workshop . . . . .	7	..
22.	Accountant . . . . .	1	..
23.	Assistant Accountant . . . . .	1	..
24.	Auditor . . . . .	2	..

1	2	3	4
25. Store Accountant		1	..
26. Stock Verifier		1	..
27. Cashier		1	..
28. Junior Cashier		2	2
29. Receptionist		1	..
30. Steward		1	..
31. Horticulture Assistant		1	..
32. Overseer Farm		3	..
33. Jr. Research Asstt/Tech. Assistant		54	3
34. Sr. Research Asstt.		26	..
35. Lorry Driver		5	3
36. Mess Supervisor		1	..
37. Compounder		2	..
38. Gestetner Operator Gr. I		2	..
39. Superintendent		3	..
40. Secretary to Director		1	..
41. Assistant		8	..
42. Assistant Librarian		3	..
43. Stenographer		7	..
44. P.A. to Director		1	..
45. Chief Store Keeper		1	..
46. Store Keeper		9	..
47. Draftsman		13	1
48. Foreman		17	..
49. Physical Training Instructor		8	..
50. Warden		6	..
51. Assistant Warden		11	..
52. Mechanic Grade 'A'		60	5
53. Assistant Modelling		1	..
54. Mechanic Grade 'B'		64	2
55. Mechanic Grade 'C'		47	..
56. Upper Divn. Clerk		38	1
57. Lower Divn. Clerk		70	1
58. Assistant Lecturer		88	1
59. Chemical Engineer		..	4
60. Erection Engineer		..	1
61. Dentist (Part Time)		..	1
62. Eye Specialist (Part Time)		..	1



1	2	3	4
63.	Lab/Shop/Store Attendant . . . . .	134	4
64.	Library Attendant Gr. I. . . . .	9	..
65.	Library Attendant Gr. II. . . . .	6	..
66.	Duftry . . . . .	6	..
67.	Gestetner Operator Gr. II . . . . .	2	..
68.	Jamadar . . . . .	1	..
69.	Armed Guard . . . . .	2	..
70.	Time Keeper . . . . .	1	..
71.	Peon . . . . .	29	..
72.	Durwan . . . . .	22	..
73.	Chowkidar . . . . .	19	..
74.	Guard . . . . .	7	..
75.	Beatsman . . . . .	34	..
76.	Mali . . . . .	20	..
77.	Sweeper . . . . .	46	..
78.	Cleaner . . . . .	1	..
79.	Laskar . . . . .	2	..
80.	Mazdoor . . . . .	6	..

## APPENDIX IV

(Vide PARA 12)

*Staff position in the Indian Institute of Technology, Kharagpur, during  
1954-55, 1955-56 and 1956-57*

Sl. No.	Designation of Post	Year		
		1954-55	1955-56	1956-57
1	2	3	4	5
1	Director . . . . .	1	1	1
2	Registrar . . . . .	1	1	1
3	Assistant Registrar . . . . .	..	1	1
4	Stores Officer . . . . .	..	..	1
5	Workshop Superintendent . . . . .	..	..	1
6	Accounts Officer . . . . .	1	1	1
7	Farm Superintendent . . . . .	..	1	..
8	Librarian . . . . .	1	1	1
9	Head of the Department/Prof. in Sr. Scale . . . . .	5	5	6
10	Professor . . . . .	2	5	9
11	Assistant Professor . . . . .	24	35	39
12	Senior Scientific Officer . . . . .	..	..	1
13	Lecturer . . . . .	46	49	56
14	Medical Officer . . . . .	1	1	1
15	Assistant Lecturer . . . . .	56	65	60
16	Instructor . . . . .	9	9	12
17	Senior Research Assistant . . . . .	12	11	12
18	Jr. Research/Tech. Asstt. . . . .	22	24	35
19	Workshop Supervisor . . . . .	..	5	2
20	Superintendent . . . . .	2	2	1
21	Accountant . . . . .	1	1	1
22	Store Accountant . . . . .	1	1	1
23	Auditor . . . . .	1	1	1
24	Assistant . . . . .	5	5	5

1	2	3	4	5
25	P.A. to Director . . . . .	1	1	1
26	Stenographer . . . . .	5	5	5
27	Upper Division Clerk . . . . .	24	24	26
28	Lower Division Clerk . . . . .	52	59	70
29	Chief Store Keeper . . . . .	1	1	1
30	Store Keeper . . . . .	9	9	9
31	Cashier . . . . .	1	1	1
32	Junior Cashier . . . . .	1	3	4
33	Physical Training Instructor . . . . .	5	5	6
34	Foreman . . . . .	13	15	16
35	Draftsman . . . . .	6	9	10
36	Steward . . . . .	1	1	1
37	Lorry Driver . . . . .	5	8	7
38	Mess Supervisor . . . . .	1	..	1
39	Mechanic Grade 'A' . . . . .	23	46	45
40	Mechanic Grade 'B' . . . . .	28	53	49
41	Mechanic Grade 'C' . . . . .	27	37	41
42	Horticultural Assistant . . . . .	1	1	1
43	Stock Verifier . . . . .	1	1	1
44	Overseer Farm . . . . .	1	2	2
45	Compounder . . . . .	2	2	2
46	Hospitality Clerk . . . . .	..	..	..
47	Assistant Librarian . . . . .	2	2	3
48	Receptionist . . . . .	1	1	1
49	Chemical Engineer . . . . .	2	2	2
50	Modelling Assistant . . . . .	..	..	1
51	Gestetner Operator Gr. (I) . . . . .	..	..	1
52	Eye Specialist (Part time) . . . . .	..	..	1
53	Dentist (Part time) . . . . .	..	..	1
54	Gestetner Operator Gr. 'II' . . . . .	1	2	1
55	Library Attendant . . . . .	1	6	9
56	Library Attendant Gr. II . . . . .	..	6	5
57	Time Keeper . . . . .	..	1	1
58	Jamadar . . . . .	1	1	1
59	Laboratory Helper . . . . .	69	..	..
60	Laboratory/Shop/Store/Attdt. . . . .	..	120	125
61	Duftry . . . . .	4	4	4

1	2	3	4	5
62 Arm Guard	. . . . .	2	2	2
63 Peon	. . . . .	22	23	27
64 Durwan	. . . . .	17	22	20
65 Chowkidar	. . . . .	4	18	18
66 Guard	. . . . .	..	5	7
67 Beatsman	. . . . .	10	19	27
68 Mali	. . . . .	18	19	19
69 Mazdoor	. . . . .	..	..	6
70 Laskar	. . . . .	..	2	2
71 Cleaner	. . . . .	..	1	1
72 Sweeper	. . . . .	38	43	43

## **APPENDIX V**

*(Vide PARA 18)*

### **CONSTITUTION AND FUNCTIONS OF THE GOVERNING BODY OF THE DELHI POLYTECHNIC, DELHI**

#### **Functions of the Governing Body**

##### *Advisory Functions:*

(i) To advise the Central Government in regard to major questions of policy relating to aims, administration and working of the institution.

