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(iii)

BASIC INFORMATION ABOUT THE POLYTECHNIC			
1	a)	Name of Polytechnic	MIZORAM POLYTECHNIC
	b)	Location (Road, Street Name, Locality, City, Pin Code)	LUNGLEI - 796701, MIZORAM : INDIA
	c)	Existing / New Year of Establishment, if existing	ESTABLISHED IN 1981 A.D
	d)	Women / Co-educational	CO - EDUCATION
	e)	Govt / Govt Aided	GOVERNMENT INSTITUTION
2	a)	Name of Principal / Incharge	MR. K.ZODINGLIANA
	b)	Office Address with Pin Code	MIZORAM POLYTECHNIC, LUNGLEI - 796701, MIZORAM : INDIA
	c)	Office Phone Number with STD Code	0372 -
	d)	Residential Phone Number with STD Code	0372 -
	e)	Telex / Fax / E-mail No. on which message can be given	AT PRESENT NIL.
3	a)	Name of Vice-Principal / Deputy Incharge	NIL.
	b)	Office Address with Pin Code	NIL.
	c)	Office Phone Number with STD Code	NIL.
	d)	Residential Phone Number with STD Code	NIL.
4	a)	Name of Nearest Railway Station	SILCHAR RAILWAY STATION
	b)	Approximate Distance from Railway Station to Polytechnic in Kms.	415 KILOMETERS
5	a)	Name of Nearest Air Port	LENGPUI AIRPORT, AIZAWL, MIZORAM
	b)	Approximate Distance from Air Port to Polytechnic in Kms.	280 KILOMETERS
6		What is/are the recommended method (s) of travel to Polytechnic by members of GOI and World Bank Team	KOLKATA - AIZAWL DIRECT FLIGHT
7		What are the recommended places for overnight stay of GOI and WB Team members at the Location of Polytechnic	CIRCUIT HOUSE/TOURIST-LODGE, LUNGLEI
8		Name (s) and Full Address of the Nearest Engineering College (s)	REGIONAL ENGG: COLLEGE, SILCHAR
9		What assistance is being received from the engineering college(s)	NIL

CHAPTER - I

INTRODUCTION

1. BACKGROUND

1.1 Background of Technician Institutions.

Mizoram State though having the highest percentage of literacy in India but yet has to go a long way especially in areas of Technical Education. Technical Education is still in its initial stage of development in Mizoram. There used to be only one Polytechnic called Mizoram Polytechnic Lunglei which was established in 1981. The Second Polytechnic called Women Polytechnic was established with the permission of AICTE at Aizawl only in September, 1998 in a rented house. The education in the State is highly Arts biased that while there are still numerous employment opportunities in technical fields, un-employment percentage is very high due to the presence of considerable number of Arts Colleges producing a great number of Arts graduates every year. To solve the un-employment problems in technical field and to supply the required technical manpower to cater to the need of the State, it is necessary to develop technical education at a fast pace.

While there are as many as 360 High schools and 33 (thirty three) Arts Colleges of degree level in the State, as stated above, there are only 2 (two) Polytechnics. Although the Government of Mizoram feels the necessity of improving technical education both in infrastructure and quality, it is not in a position to solve the problems at present or in the near future due to extreme financial constraints.

1.2 Current arrangement for managing the technical education system in the state

Though there is a Separate Budget head for Technical Education right from creation of Education department in the State, there is no separate Directorate of Technical Education in Mizoram. At present, Technical Education is placed under the Directorate of Higher & Technical Education. The Directorate of Higher & Technical Education is now looking after 2 (two) existing Polytechnics and all matters relating to Technical Education including the State Council for Technical Education in the State.

Technical Cell was established under the Directorate of Higher & Technical Education in 1989 to deal with all matters relating to Technical Education and to conduct all Exams of the Existing Polytechnics including issue of Marksheets and Certificates to the pass-outs in the name of Mizoram State Council for Technical Education.

Mizoram State Council for Technical was established in 1989 under the Chairmanship of the Minister of Higher & Technical Education Govt. of Mizoram, the Chief Secretary of the State as the Vice Chairman and the Director of Technical Education as member secretary. The Directors of various Technical Departments such as PWD, PHE, Power & Electricity,

Industries and Chairman/President of the Industrial Corporations, representatives of TTTI Calcutta and AICTE (Eastern Region) are the members of the Council.

But as there is no longer staff in the State Council, the Council cannot have much activities except holding occasional meeting. Whatever is the resolution passed by the Council are taken up for implementation by the Directorate of Higher and Technical Education.

1.3 Major issue in the Technical Education area

For efficiency improvement and further expansion of Technical Education system in Mizoram, establishment of a separate Directorate of Technical Education is the immediate need of the State. The State Council had already resolved in its meeting to established the directorate of Technical Education and Engineering College at Aizawl. But due to lack of fund from the State Government it is not possible to implement the resolution of the State Council.

It is therefore a golden chance for the State to approach the World Bank for funding for establishment of a separate directorate of Technical Education which will accommodate both the Offices of state Council and that of the SPIU. It is beyond expectation to establish a Directorate of Technical Education or strengthening of the existing State Council from the State Government fund.

It is envisaged that the World Bank funding would have several advantages during both execution and implementation of the project. It is also well known that the World Bank has highly qualified personnel, expertise and experiences in human resource development, particularly in technical education for helping the developing states.

Therefore, the World Bank is regarded as a great beneficiary and sympathetic partner for development of not only technical education but development programme of the whole state.

1.4 Accessibility to students of different categories

Provision is made for the admission of different categories in all disciplines such as ST, SC and OBC. But at present there is no OBC. It is proposed to increase the percentage of women SC from 0 to 6, SC students from 6 to 10 and OBC from 0 to 10.

1.5 Present status & projection in Ninth Plan beyond with respect to industrial growth in the State/UT (specially in the areas / disciplines to be started)-

The AICTE has given permission to establish a residential Mizoram Polytechnic at Lunglei (The State's Second Capital) in 1981, the Mizoram Polytechnic, Lunglei was established in the same year offering three-year course of Diploma in Civil Engineering, in semester system and co-educational, with an intake capacity of 60 students. Similarly, Diploma in Electrical Engineering with an intake of 30 students was started in the year 1986, and Diploma in Mechanical Engineering for only male students with an

intake of 20 students was started in the year 1991. AICTE has already permitted in those respective years. The same were also recognised by the Institution of Engineers, and allowed to set up Students' Chapter at Mizoram Polytechnic, Lunglei, and setting up of the said Students' Chapter is under way.

In 1999, AICTE has permitted to introduce three-year course of Diploma in Computer Science and Engineering with an intake capacity of 30 students. In this regard, the curriculum for the said has already obtained from the Curriculum Development Cell of Technical Teachers' Training Institute, Calcutta in the month of November, 2000. Since the curriculum obtained is annual-system, it is to be re-designed or converted into semester system in consultation with and under the guidance of the Technical Teachers' Training Institute (Eastern Region), Calcutta. The expected date for the purpose is in the month of January, 2001. Introducing of Diploma in Computer Science and Engineering at Mizoram Polytechnic, Lunglei is proposed to start in the month of July, 2001 as per Academic Calendar of the institute.

1.6 Linkages to planned development and skilled manpower shortage in Mizoram.

It is envisaged that Mizoram Polytechnic, Lunglei will be able to build its infrastructure and modernise the existing laboratories and workshops, and the new course to be introduced with sufficient physical resources and equipment with the help of the Third Technician Education Project (launched by NPIU on behalf of Government of India) under World Bank assistance. The implementation of this project is expected to solve most of the problems being faced by various Industries , Technical and Commercial organizations like:

Zoram Industrial Development Corporation Ltd. (ZIDCO),
Zoram Electronics Development Corporation (ZENICS)
Mizoram Handloom & Handicraft Development Corporation (MAHCO).
Mizoram Food & Allied Industries Corporation (MIFCO)
and all medium scale, small-scale and cottage industries
(Government and Semi-government and private sectors
etc.) in Mizoram State.

1.7 Justification for the project

Provision of facility to the rural youth, i.e rural students, both male and female, in the back and poverty line to pursue technical education is essential to increase their employability and to enhance their willingness to participate in various technical fields. Thus, considering the rising demand and necessity for the state, Mizoram Polytechnic was established the year 1981 at Lunglei in a small room shared by Government College, Lunglei. The Institute is now running three courses namely:-

- (1) Diploma in Civil Engineering
- (2) Diploma in Electrical Engineering and

(3) Diploma in Mechanical Engineering.

AICTE has also given permission to introduce Diploma in Computer Science and Engineering from the academic session of 1999-2000.

Though the Institute has its permanent site at Hrangchalkawn which is about 8 kms from Lunglei the second capital of Mizoram, it is not possible to construct and update the infrastructures in its permanent site. It will also not be possible to modernise and computerise the existing and new courses without any assistance from outside the state fund.

It is envisaged that a decade old but just like to-be-newly-established Mizoram Polytechnic, Lunglei will be able to build its infrastructures and modernise and computerise the existing laboratories, workshop and the new course to be started with the latest model of equipment and machineries with the help of the Third Technician Education under World Bank assistance.

2. INFORMATION ABOUT THE EXISTING POLYTECHNIC

2.1 General Information

- Year of starting	<u>1981</u>
- Nearest industrial estate (Name)	<u>Zuangtui, Aizawl</u>
- Distance from institution	<u>235Kms.</u>
- Number of industries (approx.)	<u>35</u>
- Type of Industries within the industrial estate / vicinity :	<u>Medium and Small Scale Industries</u>

2.2 Current Status of Student Profile

(Please refer to Table – I.1)

- Total Intake (3Yrs):	330
- Nos. of Students (3Yrs) 2000 - 2001 :	187
- Percentage of total student seats filled in 2000-2001 :	57
- Rural students (Actual in 2000 - 2001) Number :	122
Percentage (%)	65
Rural Women Students No. :	14
- Urban students (Actual in 2000 - 2001) Number :	65
Percentage (%)	35
Urban Women Students Number	11
- Physically disabled students No. (actual in 2000 - 2001)	Nil
- Physically disabled Women Students No.	Nil
- Women Students enrolled (2000 - 2001) No.	25
- Enrollment of Students from disadvantaged groups:	
OBC (No.)	Nil
SC (No.)	8
ST (No.)	179
Physically disabled (No.)	Nil

2.3 Efficiency Parameters (1999-2000)

(i) Institutional performance data

-	Drop out rate of students for the polytechnic	5 %
-	Pass rate of students for the polytechnic	81%
-	Drop out rate of Women	2 %
-	Pass rate of Women	90 %
-	Students employed within one year of passing from the polytechnic	45%
-	Women students employed within one year of passing from the polytechnic	7%
-	Students self-employed	8%
-	Average student contact days per year	180 days
-	working days per year	230 days
-	Time taken to publish results after end of terminal exam	30 days
-	Annual budget for 1999-2000	Rs. 8.355 million
-	Actual expenditure during 1999 – 2000:	
-	- Non Recurring	Rs.1.025 million
-	- Recurring	Rs.7.330 million
-	Unit training cost in 1999 - 2000, Rs. <u>0.01375</u> million per student per year	

Total non plan recurring expenses in Rupees

$$\begin{aligned} \text{Unit training cost} &= \frac{\text{Total non plan recurring expenses in Rupees}}{\text{Total number of enrolled students}} \\ &= \frac{5.04}{215} = \text{Rs } 0.02344 \text{ million} \end{aligned}$$

(ii) Income generation during 1999 - 2000 (in millions of rupees)

-	From tuition fees	Nil
-	Other fees	Rs. 0.027 million
-	From continuing education	Nil
-	From consultancy	Nil
-	From R and D projects	Nil
-	From testing and calibration	Nil
-	Hiring out infrastructure	Nil
-	Other sources	Nil
-	Total income during 1999-2000	Rs. 0.027 million

$$\left\{ \begin{array}{l} \text{\% Of income w.r.t.} \\ \text{Recurring} \\ \text{Expenditure} \end{array} \right. = \frac{\text{Net Income generated in 1999-2000}}{\text{Total Recurring Expenses in 1999-2000}^*} = .027/6.797 = 0.004$$

*(Excluding scholarships, fellowships, Stipends)

- Note :** 1) Some figures may be different from PIP due to different year based.
 2) For Scholarship/stipend, Rs 0.533 million was spent during 1999-2000.

(iii) Educational Innovations :

- Use of media √
- Continuous assessment of students √
- Involvement of industry in curriculum development √
- Involvement of industry in curriculum implementation X
- Involvement of industry in student assessment X
- Industrial problem solving projects for students X
- Academic services to community √
- Any other:- National Service Scheme for the students through which students are engaged in the construction of water-supply tank, sanitation, social activities etc for the targeted villagers. Short courses on appropriate technology are also conducted by the Community Polytechnic Cell of the Institute for the rural youth.

2.4 Faculty Positions & Development Status

16 posts out of the 22 sanctioned faculty posts have been filled and 9.09% of the faculty members have undergone training (omitting in-house programmes organised in the state) organized by TTTI/ISTE at Calcutta and Chandigarh, and Guwahati. (Refer to table 1.2, 1.3 & 1.4). More faculty members may be sent for quality enhancement and content updating etc. in the coming five years with the help of Third Technical Education Project.(Please refer to Tables– I.2, I.3, & I.4).

2.5 Continuing Education (CE)

At present, the Institute is not in a position to introduce continuing Education programmes. Even then, in the light of the workshops organized by NPIU on Third Technician Project, on 26th April, 2000 the Continuing Education Cell has already been set up internally by giving assignment to one faculty and one supporting staff to make necessary preparation so that the Institute would be in ready position whenever the Continuing Education Programmes are to be introduced. The proposal is made for this purpose

which is expected to be operational during the Project Period. **(Please refer Table I.5)**

2.6 Industry Institute Interaction (I.I.I)

Final Year students of all courses, i.e. Civil, Electrical, and Mechanical engineering respectively have industrial visits, attended Entrepreneurship Awareness Seminars. They also undertake project works related to Industry and have interaction with local entrepreneurship.

2.7 Internal Revenue Generation (IRG)

The internal revenue received in 1999-2000 by the Institute is mainly fees from regular students and the amount is also very minimal at present. A small amount of this is submitted to the Government and the remaining is utilized for maintenance.

2.8 Curriculum Development (CD)

Presently, three diploma courses, namely, Civil, Electrical and Mechanical Engineering are conducted at Mizoram Polytechnic, Lunglei, and the curriculum which has been used and adopted from Assam Curriculum for about a decade has already been revised under the guidance of the Curriculum Development Cell of the Technical Teachers' Training Institute (Eastern Region), Calcutta in the year 1999. Revision and upgrading of the existing curriculum would be required again during the Project period and schedule for this is prepared and shown in the Activity Bar Chart. Meanwhile curriculum for diploma in Computer Science and Engineering will also be prepared during the Project Period and for the same also is shown in Activity Bar Chart. This new course is likely to be introduced in the early stage of the Project Period.

2.9 Learning Resources Utilization Centre (LRUC)

The Institute does not have LRUC, but Library (as LRs) is functioning under one Librarian. Library is equipped with 4 nos. of steel almirahs book shelves, 5 reading tables and about 10 chairs. Proposal is being prepared to equip LRs and establish LRUC for modernization. **(Please refer to Table 1.8 for types of LRs)**

2.10 Flexibility

The polytechnic does not yet offer courses for MPEC system. Proposal is made to introduce four courses under MPEC system during project period.

The Institute now follows semester system. Proposal would be made to introduce for the four courses under MPEC system during project period with

the help and guidance of the TTTI, Calcutta and if TTTI, Calcutta suggests and recommends to do so.

2.11 Autonomy

The existing Polytechnic Institute enjoys reasonable autonomy within the stipulated budget of State Government and has the freedom of suggesting their own requirements. Interaction with expert bodies regarding curriculum is not restricted.

In order to achieve the objectives envisaged in the Projects, the State Government appears to be preparing a comprehensive proposal for giving autonomy to the Polytechnic, which is likely to be operational before the end of December 2003. The autonomy likely to be given to the polytechnics are in the following aspects: Administration, Academic, Financial and Staff development.

