

**ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION
NORTHERN REGIONAL COMMITTEE**

C/o Ministry of Education & S. W.

Northern Regional Office

1 A, Laxmanbagh,

Nawabganj,

Kanpur-208002

From

Member-Secretary,
Northern Regional Committee.

No.F.7-3(Electrical Communication &
Electronics)/78-NRO/ED-

Dated.....

To

The Secretary,
All-India Council for Technical Education,
C/o Ministry of Education & Culture,
(Deptt. of Education),
Technical Division,
T-5 Section,
Shastri Bhavan,
NEW DELHI.

SUBJECT: Report of the Expert/Visiting Committee appointed by the
Chairman, Northern Regional Committee of the All-India
Council for Technical Education to assess the additional
physical/instructional facilities required on the intro-
duction of a degree course in Electronics and Electrical
Communication at Guru Nanak Engg. College, Ludhiana -
Recommendations of the Regional Committee - Regarding -

Sir,

I am to state that the Director of Technical Education & Industrial Training, Punjab submitted a proposal for the introduction of a degree course in Electronics & Electrical Communication at Guru Nanak Engineering College, Ludhiana and requested the Regional Committee to recommend additional physical/instructional facilities required on the introduction of the above course. The proposal received from the Directorate was considered by the Northern Regional Committee at its 47th meeting held on 8th September, 1979. The Committee while agreeing in principle for the introduction of a course desired that the additional physical/instructional facilities required may be assessed by an Expert/Visiting Committee to be appointed by the Chairman, Regional Committee.

The Chairman, Regional Committee constituted an Expert/Visiting Committee for the purpose. The report of the Expert/Visiting Committee was considered by the Regional Committee at its 48th meeting held on 5th August, 1980. The Committee approved the report of the Expert/Visiting Committee and recommended the following physical/instructional facilities recommended by the Expert Committee for the introduction of the above course :-

NON-RECURRING:

	Rs.
a) Buildings(Plinth area 7070 sq.ft.)	4,24,200
b) Equipment	6,60,000
c) Furniture	50,000
d) Library	50,000
Total: Non-Recurring:	<u>11,84,200</u>

a) Salary of staff	2,07,800
b) Maintenance Expenditure	-
c) Library recurring	10,000
d) Extension Lectures (lump sum)	2,500
Total: Recurring:	2,20,300

The Committee, however, stipulated that it may be ensured that the additional facilities are in accordance with the usual norms made applicable while sanctioning such courses at other institutions.

A copy each of the extract of the agenda and minutes (48.7) of the 48th meeting of the Northern Regional Committee held on 5th August, 1980 is enclosed for Ministry's perusal and necessary action. The Ministry is requested kindly to communicate the approval of the All-India Council for Technical Education/Government of India at an early date.

Yours faithfully,

(Y. SINGH)
MEMBER-SECRETARY

NORTHERN REGIONAL COMMITTEE

Encl: As above.

Encl: No.F.7-3(Electronics & Electrical Communication)/78-

NRO/ED-8363

of date, 28/11/80

Copy, alongwith a copy of enclosures, forwarded for information to :-

1. The Director of Technical Education & Industrial Training, Punjab, Amar Building, Sector 17-A, Chandigarh.
2. The Principal, Guru Nanak Engg. College, Ludhiana.

The mere forwarding of the recommendations should not be taken as any commitment on the part of the Government of India. The recommendations of the Regional Committee will be considered by the All-India Council for Technical Education/Government of India and their decision will be communicated in due course.

(Y. Singh)
MEMBER-SECRETARY

NORTHERN REGIONAL COMMITTEE

Encl: As above.

GUPTA:27.11.1980:

*Pl. file
202
7/11/80*

*8/11/80
5/12/80*

Item 48.7

To consider the report of the Expert/Visiting Committee appointed by the Chairman, Northern Regional Committee of the All-India Council for Technical Education to assess the additional physical/instructional facilities required on the introduction of a degree course in Electronics & Electrical Communication at Guru Nanak Engg. College, Ludhiana -

The Director Technical Education & Industrial Training, Punjab submitted a proposal for the introduction of a degree course in Electronics & Electrical Communication at Guru Nanak Engg. College, Ludhiana and requested the Regional Committee to recommend additional physical/instructional facilities required on the introduction of the above course. The above proposal was considered by the Northern Regional Committee at its 47th meeting held on 8th September, 1979. The Committee agreed in principle for the introduction of the above course and desired that the additional physical/instructional facilities required may be assessed by an Expert/Visiting Committee to be appointed by the Chairman, Northern Regional Committee. Accordingly, the Chairman, Northern Regional Committee constituted an Expert/Visiting Committee consisting of the following members :-

1. Prof. L.M. Nay,
Prof. & Head, Deptt. of Elect. Engg.,
University of Roorkee, Roorkee.
2. Dr. K.K. Agarwal,
Prof. & Head of Electronics Engg. Deptt.,
Regional Engineering College,
Kurukshetra.
3. Shri Y. Singh,
Member-Secretary,
Northern Regional Committee.