(ii) To make proposals to the Central Government regarding the institution of new courses of study and other developments.

(iii) To make recommendations to the Central Government regarding the creation of new posts and the duties and emoluments thereof.

(iv) To examine the budget estimates prepared by the Principal and to submit the same with their comments for the consideration of the Central Government.

(v) To recommend tuition fees for the various courses.

(vi) To recommend the number of free studentships or half-free-ships.

(vii) To act as the Advisory Committee in the manner set out in the proviso to Statute 30(1)(i) of the Delhi University (Amendment) Act, 1952.

(viii) To deal with any questions referred to them by the Central Government for opinion.

##### *Governing Functions:*

(i) To frame rules for the internal administration of the Institution.

(ii) To fix the dates of commencement and duration of the session of the Institution and the date of commencement and the number of terms into which the session may be divided.

(iii) To fix the number and nature of holidays.

(iv) To fix qualifications for admission to the various courses and the number of students to be admitted to each course.

(v) To frame rules regarding the award of prizes and medals.

(vi) To grant certificates and diplomas of the Institution.

(vii) To consider the draft annual report of the Institution and to submit the same to the Central Government.

(viii) To devise and initiate measures for arranging training and employment for passed students of the Delhi Polytechnic.

(ix) To exercise such additional functions as may from time to time be assigned to them by the Central Government.

## Constitution of the Governing Body

### *Members:*

(i) Chairman, who will be an eminent person connected with industry or commerce or a Government Department and who will be nominated by the Central Government.

(i) (a) Vice-Chairman, to be elected from among members.

(ii)-(vii) Six non-official members to be nominated by the Central Government.

(viii) A representative of the Chief Commissioner, Delhi.

(ix)-(xiv) A representative of each of the Ministries of Works, Housing & Supply, Irrigation & Power, Railways, Communications, Finance and Education.

(xv)-(xvi) Two representatives of the Delhi University.

(xvii) A representative of the Local centre for the Institution of Engineers (India).

(xviii) The Principal, Delhi Polytechnic.

(xix)-(xx) Two members of the teaching staff of the Delhi Polytechnic elected from amongst themselves by the teachers of the Delhi University courses at the Polytechnic.

(xxi) One member of the teaching staff of the Delhi Polytechnic elected from amongst themselves by the teachers of the non-University courses at the Polytechnic.

The Principal, Delhi Polytechnic, acts as Secretary to the Governing Body.

## APPENDIX VI

(Vide PARA 24)

*Statement showing the number of students on Roll in the Delhi Polytechnic, Delhi during 1955-56, 1956-57 and 1957-58*

Course	No. of seats.	No. of students year-wise in all classes		
		1955-56	1956-57	1957-58 (expected)
<b>1. Architecture</b>				
(i) Degree . . . . .	30	130	140	158
(ii) National Diploma . . . . .	30	169	189	180
<b>2. Arts</b>				
(i) National Diploma (Full time) . . . . .	22	82	81	100
(ii) National Diploma (Part time) . . . . .	25	64	60	80
(iii) National Certificate Commercial Art . . . . .	22	17	15	22
(iv) Vocational Art . . . . .	Not less than ten.	7	34	20
<b>3. Chemical Engineering</b>				
(i) Degree . . . . .	30	104	106	106
(ii) M.Sc. Tech. . . . .	..	15	8	10
<b>4. Pre-engineering</b>				
	120	120	120	120
<b>5. Commerce</b>				
(i) Degree . . . . .	45	132	126	136
(ii) National Diploma . . . . .	45	69	109	110
(iii) Part time . . . . .	..	19	..	..
<b>6. Engineering Civil*, Mechanical &amp; Electrical</b>				
(i) Degree . . . . .	80	239	272	300
(ii) National Certificate . . . . .	60	145	171	199
<b>7. Textile Degree</b>				
	30	83	82	85
<b>8. Part II Degree classes in B.E., B. Ch. E., B. Tech. &amp; B. Arch.</b>				
	..	40	..	..
<b>9. Technical Higher Secondary School</b>				
VI CLASS . . . . .	40	} 400	396	415
IX CLASS . . . . .	102			
<b>TOTAL</b> . . . . .	<b>691</b>	<b>1,835</b>	<b>1,909</b>	<b>2,631**</b>

\*Accepted by Government in July, '57 in principle.

\*\*Includes 590 part-time students expected during the year 1957-58.

## APPENDIX VII

(Vide PARA 34)

*Statement showing the Estimates sanctioned and actual expenditure during last three financial years (1954-55, 1955-56 and 1956-57) in the Delhi Polytechnic, Delhi.*

Sub-Heads	1954-55		1955-56		1956-57		Remarks
	Budget Grant	Actuals	Budget Grant	Actuals	Budget Grant	Actuals	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
<i>Recurring Expenditure</i>							
1. Pay of Officers . . . . .	4,67,700	4,21,117	4,99,100	4,51,431	5,32,300	5,04,118	Due to increase.
2. Pay of Estt. . . . .	3,21,500	2,71,140	3,90,900	3,29,012	3,26,000	3,68,012	—do—
3. Allowances & Hon. etc. . . . .	2,94,300	2,72,653	3,29,700	2,88,444	3,33,500	3,42,400	—do—
4. Other Charges (equipment) . . . . .	1,27,300	1,05,805	1,27,300	1,34,410	1,22,000	1,54,634	Due to development of the Institute.
<b>TOTAL—RECURRING . . . . .</b>	<b>12,10,800</b>	<b>10,70,715</b>	<b>13,47,000</b>	<b>12,03,897</b>	<b>13,13,800</b>	<b>13,69,174</b>	
<i>Non-Recurring Expenditure</i>							
5. Equipment . . . . .	4,50,000	2,59,826	4,50,000	2,95,915	1,90,000	1,60,703	Due to non-fulfilment of some of indents.
6. Charges in England . . . . .	2,53,000	2,21,938	12,000	8,986	1,10,000	9,337	
7. Major Works (Buildings) . . . . .	7,27,800	69,462	8,50,000	4,31,755	11,85,000	3,81,154	Some of the works could not be completed in time.
<b>TOTAL—NON-RECURRING . . . . .</b>	<b>14,30,800</b>	<b>5,51,226</b>	<b>13,12,000</b>	<b>7,36,656</b>	<b>14,58,000</b>	<b>5,51,194</b>	
<b>GRAND TOTAL . . . . .</b>	<b>26,41,600</b>	<b>16,21,941</b>	<b>26,59,000</b>	<b>19,40,553</b>	<b>27,71,800</b>	<b>19,20,368</b>	



## APPENDIX VIII

(Vide PARA 37)

*Resolution of the Establishment of the School of Town and Country Planning, Delhi.*

No. F.9-15/55/T.1.

