



सत्यमेव जयते

Government of India
National Employment Service

AREA SKILL SURVEY

Visakhapatnam



NIEPA DC



D00723

DIRECTORATE GENERAL OF EMPLOYMENT & TRAINING
MINISTRY OF LABOUR
NEW DELHI

- 5484210

331.11

IND-A

**Sub. National Systems Unit,
National Institute of Educational
Planning and Administration
17-B, SriAurobindo Marg, New Delhi-110016**

DOC. No. D-723
Date 30/6/83

FOREWORD

Starting with three districts of Bangalore, Ludhiana and Gorakhpur, the scheme for the conduct of Area Skill Surveys was extended to twelve more areas of Bilaspur, Kaira, Aurangabad, Kamrup, Gurgaon, Cannanore, Cuttack, Udaipur, Burdwan, Poona, Kanpur and Visakhapatnam with a view to co-ordinating manpower needs and employment opportunities with the output of educational system and available technical training facilities. Area Skill Surveys, thus, fulfil the long felt need for setting up a machinery to collect, analyse and disseminate information on crucial categories of manpower requirements such as engineers, doctors, craftsmen, etc. at the micro level. In a way Area Skill Survey will be helpful for better appreciation of educational and training facilities, both those already visualised and those hitherto not contemplated.

An Expert Sub-Group of the National Employment Service representing State Directors drawn from each of the five zones, Planning Commission, Central Statistical Organisation and D.G.E.&T., which evaluated the utility of the findings of the surveys, besides suggesting certain improvements and refinement in the methodology and techniques for the conduct of these surveys, came to the conclusion that the results of the surveys are of immense value in initiating measures for tackling problems of unemployment, formulating schemes or expansion of self-employment, career advice, training and apprenticeship, Employment Market Information Programme, job development, etc. This is the third report in the series prepared according to the revised methodology and techniques—the first and second in the revised series being for Poona and Kanpur respectively. Some of the important modifications carried out in the improved techniques and methodology relate to women employment, coverage of establishments in the private sector employing 5-9 workers on 100 per cent basis, complete profile of educational and technical institutions, comprehensive list of establishments employing 1-4 workers in selected villages for assessing the existing avenues of self-employment etc. The degree/level of skill for each occupation has also been ascertained, through a technical survey carried out for the first time so that the existing training programmes could be suitably diversified and reoriented to meet the local needs of the area. It is hoped that the above improvements carried out in the survey report will enhance the utility of the report manifold.

I would like to express my thanks to employers and their associations, heads of training institutions and colleges, State Directorate of Employment and district officials who extended their fullest co-operation in making the survey a complete success. Thanks are also due to Shri V.V.R. Rao, Assistant Director of Employment Exchanges and other members of the survey team, for their hard labour in carrying out the survey operation and for their resourcefulness in achieving cent per cent response.

The survey was organised under the overall direction and charge of Shri J.C. Gupta, Deputy Director of Employment Exchanges, Directorate General of Employment of Training, assisted by Shri Hari Krishan, Assistant Director of Employment Exchanges and other Staff. Subsequently Shri V.R. Rajagopalan, Deputy Director of Employment Exchanges, D.G.E. & T., took over the responsibility from Shri J.C. Gupta. The report has been drafted by Shri Hari Krishan.

Comments and suggestions for further improvement from the readers would be most welcome.

ISHWAR CHANDRA

*Director General/Joint Secretary to the Government
of India*

Dated 10th May, 1976.
Shram Shakti Bhawan,
Rafi Marg,
New Delhi-110001.

CONTENTS

	<i>Page No.</i>
Results at a glance	(iv)
Scope and Methodology	(vii)
Technical Notes	xi

CHAPTERS

I. BACKGROUND	1
II. EMPLOYMENT—1974	10
III. EMPLOYMENT GROWTH	18
IV. MANPOWER REQUIREMENTS	
(A) Manpower Content of the Plan Schemes	25
(B) Overall Requirements	26
V. SELF-EMPLOYMENT	
(A) Rural Areas	30
(B) Urban Areas	33
VI. TRAINING & EDUCATIONAL FACILITIES	36
VII. MODIFICATIONS IN THE TRAINING AND APPRENTICESHIP PROGRAMME	40
VIII. UNEMPLOYMENT TRENDS	47
IX. EMPLOYMENT POTENTIAL	51
X. RECOMMENDATIONS FOR ACTION	54

APPENDICES

I. Enquiry Scheduled	
II. ESTABLISHMENT & EMPLOYMENT—1971 CENSUS	
PART A—Distribution of Establishments by Broad Types	78
PART B—Size-wise number of establishments and Employment in them in 1971 Census	79
III. Industry-wise break-up of Establishments according to the year in which they came up and Employment in them in 1974.	80
IV. Occupational pattern of Employees in selected industries in 1974	81
V. Occupational pattern of Women Employees by selected industries in 1974	126
VI. Women Employees by Occupation in 1974	130
VII. Employment Growth by Economic Activity	133
VIII. Employment Growth by Occupation	137
IX. Manpower Requirement	146
X. EDUCATIONAL & TRAINING FACILITIES	
PART A—Details of Educational Institutions	155
PART B—Outturn from the Educational Institutions—By level of Education	171
PART C—Details of Educational Institutions by level of Education	175
PART D—Existing Training Opportunities within the Establishments	186

RESULTS AT A GLANCE

Out of the total employment of 1.26 lakhs in 1974 as much as 40.5 per cent was in services followed by manufacturing (27.1%) transport, storage & communication (16.1%), trade & commerce (8.0%) and construction (6.0%).

(Chapter-II)

2. Women represented 6.6 per cent of the total employment in 1974. More than 3/4ths were working in urban areas and the remaining were in rural areas. In the public sector women constituted 5.5% of the total employment as against 8.6% in the private sector. In absolute number the women employees in the public sector, however, exceeded the corresponding figures in the private sector.

(Chapter-II)

3. Bulk of the women employees were engaged in the economic activities of services (4993), manufacturing (2258), construction (391), trade & commerce (329), and transport, storage & communication (313).

(Chapter-II)

4. Only 296 (or 11.2 per cent) of the total number of establishments identified under the survey in 1974 were located in rural areas. These establishments provided employment to the extent of 0.14 lakh in 1974 out of total employment of 1.26 lakhs. The employment in rural areas gained an increase of 3.5 thousand during 1967-1974.

(Chapter-II)

5. Wage and salaried employment (number of regular employees) went up from 0.75 lakhs in 1967 to 1.265 lakhs in 1974 recording an annual growth rate of 9.6 per cent. The employment is likely to rise further at an annual growth rate of 10.7 per cent during the period 1974-1979 and will reach the mark of 1.94 lakhs by March, 1979.

(Chapter-III)

6. Substantial growth in employment during the last seven years was recorded in services (16,506) followed by manufacturing (16,063), transport, storage & communication (8196), construction (4385) and trade & commerce (4322). During the next five years construction activity is expected to show a spectacular rise (34,991) followed by manufacturing (11,835), services (11,394), agriculture—livestock (3658) and trade & commerce (3159).

(Chapter-III)

7. Only in case of agriculture and construction the anticipated growth rate is much higher than the corresponding actual recorded during 1967-1974.

(Chapter-III)

8. Production of rice; edible, fats & oils; Jute pressing & bailing; textile garments; sawing & planing of wood, wooden furniture; printing; bricks & tiles; sundry hardwares and repairing & servicing of motor vehicles have shown almost same increases in employment for the past seven years and during the next five years period (1974-1979).

(Chapter-III)

9. The number of production process & related workers and transport equipment operators who rose by 116.2 thousand between 1967-1974 are expected to increase further by 29.1 thousand in the next five years i.e. 1974-1979. In the case of professional, technical and related workers an increase of 7.1 thousand has been forecast for the next five years as compared to an actual rise of 5.6 thousand during the past five years. Clerical and related workers are expected to increase by 4.5 thousand by 1979 as against an actual rise of 6.3 thousand between 1967-1974.

(Chapter-III)

10. The skill requirements of the area by 1979 will be of the order of 61.2 thousand (excluding unskilled workers who are likely to the extent of 23.0 thousand). Some of the more important crucial manpower needs will be as follows:—

<i>Professional, Technical & Related Workers</i>	9,807
(i) Scientists, engineers & technologist	2,857
(ii) Doctors and medical & health technicians	774
(iii) Teachers	5,663
(iv) Accountants, social scientists & other professionals	513
<i>Administrative, Executive & Managerial Workers</i>	2,190
<i>Clerical & Related Workers</i>	6,900
<i>Sales Workers</i>	1,128
<i>Services Workers (excluding sweepers, water carriers, watermen, chowkidars, etc.)</i>	3,390
<i>Farmers, Fishermen, Hunters, Loggers (excluding agricultural & plantation labourers)</i>	3,757
<i>Production Process & Related Workers and Transport Equipment Operators (excluding unskilled labourers)</i>	33,877
(i) Production process & related workers	32,313
(ii) Transport equipment operators	1,664
<i>Unskilled Workers</i>	23,013
Total :	84,162

(Chapter-IV)

11. 1.67 lakhs persons were self-employed in various non-agricultural activities and fresh opportunities for self-employment to the extent of 17.3 thousand persons could be created in the light of modernisation of agriculture, local produce, other resources, expanding need for maintenance and other services. Besides fishing, considerable number of persons are self-employed in retail selling, laundrying, spinning & weaving, running eating places, carpentry, hair dressing and tailoring. Future avenues of self-employment exist in activities of stitching of adda leaf plates etc., dairy farming, palm fibre & coir preparation, spinning & weaving, retail trading, oil expelling and poultry farming.

(Chapter-V)

12. The Industrial Training Institute/Apprenticeship Training Programmes are adequate to the extent of providing basic engineering skill. The training is normally suitable for providing employment at the semi-skilled level of operative jobs. Only a few establishments have expressed that the quality and the training needs improvement and encouragement because science and technology has advanced and ITIs are not equipped fully to impart training to suit the latest developed technology.

(Chapter-VII)

13. The present syllabi for ITIs with a little modification, keeping in view the latest developments, will be suitable. In order to ensure that the training matches with the development of technology, it is necessary to make modification in the curriculum in respect of the following trades:—

- (i) Carpenter
- (ii) Electrician
- (iii) Fitter, and
- (iv) Turner

(Chapter-VII)

14. Inadequate machinery and equipment in the institutions and non-availability of highly trained instructional staff are the reasons for poor quality of ITI passed-out trainees.

(Chapter-VII)

15. The possible measures that can be taken to improve the quality of ITI passed-out trainees could be as follows:—

- (i) improving the instructional ability and trade knowledge of instructional staff.
- (ii) improving the supervisory ability of group instructions by way of training them in supervisory development programme.
- (iii) standardising the lessons/topics for each trade and providing instructional material; printing of charts; providing audio-visual aids such as films, film strips and
- (iv) providing the craft science laboratory wherein the apprentices will be verifying different science/mechanics laws.

(Chapter-VII)

16. The employers also suggested that the quality of the training could be greatly improved by taking the following steps:—

- (i) Industrial Training Institutes may be given more intensive industry-wise training so as to meet man-power needs of the local industries. On the other hand, some establishments feel that the present training is adequate enough and the concerned establishments could fill in the gaps if need be.
- (ii) Qualitative improvement of ITI training is an immediate necessity to equip the trainees to handle precision instruments/tools and also to improve the knowledge of the fundamentals of the trades.
- (iii) Almost all the establishments feel that the minimum qualification for admission to ITIs need to be raised to matriculation.
- (iv) The majority of the employers are of the opinion that the training activities from in the institute must diversify to new trades like Radar Mechanic and Electronic Mechanic, instead of old conventional trades.

(Chapter-VII)

17. Some of the employers are also of the opinion that the system of multi-craft be instituted in the future training programmes.

(Chapter-VII)

18. It is essential that local Industrial Training Institute trainees are oriented in the following special skill area:—

- (i) Marking, cutting and forming (thick and thin plates)
- (ii) Plumbing work pertaining to ships
- (iii) Sub-merged arc-welding
- (iv) Arogon arc-welding

(Chapter-VII)

19. Training facilities need to be extended to the following trades for which shortage is being experienced and training is not imparted at the local ITI:—

- (i) Diesel Mechanic
- (ii) Driller
- (iii) Weaver powerloom
- (iv) Fitter-marine
- (v) Cinematographer
- (vi) Stone mason and brick layer

(Chapter-VII)

SCOPE AND METHODOLOGY

An Area Skill Survey is basically a method to determine in respect of a given geographic area, current availability of skills and requirements in the foreseeable future. Of the several methods designed to estimate future manpower needs, Area Skill Surveys have some distinct advantages. Firstly, Skill surveys aim at eliciting information by a direct approach to employers and training institutions instead of attempting man-power projections on the basis of assumed growth rates and targets. Secondly, in view of the well known fact that skilled manpower excluding perhaps high level manpower has limited mobility, manpower planning to be effective must be at the area level. Thirdly, in the National Employment service, with its network of Employment Exchanges with whom a fund of information about local labour market is available, a base already exists which can be easily developed to undertake the work of collecting additional data required for skill surveys. Finally, because of the simplified process of data collection inherent in Area Survey Programme, a continuous analysis of labour market can be obtained at desired intervals enabling initiation of remedial measures to remove current and anticipated skill imbalances.

2. Broad objectives of Area Skill Surveys are:—

- (i) to provide information for use in vocational guidance and in initiating an effecting career advisory service which depends for its success on a sound knowledge of changing job opportunities in different occupations in the area;
- (ii) to furnish details for use in job development and placement activities of the Employment Service;
- (iii) to provide specific information on changes that will be necessary in training and apprenticeship programme to meet future requirements;
- (iv) to provide information about fields in which financial and other assistance is indicated for promotion of opportunities for employment and self-employment;
- (v) to provide area-wise information concerning manpower resources needed in connection with location and expansion of industries;
- (vi) to study and collate information regarding manpower content of plan schemes and expansion programme envisaged for the area; and
- (vii) to provide information needed for man-power planning at area or 'grass-root' level.

3. To start with, fifteen districts in the country were taken up for conduct of Area Skill Surveys on pilot basis. The areas taken up for study were drawn from each of the following three types :—

Type A —Highly industrialised urban areas with large skilled labour force and Having complex employment market;

Type B —Districts having a fairly developed urban industrial base as well as rural base characterised by advanced and mechanised agricultural operations ;

Type C —Predominantly rural areas marked by traditional agricultural activity where there is need for expansion of non-agricultural sector and avenues of self-employment.

4. This report embodies the findings of the survey conducted in Visakhapatnam District according to the revised methodology and techniques suggested by the Expert Sub-group.

5. An Expert Sub-group of the National Employment Service comprising State Directors of Employment drawn from each of the five zones, Planning Commission, Central Statistical Organisation and the Directorate General of Employment & Training which evaluated these surveys besides suggesting improvements in the existing methodology and further refinement of techniques for the conduct of these surveys found that the results of the studies were of significant value in initiating measures for tackling problems of unemployment and formulating schemes for expansion of self-employment, career advice, training and apprenticeship, job development, employment market information programme etc. Some of the more impor-

improvements carried out in the procedure and the methodology for the conduct of Area Skill Survey at Poona are as follows :—

- (i) *Employment of women.*— Information on current volume of employment of women by occupations and industries which is indispensable for taking up vocational Guidance and Training Programme for women has been obtained and incorporated in the report.
- (ii) *Age-wise distribution of employees, separations and engagements during the last 12 months and number of persons promoted.*— In view of the considerable difficulties expressed by the employer in furnishing age-wise break-up of the employees, the collection of this information has been deleted. Besides a uniform labour attrition rate of 2% per annum has been applied to work out manpower needs arising as a result of labour turnover. As such the collection of information on aspects such as separations and engagements has also not been attempted. The simplification of questionnaire has been welcome by employers and has improved timely response.
- (iii) *Emerging and decaying skills.*— Experience has shown that precise information on this aspect has not been forthcoming. Accordingly this item has been deleted from the Employer schedule.
- (iv) *Number of vacancies remaining unfilled.*— Information regarding number of vacancies against which recruitment was pending in an establishment has also been obtained with a view to having more realistic estimate of manpower needs.
- (v) *Employment in smaller private establishments.*— Smaller private establishments employing 5-9 workers were earlier covered on 20 per cent sample basis. Experience has, however, shown that construction of frame of smaller establishments through street surveys, drawing of sample and then again re-visiting the sampled establishments for the collection of necessary information is a time consuming process. Besides much time has also to be devoted in compilation of data and then bloating it. In order to make it a less cumbersome process information from smaller private establishments has been collected on cent per cent basis on a simplified schedule (AS-VII — Appendix - I).
- (vi) *Training/Apprenticeship programme within the establishment.*— Separate data has been obtained in respect of persons trained under the Apprenticeship Act 1961 and those under employers' own programme by duration of training.
- (vii) *Unemployment.*— Data about rural educated unemployed (Matriculates and above) and skilled artisans possessing a recognised certificate has been obtained during the course of door to door survey carried out for the purpose of constructing the frame of establishments with 1-4 workers (including self-employed) in respect of 5 per cent of villages selected for the Village Schedule (AS-V—Appendix-I).
- (viii) *Existing and -future avenues of self-employment in rural areas.*— Information on this aspect has been collected earlier through discussions held with village elders, officials and other knowledgeable sources in respect of 5 per cent of villages included in the survey. In view of the doubt raised about the validity of data so collected, information on this aspect has been obtained by organising systematic and comprehensive door to door survey of all the sampled villages for identifying establishment with 1-4 workers (including self-employed) in respect of every village taken up for the survey.
- (ix) *Degree/Level of skill.*— Although the need for information about manpower needs by occupation is of basic importance for organising training programme, an attempt has been made to further grade the skill needs to find out the exact type or training which would be needed to meet the specific requirements of industries at the local level.

6. The approach adopted for collection of information for Area Skill Surveys is based on what is known as 'Establishment Reporting' approach. In order to achieve satisfactory response and accurate data, the Enquiry Schedules (Questionnaires — Appendix - 1) designed for the survey were collected through personal interviews by trained staff. Following chart outlines the Enquiry Schedules that were canvassed for the collection of information.

Schedule of agencies from whom information was collected	Type of information collected
(i) <i>AS-I Employees' Schedule</i>	
All establishments in the public sector; all non-agricultural establishments in the private sector employing ten or more workers;	Persons employed by occupation seven years ago and currently; working proprietors/partners; expansion plans and factors hindering existing

- production expansion or full utilisation of installed capacity; future manpower needs by occupation five years hence on the assumption that factors which were limiting expansion or production would be overcome; manpower shortages; economic activity; Year of establishments; current women employment etc.
- (ii) *AS-II Schedule for emerging establishments*
All emerging establishments known to be in the blue-print stage or in different stages of completion on the data of enquiry.
- (iii) *AS-III Schedule for institutions imparting professional & technical education*
All institutes, polytechnics, universities etc. imparting professional technical and general education.
- (iv) *AS-V Schedule for educated unemployed and channels of self-employment in rural areas*
5 per cent villages selected from each development block.
- (v) *AS-VII Employers' Schedule for private smaller establishments employing 5-9 workers.*
From all the private establishments having 5-9 workers.
- (vi) *AS-VIII Schedule for development plans and manpower needs of Government departments*
Heads of all Government departments.
- (vii) *AS-IX Schedule for employment potential of the district*
Government departments and other organisations of the area including research institutions.
- (viii) *Proforma-A*
Proforma for collection of information about the degree/level of skill
Bigger establishments having 100 or more skilled workers with at least 7 in a particular trade, all emerging establishments who anticipated additional requirement of at least 7 in a trade.
- Likely data of commencement of production of activity : nature of economic activity; likely number of persons to be employed by occupation during next five years.
- Likely out-turn by courses and professions during next five years at the certificate, diploma, graduate and post-graduate level, intake capacity, Minimum qualification required for admission, Fee charged etc.
- Existing avenues of self-employment other than agriculture, Additional opportunities for self-employment that could be created in the light of modernisation of agriculture, local produce & other resources and expanding needs for maintenance and other services; Educated unemployed; Period of unemployment; Number registered with employment exchange.
- Persons employed by occupation seven years ago and currently, number of working proprietor/partners, Economic activity, Year of establishment; Current women employment etc.
- Data regarding manpower content of Fifth Five Year Plan schemes and expansion programme during next five years.
- Additional employment opportunities which could be generated in the light of economic characteristics and availability of natural resources in the area.
- Various products of the establishment, Nature of industry, Number of persons employed by categories, Selection preference, training facilities for workers, Additional training needs etc.

7. A mass of statistical data and information which was available from other sources was also studied in the presentation of area reports. Some of the important sources were—(i) data available from day-to-day

operation of employment exchange, (ii) data collected under Employment Market Information Programme of Employment Service, (iii) decennial population census, (iv) district plans, (v) small scale and rural industries, (vi) socio-economic surveys, (vii) reports of employers' associations, (viii) records of local bodies, government department, Licencing authorities, employers' associations etc.

8. A District Advisory Group on Area skill Survey was constituted under the Chairmanship of the District Collector to review periodically the progress in the collection of schedules and devise ways and means to ensure the fullest cooperation from employers. Other members nominated to serve on the district Advisory Group were drawn from concerning departments of Labour, Education, Industries, Employers' Association, Statistical Department and Agriculture.

9. The most important recommendations made by the District Advisory Group on Area skill Survey and the action taken is as follows :—

Recommendations	Action taken
(i) Estimate of unemployment in rural areas by canvassing schedule AS-V may not be correct due to reporting errors. Only household survey would throw up useful and correct information in this regard.	Considering the need for the reliable estimate of unemployment in rural areas, the information about educated unemployed (Matriculates and above) and skilled artisans having recognised certificate has been collected along with the household survey undertaken for constructing comprehensive list of establishments employing 1-4 workers (including self-employed).
(ii) Repeat Area Skill Surveys should be conducted in the same area to permit study of changing variables.	The proposal is sound and under consideration.

10. The concepts, assumptions and analytical techniques adopted are given in the 'Technical Notes that follows.

TECHNICAL NOTES

The following paragraphs outline the concepts, assumptions, and analytical techniques, on the basis of which findings and conclusions have been drawn for presentation in this report. It is hoped that as more experience is gained, the methodology and technique will be further refined.

REFERENCE DATES

2. The data on employment, i.e., number of regular employees on pay-roll including working proprietors and partners relates to the following reference dates.

Employment 7 years ago	—as on 31st March 1967
Current Employment	—as on 31st March 1974
Anticipated Employment 5 years hence	—by 31st March 1979

ESTABLISHMENTS AND EMPLOYMENT

3. A comprehensive and up-to-date frame of establishments, being an essential pre-requisite, was constructed on the basis of Employers' Register maintained at the Employment Exchange under the Employment Market Information Programme supplemented by Establishment Schedule raised during 1971 population census operation, experience gained by investigators during field work and other sources. This was further brought up-to-date with reference to special street surveys carried out by the field staff in the district. A high degree of comprehensiveness in the construction of the frame was achieved. This would be apparent by a comparison of the establishments covered under Area Skill Survey vis-a-vis Employment Market Information Programme.

	No. of Establishment covered under	
	Area skill survey	Employment Market Information Programme
A. PUBLIC SECTOR	394	360
B. PRIVATE SECTOR	2249	1188
(i) Employing 25 or more workers	171	141
(ii) Employing 10-24 workers	849	499
(iii) Smaller establishments with 5-9 workers	1229	548
Total	2643	1548

4. The employment revealed under the Employment Market Information Programme (which does not cover private establishments employing less than ten workers) was 82 thousand in 1967 and 102 thousand in 1974. This gives an average growth rate of 3.6 per cent per year. As against this employment figures thrown up by Area Skill Survey (excluding employment in smaller private establishments employing 5-9 workers) are 72 and 119 thousand in 1967 and 1974 respectively giving a growth rate of 9.1 per cent per year. The above comparison has to be viewed in the light of different levels of reporting adopted in respect of Railways. Under the EMI Programme, this department is reporting consolidated employment relating to their administrative division which comprises two or three districts. As against this, under the Area Skill Survey the employment figures are confined to Visakhapatnam District only. Moreover some establishments of Railways and Police which were in existence in 1967 were either abolished or shifted to other areas subsequently. Due to obvious reasons employment in 1967 in such establishments was covered under the Employment Market Information Programme but it could not be covered under the Area Skill Surveys. The lack of comprehensiveness of employers' register under the EMI programme is another factor which contributed to the variation. To some extent the 'personal interview method' of collection of data followed under the Area Skill Surveys appears to have yielded better results. It may be recalled that the Dantwala Committee also recommended adoption of this approach for the collection of data under the EMI Programme. The Working Group of National Employment Service held in 1973 favoured raising of survey teams for conduct of street surveys on a continuing basis to ensure comprehensive coverage of employers.

RESPONSE

5. The personal interview method coupled with an intensive programme of public relations undertaken from the very beginning as well as the efforts of District Advisory Group resulted in achieving hundred per cent response.

EMPLOYMENT GROWTH

6. Future employment growth has been worked out by taking into account under-mentioned components :

A. Forecast furnished by existing employers

- (i) The employers were requested to estimate future employment in their respective establishments on the basis of their expansion plans and on the assumption that existing shortages and difficulties relating to raw materials, power, finance, foreign exchange, etc., which may be hindering production or expansion or Fuller utilisation of installed capacity would be overcome in the coming years.
- (ii) Experience has shown that public sector establishments at the district level were by and large not in a position to estimate their future employment as expansion and development plans in their cases were still in the finalisation stage at higher level. Efforts were, therefore, made to establish contacts with the heads of the Departments and the Ministries concerned, to collect data through a separately designed questionnaire (AS-VIII) regarding employment likely to be generated both as a result of implementation of minimum social and welfare programmes of compulsory education, adult literacy, family planning, health sanitation, communication, etc. and due to expansion plans. This has resulted in arriving at fairly accurate manpower estimates in respect of departments such as dairy development, education, forest, veterinary & animal husbandry, medical & health services, electricity, state road transport corporation. (Refer Chapter-IV).

B. Employment likely to be generated by emerging establishments

All possible efforts have been made to identify the establishments which are currently known to be in blue-print stage or in different stages of completion but likely to emerge in the next 5 years. This led to the identification of as many as 54 establishments. A comprehensive listing of all new establishments is not possible because such establishments/projects which may be planned subsequent to the date of enquiry cannot be brought within the ambit of the survey. Some idea of inadequacy in listing emerging establishments can be had by an analysis of the past trends pertaining to emergence of establishments over a period of time. During the period of 1969—1974 as many as 895 establishments came into existence while only 54 emerging establishments could be identified for 1974-1979.

C. Employment projected for smaller private establishment

From a study of the data for the past 5 years (Table below); it is noticed that a sizeable number of smaller private establishments (employing 5-9 workers) such as trading shops, eating places, minor repairing & servicing units have been coming up in the normal course from year to year. They have not only come up on a uniform economic pattern to meet the needs of population growth, urbanisation and expanding economy, even the number that has emerged from year to year in each category is almost of the same order. As no formal planning or advance action (e.g. land acquisition, licence, power connection, finance etc.) is required in raising such establishments, it is hardly possible to construct comprehensive frame of such establishments for the purpose of estimating future employment. In order to bridge the gap and to build up a more realistic estimate, manpower projections have been worked out on the basis of past trends for which ample justification exists.

No. of Private Establishments (5-9 workers) and employment in them which came up during a year

Economic Activity	1969		1970		1971		1972		1973		Total	
	A	B	A	B	A	B	A	B	A	B	A	B
Mfg. including repairing & servicing	37	211	32	188	31	185	44	263	94	519	238	1366
Construction	..	..	..	..	..	..	1	5	1	6	2	11
Trading Units	35	192	26	153	31	178	31	190	70	429	193	1142
Transport Services	2	13	6	33	1	8	1	9	2	10	12	73
	14	77	19	116	20	127	39	232	85	531	177	1083
Total	88	493	83	490	83	498	116	699	252	1495	622	3675

A : No. of Establishments

B: Employment in 1974

D. Employment projected for segments marked by uniform growth pattern in private sector (establishment employing 10 and above)

Detailed analysis of employment pattern by economic activities in private sector establishments employing 10 or more workers during the last 5 years has been undertaken to identify such segments which revealed a fairly uniform employment growth year after year and thereby afforded full justification for projection on the basis of past trend. The segments thus identified are given below. Manpower projection on the basis of past trend in bigger private sector establishments (10 or more workers) have been worked out only in respect of them.