2.12 Maintenance Cells/Centre

Maintenance Cell was created at the Polytechnic level to undertake maintenance on 27th June, 2000 and two faculties and one supporting staff (Workshop Supdtt) were given assignment for the said purpose.

2.13 Existing Facilities Available at the Polytechnic

(i) Existing Laboratories and Workshops

Many of the existing laboratories and workshop and facilities and equipment available are old and worn out except few machinery and equipment.

As the State Government cannot provide sufficient fund for purchasing of new equipment, modernization of the existing laboratory and workshops; financial assistance for procurement of the equipment and machinery through the Third Technician Education Project under World Bank assistance is highly needed.

(ii) Existing Space

Existing space available are for different categories are shown in table I.10. **(Please refer to Table – I.10)**

2.14 List of Proposed Activities Planned in the Project

- New Courses
- Modernization and strengthening of existing courses and Labs
- New Labs & Workshops
- Recruitment of Faculty and Staff
- Faculty and Staff Development

Granting of Autonomy
Introduction of MPECS
Continuing Education Program
Curriculum Development & Revision
Enhancing Participation of Disadvantaged Groups
Setting up of Cells / Centres
Setting up of maintenance cell
LRUC
Computer Centre
Promotion of Internal Revenue Generation
Providing facilities for students and faculty
Student Counseling and Placement

TABLE – I.1

**COURSES AND SANCTIONED INTAKE IN VARIOUS PROGRAMMES
(CURRENT STATUS)**

Sr.No.	Name of the Course	Year of Starting	Diploma / Post Diploma	Duration	Semester / Annual	Sanctioned Student Intake	Actual Enrolment all Years (1st Yr + 2nd Yr + 3rd Yr) for Current Year (2000 - 2001) *		TOTAL
							MALE	FEMALE	
1	CIVIL ENGINEERING	1981	DIPLOMA	3 YEARS	SEMESTER	3 x 60 = 180	103	23	126
2	ELECTRICAL ENGINEERING	1986	DIPLOMA	3 YEARS	SEMESTER	3 x 30 =90	44	2	46
3	MECHANICAL ENGINEERING	1991	DIPLOMA	3 YEARS	SEMESTER	3 x 20 = 60	15	0	15
TOTAL NUMBER OF STUDENTS =							162	25	187

* The total enrolment for all course for entire duration to be given.

TABLE - I.2
CURRENT FACULTY STATUS

CATEGORY	TOTAL POSTS SANCTI- ONED	POSTS FILLED										Grand Total (11) + (12)	% Filled	TRAINING	
		Regular		Adhoc		Contract		Dual Charge		TOTAL				Number Trained	% Trained
		M	F	M	F	M	F	M	F	M	F				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
A. FACULTY															
PRINCIPAL	1	1						1		1		1	100	1	100
HEADS OF DEPTT.	1														
LECTURERS	20	14	1							14	1	15	75	15	100
OTHERS (Please specify)															
TOTAL	22	15	1							15	1	16		16	100

B. CATEGORY OF DISADVANTGED GROUP	Male	Female	TOTAL
NUMBER OF FACULTY BELONGING TO ST CATEGORY	11	1	12
NUMBER OF FACULTY BELONGING TO SC CATEGORY	3		3
NUMBER OF FACULTY BELONGING TO OBC CATEGORY	1		1
FACULTY WITH DISABILITY			
FACULTY BELONGING TO GENERAL CATEGORY			
TOTAL	15	1	16

* The total faculty in different categories should match with total posts filled in col. 13 of A

**Table - I.3
CURRENT SUPPORT STAFF STATUS**

CATEGORY	TOTAL POSTS SANCTIONED	POSTS										FILLED		TRAINING	
		Regular		Adhoc		Contract		Dual Charge		TOTAL		Grand Total (11) + (12)	% Filled	Number Trained	% Trained
		M	F	M	F	M	F	M	F	M	F				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
A. SUPPORT STAFF															
FOR COMPUTERS (Programmer, Operator etc.)															
LABORTORY (Technician, Assistant etc.)	4	2	1							2	1	3	75	3	100
WORKSHOP (Instructor, Technician etc.)	8	4								4		4	50	4	100
ANY OTHER TECHNICAL															
MINISTERIAL SUPPORT	10	5	3							5	3	8	80	0	0
TOTAL	22	11	4							11	4	15		7	

B. CATEGORY OF DISADVANTGED GROUP	Male	Female	TOTAL
NUMBER OF SUPPORT STAFF BELONGING TO ST CATEGORY	11	4	15
NUMBER OF SUPPORT STAFF BELONGING TO SC CATEGORY			
NUMBER OF SUPPORT STAFF BELONGING TO OBC CATEGORY			
SUPPORT STAFF WITH DISABILITY			
SUPPORT STAFF BELONGING TO GENERAL CATEGORY			
TOTAL	11	4	15
* The total support staff in different categories should match with total posts filled in col. 13 of A			

TABLE - I.4
FACULTY AND SUPPORT STAFF DEVELOPMENT ACHIEVEMENT FOR
LAST THREE YEARS (1997- 98, 1998 - 99, 1999 - 2000)

PROGRAMME		Persons Months (PM)	Persons Trained (PT)
A	TRAINING IN INDIA	84	5
	1. LONG TERM TRAINING		
	2. SHORT TERM TRAINING	NIL	NIL
	a) CONTENT UPDATING		
	b) RESOURCE PERSONS TRAINING (FOR CURRICULUM DEV., III ETC.)	48	3
	c) INSTRUCTIONAL RESOURCES DEVELOPMENT, LRUC	NIL	NIL
	3. DEVELOPMENT WORKSHOPS	NIL	NIL
	a) MANAGEMENT DEVELOPMENT PROGRAMME		
	b) TRAINING FOR MPECS, INSTITUTIONAL AUTONOMY	NIL	NIL
	c) INDUCTION TRAINING	NIL	NIL
	d) INDUSTRIAL TRAINING OF FACULTY	5	3
	e) COMPUTER APPLICATIONS FOR FACULTY	9	1
	f) NATIONAL REGIONAL SEMINARS, WORKSHOP ETC.	1	1
	SUB TOTAL(A) = (1+2(a)+(b)+(c)+3(d)+(e)+(f)+(g)+(h)+(i))	147	13
	B	SUPPORT STAFF DEVELOPMENT	
a) LABORATORY MANAGEMENT WORKSHOPS		2	2
b) INDUSTRIAL TRAINING OF WORKSHOP AND LAB INSTRUCTORS		NIL	NIL
c) OFFICE MANAGEMENT WORKSHOPS		NIL	NIL
d) MAINTENANCE OF EQUIPMENT		NIL	NIL
TOTAL B		2	2
GRAND TOTAL - A + B		149	15
PM = Person Months PT = Persons Trained			

TABLE - I.5**CONTINUING EDUCATION PRESENT STATUS (1999-2000)**

NUMBER OF PROGRAMMES		NUMBER OF BENEFICIARIES						
LONG TERM CE (TYPES ONLY)	SHORT TERM CE	LONG TERM CE (TOTAL)	SHORT TERM CE (TOTAL)	NUMBER OF INDUSTRIES	NUMBER OF INDUSTRIAL WORKERS / PERSONNEL	PERSONNEL FROM OTHER ORGANISATIONS	YOUTH FROM COMMUNITY	TOTAL BENEFICIARIES
1	2	3	4	5	6	7	8	9
NIL	Nil	Nil	Nil	Nil	Nil	NIL	Nil	Nil

TABLE - I.6

**INDUSTRY INSTITUTE AND COMMUNITY INTERACTION
CURRENT STATUS (1999-2000)**

STUDENTS TRAINED IN INDUSTRY (% OF ENROLLED STUDENTS)	STUDENTS BENEFITED (%)				INDUSTRIAL PROJECTS BY STUDENTS		NUMBER OF INDUSTRIES CONTRIBUTING TO		
	Industrial Visits	Expert Lectures	Campus Interviews	Entrepreneurship Awareness Camps / Seminars (Including Career Opportunities)	Number of Projects	Students Benefited	Curriculum Development	Student Assessment	Institutional governance
1	2	3	4	5	6	7	8	9	10
Nil	Nil	Nil	Nil	NIL	Nil	Nil	Nil	Nil	Nil

TABLE - I.7
INTERNAL REVENUE GENERATION (IRG)
DURING 1999-2000

INDUSTRIAL CONSULTANCIES		PRODUCTION CENTRE		CONTINUING EDUCATION		TESTING AND CALIBRATION/ MAINTENANCE SERVICES		FEES FROM REGULAR STUDENTS	OTHERS LIKE HIRING OF FACILITIES	TOTAL INCOME	TOTAL NUMBERS OF INDUSTRIES BENEFITED
A	B	A	B	A	B	A	B				
1	2	3	4	5	6	7	8	9	10	11	12
0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.027	0.00	0.027	0.00

A = Income B = Number of Industries

$$\text{IRG as a percentage of income to recurring expenditure} = \frac{\text{Annual income during 1999-2000}}{\text{Annual recurring expenses for 1999-2000}} \times 100 = 0.027/6.797 \times 100\% = \mathbf{0.4\%}$$

TABLE - I.8
LEARNING RESOURCES AVAILABLE CURRENT STATUS (NUMBER)

Sr. No.	TYPE OF LRs	TOTAL
1	OHP TRANSPARENCIES SETS	NIL
2	LEARNING PACKAGES (e.g. PRINTED INSTRUCTIONAL MATERIAL, TRAINER BOARDS EXPERIMENTAL KITS ETC.	1 INTRUCTIONAL, 4 TRAINER KITS
3	MODELS	10 MODELS
4	LAB MANUALS	NIL
5	VIDEO PROGRAMMES	NIL
6	MULTIMEDIA / CAI PACKAGES	NIL

TABLE – I.9
LABORATORIES AND EQUIPMENT AVAILABLE

SR. NO.	LAB / WORKSHOP	LIST OF EQUIPMENT EACH COSTING MORE THAN RS. 10,000 /-	QUANTITY	REMARKS
1	PHYSICS LAB.	1. OPTICAL MEASURING INSTRUMENT.	1	OUT OF ORDER
2	CHEMISTRY LAB.	1. PETROL GAS PLANT FOR BUNSEN BUNNER 2. TEMPARATURE CONTROLLED AIR OVEN	1 3	OUT OF ORDER 1 GOOD, 2 OUT OF ORDE R
3	CIVIL ENGINEERING LAB.	1. MOTORISED CONCRETE MIXER 2. UNIVERSAL TESTING MACHINE 3. COURSE AGGREGATE TESTING MACHINE 4. UNIVERSAL WOOD WORKING MACHINE 5. BENDSAW	1 1 1 1 1	OUT OF ORDER OUT OF ORDER OUT OF ORDER OUT OF ORDER OUT OF ORDER
4	ELECTRICAL ENGG. :	1.OSCILLOSCOPE, 4 TRACE, 200MHz	1	OUT OF ORDER
5	MECHANICAL ENGG. :	1. LATHE MACHINE 2. CENTER LATHE 3. MILLING MACHINE 4. UNIVERSAL TOOLS GRINDING MACHINE 5. SHAPER 6. WHEEL BALANCING MACHINE 7. SPRING TESTING MACHINE 8. ARC WELDING EQUIPMENT	5 1 1 1 1 1 1 2	2 GOOD, 3 OUT OF ORDER OUT OF ORDER OUT OF ORDER OUT OF ORDER OUT OF ORDER OUT OF ORDER OUT OF ORDER GOOD CONDITION
TOTAL			24	5 ARE GOOD OU T OF 24

NOTE : DUE TO SHORTAGE OF FUND THE MACHINERIES AND EQUIPMENT WHICH ARE OUT OF ORDER COULD NOT BE REPAIRED.

**TABLE - I.10
SPACE AVAILABLE**

ITEM	NUMBER	SQ M
ACADEMIC SPACE		
CLASSROOMS	4	316
LABS	3	284
WORKSHOPS	1	245
LIBRARY	1	69
COMPUTER CENTRE	Nil	Nil
FACULTY ROOMS	1	SQ M
OTHERS		
EXISTING RESIDENTIAL SPACE		
HOSTEL FOR WOMEN	1	1008
HOSTEL FOR MEN	1	1147
QUARTERS FOR FACULTY	Nil	Nil
QUARTERS FOR STAFF	Nil	Nil
EXISTING AMENITIES		
AUDITORIUM	Nil	197
COMMUNITY/AMENITIES CENTRES		
DISPENSARY		
NCC ROOM		
GUEST HOUSE		
TRAINING CENTRE		
ANY OTHER		

Table - I.11**Performance Indicators - Current Status (2000 - 2001)**

COMPONENT	CURRENT STATUS
CAPACITY EXPANSION/ DEVELOPMENT	
Number of Programs Offered	3
Total Student Rooms (all courses, all years)	14
% of Women Students	13.37
% of Scheduled Tribe Students	94
% of Scheduled Caste Students	6
% of OBC Students	Nil
% of Scheduled Tribe Students (Women)	13.37
% of Scheduled Caste Students (Women)	Nil
% of OBC Students (Women)	Nil
% of Rural Students	65
% of Rural Students (Women)	7
Number of Hostel Seats (Men)	96

TABLE - I.11**Performance Indicators - Current Status (2000 - 2001)**

COMPONENT	CURRENT STATUS
CAPACITY EXPANSION/ DEVELOPMENT	
Number of Hostel Seats (Women)	25
Number of Faculty Residences	Nil
Number of Staff Residences	Nil
Continuing Education Beneficiaries	Nil
QUALITY ENHANCEMENT	
% of Teaching Posts Filled	75
Number of Teachers Trained	16
Number of Technical Support Staff Trained	7
Existing Number of Labs. & Workshops	9
No. of Labs. & Works hops already Modernized	Nil
% of Curricula Updated within last 5 Years	100
Number of Programs with MPECS	Nil
Level of Autonomy Enjoyed	Partial

TABLE - I.11**Performance Indicators - Current Status (2000 - 2001)**

COMPONENT	CURRENT STATUS
EFFICIENCY IMPROVEMENT	
%of student seats filled	57
%of Drop out	4.50
Faculty Student Ratio	1:12
%of students Employed within one year	45
%of students self Employed within one year	8
%of students passed out pursuing higher studies	5
%of students undergone in plant training	Nil
Time taken to publish Results(Weeks)	4
Counselling cell for Students (Y/N)	N
Placement for Students (Y/N)	Y
Average contact days per year	180
Average training cost / students, Rs / Student / Year	0.023 Million
Internal Revenue Generated (INR Million)	0.027

CHAPTER – II

(I) THE PROJECT

1.0 Rationale

It is envisaged that the newly established Mizoram Polytechnic, Lunglei will be able to build its infrastructure to modernize its existing laboratories and introduce new course with the latest technologies and skilled manpower to cater the fast growing technical manpower requirement in the State. The main objectives of the Project :

- i) To improve the quality of Technical education so as to increase the rates of pass outs and dropouts.
- ii) To enhance Institutional access by the disadvantage Groups and
- iii) To enhance Institutional capability to develop linkages with Industries and Community and offer need based regular and continuing education programs in relevant disciplines.
- iv) To diversify education system in the State to meet technical manpower requirements and to reduce un-employment percentage.
- v) Introducing high-tech programs such as computerized systems.
- vi) To enhance the percentage of women participation in technical education.
- vii) To develop curriculum relevant to the users and create facility for periodic review and modification on need basis.
- viii) To improve the quality of teaching staff by giving training in relevant subjects to acquire the latest methods.
- ix) To give training to produce high grade technicians to the students of Mizoram.
- x) To impart a technical and techno-managerial skills for un-educated employed.
- xi) Upgradation of competency of existing workers in Public and Private undertakings.
- xii) Modernisation of existing Polytechnics and Technical Education system in the State

- xiii) Involvement of Industries in development of curriculum, evaluation and assessment of student and increase the governance of Industries
- xiv) To introduce flexibility of curriculum and multi-point entry and credit system (MPECs) in consultation with TTTI, Calcutta
- xv) To achieve autonomy in technical education.