The above Expert/Visiting Committee visited Guru Nanak Engineering College, Ludhiana on 21st April, 1980. The

Committee recommended the following additional physical/instructional facilities required on the introduction of above course :-

NON-RECURRING:

Rs.

a) Buildings (Plinth area 7070 sq.ft.)	4,24,200
b) Equipment	6,60,000
c) Furniture	50,000
d) Library	50,000

Total: Non-Recurring: 11,84,200

RECURRING:

a) Salary of staff	2,07,800
b) Maintenance Expenditure	-
c) Library recurring	10,000
d) Extension Lectures (lump sum)	2,500

Total: Recurring: 2,20,300

A copy of the report of the Expert/Visiting Committee is placed at Annexure.

The matter is placed before the Committee for its consideration.

GUPTA:3.7.1980:

ALL-INDIA COUNCIL FOR TECHNICAL EDUCATION (Item 48.7)NORTHERN REGIONAL COMMITTEE

Report of the Expert/Visiting Committee appointed by the Chairman, Northern Regional Committee of the All-India Council for Technical Education to assess the additional physical/instructional facilities required on the introduction of degree course in Electronics & Electrical Communication at Guru Nanak Engineering College, Ludhiana-

I. INTRODUCTION

The Director of Technical Education & Industrial Training, Punjab submitted a proposal for the introduction of a degree course in Electronics & Electrical Communication at Guru Nanak Engineering College, Ludhiana. The above proposal was considered by the Northern Regional Committee at its 47th meeting held on 8th September, 1979. The Committee while agreeing in principle for the introduction of the above course desired that additional physical/instructional facilities required may be assessed by an Expert Committee to be appointed by the Chairman, Northern Regional Committee.

II. APPOINTMENT OF THE COMMITTEE

The Chairman, Northern Regional Committee constituted the following Expert/Visiting Committee for the above purpose :-

1. Prof. L.M. Ray,
Prof. & Head, Deptt. of Elec-t. Engineering,
University of Roorkee,
Roorkee.
2. Dr. K.K. Agarwal,
Prof. & Head of Electronics Engg. Deptt.,
Regional Engineering College,
Kurukshetra.

3. Shri Y. Singh,
Member-Secretary,
Northern Regional Committee.

The Expert/Visiting Committee visited Guru Nanak Engineering College, Ludhiana on 21st April, 1980. The Committee was received by Shri J.S. Gill, Director of Technical Education & Industrial Training, Punjab, Chandigarh and Shri Pritpal Singh Grewal, Principal, Guru Nanak Engineering College, Ludhiana. The Committee was shown the institution by the Principal.

III. BRIEF HISTORY

The Guru Nanak Engineering College, Ludhiana was established in 1953. The degree courses were added in 1956 with an admission of 45 students for Civil Engg. discipline. The intake was raised to 120 (60 in Civil and 30 each in Mechanical and Electrical Engineering) in 1957. During the Third Five Year Plan, the intake of the institute was further raised to 180 (60 students each in Civil Mechanical and Electrical Engineering).

The Government of India on the recommendations made from time to time by the Northern Regional Committee approved the physical/instructional facilities required on the introduction of above courses.

Under the Scheme of Direct Central assistance to selected degree institutions, the following grants-in-aid have been sanctioned during 1978-79, for further development of the institution:-

	Rs.
A. Metrology Lab.	3,50,000
Heat Transfer Lab.	1,00,000
Rock Mech. Lab.	50,000
Library	1,00,000
	<u>6,00,000</u>
B. For setting up of an Industrial Consultancy Cell.	5,50,000
C. Establishment of a Computer Terminal	<u>5,00,000</u>
T O T A L :-	16,50,000

The Secretariat of the Regional Committee has further finalised the Scheme for the introduction of part-time/courses i.e. Civil, Mechanical & Electrical Engineering at the above institution. The Ministry has agreed in principle for starting of these courses. The courses are likely to be started from the next session i.e. 1980-81.