Number of new establishments in selected economic activities in private sector which came up during a year with employment

Economic activity	1969		1970		1971		1972		1973		Total	
	A	B	A	B	A	B	A	B	A	B	A	B
<i>Manufacturing</i>												
Rice	1	45	2	37	2	54	2	23	2	29	9	188
Bakery products	1	11	1	5	..	..	..	..	1	10	3	26
Edible Oils	..	..	3	41	8	129	6	185	1	10	18	365
Jute Bailing	4	63	..	..	..	..	..	..	2	34	6	97
Textile Garment	1	19	1	11	..	..	..	..	1	10	3	40
Fibre	2	36	..	..	2	41	..	..	..	..	4	77
Sawing of wood	2	20	1	14	3	30	..	..	4	42	10	106
Wooden furniture	..	..	2	31	1	14	..	..	1	12	4	57
Printing	..	..	3	29	3	27	..	..	1	12	7	68
Bricks & Tiles	1	36	1	22	1	16	..	..	..	..	3	74
Stone crushing	1	56	1	21	5	122	1	16	1	11	9	226
Structural Steel Products	1	17	..	..	1	11	4	65	2	22	8	115
Aluminium Products	1	11	2	31	..	..	1	10	1	16	5	68
Sundry hardware	3	31	5	58	2	25	2	25	2	34	14	173
Servicing & repairing of motor vehicles	2	21	1	7	2	21	1	14	..	..	6	63
<i>Construction & maintenance of buildings</i>	3	185	4	72	2	163	5	404	6	532	20	1356
<i>Trading</i>												
Pulses & Spices	3	41	4	46	2	37	2	28	2	32	13	184
Cloth	2	25	1	13	2	23	..	..	2	23	7	84
Petroleum Prods.	..	..	1	16	1	11	..	..	2	22	4	49
Transport Eqpt.	1	19	1	11	..	..	2	25	..	..	4	55
Banking	..	..	1	13	2	20	..	..	2	32	5	65
<i>Transport by road</i>	..	..	1	17	2	38	..	..	..	..	3	55
<i>Services</i>												
Education (Non-Technical)	2	22	2	22	..	..	5	76	2	15	11	135
Cinema Houses	4	72	5	92	5	86	6	106	8	137	28	493
Hotels & Lodges	10	137	10	128	14	173	6	85	27	369	67	892
Total	45	867	53	737	60	1041	43	1062	70	1404	271	5111

A -- Number of establishments.

B -- Employment in 1974.

Self-Employment

7. Data indicative of self-employment is discussed below.

A. Rural Areas

- (i) Data on self-employment in the non-agricultural sector in rural areas was collected from a sample of 5 per cent of villages in each community development block representing 8.3 per cent of the rural population were studied. In order to have a precise estimate of channels of existing self-employment in non-agricultural activities, the necessary information was collected by conducting comprehensive door to door survey of the sampled villages to identify establishments in the size class 1-4 workers (including both wage paid employment and self-employment). The data was bloated by using the multiplying factor of 12.1 which is reciprocal of the proportion of the population of the sampled villages to the total rural population of the district.
- (ii) Village officials and elders were also requested to estimate additional opportunities for self-employment that could be created in the light of modernisation of agriculture, availability of raw-materials and expanding needs for maintenance and other services. It is believed that these estimates would be fairly indicative of the self-employment potential in rural areas.

B. Urban Areas

A comprehensive coverage of self-employment and other mixed employment in urban areas was outside the scope of the survey. However, a limited assessment in respect of those segments of economy for which information was readily available from existing records of government departments, local bodies, employers' & trade associations, licensing authorities etc., was made. Although no forecasts have been attempted on the basis of this data, its utility lies in the fact that it sheds interesting light on the trend of self employment and other mixed employment in urban economy.

C. Working Proprietors and Partners

Information in respect of these persons has been obtained separately on Employers' Schedule. It is believed that to a considerable extent, the small establishments are the hand-work of a single individual or a group or individuals who besides supervising the establishment or enterprise also engage paid workers. Accordingly, an analysis of working proprietors and partners by economic activity separately for rural and urban areas has, in the context of economy and needs of the area, been taken to be indicative of avenues for self-employment.

Future Manpower Needs

8. The following components were taken into account to calculate future manpower needs of the area:—
- (i) Employment growth
 - (ii) Replacement needs due to attrition in the existing work force. In conformity with the accepted norm, these have been calculated at the rate of 2 per cent year.
 - (iii) Vacancies remaining unfilled in establishments on reference date (i.e. 31-3-1974)

Unemployment

9. The Live Register figures of Regional Employment Exchange, Visakhapatnam and University Employment Information and Guidance Bureau, Visakhapatnam, have been used to estimate current level of unemployment in the district. Because of seasonal variation and under-employment prevailing particularly among unskilled agricultural workers and other factors, the number of educated unemployed (Matriculates and above) and skilled rural artisans possessing a recognised certificates etc., has only been obtained during the course or door to door survey of sampled villages.

10. *Degree/Level of Skill*—Degree/Level or skill for each occupation was ascertained from all these establishments employing 100 or more workers or 7 or more workers in an occupation with a view to restructuring the existing training programmes to suit the local needs.

11. *Tabulation*—All the data have been tabulated manually.

CHAPTER 1

BACKGROUND

PHYSICAL CHARACTERISTICS

1.1 Visakhapatnam District lies in the north-eastern part of Andhra Pradesh and is situated on the east coast known as Coromandal Coast. It is bounded on the north by Orissa State and Srikakulam District, on the east by Bay of Bengal, on the south by East Godavari District and on the west by Orissa State. The district consists of two natural divisions, namely, the Agency area and the Plains area. The Agency tract mainly consists of the hilly regions covered by the Eastern Ghats which run parallel to the coast from the north-east to the south-west and is situated in the interior of the district. The Agency area comprises Chintapalle and Paderu talukas and portion of Narsipatnam, Chodavaram and Srungavarapukota talukas spreading over an area of 6934.4 sq. kms. which accounts for 50.25 per cent of the total geographical area of the district and 39.24 per cent of the total Agency area in the State. The rest of the district is classified as Plains. The district has a long coast line and along the coast lie a series of saltish sandy swamps.

1.2 Visakhapatnam district comprises three revenues divisions which are divided into 11 talukas. The district has undergone considerable territorial changes in its revenue jurisdiction during the decade 1961-71. A new taluk viz. Gajapathinagaram was carved out in September 1969 by transferring 172 villages of Vizianagaram taluk of this district, and Bobbili and Salur taluks of the neighbouring Srikakulam district. With the coming into existence of the Gajapatinagaram taluk, the number of taluks in the district rose from 10 in 1961 to 11 in 1971 and the district gained a net area of 409.5 kms. The total area of the district is 13.7 thousand sq. kms.

1.3 The district has 15 towns viz., Visakhapatnam City, Vizianagaram, Anakapalle, Narsipatnam, Chodavaram, Yellamanchilli, Bhemunipatnam, Payakaraopeta, Nellimarla, Chittivalasa, Madugula, Kanapaka, Gajularega, Upper Sileru, (project site camp) and Gopalapatnam. The district has the distinction of possessing the largest number of villages in the entire State with 4888 villages, of which 4184 are inhabited and 704 uninhabited. The number of community development blocks in the district is 25. The number of villages electrified till March 1971 was 433.

Land Utilisation

1.4 Like other districts of the State, Visakhapatnam is also predominantly agricultural in character. The following table illustrates the land utilisation pattern in the district in 1970-71.

TABLE 1
Land Utilisation

S. No.	Category	acres
1.	Forests	13,96,636
2.	Barren & Uncultivable land	3,01,386
3.	Land put to non-agricultural uses	3,11,870
4.	Cultivable waste	54,308
5.	Permanent pastures and other grazing land	16,188
6.	Land under miscellaneous tree crops and groves not included in the net area sown	32,698
7.	Current fallows	61,187
8.	Fallow lands other than current fallows	47,241
9.	Net area sown	11,22,685
10.	Gross cropped area	13,25,628
11.	Area sown more than once	2,02,943

Agriculture

1.5 There are three following distinct agricultural seasons prevailing in this area due to the differences in soil, the receipt of rain-fall and the facilities for irrigation and also the status of the ryot himself.

- (i) Punasa, the period from April to August when the staple dry grains are sown,
- (ii) Peddapanta, the regular wet crop season from August to December, and
- (iii) Pyru, the period from January to March.

The Punasa crops (bajra and ragi) are by far the most important as they comprise together with rice, the staple food crops of the mass of population. In a normal year 78.8% of the total area sown will be under food crops. The chief food crop in this district is paddy. During 1970-71, the area under food crop is 1044 thousand acres, while under non-food crop 288 thousand acres. Paddy is grown in 69400 acres, Bajra 4320 acres, Jowar 1370 acres and Maize 6000 acres. Paddy, Bajra, Ragi and Horsegram are the chief food crops grown in this district, while sugarcane, groundnut, Gingelly and Mesta are the main non-food crops grow.

1.6 In this District medium sized rivers and hill streams flow and hence perennial sources of irrigation are lacking. The chief rivers in the District are Sarada, Varaha, Thandava, Gosthami, Champavati and Meghadriggeda. Amongst the rivers that flow, Sarada, Thandava and Varaha rivers provide maximum irrigation facilities in this district. The other irrigation schemes worth mentioning are the Saragudgedda Irrigation Scheme and the Gambhiramedda Irrigation Scheme. There are two fresh water lakes viz. Komaravolu Ava and Konda Karla Ava. Across Sarada, Varaha and Thandava rivers anicuts have been constructed both by Government and previous Zamindars and they irrigate lands in Narsipatanam, Yelamanchili and Anakapalle Taluks. The rivers Sarada, Varaha, Thandava dependent on the vagaries of the rainfall are the main sources for canal system. The tanks require fillings every month because their capacity is too small in relation to the ayacut under them and each filling is adequate for one or two wettings of the crop. Well irrigation is not artisan or sub-artisan and regular rainfall is necessary for the re-charge wells. Thus, all the irrigation sources in the district are entirely dependent upon regular monsoons for their success. In view of such irrigation facilities, the percentage of rainfed area is 63.5 while the area under irrigation forms only 36.5%.

1.7 This district gets the benefit of both the North-East and South-west monsoons. The average annual rainfall is 1108.5 mm. Most of the rain is received during the south-West monsoon between June to September. There is only moderate rain fall during the North-East monsoon (October-December). The rains fall during South-West monsoon period decreases from the inland taluks to the coast while the conditions are quite the reverse during the North-East monsoon. The rainfall on the whole is scanty and this factor largely contributes to the fact that this district is not self-sufficient in food supplies. The average number of rainy days is 56.

Forests

1.8 Nearly two-fifth of the district is covered by the forests located mainly in the agency area. The major forest produce consists of teak wood, bamboo and firewood and the produce is accounted for about Rs. 6 lakhs in 1970. The minor forest produce comprises of tamarind, honey, adda leave, myrobalams, higer seed etc., which can be put to industrial use. The minor forest produce is accounted for about Rs. 2 lakhs in 1970.

Mineral Resources

1.9 This district has fairly rich and useful mineral resources such as manganese ore, Graphite, Limestone and clay of which rich deposits occur in Nellimarla, Vizianagaram, Madugula, Anakapalle and Thummavalasa. In addition to these, there are commercially significant deposits of Mica and Phosphate. The details on production of some of the minerals are given below (in 1970) :—

TABLE 2*

Name of the mineral	Production (in tonnes)
Graphite	385
Manganese	11,300
Magnalite and Hemalite	2,088
Limestone	3,000
Stone Quarries	3,75,000
Sand Quarries	30,000
Chalk Quarries	1,000

*Source —Lead Bank Survey, State Bank of India

Industries

1.10 Industries of varied types are located in this district. Nellimarla, Vijayanagaram, Chittivalasa, Anakapalle, Ettikopaka, Chodavaram and Payakaraopeta are some of the more important industrial places in the district. The most prominent amongst the large industries are the Hindustan Shipyard. The Caltex Oil Refinery, the Bharat Heavy Plate and Vessels, Hindustan Polymers Ltd. and Coromandal Fertilisers Ltd. Further, there are Jute, Oil and Sugar factories situated in different places in the district. Jute spinning & weaving, Ship building and repairing; Manufacturing of Boilers, heavy plates and vessels; production of sugar and syrup in mills; production of edible fats and oils; Sundry hardwares; repairing & servicing of motor vehicles production of rice; manufacturing of fertilizers; Zinc smelting, etc., are some of the very important industries of the area in terms of employment. The following table gives the position of the operating industries of different kinds in this district.

TABLE 3*

(Rupees in lakhs)

Name of the Industry	No. of Units	Investment	Production	Employment
		Rs.	Rs.	
Engineering Industry	274	204.08	301.64	2227
Chemical Industry	48	98.43	184.77	731
Food products industry	63	77.93	204.50	531
Electrical Industry	35	33.69	18.67	200
Wood based Industry	68	27.36	23.59	461
Glass or Ceramic Industry	32	49.38	31.38	677
Leather Industry	25	19.01	65.66	217
Misc. Industries	26	15.24	20.03	127
TOTAL.	571	525.02	850.24	5171

Communication

1.11 The district is well served with almost all types of transport services namely Road, Rail, Air and Water Transport. The National High Way from Calcutta to Madras passes through the district touching Visakhapatnam town. The total length of roads in the district is 1,351 kms. Almost all the towns and important places in the district are connected by a system of well-knit roads. Visakhapatnam is a meeting place for South Eastern Railway and South Central Railway. The main line from Calcutta to Madras passes through the district. Another important railway line is the D.B.K. line laid mainly for the purpose of Iron Ore Transport from Balaidilla mines to Visakhapatnam Port. Visakhapatnam is one of the major ports of India and caters solely to Cargo Shipping. This port handles export of Iron Ore, Manganese, Fertilisers, Foodgrains, Crude Oil etc. Visakhapatnam also finds a place on the Air Map of India and is directly connected to Hyderabad and Calcutta.

DEMOGRAPHIC CHARACTERISTICS

Population

1.12 According to 1971 Census the district had a population of 28.1 lakhs (rural 21.8 lakhs and urban 6.3 lakhs) which is 22.7 per cent higher than the corresponding figure of 22.9 lakhs in 1961 (rural 18.8 lakhs and urban 4.1 lakhs). While the urban Population increased by 53.7 per cent during the decade 1961-71, the rural population increased by 16.0 per cent during the same decade. The relevant data are contained in the following table.

TABLE 4**
Population Growth

	Population in lakhs		Rate of growth percentage
	1961	1971	
Rural	18.8 (82.1)	21.8 (77.6)	16.0
Urban	4.1 (17.9)	6.3 (22.4)	53.7
Total	22.9 (100)	28.1 (100)	22.7

(Figures in brackets indicate percentage to total)

*Sources : Census of Industry Survey (1972)

**Source : Director of Census Operations, Andhra Pradesh

1.13 It would be seen from the data presented in the above table that the rural population continued to be pre-dominant in the district. Even though the urban population has been growing rather rapidly, it had no sizeable impact on the demographic situation of the district as a whole. There were 10 towns in the district as per 1961 census while the number of towns as per 1971 census is 15. In 1971 census one town namely S. Kota has been deurbanised while six towns have been declared as urban. These are Payakaraopeta, Nellimarla, Chittivalasa, Kanapaka, Gajularega and Upper Silleru.

1.14 The density of population of Visakhapatnam district which was 167 persons per sq. km in 1951 increased to 208 persons per sq km in 1971.

1.15 The following table shows the break-up of population by sex in 1961 and 1971 separately in the rural and urban areas.

TABLE 5
Rural and Urban Population by sex

	1961			1971		
	Total	Male	Female	Total	Male	Female
Total	2290759	1142647	1148112 (50.1)	2805366	1404781	1400585 (49.9)
Rural	1877724	931883	945841 (50.4)	2179863	1085320	1094543 (50.2)
Urban	413035	210764	202271 (49.0)	625503	310461	306042 (48.9)

(Figures in brackets indicate the proportion of female population to total population in percentage)

1.16 Thus the Females in 1961 were more than men by about 6,000 whereas in 1971 their number was less than males by about 4,000. In so far as the rural areas are concerned females continued to remain more than the males while the position was reverse in the urban areas.

Age Composition

1.17 The following table shows age-wise distribution as per 1971 census of the population in Visakhapatnam district.

TABLE 6

Age-group	Rural	Urban	Total	Male	Female
0—14	838381 (38.5)	237430 (38.0)	1075811 (38.3)	542592 (38.6)	533219 (38.1)
15—59	1212506 (55.6)	360808 (57.7)	1573314 (56.1)	793127 (56.5)	780187 (55.7)
60 & above	128976 (5.9)	27265 (4.3)	156241 (5.6)	69062 (4.9)	87179 (6.2)
TOTAL.	2179863 (100.0)	625503 (100.0)	2805366 (100.0)	1404781 (100.0)	1400585 (100.0)

(Figures in brackets indicate percentage to total)

Literacy

1.18 As per 1971 census, the percentage of literacy was 21.3 which is higher by 4.3% than 1961 census figures. This percentage is, however, less than by about 3% when compared with the corresponding figure (24.6%) for the State as a whole. 29.5% of the total male population are literates while among females only 12.9% are literates. 47.3% of the urban population are literates as compared to only 13.8% in the rural areas.

Workers and non-workers

1.19 Under the 1971 census, the population has been broadly divided into 2 groups viz., (i) workers, and (ii) non-workers on the basis of the main activity in which the person is engaged. The worker is a person whose main activity is participation in any economically productive work by his physical and mental activity. Work involves not only actual work but effective supervision and direction of work.

Workers

11.20 1971 decennial population census has enumerated 11.4 lakh persons as workers. The participation rate defined as the proportion of workers to population was 40.6 per cent in 1971. The corresponding rates for rural and urban population were 44.01 and 28.9 per cent respectively. The definition of a worker during 1971 census was different than that adopted during 1961 census. During 1961 all those seasonal workers who had some regular work of more than an hour a day throughout the greater part of the season were treated as workers. The 1971 census, however, stipulates that a persons primarily engaged in household duties or those who were student and helped in family economic activity but not on full time scale should be treated as non-workers in respect of their main activity. The figures of 1961 and 1971 are, therefore, not comparable in this regard.

1.21 The participation rates which is the proportion of workers to population separately in the rural and the urban areas for 1971 are presented in the following table :—

TABLE 7
Participation rates
1971

	Male	Female	Total
Rural	62.5	25.8	44.0
Urban	49.0	7.9	28.9
TOTAL .	59.4	21.8	40.6

1.22 The important features that emerge from the above table are :—

- (i) The participation rate is higher in the rural sector than the urban sector, this is also true for males and females separately, and
- (ii) The participation rate for women in the rural sector is more than triple of that in the urban sector. This may be mainly due to the participation of women in the agriculture concentrated in the rural areas.

1.23 The following table shows the distribution of workers by broad industrial categories based on 1971 census.

TABLE 8
Percentage distribution of workers in rural and urban areas according to the 1971 census

Economic Activity	Percentage of workers to Total		
	Rural	Urban	Total
1. Cultivators	50.0	5.2	43.0
2. Agriculture Labourers	32.0	6.6	28.0
3. Livestock, Forestry, etc. and allied activities	2.5	2.2	2.4
4. Mining and quarrying	0.2	0.1	0.2
5. Manufacturing :			
(a) Household	4.6	2.9	4.3
(b) Other than household	1.6	15.0	3.6
6. Construction	0.2	5.2	1.0
7. Trade and Commerce	2.7	17.6	5.0
8. Transport, storage and communication	1.1	18.6	4.0
9. Other services	5.1	26.6	8.5
TOTAL .	100.0	100.0	100.0

11.24 As might be expected there is a sharp contrast in the industrial distribution of workers between rural and urban areas. In the rural areas more than four-fifths of the workers were active as cultivators and agricultural labourers. In the urban areas, on the other hand, about one-eighth belong to these two

categories. Not only is the manufacturing less important in rural areas, majority of the rural workers engaged in manufacturing activity, work in household industries. Nearly one-sixth of the total urban workers were engaged in nonhousehold manufacturing mostly in factories which are concentrated in the urban areas. Trade and Commerce, Transport, Storage and Communication and other Services account for the bulk in the urban areas due to the concentration of administrative offices, medical & educational institutions and public utilities in the urban centres.

Occupational Pattern of Workers

1.25 Data on the occupational pattern of workers as thrown up by the 1971 census is given in the following table:—

TABLE 9
Occupational distribution of non-agricultural workers by rural/urban 1971 population census

Occupational Group	Percentage distribution of workers		
	Rural	Urban	Total
Professional, Technical and related workers	5.0	7.1	6.0
Administrative, Executive and Managerial	2.1	4.1	3.1
Clerical & related workers	4.6	13.2	8.7
Sales workers	12.0	14.1	13.0
Farmers, Fishermen, hunters, loggers and related workers	15.1	2.7	9.2
Miners, quarrymen, and related workers	0.6	0.1	0.3
Craftsmen, production process workers and labourers n.e.c.	41.7	45.6	43.6
Service, sports and recreation workers	18.9	12.5	15.8
Others	..	0.6	0.3
TOTAL	100.0	100.0	100.0

Source: Director of Census Operations, Andhra Pradesh

1.26 From the above table it is observed that there is a sharp contrast in the occupational distribution of workers in rural and urban areas. The proportion of administrative and managerial workers to total in urban areas was merely double the corresponding proportion of such workers in rural areas, while the proportion of farmers and forestry workers in rural areas was six times more than those in urban areas. The percentage of clerical workers to total in urban areas was almost three-fold to corresponding proportion of such workers in rural areas. There was, however, not much difference among other occupational categories. Nearly 60% of the total workers were craftsmen, production process workers & labourers and service, sports and recreation workers both in rural and urban areas.

Non-workers

1.27 All those whose main activity is not engaged in any economically productive work are basically non-workers. The total number of non-workers according to the 1971 census was 16.6 lakhs of which 10.9 lakhs were females and 5.7 lakhs were males. The rural and urban composition of non-workers during 1971 is given in the following table.

TABLE 10
No. of non-workers in rural and urban areas

Area	Male	Female	Total	Percentage to Total
Rural	4,07,292	8,12,704	12,19,996	73.3
Urban	1,62,883	2,81,978	4,44,861	26.7
TOTAL	5,70,175	10,94,682	16,64,857	100.0

1.28 The number of non-workers in each of the seven categories into which they are classified according to 1971 census are given in the following table for Visakhapatnam.

TABLE 11
Non-workers

Category	No. of non-workers	Percentage to Total
1. Full-time students	1,96,538	11.8
2. Household duties	5,14,772	30.9
3. Dependents and infants	2,26,869	55.7
4. Retire, rentiers and persons of independent means	7,685	0.5
5. Beggars, vagrants etc.	4,169	0.2
6. Inmates of penal, mental and charitable institutions	1,395	0.1
7. Others	13,429	0.8
TOTAL	10,64,857	100.0

1.29 The category 'Others' includes all those persons irrespective of age and whether educated or not, who reported that they were not engaged in any other activity, but were seeking work.

Educational facilities

1.30 Only ^{16,394}1,369 villages constituting 32.7% of the total of ^{4,184}4,184 inhabited villages in the district have primary education facilities. The two purely agency taluks of Paderu and Chintapalle are served only by 207 primary schools functioning in 203 villages out of a total number of 2,498 inhabited villages. The nine taluks which include the three partial agency taluks of Narsipatnam, Chodavaram and Srungavara-pukota account for the remaining 1,348 primary schools in the district catering to the basic educational needs of 1,686 inhabited villages, with a total population of 19,33,470 persons. The proportion of middle public upper primary schools and higher secondary/high schools is extremely low with only 70 and 56 villages possessing those amenities respectively for the whole district. Colleague education has yet to make its appearance in the rural scene of this district.

1.31 The following table gives the number of villages having primary, middle and high schools according to their distance from the nearest urban centre.

TABLE 12
Educational facilities

Distance from the nearest urban centres in kms	Total No. of inhabited villages	Number of villages having			
		Primary Schools	Middle Schools	High/Higher Secondary Schools	Other educational institutions
5 or less	69	64	5	5	..
6—10	209	191	19	5	..
11—15	269	211	17	12	1
16—25	500	413	20	17	1
26—50	597	311	8	14	..
51—100	1508	118	..	3	..
101—200	510	35	1	..	..
Unspecified	532	26	..	..	..
TOTAL	4184	1369	70	56	

1.32 It may be seen from the above table that while a large number of schools are existing in the villages lying within a radius of 50 kms. and less to the nearest urban centre, the highest number of educational institutions is noticed in the distance range of 16-25 kms. with 413 primary schools, 20 middle schools and 17 high/higher secondary schools. In the distance range of 51 to 100 kms, where the bulk of the villages (1508) in the district are existing an extremely low proportion of 7.8% of the villages have only minimum educational facilities and only three villages have high schools.

Source ; Director of Census Operations, Andhra Pradesh

Medical Facilities

1.33 The facilities existing in the field of medicine and public health in the rural areas are grossly inadequate. There are only 63 total medical institutions of different types catering to 21,79,863 persons inhabiting the 4,184 populated villages in the district. The following table gives the number of different types of medical institutions available in each taluk in this district.

TABLE 13
Number of Medical Institutions

Name of the Taluk	Number of Medical Institutions			
	Dispensaries	Hospitals	Others (PHC, FPC & MCW)	No. of medi- cal institu- tions per 100 sq kms rural area
1. Visakhapatnam	2	1	2	0.96
2. Anakapalle	1	1	3	0.65
3. Yellamanchili	1	..	3	0.45
4. Narsipatnam	..	..	5	0.38
5. Chintapalle	1	1	3	0.21
6. Paderu	8	..	2	0.32
7. Chodavaram	2	2	3	0.47
8. Srungavarapukota	5	..	2	0.66
9. Gajapathinagaram	1	1	..	0.30
10. Vijayanagaram	3	1	1	0.78
11. Bheemunipatnam	6	..	3	1.05
TOTAL	30	7	27	0.47

Source : Census 1971—Series 2 A. P. District Census Handbook Visakhapatnam Parts X A & B. pages 7-9

1.34 Hospital facilities are not available in six taluks. Bheemunipatnam followed by Visakhapatnam, Vijayanagaram, Srungavarapukota and Anakapalle taluks enjoy better medical facilities while Chintapalle, Gajapathinagaram and Paderu taluks lag behind.

1.35 **Establishments and Employment.**—Under the 1971 census operation, an attempt has also been made to identify all the establishments and employment in them. According to the 1971 census, an establishment is a place where goods are produced or manufactured not solely for domestic consumption or where servicing and/or repairing is done such as factory, workshop or place household industry or servicing and/or repair workshop or a place where retail or wholesale business is carried on or commercial services are rendered or an office, public or private or a place of entertainment or where educational, religious, social or entertainment services are rendered. It is necessary that in all these places one or more persons should be actually working. Thus an establishment will cover manufacturing, trade and other establishments where people work. The statistics relating to the distribution of establishments by three broad types, namely, (i) Manufacturing, processing or servicing establishments, (ii) Trade or business establishments and (iii) Other establishments classified according to Government or quasi-Government, private, cooperatives is given at Appendix-II, Part-A. The following table gives the break-up of rural and urban establishments into government/quasi-government, private and cooperatives.

TABLE 14

	Rural	Urban	Total
(a) Government/Quasi-government	3,249	893	4,142
(b) Private	21,562	12,638	34,200
(c) Co-operative	117	92	209
TOTAL	24,928	13,623	38,551

1.36 Establishments have also been classified according to various sizes of employment. Appendix-II, Part B gives size-wise number of establishments and employment in them separately for manufacturing, trade & commerce and others, while the following table contains the summary.

TABLE 15

Size of Establishment	Units	Number of persons employed
1. Less than 5 workers	35,407	60,182
2. 5—9 workers	1,984	12,109
3. 10 and above workers	1,157	66,864
4. Persons unspecified	3	..
TOTAL	38,551	1,39,155

CHAPTER II
EMPLOYMENT 1974

2.1 2,643 establishments both in public and private sectors together constituted the frame of establishments as on 31-3-1974 (i.e. date of enquiry) for the purpose of survey. This was constructed by bringing upto date the 'Employers Register' maintained in the Employment Exchange under the EMI Programme on the basis of the information available from other departments such as factories, labour, industries, municipalities, education, transport etc. and by conducting comprehensive street surveys of all cities, towns and villages in the district. The frame of establishments by size, class and response achieved is given in the following table.—

TABLE 16
Number of Establishments

Type of establishment & size	Number	Percentage response
1. Public Sector	394	100
2. Private Sector		
(i) Employing 25 or more workers	171	100
(ii) Employing 10—24 workers	849	100
(iii) Smaller establishments with 5—9 workers	1229	100
TOTAL	2643	100

2.2 Out of the total number of 2643 establishments existing as on 31-3-1974 accounting for total employment of 1,26,015 as many as 1279 establishments were those which came up during the last seven-year period from 1967-1974 while the remaining 1364 came in existence in 1966 or earlier. The relevant data are contained in Appendix-III.