2.0 Strengthening of existing polytechnic

2.1 Justification

Being the only one in its kind of technical institution in the State, the Mizoram Polytechnic, Lunglei requires to have its all round development in synchronisation with the advancing technological world in its own permanent site. Therefore, infrastructure such as Academic, Administrative and Residential buildings have to be constructed to accommodate most of the required infrastructure built up in the campus.

The following points may be pointed out in justification for modernisation, introduction of new course and building of infrastructures for Mizoram Polytechnic, Lunglei.

- I. The Institute was established in 1981 in a small room shared by Government College, Lunglei. New infrastructure is immediately needed and requires strengthening and modernisation of the existing inadequate laboratories and equipment.
- II. The Institute has shifted to its permanent site at Hrangchalkawn, 8 Km away from Lunglei, with inadequacy and damaged infrastructures. So newly upgraded infrastructure may be built up to enable the Institute to function at its permanent site.
- III. No sufficient fund is available from the State Government for the modernisation and development of the existing Polytechnic.

2.2 Justification for various activities proposed

As no sufficient fund is available from the State Government for the development, modernisation and introduction of new course, the modernisation and strengthening of technical education system is needed to

be upgraded with the help of Third Technician Education Project under the World Bank Assistance. In view of necessity and growing demand for the introduction of flexibility, multi-point entry and credit system and continuing for various categories, the Polytechnic is bound to undertake all these systems within stipulated time on the basis of the outcome from the consultation with TTTI, Calcutta.

2.3.0 Project impact :

2.3.1 Upliftment of women:

The sex ratio in Mizoram is 921 which is a little lower than the national average of 927. The percentage of women employment in the state government is 60%. Women enjoy equal rights and liberty in the state as evident from the women employment status in the Govt. under the policy of enhancing participation of women and disadvantaged groups. Special preference would be given to women candidates in the streams of Computer Science in Mizoram Polytechnic, Lunglei that will enable them to have wide scope of employment either in the Government or Public Sectors.

2.3.2. Socio Economic Development of the State:

The main economic impact would be the increase in economic output and reduction in poverty as a result of:

- Increased opportunities for employment in related industries that would be set up in the state.
- Improved technologies: availability of skilled workforce would encourage adoption of new and upgradation to latest technologies.

In general, education has a large indirect and spiral social impact, which may be intangible and non-quantifiable. Technical training provided by the proposed institutes could contribute towards reduction in social evils such as crime drugs and AIDS etc. as a result of rise in employment. Other positive effects include improvement in health, nutrition and a general betterment in quality of life. Higher income and better education would have tremendous spiral benefits to the economy by further improvements in household health, fertility patterns and children's education.

2.3.3. Community Participation:

Community participation will be achieved by creating awareness in the related courses, which will be a part of the center's activity.

Such activities will involve the following:

- Adopting rural areas for demonstration of technology especially in Non-conventional Energy and Appropriate Technology.

- Setting up of groups of young people and engaging them with semi-mechanized production.
- Holding workshops, seminars, field demos of technology concepts and development of technology prototypes for human welfare.
- Involvement of Voluntary Organization.
- Development of industrial sectors in rural area preventing urban migration, congestion and so on.
- Developments of technology for electronic governance providing one stop non-stop government services.
- Enterprise solutions.
- Automating processes in industries and in government, re-engineering workflow.

2.4 Beneficiaries

Several number of beneficiaries are expected from Industry-Institute-Interaction and continuing education programmes. Youth from rural community and other organisations will be trained. Reservation will be made in all existing and new courses for the disadvantaged groups.

- 2.5** The present literacy level in the State is 90% and that for female is 85% Sex ratio is 920, higher than the national average of 927. The percentage of women employment in the State Government is 60%. The women enjoy equal rights and liberty in the state as evident from the women employment status in the Government.

(II) DETAILED DESCRIPTION OF PROPOSED SUB-COMPONENTS RELEVANT FOR BOTH EXISTING AND PROPOSED POLYTECHNIC

1.0 New Course Proposed

1.1 Name of the course proposed

- 1. Computer Science and Engineering.**

1.2 Rationale

The development of computer science in the State in particular and the country in general realises the need for the introduction of new course. It is also expected that more self-employment opportunities will be generated from this new course.

1.3 Objectives

The introducing of Computer Science and Engineering course at Mizoram Polytechnic, Lunglei

1. Would solve the problem of inadequacy of the skilled manpower in the State in the field of advancing computer application.
2. Would upgrade the standard of the institute and technical education in the State.
3. Would eliminate the unemployment problems faced by the rural youth.

1.4 Beneficiaries

More number of rural youth will have benefit through this new course. Several persons who have small scale industries related to Handloom & Handicraft, Textile and Garment Industries, Electronic Servicing, Assembling, Workshops etc. in the State will also have benefit through Industry-Institute-Interaction and continuing education programmes. Disadvantaged groups and rural poor may have training in this course for their uplift.

1.5 Employment potential

As the computer science is fast advancing in the State and the need of skilled manpower in this stream is very high. Moreover, technical knowledge in this stream is expected to generate more income and self-employment especially for the rural community.

In addition, Computer Science and Engineering course is expected to give more opportunity for the rural and urban youth to have their own self-employment and income generation because it is more easier than some other technology to collect raw materials because the materials are not bulky and easy to transport. Collection of raw materials for an industry is the main problem in the State due to geographical barrier.

1.6 proposed plan of activities for starting a new course

1.7 proposed plan of developing curricula and procedure to be followed for the same.

1.8 Division of teaching time – practical, theory, industrial training etc.

Theory	-	40%
Practical	-	60%

1.9 Subjects to be taught

The subjects to be taught are under way and it would be identified at the time of the development of curriculum in consultation with and guidance of TTTI, Calcutta.

1.10 profile and phasing of additional faculty and staff required (by category and pay scale – provide information in Table – II.2)

1.11 additional students intake (provide information in Table – II.3)

1.12 list of equipment required with phasing and cost estimates (provide information in Table – II .4)

1.13 list of books required with phasing and cost estimates (provide information in Table – II .5)

1.14 proposed laboratories and workshops to be set-up (provide information in Table – II.6)

1.15 resources required in terms of space, equipment, furniture, (provide information in Tables – II.12, II.13 and II.14 which is to be combined with requirement of existing courses)

2.0 Modernization of Laboratories and Workshops

2.1 Rationale

No sufficient fund is available from the State Government to equip the existing laboratories and workshop with the latest technology. In view of the fast changing and development of technology it is indeed necessary to modernize the existing laboratory and workshop so as to cater to the labour requirement in the specific technical fields.

2.2 Objectives

Modernization of Laboratories and workshop in the polytechnic will harness the passing out students to cope with the skilled manpower requirement. Moreover, it will also provide sources of internal revenue generation through testing and calibration, continuing education, consultancy, and production.

2.3 Laboratories to be modernized

1. Computer Laboratory.
2. Electrical & Electronics Laboratory
3. Laboratories of Civil Engineering Deptt.
4. Laboratories of Mechanical Engineering Deptt.
5. Physics Laboratory
6. Chemistry Laboratory
7. Workshops.

2.4 Resources required in terms of equipment, space, furniture, consumables, operation and maintenance etc.

Equipment	-	Rs. 41Million
Space	-	Rs. 67.65 Million
Furniture	-	Rs. 4.00 Million
Consumables	-	Rs.8.00 Million
Operations & Maintenance	-	Rs.14.7 Million

2.5 Plan of modernisation of existing laboratories in phased manner is provided in Tables – II.11, II.12, II.13 and II.14

3.0 Granting of autonomy

3.1 Need for autonomy

In order to achieve competency and efficiency in academic and infrastructure built up, the autonomy in areas like Administration, Academic, Financial and Staff development is needed.

3.2 Objectives

Granting of autonomy to Polytechnic is expected to improve the quality of Technical Education so as to increase the rates of pass outs and decrease - drop – outs and provide the skilled manpower requirement in the State.

3.3 Beneficiaries

Granting of autonomy to the Polytechnics will improve the quality and efficiency of the students and workers in the Institute which may result for provision skilled manpower requirement in the State.

3.4 State government policy and plan on granting autonomy to polytechnic

Proposal for granting autonomy to the Polytechnics will be made by the State Government during the first half of project period.

3.5 Present structure with regard to different dimensions of autonomy

The existing Polytechnic Institutes enjoy reasonable autonomy within the stipulated budget of the State Government and have the freedom of suggesting their own requirements. Interaction with expert bodies regarding curriculum is not restricted.

3.6 Level of autonomy proposed

In order to achieve the objectives envisaged in the Projects, the State government is preparing a comprehensive proposal for giving autonomy to the Polytechnics which is likely to be operational before the end of december,2003. It is proposed to give autonomy to the Polytechnics in the following aspects:

- (a) **Administration:** The Principals of the Polytechnics would be given power to recruit the supporting Staff as per the rules laid down by the State Government including placement of Officers under the Polytechnics.
- (b) **Academic:** The Principals with the faculty members would design/develop/upgrade the curriculum/syllabus on need basis in consultation with local Industries as well as those of other neighboring States such as Assam, West Bengal and IIT Kharagpur and Guwahati which are having better experiences on the line.
- (c) **Financial:** Principals would be given financial power to maintain the fees collected from the students and organise various programmes utilising the fees and other financial resources for income generation and to utilize the generated income for further development of the Institute.
- (d) **Staff development:** Staff development cell would be created in both the Polytechnics headed by the Principal of the concerned Polytechnic. The cell would prepare its annual activity plans and implement the same.

Personnel Appraisal Development System (PADS) will be developed on need-based programmes. Industrial Training and placement of teachers and students in industries, if not possible within the state, would be undertaken with the help of TTTI, Calcutta and Guwahati. Each faculty and Technical Staff will be sponsored for training at least 4 (four) weeks per year within the country during the Project Period.

3.7 Action plan (year-wise) for introducing autonomy

The Government of Mizoram has decided to give autonomy to the Polytechnics within the State by the end of 2003 A.D.

4.0 Programmes to be offered in Multi Point Entry and Credit System

4.1 Need and objectives

With the setting up of the Directorate of Technical Education, Academic and Administrative Autonomy will be vested with the polytechnics commensurate the development of capabilities and local conditions. Flexibility at the level of input, process and output will be introduced through development of Multi Point Entry Credit System (MPECS). The polytechnics would be expected to develop their own curriculum to meet the local needs of the community. The curriculum so developed would emphasize on the following points:

- Competency based
- Modular
- Multi Point Entry and Credit system
- Criterion referenced evaluation
- Involvement of Industry and other stakeholders including the pass outs.

4.2 Expected benefits and impact

Students of 12+ and Graduates in the rural and urban community will be benefited through MPECS.

4.3 Courses proposed to be offered through MPECS

1. Diploma course in Computer Science and Engineering
2. Diploma Course in Mechanical Engineering
3. Diploma in Civil Engineering
4. Diploma in Electrical Engineering.

4.4 Activities needed to offer MPECS i.e. Revision of curricula, training of faculty etc.

Revision of curriculum and training of faculty for all identified courses in all disciplines will be carried on during the Project Period as shown in the Activity Bar Chart.

4.5 Action plan for implementation

Multi-Point Entry and Credit System is proposed to be implemented from the academic session 2003-2004.

5.0 Continuing Education Programmes

5.1 Rationale

There is a great demand for extending continuing education to industry, which is mainly the Service Industry in Mizoram, and to the community. The absence of proper technical institutions in the State, transfer of technology to the community specially at the grass level is non-existent. The Mizoram Polytechnic shall fill this vacuum at least in the related fields. In addition, it is a great demand from the pass-out students to conduct coaching classes for the examinations conducted by Institution of Engineers because it is not an easy task for the rural pass-out to have higher education in the State and to go out side the State due to poverty and geographical barrier.

5.2 Objective

Youth from rural community who have not proper technical education and employed people would be provided training through this programme so as to have required skill in their technical fields.

5.3 Expected beneficiaries and impact

People who are in service and youth from rural community are expected to be benefited through this continuing Education Programme.

5.4 Involvement and participation of industry and faculty

Faculty members would be recruited specially for this purpose. Industries will be provided opportunities to utilise this programme by interacting or sending workers for training.

5.5 Resources required to set-up centre / department in terms of building, faculty and staff, LRs equipment etc.

Each Department in the Polytechnic will be equipped with sufficient facilities for the smooth running of all the courses.

5.6 Activities planned in phased manner in Continuing Education centre/department (statistical information in Table II.15)

Expected to be implemented in the early stage of the Project Period as shown in the Activity Bar Chart.

5.7 Financial implication for consultancy and O & M.

Rupees 0.8 million is provided for continuing education programme during the Project Period.

6.0 Learning Resource Utilisation Centre (LRUC)

6.1 Rationale

For effective teaching-learning process, LRUC is required to play a vital role. Procurement of Media Hardware and Software and motivating the faculty to use LRs is one of its main functions. In most of the teaching and practical works, teaching materials and equipment are required to be provided. This purpose could be served with LRUC. So, LRUC is necessary for providing teaching handouts and learning resources.

6.2 Objectives

In order to improve the teaching methods and quality of education, LRUC is needed to be operational at the Institute.

6.3 Expected impact

LRUC is expected to provide all necessary teaching materials for class room teachings, laboratories, workshops and Seminars which may improve the quality of teaching methods, efficiency and competency-based development.

6.4 Resources required in terms of equipment, books and consultancy are given below

Equipment	-	Rs.3.00 Million
Books & LRs	-	Rs.5.00 Million
Consultancy	-	Rs.0.41 Million
Total	-	Rs.8.41 Million

6.5 Learning resources proposed to be acquired during project (provide information in Table II.17)

6.6 Financial implications (provide financial information in Table II.18)

7.0 Industry Institute Interaction (I.I.I.) Cell/Community Services

7.1 Rationale

The industry involvement is required to be sought in the following activities-curriculum revision/updating/obtaining inputs on the course content and workshop training, working on Industrial Projects etc.

7.2 Objectives

Industry Institute interaction (I.I.I) would provide benefits for the students and faculty in the areas of short-term training/industrial consultancy which are based on the need of industries. Linkages will also be developed with registered bodies and organisations involved in the promotion of Industries, Trade and Commerce.

7.3 Beneficiaries and expected impact/improvement

Most of the passing out students from the Institute are expected to have benefited through this Industry Institute Interaction (I.I.I) programme

7.4 Activities planned though the cell in phased manner (provide statistical information in Table – II.19)

7.5 Financial implications (provide financial information in Table – II.20)

8.0 Staff Development Cell

8.1 Rationale

Quality of Human Resources ensures quality of teaching learning process. For proper planning and implementation of the curriculum, it is essential that a Staff Development Cell should be established in the Polytechnic for formulation of SD Plan and sending the same to SPIU for implementation followed by subsequent monitoring at the Polytechnic level. The SD Cell must keep in mind the Institutional Goal for developing SD Plan.

8.2 Objectives

In order to improve the quality of Technical Education in the Institute Staff Development Cell is to be established. This would facilitate the efficiency and competency of the faculty and support staff which in turn would result the improvement of quality in the products, etc.

8.3 Expected impact

Staff Development Cell will provide the opportunity for better and quality teaching. Training in Industries through this Cell will also give benefits to the faculty for improving their efficiency.

8.3.1 Resources requirement in terms of consultancy, procedures for hiring of faculty and average time taken in recruitment procedures

Provision is made in the budget allocation for staff development in various training's such as – long term training , short term training, Seminars and workshops.

8.5 Staff development plan (training schedule for training and placement officer also) local and foreign (statistical information in Table – II.21)

8.6 Financial requirement (information in Table – II.22)

9.0 Guidance and Counseling Cell

9.1 Rationale

Guidance and counselling cell is necessary to provide nodal of information and interaction for training and employment opportunities, linkages to facilitate employment of the pass out students and qualified themselves for self employment. The Cell would also provided advice to students in their academics as well as in sorting out their personal problems.