GOVERNMENT OF INDIA

MINISTRY OF EDUCATION

*New Delhi-2, the 9th March, 1956.*

### RESOLUTION

(EDUCATION)

Amendment to the Government of India, the Ministry of Education Resolution No. F.9-9/49. T.2. dated 28th June, 1955 (Annexure A).

With a view to associate the Ministry of Health with the Board of Governors of the School, it has been decided to amend the constitution of the Board of Governors. The constitution of the Board of Governors shall be as follows:—

- (i) Secretary to the Government of India, Ministry of Education or his nominee—(Chairman-*ex-officio*).
- (ii) A representative of the Ministry of Finance, Government of India—(Member & *ex-officio* Treasurer).
- (iii) A representative of the Ministry of Works, Housing and Supply, Government of India—(Member).
- (iv) A representative of the Ministry of Health, Government of India—(Member).
- (v) to (vii) Three representatives of the Institute of Town Planners (India)—(Members).
- (viii) A representative of the Institution of Engineers (India)—(Member).
- (ix) A representative of the All India Council for Technical Education—(Member).
- (x) Director of the School of Town and Country Planning—(Member *ex-officio* and Secretary).

Resolved that a copy of this Resolution be published in the Gazette of India.

(Sd)—BIMAN SEN, 9/3  
*Assistant Educational Adviser.*

## ANNEXURE A

No. F. 9-9/49-T.2

GOVERNMENT OF INDIA  
MINISTRY OF EDUCATION

New Delhi-2, dated the 28th June, 1955.

### RESOLUTION

#### (EDUCATION)

Whereas the All India Council for Technical Education has recommended that facilities for education and training in all aspects of rural, urban and regional planning should be provided, it is hereby resolved as follows:—

1. For the promotion of the objects stated above, a School of Town and Country Planning shall be established in Delhi in association with the Institute of Town Planners (India).
2. As an initial step in this direction, a Governing Body to be called the Board of Governors shall be set up as early as possible for taking all necessary measures for the establishment of the School as also for its administration and management. The Board of Governors shall have full powers in the management of the affairs of the School.

The composition and functions of the Board of Governors shall be as follows:—

(a) *Constitution:*

- (i) Secretary to the Government of India, Ministry of Education or his nominee—(Chairman *ex-officio*);
- (ii) A representative of the Ministry of Finance, Government of India—(Member & *ex-officio* Treasurer);
- (iii) A representative of the Ministry of Works, Housing & Supply, Government of India—(Member);
- (iv) to (vi) Three representatives of the Institute of Town Planners (India) (Members);
- (vii) A representative of the Institution of Engineers (India)—(Member);
- (viii) A representative of the All India Council for Technical Education—(Member);
- (ix) Director of the School of Town and Country Planning—(Member *ex-officio* and Secretary);

(b) *Functions :*

- (i) To establish and to carry on the administration and management of the School of Town and Country Planning, Delhi;
- (ii) to prescribe and conduct courses of training in all aspects of rural, urban and regional planning;

- (iii) to admit candidates for the courses, to prescribe rules and regulations for and to hold examinations and declare the results; and to award Diplomas or Certificates;
- (iv) to supervise the residence, progress, health and discipline of the students;
- (v) to sponsor and undertake research in all aspects of rural, urban and regional planning as an integral part of the teaching activities of the School;
- (vi) to co-operate with any other organisation in the matter of education, training and research in rural, urban and regional planning;
- (vii) to determine the number, order and grades of pay of posts to create, suspend and abolish the posts, and to fix the emoluments and terms and conditions of service of the employees of the School and to fix special terms where required;
- (viii) to appoint all teaching staff and such other special staff as may be needed;
- (ix) to regulate the expenditure and to manage the accounts of the School;
- (x) to issue appeals for funds in furtherance of the objects of the School, to receive grants, subscriptions, donations and gifts for the purpose of the School, provided that no subscriptions, donations or gifts shall be accepted if they are accompanied by conditions inconsistent or in conflict with the satisfactory running of the School or with the object for which the School is established;
- (xi) to purchase, take on lease or accept as gift or otherwise a land or building or works which may be necessary or convenient for the purposes of the School and on such terms and conditions as it may think fit and proper and to construct or alter and maintain any such building or works;
- (xii) to draw and accept and make and endorse, discount and negotiate Government of India and other promissory notes, bills of exchange, cheques or other negotiable instruments;
- (xiii) to enter into any agreement with Central Government, State or Local Governments for receiving grants;
- (xiv) to make such rules and bye-laws as it may, from time to time, consider to be necessary for regulating the management of the School;
- (xv) to make such grants as it may think fit for the benefit of any employees of the School, to aid in the establishment and support of associations, institutions, funds, trusts and conveniences calculated to benefit the staff and the students of the School;
- (xvi) to delegate all or any of its powers to the Director of the School or to pay committee or any sub-committee or to any one or more members of its body or its officers; and
- (xvii) to do all such other acts and things as it may consider necessary conducive or incidental to the attainment or enlargement of the afore-said objects or any one of them.

3. The persons constituting the Board of Governors mentioned in para 2 shall form themselves into a Society to be called "The Delhi School of Town and Country Planning Society" under Act XXI of 1860 by subscribing their names to the Memorandum of Association and filling the same with the Registrar of Joint Stock Companies. The Memorandum of Association and the Rules, Regulations and Bye-Laws of the said Society shall be approved by the Government of India before they are filled with the Registrar of Joint Stock Companies.

4. On the registration of the Delhi School of Town and Country Planning Society under the Societies Registration Act XXI of 1860, the administration of the School shall vest in that Society.

5. Resolved that a copy of this Resolution be published in the Gazette of India.

(Sd)-L. S. CHANDRAKANT,  
*Deputy Educational Adviser (Technical).*

## APPENDIX IX

(Vide PARA 39)

### *Composition of the Board of Governors of the School of Town and Country Planning as on 9-8-1957*

<i>Name of the Member</i>	<i>Constituency from which the member has been nominated</i>
1. Prof. M.S. Thacker—Chairman	Ministry of Education and Scientific Research, Government of India.
2. Shri S.K. Joglekar* . . .	Ministry of Works, Housing and Supply, Government of India.
3. Shri A.V. Venkatasubban . . .	Ministry of Health, Government of India.
4. Shri S.K. Joglekar* . . .	} Institute of Town Planners, India.
5. Shri M. Fayazuddin . . .	
6. Prof. V. N. Prasad . . .	
7. Nawab Zain Yar Jung Bahadur	Institute of Engineers (India).
8. Dr. V.K.R.V. Rao . . .	All India Council for Technical Education.
9. Shri T.J. Manickam . . .	Director School of Town and Country Planning— <i>Ex-officio</i> Secretary.