2.3 Among the establishment that came up during the period 1967-1974 as many as 101 were in public sector contributing employment to the extent of 7566 and 1178 establishments were in private sector accounting for 17169.

2.4 The total employment in all establishments that were in existence as on 31-3-1974 was 126015 as against an employment of 75438 in them in March 1967. Of the total employment in 1974 Public Sector and Private Sector accounted for 80016 (63.5 per cent) and 45999 (36.5 per cent) respectively. Within the Public Sector quasi-government organisation was a bigger employer accounting for 37.4 per cent of the total employment followed by Central Government establishments (28.9 per cent), State Government offices (17.4 per cent) and Local Bodies (16.3 per cent).

2.5 Further analysis of data pertaining to year-wise emergence of establishments since 1967 and employment contributed by them leads to the conclusion that the following are some of the important growing industries in the area.

TABLE 17

Industry	Upto 1966		1967 to 1974	
	No. of Estts.	Employment	No. of Estt.	Employment
1	2	3	4	5
Production of rice, flour etc.	37	313	34	369
Oil crushing	37	627	29	536
Making of textile garments	28	165	54	321
Sawing & planing of wood	22	224	23	221
Printing	26	160	32	216
Manufacturing of structural steel products	8	62	31	247
Manufacturing of sundry hardwares	23	342	32	368

TABLE 17—Contd.

1	2	3	4	5
Repairing & servicing of motor vehicles	26	300	54	352
Construction of buildings etc.	18	1761	32	1706
Wholesale trading in cloth	18	143	28	192
Retail trading in cloth	60	432	57	376
Retail trading in petrol & allied products	27	222	19	151
Cinema houses	34	565	43	553
Hotels and lodges	121	1415	273	2688

2.6 The following table gives the total employment in 1974 by broad industrial divisions.

TABLE 18
Employment by Industrial Divisions

Industrial Division	Employment in 1974	Percentage to total
Agriculture, livestock, forestry & fishing	769	0.6
Mining & quarrying	121	0.1
Manufacturing	34126	27.1
Construction	7644	6.0
Electricity, gas, water & sanitary services	1981	1.6
Trade and commerce	10064	8.0
Transport, storage & communication	20293	16.1
Services	51017	40.5
TOTAL	126015	100.0

(REFER : Appendix-VII—Employment growth by economic activities)

2.7 Out of the total employment of 1.26 lakhs in 1974 as much as (40.5%) was in services followed by manufacturing (27.1%), transport, storage & communications (16.1), trade and commerce (8.0%), and construction (6.0%). Agriculture, livestock, forestry, fishing and hunting, mining & quarrying and electricity constituted very low proportion of the total employment. The small proportion in agriculture is due to the fact that the employment in this sector is not covered under the survey. The employment of 769 in 1974 relates mainly to such Government establishments which are dealing with the development of agriculture in the area.

Services

2.8 Within the services sector, employment in non-technical educational services (12331), administrative services in local bodies & quasi-government (11875), central government (5839), state government (6212), medical & health services (4900), catering services (4093) mainly accounted for the bulk of employment.

Manufacturing

2.9 Among manufacturing industries jute spinning & weaving (8730), ship building & repairing (6618), manufacturing of boiler, heavy plates & vessels (3288), production of sugar & syrup (2086) and edible fats & oils (1163), fertilisers (914), cotton spinning (758), Rice (682), Sundry hardwares (710), repairing and servicing of motor vehicles (680), brick & tiles (615) constituted the bulk of employment.

Transport, storage & communication

2.10 In the transport & communication division employment in railways (13239) formed the bulk followed by services incidental to transport (3960) which includes booking agencies.

Employment by occupations

2.11 Occupational pattern of employees in 1974 showed that 30.5% were production & related workers and transport equipment operators, followed by professional and technical workers (15.9 per cent) and

clerical workers (14.5 per cent), unskilled workers formed 26.8 per cent of the total. Occupational break up of employment at broad divisional level is given in the following table.—

TABLE 19
Employment by occupational division

Occupational Division	Employment 1974	Percentage to total
I. <i>Professional, Technical or related workers</i>	20145	15.9
(i) Scientists, engineers or technologists	4918	
(ii) Doctors & medical & health technicians	3336	
(iii) Teachers	9976	
(iv) Accountants, social scientists and other professionals	1915	
¹ I. Administrative, executive & managerial workers	4670	3.7
III. Clerical & related workers (excluding unskilled office workers)	18225	14.5
IV. Sales workers	2130	1.7
V. Service workers (excluding watchmen, Chowkidars, Sweepers, etc)	7823	6.2
VI. Farmers, fishermen, Loggers & related workers (excluding agricultural and plantation labourers)	839	0.7
VII. <i>Production & related workers and transport equipment operators</i>	38482	30.5
(i) Production & related workers	32817	
(ii) Transport equipment operators	5665	
VIII. Unskilled	33701	26.8
TOTAL	126015	100.0

2.12 **Professional, Technical and Related Workers.**—In this category teachers (9976) at various levels formed the bulk followed by mechanical engineers (720), accountants and auditors (539), mechanical and automobile engineering technicians (552), civil engineers (520), sanitary inspectors (511), overseers civil engineering (490) and village level workers (432).

2.13 **Administrative, executive and managerial Workers.**—Under this category working proprietors, directors and managers constituted the major portion.

2.14. **Clerical and Related Workers.**—Apart from clerks general (7563) and clerical supervisors (3097) store-keepers and related workers (719), ticket sellers (653) and typists (725), were predominant in clerical workers category.

2.15 **Sales workers.**—Under this category the occupations which accounted for sizeable employment were salesmen, wholesale and retail trade (1318), salesmen, shop assistants and demonstrators (215) and shop attendants and related workers (259).

2.16 **Service workers.**—In this group the bulk were cooks, waiters, bartenders and related workers (3382) and protective service workers (3581).

2.17 **Farmers, Fishermen, Hunters, loggers and related workers.**—The occupations with sizeable number are farm managers and supervisors, crop production (275), gardner (195), forester and related workers (288).

2.18 **Production and Related Workers and Transport Equipment Operators (a) Production and related workers.**—The occupations with sizeable number of employees were breaker reeder, jute (319), fibre preparation operatives (326), hand spinner cotton and woollen textiles (687), spinner jute (765), twister (336), winder textile (475), weaver powerloom (1220), khandarisugar and gur making operatives (372), tailor and dress maker (413), sewer and embroider (805), carpenter (491), carpenter ship (419), blacksmith (335), machinist general (540), turner (465), blacksmiths, tool maker and machine tool operators and other (563), supervisors and Foremen machinery fitting and repairing (412), fitter general (1429), fitting and assembling and machine erecting operatives (536), mechanic automobile (370), fitter loco (300), electrician general (492), electrician and repairing operatives (313), wiremen

light (407), welder electric (1237), welding operatives (339), erector structural (332), glass formers potter and related workers (438), stone mason (370), cleaner motor vehicle (357), oilers, greasers and cleaners others (391).

(b) *Transport equipment operators.*—Under this category the occupation with sizeable number of employees were tindal dock (259), lascar (1518), ships' deck rater, large cranes and boatman (236), driver railways engine, steam (252), driver railways engine, diesel (251), fireman locomotive (292), pointsman railways (363), pointsmen, signallers and shunters, other (338), driver car (441), driver bus (233) and driver truck (484).

Women Employment

2.19 Out of the total of 1,26,015 employees in the district of Visakhapatnam in March 1974 as many as 8347 were women employees representing 6.6 per cent of the total employment. The following table gives the percentage of women employment to the total in the rural and urban areas separately for public and private sectors.

TABLE 20
Employment in rural and urban areas

Sector	Percentage of women employees to total			No. of Women employees
	Rural	Urban	Total	
Public	11.2	4.8	5.5	4,384 (52.5)
Private	16.0	7.6	8.6	3,963 (47.5)
TOTAL	13.1	6.8	6.6	
No. of women employees	1,793 (21.5)	6,554 (78.5)	8,347 (100.0)	8,347 (100.0)

(Figures in brackets indicate percentage to total)

2.20 The important features that emerge from the above table are :—

- (i) More than three fourths of the women employees were working in urban areas while the remaining were in rural areas.
- (ii) The percentage of women employees to total in rural areas was much higher than that in the urban areas. This phenomena holds good both in the public and private sectors.
- (iii) In the public sector women constituted 5.5 per cent of the total employment as against 8.6 per cent in the private sector. In absolute number the women employees in the public sector however exceeded the corresponding figures in the private sector.

2.21 The following table shows proportion of women employees to total employees in March 1974, by broad industrial divisions.

TABLE 21
Women employment by industrial divisions

Industrial Division	Women employees as on 31-3-74	Total employment	Percentage of women employees to total employees
Agriculture livestock forestry and fishing	8	769	1.0
Mining and quarrying	28	121	23.1
Manufacturing	2,258	34,126	6.6
Construction	391	7,644	5.1
Electricity, gas, water & sanitary services	27	1,981	1.4
Trade & Commerce	329	10,064	3.3
Transport, storage & communication	313	20,293	1.5
Services	4,993	51,017	9.8
TOTAL	8,347	1,26,015	6.6

2.22 Bulk of women employees were engaged in the economic activities of services (4993), manufacturing (2258), construction (391), trade and commerce (329) and transport storage and communication (313). Further details of women employees in the two major industrial divisions (viz. services and manufacturing) where bulk of women are employed are given in the following table:—

TABLE 22
Women employment in manufacturing and Services

Description of industry	Women employment as on 31-3-1974
Manufacturing	2258
Rice	54
Edible fats & Oils	194
Food stuffs, other	69
Cotton ginning, cleaning, pressing and bailing	55
Cotton spinning (other than in mills)	650
Recovery of all types of fibres	77
Processing of textile products	376
Chemical and chemical products	74
Structural clay products	217
Structural stone goods and crushing	254
Others	238
Services	4993
Public services in administrative departments and offices of government	580
Educational services (Technical)	121
Educational services (Non-technical)	2448
Medical & health	1366
Community	297
Catering	90
Others	91

2.23 As expected, a little less than half (2448) of the total women employees were engaged in educational services (non-technical) and public health and medical services (1366) together. Other important industries which provided considerable employment to women, in order, are, cotton spinning (650), administrative services (580), construction of buildings and maintenance etc. (391), community services (297) structural stone goods and crushing (254), railways (226), structural clay products (217), and wholesale and retail trade (217).

2.24 The table below indicates proportion of women employees to total employees in March, 1974 by broad occupational division.

TABLE 23
Women employment by occupation division

Occupational Division	Women employment as on 31-3-1974	Total employment as on 31-3-1974	% of women employees to total in each occupational division
1	2	3	4
I. Professional, technical and related workers	3671	20145	18.2
(i) Scientists, Engineers and Technologists	36	4918	
(ii) Doctors, and medical health technicians	1121	3336	
(iii) Teachers	2362	9976	
(iv) Accountants, Social Scientists & other professionals	152	1915	

TABLE 23—Contd.

1	2	3	4
II. Administrative, executive & managerial workers	56	4670	1.2
III. Clerical & related workers (excluding unskilled office workers)	676	18225	3.7
IV. Sales Workers	38	2130	1.8
V. Service workers (excluding watchman, chowkidar sweepers etc.)	452	7823	5.8
VI. Farmers, fisherman, loggers and related workers	3	839	0.4
VII. Production & related workers and transport equipment operators	1390	38482	3.6
(i) Production & related workers	1387	32817	
(ii) Transport equipment operators	7	5665	
VIII. Unskilled workers	2061	33701	6.1
Total	8347	126015	6.6

2.25 Women represented 6.6% of the total number of employees as on March 1974. Their proportion to total employment in each division varied from 0.4% for farmers, fishermen and related workers to 18.2% in case of professional technical and related workers. The proportion of women to the total strength of service workers was (5.8%), followed by clerical and related workers 3.7% production and related workers and transport equipment operators (3.6%). The proportion for unskilled workers worked out to be 6.1%.

2.26 74.9 per cent of the women employees were engaged as professional and technical workers, production process workers and labourers as on 31-3-1974. Clerical workers constituted 9.0 per cent while service workers were 15.0 per cent of the total women employment.

2.27 The occupations in which women employees were concentrated are given in the following table:—

TABLE 24
Women employment in selected occupations

Occupation	No. of women employees as on 31-3-1974
Scientists, engineers and technologists	36
Physicians & surgeons	92
Nurses & other medical and health technicians	1029
Social scientists & related workers	152
Teachers	2362
Working proprietors, directors & managers	56
Clerical and other supervisors	37
Steno and typists	119
Clerical and related workers	405
Telephone and telegraph operators	56
Sales women wholesale and retail trade	38
House keepers, matrons and stewards	73
Cooks, waitors and related workers	59
Ayah, institutional and domestic	210
Quarrymen	100
Hand spinners (cotton and woolen) textile	650
Brick and tile moulder, hand	51
Sawers and embroiders	274
Packers, labellers and related workers	34
Unskilled workers	2061

2.28 A comparative study of the occupational profile of employed women labour force in 1974 with the total work force has revealed the following fields in which women workers were predominated (i) Nurse general (ii) Nurse specialised, (iii) Midwives, (iv) Lady health visitor, (b) Teacher infact school (vi) Hand work teacher, (vii) Monitor telephone, (viii) House keeper-institutional, (ix) Governess, (x) Ayah institutional, (xi) Fibre preparer grass, (xii) Finisher soutercher-tenter, (xiii) Hand spinner—cotton and woollen textile, (xiv) Fish curer, and (xv) Sewer hand.

Employment in Rural Areas

2.29 Of the total number of 2643 establishments covered under Area Skill Survey, only 296 (11.2 per cent) were located in the rural areas of the district. These establishments provided employment to the extent of 0.14 lakh in 1974 out of the total employment of 1.26 lakhs. The employment in rural areas gained an increase of 3.5 thousand during 1967-1974. Some of the important economic activities which provided substantial employment in the rural areas are educational services (Non-technical) (5556), manufacturing of sugar (1639), Community services (1459), manufacturing of bricks and tiles (593), stone crushing (414), edible fats and oils (385), religious services (344), dehusking of paddy (327) and cinema theatres (314).

Seasonal Employment

2.30 In addition to the regular employment, some industries engaged seasonal workers according to the nature or seasonal activity in which they are engaged. Pelting and cutting of trees, production of sugar and manufacturing of common salt are the three important economic activities in which large number of seasonal workers are found. In all a maximum of 2336 seasonal workers are engaged in 1974 in various industries as indicated in the following table:—

TABLE 25
Seasonal employment by industry

Industry	Season	Minimum	Maximum
Felling & cutting of trees & transportation of logs & preparation of timber	Jan.—May	200	1000
Production of sugar	Nov.—April	340	783
Production of edible fats & oils	Oct.—Jan.	32	41
Jute pressing & bailing	Nov.—March	25	57
Manufacture of common salt	Nov.—June	352	368
Others		56	87
Total		1005	2336

2.31 Analysing occupation-wise seasonal employees, 42.9% were employed as farmers, fishermen, loggers and related workers and 38.7% as production process workers and transport equipment operators. The following are some of the important occupations where sizeable number of seasonal workers were employed.

TABLE 26
Seasonal Workers by occupations

Occupation	No. of seasonal workers	
	Minimum	Maximum
Clerks	50	93
Clerical & related workers	54	100
Log fellers & wood cutters	200	1000
Khandsari, sugar & gur makers	98	281
Non-metallic mineral product makers	326	342
Stationery engine & related equipment operators	35	49
Firemen (Boiler)	15	37
Oilers and greasers	11	39
Boatmen	54	113

Closed Establishments

2.32 An attempt has also been made under the Area Skill Survey to study establishments which might have been closed in the past or are likely to be closed in the near future. While none of the existing establishments has any plan for winding up of the business in the near future or had any proposal for shifting the office to some other district, as many as 25 establishments accounting for total employment of 645 persons in March 1972, were found to have been closed during a period of last two years, i.e., 1972-1974. These establishments were engaged in the activities of manufacturing (289); construction (112); mining and quarrying (111); fishing (64); services (52) and trading (17). Analysing occupation-wise details of employees, the maximum number of persons were engaged in production and related workers and transport equipment operators (307), followed by service workers (45); administrative, executive and managerial workers (43); farmers, fishermen, loggers and related workers (42); clerical and related workers (33); sales workers (20) and professional and technical workers (11). The number of unskilled workers was 144.

CHAPTER III

EMPLOYMENT GROWTH

3.1 Wage and salaried employment (Number of regular employees) went up from 0.75 lakhs in 1967 to 1.26 lakhs in 1974 recording an annual growth rate of 9.6 per cent. The employment is likely to rise further at an annual growth rate of 10.7 per cent during the period 1974-1979 and will reach the mark of 1.94 lakhs by March 1979. During the period 1967-1979 the annual growth rate of employment works out to 13.1 per cent. The employment will more than double itself between the period 1967-1979.

Growth Components

3.2 The components which contribute to the anticipated rise of 67.7 thousand persons during 1974-1979 are:—

Components	Anticipated growth (in thousands)	Major industries
1. Employment generated as a result of expansion of existing establishments including manpower contents of the plan schemes.	24.4	Conservation of forests, sugar & syrup in mills, edible fats & oils, jute spinning and weaving, structural stone goods & stone crushing, zinc smelting, boilers vessels & plates, ship-building & repairing, construction & maintenance of buildings, generation & transmission of electricity, wholesale trade in spices, provident, insurance & banking, road transport, public service in Central Government, educational services (non-technical) medical & health services, recreation services etc.
2. Employment expected to be generated in new establishments currently in blue-print stage	34.5	Sugar syrup in mills, fats & edible oils, matches, bricks and tiles, structural steel products, sundry hardwares, construction (steel plant), recreation (cinema) catering services (hotels & lodges) etc.
3. (a) Employment projected for segments marked by uniform growth pattern in private sector (establishments employing 10 and above workers)	5.1	Rice, edible fats & oils, sawing of wood, bricks & tiles, stone crushing, structural steel products, sundry hardwares, construction & maintenance of buildings, wholesale trade in pulses, spices, educational services (non-technical) cinema houses, hotels and lodging etc.
(b) Employment projected from smaller private establishments	3.7	Manufacturing including repairing & servicing, construction, trading units, transport and services.

Sectoral Growth

3.3 The employment in public sector, which constituted 68.9 per cent of the total employment in 1967 increased at an average annual growth rate of 7.7 per cent upto 1974 and is likely to grow further at the rate of 13.2 per cent per annum by 1979. This growth is attributable to the proposals for setting up of steel plant in the district and Fifth Five Year Plan schemes in the departments of education, forest electricity, road transport, etc. The private sector which formed 31.1 per cent of the total employment in 1967, is likely to grow at an average rate of 6.4 per cent per annum during the period 1974-1979 as against the actual yearly growth rate of 13.7 per cent recorded during the past seven years. The changes in employment in public sector and private sector could be seen from the following table.

TABLE 27
Employment Growth

Sector	Employment			Annual percentage growth rate during		
	1967	1974	1979	1967-74	1974-79	1967-79
1	2	3	4	5	6	7
Public	51939	80016	132901	7.7	13.2	13.0
Central	13207	23139	58677			

	1	2	3	4	5	6	7
Central quasi		14397	27104	32388			
State		11479	13883	22987			
State quasi		1457	2884	5314			
Local Bodies		11399	13006	13535			
Private		23499	45999	60820	13.7	6.4	13.2
Bigger		20397	38530	50052			
Smaller		3102	7469	10768			
Total		75438	126015	193721	9.6	10.7	13.1

3.4 The following table gives changes in the level of employment by industrial divisions recorded between 1967-74 and the anticipated rate during the next five years.

TABLE 28
Employment by Industrial Divisions

Industrial Division	Employment			Increase (+)		Decrease (—)	
	1967	1974	1979	No.	Percent per year 1967-1974	No.	Percent per year 1974-1979
Agriculture, Livestock, Forestry & fishing	777	769	4427	—8	—0.1	+3658	+95.4
Mining & Quarrying	39	121	228	+82	+30.0	+107	+17.7
Manufacturing	18063	34126	45961	+16063	+12.7	+11835	+6.9
Construction	3259	7644	42635	+4385	+19.2	+34991	+91.6
Electricity, Gas, water & sanitary services	950	1981	2734	+1031	+15.4	+753	+7.6
Trade and Commerce	5742	10064	13223	+4332	+10.8	+3159	+6.3
Transport, Storage & Communication	12097	20293	22102	+8196	+9.7	+1809	+1.8
Services	34511	51017	62411	+16506	+6.8	+11394	+4.5
Total	75438	126015	193721	+50557	+9.6	+67706	+10.7

(Refer Appendix VII Employment Growth by Economic Activities)

3.5 The employment in economic activities of agriculture and construction are likely to increase at the annual growth rate of 95.4 per cent and 91.6 per cent respectively during the next five years, as against the actual growth rate of —0.1 per cent and 19.2 per cent respectively recorded during the last seven years. Only in case of these industries, viz., agriculture and construction the anticipated growth rate is much higher than the corresponding actual as is recorded during 1967-74. Mining and Quarrying which recorded 30.0 per cent annual growth rate during 1967-1974 is likely to rise further only at the rate of 17.7 per cent per annum. The activities of electricity, gas, water and sanitary services, manufacturing, trade and commerce and services are expected to increase at a lesser annual growth rate during the next five years when compared to their recorded growth rate during the period 1967-1974. The industry of transport, storage and communication is likely to grow at the lowest rate of 1.8 per cent during the next five years as against the average growth rate of 9.7 per cent during the last seven years.

3.6 In terms of absolute number, substantial growth in employment during the last seven years was recorded in services (16506), followed by manufacturing (16063), transport, storage and communication (8196), construction (4385) and trade & commerce (4322). During the next five years construction activity is expected to show a spectacular rise (34991) followed by manufacturing (11835), services (11394), agriculture & livestock (3658) and trade and commerce (3159).

3.7 Administrative services which recorded a rise of 10 thousand between 1967-1974 are likely to gain by 3 thousand only by 1979. As against this educational services (non-technical) which recorded a rise of 2 thousand during the last seven years are likely to gain by another 5 thousand during the next five years

Medical and health services which recorded considerable improvement during the last seven years expected to show marginal gains during the next five years.

TABLE 29
Employment growth in services

Category of Service	Employment			Increase	
	1967	1974	1979	1967-74	1974-79
Administrative services in the Government, quasi-Government and local bodies	14412	23926	27102	9514	3176
Educational Services (technical)	886	928	963	42	35
Educational Services (non-technical)	9957	12331	16923	2374	4592
Scientific services & research institutes	532	710	793	178	83
Public health & Medical services (including veterinary services)	4181	5018	5330	837	312
Community services	2005	2068	2208	63	140
Recreation services	533	1155	1827	622	672
Hotels & restaurants	1409	4093	6363	2684	2270
Others	596	788	902	192	114
Total	34511	51017	62411	16506	11394

(Refer Appendix-VII—Employment Growth by Economic Activities)

3·8 The employment growth in selected important industries (which together accounted for about four-fifth of the total employed labour force in manufacturing in 1974) is given in the following table.

TABLE 30
Employment growth in important industries

Industry	Employment			Increase	
	1967	1974	1979	1967-74	1974-79
Rice	334	682	1065	348	383
Sugar & syrup in mills	1763	2086	2703	348	617
Dairy products	94	143	782	49	639
Edible fats & oils	578	1163	1763	585	600
Jute pressing & bailing	303	380	487	77	107
Jute spinning & weaving	5148	8730	10338	3582	1608
Textile garments	177	486	814	309	328
Sawing & planing of wood	224	445	687	221	242
Wooden furniture	79	204	330	125	125
Printing	183	376	574	193	198
Fertilisers	162	914	951	752	37
Bricks & tiles	387	615	815	228	200
Structural stone products & stone crushing	72	599	868	527	269
Zinc smelting	..	112	903	112	791
Aluminium products	146	204	364	58	160
Sundry hardwares	361	710	1118	349	408
Boilers, heavy plates and vessels	34	3288	5494	3254	206
Repairing & servicing of motor vehicles	329	680	1064	351	384
Ship building and repairing	5137	6618	7176	1481	558

(Refer Appendix-VII—Employment Growth by Economic Activity)

3·9 Production of rice, edible fats and oils, jute pressing and bailing, textile garments, sawing and planing of wood, wooden furniture, printing, bricks and tiles, sundry hardware, repairing and servicing of motor vehicles have shown almost same increase in employment for the past 7 years and during the next 5 years period (1974-1979). Industries such as production of sugar and syrup, zinc smelting, aluminium

products, which showed sizeable increases in the past seven years are expected to increase significantly during 1974-1979. Industries such as jute spinning and weaving, manufacturing of boilers, heavy vessels and plates and ship building and repairing which showed significant increases during the preceding seven years have forecast only sizeable increase in the next five years.

3.10 **Shift in industrial disposition of the employed labour force.**—The rise in employment recorded between 1967-1974 and the anticipated rise during the next five years by 1979 has brought noticeable changes in the relative position of industries in terms of employment in 1979 as compared to 1967 and 1974 as could be seen from the following table:—

TABLE 31
Industrial composition of employees

Industrial Division	Percentage of employees to Total		
	1967	1974	1979
Agriculture, livestock, forestry & fishing	1.0	0.6	2.3
Mining & Quarrying	0.1	0.1	0.1
Manufacturing	23.9	27.1	23.7
Construction	4.3	6.0	22.0
Electricity, gas, water & sanitary services	1.3	1.6	1.4
Trade & Commerce	7.6	8.0	6.8
Transport, storage & communication	16.1	16.1	11.4
Services	45.7	40.5	32.3
Total	100.0	100.0	100.0

3.11 All the industries continue to maintain their respective positions in 1974 as compared to 1967 in terms of employment. Services, manufacturing and mining and quarrying who were first, second and eighth respectively in 1967 and 1974 are likely to hold the same position even in 1979. Electricity, gas, water and sanitary services, trade & commerce and transport, storage and communication lost their position in 1979 in comparison to 1974. Their position in 1967 and 1974 was 6th, 4th and 3rd respectively and they are likely to be placed at 7th, 5th & 4th position respectively in 1979. On the other hand agriculture and livestock and construction improved their respective position in 1979 and are likely to be 6th and 3rd respectively in terms of employment as compared to their position of 7th and 5th respectively in 1974 and 1967.

3.12 The following table shows by broad occupational divisions changes in employment between 1967-1974 and 1974-1979.

TABLE 32
Employment by occupational division

Occupational Division	Number of Employees			Increase	
	1967	1974	1979	1967-74	1974-79
1	2	3	4	5	6
I. Professional, Technical and related workers	14585	20145	27201	5560	7056
(i) Scientists, engineers and technologists	2457	4918	6885	2461	1967
(ii) Doctors and medical & health technicians	2611	3336	3705	725	369
(iii) Teachers	8106	9976	14457	1870	4481
(iv) Accountants, social scientists & other professionals	1411	1915	2154	504	239
II. Administrative, Executive & managerial workers	2431	4670	6349	2239	1679
III. Clerical & related workers	11942	18225	22766	6283	4541
IV. Sales workers	1231	2130	3037	899	907
V. Service workers	3995	7823	10148	3828	2325

TABLE 32—Contd.

	1	2	3	4	5	6
VI. Farmers, fishermen, loggers & related workers		741	839	4509	98	3670
VII. Production Process & related workers and transport equipment operators		22296	38482	67585	16186	29103
(i) Production & related workers		17909	32817	60902	14908	28085
(ii) Transport equipment operators		4387	5665	6683	1278	1018
VIII. Unskilled Workers		18217	33701	52126	15484	18425
Total		75438	126015	193721	50577	67706

(Refer Appendix-VIII—Employment by occupations)

3.13 Following facts emerge from the foregoing table:

1. **Professional, Technical and Related Workers**

- (a) *Scientists, engineers and technologists.*—The number of such persons recorded an actual increase of 2461 during 1967-74 and are likely to gain further by 1979 during the next five years mainly because of setting up of zinc smelting and a steel plant. Civil engineers, electrical and electronic engineers, metallurgists, mechanical engineers, civil engineering overseers, mechanical and automotive engineering technicians are showing an increasing trend.
- (b) *Doctors and Medical and health technicians.*—These workers recorded an increase of 725 during the previous seven years and are likely to gain marginally by 369 persons during the next five years.
- (c) *Teachers.*—As against an actual rise of 1870 recorded between 1967-74, their number is expected to rise significantly by 4481 during the next five years.
- (d) *Accountants, Social Scientists and other professional workers.*—The number of such persons which rose by 504 during the last seven years is likely to increase by 239 between 1974-79.