9.2 Objective

To provide equal opportunities for students for the training and employment fields, interaction with the faculty and other staff to facilitate employment of pass out students from the Institute.

9.3 Expected impact

Guidance and Counseling Cell is expected to pave the ways for the development of students in the efficiency, quality and competency based improvement.

9.4 Beneficiaries

All students would benefited from this Cell in their academic pursuit, personal life and in training and placement matters.

9.5 Functions of TPO and activities to be performed by the cell

Training and Placement Officer would be acting as the nodal centre for the information of training and employment avenues which would be suitable for the passing students of the Institute. The Continuing Education and Industry-Institute-Interaction programmes will be undertaken by the Training and Placement Cell under TPO.

10.0 Maintenance Cells/Centres

10.1 Rationale

The Institute is equipped with Computers, machineries and equipment which in due course will need maintenance and updating. When Maintenance Cell already established in the Polytechnic is approved, it will undertake all the necessary works required for the maintenance existing equipment and machineries.

10.2 Objective

In order to undertake maintenance of all the existing machineries and equipment and to provide necessary mobilization for the upgradation of laboratories and workshops Maintenance Cell is needed .

10.3 Financial powers for maintenance

Financial powers for maintenance would be decided by the Government on the basis of capital investment for the purchase of machineries and equipment.

10.4

Resources required at the cell in terms of O & M (financial information in Table II.23)

10.0 Internal Revenue Generation

11.1 Rationale

For the sustainability of the Institute and development of all the infrastructures , internal revenue generation in specific fields is needed. The granting of autonomy in Polytechnics would not be successful without sufficient provision of income through internal revenue generation. With proper development of infrastructural facilities, it would be possible to carry out industrial consultancy and conduct continuing education programmes for working professionals and training programmes for unemployed youth which would also help in IRG.

11.2 Objective

One of the quality objectives of the technical training institutions being established is “ **Produce while learning and Learn while producing**”. Production centers are being set up at technical training institutions to meet both production and training requirements. Job orders would be taken up from industries, trade and commercial organizations and executed at these production centers and the

students would be involved for a specific duration in the production centers for execution of job orders. Further, the production centers will produce the items that they have designed their own.

11.3 Government policy

Government of Mizoram is expected to make the final frame of the structure for the utilization and sharing of the revenue received from internal revenue generation programmes.

11.4 Proposed procedure to generate internal revenue (Proposed procedure and activities are shown in **Table II.24**)

11.5 Plan of polytechnic to generate internal revenue

The total amount projected for the whole Project period is Rs. 6.77 million. Most of the plans under this programme would be implemented from the third year of the Project.

11.6 Areas in which revenue generation proposed and expected income in five years (statistical information in **Table II.24)**

(III) CONSULTANTS

1.0 Local consultants to be hired (academic)

1.1 Rationale

The SPIU and the State Polytechnics do not have adequate manpower and infrastructure to execute the Project works related to civil works, procurement of machineries and equipments, staff development, academic and other fields. It is, therefore, needed to hire local consultants to give them constructive ideas and suggestions in these areas. For quality improvement and efficiency in qualification, local consultants would be expected to provide all necessary means.

1.2 Objectives

All necessary assignments for the quality and efficiency improvement in the academic area of the Polytechnic would be taken in consultation with the local consultants.

1.3 For the Academic Consultant, the State Government has decided to appoint Technical Teachers' Training Institute, Eastern Region, Calcutta (refer to Table – II.25). Curriculum Development and upgradation of existing courses would be taken from the first year of 2001.

- 1.4 Necessary approval for consultancy for procurement of equipment from Government of India/World Bank was obtained on the 29th November 2000 and for academic consultancy, the contract document has been signed on the 21st June, 2001 and submitted to NPIU.
- 1.4.1 The contract for the consultancy for procurement of equipments was signed on 21st Oct. 2000 and the contract for academic consultancy was signed on 21st June 2001.
- 1.5 Obtaining services from the consultant as per plan would be expected from second quarter of the first year.

Local consultants to be hired (civil works and procurement of goods)

2.1 Areas in which consultancies required

Local Consultants would be required in Civil works and Procurement of Equipments.

- 2.2 Terms of Reference was already prepared by the State Government.
- 2.3 Approval of Government of India and World Bank is being awaited.
- 2.4 Bids from short-listed consultants was invited by the SPIU.
- 2.5 Technical proposals were submitted by the firms and one of them was approved by the State Government.
- 2.6 Final evaluation (including financial evaluation) was made for obtaining approvals
- 2.7 Negotiations with selected consultants
- 2.8 Signing of contracts was done with the approved firm.
- 2.9 Obtain services from the consultants as planned would be expected from the first quarter of 2001.

(IV) FACILITIES FOR FACULTY/STAFF & STUDENTS

1.0 Rationale

Facilities for faculty, staff and students would determine to some extent the quality, efficiency and development in the academic, staff development and non-curricular activities. Good facilities would be provided for all round development.

2.0 Objective

In order to modernize the existing laboratories, the upgradation and quality improvement of academic and introduction of new courses, more facilities would be necessary for the faculty, staff and students.

3.0 Impact

Quality improvement in the efficiency of the faculty, staff and students could be expected. Qualified and skilled personnel also could be attracted to the faculty and staff of the Institute.

Facilities required

4.1 Hostel for Students

4.2	Men	120 Students	Area	1095.2 sqm.
	Women	Nil Students	Area	Nil sqm.
	Total	120 Students	Area	1095.2 sqm.

4.3 Student amenities

- a) Multipurpose hall
- b) Guest room
- c) Canteen
- d) Medical room
- e) Others
- f) Total area required for above amenities as shown in the Civil Drawings.

4.4 Residences (statistical information is provided in Table II.26 (A) and (B))

- a) Faculty quarters
- b) Staff quarters

4.5 Financial implication for above facilities (financial information is provided in Table – II.27)

TABLE - II.1

**DEVELOPING CURRICULA FOR NEW COURSES
(DIPLOMA AND POST DIPLOMA)**

Name of the course	Year of starting the course	Schedule of developing the curricula		
		Date of hiring consultant	Time to be taken to develop the curricula	AICTE approval
<u>A. DIPLOMA COURSE</u>				
1. COMPUTER SCIENCE AND ENGINEERING.	July, 2001	July, 2001	28 Weeks	24th Aug.1999
<u>B. POST DIPLOMA COURSE</u>				
NIL	NIL	NIL	NIL	NIL

Table - II.2

PROFILE OF ADDITIONAL FACULTY AND STAFF REQUIRED

Category	Pay Scale	Preparatory year	Year - 1	Year - 2	Year - 3	Year - 4	Year - 5	Total
FACULTY								
Head of Department	12000 - 18400	-	1	-	-	-	-	1
Lecturer	8000 - 13500	-	1	1	2	-	-	4
TECHNICAL SUPPORT STAFF								
1. COMPUTER PROGRAMMER	8000 - 13500	-	1	-	-	-	-	1
2. COMPUTER OPERATOR	5000 - 8000	-	1	-	1	-	-	2
3. DRIVER	3050 - 4590	-	-	-	-	-	-	-
4. TECHNICIAN	5000 - 8000	-	-	-	-	-	-	-
5. COMPUTER ATTENDANT (GROUP-D)	2750 - 4400	-	1	-	-	-	-	1
TOTAL			5	1	3			9

Table - II.3

DETAILS OF ADDITIONAL STUDENTS INTAKE

YEAR OF STARTING	DURATION	DIPLOMA/POST DIPLOMA	SEMESTER/ ANNUAL	PROPOSED STUDENT INTAKE	TOTAL
July, 2001	3-YEARS	DIPLOMA IN COMPUTER SCIENCEAND ENGINEERING.	SEMESTER	30 PER ANNUM.	30 STUDENTS/YEAR

Table - II.4

TENTATIVE EQUIPMENT REQUIREMENT

SL.No.	NAME OF THE COURSE	YEAR OF STARTING THE COURSE	TOTAL QUANTITY REQUIRED	TOTAL COST (Rs. IN MILLION)	PROCUREMENT SCHEDULE WITH APPROXIMATE COST IN MILLIONS OF RUPEES													
					PREPARATORY		YEAR - I		YEAR - II		YEAR - III		YEAR - IV		YEAR - V		TOTAL	
					No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
1	CIVIL ENGG..	1981	As enclosed	5.65387		0.00		2.2537		2.2172		1.183		0.00		0.00		5.65
2	ELECTRICAL ENGINEERING	1986	in Annexure	2.43448				0.5424		0.8625		1.02959		0.00		0.00		2.43
3	MECHANICAL ENGINEERING	1991	A'	12.0911				2.2942		4.1458		5.65108		0.00		0.00		12.09
4	COMPUTER SCIENCE AND ENGINEERING.	2001		7.181		0.00		0.00		0.00		2.16		5.02		0.00		7.18
TOTAL				27.36045				5.0903		7.2254		10.02367		5.02				27.359

Table - II.5

TENTATIVE BOOKS REQUIREMENT

SL No.	NAME OF THE COURSE	YEAR OF STARTING THE COURSE	TOTAL QUANTITY REQUIRED	TOTAL COST (Rs. IN MILLION)	PROCUREMENT SCHEDULE WITH APPROXIMATE COST IN MILLIONS OF RUPEES														
					PREPARATORY		YEAR - I		YEAR - II		YEAR - III		YEAR - IV		YEAR - V		TOTAL		
					No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	
1	CIVIL ENGINEERING.	1981						0.125		0.375		0.25		0.25		0.25		1.25	
2	ELECTRICAL ENGINEERING	1986					0.125		0.375		0.25		0.25		0.25		0.25		1.25
3	MECHANICAL ENGINEERING	1991					0.125		0.375		0.25		0.25		0.25		0.25		1.25
4	COMPUTER SCIENCE AND ENGINEERING.	2001					0.125		0.375		0.25		0.25		0.25		0.25		1.25
TOTAL								0.50		1.50		1.00		1.00		1.00		5.00	

Table - II.6

NAMES OF LABORATORIES AND WORKSHOPS

NAMES OF EXISTING		ADDITIONAL REQUIREMENT FOR CURRENT AND NEW COURSES	
LABORATORIES	WORKSHOPS	LABORATORIES	WORKSHOPS
1. PHYSICS LAB 2. CHEMISTRY LAB 3. CIVIL ENGINEERING LAB 4. ELECTRICAL ENGG LAB 5. HYDRAULICS LAB	1. CARPENTRY 2. FITTING 3. BLACKSMITHY 4. WELDING 5. MACHINE SHOP	1. ELECTRICAL MACHINERIES 2. PRODUCTION TECHNOLOGY 3. GEN.MECH. ENGG 4. HEAT POWER ENGG 5. HYDRAULICS & HYD. MACHINE 6. CONSTRUCTION MATERIAL TESTING & CONCRETE 7. MEASUREMENT & RELAY & BASIC ELECTRICITY 8. APPLIED SCIENCE 9. CONSTRUCTION TECHNOLOGY 10. SOIL MECHANIC 11. ENVIRONMENTAL ENGG. 12. ELECTRICAL & ELECTRONIC 13. APPLIED CHEMISTRY 14. MATERIAL & METALURGICAL 15. COMPUTER LAB	1. R,C.C. & MASONRY 2. FOUNDRY 3. PLUMBING 4. PATTERN MAKING 5. FABRICATION 6. ELECTRICAL

Table - II.7

LIST OF COURSES FOR WHICH CURRICULA TO BE REVISED

NAME OF COURSE	YEAR OF LAST REVISION	YEAR OF NEXT REVISION (PROPOSED)	WHETHER AICTE APPROVAL OBTAINED
A. DIPLOMA COURSES. 1. CIVIL ENGINEERING. 2. ELECTRICAL ENGINEERING. 3. MECHANICAL ENGINEERING. 4. COMPUTER SCIENCE AND ENGINEERING.	1999 1999 1999 (OBTAINED FROM TTTI, CALCUTTA RECENTLY)	Feb, 2002 Feb, 2002 Feb, 2002 Feb, 2002	YES, 24th .Aug.1999 YES, 24th .Aug.1999 YES, 24th .Aug.1999 YES, 24th .Aug.1999
B. POST DIPLOMA COURSES. NIL	NIL	NIL	NIL

Table - II.8

ADDITIONAL STUDENT SEATS IN THE RESTRUCTURED COURSE

YEAR OF STARTING	DURATION	DIPLOMA/POST DIPLOMA	SEMESTER/ANNUAL	PROPOSED ADDITIONAL STUDENT INTAKE	TOTAL
Nil	Nil	Nil	Nil	Nil	Nil

Table - II.9

**ADDITIONAL FACULTY AND STAFF REQUIRED - COURSE WISE,
NUMBERS REQUIRED WITH PAY SCALES**

Category	Pay Scale	Preparatory year	Year - 1	Year - 2	Year - 3	Year - 4	Year - 5	Total
FACULTY								
Head of Department	12000 - 18400	-	1	-	-	-	-	1
Lecturer	8000 - 13500	-	1	1	2	-	-	4
TECHNICAL SUPPORT STAFF								
1. COMPUTER PROGRAMMER	8000 - 13500	-	1	-	-	-	-	1
2. COMPUTER OPERATOR (LAB. ASSTT.)	5000 - 8000	-	1	-	1	-	-	2
3. DRIVER	3050 - 4590	-	-	-	-	-	-	-
4. TECHNICIAN	5000 - 8000	-	-	-	-	-	-	-
5. COMPUTER ATTENDANT (GROUP-D)	2750 - 4400	-	1	-	-	-	-	1
OTHER SUPPORT STAFF		NIL	NIL	NIL	NIL	NIL	NIL	Nil
TOTAL			5	1	3			9

Table - II.10

TENTATIVE EQUIPMENT REQUIREMENT (for existing courses)

SL.No.	NAME OF THE COURSE	YEAR OF STARTING THE COURSE	TOTAL QUANTITY REQUIRED	TOTAL COST (Rs. IN MILLION)	PROCUREMENT SCHEDULE WITH APPROXIMATE COST IN MILLIONS OF RUPEES													
					PREPARATORY		YEAR - I		YEAR - II		YEAR - III		YEAR - IV		YEAR - V		TOTAL	
					No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
1	CIVIL ENGG.	1981		5.654				2.254		2.217		1.183		0.000		0.000		5.654
2	ELECTRICAL ENGINEERING	1986		2.435				0.542		0.863		1.030		0.000		0.000		2.435
3	MECHANICAL ENGINEERING	1991		12.091				2.294		4.146		5.651		0.000		0.000		12.091
TOTAL				20.180				5.090		7.226		7.864						20.18

Table - II.11

TENTATIVE BOOKS REQUIREMENT (for new and existing courses)

SL.No.	NAME OF THE COURSE	YEAR OF STARTING THE COURSE	TOTAL QUANTITY REQUIRED	TOTAL COST (Rs. IN MILLION)	PROCUREMENT SCHEDULE WITH APPROXIMATE COST IN MILLIONS OF RUPEES													
					PREPARATORY		YEAR - I		YEAR - II		YEAR - III		YEAR - IV		YEAR - V		TOTAL	
					No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
1	CIVIL ENGINEERING.	1981		1.250		0.000		0.125		0.375		0.250		0.250		0.250		1.250
2	ELECTRICAL ENGINEERING	1986		1.250		0.000		0.125		0.375		0.250		0.250		0.250		1.250
3	MECHANICAL ENGINEERING	1991		1.250		0.000		0.125		0.375		0.250		0.250		0.250		1.250
4	COMPUTER SCIENCE AND ENGINEERING.	2001		1.250		0.000		0.125		0.375		0.250		0.250		0.250		1.250