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\*Shri S. K. Joglekar has been nominated from two constituencies viz. (1) Ministry of Works, Housing and Supply, and (2) Institute of Town Planners, India.

## APPENDIX X

(Vide PARA 43)

### SCHOOL OF TOWN AND COUNTRY PLANNING, DELHI.

*List of additional Posts sanctioned and filled in during the year 1956-57.*

S. No.	Designation	No. of additional posts sanctioned	No. of posts filled in
1	Assistant Professor of Planning . . . . .	2	1
2	Administrative Officer . . . . .	1	..
3	Accountant . . . . .	1	1
4	Clerk . . . . .	1	1
5	Stenographer . . . . .	1	1
6	Field Assistant . . . . .	1	..
7	Librarian . . . . .	1	..
8	Architectural Assistant . . . . .	1	1
9	Engineering Assistant . . . . .	1	1
10	Daftary . . . . .	1	1
11	Peons . . . . .	2	1

## APPENDIX XI

(Vide PARA 54)

### *Functions of the Regional Committees of the All India Council for Technical Education*

- (i) To survey the facilities for technical education in all stages and to make recommendations to the co-ordinating Committee/Council on the development of Technical Education, including establishment of new institutions, wherever necessary;
- (ii) To make preliminary examination of any institution seeking recognition and to make recommendations to the Co-ordinating Committee;
- (iii) To tender advice and guidance to technical institutions within the region, affiliated to the Council and/or in receipt of financial aid of funds from the Central Government as well as to such other institutions as may seek the same.
- (iv) To promote liaison between technical institutions and industry and other technical establishments.
- (v) To assist the States and technical institutions in securing practical training facilities.
- (vi) To appoint Boards of Examiners, taking into consideration the recommendations of the Boards of Technical Studies concerned and to arrange for the proper conduct of examinations.
- (vii) To publish the results of the examinations.
- (viii) To send reports to the Co-ordinating Committee about the conduct of examinations periodically.
- (ix) To consider and make recommendations on such other matters as may be referred to it by the Co-ordinating Committee about the conduct of examinations periodically.
- (x) To consider and make recommendations on such other matters as may be referred to it by the Co-ordinating Committee/Council; and
- (xi) To assess the standards and recognise examinations conducted by institutions/organisations for the purpose of endorsement of their awards as National Certificate/Diploma.

## APPENDIX XII

(Vide PARA 54)

### *Outlines of the Constitution and Functions of a State Board of Technical Education*

#### **(a) Constitution**

- (1) State Minister of Education (*Chairman*)
- (2) (3), (4) (5), Four representatives of the State Government Departments, *viz.*, Industry, Labour, P.W.D. & Finance.
- (6), (7), (8) Three Principals of Technical Institutions.
- (9) A representative of Labour.
- (10) (11), (12) Three representatives of Industry and Commerce nominated by Government.
- (13) A representative of the Regional Committee of All India Council for Technical Education.
- (14) A representative of the University.
- (15), (16) Two experts either co-opted by the Board as a whole or nominated by Government.
- (17) Director of Technical Education Head of Technical Education Unit (*Ex-officio* Member and Secretary).

The above composition of the Board may, however, be changed to suit the conditions obtaining in each State.

#### **(b) Functions**

- (a) To advise the Government on the co-ordinated development of technical education in the State at all levels.
- (b) To work in liaison with the Regional Committees of the All India Council in the formulation of schemes for its area.
- (c) To affiliate or recognize institutions not conducting University courses and prescribe courses of study for them.
- (d) To inspect institutions periodically and ensure that the standards of the courses and the instructional facilities provided are satisfactory.
- (e) To conduct examinations and award diplomas and certificates conforming to the minimum standards prescribed by the All India Council.
- (f) To establish and develop Co-operative relationships with Industry and Commerce.



## APPENDIX XIII

(Vide PARA 57)

*Statements showing the location of existing Training Centres under the Ministry of Labour*

Serial No. 1	State 2	Name of Institute 3
1	Andhra	1 I.T.I. Anantapur.
		2 I. T. I. Kakinda
		3 I. T. C. Vuyyuru
		4 I. T. C. Polytechnic, Warrangal
		5 I. T. C. Central Craft Institute, Hyderabad.
		6 I. T. C. Nizamabad.
2	Assam	7 I. T. I. Jorhat.
3	Bihar	8 I. T. I. Dighaghat, Patna.
		9 I. T. C. Ranchi Technical School, Ranchi.
4	Bombay	10 I. T. C. Leela Deep Narayan Technical School, Bhagalpur.
		11 I. T. I. Arthur Road, Bombay
		12 I. T. I. Aundh, Poona.
		13 I. T. C. Nowrosji Wadia College Poona.
		14 I.T.C. Shivaji Tech. Inst. Kolhapur.
5	Kerala	15 I.T.C. Regional Polytechnic Aurangabad.
		16 I.T. C. College of Engineering, Trivandrum.
6	Madhya Pradesh	17 I.T.C. Trichur.
		18 I.T.C. Koni, Bilaspur.
7	Madras	19 I.T.C. Andhra Mahila Sabha, Madras.
		20 I.T.C. Straithe Co-operative Works, Madras.
		21 I.T.I. T'Nagar, Madras.
		22 I.T.C. Tamil Nad Polytechnic, Madurai.

1	2	3
		23 I. T. C. Sir Arthur Polytechnic, Coimbatore.
		24 I.T.C. Pioneer Motor Service, Nagarkoil.
8	Mysore—Existing	25 I. T. I. High Grounds, Bangalore.
		26 I. T. C. S. J. O. Institute, Bangalore,
		27 I. T. C. Bangalore Transport Service, Bangalore.
		28 I.T.C. Regional Polytechnic, Gulbarga.
		29 I.T.I. Mercara
		30 I. T. C. Bhom Reddy College of Engineering and Technology, Hubli.
		31 I.T.C. Mangalore.
9	Orissa	32 I. T. C. Orissa School of Engineering, Cuttack.
		33 I.T.C. Poor Cottage Industries Corporation, Cuttack.
10	Punjab	34 I.T.I. Ferozepur.
		35 I.T.I. Rohtak.
		36 I.T.C. Dayanand Polytechnic, Amritsar.
		37 I.T.C. Meharchand Tech. Institute, Jullundur.
		38 I.T.I. Nabha.
		39 I.T.I. Patiala.
		40 I.T.C. Polytechnic Institute, Phagwara.
		41 I.T.C. Government Industrial School, Ludhiana.
		42 I.T.C. Moolchand Industrial School, Ambala.
11	Rajasthan	43 I.T.I. Jaipur.
		44 I.T.I. Ajmer.
12	Uttar Pradesh	45 I.T.I. Alambagh, Lucknow.
		46 I.T.I. Allahabad
		47 I.T.I. Aligarh.
		48 I.T.I. Almora.
		49 I.T.I. Rampur.