2. **Administrative, Executive and Managerial Workers.**—Their number rose from 2.4 thousand in 1967 to 4.7 thousand in 1974 and is likely to rise further to 6.3 thousand by 1979. A phenomenal increase is noticed among working proprietors of wholesale/retail trade, manufacturing and lodging and catering services.

3. **Clerical and related workers.**—The number of such persons which recorded an actual growth of 6.3 thousand during 1967-74 is expected to increase by another 4.5 thousand by 1979. Among them, clerical supervisors, clerks, typists, ticket sellers, store keepers and conductors transport are showing a substantial increase.

4. **Sales Workers.**—The actual increase recorded during the last seven years and that anticipated for the next five years in this category of personnel will be of the order of 900 persons.

5. **Service Workers.**—The service workers, whose number in 1967 was 3995 rose to 7823 in 1974 and is likely to rise further upto 10148 by 1979. Among them cooks, bearers, waiters and protective service workers are indicating substantial growth.

6. **Farmers, fishermen, loggers and related workers.**—A significant increase of 3670 during 1974-79 has been anticipated as against a nominal increase of 98 persons occurred during the past seven years. This is mainly due to the anticipated expansion of the forest department occupations with upward trend in this category are gardeners, foresters and related workers.

7. **Production process and related workers and transport equipment operators—**

- (i) *Production and related workers.*—The number of production process workers is likely to increase by 28.1 thousand during the next five years as against the gain of 14.9 thousand noticed during the previous years which is mainly because of the setting up of a zinc smelting and steel plant and expansion in other public Sector undertakings. Worth mentioning occupations in terms of growth are driller, miner and quarries, spinners, drawer, weavers, tailors and dress makers, carpenters, blacksmiths, machinists, turners, grinders, fitters, assemblers, workshop machines and equipment, automobile mechanics, electricians, wiremen (light &

power), linemen (light & power), plumbers, welders, stone masons, brick layer and tile setter, Riggers slinger and crane operators.

- (ii) *Transport equipment operators.*—These categories of workers are likely to record an increase of 1018 persons during the next five years as against an actual gain of 1278 recorded during the last seven years. The rising trend is noticeable in occupations such as lascars and drivers (motor vehicles).

Occupational Shift

3.14 With the increase in total employment from year to year during the last seven years and the anticipated rise during the next five years upto 1979, a shift in occupational composition of employees is noticed particularly because of the emergence of new industries requiring special type of skills.

3.15 Production process and related workers and transport equipment operators who constituted 29.6 per cent and 30.7 per cent of the total employment in 1967 and 1974 respectively are likely to reach the mark of 34.9 percent by 1979. The proportion of unskilled workers also showed an increasing trend. As against these increases, professional and technical workers have been decreasing in proportion to the total employment from 19.4 per cent in 1967 to 16.0 per cent in 1974 and to 14.0 per cent in 1979. Similarly the share contributed by clerical and related workers to the total also showed a continuous decreasing trend. The proportion of sales workers more or less remained unchanged during 1967, 1974 and 1979. In spite of decrease from 1.0 per cent in 1967 to 0.7 per cent in 1974, the proportion of farmers, fishermen, loggers and related workers have forecast an increase to 2.3 per cent by 1979. Administrative, executive and managerial workers and service workers whose proportion remained static in 1967 and 1979 increased during 1974. Percentage composition of employees in different occupational divisions is given in the following table.

TABLE 33
Occupational distribution

Occupations	Percentage composition of employees		
	1967	1974	1979
Professional, technical & related workers	19.4	16.0	14.0
Administrative, executive & managerial workers	3.2	3.7	3.3
Clerical & related workers	15.8	14.4	11.8
Sales workers	1.6	1.7	1.6
Service workers	5.3	6.2	5.2
Farmers, fishermen, loggers & related workers	1.0	0.7	2.3
Production & related Workers, Transport equipment operators	29.6	30.7	34.9
Unskilled Workers	24.0	26.6	26.9
TOTAL	100.0	100.0	100.0

Factors hindering expansion

3.16 Information about various factors hindering expansion or fuller utilisation of installed capacity was also obtained from manufacturing industries in private sector. Financial assistance emerged as common difficulty, being experienced by most of the manufacturing industries. A brief resume of hindering factors faced by various industries is given below :—

(i) *Shortage of raw material*

Dehusking of paddy	—paddy
Bakery products	—wheat flour and maida etc.
Sweet products	—sugar
Manufacturing of cement products	—cement
Manufacturing or structural steel products, steel furniture, etc.	—steel
Manufacturing of sundry hardware	—steel

(ii) *Licence to set up new units*

Production of oil
Jute spinning & weaving
Wood sawing

(iii) *Land acquisition*

Canning of fish
Sawing and planing of wood
Manufacture of common salt

(iv) *Power*

Canning of fish
Jute spinning and weaving
Sawing and planing of wood
Manufacture of structural steel products
Manufacture of heavy electric machinery and equipment
Manufacture of aluminium products
Recreation services rendered by cinema houses.

CHAPTER IV

MANPOWER REQUIREMENTS

A. Manpower content of the Plan Schemes

4.1 As a part of the survey, authorities at State and District level concerned with the formulation and implementation of developmental plans, were contacted and a specially designed questionnaire was canvassed for the purpose of assessing manpower content of developmental plans in the area. The department and scheme wise break-up of manpower content of developmental plans for the next five years (1974-79) is presented in the following table.

TABLE 34
Manpower Content of the Plan Schemes

Name of the Department	Name of the Scheme	Total manpower
Education Department	Minimum needs programme	3790
Forest Department	Wild life management, quick growing species, State forest corporation.	3617
State Road Transport Corpn.	Setting up of three full fledged Depots	1440
Electricity	Expansion of existing units and setting up of a power house at Bailimella.	728
Dairy Development Corporation	Conversion of the existing Dairy into a modern dairy & setting up of two chilling centres.	639
Veterinary & Animal Husbandary	Intensive cattle development programme and setting up of new dispensaries	85
Tribal Welfare, Agriculture Department, Department of Employment & Training, Bureau of Economics and Statistics Treasures and Accounts, Social Welfare, Mines and Geology, Infrastructural Corporation.	Strengthening of existing units of various departments, special package scheme for mesta, job development etc.	89
TOTAL		10528

4.2 Bulk of additional employment opportunities are likely to be generated mainly as a sequel to the implementation of minimum needs programme in Education department, setting up of Forest Corporation and a power-house and nationalisation of certain bus routes in the district. Education Department (36.0%), Forest Department (34.4%), Road Transport Corporation (13.7%) and Electricity Department (6.9%) together constitute 91% of the manpower contents of Development plans in the area, as evident from the above table.

Occupational Break-up

4.3 Professional & technical workers, forestry workers, craftsmen & production process workers, transport equipment operators and clerical workers together constitute 97% of the total manpower contents of developmental plans, as could be seen from the following table.

TABLE 35
Occupational Break-up of Manpower Content of Development Plans

Description	Number	Percentage
1	2	3
Professional Technical & Related Workers	4132	39.3
Scientists	60	
Engineers	122	
Medical Personnel (Doctors)	52	
Para-Medical Personnel	101	
Teachers	3760	
Other Professional Workers	37	

TABLE 35—Contd.

Description	Number	Percentage
Administrative, Executive and Managerial Workers	15	0·1
Clerical and Related Workers	804	7·6
Clerks and Office workers	214	
Bus conductors	440	
Other clerical workers	150	
Sales, Workers	222	2·1
Service Workers	37	0·4
Farmers, Fishermen, Loggers and Related Workers	3592	34·1
Production Process / Related Workers and Transport Equipment Operators	1726	16·4
Food process workers	84	
Machinery fitters & assemblers	221	
Electrical fitters	65	
Stationery Engine operators & cleaners	208	
Transport equipment operators	511	
Others	47	
TOTAL	10528	100·00

4·4 Among professional & technical workers, teachers alone constitute 3·8 thousand out of 4·1 thousand. Electrical fitters and transport equipment operators together constitute 1·2 thousand out of 1·7 thousand. Among clerical workers more than half are bus conductors.

Educational Requirements

4·5 Nearly half of the additional employment opportunities that are likely to be generated by various developmental plans in the area will be open for non-matriculates. Nearly one fourth of additional employment opportunities will be available for certificate holders in craftsmen trades and teaching, while nearly one-tenth for matriculates. The following table indicates break-up of man-power content according to educational requirements.

TABLE 36
Break-up of manpower Content According to Educational Requirements

Level of Education	Percentage
Non-matriculates including illiterates	48·2
Matriculates	9·2
Graduates—Science	0·5
Graduates—Arts	0·6
Post-Graduate—Arts (including law)	0·1
Engineering (Degree)	0·7
Medical (Degree)	0·4
Agriculture (Degree)	0·2
Engineering (Diploma)	0·6
Certificate holders (ITI & Teaching)	22·6
Other Diplomas	16·9
TOTAL	100·00

B. Overall Requirements

4·6 The manpower needs have been built up on the basis of the following components.

- (i) Employment growth—*ibid* Chapter III
- (ii) Replacement needs due to attrition in the employed work force—*ibid* Technical Notes para 3.
- (iii) Vacancies remaining unfilled as on 31-3-1974 — *ibid* Technical Notes para 8.

Manpower needs by Occupational Categories

4·7 The skilled requirements of the area by 1979 will be of the order of 61·2 thousand (excluding unskilled workers, who are likely to be of the order of 23·0 thousand). Following table gives manpower requirements by broad occupational categories.

TABLE 37
Manpower Needs

Occupation	Number
Professional, Technical / Related Workers	9,807
(i) Scientists, engineers & Technologists	2,857
(ii) Doctors and medical & health technicians	774
(iii) Teachers	5,663
(iv) Accountants, Social scientists & other Professionals	513
Administrative, Executive / Managerial Workers	2,190
Clerical and Related Workers	6,900
Sales Workers	1,128
Services, Workers (excluding sweepers, water carriers, Watermen, Chowkidars etc.)	3,390
Farmers, Fisherman, Loggers and Related Workers (excluding Agricultural / Plantational labourers)	3,757
Production Process and Related workers and Transport Equipment Operators (excluding unskilled labourers)	33,977
(i) Production process & Related workers	32,313
(ii) Transport equipment operators	1,664
Unskilled Workers	23,013
TOTAL	84,162

(Refers Appendix-IX : Manpower Needs by 1979)

4·8 Of the total manpower needs, the recruitment for production process & related workers and transport equipment operators will be the largest (34·0 thousand) forming 40·4 per cent of the total. Professional, technical & related workers (9·8 thousand) come next being 11·7% of the total followed by clerical workers (6·9 thousand) forming 8·2 per cent of the total needs. Administrative, executive & managerial workers (2·2 thousand) form only 2·6 per cent of the overall future requirements.

4·9 **Professional, Technical and Related Workers**—The more important and crucial manpower needs among this category are :—

(i) <i>Scientist, Engineers and Technologists</i>	300
Civil Engineers	300
Electrical Engineers	320
Mechanical engineers	470
Chemical engineers	30
Metallurgists	240
Draughtsmen—Civil	170
Overseers—Civil	300
Electrical & Mechanical and automotive engineering technicians	410
(ii) <i>Doctors, Pharmacists & Medical Technicians</i>	
Physicians & Surgeons	80
Pharmacists	100
Nurses	120
Midwives	100

(iii) *Teachers*

Nursery & Primary	510
Middle School	2720
Secondary	2140
University & College	250
Craft, art and drawing	40

(iv) *Accountants, Social Scientists and other professionals*

Accountants & auditors	160
Laboratory attendants	70
Physical training instructors	50
Village level workers	40

4.10 Out of the total jobs likely to come up during the next 5 years 1090 will pertain to the three principal branches of engineering namely, civil, mechanical and electrical. The demand for metallurgists and draughtsmen during the next 5 years is also likely to be sizeable. Among medical & health personnel nurses, midwives and pharmacists are going to be in greater demand. As a result of the launching of the minimum needs programme during the Fifth Five Year Plan, teachers at all levels will be required in large numbers. The other demands which deserve special attention are accountants and auditors.

Production Process & Related Workers and Transport Equipment operators

4.11 Details of manpower requirements for production process & related workers and transport equipment operators are given in Appendix IX. Requirements for some important occupations in this category are as follows :

(i) *Production Process and Related Workers*

Driller, mines and quarries	310
Supervisor & foreman, metal making, converting & refining	200
Hand spinners, cotton and woolen textile	320
Drawer	210
Weaver powerloom	220
Tailor and dress makers	310
Carpenter, general	230
Carpenter, Construction	3230
Machinist, general	260
Turner	220
Grinder, general	640
Blacksmith, tool maker and machine tool operator, other	400
Fitter, general	2600
Assembler, workshop machines & equipment	340
Machine, automobile	370
Electrician, general	430
Wiremen, light and power	250
Plumber, general	200
Welder, electrical	1410
Stone mason	1740
Bricks layer and tile setter	620
Rigger	3050
Slinger	300
Crane operator, diesel/electric	160

(ii) *Transport Equipment Operators*

Lascar	380
Driver car	90
Driver bus	490
Driver, truck	310

4.12 Among production and related workers substantial demand is expected for carpenters (3460), riggers (3050), fitters (2600), welders (1410), bricklayers, and tile setters and stone mason (2360), grinders (640) and electricians (430) during the next 5 years. Under transport equipment operators, sizeable demand for motor vehicle driver is expected to be generated.

Manpower requirement by Educational Level

4.13 Employers were also requested to furnish information about the educational and technical qualification of workers likely to be demanded during the next 5 years. The following tables shows the percentage break-up of additional manpower requirements according to the level of educational and technical qualifications.

TABLE 38
Manpower Requirements by Educational Level

Level of Education	Percentage
Below Matric (including illiterates)	20.5
Matric and above but below graduates	7.0
Graduates	1.9
Post Graduates	0.2
<i>Professional and Technical :</i>	
<i>Graduates and above in :</i>	
Engineering	1.7
Medical	0.1
Education	0.2
Others	0.1
<i>Diploma holder in :</i>	
Engineering	1.3
Others	3.1
Recognised certificates (such as those issued by I.T.Is and Teachers Training Institutes etc.)	22.2
Production and related workers with experience irrespective of qualifications of I.T.I. training.	41.7
TOTAL	100.0

4.14 No formal institutional training or possession of a recognised certificate or diploma has been considered as an essential criteria for recruitment of a sizeable number of production process and related workers. The man-power needs in this categories are normally being met through informal, inplant apprenticeship or institutional training organised by establishments. Nearly 42.7 percent additional employment opportunity are likely to be only for non-matriculantes & certificate holders while only 7.0 percent will be available for matriculates and above but below graduates.

CHAPTER V

SELF-EMPLOYMENT

A. Rural Areas

5.1 Information regarding self-employment in non-agricultural activities in rural areas was collected from 5 per cent of villages selected from each community development block. The sample was drawn after listing the villages falling within each development block according to the descending order of population. For drawing sample every 20th village beginning with the first was taken from each block list.*

5.2 The information about the existing avenues of self-employment in non-agricultural activities was collected by organising systematic comprehensive door to door survey of all the sampled villages to identify establishments in the size class 1-4 workers (including both wage paid employment and self-employment). The information about aspects such as particulars of the activity of establishment, number of persons engaged in self-employment on full time/part time basis, difficulties faced and assistance needed, if any, was obtained during the course of the street survey in respect of each of the establishment so identified. After the completion of door to door survey, data was compiled and entered, in item II of village schedule AS-V (Annexure-I). Information about the additional opportunities of self-employment that could be created in the light of modernisation of agriculture, local produce & other resources and expanding needs for maintenance & other services was then elicited by making enquiries from village elders, Government village officials, other knowledgeable persons and also after discussions with district officials of various concerning department such as industries, planning and agriculture who possessed intimate knowledge of the respective village community. It is felt that these estimates would be fairly indicative of existing number of self-employed and the additional number of persons that could be absorbed as self-employed in the non-agricultural activities in the rural areas.

5.3 The survey revealed that 1.67 lakh persons, were self-employed in various non-agricultural activities (1.29 lakhs full time and 0.38 lakh part time) and fresh opportunities for self-employment of the order of 17.3 thousand persons could be created in the light of modernisation of agriculture, local produce, other resources, expanding needs for maintenance and other services. The type of assistance needed for promoting self-employment was mainly finance. Some of the difficulties expressed by the existing self employed persons were lack of demand for finished products transport facilities and shortage of raw material.

5.4 The following table shows the fields in which persons are currently self-employed and additional employment opportunities that could be developed in the near future.

TABLE 39
Existing and Future Avenues of Self Employment in Rural Areas

Field	Existing number of persons who are self-employed			Scope for future self employ- ment
	Full time	Part time	Total	
1	2	3	4	5
Fishing (Sea)	30141	..	30141	182
Retail selling	17558	387	17945	641
Laundrying (Dhobi)	10732	1162	11894	48
Spinning & weaving (H. Loom)	6643	12	6655	811
Eating places	6026	218	6244	145
Carpentry	5881	133	6014	194
Hair dressing (Barbers)	5566	48	5614	..
Tailoring	5022	97	5119	61
Stitching of adda leaf plates	4828	19311	24139	6982
Toddy Tapping	3981	145	4126	..
Pottery	3509	61	3570	..

*Blotting of the data was done on the basis of population covered in the sample.

TABLE 39—Contd.

1	2	3	4	5
Cattle rearing	3485	823	4308	375
Brick laying	2831	85	2916	..
Collection of Forest produce (adda leaf)	2686	13540	16226	..
Gold smithy	2384	24	2408	..
Sale of Vegetables, milk etc.	2105	145	2250	..
Rickshaw driving	2045	..	2045	315
Oil expelling	1936	12	1948	569
Blacksmithy & tin smithy	1476	12	1488	..
Shoe making and repairing	1464	..	1464	24
Fishing (Inland water)	1440	..	1440	..
Bullock Cart Driving	1271	157	1428	..
Religious services	786	73	859	..
Manufacturing of consumer and sundry goods	774	194	968	109
Cycle repairing	714	..	714	36
Construction	714	194	908	..
Medical services	666	36	702	..
Diesel engine repairing	460	..	460	121
Teaching	254	..	254	..
Money lending	242	36	278	..
Dairy farming	182	411	593	4356
Palm fibre and coir preparation	169	605	774	1355
Poultry farming	12	..	12	544
Milling of Rice	12	..	12	254
Other activities	1076	36	1112	205
TOTAL	129071	37957	167028	17327

5.5 Visakhapatnam district has a long coast line and therefore fishing in sea is the most important exist avenue of self-employment. Other important avenues, in order, are retail selling, laundrying (Dhobi), spinning and weaving (Handloom), eating places, carpentry, hair dressing (Barber) and tailoring. Among future self-employment opportunities the activities of stitching of adda leaf plates etc., dairy farming, palm fibre & coir preparation, spinning and weaving (handloom), retail trading, oil expelling and poultry farming, in order, are showing greater potentialities. Cattle rearing, rickshaw pulling and carpentry are also expected to provide additional employment opportunities.

5.6 Of the total number of 38 thousand persons working as self-employed on part time basis as many as 19 thousand are engaged in stitching adda leaf plates while another 13.5 thousand are engaged in the activity connected with the collection of various forest products particularly adda leaf which are used for making leaf plates for dining purposes not only in the district but also in adjacent districts. The balance is in activities such as laundrying, cattle rearing, palm fibre and coir preparation and dairy farming.

5.7 From the above table it would be seen that some economic activities have greater scope for self-employment opportunities in future. To help people in exploiting these avenues fully, it will be advantageous to organise short-term training course particularly in the following fields :

1. Dairying and poultry farming	4900
2. Spinning and weaving (handloom)	811
3. Carpentry	194
4. Stitching of adda leaf plates	6982
5. Diesel engine repairing	121

Working Proprietors in Rural Areas

5.8 As a part of survey, information regarding working proprietors in the private sector establishments having more than five workers was also collected. As many as 187 out of 231 establishments (81 percent) in the rural part of the district reported existence of one or more proprietors/partners who were actively engaged in the day-to-day operations of their concern. Working proprietors constituted 10.3% of the

total employment in such establishments having working proprietors. The following table indicates industries and fields which provide self-employment in rural areas besides generating wage paid employment:—

Industries	No. of Estts.	Employment	Working proprietors partners
Chemical Products	4	60	8
Mining and quarrying	3	70	6
Food stuffs	65	767	103
Jute	1	10	1
Textiles (miscellaneous)	12	221	20
Wood & Wooden products	8	54	18
Non-metallic mineral products	28	996	43
Basic metals & their products	9	162	14
Manufacturing and repairing of machineries	1	12	3
Manufacturing and repairing of transport equipment	1	6	1
Construction	1	28	2
Transport	5	50	10
Recreation services	19	311	27
Personal services (including catering)	23	188	26
Other activities	7	58	8
TOTAL	187	2993	290

5.9 Occupation-wise distribution of working proprietors in rural areas revealed that 97.9 percent of them were engaged in managerial & administrative jobs as could be seen from the following table.

Occupation	No. of working proprietors
Administrative and managerial Services	284
Services	3
Craftsmen	3
TOTAL	290

5.10 An analysis of the educational attainments of the working proprietors/partners reveals that no relationship existed between the level of education and type of work performed by them. Two-thirds of working proprietors were non-matriculいたes while only one-fourth of them were matriculates as will be evident from the following table.

Educational Level	Number	Percentage
Non-matriculいたes (including illiterates)	200	69.0
Matriculates	70	24.1
Graduates	16	5.5
Post-graduates	1	0.4
Professional and technical	3	1.0
TOTAL	290	100.0

B. Urban Areas

5.11 A comprehensive account of self-employment in the urban areas was outside the purview of the present survey. However a limited assessment in respect of those segments of economy for which information was readily available from existing records of government departments, local bodies, employers' & trade associations, licensing authorities etc., was attempted. The data presented in the following table are in respect of certain selected segments of economy for which information was available and are normally confined to urban areas. While translating the number of licences, registrations etc. into manpower terms, consideration will have to be given to the fact that these numbers do not necessarily represent an equal number of self-employed. For instance each public carrier may provide employment to 4.8 persons whereas in the case of cycle-rickshaws 2.3 persons might be engaged in plying it on shift basis.

TABLE 40
Self-Employment in Urban Areas

Category of Self-Employment	Number in			Difference 1967-74 increase (+) Decrease (-)
	1967	1972	1974	
I	2	3	4	5
I. <i>Number of Licences Issued</i>				
(a) Railway Porters	323	556	576	+253
(b) Vendors on railway station	107	104	142	+35
(c) Vendors selling cables on rehri/street hawkers	326	375	795	+469
II. <i>Number of Vehicle Regd</i>				
(a) Cycle rickshaws	1238	1371	2179	+941
(b) Animals driven carts	2868	2050	1137	-1731
(c) Taxies	150	273	374	+224
(d) Tempos & Scooters	11	40	55	+44
(e) Public carriers (Buses & lorries)	774	1277	1533	+759
III. <i>Number of Registered Shops</i>	365	2828	5702	+5337
IV. <i>Number of licences issued under arrack shop contractors</i>	..	3	143	+143
V. <i>Mutton sellers</i>	138	139	201	+63
VI. <i>Milk sellers</i>	399	502	510	+111
VII. <i>Sweet meat sellers</i>	65	76	98	+33
VIII. <i>Number of licences issued under money lenders act</i>	36	11	52	+16
IX. <i>Number of licences issued under stamp vendors</i>	55	63	80	+25
X. <i>Number of eating places</i>	783	888	910	+127
XI. <i>Number of contractors</i>	281	398	507	+226
XII. <i>Number of life insurance corporation agents</i>	N.A.	310	824	..
XIII. <i>Number of Advocates registered with bar council</i>	255	278	300	+45
XIV. <i>Number of medical practitioners registered</i>	48	71	80	+32
XV. <i>Laundry service (washerman)</i>	N.A.	N.A.	714	..
XVI. <i>Fishermen</i>	N.A.	N.A.	3510	..
XVII. <i>Weavers</i>	N.A.	N.A.	1532	..
XVIII. <i>Goldsmiths</i>	N.A.	N.A.	250	..
XIX. <i>Cobblers</i>	N.A.	N.A.	500	..
XX. <i>Hamalies</i>	N.A.	N.A.	3700	..
XXI. <i>Tailors</i>	N.A.	N.A.	2297	..

5.12 It could be seen from the above table that expansion in employment opportunities during the period 1967-74 occurred in almost all the fields except activity of transportation by animal driven carts which showed

a decreasing trend. The phenomenal increase was however noticed among registered shops, rickshaw pullers and life insurance corporation agents.

Working Proprietors in Urban Areas

5.13 1680 private establishments out of 2018 (83.3%) located in urban areas had one or more working proprietors. In terms of employment they constituted 16.3 percent of the total employment of establishments having working proprietors. Smaller private establishments both in terms of having working proprietors and ratio of working proprietors to the total employment have an edge over bigger private establishments. The following table shows industries which provided self-employment besides generating wage-paid employment in urban areas.

Industries	No. of Estts.	Employment	Working proprietors
1	2	3	4
Food stuffs	83	1059	152
Beverages	13	170	18
Jute	17	443	30
Textile (miscellaneous)]	89	718	105
Wood & wooden products	57	572	106
Printing & publishing	58	377	80
Leather products	11	155	13
Chemical Products	14	186	21
Non-metallic mineral products	15	328	17
Basic metal & their products	113	1500	161
Manufacturing of machinery (including repairing)	19	347	22
Transport equipment (manufacturing & repairing)	97	735	140
Construction	25	1148	52
Wholesale trade	195	1706	530
Retail trade	363	2701	774
Transport	51	790	68
Educational services	19	423	19
Recreational services	43	689	63
Personal services (including catering)	357	3234	452
Other activities	41	361	58
TOTAL	1680	17642	2881

5.14 A study of the occupational profile of working proprietors/partners revealed that majority of them (84.9%) had taken up administrative and managerial jobs. Other fields in which they were engaged are sales and craftsmen etc. The following table illustrates.

TABLE 34

Occupation	No. of working proprietors
Professional and technical	25
Administrative and managerial	2446
Clerical	69
Sales	185
Services	33
Production process workers and transport equipment operators	115
Others	8
TOTAL	2881

5.15 More than half of the working proprietors were non-matriculates while 30.2% were matriculates. Graduate working proprietors constituted 10.0% only as would be evident from the following table.

Educational level	Number	Percentage
Non-matriculates (including illiterates)	1612	56.0
Matriculates & above but below graduates	869	30.2
Graduates & above but below post-graduates	287	10.0
Post-Graduates	24	0.8
Professional and technical	89	3.0
TOTAL	2881	100.0

5.16 A further analysis of educational background of working proprietors and economic activities in which they were engaged revealed that non-matriculates and matriculates were wide spread in all types of activities, while 60% of science graduates and art graduates were engaged in trade & commerce and 30% in manufacturing industries. Though 50% of engineering graduates were engaged in manufacturing industries, 8% of them were in catering services which is not related to their field of specialisation. Another 20% of engineering graduates were engaged in trade and commerce (mainly connected with the sale of textile goods) which again is not a related activity. It may be of interest to note that almost all the engineering diploma holders (20 out of 23) and all I.T.I. certificate holders (11) working proprietors/partners were engaged in manufacturing industries.

Sub. National Systems Unit,
National Institute of Educational
Planning and Administration
17-B, SriAurbindo Marg, New Delhi-110016
DOC. No.....
Date.....

CHAPTER VI

TRAINING AND EDUCATIONAL FACILITIES

6.1 Facilities for education both at the lower and higher levels are available within the district. There is a full fledged University, 15 junior and degree colleges, one medical college, one engineering college and one college of education. One Government polytechnic and one industrial training institute is also functioning in the district and there is a proposal to start another industrial training institute at Vizianagaram. The number of higher secondary schools in the district is 118. Facilities for Post-graduation and research are available in almost all the faculties in the district except agriculture.

6.2 Out-turn from educational institutions relating to matriculates, intermediates and graduates in arts, commerce and science for each of the last 3 years is given in the following table.

TABLE 41
Out-turn of Matriculates Intermediates and Graduates

Field of Study	Out-turn		
	1972	1973	1974P
Matriculates	5865	6455	3786
Intermediates	967	1528	1284
Graduates : Arts	126	220	145
Commerce	187	269	237
Science	259	459	157

6.3 Institution-wise details about courses or subjects of study, duration, admission requirement, method of admission and details of award etc., obtained from all the recognised and un-recognised colleges and educational institutions in the district are presented in Appendix X(A). The details regarding out-turn in respect of professional/technical and other courses was however collected from the recognised colleges and institutions only. This data were obtained separately at the certificate, diploma, graduate and post-graduate level (including doctorate). In working out the estimates for likely out-turn during the next 5 years the present intake capacity, admission targets set for the future as well as the information about the educational wastage and stagnation if any at different levels of education were taken into consideration. The following table indicates the likely out-turn during the next 5 years (1974-79) at various levels of education from all the recognised insitutions imparting professional/technical education etc. in the district.