IV. COURSE, INTAKE, DURATION ETC.

Course	Duration	Sanctioned Intake	Intake figure proposed for 79-80.	Actual admissions for 79-80.
Civil	4 year	60	60	60
Mechanical	do -	60	60	62
Electrical	do -	60	60	60
		<u>180</u>	<u>180</u>	<u>182</u>

V. TASK BEFORE THE COMMITTEE

The Director of Technical Education & Industrial Training, Punjab, Chandigarh proposes to introduce a degree course in Electronics and Electrical Communication Engineering at Guru Nanak Engineering College, Ludhiana from the next session i.e. 1980-81. The Committee was requested to assess the additional physical/instructional facilities required on the introduction of the above course.

VI. NEED FOR THE COURSE

There has been considerable advancement in the field of Solid State devices, digital techniques, computer technology and their application to communication engineering. It is difficult to cover all these aspects in a general course. There has also been growing awareness to the application of Electronics and Communication techniques in Industry. Many new projects are on the way of being implemented. Some of them are Chemical Fertilizer complex, Railways electrification, Electronics Industries. In general the need for Electronics and Electrical Communication Engineers in our country has risen steeply due to the sudden spurt in activities in the area of Electronics and Electrical Communications. This is very well reflected by the ever increasing number of students opting for the Electronics and Electrical Communication.

The Department of Electronics in the Annual report for 1977-78, under Section 14 relating to Manpower requirements has estimated that during the Sixth Plan period i.e. 1978-83, about 1,21,000 jobs would be available in Electronics Industry both in Public and Private Sectors. The total production of Electronics items increased from Rs. 4,100 million in 1976 to 5,085 million in 1977, recording a growth of 24% in financial terms, on the basis of current prices. Further the Department of Electronics has estimated investment to the tune of Rs. 500 million in continuing schemes and new schemes and an investment of Rs. 300 million in field of Science &

Technology comprising TDC projects, NRC Projects, Defence Projects etc. This gives an indication of the growth potential of the Industry which needs more and more Electronics & Electrical Communication Engineers and other supervisory personnel.

VII. OBSERVATIONS & RECOMMENDATIONS :

1. The Director of Technical Education & Industrial Training, Punjab, Chandigarh informed the Committee that necessary plan provision for starting this course has been made in the State Annual Plan for Technical Education.
2. The institute has so far developed as a composite unit consisting of Guru Nanak Engineering College, Ludhiana and Guru Nanak Polytechnic, Ludhiana conducting degree and diploma courses respectively.
3. The laboratory and workshops facilities are common for both degree and diploma classes.
4. The sanctioned intake for degree course in Electrical Engineering is sixty. The institution proposes to diversify a batch of 15-20 students to Electronics & Electrical Communication branch.
5. Keeping in view the increase in the employment potential the state Government has agreed to the opening of the Degree Course in Electronics & Electrical Communication Engineering at Guru Nanak Engineering College, Ludhiana. To start with the College may admit fifteen students to degree courses in Electronics & Electrical Communication course by

diverting a batch of fifteen students from the Electrical Engineering discipline.

6. The first year of the four year Under-graduate Programme will be common and Electronics & Electrical Communication students will branch out from second year onward.

7. From the point of view of conservation of resources, a separate department for conductance of this course does not seem to be necessary. The facilities for the conductance of this course can fruitfully be created by adding some additional space by way of buildings, equipment, furniture and faculty position within the existing department of Electrical Engineering. A composite department providing facilities for study of Electrical and Electronics would be necessary for the proper development of the course for the time being. If, however, at a later stage, need for a separate department is felt the institution may take up the matter at that stage.

8. Some sophisticated equipment for Electronic discipline have already been acquired by the instt. for conducting the existing Electrical Engineering course. The instt. should take utmost care that at the time of purchase as far as possible costly and sophisticated equipment should not be duplicated.

9. The Committee observed that the proposed syllabus for the course is satisfactory.

Keeping in view of the above facts, the following additional physical/instructional facilities are recommended for conductance of the degree course in Electronics and Electrical Communication. The estimates have been drawn for intake of 30. The institute in the initial stage should however, restrict admission to this course to 15 only.

NON-RECURRING:

A. Buildings

Class room	1200 sq.ft.
Staff room	600 sq.ft.
Line Communication Lab.	1000 sq.ft.
Radio, Television, Pulse Technique, U.H.F. & Micro- Lab. & Digital Electronics Lab.	2000 sq.ft.
Departmental Library	250 sq.ft.
Total Floor Area:	5050 sq.ft.
Add 40% for conversion into plinth area	2020 sq.ft.
Total Plinth Area:	7070 sq.ft.