1	2	3
		50 I.T.I. Meerut.
		51 I.T.I. Dehradun
		52 I.T.C. Engineering College, Banaras Hindu University, Banaras.
13	West Bengal	53 I.T.I. Gariahata.
		54 I.T.C. Howrah Homes, Calcutta.
		55 I.T.C. Calcutta Technical School, Calcutta.
		56 I.T.I. Tollygunge
		57 I.T.C.B.P. Chowdhary Technical School, Krishna Nagar
		58 I.T.C. St. Alphonsus Industrial School, Kurseong.
14	Delhi	59 I.T.C. Delhi Polytechnic, Delhi.
		60 I.T.I. Pusa, New Delhi
		61 I.T.C. for Women, Curzon Road, New Delhi.
15	Himachal Pradesh	62 I.T.C. Silver Jubilee Tech. Institute, Mandi.

*List of courses available under the Training Scheme.*

**Technical.**

- 1 Blacksmith
- 2 Carpenter
- 3 Draughtsman (Civil)
- 4 Draughtsman (Mech.)
- 5 Electrician
- 6 Electroplator
- 7 Fitter
- 8 Grinder
- 9 Linemen & Wiremen
- 10 Machinist
- 11 Mechanic (Dom Ref.)
- 12 Mechanic (Inst.)
- 13 Mechanic (I.C. Engine)
- 14 Mechanic (Motor)
- 15 Mechanic (Radio)
- 16 Mechanic (Tractor)
- 17 Moulder

- 18 Painter and Decorator
- 19 Pattern Maker
- 20 Plumber
- 21 Sheetmetal worker
- 22 Surveyor
- 23 Tool Maker
- 24 Turner
- 25 Watch and clock repairer
- 26 Welder (Gas and Electric)
- 27 Wireless operator
- 28 Overseer

*Vocational*

- 1 Bleaching, dyeing and printing
  - 2 Book Binding
  - 3 Cutting and Tailoring
  - 4 Embroidery and needle work in Salma
  - 5 Hand weaving of fancy and furnishing fabrics with cotton, wool and silk
  - 6 Hand weaving of woollen fabrics
  - 7 Knitting with hand and machines
  - 8 Hand weaving of newar, tape, durries and carpets
  - 9 Manufacture of household utensils
  - 10 Manufacture of sports goods (misc.)
  - 11 Manufacture of sports goods (wood)
  - 12 Manufacture of Footwear
  - 13 Manufacture of suit cases and other Leather goods
  - 14 Manufacture of sports goods (leather)
  - 15 Hand Composition and Proof Reading
  - 16 Printing Machine Operation
  - 17 Preservation of Fruits and Vegetable, including canning
-

## APPENDIX XIV

### Statement showing the Summary of Conclusions/Recommendations

Serial No.	Reference to Para No.	Summary of conclusions/recommendations
I	2	3
1	3	<p>The Committee were informed that the original plan of the Sarkar Committee in respect of the capacity of the Higher Technological Institute in the Eastern Region was modified due to the following reasons :—</p> <ul style="list-style-type: none"><li>(i) inadequacy of financial provision at the time of the establishment of the Indian Institute of Technology, Kharagpur, in the year 1951 due to high prices.</li><li>(ii) unemployment prevailing among the engineering graduates at the time of the establishment of the Indian Institute of Technology, Kharagpur.</li></ul> <p>The second reason offered seems to indicate that proper appreciation of the requirements of technical personnel during the Second Five Year Plan was lacking. The Committee consider that looking to the amount that the Government is spending on the Institute, the number of students is quite small. They feel that vigorous steps ought to have been taken to see that the best use was made of the facilities provided.</p>
2	.1	<p>In respect of the post-graduate courses, the Committee understand that there were only 94 students on the Roll of the Indian Institute of Technology, Kharagpur in the year 1957-58 against the modified capacity of 600 seats. Since the Institute has been specially designed and equipped for higher research in engineering and technology and since the courses have been evolved to meet the growing needs of industries and to help the technological institutions with the supply of qualified teachers, the present position regarding the number of post-graduate students in the Institute is a matter of concern. The Committee suggest that the question of shortage of students in post-graduate courses may be examined</p>

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in detail and suitable steps taken to induce more students to take up post-graduate courses. Offering liberal scholarships and recognition of post-graduate training by way of offering better start in life are some of the ways by which more students can be attracted for post-graduate work.

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In view of the fact that only small number of candidates who appeared at the entrance examination conducted by the Indian Institute of Technology, Kharagpur in accordance with the standard laid down and that the authorities of the Institute had to pick up students who had not qualified themselves at the entrance examination with a view to filling in the available number of seats, the Committee suggest that the matter should be examined in detail with a view to ensure that adequate number of suitable candidates are forthcoming for admission.

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The Committee have observed that while the largest number of candidates nearly 38 per cent (869) had appeared for entrance examination, during the year 1955-56, from the contiguous States of West Bengal, Bihar and Orissa, only 104 candidates were selected for admission, *i.e.*, 24 per cent of the total number of selectees. As against this, 214 candidates *i.e.*, nearly 49 per cent had been selected from the States of Delhi, Punjab and Uttar Pradesh, out of the total number of 435 candidates selected for admission. From the rest of the States in India 117 candidates *i.e.*, nearly 27 per cent were selected. The total number of candidates belonging to Scheduled Castes, Scheduled Tribes and Backward Classes was 108 out of which 49 candidates were selected for admission and 28 actually took admission. Although, the entrance examination to the Indian Institute of Technology, Kharagpur is being held all over India, there is a marked disproportion in regard to the number of candidates admitted to the Institute from different regions. The Committee suggest that the reasons for this marked disproportion may be analysed in detail with a view to see whether a more even distribution is possible without in any way, sacrificing the principle of merit.