TABLE 42
Out-turn From Institutions

Field of study	Likely out-turn during next 5 yrs. (1974-79)
1	2
(a) Post-Graduate Level (Including Doctorate)	6150
Engineering	170
Medicine	205
Pharmacy	45
Science	1705
Law	5
Education	200
Arts & Humanities	3820

TABLE 42—Contd.

1	2
(b) Graduate Level	3145
Engineering	975
Medicine	690
Pharmacy	125
Library science	115
Education	1000
Law	240
(c) Diploma Level	1262
Engineering	490
Medicine	185
Pharmacy	55
Radio-physics & electronics	10
Applied statistics	65
Languages	295
Music	2
Play direction & acting	20
Sanskri.	105
Co-operation in rural studies	35
(d) Certificate Level	11095
(i) <i>Engineering Trades</i>	3352
Turner	216
Fitter	253
Wireman	153
Welder	640
Carpenter	205
Electrician	125
Mechanic-Radio	150
Mechanic-Motor	195
Mechanic Refrigeration & air-conditioning	270
Tool & die making	170
Machinist-composite	210
Plumber	195
Sheet metal worker	120
Blacksmith	120
Others	330
(ii) <i>Non-Engineering Trades</i>	90
(iii) <i>Medical & health</i>	1005
Sanitary inspector	240
Nursing	250
Health visitor	150
Midwife	280
Others	85
(iv) <i>Miscellaneous</i>	6648
Type lower-english	3505
Type higher-english	1262
Seamen deck	450
Seamen engine	300
Telephone operator	400
Others	731

(Refer Appendix-X (B)—Likely out-turn from institutions imparting professional & technical training).

6.4 In addition to the out-turn from training institutions discussed above persons also being trained under the Apprentices Act 1961 and Employers' own training programme. In all 2640 persons are likely to be trained during the next 5 years in various trades under the Apprentices Act while only 119 under Employers' own training programme. The following table shows number of persons trained in different trades during 1973 and the number likely to be trained during the next 5 years in various trades.

TABLE 43
Number Trained and Likely Out-turn during the Five Years 1974-79

TRADE	No. trained during 1973			Likely out-turn during next five years		
	Under App. Act	Through Own Training Prog.	Total	Under App. Act	Through Own Training Prog.	Total
1	2	3	4	5	6	7
Moulder	4	..	4	10	..	10
Carpenter	8	..	8	190	..	190
Blacksmith	1	..	1	10	..	10
Marker Metal	12	..	12	30	..	30
Tool Maker	3	..	3	15	..	15
Pattern Maker	..	..	..	5	..	5
Machinist	24	..	24	100	..	100
Turner	52	..	52	175	..	175
Instrument Mechanic	6	..	6	40	..	40
Optical Instrument Mechanic	2	..	2	10	..	10
Fitter General	83	2	85	490	10	500
Fitter Bench	46	..	46	240	..	240
Motor Mechanic	14	..	14	115	..	115
Diesel engine Mechanic	8	..	8	40	..	40
Maintenance Mechanic	10	..	10	50	..	50
Refrigeration & Air Conditioning Mechanic	5	..	5	65	..	65
Electrical Fitter	9	20	29	100	20	120
Electrician	38	..	38	160	..	160
Radio Mechanic	2	..	2	25	..	25
Wireman (Light & Power)	14	..	14	85	..	85
Plumber	29	..	29	175	..	175
Welder Gas	100	..	100	315	..	315
Welder Electric	6	..	6	30	..	30
Sheet metal Workers	15	..	15	80	..	80
Boiler Attendant	10	..	10	50	..	50
Draughtsman Mechanic	10	..	10	35	..	35
Electrical Engineer	..	7	7	..	30	30
Mechanical Engineer	..	10	10	..	30	30
Marine Engineer	..	5	5	..	25	25
Technician—Medical Engineering	..	4	4	..	4	4
Total	511	48	559	2640	119	2759

6.5 It could be observed from the table No. 43 that quite a good number of persons trained under Apprentices Act 1961 were in trades such as Fitters (129), Welders (106), Turners (52), Electricians (38), Plumbers (29) and Machinists (24). Employers' own training programme were responsible for training of electrical fitters (20), mechanical engineers (10), marine engineers (5). The Employers' own training programmes are organised mainly for meeting their own requirements. In the light of the future requirements, the employers propose to train as many as 119 persons in various trades during the next five years. Under the Apprentices Act, the number of persons likely to be trained by the various industrial establishments covered under the Apprentices Act are in trades such as Fitters (730), Welders (345), Electricians and Electrical Fitters (260), Carpenters (190), Turners (175), Plumbers (175) and Motor Mechanics (115).

6.6 Detailed information about the establishments which play important role in imparting training through Apprentices Act and own training programmes, their intake capacity in various trades, educational qualification prescribed for admission is given in Appendix—X Part D. The break-up of the number

of apprentices trained during the year 1973 and those likely to be trained during the next 5 years by various industries is as follows:

TABLE 44

Industry	No. trained during 1973	Likely out-turn during next 5 yrs.
Production of sugar	14	74
Jute spinning & weaving	9	95
Production of petroleum & kerosene	20	100
Manufacture of fertilizers	35	175
Manufacture of synthetic products	5	25
Manufacture of heavy plates & vessels	153	375
Manufacture of electric motors	28	60
Repairing of motor vehicles	5	65
Ship building and repairing	227	1235
Naval establishments	28	430
Port	35	165
TOTAL	559	2759

CHAPTER VII

MODIFICATIONS IN THE TRAINING AND APPRENTICESHIP PROGRAMME

7.1 Craftsmen and apprenticeship training programmes which are in operation for over a decade are organised with a view to meeting the changing requirements of craftsmen in the context of rapid technological developments. There are 356 Industrial Training Institutes all over the country with a seating capacity of 1.53 lakhs both in the engineering and non-engineering trades. As a result of concerted drive undertaken to implement the Apprentices Act after the announcement of the 20-Point economic programme by the Prime Minister, the implementation position rose to 1.21 lakhs seats utilised against 1.28 lakhs seats located on 31st January 1976 showing a substantial increase of 17.8 thousand located seats and 51.7 thousand seats utilised compared to the earlier position. The coverage of the Apprentices Act has also been extended to 15 new fields bringing the total number of industries specified under the Act to 216. In addition, 57 special fields in engineering and technology have also been designated under the Act for the graduate and technician apprentices. Besides, 41 additional trades for trade apprentices have been designated in addition to the existing number of 62, bringing the total number of trades designated to 103 for trades apprentices under the Apprentices Act. All these training programmes envisaged constant improvements of industrial skills required for development of industries and proper utilisation of human resources.

7.2 Although information about manpower needs by occupations collected under the Area Skill Surveys is of basic importance in organising training programme, the need for ascertaining the level/degree of skill under each category of occupation has been recognised from all corners for diversification of the existing training programmes to meet the local needs. With rapid industrialisation, occupational changes are coming up very fast and skill needs would, therefore, have to be further graded to find out exact type of training which would need to be started for meeting specific requirement of the industry at the local level. The planning commission, therefore, recommended that future manpower requirement need to be assessed both qualitatively and quantitatively. The Expert Sub-Group which evaluated Area Skill Survey was also of the same opinion and recommended that a mere quantitative assessment of manpower needs by occupations, as has been done under Area Skill Surveys, would not be enough and a technical survey to assess the precise degree of skill under each occupation would also be necessary.

7.3 The main objectives of the qualitative survey are to study the following aspects :—

- (a) Adequacy of the existing training/apprenticeship training programmes and the extent to which they fulfil the needs of the area;
- (b) Occupations in which training/apprenticeship programme will need to be provided in the light of the future manpower needs;
- (c) Extent to which there is an excess of training facilities in the context of area needs;
- (d) Modifications needed in the existing training curriculum to meet the requirements; and
- (e) Directions in which quality of training will need to be upgraded to achieve improvements in the required skills.

7.4 Existing industries employing 100 or more skilled workers and the trades having 7 or more workers were selected for conducting qualitative skill survey. The establishments where the number of workers currently engaged under any trade is less than 7 but sizeable requirements (7 and above) during the next 5 years have been anticipated were also approached for furnishing the required information. Data from all such emerging establishments who anticipated additional requirement of atleast 7 in a trade were also covered.

7.5 In all, qualitative skill survey was carried out in 22 selected industrial establishments located in the area. Equal number of establishments were covered both in the Private and Public sector.

7.6 Through this survey a thorough study was undertaken to analyse the job specification of the manpower required at semi-skilled, skilled and highly skilled level. This has greatly revealed the type of the manpower required which may help in modifying the present training curriculum so that modern technological development could be incorporated.

7.7 The data were collected by personal interview method jointly by the officers of the Area Skill Survey Unit and Regional Director of Apprenticeship Training, Madras. The survey teams visited the selected industries and filled in the questionnaire by observations, discussions with the personal managers/

labour officers/training officers. Some of the establishments expressed difficulty in furnishing the required data as policy matters were also involved. In such cases, the highest authority of the concerned organisation was contacted and the problems were over-come.

7.8 During the visits to different departments of the establishments, a minute study of the job content of the worker, putting questions to him in order to get his background such as educational qualifications, technical training, if any, etc. was made. This enabled the survey teams to find out the new skills, the type of manpower required, the type of the machines being used etc.

7.9 **Questionnaire.**—Among the important items of information included in the questionnaire were particulars regarding the type of industry, strength of workers, category of workers such as semi-skilled, skilled and highly skilled, recruitment procedure adopted in recruiting the workers, training activities in the industry, occupation-wise manpower required in the next five years to come and the detailed job specifications

7.10 **Coverage.**—The relevant information could be collected from all the 22 selected industries mainly due to the fullest cooperation extended by the employers who even allowed visits to the shop-floor with the shop-floor in-charge, holding discussions with workers, supervisors/foremen, production managers and training in-charge. Out of these 22 industries, 3 were small scale, 9 medium scale and 10 large scale.

Existing Training Facilities, Equipment and Staff

7.11 Nearly 60% of the establishments (13 out of 22) studied under the Qualitative skill survey are having facilities for training of workers, either under the Training Programme or under the Apprenticeship Act, 1961. In case of private sector, 8 out of 11 establishments had organised training programmes while in the public sector only 5 establishments out of 11 have such training facilities. The existing training programme in the private sector establishments mainly relates to 'on the job' training while in the public sector establishments it relates to integrated training. Only in a few cases, 'on the job' and 'off the job' training is also being imparted. The existing training facilities are mainly for skilled workers. In a few cases facilities for training of maintenance technicians is also available. The three bigger public sector projects have separate training centres in addition to which they also use workshop floor. Private sector establishments are imparting training on the workshop floor only due to want of separate training centres. The type of equipment available in the various industries is as indicated below:—

TABLE 45
Industry and Trade-wise break-up training Equipment

Industry	Trade/Equipment
Manufacture of Fertilizers	Simulator equipment for operation trainees and fulfilled workshop for maintenance Trainees.
Manufacture of Iron & Steels including smelting, refining etc.	Lathes (Centre) Capstain Shaper/Planner Driller.
Manufacture of Aluminium Products	Rolling machines, Sheet cutting machines, Circular cutting machines.
Building and Repairing of ships	<p>FITTING : 1. Bench Vices, Surface Platers, Marking Blocks, 'V' Blocks.</p> <p>TURNING : Lathe machines with attachments.</p> <p>MACHINING : '6' Strock planner, 20" Stroke shaper Universal Miller, one inch capacity driller, Tool Grinding M/C, Power saw m/c P.S. : Besides initial training in the centre, the apprentices work in our Main workshop for a minimum period of three months on production jobs to gain confidence. Our main workshop consists of about 50 lathes of different make and sizes and about 20 other machines.</p> <p>PLUMBING : Bench vices, Leg vices, Chain vices, Anvil, Swage Block for pipe bending, Grinder, Transformer with regulators, Oxy Accetylene plants, Marking Platform, Blow lamps, BSP pipe threading dia. set, Pipe bending M/C hand operated for cold bending, (one hydraulic and the other lever type). Pumps, valves valve, chests & boxes, stainers, etc., for demonstration purpose.</p>

Industry	Trade/Equipment
	<p>CARPENTRY SECTION :</p> <p>Circular saw machine, Dovetail cutting machine, Band saw machine, Grinding machine, Hand drill machine.</p> <p>SHEET METAL :</p> <p>Flanging machine, Flanging machine 3 ft., Flanging machine 6 ft., Circular cutting machine, Rotary cutting machine, $\frac{1}{2}$" Electrical drilling machine, $\frac{1}{2}$" Pneumatic drilling machine, $\frac{1}{2}$" Pneumatic drilling machine, 6" Pneumatic grinding machine, 2mm thick sheet cutting machine, 3mm thick sheet & angle cutting machine, Pressing machine, Gas cutting set, Gas welding set.</p> <p>FITTER STRUCTURAL :</p> <p>Profile gas cutting machine, Pillar drilling machine: Pneumatic hand drilling, Hand cropper shearing, Pneumatic hand grinding, Hand gas cutting set, Gas welding, set.</p>
Railways (Sig. & Communications)	Models required for maintenance, of signal, Block and Tele Com. Equipments on the Railway.
Central Government Depts. (Repairs of ships)	Lathes, Drilling machine Radial, Bench and pillar drills, Shaper machine, Slotting machine, Milling machine, Welding arc, Gas cutting & Welding equipment, Circular saw, Wood working lathes, Wood planning machines.
Quasi Government Departments (Repairs to Boats etc.)	Lathes, Drilling machines, Shaping machines, Arc & gas welding equipments, Carpentry machinery, Molding & Blacksmith machinery & Tools.
Assembling and manufacturing of heavy research and chemical Engineering Machineries.	<p>Hindustan Centre Lathe, Model LB 17/1000 mm with special and standard accessories, Hindustan centre lathe (Universal) Model LB 20/100mm with accessories, Kirloskar lathe MBD-1 with accessories, Kirloskar lathe MBD-2 with accessories. Horizontal milling machine with accessories. Vertical milling machine with accessories. Universal Milling machine with accessories.</p> <p>Hitachi Capstan lathe with accessories. Radial drilling machine RM-60 with accessories. PUG type portable cutting machine with accessories. Profile cutting machine with accessories. Motor generator set with accessories. Welding Rectifier with accessories. Tryodene welding generator set with accessories. Submerged Arc welding machine with transformer. Electrode Drying Oven type EDO-2. Bench grinder heavy duty 6" GQ 6 (wolf). Bench Grinder 6" Type TG-6. Heavy Duty 9" portable grinder AG 9. NET Pedestal grinder 12" x 1$\frac{1}{2}$". Fire extinguisher 2 lit. capacity. Surface plates 18 x 18", 18 x 24", 24 x 24" (Marking plate). Marking table 900 x 900 mm. Anvil 1 cwt, anvil 2 cwt Spray painting equipment. Hand operated bending machine. Fly press No. 10 with wheel. Bardhan blowing fan. Fire extinguisher 2 gallons. Epidiascope. Weighing machine Automatic time recorder. Machine vices 160 mm Jaw. 16 mm sound film projector with accessories. Pipe bending machine 3/8". HSK automatic star Delta Starter. HKM Push button starter station. HKS push button. MEI type (DLS) Director on line starter. Multimeter model 260-5 m tachometer. Insulation tester sakova meggar volt meter 0-250 and 0-500 volts. Ammeter 0-20A Tong tester range 10-25-100-500-1000. Coil winding machine.</p>

7.12 The area is concentrated with sugar and jute industries and there is no organised pattern of training to meet the needs of these industries. The training extending to a period of 3 days to 3 months is normally organised as and when required under the advice of Jute Board. This is mainly because of seasonal nature of these industries.

Adequacy of Existing Training Facilities

7.13 The following table gives the number of trained personnel required, the number of trainees likely to be available and the gap between the two during the next five years:—

TABLE 46
Inadequacy/Surplus in Training Facilities

Trade/Occupation	Manpower required upto 1979	No. likely to be trained upto 1979	Inadequacy of training facilities	Surplus of training facilities
1	2	3	4	5
Turner	221	216	5	..
Fitter	2935	293	2642	..
Mechanist : —Composite	262	210	..	8
—Grinder		60	..	..
Welder	1549	640	909	..
Sheet Metal worker	41	120	..	79
Blacksmith	174	130	44	..
Electrician -	434	125	309	..
Wireman	249	153	104	..
Carpenter	3512	205	3207	..
Plumber	204	195	9	..
Mechanic Radio	37	150	..	113
Mechanic—Radio & T.V.	..	50	..	50
Electronics	6	60	..	54
Mill wright	31	60	..	29
Tool & Die makers	28	170	..	142
Mechanic Instrument	125	40	85	..
Mechanic Refrigeration & Air-Conditioning	37	270	..	233
Mechanic Motor	365	195	170	..
Draughtsman-Mechanical	58	60	..	2

7.14 The I.T.I./Apprenticeship training programmes are adequate to the extent of providing basic engineering skill. The training is normally suitable for providing employment at the semi-skilled level or operative jobs. Only a few establishments have expressed that the quality of the training needs improvement and encouragement because the science and technology has advanced and I.T.Is. are not equipped fully to impart training to suit the latest developed technology. There is lack of modern machinery and equipment and lack of proper programme to supplement the training facilities available in the institutes with that of other sources. Such establishments are normally in need of multi-craft trade in which case the skill evolved in the allied trades are achieved by the workman's own experience at the semi-skilled and skilled level. Besides, these establishments have varied operations and job requirements.

7.15 The potential needs are mainly to cater to the needs of heavy engineering plants which are mostly equipped with modern machinery, tools and other accessories and sophisticated equipment. Establishments insist to have personnel trained for fitting in such a work so that they could plan for training on modern lines. Besides, these employers feel that the future manpower requirements needs to be trained so as to enable them to work independently. The present syllabi for I.T.Is. with little modification keeping in view the latest developments will be suitable.

7.16 To keep pace with the requirements of industries, the Survey Teams made an efforts to identify change in skill needs by studying, observing the job performance and also by personal discussions with the employers and the employees. The information about job specifications could however be obtained in respect of the following trades :—

1. Carpenter
2. Electrician
3. Fitter
4. Turner
5. Motor Mechanic

6. Plumber
7. Welder
8. Blacksmith
9. Millwright Fitter
10. Lineman
11. Wireman

7.17 Most of the establishments could not however offer any specific suggestions regarding the change in curriculum for improvement of existing training programmes. The modifications necessary to be made in the curriculum has been suggested in respect of the following trades as indicated below :—

- | | |
|----------------|--|
| 1. Carpenter | : Should be able to apply tallow grease for launching ways; preparation and fixing of cane-work ; glass; knowledge of boat building. |
| 2. Electrician | : Knowledge of welding techniques. |
| 3. Fitter | : Pipe laying-out for refrigeration & air-conditioning machinery, maintenance of lifting equipments (hydraulic, electrical and manual): maintenance and repairing of steam locomotives; spindles dial-gauge. |
| 4. Turner | : Working knowledge of Milling and Shaping machines and maintenance of Steam Locomotives. |

7.18 The reasons relating to the causes for the poor quality of I.T.I. passed out trainees are viz.,

- (a) inadequate machinery and equipment in the institutions; and
- (b) non-availability of highly trained instructional staff.

7.19 In the light of the reasons stated above the possible measures that can be taken to improve the quality of I.T.I. passed out trainees could perhaps be taken are :—

- (i) improving the instructional ability and trade knowledge of instructional staff;
- (ii) improving the supervisory ability of group instructors by way of training them in supervisory development programme;
- (iii) standardising the lessons topics for each trade and providing the instructional material, printing of charts, providing audio visual aids such as films, film strips etc. and
- (iv) providing the craft science laboratory wherein the apprentices will be verifying different science/mechanics laws.

Selection Preference

7.20 It is observed that Private establishments mainly recruit experienced candidates directly from the open market while public sector establishments are under obligation to take through local employment exchange only. The public sector establishments covered under the survey indicated that they have been filling up the highly skilled and skilled categories of personnel by promoting semi-skilled and other categories of employees. The semi-skilled and other categories position in the public sectors are being filled from amongst the candidates sponsored by the employment exchange or by absorbing apprentices trained under the Apprentices Act, 1961. In the Electricity Department, however, the procedure is to recruit nominal muster roll from local area depending upon the urgency of the work who are promoted to higher ranks in due course. In so far as the jute and textile industry in the private sector is concerned the manpower requirement is met from their own training programmes. Local candidates recruited for the training are absorbed at the successful completion of the training programme in their establishments.

7.21 The workers constitute 59 percent of the total employees in the establishments studied under the qualitative skill survey. Sector-wise and industry-wise percentage of workers to the total employees is given in the following table :—

TABLE 47

Industry and sector-wise percentage of Skilled Workers to total Employees

Industry	Percentage of skilled workers to total	
	PUBLIC	PRIVATE
1	2	3
Production of sugar	..	66
Cotton spinning, weaving (mills)	..	93
Jute spinning and weaving	..	93
Manufacture of fertilizers	..	86
Manufacture of iron & steel including smelting, refining etc.	..	45
Zinc smelting	27	..
Manufacture of aluminium products	..	26
Manufacture of non-ferrous metals	..	50
Assembling and manufacture of heavy vessels and chemical engineering machineries	65	..
Manufacture of heavy electrical machineries	..	74
Building and repairing of stups, boats etc.	41	..
Construction and maintenance of building telegraphs and telephone lines.	74	..
Distribution of electrical energy	87	..
Repairing and servicing of signalling system	94	..
Repair of locomotives	51	..
TOTAL	49	90

7.22 The percentage of workers to total employees in the public sector is 49% as compared to 90% in the private sector. The higher percentage of workers (skilled and semi-skilled) to the total in the private sector is mainly due to the preponderance of workers in Jute and Cotton industries which are in the private sector. Within the public sector, the repairing and servicing of signalling system had higher percentage of workers while Hindustan Zinc Ltd. engaged in zinc smelting had the lowest percentage of 27. In the private sector the industries of cotton spinning weaving in mills and jute spinning & weaving recorded the highest percentage of 93 while the establishments engaged in manufacturing of aluminium products at the lowest percentage of 26.

7.23 **Views of employers**—During the discussions with the officers at various levels in the selected establishments the following points and suggestions have been made for improving the quality of training being imparted at Industrial Training Institutes :—

- (i) Industrial Training Institutes may be given more intensive and industrywise training so as to meet the manpower needs of the local industries. On the other hand some establishments feel that the present training is adequate enough and the concerned establishment could fill in the gaps if need be.
- (ii) Qualitative improvement of Industrial Training Institutes training is an immediate necessity to equip the trainees to handle precision instruments and tools and also to improve the knowledge of fundamental of the trades.
- (iii) Almost all the establishments surveyed feel that the minimum qualifications for admission to Industrial Training Institutes, need to be raised to Matriculation.
- (iv) Majority of the employers are of the opinion that the training activities from the institute must diversify to new trades like Radar Mechanic and Electronic Mechanic instead of old conventional trades as some of them have already no employment opportunities.
- (v) Some of the employers are also of the opinion that system of multi-crafts be instituted in the future training programme.

Diversification of existing training programme to new fields

7.24 The survey has indicated that except few trades there are no excess training facilities in any of the designated trade either in the Craftsmen Training Scheme or Apprenticeship Training Scheme. It is essential that local Industrial Training Institute trainees are oriented in the following special skill area :—

- (a) Marking, cutting and forming (thick and thin plates).
- (b) Plumbing work pertaining to ships.
- (c) Submerged arc welding.
- (d) Argon arc welding.

7.25 Eventhough it may be difficult to provide facilities for work on heavy plates at the institute as it requires special heavy duty machines, it should be possible to impart training in the basic skills of the trade "Fitters Structural" so that these trainees may after their basic training in the I.T.Is. may continue their training in the remaining skill/operations in the industries as apprentices.

7.26 Basically from the light of the experience of survey it is felt that as far as possible the technician training scheme must be multi-crafts oriented in engineering trades.

7.27 In the trades like welder, milder, mill wright mechanic, radio and television mechanic, the quality of training at the institute needs improvement and encouragement to meet the future needs of industries which require to be equipped with more modern and sophisticated machines.

7.28 Training facilities need to be extended to the following trades for which shortage is being experienced and training is not being imparted at the local Industrial Training Institute :—

- (a) Diesel Mechanic for floating crafts.
- (b) Driller.
- (c) Weaver, Powerloom.
- (d) Fitter, Marine.
- (e) Cinematograph Operator.
- (f) Stone Mason and Brick Layer.

CHAPTER VIII

UNEMPLOYMENT TRENDS

8.1 The unemployment trends in the area have been analysed on the basis of the live register, figures of the following two employment exchanges functioning in the district, i) Regional Employment Exchange, Visakhapatnam and ii) University Employment Information & Guidance Bureau, Waltair. While studying unemployment trends through Live Register figures, it has to be borne in mind that as employment exchanges are located in urban areas, all rural employment seekers may not be registered. Similarly, even among urban persons all the un-employed may not necessarily seek registration with employment exchange. On the other hand, employed persons may also seek registration with the employment exchange in the hope of getting better jobs.

Persons Registered for Employment

8.2 The total number of applicants seeking employment assistance and available on the Live Register of these two employment exchanges was 29.9 thousand at the end of June 1969 which rose to 48.8 thousand at the end of June 1974 recording a staggering increase of 61.2 percent over the period of five years. During the same period the number of educated men applicants (i.e., matriculates and above) nearly doubled while that of women educated applicants nearly trebled. The reasons for the increase in the educated persons on the Live Register is contributed to the fact that there has been considerable expansion of educational facilities in the district in the recent past. Significant rise in the women educated applicants on the Live Register indicates that more and more women are interested to enter the employment market through employment exchanges. The proportion of women employment seeker to total which was about 3.7 per cent in June 1969 increased to 6.1 per cent in June 1974. The following table indicates the trend of the growth of the availability of applicants on the Live Register of Employment Exchanges in the district.

TABLE 48
Total and educated number of job seekers on the live register

Year Ending June	Total number of applicants on the Live Register			No. of educated applicants included in the total (Matriculates and above)	
	Men	Women	Total	Men	Women
1969	28764	1120	29884	10870	567
1970	28472	1157	29629	11121	676
1971	31870	1048	32918	15135	801
1972	29972	1233	31205	15398	750
1973	33932	1784	35716	18961	1121
1974	45857	2982	48839	22817	1807

Educational Attainment of Job Seekers

8.3 Analysing the employment seekers according to their level of education, it is observed that about 61 percent of those on the Live Register of Employment Exchanges at the end of June 1969 were non-matriculates and illiterates. As against this, the proportion of such persons was about 50 percent at the end of June 1974 as would be clear from the table that follows.

TABLE 49
Educated applicants on the Live Register

Category	Number of Educated job seekers					
	June 1969			June 1974		
	Men	Women	Total	Men	Women	Total
1	2	3	4	5	6	7
I. <i>Educated Persons</i>	10870	576	11446	22817	1807	24624
(a) <i>Matriculates</i>	6143	349	6492	11351	962	12314

	1	2	3	4	5	6	7
(b) Higher Secondary		3333	116	3449	7263	409	7672
(c) Graduates		1200	97	1297	3603	321	3924
Arts		197	26	223	477	98	575
Science		378	39	417	1201	131	1332
Commerce		224	2	226	1061	5	1066
Engineering		343	1	344	569	1	570
Medical		5	..	5	142	37	179
Agriculture		12	..	12	31	..	31
Law		3	..	3	23	2	25
Education		33	28	61	72	41	113
Veterinary		5	..	5
Others		5	1	6	22	6	28
(d) Post-Graduate		194	14	208	600	115	715
Arts		70	7	77	245	81	326
Science		113	7	120	275	30	305
Commerce		7	..	7	61	..	61
Engineering		4	..	4	14	..	14
Medical		5	4	9
II. Non-Matriculates including illiterates		17894	544	18438	23040	1175	24215
TOTAL		28764	1120	29884	45857	2982	48839

8.4 86.7 percent among educated persons in June 1969 and 81.2 percent during 1974 were those who had passed matriculation/Higher Secondary examination. Graduate applicants registered with the two employment exchanges located in Viskhatpatnam district for catering the needs of the employers and employment seekers have shown a marked rise from 1297 in 1969 to 3994 in 1974. The number of post-graduates also increased substantially from 208 in June 1969 to 715 in June 1974. Among graduates, medical graduates recorded unimaginable steep rise followed by commerce graduates who increased by five times. The number of science graduates also increased three fold during June 1969 to June 1974 while the number of arts graduates available on the Live Register of employment exchanges increased by two and half times during the same period. There has been all round increase in the number of post-graduates registered with the Employment Exchanges.