Table - II.12

**TENTATIVE SCHEDULE OF CONSTRUCTION
COMBINED FOR ALL NEW AND EXISTING COURSES**

Sl. No.	Civil Works to construct.	Nos. Required	Area per Room Sq.m	Total Area in Sq.m	Cost per Sq.m (Rupees)	APPROXIMATE COST IN MILLIONS OF RUPEES													
						PREPARATORY		YEAR - I		YEAR - II		YEAR - III		YEAR - IV		YEAR - V		TOTAL	
						No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
1	LABORATORIES	17		1715	9500		-		4.340		11.953		-		-		-		16.293
2	WORKSHOP	2		280	9500		-		2.660		-		-		-		-		2.660
3	BOY'S HOSTEL	2		1095	9500		-		-		8.047		2.356		-		-		10.403
4	MULTIPURPOSE HALL	1		581	9500		-		-		-		5.520		-		-		5.520
5	INSTITUTE CANTEEN / CO-OPERATIVE STORE	1		220	9500		-		-		-		2.090		-		-		2.09
6	RESIDENTIAL QUARTERS	25		2070	9500		-		-		-		10.034		9.631		-		19.665
7	MODIFICATION/ REPAIR OF ADMINISTRATIVE BLOCK . WHERE ACADEMIC IS ACCOMODATED														5.369		0.650		6.019
8	MODIFICATION OF EXISTING BOY'S HOSTEL DINING HALL																5.000		5.000
TOTAL		48		5961			-		7.000		20.000		20.000		15.000		5.650		67.650

Table - II.13

EQUIPMENT REQUIRED FOR NEW AND EXISTING COURSES & OTHERS

Requirement	Proposed Expenditure (Rupees in Million)						Total
	Preparatory Year	Year - I	Year - II	Year - III	Year - IV	Year - V	
New Course	0.000	0.000	0.000	6.410	14.000	1.200	21.610
Modernisation	0.000	5.800	8.000	2.590	0.000	0.000	16.390
LRUC	0.000	0.000	2.000	1.000	0.000	0.000	3.000
Total	0.000	5.800	10.000	10.000	14.000	1.200	41.000

Table - II.14

FURNITURE REQUIRED FOR NEW AND EXISTING COURSES & OTHERS

Category	Proposed Expenditure (Rupees in Million)						Total
	Preparatory Year	Year - I	Year - II	Year - III	Year - IV	Year - V	
New Course	0.000	0.200	0.200	0.400	1.800	0.200	2.800
Existing Courses							
Hostels	0.000	0.000	0.600	0.600	0.000	0.000	1.200
Total	0.000	0.200	0.800	1.000	1.800	0.200	4.000

NOTE :- As there is no space to show the project / proposed expenditure for furniture in the "TEMPLATE CHART" (costs by project components and sub - components) and sub-components) the proposed expenditure for furniture of existing courses is included in the proposed expenditure for New Courses.

Table - II.15

**CONTINUING EDUCATION
NUMBER AND TYPE OF PROPOSED ACTIVITIES**

NUMBER OF PROGRAMMES	Year - 1	Year - 2	Year - 3	Year - 4	Year - 5	Total
LONG TERM CE (NUMBER AND TYPES ONLY)(more than 3 months)	0	0	2	2	2	6
SHORT TERM CE	0	0	7	9	9	25
NUMBER OF BENEFICIARIES						
LONG TERM CE(TOTAL)	0	0	10	10	15	35
SHORT TERM CE (TOTAL)	0	0	80	105	130	315
NUMBER OF INDUSTRIES	0	0	3	3	4	10
NUMBER OF INDUSTRIAL PERSONNEL	0	0	10	15	25	50
YOUTH FROM COMMUNITY/PERSONNEL FROM OTHER ORGANISATIONS	0	0	80	100	120	300
TOTAL BENEFICIARIES	0	0	90	115	145	350

Table - II.16

FINANCIAL IMPLICATION - CONTINUING EDUCATION

Category	Proposed Expenditure (Rupees in Million)						Total
	Preparatory Year	Year - I	Year - II	Year - III	Year - IV	Year - V	
O & M	0.000	0.000	0.000	0.200	0.300	0.300	0.800
Consultancy	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.000	0.000	0.000	0.200	0.300	0.300	0.800

Table - II.17

LEARNING RESOURCES PROPOSED TO BE PROCURED (NUMBERS)

Sr. No.	TYPE OF LRs	PRE	Year - 1	Year - 2	Year - 3	Year - 4	Year - 5	TOTAL
1	OHP TRANSPARENCIES SETS		40	40	40	40	40	200
2	LEARNING PACKAGES (eg. Print instructional material, trainers boards & experimental kits etc.)		2	2	2	3	3	12
3	MODELS		6	6	6	6	6	30
4	LAB MANUALS		1	1	1	1	1	5
5	VIDEO PROGRAMMES		2	2	2	2	2	10
6	MULTIMEDIA / CAI PACKAGES		2	2	2	2	2	10

Table - II.18

FINANCIAL IMPLICATION - LEARNING RESOURCES UTILISATION

Category	Proposed Expenditure (Rupees in Million)						Total
	Preparatory Year	Year - I	Year - II	Year - III	Year - IV	Year - V	
Equipments	0.000	0.000	2.000	1.000	0.000	0.000	3.000
Books & LRs	0.000	0.500	1.500	1.000	1.000	1.000	5.000
Consultancy	0.000	0.030	0.180	0.100	0.050	0.05	0.410
Total	0.000	0.530	3.680	2.100	1.050	1.050	8.410

Table - II.19

PROPOSED ACTIVITIES - INDUSTRY INSTITUTE & COMMUNITY INTERACTION

ACTIVITIES	Preparatory Year	Year - 1	Year - 2	Year - 3	Year - 4	Year - 5	TOTAL
1) STUDENTS LIKELY TO BE TRAINED IN INDUSTRY (% OF ENROLLED STUDENTS)		100	100	100	100	100	100
2) STUDENTS LIKELY TO BE BENEFITED (NUMBERS)							
Industrial Visits		30	40	40	40	50	200
Expert Lectures/Seminars		20	20	25	30	30	125
Campus Interviews		30	35	35	40	40	180
Entrepreneurship awareness, camps , seminars including carrier opportunities		140	140	140	140	140	700
3) INDUSTRIAL PROJECT TO BE UNDERTAKEN BY STUDENTS							
No. of Projects to be undertaken		4	7	10	14	15	50
Students to be Benefited		6	28	40	58	68	200
4) NUMBER OF INDUSTRIES LIKELY TO BE CONTRIBUTING IN							
Curriculum Development		1	1	1	1	1	5
Students assessment		1	1	1	1	1	5
Institutional Governance		-	-	1	1	1	3
5) COMMUNITY SERVICES							
a) Public Health		2	3	4	5	6	20
b) Transfer of Technology		5	10	15	20	25	75
c) Environmental Awareness		5	8	10	10	10	43

Table - II.20

FINANCIAL IMPLICATION - INDUSTRY INSTITUTE AND COMMUNITY INTERACTION

Category	Proposed Expenditure (Rupees in Million)						Total
	Preparatory Year	Year - I	Year - II	Year - III	Year - IV	Year - V	
O & M	0.000	0.200	0.300	0.200	0.000	0.000	0.700
Consultancy	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.000	0.200	0.300	0.200	0.000	0.000	0.700

**TABLE - II.21
FACULTY AND SUPPORT STAFF DEVELOPMENT TO BE ACHIEVED**

PROGRAMME		TARGETS											
		Year - 1		Year - 2		Year - 3		Year - 4		Year - 5		TOTAL	
		(PM)	(PT)	(PM)	(PT)	(PM)	(PT)	(PM)	(PT)	(PM)	(PT)	(PM)	(PT)
A	TRAINING IN INDIA	54	3	54	3	54	3	54	3	54	3	270	15
1	LONG TERM TRAINING FACULTY												
	LONG TERM TRAINING SUPPORTING STAFF	18	1	18	1	18	1	18	1	18	1	90	5
2	SHORT TERM TRAINING	0	0	0	0	8	8	8	8	8	8	24	24
	a) CONTENT UPDATING												
	b) RESOURCE PERSONS TRAINING (FACULTY)												
	(for III, LRUC, CE etc)	14	19	14	19	11	13	10	11	10	11	59	73
	c) INSTRUCTIONAL RESOURCES DEVELOPMENT	3	6	3	6	3	6	3	6	3	6	15	30
3	DEVELOPMENT WORKSHOPS	1	3	1	3	0	0	0	0	0	0	2	6
	d) MANAGEMENT DEVELOPMENT PROGRAMME												
	e) TRAINING FOR MPECS, INSTITUTIONAL AUTONOMY	2	2	2	2	2	2	2	2	2	2	10	10
	f) INDUCTION TRAINING	4	8	4	8	4	8	4	8	4	8	20	40
	g) INDUSTRIAL TRAINING OF FACULTY	9	3	9	3	9	3	9	3	9	3	45	15
	h) COMPUTER APPLICATIONS FOR FACULTY	12	4	12	4	12	4	12	4	12	4	60	20
	i) NATIONAL REGIONAL SEMINARS, WORKSHOP ETC.	6	24	6	24	6	24	6	24	6	24	30	120
	SUB TOTAL(A) (1+2(a)+(b)+(c)+3(d)+(e)+(f)+(g)+(h)+(i)) =	123	73	123	73	127	72	126	70	126	70	625	358
B	SUPPORTING STAFF DEVELOPMENT												
	a) LABORATORY MANAGEMENT WORKSHOPS	2	6	2	6	2	6	2	6	2	6	10	30
	b) INDUSTRIAL TRAINING OF WORKSHOP AND LABORATORY INSTRUCTORS	3	2	3	2	3	2	3	2	3	2	15	10
	c) OFFICE MANAGEMENT WORKSHOPS	4	4	4	4	4	4	4	4	4	4	20	20
	d) MAINTENANCE OF EQUIPMENT	3	3	3	3	3	3	3	3	3	3	15	15
	TOTAL B	12	15	12	15	12	15	12	15	12	15	60	75
	TOTAL - A + B	133	88	133	86	137	85	136	83	136	83	675	423
PM = Person Months PT = Persons Trained													

Table - II.22

FINANCIAL IMPLICATION FOR STAFF DEVELOPMENT ACTIVITIES

Category	Proposed Expenditure (Rupees in Million)						Total
	Preparatory Year	Year - I	Year - II	Year - III	Year - IV	Year - V	
Local Consultant	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Local Training	0.100	1.000	2.000	2.500	2.000	0.400	8.000
Foreign Training	0.000	0.000	1.800	1.400	0.000	0.000	3.200
O & M	0.050	0.200	0.400	0.450	0.200	0.050	1.350
Total	0.150	1.200	4.200	4.350	2.200	0.450	12.550

Table - II.23

FINANCIAL IMPLICATION - MAINTENANCE CELLS/CENTRES

Category	Proposed Expenditure (Rupees in Million)						Total
	Preparatory Year	Year - I	Year - II	Year - III	Year - IV	Year - V	
O & M	0.000	0.100	0.200	0.300	0.500	1.000	2.100
Total	0.000	0.100	0.200	0.300	0.500	1.000	2.100

Table - II.24

PROPOSED ACTIVITIES - INTERNAL REVENUE GENERATION (IRG)

(Rs. in Million)												
YEAR	INDUSTRIAL CONSULTANCIES		PRODUCTION CENTRE		CONTINUING EDUCATION		TESTING AND CALIBRATION AND MAINTENANCE SERVICES		FEES FROM REGULAR STUDENTS	OTHERS LIKE HIRING OF FACILITIES	TOTAL INCOME	TOTAL NUMBERS OF INDUSTRIES BENEFITTED
	A	B	A	B	A	B	A	B				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)				
YEAR - 1	0.00	0	0.00	0	0.00	0	0.00	0	0.028	0.00	0.028	0
YEAR - 2	0.00	0	0.00	0	0.00	0	0.00	0	0.034	0.00	0.034	0
YEAR - 3	0.05	2	0.05	3	0.04	3	0.03	1	0.038	0.03	0.238	9
YEAR - 4	0.15	3	0.11	3	0.14	3	0.05	1	0.046	0.08	0.576	10
YEAR - 5	0.30	3	0.24	5	0.17	4	0.07	1	0.054	0.14	0.974	13
TOTAL	0.50	8	0.40	11	0.35	10	0.15	3	0.200	0.25	1.85	32

A - Income, B - Activity

$$\text{IRG as a percentage of income to recurring expenditure} = \frac{\text{Annual income}}{\text{Annual recurring expenses}} \times 100 =$$

NOTE: Some of the figure in columb 'A' (Income) are made as per our detailed project proposal, dated 4 th . April. 2000. and suggested to be corrected in PIP since the figures in PIP were incorrect.

Table - II.25

LOCAL CONSULTANT TO BE HIRED

Sl. No.	Name of Consultant	Area of Consultancy	Major Functions	Duration of Consultancy		Plan of obtaining Approval of GOI / World Bank
				Nos. of Months	Days	
1	Technical Teachers' Training Institute (Eastern Region) Block FC, Sector-III, Salt Lake, Calcutta.	A. Academic 1. Curriculum Development 2. Continuing Education 3. LRUCs 4. I.I.I 5. Staff Development		50	1500	AWAITED
1	MECON	B. Procurement of goods & services 1. Procurement of Equipments		30	913	OBTAINED
1	MIZORAM STATE P.W.D	C. Civil Works 1. DESIGN AND ESTIMATE 2. CONSTRUCTION		36	1096	OBTAINED

Table - II.26 (A)

DETAILS OF REQUIREMENT OF FACULTY QUARTERS

Type	No.	Area per quarter (Sq.m)	Total Area (Sq.m)
Principal	1	150	150
H.O.D	3	120	360
Lecturer	8	90	720
Warden	1	100	100
Others			
Total	-	-	1330

Table - II.26 (B)

DETAILS OF REQUIREMENT OF STAFF QUARTERS

Type	No.	Area per quarter (Sq.m)	Total Area (Sq.m)
Class - III	8	55	440
Class - IV	4	75	300
Others	-	-	-
TOTAL	12	-	740

TOTAL AREA FOR HOSTEL : 1095 Sq.m = 10.403 million
TOTAL AREA FOR AMENITIES : 220 Sq.m = 2.09 million
TOTAL AREA FOR RESIDENCE : 2070 Sq.m = 19.665 million
TOTAL AREA FOR MULHI PURPOSE : 581 sq.m = 5.520 million
TOTAL AREA FOR WORKSHOP : 280 sq.m = 2.660 million
TOTAL AREA FOR LABORATORIES : 1715 sq.m = 16.292 million

GRAND TOTAL : 3385 Sq.m

COST PER Sq.m : Rs. 0.009 Million

TOTAL COST : Rs. 56.63 Million.