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The Committee note with concern the drop in the number of admissions during the year 1956 as

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compared to the year 1955. They would like to stress again that suitable measures should be taken to ensure that the number of post-graduate students increased progressively from year to year.

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The Committee were told that the high percentage of failures or wastage in the years 1956 and 1957 in some of the post-graduate courses, *viz*, Technical Gas, Reaction and High Pressure Technology, Transportation Engineering, Applied Geology, Exploration Geophysics, Advanced Broadcasting, Farm Machinery and Power, was probably due to the abandonment of those courses, prematurely, by students who, in the meantime, had secured some employment. The Committee consider this rather unfortunate and recommend that the position about failures or wastage in different courses offered by the Indian Institute of Technology, Kharagpur, especially in the post-graduate courses should be analysed in detail and remedial measures taken to arrest this trend.

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The Committee noticed that during 1946 the number of students in about seven post-graduate courses did not exceed a couple of students. The Committee were told that with the coming up of more developmental projects in the country, more students would be attracted towards post-graduate studies for bettering their future prospects. The Committee hope that conscientious efforts will be made towards that end. Lack of publicity, specially about future prospects, may be one of the reasons of paucity of students. Steps may, therefore, be taken to remedy this.

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The Committee were given to understand that industrial undertakings in public sector did not derive adequate benefit of research facilities available at the Institute and showed some diffidence in collaborating and participating in the matter of research problems. Taking into consideration the potentiality of the various research departments of the institute in rendering research service to Government Departments, the Committee suggest that problems like the manufacture of special varieties of Steel, Gas Turbines, cheaper type of refrigerators suitable to Railways etc., should be entrusted to the Indian Institute of Technology, Kharagpur by Government. At the same time, the Com-

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		<p>mittee feel that Government should examine the feasibility of keeping all the important industrial undertakings, both public and private, well posted with details of research equipment available at the Institute and also the nature of research problems being tackled at the Institute from time to time.</p>
9	11	<p>The Committee suggest that the Indian Institute of Technology, Kharagpur may examine the feasibility of awarding scholarships on the result of the entrance examination held every year for admission to the Institute in order to avoid the strain and expenses consequent upon the holding of two examinations.</p>
10	12	<p>The Committee observe that the total number of students in the Indian Institute of Technology, Kharagpur had increased by 24.7 per cent during the years 1954-55 to 1956-57; while the corresponding increase in the number of Academic, Technical and other supporting staff was 27%, 64% and 52.6% respectively. These figures are revealing. The Committee feel that the increase, more especially in the category "other supporting staff", was disproportionate to the increase in the number of students. The position as it existed in the year 1956-57 shows that there was one teacher for every seven students, two technical men for every 13 students and one man on the supporting staff for every 3 students. In comparison with the standard laid down by the Sarkar Committee, the strength of staff in the Institute is excessive. The Committee suggest that the entire position should be carefully reviewed so as to reduce the strength of staff to actual requirements or alternatively to increase the admission of students to the original figure contemplated by the Sarkar Committee, so that <i>per capita</i> expenditure can be brought down.</p>
11	13	<p>The Committee were told that to attract the best talents in the country to the teaching profession, it was necessary:—</p> <ol style="list-style-type: none"> <li data-bbox="423 1400 1061 1478">(a) to have good scales wherein maximum can be reached without hurdles, higher start being provided for special qualifications.</li> <li data-bbox="423 1488 1061 1566">(b) to rehabilitate teachers socially by restoring the prestige and respect for the teaching profession that used to be given to them in the past.</li> </ol> <p>The scales of pay appear to be on the high side, and it is a matter for examination whether they would</p>



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suit the conditions of this poor country. The salary scales of technical and non-technical staff should not be out of proportion to the salary scales of similar staff elsewhere. The justification for these high scales, perhaps, lies in the fact that the private sector is offering such or even better scales of pay to the technically qualified persons. Unless therefore, correspondingly high scales of pay are offered in the public sector, it would be difficult to attract talented persons for such jobs. The position should, therefore, be carefully examined in consultation with the private sector to arrive at an equitable solution which will ensure that the best talent will be forthcoming for such institutions in the public sector without making the cost prohibitive. As regards other conditions of service etc., the Committee understand that the Board of the Indian Institute of Technology, Kharagpur, was competent enough to make necessary changes in the existing rules etc.

- 12            14        The Committee feel that the amount spent on the buildings is excessive. They suggest that, in future, construction of costly prestige buildings should be avoided and stress should be on simplicity in design and purely utility aspect only.
- 13            15        In view of the important role that science and technology have to play in the rapid industrialisation of the country, the Committee hope that the original target of 3000 students for the Indian Institute of Technology, Kharagpur, would be gradually attained. They also hope that by hard work and steadfastness of purpose, this pioneer Institute will attain and maintain a very high standard to justify the claim of being the "Massachusetts Institute of Technology, U.S.A." of India.
- 14            16        The Committee were informed that some of the foreign experts to be posted in the Institute at Bombay had already arrived and were temporarily posted at Kharagpur for the time being. The Committee are glad to learn this. They hope that the experience gained at Kharagpur would be fully utilised for establishing the remaining Higher Technological Institutes in the country, more economically.
- 15            18        The Committee recommend that the Governing Body of the Delhi Polytechnic may be delegated more powers to avoid frequent references to the Ministry in its day-to-day working.

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16	19	<p>The Committee understand that the Governing Body of the Delhi Polytechnic has prepared a scheme for the development of the Institution under the Second Five Year Plan which is under consideration of the Central Government. The estimates of cost appear to be excessive. The Committee suggest that these should be reviewed by the All India Council for Technical Education to see how these can be suitably reduced specially by reducing the cost of construction of additional buildings which should be simple in design. In view of the general shortage of engineering and technical personnel in the country, the Committee recommend that the scheme may be finalised and implemented at an early date so that the intake of students may be increased to the proposed revised capacity.</p>
17	20	<p>The Committee are of the opinion that the proposed bifurcation of degree courses from the diploma/certificate courses in the Delhi Polytechnic should be effected as soon as possible, so that both degree courses and the diploma/certificate courses may develop independently.</p> <p>It is, however, a matter for consideration whether a separate degree college is necessary or whether the three courses (Diploma, certificate and Degree) can run simultaneously in the same Institution with additional facilities.</p>
18	21	<p>In view of the fact that additional courses like Cost and Works Accounts Parts I and II, Office Equipment Institute of Bankers, Parts I and II, Chartered Accounts Part II, Secretarial Assistants, Inspectors of Co-operatives and Salesmanship would be started in the Delhi Polytechnic in its Commerce Department, the Committee are of the opinion that there should be more emphasis on the development of engineering and technological courses.</p>
19	22	<p>Regarding the existing degree course in Commerce in the Delhi Polytechnic, the Committee suggest that it should be conducted by the Delhi University instead of by the Polytechnic, to facilitate more admissions to engineering courses.</p>
20	23	<p>In view of the fact that different universities and Boards in the country were having different standards of examination, the Committee feel that it might not be possible for the Admission Committees to equate relative merits of applicants seeking admission to the Delhi Polytechnic. Stating reasons for not holding a competitive examination for admission to the Polytechnic as at Kharagpur, the representative of</p>