8.5 The number of educated women pending on the Live Register was 576 in June 1969. This number became more than three times in June 1974. The number of graduate women applicants had risen significantly in arts, science and education during the last 5 years. A number of women graduates in medical and law have now become available and are seeking employment through employment exchanges. Post-graduates women in medical are also now pending on the register of employment exchanges for seeking suitable employment.

Type of work sought by Employment Seekers

8.6 Of the 29.9 thousand job seekers on the Live Register of employment exchanges at the end of June 1969 as many as 14.5 thousand (49 percent) were fresh applicants to the market. The proportion rose to 66 percent in June 1974 as will be seen from the data given below.

TABLE 50
Occupational Distribution of the Live Register

Occupation	Live Register at the end of					
	June 1969			June 1974		
	Men	Women	Total	Men	Women	Total
1	2	3	4	5	6	7
Professional, Technical & related workers	2437	418	2855	3282	680	3962
(i) Teacher	682	310	992	506	384	890
(ii) Others	1755	108	1863	2776	296	3072
Administrative, Executive & Managerial workers	39	..	39	139	..	139
Clerical & related workers (excluding unskilled office workers)	1242	98	1340	1585	202	1787
Service workers (excluding watchmen, chowkidar, cleaners watermen & sweepers)	81	7	88	65	2	67
Farmers, loggers & related workers	27	..	27	73	..	73
Production & related workers & transport equipment operators (excluding labourers)	6928	2	6930	6878	..	6878
(i) Production & related workers	5932	2	5934	5820	..	5820
(ii) Transport equipment operators	996	..	996	1058	..	1058
Unskilled	3905	156	4061	3577	145	3722
Freshers (New entrants to the labour market)	14105	439	14544	30258	1953	32211
Graduate & Post-Graduate	638	61	699	2612	215	2827
Matriculates	6723	242	6965	16194	1345	17539
Non-Matriculates	6744	136	6880	11452	393	11845
TOTAL	28764	1120	29884	45887	2982	48839

8.7 The number of job seekers who were seeking work as production & related workers and those available for unskilled categories decreased during the last five years. This may be because of absorption of such persons in increasing number by the important industries of the area i.e., Bharat Heavy Plates and Vessels, Shipyard, Port Trust, and Naval Base. The number of job seekers available for the posts classified as professional, technical & related workers and clerical showed an increasing trend during the last five years.

Employment seekers by the age groups

8.8 It is observed that a little more than half of the applicants among non-matriculates, matriculates and graduates remaining on the Live Register were within the age group of 22-24 years, while 64 percent of the post-graduate applicants belonged to the age group of 25-34 years.

Employment seekers by period of unemployment

8.9 A further analysis revealed that only 22.7 percent of the matriculates were waiting on the Live Register for more than 3 years, followed by graduates (19.9 percent), non-matriculates (14.0 per cent) and post-graduates (10.0 per cent).

Unemployed Persons

8.10 Of the three principal sources of statistics on unemployment (i.e. Decennial Census, National Sample Survey and Employment Exchange Statistics) the statistics of persons registered with Employment Exchanges for Employment assistance provided regular series and the dates are available with the minimum time-lag. The number of applicants on the Live Register of Employment Exchanges cannot however, be taken to reflect the exact level of unemployment due to the well known limitations discussed earlier (in para 7.1).

8.11 A complete count of unemployed persons is outside the purview of a survey of this nature. Even the number of unemployed persons in rural areas originally collected by obtaining information from village elders, officials and other knowledgeable persons has not been found to be a realistic one. An attempt was therefore, made in rural areas to obtain data about educated unemployed (matriculates & above) and skilled artisans possessing recognised certificate during the course of construction of the frame of establishments with 1-4 workers (including self-employed) in respect of 5% of the villages selected in the sample for the collec

tion of village schedule (AS-V—Appendix I). The number of unemployed persons (educated & skilled artisans) in rural areas as revealed by the Area Skill Survey is given in the following table.

TABLE 51
Educated Unemployed and Rural skilled Artisans
(figures in brackets indicate percent to total)

Type of job looking for	No. of unemployed persons	No. registered with Employment Exchanges	Percentage registered to total
I. Professional, Technical and related workers	363 (5.2)	339	93.4
(i) Teachers	230	206	
(ii) Others	133	133	..
II. Production Process & related workers and transport, equipment operators	218 (3.1)	206	94.5
III. Freshers (including those seeking clerical works)	6377 (91.7)	4150	65.1
(i) Matriculates	5723	3594	..
(ii) Graduates	654	556	..
TOTAL	6958 (100.0)	4695	67.5

8.12 91.7 percent of the educated unemployed persons in rural areas were freshers without any work experience or vocational guidance who were mainly looking for clerical jobs and about 90.0 percent among them were only matriculates. 5.2 percent of the total rural unemployed were seeking professional, technical and related work, followed by those seeking production & related work and transport equipment operations (3.1 percent).

8.13 67.5 percent of the rural unemployed were registered with Employment Exchanges for seeking employment assistance. The highest proportion of persons registered with Employment Exchanges was those looking for production process & related works and transport equipment operations (94.5 percent) followed by those seeking professional, technical and related works. 65.1 percent of the freshers were registered with Employment Exchanges for seeking employment assistance.

8.14 The data about the duration of unemployed persons has revealed that nearly 3/4th of the unemployed persons were searching a job for the last one year or more, the percentage of those for whom the duration of unemployment did not exceed 6 months on the date of enquiry was 7.6 percent. Only 7.0 percent of the unemployed in the rural areas had the duration of unemployment between six to twelve months.

CHAPTER IX

EMPLOYMENT POTENTIAL

9-1 In addition to the coverage of existing employment and additional employment opportunities likely to come up in the area as a result of expansion of existing units, and emergence of new establishments, an attempt was made to assess further scope for employment opportunities, that could be generated in the light of the economic characteristics, availability of raw materials and traditional crafts available in the area and their exploitation. Discussions for the purpose were held with eminent persons including economists, statisticians, industrialists and employers associations to throw definite light on this aspect. Industries department indicated that manufacturing units of different sizes in the fields of steel pipes, aluminium, building materials, fabrication and castings, automobile etc., can come up mostly as ancilliary units to the proposed steel plant and zinc smelting plant. It is also estimated that, in all 5300 additional employment opportunities could be generated which includes 2000 for skilled workers, 3000 for unskilled/labourers and the remaining 300 clerical and sales workers. For obvious reasons employment potential of these industries has not been included in the manpower requirements of the area for the next five years.

9-2 Small Industries Service Institute of the Ministry of Industry & Civil Supplies, Government of India through its techno-Economic Survey Report of this district identified the following industries which are having scope for development in the district :—

I. MECHANICAL INDUSTRIES

1. Wick stoves.
2. Cycle stands and carriers.
3. Wooden furniture.
4. Flush doors.
5. Metal Badges.
6. Builders's Hardware.
7. Material handling equipment.
8. Hand tools.
9. Sprayers and dusters of different types and sizes, seed drill and fertilizer drill.
10. Fire fighting equipment.
11. Hacksaw Blades.
12. Emerey grinding wheels with bauxite.
13. Screwz and Hydraulic jacks.
14. Pipe Fittings.
15. Automatic rice cookers.
16. Room coolers.
17. Climatic controlling equipment.

II. CHEMICAL INDUSTRIES

1. Ink.
2. Phenyle.
3. Free flowing table salt.
4. Corrugated card board boxes.
5. Rubberised moulded goods.
6. Tamarind starch.
7. Ice plant (5 tonnes capacity).
8. Carbon dioxide plant.
9. Iodised salt.
10. Cattle licks.

II. CHEMICAL INDUSTRIES—*Contd.*

11. Magnesium Hydroxide (pharmaceutical grade).
12. Magnesium Tri-silicate.
13. Light Basic Magnesium carbonate.
14. Bromine.
15. Calcium silicate (Moulding Insulation)
16. Mixed Salt from Sea Bitterns.
17. Cycle tyres and tubes.
18. Surgical Plaster from Gypsum.
19. Plaster Boards from Gypsum.
20. Gum Tape.
21. Paper Napkins.
22. Carbon paper.
23. Stencil paper.
24. Zinc Oxide.
25. Cellopen Adhesive Tapes.
26. Bandage & Guage Cloth

III. ELECTRICAL INDUSTRIES

1. Battery Eliminators.
2. Small transformers, chokes and decorative lamps.
3. Flurescent tubes.
4. Heating elements and heaters.
5. Fractional HP Motors.
6. Printed Circuit Boards.
7. Record Changers.
8. Loud speakers.
9. Amplifiers.
10. Electric irons.
11. Immersion heaters.
12. Electric wovens.

IV. GLASS & CERAMIC INDUSTRIES

1. Optional lenses.
2. Road Metal.
3. Wooden Building construction materials.
4. Fire Bricks.
5. Semi-mechanised bricks.

V. AGRO-BASED INDUSTRIES

1. Vermicelli.
2. Cattle feed and poultry feed.
3. Twisted rope from jute.
4. Sago from Tapioca.

VI. LIVESTOCK BASED INDUSTRIES

1. Bone Meal.
2. Travel Goods.
3. Cycle seats.
4. Glue from Tannery waster.
5. Garmet leather.
6. Upholstry leather.
7. Shoes and chappals.
8. Export-oriented garment industry.

VII. MISCELLANEOUS INDUSTRIES

1. Braided laces.
2. Cotton Hosiery (making banians from the cloth)
3. Braided cards and tapes with elastic thread.
4. Cotton tapes.
5. Sikhakai powder
6. Printed cartons.
7. Sanitary towels.

ANCILLARY INDUSTRIES

I. ANCILLARIES TO M/s. HINDUSTAN SHIPYARD

1. Fabrication of M.S. Clips for flooring cargo battren cleats, deck comming wall and ginder, connecting, hinged covers, M.S. Channels for laying electric cables guard chain, stancheons Dye plates for cargo handling and lashing eyes (Mechanical items).
2. Packing boxes wood (Mechanical items).
3. Fabrication of cargo blocks, snatch blocks, M.S. Flanges and Scoupers for Refrigerated hold change over bonds etc. (Mechanical item).
4. Fabrication of ladders (Mechanical item).
5. Fabrication of electrical distribution boards and auxiliary switches boards.

II. ANCILLARIES TO M/S. BHARAT HEAVY PLATE & VESSELS LTD.

1. Hightensile and heat resistance steel fasteners such as bolts and nuts and studs.
2. Machining and drilling holes in flanges and baffle plates.
3. Shells for heat exchanges.
4. Name plates.
5. Saddle column trays, tray supply rings and bubble caps and miscellaneous fabrications.
6. Gaskets.
7. Forgings.
9. Pipe Bonds.
10. Chlorine cylinders.
11. Dished ends.

III. ANCILLARIES TO M/S. HINDUSTAN ZINC LIMITED

1. Red lead.
2. White lead.
3. Type foundry.
4. Calcium sulphate.
5. Basic lead chromite.
6. Sodium Dychromite & Sodium Hydrosulphite
7. Ferrous sulphate.
8. Copper sulphate.
9. Zinc sulphate.
10. Cranes & Material handling equipment.

CHAPTER X

RECOMMENDATIONS FOR ACTION

10.1 As a result of the findings of this survey it is felt that certain actions are indicated in fields like job development, expansion of small enterprises and industries, promotion of self-employment in rural areas, re-orientation of training and apprenticeship programmes, conduct, of further studies and rendition of effective career advice. These are discussed below :

A. Job Development

10.2 The process of job development which forms an integral part of the Employment Exchange Service involves selective placement service to both employers as well as qualified applicants. Although this work had so far been undertaken by the local employment officers, special job development officers are now being gradually appointed to undertake this important work on a wholesale basis. One of the essential pre-requisite of a successful programme of job development is to have advance knowledge of prospective man-power needs. The area survey has revealed information about industries, sectors and other projects which are expecting sizeable manpower needs in the coming years. It would, therefore, be necessary for the Employment Service personnel to establish contacts with employers pertaining to such fields (refer chart below) with a view to obtaining precise information about such aspects as responsibilities and duties of jobs, skill or training requirements, terms and conditions of service, likely dates when jobs are expected to come up etc. The next step in the process would be to examine how far the employers needs could be met from amongst those registered with the local employment exchange. In this regard the need for circulating the jobs to other exchange areas or the need for improving or modifying current training and apprenticeship programmes may also have to be examined.

Fields requiring job development	Important categories of personnel
MANUFACTURING	
Production of Rice	Working proprietors, millers food grains.
Production of Sugar	Centrifugal man.
Dairy products	Purchasing agents, salesmen, Dairy workers and dairy workers non-farm.
Production of Oil	Working proprietors, oil crusher operators (power), boilers.
Jute spinning & weaving	Breacher feeder, Receiver & spinners weavers, sewers (hand), fitters, Teaser.
Textile garments	Tailors.
Zinc smelting	Fitters, furnace operatives, supervisors, metal smelting, chemical engineers, metallurgists, accountants, clerks.
Structural steel products	Metal drawers, welders.
Sundry hardwares	Blacksmiths, turners, welders, fitters.
Boilers, Heavy plates & vessels	Mechanical engineers, reggers, metal marker metallurgists, clerks, machinists, markers, fitters, welders, crane operators truck drivers.
Repairing & servicing of motor vehicles	Motor mechanics, working proprietors.
Ship building & repairing	Mechanical engineering technicians, fitters, milwrights, structural erectors, carpenters.

Fields requiring job development	Important categories of personnel
Construction	Clerks, civil engineers, overseers, (civil), mechanical engineers, electrical engineers, mechanical engineering technicians, welders, plumbers, work supervisor, riggers, structural metal working operatives, carpenters, fitters, machinists, electricians, crane operators.
TRADE & COMMERCE	
Trading	Salesman, accounts clerks, fitters,
Insurance	Managers, clerks
Banking	Agents, bank clerks.
TRANSPORT	
Bus service	Drivers, conductors, booking clerks, motor mechanics.
SERVICES	
Administrative departments—Central Govt.	Clerical workers, mechanical engineering technicians, tailors, carpenters, plumbers truck drivers, fitters, radio mechanics.
Local Bodies	Nurses, clerical workers, fitters, conveyer operators.
Educational services Non-technical	Teachers middle school, teachers higher secondary school, teachers primary school, physical training instructors
Catering services	Beareres, working proprietors, cooks.

B. Fields for individual entrepreneurship

10.3 The survey has revealed that in the light of economic characteristic and employment market conditions of the area, several individuals or a group of individuals have been able to build up and nurture small enterprises which have not only provided productive avenues of self-employment to the active proprietors & partners, sizeable wage employment was also created by such enterprises. It is felt that the under-mentioned fields have considerable potential for future expansion and promotion of direct as well as indirect employment opportunities in the area.

Fields :

- Food stuffs
- Beverages
- Jute
- Textiles
- Wood & wooden products
- Printing & publishing
- Leather products
- Chemical Products
- Non-metalic mineral products
- Basic metal & their products
- Manufacturing of transport equipment
- Construction
- Trading
- Transportation
- Educational services
- Catering services
- Recreation services.

10.4 In order to motivate potential entrepreneurs following measures may be taken up by the concerning agencies and departments :—

- (i) Dissemination of information by employment exchanges, industries departments and other organisations.
- (ii) Identification of unemployed with a potential for entrepreneurship and with requisite background.
- (iii) Establishments of consultancy services which will undertake preparation of project reports and handle matters connected with completion of procedures and formalities for setting up of enterprises.
- (iv) Mobilisation of financial resources through banking institutions and other on easy terms.
- (v) Arranging raw materials and other requisities.
- (vi) Development of marketing facilities.

C. Reorientation of training and apprenticeship programme

10.5 The draft Fifth Five Year Plan has envisaged that the requirements of craftsmen 'might appropriately be assessed at the area level : This is so because, the heterogeneity of craftsmen skills the diverse sources of their supply, lack of uniformity in the duration, content and level of training make the estimation of demand for craftsman difficult'. This survey at the area level has brought out an assessment of craftsmen needs and actions could be initiated on the following lines for reorienting training and apprenticeship programme.

(i) *Up grading of skills :*

Due to modern technological changes, which are gradually creeping in the industries, it may be necessary to develop higher skills in various trades. Actions are therefore needed for providing opportunities for retraining and instituting refresher courses to develop higher skills for work on new type of machinery etc.

(ii) *Strengthening of Training and Apprenticeship*

The survey has revealed that in respect of occupations mentioned below, there is a need of strengthening training or apprenticeship facilities with a view to meeting future demands :

Fitter
Welder
Electrician
Carpenter

D. Future Study

10.6 Since the present survey is a pioneer study of its type, and can not hope to encompass all aspects few suggestions are put forward which require further investigation/Study.

- (i) The first aspect requiring study in respect of assessing as to what extent the industry was able to utilize the craftsmen presently being turned out by the training institutions and if such trained personnel were unable to meet the skills requirements, in what aspects the training programmes should be improved and reoriented. In this connection a study to find out whether formal apprenticeship programmes need modernization to meet the demands for new skills and occupations would seem to be important.
- (ii) The second aspect for study would be to undertake repeat survey of the district with a view to assessing the implementation of the findings of this survey particularly in respect of the expansion plans on the one hand and of setting up of new industries in the area on the other. The repeat survey may also bring out data on the removal of factors hindering expansion of fuller utilization of installed capacity. Such a survey could be taken at an interval of 5 years.

E. Vocational Guidance & Career Advice

10.7 The primary functions of University Employment Information & Guidance Bureaux (52 in number) and Vocational Guidance units (210) at major Employment Exchanges is to organise individual and group guidance programme in order to canalise youths and employed workers to channels where employment opportunities exist or one expected to grow up in the near future. Effective function of the VG units and University Bureaux has however been undermined due to lack of precise data about likely man-

power needs of the area by skills. VG staff has therefore been rendering advice on vague notions about prospective employment opportunities and not on hard facts. The following information thrown up by Area Skill Surveys regarding the manpower needs of the area by various occupations during the next five years can therefore be of immense value in rendering effective VG and career advice service.

Civil engineer
Electrical engineer
Mechanical engineer
Metallurgist
Draughtsman
Overseers
Electrical engineering technicians
Mechanical engineering technicians
Tracer
Physician
Pharmacist
Nurses
Midwives
Nursing attendant
Sanitary inspector
Medical technicians
Accountants
Teachers
Physical training instructors
Laboratory attendant
Executive official
Working proprietors
Managers
Section officers
Supervisors
Office assistants
Stenographers
Typists
Account clerks
Bank clerks
Bank cashiers
Clerks
Store keepers
Bus conductors
Purchasing agents
Salesmen
Shop attendant
Cooks
Butlers
Forest guards
Drillers
Moulders
Sewyers
Breaker feeders
Fibre preparation operatives
Drawing tenters
Spinners

Winders
 Drawers
 Weavers
 Tailors
 Sewers
 Sewing machine operators
 Carpenters
 Blacksmiths
 Marker metal
 Machinists
 Turners
 Grinders
 Armourers
 Machine precision instrument
 Fitters
 Assemblers
 Motor vehicle repairers
 Mechanics
 Electricians
 Wiremans
 Lineman
 Cinematographers
 Plumbers
 Welders
 Gas Cutters
 Erectors
 Metal plate operatives
 Glass formers
 Compositors
 Splint drying chambermens (match)
 Masons
 Brick layers
 Construction workers
 Conveyor operators
 Pumpmens
 Oilers
 Cleaners
 Riggers
 Slingers
 Crane operators
 Lascars
 Drivers

10.8 'Let self employment and not wage paid employment be your aim is a slogan for solving the problem of employment as it is not possible to provide wage paid employment to all. Information about avenues of self-employment in rural areas need therefore to be disseminated to the unemployed by VG units functioning at the employment exchanges to persuade them to take up the various fields in which scope for self-employment exist. Some of the important fields in which unemployed persons can be diverted to take up self-employment are :—

Dairy farming
 Palm fibre & Coir preparers

Poultry farming
 Carpentry
 Manufacture of consumer & sundry goods
 Cycle repairing
 Diesel engine repairing
 Milling of rice
 Manufacturing of material from bamboo, palm leaves
 Cattel rearing
 Oil expelling

10.9 Short term training course may also have to be arranged in the following fields with a view to help people in exploiting those avenues fully are, cycle repairing, diesel engine mechanics, dairying & poultry farming, hand spinning & weaving, carpentry, mat weaving, bamboo furniture making.

F. Development of industries

10.10 The survey has revealed that shortage of raw material, power, licences to set up new units, land acquisition etc., were some of the important factors hindering current production and expansion of industrial establishments. Avenues for self-employment can be developed only by providing financial assistance to the unemployed person besides providing adequate transport facilities, marketing, etc. This information can be of immense value to the industries department in opening new industries in the area

G. Employment market information programme

10.11 The employment data thrown up by the EMI programme is considered as an important barometer of the level of changes in employment in organised sector of the country. The survey has however revealed that the frame of establishments which forms the basis for collecting the data from the employers suffers from lack of comprehensiveness. The gap in employers register maintained in the EMI programme and has built up under the Area Skill Survey unit is as follows :—

	No. of establishments covered under	
	Area Skill Survey	Employment Market Information Programme
A. PUBLIC SECTOR	394	360
B. PRIVATE SECTOR :		
(i) Employing 25 or more workers	171	141
(ii) Employing 10-24 workers	849	499
(iii) Smaller establishments with 5-9 workers	1229	548
TOTAL	2643	1548

10.12 The comprehensiveness and upto date frame of establishments prepared under the Area Skill Surveys and made available to the local employment exchange should be utilised to make the employers register comprehensive and upto date so as to make EMI data more meaningful.

GOVERNMENT OF INDIA
MINISTRY OF LABOUR
(D.G.E. & T.)
AREA SKILL SURVEY
Employers' Schedule

APPENDIX I

A.S. I

Confidential

(Information reported on this form will be treated as strictly confidential and will not be revealed to any unauthorised person, nor published in such a manner that data relating to individual establishments can be identified).

Name & address of Establishment _____ State _____
 _____ District _____
 Telephone No. _____
 Year of establishment _____ Urban/Rural _____
 Nature of Economic Activity _____ Sector (Public/Private) _____

- I. Total No. of employees on pay rolls (including unskilled as well as proprietor-owners and working partners etc.) as at the end of 31-3-1974.
- II. If the establishment is engaged in seasonal activity, approximate dates of commencement and closure of season be indicated :—

Commencement

Closure

III. TRAINING

Training/Apprenticeship programmes within the establishment : (Information for trainees under the Apprentices Act, 1961 should be given separately).

Occupational code	Description of trade	Entry qualifications		Duration	In-take capacity	No. trained during 1973			No. of persons likely to be trained in the next 5 years
		Academic	Other			Men	Women	Total	

IV. PERSONS EMPLOYED

(a) No. of persons employed by occupation & sex (This will include working proprietors and partners etc.)

Occ. Code No.	Occupation	No. of regular employees on roll at the end of corresponding quarter 7 years ago 31-3-1967	No of regular employees on roll at the end of 31-3-1974			In case of seasonal industries No. of persons employed on seasonal basis in the last season	
			Men	Women	Total	Max. No. of seasonal employees on any one day in the season	Minimum
1	2	3	4	5	6	7	8

(b) Out of persons shown in col. 6 indicate below the number of working proprietors and partners :

Occ. Code No.	Type of work performed	Qualifications	Number
(1)	(2)	(3)	(4)

V. EXPANSION

(a) Expansion plans including opening of Branch/Units and sister or new concerns etc. within the area :—

(b) Factors hindering existing production, expansion and full utilisation of installed capacity :—

Code No.	Factor	Remarks
0	Licence to set-up new units	
1	Foreign exchange/import licence	
2	Raw material	
3	Land acquisition	
4	Non-availability of skills	
5	Shrinkage in demand	
6		
7		
8		

(c) Assuming that the above limiting factors are over-come and expansion programme materialises, indicate future manpower demands :—

Occ. Code No.	Occupation	Educational requirements		Additional manpower demands during next five years 31-3-1979
		General	Technical	
1	2	3	4	5

VI. MANPOWER SHORTAGES

(Indicate skills in which shortage of work-people was experienced during last one year).

Occ. Code No.	Occupation	Qualifications	Extent of shortage (indicate No.). State whether of a persistent or casual nature	Steps taken to overcome shortages (such as Institutional Training or Apprenticeship Programme). Suggestion for future action	No. on L.R. of Local Emp. Exch.	Interviewer's assessment about reasons for shortages**
1	2	3	4	5	6	7

** (1) Low wages offered, (2) Housing difficulties, (3) Unduly high qualifications and experience prescribed, (4) Commutation difficulties, (5) Dearth of suitable applicants available locally, (6) Future prospect, (7) Migration to other areas, (8) No migration from other areas.

Name & Signature
of Investigating Officer

Name & Signature of
person providing
information

Date

Date

GOVERNMENT OF INDIA
MINISTRY OF LABOUR
(D. G. E. & T.)
AREA SKILL SURVEY

Schedule for Emerging establishments

(Information reported on this form will be treated as strictly confidential and will not be revealed to any unauthorised persons, nor published in such a manner that data relating to individual establishment can be identified).

Name of Employer :

State :

Address :

District :

Urban/Rural :

Sector :

Telephone No.

Nature of Economic Activity :

I.C.L. Code :

1. (a) Date of start of construction stage :

(b) Likely date of commencement of Production/Activity :

II. Likely No. of persons to be employed (including working proprietors and partners).

Occ. Code No.	Occupation	Educational require- ments		No. of per- sons including working partners and prop. likely to be employ- ed during next 5 years
		General	Technical	
1	2	3	4	5

Name & Signature of
Investigator/Officer

Name & Signature
of persons providing
information

Date :

Date :

GOVERNMENT OF INDIA
MINISTRY OF LABOUR
(D.G.E. & T.)
AREA SKILL SURVEY

A.S. III
(Revised)
Confidential

(Schedule for Institutions imparting professional and Technical education)

I. IDENTIFICATION PARTICULARS :

Name & Address of Institution :

Name & Telephone No.
of person providing
information :

State :

Distt. :

II. PARTICULARS OF PROFESSIONAL & TECHNICAL EDUCATION :

A. CERTIFICATE LEVEL : Record separately for (i) Engineering trades, (ii) Vocational trades & (iii) Others.

Sl. No.	Trade/ Course	Dura- tion of course	Month of com- mence- ment of session	INTAKE				OUTTURN			Remarks
				Quali- fication for admis- sion	Medium of selection	No. of seats	Fee	Scholar- ship/ Stipend	1973 (Actual)	During next five years	
1	2	3	4	5	6	7	8	9	10	11	12

Important Instructions :

- (i) Indicate any new course proposed to be introduced during the next five years.
- (ii) Indicate whether recognised or unrecognised in remarks column.
- (iii) Out-turn from unrecognised institutions should not be recorded.
- (iv) Information on stipend/scholarship in col. 9 should give details of amount paid per month, duration & basis of award, etc.

B. DIPLOMA LEVEL : Record separately for (i) Engineering, (ii) Technological, (iii) Medicine and (iv) Others.

Sl. No.	Trade/ Course	Dura- tion of course	Month of com- mence- ment]	INTAKE				OUTTURN			Remarks
				Quali- fication for admis- sion	Method of selec- tion	No. of seats	Fee	Scholar- ship/ Stipend	1973 (Actual)	During next 5 years	
1	2	3	4	5	6	7	8	9	10	11	12

C. GRADUATE LEVEL : Please list out courses or subjects of study under following sub-heads :

- (a) Engineering & Technology, (b) Medicine & Pharmacy, (c) Business Administration & Personnel Management, (d) Social & labour Welfare, (e) Teaching, (f) Agriculture, Veterinary Science, Animal Husbandry & Dairying and (g) Others excluding Arts & Humanities

Sl. No.	Trade/ Course	Dura- tion of course	INTAKE				No. of seats	Fee	Scholar- ship/ Stipend	OUTTURN		Remarks
			Month of com- mence- ment of session	Quali- fication for admis- sion	Method of selec- tion	1973 (Actual)				Duraing next 5 years		
1	2	3	4	5	6	7	8	9	10	11	12	

D. POST-GRADUATE & DOCTORATE LEVEL : Please list out courses or subjects of study separately under following sub-heads :

- (a) Engineering & Technology, (b) Medicine, (c) Business Administration & Personnel Management, (d) Social & Labour Welfare, (e) Teaching, (f) Science viz., Physics, Chemistry, Botany, Zoology, Bio-Chemistry, Biology, Geology, Mathematics, Statistics, Minerology, Oceanography, Pharmaceutical Chemistry & Allied subjects, (g) Agriculture, Veterinary Science, Animal Husbandry & Dairying and (h) All others including Arts and Humanities.