Table - II.27

FINANCIAL IMPLICATION - FACILITIES FOR FACULTY/STAFF & STUDENTS

Category	Proposed Expenditure (Rupees in Million)						Total
	Preparatory Year	Year - I	Year - II	Year - III	Year - IV	Year - V	
STUDENT HOSTEL (Furniture)	0.000	0.000	0.600	0.600	0.000	0.000	1.200
FACULTY/STAFF RESIDENCE	0.000	0.000	0.000	0.000	0.000	0.000	0.000
O & M FOR STUDENT HOSTEL	0.150	0.130	0.400	0.480	0.430	0.480	2.070
Total	0.150	0.130	1.000	1.080	0.430	0.480	3.270

Table - II.28

Proposed Performance Indicators

Component	Preparatory Year	Year - I	Year - II	Year - III	Year - IV	Year - V	Total
CAPACITY EXPANSION/DEVELOPMENT							
Number of Programmes to be offered		1	-	-	-	-	1
Additional Students Seats to be created		30	-	-	-	-	30
Number of existing courses to be restructured		-	-	-	-	-	-
Additional seats to be created due to restructured		-	-	-	-	-	-
% of Women Students		13.37	15	16	20	20	20
% of Scheduled Tribe Students		94	90	85	80	80	80
% of Scheduled Caste students		6	8	10	10	10	10
% of OBC Students		-	2	5	10	10	10
% of Scheduled Tribe Students (Women)		13.37	15	17.2	17.2	17.2	17.2
% of Scheduled Caste Students (Women)		-	2	3	5	6	6
% of OBC Students (Women)		-	2	5	5	5	5
% of Rural Students		65	70	75	80	85	90
% of Rural Students (Women)		7	8	10	20	20	20

Table - II.28

Proposed Performance Indicators

Component	Preparatory Year	Year - I	Year - II	Year - III	Year - IV	Year - V	Total
Number of Additional Hostel Places (Men)		NIL	54	NIL	NIL	NIL	54
Number of Hostel Places (Women)		NIL	NIL	NIL	NIL	NIL	NIL
Number of Additional Faculty		2	1	2	NIL	NIL	5
Residences		-	2	4	3	4	13
Number of Additional Staff Residences		-	-	4	4	4	12
Continuing Education Beneficiaries	-	-	-	90	115	145	350
QUALITY ENHANCEMENT							
% of Teaching Post to be filled		100	100	100	100	100	100
Number of Teachers to be Trained		2	8	8	7	-	25
Number of Technical Support Staff to be trained		1	7	10	10	-	28
Number of Labs & Workshops to be modernised		2	5	3	-	-	10
Number of new Labs & Workshops to be set up		2	5	3	-	-	10
% of Curricula to be Updated during project		100	100	100	100	100	100
Number of Programmes to be offered with MPE&CS		-	-	2	2	-	4
Level of Autonomy to be granted		Partially	Partially	Partially	Full	Full	Full

Table - II.28

Proposed Performance Indicators

Component	Preparatory Year	Year - I	Year - II	Year - III	Year - IV	Year - V	Total
EFFICIENCY IMPROVEMENT							
Average time for completing diploma (Years)		3	3	3	3	3	3
% of Dropout		5	4	3	2	2	2
Faculty Student Ratio		12	13	15	15	15	15
% of Students Self Employed within one year		60	70	80	85	85	85
% of Students passouts persuing higher studies		3	5	5	5	5	5
% of Students to undergo in plant training		4	5	8	10	10	10
Time to be taken to Publish Results (Weeks)		2	2	2	2	2	2
Counseling Cell for students	NIL	1	-	-	-	-	1
Placement cell for Students	NIL	1	-	-	-	-	1
Average contact days per year	180	180	180	180	180	180	180
Average training cost /students, (Rs./Student / Year)	27112	20000	15000	13000	12500	12300	12000
Internal Revenue to be Generated (INR Million)	-	0.028	0.034	0.238	0.576	0.974	1.85

CHAPTER - III SCHEDULE OF ACTIVITIES - BAR CHART

MIZORAM POLYTECHNIC, LUNGLEI. (MZR - 2)

(I) New Diploma Courses

Name of the course :

Sr. No.	ITEM	Preparatory Year				YEAR - 1				YEAR - 2				YEAR - 3				YEAR - 4				YEAR - 5			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	AICTE approval				■																				
2	Developing Curricula - Hiring of Consultant							■	■	■	■														
3	Identifying laboratory workshop needs																			■					
4	Schedule of setting up of new labs/ workshops																			■					
5	Appointment of faculty - Advertisement - Selection and posting							■				■				■									
6	Appointment of staff								■				■												
7	Training of newly recruited faculty - Preparing plan - Undergoing training								■			■				■				■				■	
8	Training of newly recruited staff - Preparing plan - Undergoing training								■			■				■				■				■	
9	Acquisition of learning resources							■				■				■				■				■	
10	Admission announcement							■				■				■				■				■	
11	Curriculum improvement and monitoring											■												■	
RESOURCES REQUIRED																									
12	Civil Works							■																	
13	Equipment							■																	
14	Furniture							■				■				■				■				■	
15	Books & LRs							■				■				■				■				■	
16	Consumables				■			■				■				■				■				■	

CHAPTER - III SCHEDULE OF ACTIVITIES - BAR CHART

(II) Autonomy

Sr. No.	ITEM	Preparatory Year				YEAR - 1				YEAR - 2				YEAR - 3				YEAR - 4				YEAR - 5			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Formation of committee to determine the readiness of polytechnic to accept autonomy																								
2	Presenting observation of the committee to the Directorate																								
3	Hiring consultant if require																								
4	Taking necessary approvals from Government																								
5	Developing action plan for granting autonomy																								
6	Training faculty																								
7	Implementing action plan																								

(III) Multi point Entry and Credit System

Sr. No.	ITEM	Preparatory Year				YEAR - 1				YEAR - 2				YEAR - 3				YEAR - 4				YEAR - 5			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Hire consultant to develop/revise curricula appropriate for introduction of MPECS																								
2	Developing action plan for introducing MPECS																								
3	Taking AICTE /necessary Government approval																								
4	Train the faculty																								
5	Implement the plan																								

CHAPTER - III SCHEDULE OF ACTIVITIES - BAR CHART

(IV) Internal Revenue Generation

Sr. No.	ITEM	Preparatory Year				YEAR - 1				YEAR - 2				YEAR - 3				YEAR - 4				YEAR - 5			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Identify HODs/faculty to develop proposed activities for IR				■				■				■				■				■				■
2	Contact industry to determine need				■				■				■				■				■				■
3	Identify areas of service				■				■				■				■				■				■
4	Develop action plan for implementation				■				■				■				■				■				■
5	Develop action plan for utilisation of IR generated				■				■				■				■				■				■
6	Implement action plan				■				■				■				■				■				■

(V) Industry Institute Interaction & Community Services

Sr. No.	ITEM	Preparatory Year				YEAR - 1				YEAR - 2				YEAR - 3				YEAR - 4				YEAR - 5			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Identify HODs for I.I.I. Activity				■				■				■				■				■				■
2	Contact Industry				■				■				■				■				■				■
3	Identify areas of linkages and services				■				■				■				■				■				■
4	Arrange Seminars/Conferences				■				■				■				■				■				■
5	Training of Faculty in industry				■				■				■				■				■				■
6	Training of students in industry				■				■				■				■				■				■
7	Developing linkages with TTTI and industry				■				■				■				■				■				■
8	Developing information system				■				■				■				■				■				■
9	Prepare long term and short term activities				■				■				■				■				■				■
10	Setting up of I.I.I. Advisory Committee				■				■				■				■				■				■
11	Preparation of literature/ manual				■				■				■				■				■				■
12	Implementation of Plan				■				■				■				■				■				■

CHAPTER - III SCHEDULE OF ACTIVITIES - BAR CHART

(VI) Continuing Education

Sr. No.	ITEM	Preparatory Year				YEAR - 1				YEAR - 2				YEAR - 3				YEAR - 4				YEAR - 5			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Hiring of consultant					■				■				■				■				■			
2	Identify capability of the polytechnic, specific field it can contribute					■				■				■				■				■			
3	Identify industries/community to be served					■				■				■				■				■			
4	Identify faculty					■				■				■				■				■			
5	Training of Faculty					■				■				■				■				■			
6	Plan for offering continuing education and community services					■				■				■				■				■			
7	Preparation of course material						■				■				■				■				■		
8	Preparation of course schedule						■				■				■				■				■		
9	Conduct the course							■				■				■				■				■	
10	Evaluate/revise								■				■				■				■				■

(VII) Learning Resources Utilization Centre (LRUC)

Sr. No.	ITEM	Preparatory Year				YEAR - 1				YEAR - 2				YEAR - 3				YEAR - 4				YEAR - 5			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Hiring of consultant					■				■				■				■				■			
2	Identify needs					■				■				■				■				■			
3	Prepare list of LRs						■				■				■				■				■		
4	Identify source						■				■				■				■				■		
5	Procurement of LRs						■				■				■				■				■		
6	Utilization of LRs																								
RESOURCES REQUIRED																									
7	Equipment																								

CHAPTER - III SCHEDULE OF ACTIVITIES - BAR CHART

(IX) Faculty and Staff Recruitment and Development

(a) Recruitment

Sr. No.	ITEM	Preparatory Year				YEAR - 1				YEAR - 2				YEAR - 3				YEAR - 4				YEAR - 5				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
1	Identify Faculty and staff need																									
2	Creation of Posts																									
3	Send requisition to State PSC																									
4	Selection and appointment																									
(b) Faculty and Staff Development																										
5	Identify training needs for each faculty																									
6	Identify training needs for each Technical support staff																									
7	Identify training resource institutions																									
8	Prepare detailed training plan																									
9	Undergo training																									
	- Faculty																									
	- Technical Support staff																									
(c) Schedule of No. of persons to be deputed for Training																										
Sr. No.	NUMBER OF FACULTY		YEAR - 1				YEAR - 2				YEAR - 3				YEAR - 4				YEAR - 5							
	Local Training	Foreign Fellowship	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				

SCHEDULE OF PROCUREMENT OF EQUIPMENT

		May-00	Jun-00	Jul-00	Aug-00	Sep-00	Oct-00	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01
1.	Appointment of Consultant												
2.	Identification of Equipment Required Related to Courses												
	- For New Courses												
	- For Existing Courses and Modernisation												
3.	Segregation of Items to be Procured at												
	a) Institutional Level												
	b) Consultant												
4.	Preparation of Packages												
5.	Scheduling of Procurement Packages												
	a) Advertisement												
	b) Receipt of Quotation												
	c) Approval of Comparative Statement												
	d) Placement of Order												
	e) Receipt of Equipment												
	f) Installation and Training												
	g) Settlement of Accounts												
6.	Procurement at Institutional Level												
7.	Preparation of Periodical Status Report												

SCHEDULE OF PROCUREMENT OF EQUIPMENT

		May-01	Jun-01	Jul-01	Aug-01	Sep-01	Oct-01	Nov-01	Dec-01	Jan-02	Feb-02	Mar-02	Apr-02
1.	Appointment of Consultant												
2.	Identification of Equipment Required Related to Courses												
	- For New Courses												
	- For Existing Courses and Modernisation												
3.	Segregation of Items to be Procured at												
	a) Institutional Level												
	b) Consultant												
4.	Preparation of Packages												
5.	Scheduling of Procurement Packages				CYCLE - I								
	a) Advertisement												
	b) Receipt of Quotation												
	c) Approval of Comparative Statement												
	d) Placement of Order												
	e) Receipt of Equipment												
	f) Installation and Training												
	g) Settlement of Accounts												
6.	Procurement at Institutional Level												
7.	Preparation of Periodical Status Report												

SCHEDULE OF PROCUREMENT OF EQUIPMENT

	May-02	Jun-02	Jul-02	Aug-02	Sep-02	Oct-02	Nov-02	Dec-02	Jan-03	Feb-03	Mar-03	Apr-03
1. Appointment of Consultant												
2. Identification of Equipment Required Related to Courses												
- For New Courses												
- For Existing Courses and Modernisation												
3. Segregation of Items to be Procured at												
a) Institutional Level												
b) Consultant												
4. Preparation of Packages												
5. Scheduling of Procurement Packages		CYCLE - II								CYCLE - III		
a) Advertisement												
b) Receipt of Quotation												
c) Approval of Comparative Statement												
d) Placement of Order												
e) Receipt of Equipment												
f) Installation and Training												
g) Settlement of Accounts												
6. Procurement at Institutional Level												
7. Preparation of Periodical Status Report												

SCHEDULE OF PROCUREMENT OF EQUIPMENT

	May-03	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04
1. Appointment of Consultant												
2. Identification of Equipment Required Related to Courses												
- For New Courses												
- For Existing Courses and Modernisation												
3. Segregation of Items to be Procured at												
a) Institutional Level												
b) Consultant												
4. Preparation of Packages												
5. Scheduling of Procurement Packages												
a) Advertisement												
b) Receipt of Quotation												
c) Approval of Comparative Statement												
d) Placement of Order												
e) Receipt of Equipment												
f) Installation and Training												
g) Settlement of Accounts												
6. Procurement at Institutional Level												
7. Preparation of Periodical Status Report												

SCHEDULE OF PROCUREMENT OF EQUIPMENT

		May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05
1.	Appointment of Consultant												
2.	Identification of Equipment Required Related to Courses												
	- For New Courses												
	- For Existing Courses and Modernisation												
3.	Segregation of Items to be Procured at												
	a) Institutional Level												
	b) Consultant												
4.	Preparation of Packages												
5.	Scheduling of Procurement Packages												
	a) Advertisement												
	b) Receipt of Quotation												
	c) Approval of Comparative Statement												
	d) Placement of Order												
	e) Receipt of Equipment												
	f) Installation and Training												
	g) Settlement of Accounts												
6.	Procurement at Institutional Level												
7.	Preparation of Periodical Status Report												

SCHEDULE OF PROCUREMENT OF EQUIPMENT

		May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05
1.	Appointment of Consultant								
2.	Identification of Equipment Required Related to Courses								
	- For New Courses								
	- For Existing Courses and Modernisation								
3.	Segregation of Items to be Procured at								
	a) Institutional Level								
	b) Consultant								
4.	Preparation of Packages								
5.	Scheduling of Procurement Packages								
	a) Advertisement								
	b) Receipt of Quotation								
	c) Approval of Comparative Statement								
	d) Placement of Order								
	e) Receipt of Equipment								
	f) Installation and Training								
	g) Settlement of Accounts								
6.	Procurement at Institutional Level								
7.	Preparation of Periodical Status Report								

SCHEDULE OF CIVIL WORKS

	May-00	Jun-00	Jul-00	Aug-00	Sep-00	Oct-00	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01
1. Appointment of Consultant												
2. Preliminary Drawings - I												
3. Preliminary Drawings - II												
4. Working Drawings												
5. Bid Documents Preparation of												
6. Bid Invitation, Pre Bid Congf. Etc.												
7. Evaluation of Bids												
8. Approval of Bids												
9. Award of Contracts												
10. Construction Commences												
11. Construction Duration												
12. Completion												
13. Handing Over /Taking Over												

SCHEDULE OF CIVIL WORKS

	May-01	Jun-01	Jul-01	Aug-01	Sep-01	Oct-01	Nov-01	Dec-01	Jan-02	Feb-02	Mar-02	Apr-02
1. Appointment of Consultant												
2. Preliminary Drawings - I												
3. Preliminary Drawings - II												
4. Working Drawings												
5. Bid Documents Preparation of												
6. Bid Invitation, Pre Bid Congf. Etc.												
7. Evaluation of Bids												
8. Approval of Bids												
9. Award of Contracts												
10. Construction Commences												
11. Construction Duration												
12. Completion												
13. Handing Over /Taking Over												

SCHEDULE OF CIVIL WORKS

		May-02	Jun-02	Jul-02	Aug-02	Sep-02	Oct-02	Nov-02	Dec-02	Jan-03	Feb-03	Mar-03	Apr-03
1.	Appointment of Consultant												
2.	Preliminary Drawings- I												
3.	Preliminary Drawings- II												
4.	Working Drawings												
5.	Bid Documents Preparation of												
6.	Bid Invitation, Pre Bid Congf. Etc.												
7.	Evaluation of Bids												
8.	Approval of Bids												
9.	Award of Contracts												
10.	Construction Commences												
11.	Construction Duration												
12.	Completion												
13.	Handing Over /Taking Over												

SCHEDULE OF CIVIL WORKS

		May-03	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04
1.	Appointment of Consultant												
2.	Preliminary Drawings- I												
3.	Preliminary Drawings- II												
4.	Working Drawings												
5.	Bid Documents Preparation of												
6.	Bid Invitation, Pre Bid Congf. Etc												
7.	Evaluation of Bids												
8.	Approval of Bids												
9.	Award of Contracts												
10.	Construction Commences												
11.	Construction Duration												
12.	Completion												
13.	Handing Over /Taking Over												

SCHEDULE OF CIVIL WORKS

		May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05
1.	Appointment of Consultant												
2.	Preliminary Drawings- I												
3.	Preliminary Drawings- II												
4.	Working Drawings												
5.	Bid Documents Preparation of												
6.	Bid Invitation, Pre Bid Congf. Etc.												
7.	Evaluation of Bids												
8.	Approval of Bids												
9.	Award of Contracts												
10.	Construction Commences												
11.	Construction Duration												
12.	Completion												
13.	Handing Over /Taking Over												

CHAPTER – IV

PROCEDURE FOR IMPLEMENTATION FOR ALL SUB-COMPONENTS

1.0 INTRODUCTION

1.1 **SPIU** : As per the direction of AICTE, an Administration unit for Technical (Technical Cell- Examination) was established under the Directorate of Higher & Technical Education in the year 1994. Till date the Technical Cell headed by Joint Director(Tech) and supported by the lecturers (being attached from the Polytechnic) and other ministerial staff. This Cell looks after all Technical Examinations held in the State and matters relating to Technical Education in and outside the State. The Mizoram State Council for Technical Education (MSCTE) in its last meeting on March, 1999 had resolved to establish a separate Directorate of Technical Education and Training. But due to financial crises being faced by the State, the resolution to establish a separate Directorate of Technical Education could not be implemented till today.