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		the Ministry stated that there was the difficulty of providing hostel facilities to students who might turn up in large numbers if competitive examinations were held by the Polytechnic. The Committee are not satisfied with the reasons given by the Ministry. They suggest that the Government should take steps to hold an open competitive examination for admission to different courses in the Delhi Polytechnic.
21	24	The Committee were informed that students securing less than 60% marks were advised not to apply for B.E. courses and during the year 1956-57, no student securing less than 68.5% marks in Intermediate Science was called for interview for unreserved seats. In view of this difficult situation, the Committee suggest that Government should take early steps to increase the number of seats for engineering courses in the Delhi Polytechnic.
22	25	The Committee are surprised to learn that out of 42 seats reserved for educationally backward States, only 17 and 9 were filled in during the years 1956-57 and 1957-58 respectively and the rest of the seats had been treated as unreserved seats. From the available figures of admission to the Indian Institute of Technology, Kharagpur, for the year 1955-56, the Committee understand that sufficient number of candidates were forthcoming from educationally deficient States. The Committee consider this unfortunate and suggest that Government should investigate the reasons for non-utilisation of these reserved seats and review the procedure of inviting applications from students belonging to educationally backward States and take suitable measures to see that the allotted quota is not wasted in this manner, but is fully utilised. It should also be examined whether all the High Schools in the States concerned are being notified about these reserved seats and whether proper publicity is made in regional language papers.
23	26	The Committee understand that 20 per cent of the total number of seats in the Delhi Polytechnic were reserved for students belonging to Scheduled Castes/Tribes. From the figures of actual admissions, the Committee observe that very few students belonging to Scheduled Castes/Tribes were taking up engineering and technological studies in the Delhi Polytechnic. The Committee consider this as rather unsatisfactory and suggest that Government

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		should now take proper steps to encourage Scheduled Castes/Tribes students to take up engineering and technological studies.
24	27	Regarding the problem of recruitment of the gazetted staff through the Union Public Service Commission, the Committee were told by the representative of the Ministry that the Union Public Service Commission was not agreeable to treat as valid the panel of selectees recommended by them beyond the period of six months. The Committee suggest that Government should take up the question of treating the panel of selectees as valid for a period of 12 months or even a longer period with the Union Public Service Commission.
25	28	Regarding the low scales of salary, the Committee are glad to learn that Government had decided to revise the salary scales in the Delhi Polytechnic and make them more attractive from the point of view of qualified persons.
26	29	While on the one hand the Delhi Polytechnic was facing acute shortage of staff, the Committee understand that permanent members of the staff of the the Delhi Polytechnic were permitted to apply for two permanent positions outside in a year. The Committee were informed that a permanent senior Lecturer in the scale of Rs. 500-30-800 was selected by the Ministry of Works, Housing and Supply for appointment to a post carrying the salary scale of Rs. 1300-1800. The Committee do not quite appreciate the policy of the Governing Body of the Delhi Polytechnic in laying down a general practice of permitting the permanent members of the staff to apply for two permanent positions outside in a year, especially in view of the paucity of trained teaching staff. The Committee feel that this is encouragement to the flight. The Committee hope that Government will consider the matter of flight of technical teaching personnel and evolve a policy for the future guidance of all departments under their control.
27	30	The Committee understand that the Delhi Polytechnic had been experiencing some difficulty in securing services of part-time teachers from various Government or semi-Government departments. The Committee suggest that Government should examine

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the procedural difficulties which were coming in the way of Government Engineering departments in permitting some of their officers to give part-time instruction in the Delhi Polytechnic, provided that this can be done without detriment to their normal duties.

- 28      32      The Committee gathered an impression that several buildings of the Delhi Polytechnic, housing its departments, workshops and laboratories, had been constructed spasmodically as and when a need was felt for additional accommodation. The Committee found that there was absence of co-ordinated planning of the Polytechnic campus as a whole which had resulted in its haphazard growth. The Committee also gathered an impression that the workshop, laboratories and drawing rooms were congested and needed more space. The Committee are of the opinion that the Delhi Polytechnic campus needs replanning.
- 29      33      The Committee recommend that Government should take necessary steps early to vacate the premises occupied by the Inspector General of Police, the Regional National Savings Officer, the Railway Claims Office and the Industrial Training Centre in favour of the Delhi Polytechnic. Alternatively, the question of shifting the Polytechnic itself to some wider area outside but near about Delhi, preferably near a site of industry, should be examined.
- 30      34      The Committee observe that during the last three years, only Rs. 18,39,076 had been spent out of the budget grant of Rs. 42,00,800 under non-recurring expenditure. The Committee were informed that the short fall in expenditure was due to procedural delays involved in procuring the equipment through the Director General of Supplies and Disposals and also due to uncertainties of delivery by manufacturers and suppliers. The Committee were surprised to learn that indentations placed by the Delhi Polytechnic in the years 1949-50, 1950-51 and 1951-52 for certain types of equipment had not been fulfilled even in the year 1957-58. The Committee regret to observe the recurring unhealthy feature of the budget grants not being utilised fully due to some reason or other. This also indicates the

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		necessity of preparing the budget estimates more realistically. The Committee suggest that the authorities of the Delhi Polytechnic should take effective steps to place indents of equipment sufficiently in advance in future to ensure that the indented equipment was made available at the time when it was required.
31	35	The Committee suggest that the Library of the Delhi Polytechnic should also be kept open during such extra hours and also on Sundays and public holidays as would enable students to take its advantage outside the normal working hours of the tutorial and practical classes.
32	36	The Committee suggest that adequate steps should be taken to encourage students' participation in games by acquiring more play-grounds to meet the normal additional requirements of the total number of students of the Delhi Polytechnic and that the existing playgrounds should be kept in serviceable condition throughout the year.
33	39	The Committee suggest that the feasibility of appointing a non-official as the Chairman of the Governing Body of the School of Town and Country Planning, may be examined.
34	40	The official who was deputed by the Ministry of Finance to serve as a Member on the Board of Governors of the School of Town and Country Planning, continued to serve till December, 1956 when he retired. The Committee understand that the Ministry of Finance had not appointed any representative on the Board of Governors thereafter. The Committee are of the opinion that a representative of the Finance Ministry should be on the Board in view of the fact that the funds of the Society are entirely financed by the Government of India.
35	41	From the date of registration of the Society, <i>i.e.</i> the 11th September, 1956 till the 10th September, 1957, the Board of Governors met only twice although they are required to meet at least once in every three months under Rule No. 11 (i) of Rules and Regulations. The Committee consider this rather unfortunate. There is no point in making elaborate Rules and Regulations, if they are not to be observed.