Sl. No.	Trade/ course	Dura- tion of course	INTAKE				No. of seats	Fee	Scholar- ship/ Stipend	OUTTURN		Remarks
			Month of com- mence- ment of session	Quali- fication for admis- sion	Method of selec- tion	1973 (Actual)				During next 5 years		
1	2	3	4	5	6	7	8	9	10	11	12	

Name & Signature of
the Officer/
Investigator

Name & Signature
of the Officer
providing
information

Date :

Date :

GOVERNMENT OF INDIA
 MINISTRY OF LABOUR
 (D.G.E. & T.)
 AREA SKILL SURVEY

A.S. V
 Confidential

Educated unemployment & channels of self-employment in Rural Areas

Name & address of Block
 Development Office
 Population of Block
 Number of Villages in the Block
 Name of Village selected
 for study

Town District State

I. Number of educated unemployed persons:—

Occ. No.	Type of work	Educa- tional level	No. of persons seeking wholetime work	Period of unemployment			No. regis- tered with Emp. Exch.	Remarks
				Upto 6 months	6 to 12 months	More than 12 months		
1	2	3	4	5	6	7	8	9

II. Existing avenues of self-employment (other than agriculture) in the village :—

I.C.L. Code No.	Type of work	Occ. Code No.	No. of persons engaged		No. of seasonal workers		Difficulties faced and assistance needed
			Full time	Part time	Minimum	Maximum	
1	2	3	4	5	6	7	8

III. Additional opportunities for self-employment that could be created in the light of modernisation of agriculture, local produce & other resources & expanding need for maintenance & other services :—

I.C.L. No.	Type of work	Occupation Code No.	Approximate No. of persons that could be absorbed	Type of assistance of facilities (Such as electricity, loan, machinery, training, marketing, etc.) needed if any
1	2	3	4	5

Indicate sources from which information for Item III above has been collected.

Signature of the Investigating
Officer/Incharge
Date :

GOVERNMENT OF INDIA
Ministry of Labour (D.G.E. & T.)
AREA SKILL SURVEY

Schedule for assessing impact of employment Generating Programmes viz. Rural Work Programme, Marginal Farmers and Agricultural Labour, Small Farmers Agency, Pilot Research Projects in Growth Centres, etc.

(Separate Schedules to be completed in respect of each scheme under each type of Programme).

1. Description of Scheme operative within the District :

Scheme :

No. of villages covered

Names of villages.

2. Total amount sanctioned and spent so far :

Total amount sanctioned (Rs.)

Amount spent so far.

3. (i) Date of commencement of work.

(ii) Date of completion (or likely date of completion)

4. Wage Rates : (specify occupation/skill)

Wage rate

Skilled

Unskilled

5. Methods of execution of work

(i) Through Contractor

(ii) Directly by the Department

6. Employment expected to be generated :

(a) Employment of a regular nature to be generated after completion of scheme/project/works (Maintenance Staff).

N.C.O. Code No.	Occupation	Approximate No.	N.C.O. Code No.	Occupation	Approximate No.
1	2	3	1	2	3

(b) Man-days of employment to be generated during the Construction phase of the Schemes/Projects/Works.

(i) Skilled.

Type of Employment

Number of man-days

(ii) Unskilled.

7. (a) Type of workers for whom shortages were experienced in executing the work.

Occupation

Number

(b) How the above shortages were met or are proposed to be met ?

8. Other Remarks, if any.

Name and Signature of
persons providing
information

Date :

Name & Signature
of the Investigating
Officer

Date :

A.S.—VII
Confidential

GOVERNMENT OF INDIA
Ministry of Labour (D.G.E. & T.)
AREA SKILL SURVEYS
(Employers' Schedule for Private Establishments having 5—9 workers)

Name & address of Establishment : State _____
District _____
Year of Establishment : _____ Urban/Rural _____
Nature of Economic Activity : _____

I. No. of employees on pay rolls (including unskilled as well as proprietor-owners and working partners) :

Occ. Code	Occupation	No. of regl. employees on roll at the end of corresponding quarter 7 Yrs ago (31-3-67)	No. of regular employees on roll at the end of 31-3-1974			No. of persons employed on seasonal basis in the last season	
			Men	Women	Total	Minimum	Maximum
1	2	3	4	5	6	7	8

II. No. of working proprietors & partners (included in Column 6 of item I) :

Occ. Code	Type of work performed	Qualification	Number
1	2	3	4

III. If the establishment is engaged in seasonal activity approximate dates of commencement and closure of season be indicated :

Commencement : _____ Closure : _____

Name & Signature of Investigating Officer.

Date : _____

Name & Signature of person providing information.

Date : _____

GOVERNMENT OF INDIA
Ministry of Labour (D.G.E. & T.)
AREA SKILL SURVEYS

Manpower content of the development plans & other programmes included in the Fifth Plan for the District of- _____

(1) Name of the Department : _____

(2) Name(s) of the Office(s) located in the District :

(3) Scheme-wise details of manpower contents :

Brief particulars of the scheme included in the Fifth Plan	Occupation-wise additional manpower requirements				Remarks
	Occupations	Qualifications		No. required by March 1979	
		General	Technical		
1	2	3	4	5	6

Signature of the
Investigating Officer :

Date _____

Name & Signature of
person providing
information

Date _____

GOVERNMENT OF INDIA
Ministry of Labour (D.G.E.&T.)
AREA SKILL SURVEYS

Scope for employment opportunities that could be generated in the light of economic characteristics, availability of raw materials, traditional crafts of the area.

1. Name & address of the person whose views recorded: _____
2. Brief particulars of employment generating scheme that could be launched & the existing conditions of the industry : _____
3. Type of assistance or facilities (such as electricity, loan, machinery, training, etc.) needed : _____
4. Approximate number of persons that could be provided employment (including self-employed) by March, 1979 : _____

Occupation

Approximate No. of persons could be absorbed

5. Type of workers for whom shortage is likely to be experienced : _____
6. How the shortage is proposed to be met ?
 - (a) If training facilities exist suitability of trained personnel : _____
 - (b) Availability of trained personnel in the nearby area : _____
7. Reasons if known, for not taking up the scheme so far : _____
8. Ancillary industries/small units if any, that could be taken up due to the coming up of the proposed industry & the approximate No. of persons that could be absorbed by skill : _____

Occupation

Approximate No. of persons

Signature of the Officer
with designation who has
collected the information

Date _____

Name and Signature of the
person providing information.

Date _____

GOVERNMENT OF INDIA
Ministry of Labour
AREA SKILL SURVEY

PROFORMA 'A'

Proforma for collecting information under the Qualitative Skill Survey Programme

- A. General Information about the Establishment .
- A.1 Name of the Establishment
- A.2 Address
- A.3 Standard Industrial Classification Code No.
Major Code No. _____
Minor Code No. _____
- A.4 Type of Product
- A.5 Nature of Work : Piece work/Assembly/Mass Pro-
duction/Serviceing
- A.6 Size of the Plant Small/Medium/Large
- A.7 Sector Public/Private
- A.8 Total number of Persons Employed
- A.9 Total Number of Workers
Employed (Categorisation)
Highly Skilled _____
Skilled _____
Semi-Skilled _____
Any other category _____

PROFORMA 'B

B. Details regarding the Selection Procedure being adopted for the recruitment of workers

B.1 Selection Preference (Indicate the order of preference and the approximate recruitment percentage against the following) :—

By Direct recruitment of experienced workers

By direct recruitment of Craftsmen from I.T.Is

By direct recruitment of Apprentices trained under the Act

By training under a formal training programme in the establishment

Any other source

B.2 Whether any test is conducted for the selection purpose. If so, give details

B.3 Any other selection criteria

C. Details regarding Training Activities for Workers in the Establishment

C.1 Whether any formal/informal training is being imparted to the fresh recruits/existing workers in the establishment. Yes/No

C.2 If yes, details of training being imparted in the establishment may be indicated in the following :

Sl. No.	Type of Trg. (Tick-off)	Type of workers (Tick-off)	Category of workers	Approximate intake	Period of training
1	On the job	Existing			
		Potential			
2	Off-the-job	Existing			
		Potential			
3	Integrated	Existing			
		Potential			

C.3 Details of training facilities available in the establishment :

(a) Physical facilities (Give details)

- (i) Accommodation
- (ii) Equipment

(b) Training Personnel (Category-wise details)

- (i)
- (ii)
- (iii)

C.4 Any other relevant information regarding the training activities for workers

PROFORMA 'D'

D. Information regarding the additional training needs

Sl. No.	Occupation/Trade in which trained workers are needed by the establishment	Level	No. required to be trained		Prescribed Minimum qualifications/ Experience				Reasons for increased demand of the workers Technical Development expected etc.
			during		Educatio- nal	Technical	Experi- ence	Jobs spe- cifications	
			1975-1977	1977-1979					
1	2	3	4	5	6	7	8	9	10

E. Information regarding job specification prescribed

Sl. No.	Occupation/Trade	Grade/Level	Prescribed Job specifications in respect of		
			Skills	Knowledge	Other requirements, if any
1	2	3	4	5	6

REMARKS

Mention here the gist of discussions held with the employer regarding changes in the curricula etc., separately for each trade.

Name & Signature of the Officer
Collecting information

Date.....

Name & Signature of the Officer
providing information

Date.....

II. ESTABLISHMENT AND EMPLOYMENT—1971 CENSUS

APPENDIX-II PART-A

Distribution of Establishments by Broad Types

State/District/City	Total Rural Urban	(a) Govt./ Quasi Govt. (b) Private (c) Co- operative	Total No. of Estts.	Manufacturing Processing or Servicing Estts.			Trade or Business Estts.			Other Establishments		
				Regis- tered Factories	Un- Regis- tered	House- hold Industries	Whole- Sale	Retail	Others	Educa- tional Institu- tion	Public Health Institu- tion	Others
1	2	3	4	5	6	7	8	9	10	11	12	13
	TOTAL	A	4142	8	16	..	5	70	164	1984	268	1627
		B	34200	189	2719	10009	753	11569	4556	310	281	3814
		C	209	6	8	..	6	62	58	..	..	69
		Total	38551	203	2743	10009	764	11701	4778	2294	549	5510
	RURAL	A	3249	5	12	..	1	50	86	1772	196	1127
		B	21562	93	1342	8142	87	6245	3136	166	97	2254
		C	117	5	8	..	2	24	33	..	..	45
		Total	24928	103	1362	8142	90	6319	3255	1938	293	3426
	URBAN	A	893	3	4	..	4	20	78	212	72	500
		B	12638	96	1377	1867	666	5324	1420	144	184	1560
		C	92	1	..	..	4	38	25	..	..	24
		Total	13623	100	1381	1867	674	5382	1523	356	256	2084

APPENDIX-II PART-B

Size-wise number of Establishments and Employment in them, 1971 Census

Category	Industrial Division	1 Person	2—4 Persons		5—9 Persons		10—19 Persons		20—49 Persons		50—99 Persons	
		Units	Persons employed	Units	Persons employed	Units	Persons employed	Unit	Persons employed	Units	Persons employed	
1		2	3	4	5	6	7	8	9	10	11	12
Manufacturing		4739	7209	17990	746	4366	135	1739	84	2330	25	1513
Trade and Commerce		9462	6866	16246	652	4009	186	2376	58	1595	10	676
Others		4103	3028	7642	586	3734	322	4231	230	6591	43	2864
Grand Total All Industrial Divisions		18304	17103	41878	1984	12109	643	8346	372	10516	78	5053

100 + Persons		100—299 Persons		300—499 Persons		500+ Persons		Persons unspecified	Total	
Units	Persons employed	Units	Persons employed	Units	Persons employed	Units	Persons employed		Units	Persons employed
13	14	15	16	17	18	19	20	21	22	23
..	..	3	654	3	1260	8	24536	3	12955	59127
9	3592	..	..	..	..	..	..	..	17243	37956
41	12907	..	..	..	..	..	..	..	8353	42072
50	16499	3	654	3	1260	8	24536	3	38551	139155

**Industry-wise Break-up of establishments according to the year in which they came up and Employment in them
as on 31st March 1974**

Industry	Break-up of establishments according to the year in which they came up and employment in them as on 31st March 1974																	
	1966 & earlier		1967		1968		1969		1970		1971		1972		1973 & after		Total	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Agriculture, Livestock, Forestry & Fishing	13	749	1	17	..	..	..	..	..	..	..	..	1	3	..	..	15	769
Mining & Quarrying	2	39	..	..	2	60	..	..	..	..	..	..	..	..	1	22	5	121
Manufacturing	373	26807	24	926	50	702	62	1870	61	600	69	1050	71	1169	125	1002	835	34126
Construction	25	3108	1	421	6	165	5	343	7	222	5	2014	8	828	7	538	64	7644
Electricity, Gas, Water & Sanitary Services	4	1532	1	449	..	..	..	..	..	..	..	..	..	..	..	..	5	1981
Trade & Commerce	444	7023	21	225	49	655	46	358	43	331	47	388	49	435	88	649	787	10064
Transport, Storage and Communication Services	78	18040	4	43	5	49	2	13	8	64	6	1474	2	189	4	421	109	20293
	425	43982	26	1744	47	685	39	1259	44	555	46	975	67	693	129	1124	823	51017
	1364	101280	78	3825	159	2316	154	3848	163	1772	173	5901	198	3317	354	3756	2643	126015

A — Number of Establishments.

B — Employment in 1974.

Occupational Pattern of Employees in Selected Industries in 1974

Description of Industry	Occupation												
	Physical Scientists	Physical science technicians	Civil engineers	Electrical & electronic engineers	Mechanical engineers	Chemical engineers	Metallurgists	Industrial engineers	Architects engineers Technologists and surveyors other	Draughtsmen	Civil engg. overseers and technicians	Electrical & electronic engg. overseers and technicians	Mechanical engg. overseers and technicians
	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Agriculture, Livestock, Forestry and Fishing, hunting</i>	..	..	..	..	..	..	..	..	..	3	..	..	..
Production of cereal crops & sugarcane	..	..	..	..	..	..	..	..	..	..	..	..	..
Conservation of forests	..	..	..	..	..	..	..	..	..	2	..	..	..
Others	..	..	..	..	..	..	..	..	..	1	..	..	..
Mining & Quarrying	..	..	..	..	..	..	..	..	1	..	..	..	..
Manufacturing	48	36	26	41	574	50	91	33	33	162	46	40	426
<i>Food Stuffs</i>													
Rice	..	..	..	..	..	..	..	..	..	..	..	..	..
Sugar	11	14	..	2	20	..	..	..	..	4	18	..	..
Bakery Products	..	..	..	..	..	..	..	..	..	..	..	..	..
Edible fats and oils	..	..	..	..	..	..	..	..	..	..	..	..	..
<i>Beverages</i>	2	..	..	..	..	..	..	..	..	..	..	..	..
<i>Textile-cotton</i>													
Spinning (other than in mills)	..	..	..	..	..	..	..	..	..	..	..	..	..
Spinning & weaving in mills	..	..	..	..	..	..	..	..	1	..	..	..	..
Others	..	..	..	..	..	..	..	..	..	..	..	..	..

APPENDIX-IV—Contd.

	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Textile-Jute</i>													
Pressing & baling
Spinning & weaving	2	..	1	1	3	..	..	..	20	..	..	1	18
<i>Textile-Miscellaneous</i>													
Garments including raincoats etc.
Others	2	..	..	..	..	..	..	..
<i>Wood & wooden products</i>													
Sawing & Planing
Furniture & fixtures
Others
<i>Paper bags, envelopes</i>													
Printing & publishing
<i>Leather and leather products such as suitcases, purses, etc.</i>													
	1	..	..	..	..	..	..	..	..	..
<i>Rubber, petroleum & coal products</i>													
Petroleum, kerosene etc., in refineries	1	..	7	5	1	..	..	2	1	..	4
Others	..	3	..	..	1	1	..	..	..	..	..	..	2

Description of industry	Occupation											
	Engineer- ing tech- nicians, other	Ship deck officers, pilots and engineers	Life scientists	Life science techni- cians	Physicians & sur- geons (allo- pathic)	Veteri- narians	Pharma- cists	Physicians ayurvedic, homoeo- pathic, dentists, etc.	Nurses	Vaccina- tors, veteri- nary assistants, midwives & health visitors, etc.	Accoun- tants and auditors	Teachers university and colleges
	14	15	16	17	18	19	20	21	22	23	24	25
<i>Agriculture, Livestock, Forestry, Fishing & Hunting</i>	..	..	25	..	..	6	5	..	..	26	2	..
Production of cereal crops & sugarcane	..	..	16	..	..	..	..	..	..	..	..	..
Conservation of forests	..	..	..	..	..	..	..	..	..	..	1	..
Others	..	..	9	..	..	6	5	..	..	26	1	..
Mining and Quarrying	..	..	..	..	..	..	..	..	..	..	2	..
<i>Manufacturing</i>	55	..	13	1	15	4	17	..	13	36	106	..
<i>Food Stuffs</i>												
Rice	..	..	..	..	..	..	..	..	..	..	..	..
Sugar	1	..	12	..	3	..	3	..	..	2	10	..
Bakery products	..	..	..	..	..	..	..	..	..	..	..	..
Edible fats and oils	..	..	..	..	..	..	..	..	..	..	3	..
<i>Beverages</i>	..	..	..	..	..	..	..	..	..	..	1	..
<i>Textile-Cotton</i>												
Spinning (other than in mills)	..	..	..	..	..	..	..	..	..	..	..	..
Spinning & weaving in mills	..	..	..	..	..	..	..	..	..	..	..	..
Others	..	..	..	..	..	..	..	..	..	..	..	..

APPENDIX IV—Contd.

	14	15	16	17	18	19	20	21	22	23	24	25
<i>Textile-Jute</i>												
Pressing & baling	2	..
Spinning & weaving	2	..	4	..	2	1	3	..
<i>Textile-Miscellaneous</i>												
Garments including raincoats etc.
Others	1	..
<i>Wood and wooden products</i>												
Sawing & planing
Furniture & fixtures
Others
<i>Paperbags, envelopes</i>												
	1	..
<i>Printing & Publishing</i>												

<i>Leather and leather products such as suit-cases, purses etc.</i>												
	2	..
<i>Rubber, petroleum and coal products</i>												
Petroleum, kerosene etc. in refineries	1	..	..	..	..	..	..	15	..
Others	2	..

Description of industry	Occupation									
	Teachers Higher Secondary & Secondary school	Teachers Middle school	Teachers Primary school	Teachers pre-primary crafts etc.	Professional technical and rela- ted workers, other	Professional, tech. and related workers Total	Administra- tive & executive officials Govt. and local bodies	Working proprietors, directors & managers	Administra- tive execu- tive & managerial workers, other	Administra- tive, execu- tive & managerial workers Total
	26	27	28	29	30	31	32	33	34	35
<i>Agriculture, Livestock, Forestry, Fishing & Hunting</i>	2	..	..	69	4	..	1	5
Production of cereal crops & sugarcane	16	1	..	..	1
Conservation of forests	3	2	..	..	2
Others	2	..	..	50	1	..	1	2
<i>Mining and Quarrying</i>	1	4	..	14	..	14
<i>Manufacturing</i>	19	..	115	2000	16	1293	15	1324
<i>Food Stuffs</i>										
Rice	114	..	114
Sugar	26	121	..	8	..	8
Bakery products	31	..	31
Edible fats and oils	2	7	..	181	..	121
<i>Beverages</i>	3	..	18	..	10
<i>Textile—Cotton</i>										
Spinning (other than in mills)	1	..	1
Spinning & weaving in mills	1	..	1	..	1
Others	16	..	16

APPENDIX IV—Contd.

	26	27	28	29	30	31	32	33	34	35
<i>Cotton — Jute</i>										
Pressing & baling	2	..	32	..	32
Spinning & weaving	6	64	..	13	..	13
<i>Textile — Misc.</i>										
Garments including raincoats etc.	91	..	91
Others	3	..	24	..	24
<i>Wood & wooden products</i>										
Sawing & planing	96	..	96
Furniture and Fixtures	29	..	29
Others	8	..	8
<i>Paper bags, envelopes</i>										
	1	..	10	..	10
<i>Printing and publishing</i>										
	89	..	89
<i>Leather and leather products such as suit-cases, purses etc.</i>										
	3	..	15	..	15
<i>Rubber, petroleum and coal products</i>										
Petroleum, kerosine etc. in refineries	8	45	..	2	..	2
Others	9	..	22	..	22

Description of Industry	Occupations												
	Clerical supervisors	Stenographers, typists	Book keepers	Clerical & related workers	Transport & communication supervisors	Transport conductor & guards	Mail distributors & related workers	Telephone & telegraph operators	Clerical and related workers others	Clerical & related workers Total	Sales workers Total	Cooks	Bearers & waiters
	36	37	38	39	40	41	42	43	44	45	46	47	48
<i>Agriculture, Livestock, Forestry, Fishing and Hunting</i>	60	14	1	53	—	—	10	—	—	138	5	..	..
Production of cereal crops & sugarcane	10	5	..	25	—	—	10	—	—	50	..	..	..
Conservation of forests	22	2	..	15	..	—	—	—	—	39	..	..	..
Others	28	7	1	13	..	..	..	..	..	49	5	..	..
<i>Mining and Quarrying</i>	3	1	2	10	..	..	..	2	..	18	..	1	..
<i>Manufacturing</i>	194	249	56	1572	1	7	41	15	6	2141	160	39	66
<i>Foodstuffs</i>													
Rice	..	—	1	50	—	—	—	..	—	51	1	..	..
Sugar	25	15	8	156	—	..	—	..	..	204	3	..	..
Bakery products	..	..	2	6	—	..	—	..	..	8	19	2	9
Edible fats and oils	1	2	10	62	—	..	—	..	..	75	3	..	..
<i>Beverages</i>	..	1	2	14	—	..	—	1	..	18	29	..	..
<i>Textile—Cotton</i>													
Spinning (other than in mills)	..	..	..	..	..	..	..	..	..	..	2	..	..
Spinning & weaving in mills	1	..	..	10	—	—	..	—	..	11	..	..	..
Others	..	..	..	2	..	..	..	..	..	2	..	..	..

APPENDIX-IV—Contd.

	36	37	38	39	40	41	42	43	44	45	46	47	48
<i>Textile—Jute</i>													
Pressing & baling	2	2	4	39	..	..	..	..	..	47	2	..	..
Spinning & weaving	75	7	..	216	..	..	..	1	..	299	3	20	..
<i>Textile—Misc.</i>													
Garments including raincoats, etc.	..	..	1	1	..	..	..	..	..	2	13	..	..
Others	..	1	..	6	..	..	..	..	..	7	3	..	..
<i>Wood & wooden products</i>													
Sawing & planing	..	..	1	34	..	..	..	..	..	35	5	..	..
Furniture & fixtures	3	..	..	5	..	..	..	..	..	8	4	..	..
Others	..	1	1	3	..	..	..	..	..	5	..	..	..
<i>Paperbags, envelopes</i>													
	..	3	1	1	..	..	..	..	..	5	..	..	..
<i>Printing & publishing</i>													
	..	..	1	4	..	..	..	..	..	5	1	..	..
<i>Leather & leather products such as suitcases, purses, etc.</i>													
	..	2	4	4	..	..	..	..	..	10	3	2	..
<i>Rubber, petroleum & coal products</i>													
Petroleum, kerosene etc., in refineries	12	7	..	15	..	..	..	1	..	35	..	..	..
Others	1	2	2	8	..	..	..	..	..	13	3	..	..

Description of Industry	Occupations												
	Pro- tective service workers	Ayahs, Laun- derers, dry clean- ers, hair dress- ers etc.	Ser- vice work- ers Total	Fore- stry work- ers	Far- mers, fish- ermen, logg- ers & rela- ted work- ers	Far- mers, fish- erman, logg- ers & rela- ted work- ers Total	Min- ers quarry- men, well drill- ers & related workers	Met- al Pro- cess- ers	Wood pre- para- tion work- ers & paper makers	Chem- ical proces- sors and rela- ted work- ers	Super- visors spinn- ing & weav- ing	Spin- ners	Weav- ers
	49	50	51	52	53	54	55	56	57	58	59	60	61
<i>Agriculture, Livestock, Forestry, Fishing & Hunting</i>	..	..	..	258	159	417	..	..	..	..	..	..	..
Production of cereal crops & sugarcane	..	..	..	..	114	114	..	..	..	..	..	..	..
Conservation of forests	..	..	..	248	..	248	..	..	..	..	..	..	..
Others	..	..	..	10	45	55	..	..	..	..	..	..	..
<i>Mining & Quarrying</i>	..	..	1	..	..	..	25	..	..	..	..	..	..
<i>Manufacturing</i>	102	107	314	..	90	90	240	390	247	461	324	3068	1573
<i>Foodstuffs</i>													
Rice	..	..	..	..	..	..	..	..	..	..	..	..	..
Sugar	2	1	3	..	65	65	2	8	..	7	..	..	..
Bakery products	..	1	12	..	..	..	..	..	..	..	..	..	..
Edible fats & oils	..	..	..	..	..	..	..	..	..	..	..	..	..
<i>Beverages</i>	..	..	..	..	..	..	..	..	..	..	..	..	..
<i>Textile—Cotton</i>													
Spinning (other than in mills)	..	2	2	..	..	..	..	..	..	..	10	682	50
Spinning & weaving in mills	..	..	..	..	..	..	..	..	..	..	4	310	34
Others	..	..	..	..	..	..	..	..	..	..	..	..	4

APPENDIX-IV—Contd.

	49	50	51	52	53	54	55	56	57	58	59	60	61
<i>Textile—Jute</i>													
Pressing & baling	..	..	..	..	..	..	..	..	..	..	..	..	..
Spinning & weaving	1	..	21	..	..	..	..	12	1	..	310	2076	1488
<i>Textile—Misc.</i>													
Garments including raincoats, etc.	..	..	..	..	..	..	..	..	..	..	..	..	..
Others	..	..	..	..	..	..	..	..	..	..	..	..	..
<i>Wood & wooden products</i>													
Sawing & planing	..	..	..	..	..	..	..	..	155	..	..	..	..
Furniture & fixtures	..	..	..	..	..	..	..	..	2	..	..	..	..
Others	..	..	..	..	1	1	..	..	17	..	..	..	..
<i>Paperbags, envelopes</i>													
	..	..	..	..	..	..	..	..	2	..	..	..	..
<i>Printing & publishing</i>													
	..	1	1	..	..	..	..	..	..	..	..	..	..
<i>Leather & leather products such as suitcases, purses, etc.</i>													
	3	..	5	..	..	..	..	..	..	..	..	..	..
<i>Rubber, petroleum & coal products</i>													
Petroleum, kerosene, etc., in refineries	3	..	3	..	..	..	..	..	..	132	..	..	..
Others	..	..	..	..	..	..	..	..	..	2	..	..	..

Description of Industry	Occupations											
	Spinners, weavers, dyers, including knitters bleachers, etc.	Tanners, fell-mongors & pelt dressers	Sugar makers	Food beverage processors including oil expelling operators, etc.	Tobacco preparers & tobacco product makers	Tailors	Dress-makers, sewers etc.	Shoemakers & leather goods makers	Carpenters, cabinet & related wood workers	Blacksmiths & hammermen	Machine tool operators	Metal grinders, & tool sharpeners
	62	63	64	65	66	67	68	69	70	71	72	73
<i>Agriculture, Livestock, Forestry, Fishing & Hunting</i>	..	..	..	..	..	..	..	..	1	..	..	..
Production of cereal crops & sugarcane	..	..	..	..	..	..	..	..	1	..	..	..
Conservation of forests	..	..	..	..	..	..	..	..	..	..	..	..
Others	..	..	..	..	..	..	..	..	..	..	..	..
<i>Mining & Quarrying</i>	..	..	..	..	..	..	..	..	..	..	..	..
<i>Manufacturing</i>	1450	39	632	431	31	358	811	82	833	308	976	61
<i>Foodstuffs</i>												
Rice	..	..	..	117	..	..	..	..	..	..	1	..
Sugar	..	..	630	22	..	1	..	..	8	12	28	..
Bakery products	..	..	..	102	..	..	..	..	..	..	..	..
Edible fats & oils	..	..	..	109	..	..	..	..	..	..	1	..
<i>Beverages</i>	..	..	..	41	..	..	..	..	..	..	..	..
<i>Textile—Cotton</i>												
Spinning (other than in mills)	11	..	..	..	..	..	..	..	..	..	..	..
Spinning & weaving in mills	44	..	..	..	..	..	..	..	..	..	..	..
Others	127	..	..	..	..	..	..	..	..	..	..	..

APPENDIX-IV—Contd.