As per the norms of World Bank Funding, State Project Implementation Unit (SPIU) was established under Directorate of Technical Education, Govt. of Mizoram, headed by Joint Director(Tech) as Project Director. Senior Lecturers from Polytechnics were appointed as key additional staff of SPIU. As there is no separate building to accommodate Technical Education Cell, the newly established SPIU Office would be accommodated in the Directorate of Higher & Technical Education until the construction for the new building for Directorate of Technical Education is completed.

Establishing the Directorate of Technical Education by upgrading the existing Technical Cell and strengthening the existing staff is the vital need in the face of the present heavy workload of Technical Education in Mizoram and the massive development works to be taken up with the World Bank's assistance. The successive of this World Bank Project depends largely on the efficiency of the Directorate of Technical Education where the SPIU and the State Council for Technical Education are to be accommodated.

1.2 **PPIU** : Polytechnic Project Implementation Unit is established in the existing Polytechnics and headed by Principal and supported by HODs and Senior Lecturers. PPIU is established to look after all the works undertaken under World Bank's Assistance Project at the Women Polytechnic Aizawl.

2.0 NATURE OF ACTIVITIES

2.1 Building :

Supervision of construction of buildings for the Mizoram Polytechnic Lunglei.

2.2 Procurement of Equipment:

Hiring of consultants for the procurement of Equipment, quality improvement and staff development for the Mizoram Polytechnic Lunglei.

2.3 Books:

Procurement of books would be taken up through local Agents.

2.4 Furniture:

Furniture would be procured through local suppliers during the first three years.

2.5 Vehicle:

Procurement of vehicles would be taken during the first three years of the Project through local Agents.

2.6 Appointment:

All the key additional faculty and support staff in the Mizoram Polytechnic would be appointed and recruited during two months prior to the introduction of new Courses.

2.7 Training:

Training for all Key Additional and faculty and Support staff in the Polytechnic would be taken up in phase-wise till the end of the Project.

2.8 Consultancy:

The SPIU would have three local consultants in specified areas like- Procurement of equipment, Civil works and Staff and Curriculum development. Local consultant from local area if required would be hired for the academic and quality improvement programmes.

2.9 Some other areas of focus:

As the Mizoram State Council for Technical Education already resolved to create a separate Directorate of Technical Education and Training which will solely deal with Technical Education in Mizoram, the SPIU would take up all necessary action for the early implementation of that resolution.

3.0 INTERNAL LINKAGES

Proposal is made to equip the SPIU and Project Polytechnics with Management Information System (MIS) and other required facilities for sequencing and networking of all activities to avoid delays & ensuring optimal utilization.

4.0 EXTERNAL LINKAGES

4.1 Other Govt. organizations:

Proposal would be made to have interconnection through internet with Govt. Organizations such as P.W.D, Industries Department, Power & Electricity, Posts & Telegraphs, Telecommunications etc.

4.2 Private bodies:

Proposal would also be made to have interconnection through networks with private Institutions, Entrepreneurs and non-Govt. Organisations

4.3 TTTIs:

Interconnection with TTTIs would be provided during the first year of the Project. At the same time, linkages between the Polytechnics and IIT Guwahaty, North-Eastern Regional Institute of Science & Technology (NERIST) Itanagar, Regional Engineering College Silchar and North-Eastern Hill University Shillong would be made with networks.

4.4 Industries:

Interconnection through networks with Industries Departments and Corporations such as Zoram Electronics Development Corporation (ZENICS), Zoram Handloom & Handicraft Corporation (ZOHANCO), Zoram Industries Development Corporation (ZIDCO) etc. would be made to facilitate employment and training avenues for the students and faculty.

4.5 Polytechnics:

Proposal would be made to have the SPIU and Polytechnics interconnected with other Polytechnics of the North Eastern Region for easy access to curriculum development, academic and specified areas.

4.6 Mechanism for linkages Consultancy needs:

The SPIU and PPIUs of the State would be equipped with MIS and Fax facilities to provide good communication system with Consultants during the whole Project year.

5.0 DOCUMENTATION AND REPORTING

Procedures for all the subjects mentioned below would be as per World Bank norms.

- 5.1 Proper procedures for indenting
- 5.2 Ordering
- 5.3 Reimbursement
- 5.4 Claims
- 5.5 Documentation & report preparation

6.0 POLYTECHNIC PROJECT IMPLEMENTATION UNIT (PPIU) ROLE

- 6.1 Implementation in integrated manner of all activities
- 6.2 Monitor & report progress
- 6.3 Ensure achievement of targets
- 6.4 Desired impact and beneficiaries

7.0 FUNCTION

- 7.1 Effective Implementation to meet objectives
- 7.2 Development of action
- 7.3 Consolidation of required
- 7.4 Integration of activities
- 7.5 Reporting progress
- 7.6 Corrective measures
- 7.7 Maintaining records for LACI – FMS Financial Management System
- 7.8 Form Advisory Committee for different activities
- 7.9 Liaisoning with different agencies
- 7.10 Documentation
- 7.11 Maintenance of accounts
- 7.12 Reimbursement

8.0 ORGANISATION STRUCTURE

- 8.1 Academic Coordinator
- 8.2 Consolidate academic requirements for all sub-components
- 8.3 Implementing the requirements for academic and resources coordination
- 8.4 Consolidate resource requirement & implementation

9.0 ADVISORY COMMITTEE

For the purpose of expert advise & guidance of all matters

10.0 CONSTITUTION OF THE ADVISORY COMMITTEE

- | | | |
|---|------------------------------|----------|
| - | Head of PPIU | Chairman |
| - | Officers from SPIU | Member |
| - | Representative from industry | Member |
| - | Construction agency | Member |
| - | Academic coordinator | Member |
| - | Resource coordinator | Member |
| - | HODs | Member |
| - | Subject matter experts | Member |
| - | Other as required | Member |

11.0 PPIU PERSONNELS

- Head PPIU
- Academic Coordinator
- Resource Coordinator
- Incharge SD
- Incharge CDC
- Incharge CE
- Incharge LRUC
- Incharge III etc

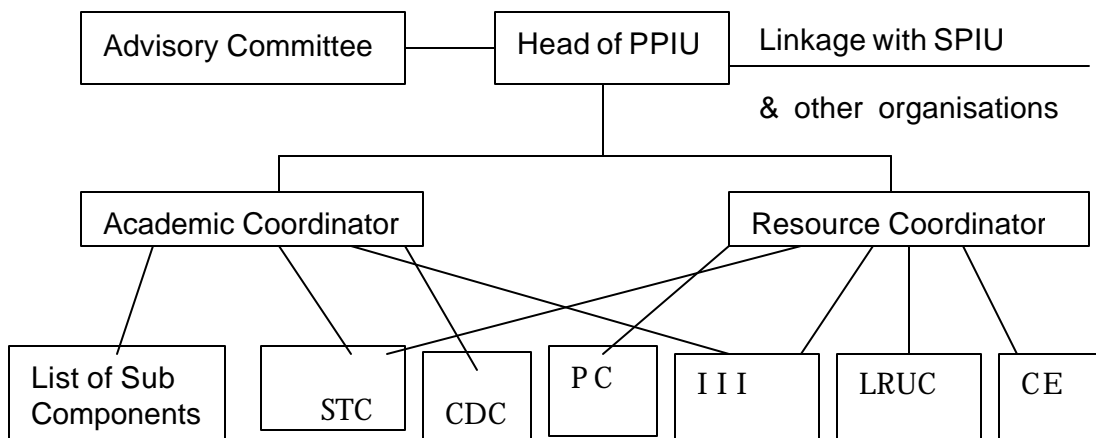
12.0 LINKAGES

- | <u>Organisation</u> | <u>Purpose of Linkage</u> |
|---------------------------------------|---------------------------|
| - DTE | |
| - BTE | |
| - Construction agency/consulting firm | |
| - Procurement agency | |
| - AG office | |
| - Industries | |
| - State level centres | |
| - Other PPIU etc | |

13.0 PROCEDURE FOR IMPLEMENTATION

- 13.1 Implementation as per DPR
- 13.2 Maintaining liaison with other implementing agencies
- 13.3 Periodic reporting to SPIU
- 13.4 Maintaining computerised records

DIAGRAM



PROJECT OBJECTIVES

ACTIVITIES

• GENERAL ACTIVITIES :

Preparation of DPR
Submission of DPR
Approval from DTE

• BUILDING

Preparation of Drawings
Approval of drawings
Monitoring Implementation

• FURNITURE

Identification of needs
Requirement list
Procurement

• EQUIPMENT

Identification of needs
Preparation of list in phase as per requirement
Procurement & installation
Training

• FACULTY & STAFF REQUIREMENT

Identification of needs well before time
Time schedule of requirement
Preparation of documents for presenting needs to state government
Approval by DTE
Follow up

OTHER ACTIVITIES

Creation of a separate Directorate of Technical Education

The SPIU will also take all necessary activities for the early creation of a separate Directorate of Technical Education which was resolved by the Mizoram State Council for Technical Education at its fifth meeting in March 1998. The Directorate of Technical Education will play a key role for the implementation of the Project in the State.

CHAPTER V

ACTION TO BE TAKEN ON POLICY ISSUES BY THE STATE

- 1. RESERVATIONS:** Reservation for the following categories will be made in all disciplines.

Tribal	90%	Physically handicapped	4%
S.C/OBC	6%	Rural	70%
- 2. ACCESSIBILITY:** Provision will be made for the admission of different categories in all disciplines such as ST (90%), SC/OBC (6%), disadvantaged groups (4%). The percentage of rural and urban students admitted in the institution is expected to be arrival 70% and 30% respectively. As a whole, 70% of the total seats would be reserved for the state.
- 3. PROMOTING SELF-EMPLOYMENT:** All students in the final year will provide industrial training in and outside the state. 15% of the passing out students will be expected to get self-employed within one year.
- 4. GRANTING AUTONOMY:** In order to achieve the objectives envisaged in the project the state government is preparing a comprehensive proposal for granting autonomy with accountability to the polytechnics which is likely to be operational before the end of December, 2003. The autonomy will include the following aspects: - Administration, Academic, Financial & Staff development.
- 5. PARTICIPATION OF INDUSTRY AND COMMUNITY:** Interaction with industry and community would provide benefits for the students and faculty in the areas of Short Term Training and Industrial Consultancy Services which are based of the need of community and of industries. Linkages will also be developed with registered bodied and organizations involved in the promotion of industries, Trade & Commerce.
- 6. INTERNAL REVENUE GENERATION:** Internal revenue will be granted by introducing tuition fees, utilization fees, Testing & Calibration fees and continuing education fees etc.
- 7. NETWORKING:** Proposal has already made for networking of institutions with similar institution to promote mutual development and co-operation.
- 8. CONSULTANCY, CONTINUING EDUCATION AND COMMUNITY SERVICES:** Provision is made for promoting Consultancy, industrial and financial enterprises, At the same time, continuing education in four discipline will be effective from the third year of the project. The Consultancy and continuing education activities will benefit community and rural people.
- 9. STRENGTHENING TECHNICAL EDUCATION:** The existing technical cell under the Directorate Higher & Technical Education will be upgrade to separate Directorate Technical Education with different administration. Proposal is also being made to modernize the technical cell and administrative system with professional management.

10. **SUSTENANCE:** The Polytechnic will be fully geared to meet the objectives so as to sustain the institution. Proposal would be made in the following aspects:-

- (i) Revenue generation at gradual enhanced rates as the project progress.
- (ii) Regular and perennial flow of the student population to the course.
- (iii) Quality of pass out for suitable wage employment and self-employment.
- (iv) Continuous updating of curriculum to cope with the labour market demand.
- (v) Maintenance of infrastructure and equipment.
- (vi) Provisions for incentives to faculty for Consultancy by developing Consultancy norms as the All India Council for Technical Education (AICTE) recommendations.

CHAPTER -VI
TABLE - VI.1

STATE/UT : MIZORAM

MIZORAMPOLYTECHNIC, LUNGLEI.(MZR-2)

(Rs. in Million)

EXPENDITURE CATEGORY	PRE-PROJECT PERIOD	YEAR - 1	YEAR - 2	YEAR - 3	YEAR - 4	YEAR - 5	TOTAL
A. Investment Costs							
Civil Works	1.000	6.000	20.000	20.000	15.000	5.650	67.650
Furniture		0.200	0.800	1.000	1.800	0.200	4.000
Equipment		5.800	10.000	10.000	14.000	1.200	41.000
Vehicles		0.350	0.600				0.950
Books and LR's		0.500	1.500	1.000	1.000	1.000	5.000
Local Training / Fellowships	0.100	1.000	2.000	2.500	2.000	0.400	8.000
Foreign Training/Fellowships			1.800	1.400			3.200
Local Consultants		0.930	1.180	1.270	1.050	0.320	4.750
Foreign Consultants							
SUB-TOTAL - A	1.100	14.780	37.880	37.170	34.850	8.770	134.550
B. Recurrent Costs		0.660	0.990	1.590	1.680	1.800	6.720
Salaries of Key Additional Faculty/Staff							
Scholarships & Stipends							
Consumables	0.200	0.800	1.400	1.600	1.800	2.200	8.000
Operation and Maintenance	0.500	1.000	3.000	3.500	3.200	3.500	14.700
SUB-TOTAL - B	0.700	2.460	5.390	6.690	6.680	7.500	29.420
GRAND TOTAL (A+B)	1.800	17.240	43.270	43.860	41.530	16.270	163.970

CHAPTER -VI

TABLE - VI.2

STATE/UT : MIZORAM

MIZORAMPOLYTECHNIC, LUNGLEI.(MZR-2)

EXPENDITURE CATEGORY	PRE-PROJECT PERIOD	YEAR - 1	YEAR - 2	YEAR - 3	YEAR - 4	YEAR - 5	TOTAL
A. Investment Cost							
Civil Works							
New Construction (Academic)	1.000	4.000	10.000	11.900	8.700		35.600
Refurbishment (Academic)							
Student Hostels		2.000	8.000	2.100			12.100
Staff Residences			2.000	6.000	6.300	5.650	19.950
Civil Works for Directorate / SPIU							
Other (Define)							
Total Civil Works	1.000	6.000	20.000	20.000	15.000	5.650	67.650
Furniture		0.200	0.200	0.400	1.800	0.200	2.800
Furniture for academic areas							
Furniture for Hostel			0.600	0.600			1.200
Furniture for Directorate / SPIU							
Other (Define)							
Total Furniture		0.200	0.800	1.000	1.800	0.200	4.000
Equipment							
Equipment to Remove Deficiencies in Current Labs							
Equipment for New Courses				6.410	14.000	1.200	21.610
Equipment to Modernise Existing Labs/Workshops		5.800	8.000	2.590			16.390
Equipment for Library/LRUC			2.000	1.000			3.000
Equipment for Directorates/SPIU							
Other (Define)							
Total Equipment		5.800	10.000	10.000	14.000	1.200	41.000

CHAPTER -VI
TABLE - VI.2

STATE/UT : MIZORAM

MIZORAMPOLYTECHNIC, LUNGLEI.(MZR-2)