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36	43	The Committee note that the salary scales in the School of Town and Country Planning are even higher than those prevailing in Universities and other high grade engineering and technological institutions in the country, and suggest that they should be suitably reviewed to bring them in conformity with the pay scales in other sister institutions.
37	44	The Committee observe that the annual expenditure per student in the School of Town and Country Planning during the year 1956-57 was Rs. 5,900 -. On the basis of the budget estimates for the year 1957-58, sanctioned by the Board of Governors, the probable expenditure per student works out to Rs. 9,900/- per annum. Besides the quantum of direct expenditure incurred by the School out of the grant of the Central Government, the Committee understand that students sponsored by States Governments were in receipt either of a stipend of Rs. 100 p.m. or the deputation pay. The Committee are of the opinion that the annual expenditure incurred per student is on the high side and suggest that suitable measures should be taken to reduce it.
38	46	The Committee were informed that the question of recognising the Diploma awarded by the School of Town and Country Planning by the Central Government was considered by the Assessment Board of the All India Council for Technical Education and that the matter had been referred to the Special Committee. The Committee feel that the matter of granting recognition to the Diploma course of the School of Town and Country Planning should be expedited in view of the fact that the first batch of six students was due to pass out in 1958.
39	47	The Committee observe that emphasis was given to several aspects of Town Planning, whereas Rural Planning was practically non-existent. The Committee recommend that Government should take early steps for introducing a course in Rural Planning.

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Referring to the small number of students in the School of Town and Country Planning, the representative of the Ministry told the Committee that it was due to the fact that it was not fully developed having no building of its own. The Committee were also told that the standard of Diploma Course in the School of Town and Country Planning was the same as the standard of the M. Tech. Course conducted by the Indian Institute of Technology, Kharagpur, and that the latter was not conducting a course of the type of the Intensive Course conducted by the former. The Committee are not convinced with the reasons stated by the representative of the Ministry especially in view of the fact that even a fairly developed institution like the Indian Institute of Technology, Kharagpur, having a similar post-graduate course in Regional Planning (Town and Country Planning) leading to the degree of M. Tech. was experiencing great dearth in the number of post-graduate students. The Committee are not convinced about the justification for running a separate institution of the type of the School of Town and Country Planning with all its separate paraphernalia for a single post-graduate course. The Committee, therefore, suggest that Government should examine the feasibility of conducting the post-graduate course in Town and Country Planning as one of the post-graduate courses in the Engineering and Technological College proposed to be established in Delhi. The feasibility of introducing a diploma course at Kharagpur and other Technological Institutes, besides a degree course in this subject, should also be examined.

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The Committee were told by the representative of the Ministry that the building of the School of Town and Country Planning was in the process of construction in the Indraprastha Estate at an estimated cost of Rs. 10,46,429. The Committee suggest that Government might utilise that building with suitable additions and alterations for the proposed Engineering and Technological College in Delhi.



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- 42      53      The Assistant Educational Advisers in charge of Regional Offices, represent the Central Government on Managing Committees of non-Government institutions situated within the jurisdiction of the Regional Office. The Committee understand that the Assistant Educational Adviser in charge of the Eastern Regional Office was representing the Central Government on Managing Committees of 32 aided institutions situated within his region. The Committee feel that it is a formidable task for a single officer to be on Managing Committees of such a large number of institutions. The Committee are not sure whether he can do justice to his work with such a heavy work load. The Committee suggest that the existing procedure of nominating the same official representative on various governing bodies/Managing Committees of institutions receiving grants-in-aid may be revised and suitable non-officials may be appointed in their places.
- 43      54      While the Regional Committees have been useful so far in securing the co-operation of contiguous States forming a region in pooling all the knowledge of the region as a whole and in the matter of giving practical training for students of one State in another, the Committee feel that there is no justification for this additional tier, with the establishment of the State Boards of Technical Education with more or less similar functions, in most of the States. Moreover, the State Boards are fully representative bodies, having members drawn from Industry, Commerce, Universities, technical institutions and the All India Council for Technical Education. The Committee do not conceive any serious difficulty in the State Boards of Technical Education performing the functions now under the charge of the Regional Committees and the Regional Offices. The Committee, therefore, suggest that Government might take steps for merging the functions of the Regional Committees with the State Boards of Technical Education and abolishing the Regional Offices of the Ministry of Education and Scientific Research, gradually, with the establishment of the State Boards of Technical Education in all the States. The necessary co-ordination amongst the various State Boards on an all India basis may be maintained by the All India Council for Technical Education through its Co-ordinating Committee. The Zonal Councils
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established under the States Reorganisation Act will do the co-ordinating work within the zones, where necessary.

- 44 55 One of the reasons given by the Secondary Education Commission for the slow progress in the field of Technical Education was that there had not been sufficient co-ordination and co-operation between the different departments of Government. The Committee observe that this is the condition even now to some extent.
- 45 56 It seems that the scheme of Technical Schools has not evoked sufficient interest in many States. The Committee suggest that the reasons for this may be ascertained and the States which have not so far taken sufficient interest in the scheme may be persuaded to do so.
- 46 58 The Committee were informed by the representative of the Ministry that the Ministry of Labour had set up the National Council for Vocational Training and that there was no co-ordinating authority for the functions of the National Council for Vocational Training and the All India Council for Technical Education. The Committee consider this rather unfortunate. The Committee feel that the various stages of education and training are inter-related in such a manner that real development is not possible without close co-ordination, especially when the subjects are being dealt with by more than one Ministry. The Committee are of the view that there should be some agency in the Government of India which would be in a position to take an overall and comprehensive view of the various aspects and stages of technical training imparted by the different Ministries, making it possible for trainees to derive the maximum benefits of the schemes without much additional cost. *Prima facie* there is scope for rationalisation, standardisation and integration of existing training facilities. In this connection, the Committee would like to reiterate their earlier recommendation contained in paragraphs 107 and 108 of the 55th Report on the estimates of the Ministry of Defence.
- 47 59 The Committee suggest that the feasibility of transferring the training programme of the Labour Ministry to the new Ministry of Education and Scientific Research, under the All India Council for Technical Education, to secure better overall co-ordination, should be examined.