Cost of construction @ Rs.60/- per sq.ft. for 7070 sq.ft. Rs. 4,24,200.00

B. Equipment

Line Communication Lab.	Rs.2,00,000
Radio, Television, <i>Pulse</i> Technique, UHF, Microwave Lab. Digital Electronics Lab. etc.	Rs.4,00,000
	Rs.6,00,000
Add 10% for taxes, freight, installation etc.	60,000
	Rs.6,60,000.00

C. Furniture - lumpsum 50,000.00

D. Library - lumpsum 50,000.00

TOTAL: NON RECURRING: Rs.11,84,200.00

RECURRING

A. Staff Salary

Sr. No.	Designation	No. of post	Scale of pay Rs.	Average annual expenditure Rs.
1.	Professor	1 ✓	1500-2500	24,000
2.	Readers	2 ✓	1200-1900	37,200
3.	Lecturers	3	700-1600	41,400
T O T A L :				1,02,600
Add 50% for allowances like D.A. HRA, Provident Fund, C.C.A. etc.				51,300
Total average salary of teaching staff.				1,53,900
Add 35% of salary of teaching staff for provision of technical supporting staff and non-teaching staff.				53,865
Total average salary of teaching, technical supporting and non-teaching staff.				2,07,775
Say Rs. 2,07,800				

N O T E

1. The Committee was of the opinion that while making the recruitment to faculty position due care should be taken to see that persons with specialisation in Electronics and Communication Engineering and Computer Technology are selected to teach these topics effectively.
2. The Director of Technical Education & Industrial Training, Punjab pointed out that the State Govt. of Punjab have revised the pay-scales of the non-gazetted posts and these are likely to be implemented shortly. He pointed out that the provision of 35% of the salary of teaching staff for recruitment of technical supporting and non-teaching staff would hardly meet the requirements of the instt. The Committee was of the opinion that the following ~~teaching posts~~ would be required for the conduct of the course :-

1. Lab. Technicians	- 3
2. Lab. Attendants	- 3
3. Clerks	- 2
4. Peon	- 1

The Committee however, desired that for calculation purpose for the time being set formula of 35% may be adopted.

B. Maintenance Expenditure

The proposed course is a diversification of Electrical Engineering discipline without causing any increase in intake. In view of this no additional per capita maintenance grants are to be recommended on the introduction of this course. The State Govt. should adopt the latest per capita maintenance norms recommended by the All-India Council for Technical Education for Degree Courses.

C.	<u>LIBRARY RECURRING</u>	Rs. 10,000/-
D.	<u>EXTENSION LECTURES-LUMP SUM</u>	2,500/-

SUMMARY OF RECOMMENDATIONS

Non-recurring:

	Rs.
a) Buildings (Plinth area 7070 sq.ft.)	4,24,200.00
b) Equipment	6,60,000.00
c) Furniture	50,000.00
d) Library	50,000.00

Total: Non-Recurring 11,84,200.00

Recurring

a) Salary of staff	2,07,800.00
b) Maintenance expenditure	-
c) Library recurring	10,000.00
d) Extension lectures lumpsum	2,500.00
Total: Recurring	<u>2,20,300.00</u>

-:: A C K N O W L E D G E M E N T ::-

The Committee thanked Shri J. S. Gill, Director of Technical Education & Industrial Training, Punjab and Shri Pritpal Singh Grewal, Principal, Guru Nanak Engineering College, Ludhiana for providing all the facilities during the visit of the Committee and helping the Committee in its deliberations.

-Sd/-
(L.M. RAY)
MEMBER

-Sd/-
(K.K. AGARWAL)
MEMBER

-Sd/-
(Y. SINGH)
MEMBER - SECRETARY

Extract from the Minutes of the NRC of 4th Meeting of NRC.

Item 48.7- To consider the report of the Expert/Visiting Committee appointed by the Chairman, Northern Regional Committee of the All-India Council for Technical Education to assess the additional physical/instructional facilities required on the introduction of a degree course in Electronics & Electrical Communication at Guru Nanak Engineering College, Ludhiana.

The Committee approved the report of the Expert/Visiting Committee and recommended the introduction of degree course in Electronics & Electrical Communication at Guru Nanak Engineering College, Ludhiana. The Committee also approved the following physical/instructional facilities as recommended by the Expert/Visiting Committee for the introduction of the above course.

<u>Non-Recurring</u>	<u>Rs.</u>
a) Building (Plinth area 7070 sq.ft.)	4,24,200
b) Equipment	6,60,000
c) Furniture	50,000
d) Library	50,000
Total: Non-Recurring	<u>11,84,200</u>
<u>Recurring</u>	
a) Salary of staff	2,07,800
b) Maintenance Expenditure	-
c) Library recurring	10,000
d) Extension Lectures (lump sum)	2,500
Total: Recurring	<u>2,20,300</u>

The Committee however, stipulated that it may be ensured that the additional facilities are in accordance with the usual norms made applicable while sanctioning such courses at other institutions.