EXPENDITURE CATEGORY	PRE-PROJECT PERIOD	YEAR - 1	YEAR - 2	YEAR - 3	YEAR - 4	YEAR - 5	TOTAL
Vehicles		0.350	0.600				0.950
Vehicles for Polytechnics							
Vehicles for Directorates/SPIU							
Total Vehicles		0.350	0.600				0.950
Books and LRs		0.500	1.500	1.000	1.000	1.000	5.000
Books / LRs for Polytechnics							
Books/LRs- Directorates/SPIU			1.500				1.500
Total Books		0.500		1.000	1.000	1.000	3.500
Local Training/Fellowships	0.100	1.000	2.000	2.500	2.000	0.400	8.000
Training for Faculty							
Trg. for Directorate/SPIU Staff							
Other (Define)							
Total Local Training	0.100	1.000	2.000	2.500	2.000	0.400	8.000

**CHAPTER -VI
TABLE - VI.2**

STATE/UT : MIZORAM

MIZORAMPOLYTECHNIC, LUNGLEI.(MZR-2)

EXPENDITURE CATEGORY	PRE-PROJECT PERIOD	YEAR - 1	YEAR - 2	YEAR - 3	YEAR - 4	YEAR - 5	TOTAL
Foreign Training / Fellowships			1.800	1.400			3.200
Training for Faculty							
Trg. for Directorate/SPIU Staff							
Other (Define)							
Total Foreign Training			1.800	1.400			3.200
Local Consultants							
Civil Works Consultant							
Equip. Procurement Consultant		0.430	0.780	0.770	0.950	0.220	3.150
Academic Consultants		0.500	0.400	0.500	0.100	0.100	1.600
Other (Define)							
Total Local Consultants		0.930	1.180	1.270	1.050	0.320	4.750
Foreign Consultants							
Civil Works Consultants							
Equip. Procurement Consultant							
Academic Consultants							
Other (define)							
Total Foreign Consultants							
SUB-TOTAL (A)	1.100	14.780	37.880	37.170	34.850	8.770	134.550

CHAPTER -VI
TABLE - VI.2

STATE/UT : MIZORAM

MIZORAMPOLYTECHNIC, LUNGLEI.(MZR-2)

EXPENDITURE CATEGORY	PRE-PROJECT PERIOD	YEAR - 1	YEAR - 2	YEAR - 3	YEAR - 4	YEAR - 5	TOTAL
B. Recurrent Costs		0.660	0.990	1.590	1.680	1.800	6.720
Salaries of Key Additional Faculty/Staff							
Salaries of Faculty in Polys							
Salary of Other Key Staff in Polys							
Salaries of Staff in Directorates / SPIU etc.							
Total Salareis of Key Additional Faculty / Staff		0.660	0.990	1.590	1.680	1.800	6.720
Total Scholarships & Stipends							
Consumables	0.200	0.800	1.400	1.600	1.800	2.200	8.000
Consumables for Polytechnics							
Consumables-Directroates/SPIU							
Total Consumables	0.200	0.800	1.400	1.600	1.800	2.200	8.000
Operation and Maintenance	0.500	1.000	3.000	3.500	3.200	3.500	14.700
O & M for Polytechnic							
O & M for Directorates/SPIU							
Total O & M	0.500	1.000	3.000	3.500	3.200	3.500	14.700
SUB-TOTAL (B)	0.700	2.460	5.390	6.690	6.680	7.500	29.420
GRAND TOTAL	1.800	17.240	43.270	43.860	41.530	16.270	163.970

CHAPTER -VI
TABLE - VI.3

STATE/UT : MIZORAM MIZORAMPOLYTECHNIC, LUNGLEI.(MZR-2)

EXPENDITURE CATEGORY	CAPACITY EXPANSION	QUALITY ENHANCEMENT	EFFICIENCY IMPROVEMENT	TOTAL
A. INVESTMENT COSTS				
Civil Works	67.650			67.650
Furniture	4.000			4.000
Equipment	26.610	19.390		46.000
Vehicles	0.950			0.950
Books and LRs		5.000		5.000
Local Training /Fellowships		8.000		8.000
Foreign Training/Fellowships		3.200		3.200
Local Consultants	2.210	2.540		4.750
Fereign Consultants				
SUB-TOTAL (A)	96.420	38.130		134.550
B. RECURRENT COSTS				
Salaries of Key Additional Faculty/Staff		6.720		6.720
Scholarships & Stipends				
Consumables	8.000			8.000
Operation and Maintenance	11.050	3.650		14.700
SUB-TOTAL (B)	19.050	10.370		29.420
GRAND TOTAL	115.470	48.500		163.970

CHAPTER-VI
TABLE - VI.4
ESTIMATED YEAR-WISE COSTS BY PROJECT SUB-COMPONENTS

STATE/UT :MIZORAM MIZORAM POLYTECHNIC, LUNGLEI

(Rs. in Million)

PROJECTS SUB-COMPONENTS	EXPENDITURE IN DIFFERENT PROJECT YEARS						TOTAL ESTIMATED EXPENDITURE
	Preparatory Year	Year - 1	Year - 2	Year - 3	Year - 4	Year - 5	
A. Capacity Expansion	1.650	6.150	14.570	23.470	29.500	6.020	81.360
New courses in Existing Polytechnics							
New Polytechnics							
Women Wings							
Continuing / Community Education				0.200	0.300	0.300	0.800
Student Hostels		2.000	8.630	2.730			13.360
Staff Residence			2.000	6.000	6.300	5.650	19.950
SUB-TOTAL (A)	1.650	8.150	25.200	32.400	36.100	11.970	115.470
B. Quality Enhancement		0.660	0.990	1.590	1.680	1.800	6.720
Salaries of additional staff							
Modernisation of Labs & Workshops / Additional Labs for Existing Courses		6.100	8.400	2.720			17.220
Curriculum Development		0.300	0.300	0.200			0.800
Learning Resource User Centres		0.530	3.680	2.100	1.050	1.050	8.410
Staff Development	0.150	1.200	4.200	4.350	2.200	0.450	12.550
Computer Centres							
Maintenance Cells		0.100	0.200	0.300	0.500	1.000	2.100
Industry Institution/Community Interaction		0.200	0.300	0.200			0.700
SUB-TOTAL (B)	0.150	9.090	18.070	11.460	5.430	4.300	48.500
C. Efficiency Improvement							
Strengthening DTE/BTE/SPIU							
MIS and Networking							
SUB-TOTAL (C)							
GRAND TOTAL (A+B+C)	1.800	17.240	43.270	43.860	41.530	16.270	163.970

TABLE-VII.1**Performance Indicators summary - Present Status and Targets**

Component	Present Status	Targets
<i>CAPACITY EXPANSION/ DEVELOPMENT</i>		
Year of Starting the Polytechnic	1981	-
Number of Programmes offered/to be offered	3	4
Students Seats	330	420
Number of existing courses to be restructured	X	-
Additional seats to be created due to restructured	X	-
% of Women Students	13.37	20
% of Scheduled Tribe	94	80
% of Scheduled Caste Students	6	10
% of OBC Students	-	10
% of Scheduled Tribe Student (Women)	13.37	17.20
% of Scheduled Caste Students (Women)	-	6

TABLE - VII.1**Performance Indicators Summary - Present Status and Targets**

Component	Present Status	Targets
<i>CAPACITY EXPANSION/ DEVELOPMENT</i>		
% of OBC Students (Women)	-	5
% of Rural Students	65	90
% of Rural Students (Women)	7	20
Number of Hostel Places (Men)	96	120
Number of Hostel Places (Women)	25	-
Number of Faculty Residences	-	13
Number of Staff Residences	-	12
Continuing Education Beneficiaries	-	350
<i>QUALITY ENHANCEMENT</i>		
% of Teaching Posts filled/ to be filled	75	100
Number of Teachers Trained/ to be Trained	22	27

TABLE - VII.1**Performance Indicator Summary - Present Status and Targets**

Component	Present Status	Targets
<i>QUALITY ENHANCEMENT</i>		
Number of Technical Support Staff trained/ to be trained	4	8
Number of Labs. & Workshops modernized/ to be modernized	-	9
Number of new labs. & workshops to be set up	X	10
% of Curricula Updated/ to be Updated during project	70	100
Number of Programs offered/ to be offered with MPE&CS	-	4
Autonomy granted/ to be granted	Partially	Fully
<i>EFFICIENCY IMPROVEMENT</i>		
Average time for completing diploma (years)	3 years	3 years
% of Dropout	5	0
Faculty Student Ratio	1:12	1:15

TABLE - VII.1

Performance Indicators Summary - Present Status and Targets

Component	Present Status	Targets
<i>EFFICIENCY IMPROVEMENT</i>		
% of Students Employed within one year	45	65
% of Students Self employed withing one year	8	15
% of Students passouts persuing higher studies	5	5
% of Students undergone/ to undergo in plant training	-	100
Time taken/ to be taken to Publish Results (weeks)	2	2
Counseling cells for students	-	1
Placement cells for Students	-	1
Average contact days per year	180	180
Average training cost/student, Rs./Student/Year	27112	12000
Internal Revenue to be Generated (INR Million)	0.023	1.85

TABLE - VII.2
FACULTY AND SUPPORT STAFF DEVELOPMENT

PROGRAMME		PRESENT STATUS (LAST THREE YEARS 1997-2000)		TARGET	
		Persons Months (PM)	Persons Trained (PT)	Persons Months (PM)	Persons Trained (PT)
A	TRAINING				
	1. LONG TERM TRAINING	84	5	360	20
	2. SHORT TERM TRAINING				
	a. Content Updating	NIL	NIL	24	24
	b. Resource Persons Training (for Curriculum Dev., III etc.)	48	3	59	72
	c. Instructional Resources Development, LRUC	NIL	NIL	15	30
	3. DEVELOPMENT WORKSHOPS				
	a. Management Development Programme	NIL	NIL	2	6
	b. Training for MPECS, Institutional Autonomy	NIL	NIL	2	6
	c. Induction Training	NIL	NIL	16	32
	d. Industrial Training of Faculty	5	3	45	15
	e. Computer Applications for Faculty	9	1	60	20
	f. National Regional Seminars, Workshop etc.	1	1	30	120
	SUB TOTAL (A) = (1+2(a)+(b)+(c)+3(d)+(e)+(f)+(g)+(h)+(l))	147	13	611	340
B	SUPPORT STAFF DEVELOPMENT				
	a. Laboratory Management Workshops	2	2	8	30
	b. Industrial Training of Workshop and Lab Instructors	NIL	NIL	15	10
	c. Office Management Workshops	NIL	NIL	20	20
	d. Maintenance of Equipment	NIL	NIL	15	15
	TOTAL B	2	2	58	75
	GRAND TOTAL A + B	149	15	669	415

TABLE - VII.3**CONTINUING EDUCATION PRESENT STATUS AND TARGETS**

STATUS	NUMBERS OF PROGRAMMES		NUMBER OF BENEFICIARIES						
	LONG TERM CE (TYPES ONLY)	SHORT TERM CE	LONG TERM CE (TOTAL)	SHORT TERM CE (TOTAL)	NUMBER OF INDUSTRIES	NUMBER OF INDUSTRIAL WORKERS PERSONNEL	PERSONNEL FROM OTHER ORGANIZATIONS	YOUTH FROM COMMUNITY	TOTAL BENEFICIARIES
1	2	3	4	5	6	7	8	9	10
PRESENT	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
TARGET	6	25	35	330	10	50	50	250	250

TABLE - VII.4

**INDUSTRY INSTITUTE AND COMMUNITY INTERACTION
CURRENT STATUS AND TARGETS**

STATUS	STUDENTS TRAINED IN INDUSTRY (% OF ENROLLED STUDENTS)	STUDENT BENEFITED (%)				INDUSTRIAL PROJECTS BY STUDENTS		NUMBER OF INDUSTRIES CONTRIBUTING TO		
		Indus-trial Visits	Expert Lecturers	Campus Interview	Entrepreneur ship Awarness Camps/ Seminars (Including	Number of Projects	Students Benefited	Curriculum Dev.	Student Assessment	Institutional Governance
1	2	3	4	5	6	7	8	9	10	11
PRESENT	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
TARGET	100	100	100	100	100	50	200	5	5	3

TABLE - VII.5

**INTERNAL REVENUE GENERATION (IRG)
CURRENT STATUS AND TARGETS**

STATUS	INDUSTRIAL CONSULTANCIES		PRODUCTION CENTRE		CONTINUING EDUCATION		TESTING AND CALIBRATION/ MAINTENANCE SERVICES		FEES FROM REGULAR STUDENTS	OTHERS LIKE HIRING OF FACILITIES	TOTAL INCOME	TOTAL NUMBERS OF INDUSTRIES BENEFITED
	A	B	A	B	A	B	A	B				
	1	2	3	4	5	6	7	8				
PRESENT	0.00	-	0.00	-	0.00	-	-	-	0.023	0.00	0.023	-
TARGET	0.5	8	0.4	11	0.35	10	0.15	3	0.2	0.25	1.85	32

A= INCOME, B= NUMBER OF INDUSTRIES

TABLE VII.6**LEARNING RESOURCES - CURENT AND TARGET STATUS (NUMBER)**

SL. NO.	TYPE OF LR_s	CURRENT	TARGET
1	OHP TRANSPARENCIES SETS	NIL	200
2	LEARNING PACKAGES (e.g., PRINTED INSTRUCTIONAL MATERIAL, TRAINER BOARDS EXPERIMENTAL KITS etc.)	1 INSTRUCTIONAL, 4 TRAINER KITS	160
3	MODELS	10	190
4	LAB MANUALS	NIL	40
5	VIDEO PROGRAMMES	NIL	400
6	MULTIMEDIA/ CAI PACKAGES	NIL	400

TABLE - VII.7

LABORATORIES AND EQUIPMENT - CURRENT STATUS AND TARGETS

Sl. No.	Lab/ workshop	List of Equipment each costing more than Rs. 10,000/-	Current	Target
1	Physics Lab.	1. Optical Measuring Instrument		1
2	Chemistry Lab	1. Petrol Gas Plant for Bunsen Burner		1
		2. Temperature Controlled Air Oven	1	2
3	Civil Engineering Lab	1. Motorized Concrete Mixer		1
		2. Universal Testing Machine		1
		3. Course Aggregate Testing Machine		1
		4. Universal Wood Working Machine		1
		5. Bend Saw		1
4	Electrical & Electronics Lab	1. Oscilloscope. 4 Trace 200MHZ		4
		2. Computer	1	40
		3. Dot Matrix Printer	1	1
		4. Laser/ Color Printer		4
		5. Xerox Machine		4
		6. Duplicating Machine	1	3
5	Mechanical Engg. Lab.	1. Lathe Machine	2	3
		2. Centre Lathe		1
		3. Milling Machine		1
		4. Universal Tools Grinding Machine		2
		5. Shaper		2
		6. Wheel Balancing Machine		1
		7. Spring Testing Machine		1
		8. Arc Welding Equipment	2	1

TABLE - VII.8
SPACE AVAILABLE AND REQUIRED

ITEM	PRESENT		TARGET	
	NUMBER	SQM	NUMBER	SQM
ACADEMIC SPACE				
CLASSROOMS	4	316.00	6	320.00
LABS	3	284.00	17	1806.00
WORKSHOPS	1	245.00	2	280.00
LIBRARY	1	69.00	1	200.00
COMPUTER CENTRE	-	-	1	150.00
FACULTY ROOMS	1	222	7	250.00
OTHERS				
EXISTING RESIDENTIAL SPACE				
HOSTEL FOR WOMEN	1	1008	-	-
HOSTEL FOR MEN	1	1147	2	1095
HOSTEL DINING HALL FOR MEN	1	165	1	215
QUARTERS FOR FACULTY	-	-	13	1330
QUARTERS FOR STAFF	-	-	12	740
EXISTING AMENITIES				
AUDITORIUM	1	197	-	-
COMMUNITY/ AMENITIES CENTRES	-	-	1	581
DISPENSARY				
NCC ROOM				
GUEST HOUSE				
TRAINING CENTRE				
ANY OTHER/ CANTEEN & COOPERATIVE STORE				220