	62	63	64	65	66	67	68	69	70	71	72	73
<i>Textile—Jute</i>												
Pressing & baling	2	..	..	3	..	..	..	..	1	..	..	..
Spinning & weaving	1164	..	..	..	..	..	730	..	49	17	60	..
<i>Textile—Miscellaneous</i>												
Garments including raincoats, etc.	..	..	..	..	..	355	24	..	..	..	..	..
Others	102	..	..	..	..	..	40	..	..	..	..	..
<i>Wood & wooden products</i>												
Sawing & planing	..	..	..	1	..	..	..	..	17	..	..	20
Furniture & fixture	..	..	..	..	..	..	..	..	..	..	..	..
Others	..	..	..	..	..	..	..	..	..	..	..	..
<i>Paperbags, envelopes</i>												
Paperbags, envelopes	..	..	..	..	..	..	..	..	..	..	..	..
<i>Printing & publishing</i>												
Printing & publishing	..	..	..	..	..	..	..	..	..	..	..	..
<i>Leather & leather products, such as suit-cases, purses, etc.</i>												
Leather & leather products, such as suit-cases, purses, etc.	..	39	..	..	..	1	1	82	..	..	..	..
<i>Rubber, petroleum & coal products</i>												
Petroleum, kerosene, etc., in refineries	..	..	..	..	..	..	..	..	2	..	..	..
Others	..	..	..	..	..	..	..	..	..	..	..	..

Description of Industry	Occupations										
	Metal makers & tool setters etc.	Supervisors & foremen machinery, fitting, assembling, repairing & precision instrument making (except electrical)	Watch, clock & precision instrument makers	Machinery fitters & machine assemblers	Motor vehicle mechanics	Mechanics, repairmen others	Supervisors & foreman electrical & electronic equipment fitting, assembling, installing and repairing	Electricians, Electrical fitters & related workers	Radio, Television mechanics and repairmen	Electrical wireman	Electric line-man & cable joiners
	74	75	76	77	78	79	80	81	82	83	84
<i>Agriculture, Livestock, Forestry, Fishing & Hunting</i>	..	1	..	1	..	3	..	..	..	..	..
Production of cereal crops & sugarcane
Conservation of forests	..	—	—	—
Others	..	1	..	1	..	3	..	—	..	..	..
<i>Mining & Quarrying</i>
<i>Manufacturing</i>	256	146	27	1608	324	440	22	407	..	159	9
<i>Foodstuffs</i>											
Rice	..	—	..	1	..	..	..	2	..	..	..
Sugar	..	11	..	116	3	..	7	20	..	17	..
Bakery products
Edible fats & oils	3	..	..	1	..	..	..	..
<i>Beverages</i>	1	..	..	..
<i>Textile—Cotton</i>											
Spinning (other than in mills)
Spinning & weaving in mills	22	1	5	..	..	..
Others

APPENDIX-IV—*Contd.*

	74	75	76	77	78	79	80	81	82	83	84
<i>Textile—Jute</i>											
Pressing & baling	1	..	..	..
Spinning & weaving	1	3	..	115	10	243	..	46	..	1	..
<i>Textile—Miscellaneous</i>											
Garments including raincoats, etc.
Others	2	..	1	..	..	..
<i>Wood & wooden products</i>											
Sawing & planing	4	..	..	..	..	..	..	..
Furniture & fixtures
Others
<i>Paperbags, envelopes</i>											
Printing & publishing	3	..	..	..	..	..
<i>Leather & leather products such as suitcases, purses, etc.</i>											

<i>Rubber, petroleum & coal products</i>											
Petroleum, kerosene, etc., in refineries	..	14	..	..	..	75	..	..	..	..	..
Others	1	..	..	..	1	..	..	..

APPENDIX-IV—Contd.

Description of Industry	Occupation											
	Electronics, fitters, telephons & telegraph installers & repairmen etc.	Cinema projectionists	Supervisors, plumbing, welding, etc.	Plumbers and pipe fitters	Welders & flame cutters	Sheet-metal workers	Plumbers, welders, etc., others	Glass formers, potters & related workers	Rubber & plastic products makers	Printers & related workers	Painters	Brick layers and masons
	85	86	87	88	89	90	91	92	93	94	95	96
<i>Agriculture, Livestock, Forestry, Fishing & Hunting</i>
Production of cereal crops & sugarcane
Conservation of forests
Others
<i>Mining & Quarrying</i>
<i>Manufacturing</i>	34	..	24	338	1686	269	463	274	102	313	262	102
<i>Foodstuffs</i>												
Rice
Sugar	10	1	..	..	..	..	..	3
Bakery products
Edible fats and oils	1	3	..	..	..	..	..	..
<i>Beverages</i>
<i>Textile—Cotton</i>												
Spinning (other than in mills)
Spinning & weaving in mills
Others

APPENDIX-IV—Contd.

	85	86	87	88	89	90	91	92	93	94	95	96
<i>Textile—Jute</i>												
Pressing & baling
Spinning & weaving	9	10	..	..	..	..	11	24
<i>Textile—Miscellaneous</i>												
Garments including raincoats, etc.
Others	23	28	..	..
<i>Wood & wooden products</i>												
Sawing & planing
Furniture & fixtures	1	..	..	..	..	..	..	..
Others
<i>Paperbags, envelopes</i>												
Printing & publishing	4	..	..
<i>Leather and leather products such as suit-cases, purses etc.</i>												
	1	..	..
<i>Rubber, petroleum & coal products</i>												
Petroleum, kerosene etc., in refineries	1	..	..	..	..	..	..	2	..
Others	1	..	..	..	65	..	..	..

Description of Industry	Occupation								GRAND TOTAL
	Boilermen	Stationery engine & related equipment operators, others	Riggers	Crane operators	Production and related workers, others	Transport equipment operators	Production & related workers, transport equipment operators TOTAL	Unskilled workers	
	97	98	99	100	101	102	103	104	105
<i>Agriculture, Livestock, Forestry, Fishing & Hunting</i>	..	..	..	..	2	12	20	115	769
Production of cereal crops & sugarcane	..	..	..	..	..	3	4	44	229
Conservation of forests	..	..	..	..	..	2	2	25	319
Others	..	..	..	..	2	7	14	46	221
<i>Mining & Quarrying</i>	..	..	..	..	..	2	27	57	121
<i>Manufacturing</i>	156	357	171	159	577	601	21598	6499	34126
<i>Food stuffs</i>									
Rice	1	22	..	..	6	..	150	366	682
Sugar	73	136	..	..	35	27	1177	505	2086
Bakery products	..	..	..	..	5	1	108	5	183
Edible fats & oils	30	46	..	..	2	3	199	758	1163
<i>Beverages</i>	1	11	..	..	16	4	74	27	170
<i>Textile—Cotton</i>									
Spinning (other than in mills)	..	..	..	..	..	..	753	..	758
Spinning & weaving in mills	..	..	..	..	..	2	419	19	451
Others	..	..	..	..	..	..	131	7	156

APPENDIX-IV—Contd.

	97	98	99	100	101	102	103	104	105
<i>Textile—Jute</i>									
Pressing & baling	2	6	..	..	37	1	53	244	380
Spinning & weaving	18	33	..	..	119	15	6565	1765	3730
<i>Textile—Miscellaneous</i>									
Garments including raincoats, etc.	..	..	..	..	..	..	379	1	486
Others	1	..	..	..	9	1	207	148	392
<i>Wood & wooden products</i>									
Sawing & planing	..	7	..	..	..	..	208	101	445
Furniture & fixtures	..	..	..	..	2	..	147	16	264
Others	..	..	..	..	2	..	27	39	80
<i>Paperbags, envelopes</i>									
	..	..	..	..	10	..	9	50	8
<i>Printing & publishing</i>									
	..	..	..	..	..	..	241	..	8
<i>Leather & leather products such as suitcases, purses, etc.</i>									
	..	..	..	..	9	1	..	..	1
<i>Rubber, petroleum & coal products</i>									
Petroleum, kerosene etc., in refineries	..	..	..	..	10	..	236	39	360
Others	6	..	..	..	..	2	78	13	138

Description of Industry	Occupation												
	Physical scientists	Physical science technicians	Civil engineers	Electrical & electronic engineers	Mechanical engineers	Chemical engineers	Metallurgists	Industrial engineers	Architect engineers, technologists and surveyors, others	Draughtsmen	Civil engineering overseers & technicians	Electrical & electronic engineering overseer & technicians	Mechanical engineering overseers & technicians
	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Chemical & chemical products</i>													
Fertilizers	7	18	..	..	17	38	..	..	..	4	..	..	15
Turpentine, synthetic, resin, etc.	13	..	1	2	4	4	..	1	10	3	6	6	4
Others	1	..	..	..	..	..	..	..	..	..	..	..	..
<i>Non-metallic mineral products other than petroleum and coal</i>													
Structural clay products such as bricks & tiles	..	..	..	..	..	..	..	..	..	..	..	..	..
Structural stone goods & stone crushing	..	..	..	..	..	..	..	..	..	..	..	..	..
Others	..	..	..	..	..	..	..	..	..	..	..	..	..
<i>Basic metals & their products except machinery & transport equipment</i>													
Iron & steel including smelting, refining etc.	12	..	1	2	4	..	..	..	..	..	..	7	3
Structural steel products such as rail, sheet, plate etc.	..	..	..	..	1	..	..	..	..	..	..	..	..
Aluminium products	..	..	..	..	..	..	..	..	..	..	..	..	..
Others including sundry Hardwares	..	..	2	1	3	..	..	..	..	..	3	..	..

APPENDIX IV—Contd.

	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Machinery & electrical equipment other than transport equipment</i>													
Assembling of boilers, heavy vessels & plates	..	..	14	23	402	..	90	..	..	..	..	..	9
Heavy electrical machinery such as motor transformers etc.	..	..	..	4	1	..	..	..	..	..	..	19	..
Others	..	..	..	..	..	..	..	..	..	..	..	..	..
<i>Transport equipment</i>													
Repairing & servicing of motor vehicles	..	..	..	..	..	..	..	..	..	..	..	..	1
Building & repairing of ships, boats etc.	..	..	6	5	107	..	..	32	2	148	23	..	370
Others	..	..	..	..	..	..	..	..	..	..	..	..	..
<i>Miscellaneous industries</i>	..	1	..	..	1	..	..	..	..	..	..	..	..
CONSTRUCTION	1	..	277	21	38	..	..	..	6	100	307	8	32
ELECTRICITY, GAS, WATER AND SANITARY SERVICES	..	..	1	171	2	..	..	..	..	12	5	50	2
TRADE AND COMMERCE	..	1	2	2	3	..	..	..	4	1	2	..	5
<i>Wholesale trade</i>	..	1	2	..	2	..	..	..	3	1	..	..	1
<i>Retail trade</i>	..	..	..	2	..	..	..	..	..	..	..	..	2
<i>Miscellaneous</i>													
Importing & exporting of goods & commodities	..	..	..	..	..	..	..	..	..	..	..	..	2
Providents & insurance	..	..	..	..	..	..	..	..	..	..	..	..	..
Banking & similar type of financial operations	..	..	..	..	1	..	..	..	1	..	2	..	..
Others	..	..	..	..	..	..	..	..	..	..	..	..	..

Description of Industry	Occupation											
	Engineering technicians, others	Ship deck officers, pilots & engineers	Life scientists	Life science technicians	Physicians & surgeons (allopathic)	Veterinarians	Pharmacists	Physicians ayurvedic, homoeopathic, dentists, etc.	Nurses	Vaccinators, inoculators veterinary assistants, midwives & health visitors etc.	Accountants and auditors	Teachers university & colleges
	14	15	16	17	18	19	20	21	22	23	24	25
<i>Chemical & chemical products</i>												
Fertilizers	27	..	..	..	..	..	..	..	5	..	4	..
Turpentine, synthetic, resin, etc.	1	..	..	..	..	..	..	..	..	..	4	..
Others	2	..
<i>Non-metallic mineral products other than petroleum and coal</i>												
Structural clay products such as bricks & tiles
Structural stone goods & stone crushing
Others
<i>Basic metals & their products except machinery & transport equipment</i>												
Iron & steel including smelting, refining etc.	1	..
Structural steel products such as rail, sheet, plate etc.
Aluminium products
Others, including sundry hardwares

APPENDIX-IV—Contd.

	14	15	16	17	18	19	20	21	22	23	24	25
<i>Machinery & electrical equipment other than transport equipment</i>												
Assembling of boilers, heavy vessels & plates	26	..	1	..	5	..	2	..	6	10	26	..
Heavy electrical machinery such as motor transformers etc.	..	..	..	..	..	..	..	..	..	..	1	..
Others	..	..	..	..	..	..	..	..	..	..	1	..
<i>Transport equipment</i>												
Repairing & servicing of motor vehicles	..	..	..	..	..	..	..	..	..	..	1	..
Building & repairing of ships, boats etc.	..	..	..	..	5	..	6	..	..	20	17	..
Others	..	..	..	..	..	..	..	..	..	..	..	..
<i>Miscellaneous industries</i>	..	..	..	..	..	4	2	..	..	3	3	..
CONSTRUCTION	55	10	..	..	..	..	..	..	..	1	30	..
ELECTRICITY, GAS, WATER AND SANITARY SERVICES	15	..	..	..	2	..	1	..	..	8	38	..
TRADE AND COMMERCE	..	..	2	..	..	..	2	..	..	..	160	..
<i>Wholesale trade</i>	..	..	..	..	..	..	..	..	..	..	16	..
<i>Retail trade</i>	..	..	..	..	..	..	2	..	..	..	22	..
<i>Miscellaneous</i>												
Importing & exporting of goods & commodities	..	..	..	..	..	..	..	..	..	..	20	..
Providents & insurance	..	..	..	..	..	..	..	..	..	..	1	..
Banking & similar type of financial operations	..	..	2	..	..	..	..	..	..	..	101	..
Others	..	..	..	..	..	..	..	..	..	..	..	..

Description of industry	Occupation									
	Teachers higher secondary & secondary schools	Teachers middle school	Teachers primary school	Teachers pre-primary crafts etc.	Professional, technical & related workers others	Professional, technical & related workers TOTAL	Administrative & executive officials Govt. & local bodies	Working proprietors, directors & managers	Administrative, executive & managerial workers, others	Administrative, executive & managerial workers TOTAL
	26	27	28	29	30	31	32	33	34	35
<i>Chemical & chemical products</i>										
Fertilizers	10	145	..	5	2	7
Turpentine, synthetic, resin etc.	7	66	..	3	1	4
Others	3	1	33	..	34
<i>Non-metallic mineral products other than petroleum and coal</i>										
Structural clay products such as bricks & tiles	40	2	..
Structural stone goods & stone crushing	13	..	13
Others	21	..	21
<i>Basic metals & their products except machinery & transport equipment</i>										
Iron & steel including smelting, refining etc.	1	31	..	7	..	7
Structural steel products such as rail, sheet plate etc.	1	..	55	..	55
Aluminium products	19	..	19
Others, including sundry hardwares	1	16	2	111	1	114
<i>Machinery & electrical equipment other than transport equipment</i>										
Assembling of boilers, heavy vessels & plates	35	650	6	49	..	..
Heavy electrical machinery such as motor transports etc.	1	26	..	..	..	..
Others	2	..	..	..	..

APPENDIX-IV—*Contd.*

	26	27	28	29	30	31	32	33	34	35
<i>Transport equipment</i>										
Repairing & servicing of other vehicles	2	..	116	..	116
Building repairing of ships, boats, etc.	19	..	17	784	5	6	3	14
Others	18	..	18
<i>Miscellaneous industries</i>	1	15	2	36	3	41
CONSTRUCTION	2	888	2	58	4	64
ELECTRICITY, GAS, WATER AND SANITARY SERVICES	307	..	4	..	4
TRADE AND COMMERCE	3	187	55	1644	23	1722
<i>Wholesale trade</i>	1	27	35	555	4	594
<i>Retail trade</i>	28	..	790	11	801
<i>Miscellaneous</i>										
Importing and exporting of goods & commodities	22	20	6	6	32
Provident & insurance	1	..	260	..	26
Banking & similar type of financial operations	2	109	..	267	..	267
Others	2	2

Description of industry	Occupation												
	Clerical supervisors	Stenographers typists	Book-keepers	Clerical & related workers	Transport & communication supervisors	Transport conductors & guards	Mail distributors & related workers	Telephone & telegraph operators	Clerical & related workers others	Clerical & related workers TOTAL	Sales workers TOTAL	Cooks	Bearers & waiters
	36	37	38	39	40	41	42	43	44	45	46	47	48
<i>Chemical & chemical products</i>													
Fertilizers	14	41	1	34	..	..	..	4	..	94	4	..	..
Turpentine, synthetic, resin, etc.	1	12	1	38	..	..	..	..	..	52	23	..	..
Others	1	2	..	12	..	..	..	..	..	15	15	..	..
<i>Non-metallic mineral products other than petroleum and coal</i>													
Structural clay products such as brick & tiles	..	..	..	8	..	..	..	..	..	8	..	..	..
Structural stone goods & stone crushing	..	..	..	11	..	..	..	..	..	11	1	..	..
Others	..	2	3	12	..	..	..	..	..	17	1	..	..
<i>Basic metals & their products except machinery & transport equipment</i>													
Iron & steel including smelting, refining etc.	4	4	..	59	..	..	..	..	..	67	..	..	..
Structural steel products such as rail, sheet plate etc.	..	4	..	6	..	..	..	..	..	10	..	..	..
Aluminium products	..	..	..	8	..	..	..	..	..	8	3	..	..
Others, including sundry hardware	14	10	2	45	..	..	..	..	..	71	1	..	..

APPENDIX-IV—Contd.

	36	37	38	39	40	41	42	43	44	45	46	47	48
<i>Machinery & electrical equipment other than transport equipment</i>													
Assembling of boilers, heavy vessels & plates	2	66	1	199	..	..	41	4	..	..	..	..	..
Heavy electric machinery such as motor transformers etc.	..	2	3	11	..	..	..	..	..	16	..	..	2
Others	..	1	..	6	..	..	..	..	..	7	..	..	..
<i>Transport equipment</i>													
Repairing & servicing of motor vehicles	1	2	2	35	1	7	..	..	..	48	1	..	..
Building & repairing of ships, boats etc.	29	53	1	396	..	..	..	4	6	489	3	12	44
Others	..	..	..	4	..	..	..	..	..	4	..	..	..
<i>Miscellaneous industries</i>	8	7	4	52	..	..	..	..	..	71	9	3	9
CONSTRUCTION	231	54	20	408	54	..	..	264	..	1031	..	3	..
ELECTRICITY, GAS, WATER AND SANITARY SERVICES	90	28	..	243	..	..	1	15	..	377	..	..	..
TRADE AND COMMERCE	492	158	1161	1187	..	2	16	5	..	3021	1950	14	15
Wholesale trade	142	51	45	569	..	..	3	1	..	811	359	4	..
Retail trade	8	35	64	315	..	..	..	..	..	422	1517	9	15
<i>Miscellaneous</i>													
Importing & exporting of goods & commodities	160	17	9	117	..	..	..	2	..	305	12	1	..
Providents & insurance	75	24	6	88	..	..	..	..	..	193	55	..	..
Banking & similar type of financial operations	107	31	1037	94	..	..	13	2	..	1284	3	..	..
Others	..	..	..	4	..	2	..	..	..	6	12	..	..

Description of industry	Occupation												
	Productive service workers	Ayahs, Launderers, dry cleaners, hair dressers etc.	Service workers TOTAL	Forestry workers	Farmers, fisherman, loggers & related workers, others	Farmers, fisherman, loggers & related workers TOTAL	Miners quarrymen, well drillers & related workers	Metal processors	Wood preparation workers & paper makers	Chemical processors & related workers	Supervisors spinning & weaving	Spinners	Weavers
	49	50	51	52	53	54	55	56	57	58	59	60	61
<i>Chemical & chemical products</i>													
Fertilizers	7	47	54	..	..	..	..	4	..	191	..	..	..
Turpentine, synthetic, resin, etc.	6	..	6	..	..	..	..	..	..	75	..	..	..
Others	..	1	1	..	..	..	..	1	..	16	..	..	..
<i>Non-metallic mineral products other than petroleum and coal</i>													
Structural clay products such as bricks & tiles	..	45	45	..	..	..	..	..	..	..	..	..	..
Structural stone goods & stone crushing	236	..	..	..	..	..	..
Others	2	..	2	..	..	..	..
<i>Basic metals & their products except machinery & transport equipment</i>													
Iron & steel including smelting, refining etc.	56	..	..	..	..	..
Structural steel products such as rail, sheet, plate etc.
Aluminium products	48	..	..	..	..	..
Others, including sundry hardware	140	..	..	..	..	..

APPENDIX-IV—Contd.

	49	50	51	52	53	54	55	56	57	58	59	60	61
<i>Machinery & electrical equipment other than transport equipment</i>													
Assembling of boilers, heavy vessels & plates	25	3	30	..	6	6	..	50	..	..	..	..	..
Heavy electrical machinery such as motor transformers etc.	3	..	5	..	1	1	..	..	..	..	..	..	..
Others	..	..	..	..	2	2	..	6	..	..	..	..	..
<i>Transport equipment</i>													
Repairing & servicing of motor vehicles	..	..	..	..	..	..	..	1	..	..	..	..	..
Building & repairing of ships, boats etc.	52	6	114	..	1	1	..	49	68	19	..	..	..
Others	..	..	..	..	..	..	..	7	..	..	..	..	..
<i>Miscellaneous industries</i>													
CONSTRUCTION	1	9	13	..	22	22	96	..	..	..	..	..	..
ELECTRICITY, GAS, WATER AND SANITARY SERVICES	1	..	1	..	2	2	..	..	..	1	..	..	..
TRADE AND COMMERCE	..	11	40	..	18	18	..	..	9	15	..	..	..
Wholesale trade	..	..	4	..	16	16	..	..	..	15	..	..	..
Retail trade	..	6	30	..	2	2	..	..	8	..	..	..	..
<i>Miscellaneous</i>													
Importing & exporting of goods & commodities	..	..	1	..	..	..	..	..	..	..	..	..	..
Providents & insurance	..	..	..	..	..	..	..	..	1	..	..	..	..
Banking & similar type of financial operations	..	5	5	..	..	..	..	..	..	..	..	..	..
Others	..	..	..	..	..	..	..	..	..	..	..	..	..

Description of industry	Occupation											
	Spinners, weavers, dyers, including knitters bleachers etc.	Tanners fellmongers & pelt dressers	Sugar makers	Food beverage processors including oil expelling operators etc.	Tobacco preparers & tobacco product makers	Tailors	Dress makers sewers etc.	Shoe makers & leather goods makers	Carpenters cabinet & related wood workers	Blacksmiths & hammermen	Machine tool operators	Metal grinders & tool sharpeners
	62	63	64	65	66	67	68	69	70	71	72	73
<i>Chemical & chemical products</i>												
Fertilizers	1	..	8	..
Turpentine, synthetic, resin, etc.	1	..	..	..	..	..
Others
<i>Non-metallic mineral products other than petroleum and coal</i>												
Structural clay products such as bricks & tiles
Structural stone goods & stone crushing
Others	1	..	..	..	..	..	..	..	..
<i>Basic metals & their products except machinery & transport equipment</i>												
Iron & steel including smelting, refining etc.	6	30	..
Structural steel products such as rail, sheet plate etc.	14	29	3
Aluminium products	21	35	12
Others	9	99	120	20

APPENDIX-IV—Cont d

	62	63	64	65	66	67	68	69	70	71	72	73
<i>Machinery & electrical equipment other than transport equipment</i>												
Assembling of boilers, heavy vessels & plates
Heavy electrical machinery such as motor transformers etc.
Others
<i>Transport equipment</i>												
Repairing & servicing of motor vehicles	2	19	53	1
Building & repairing of ships, boats, etc.	15	..	535	37	120	3
Others	1	..	..	33	13	4	..
<i>Miscellaneous industries</i>												
CONSTRUCTION	2	35	31	..	1	..	106	61	15	..
<i>ELECTRICITY, GAS, WATER AND SANITARY SERVICES</i>												
TRADE AND COMMERCE	6	7	..	2	..	4	1	6	13	..	1	..
Wholesale trade	..	7	..	2	..	..	..	..	..	..	..	..
Retail trade	6	..	..	..	..	4	1	6	9	..	1	..
<i>Miscellaneous</i>												
Importing & exporting of goods & commodities	4	..	..	..
Providents & insurance
Banking & similar type of financial operations
Others

Description of industry	Occupation										
	Metal makers & tool setters etc.	Supervisors & foreman, machinery, fitting assembling, re-pairing & precision instrument making (except electrical)	Watch clock & precision instrument makers	Machinery fitters & machine assemblers	Motor vehicle mechanics	Mechanics repairmen others	Supervisors & foreman electrical & electronic equipment fitting assembling installing & repairing	Electricians, electrical fitters & related workers	Radio television mechanics and repairmen	Electrical wireman	Electrician & cable jointers
	74	75	76	77	78	79	80	81	82	83	84
<i>Chemical & chemical products</i>											
Fertilizers	..	..	..	76	13	11	..	16	..	..	..
Turpentine, synthetic, resin, etc.	..	9	6	49	..	1	8	5	..	3	..
Others	..	..	..	..	..	..	..	1	..	..	..
<i>Non-metallic mineral products other than petroleum and coal</i>											
Structural clay products such as bricks & tiles	2	..	..	..	..	..	..	..	..	..	..
Structural stone goods & stone crushing	..	..	..	..	..	..	..	..	..	..	..
Others	..	..	..	..	..	..	..	..	..	..	..
<i>Basic metals & their products except machinery & transport</i>											
Iron & steel including smelting, refining etc.	..	..	..	23	..	..	..	8	..	..	..
Structural steel products such as rail, sheet, plate etc.	4	..	..	15	..	2	..	..	..	..	..
Aluminium products	5	..	..	6	..	1	..	..	..	..	..
Others, including sundry hardwares	10	7	..	54	1	1	5	..	..	..	..

APPENDIX-IV—Contd.

	74	75	76	77	78	79	80	81	82	83	84
<i>Machinery & electrical equipment other than transport equipment</i>											
Assembling of boilers, heavy vessels & plates	124	3	2	364	6	9	..	58	..	1	1
Heavy electrical machinery such as motor transformers etc.	1	..	..	90	..	5	..	35	..	..	..
Others	..	1	..	11	..	5	..	12	..	1	..
<i>Transport equipment</i>											
Repairing & servicing of motor vehicles	2	1	..	15	270	12	..	6	..	..	2
Building & repairing of ships, boats etc.	107	96	..	656	17	21	..	189	..	136	5
Others	..	..	..	..	4	19	..	..	..	..	..
<i>Miscellaneous industries</i>	..	1	19	9	..	8	..	..	..	..	..
CONSTRUCTION	7	24	2	41	39	127	59	96	..	60	233
ELECTRICITY, GAS, WATER AND SANITARY SERVICES	..	8	1	16	1	29	56	234	..	305	189
TRADE AND COMMERCE											
<i>Wholesale trade</i>	..	5	20	5	24	75	..	5	11	1	..
<i>Retail trade</i>	..	..	..	..	..	23	..	..	..	1	..
<i>Miscellaneous</i>	..	5	20	2	23	50	..	5	11	..	..
Importing & exporting of goods & commodities	..	..	..	3	1	2	..	..	..	..	..
Providents & insurance	..	..	..	..	..	..	..	..	..	..	..
Banking & similar type of financial operations	..	..	..	..	..	..	..	..	..	..	..
Others	..	..	..	..	..	..	..	..	..	..	..

Description of Industry	Occupation											
	Electronics fitter, telephone & telegraph installers & repairmen etc.	Cinema projectionists	Supervisors plumbing welding etc.	Plumbers and pipe fitters	Welders & flame cutters	Sheet-metal workers	Plumbers welders etc. others	Glass formers, potters & related workers	Rubber & plastic products makers	Printers & related workers	Painters	Brick layers and masons
	85	86	87	88	89	90	91	92	93	94	95	96
<i>Chemical & chemical products</i>												
Fertilizers	9	2	..	1	..	..	..	..	7	..
Turpentine, synthetic, resin, etc.	2	..	..	..	14	..	..	..
Others	2	..
<i>Non-metallic mineral products other than petroleum and coal</i>												
Structural clay products such as bricks & tiles	269	..	..	..	..
Structural stone goods & stone crushing	1	..	..	..	..	..	..	..
Others	5	..	..	..	35
<i>Basic metals & their products except machinery & transport equipment</i>												
Iron & steel including smelting, refining etc.	15	..	2	..	..	..	..	4
Structural steel products such as rail, sheet, plate etc.	7	..	129	..	2	..	..	..	1	..
Aluminium products	25	..	..	..	..	..	..
Others, including sundry hardwares	5	..	88	83	..	..	..	..	..	11
<i>Machinery & electrical equipment other than transport equipment</i>												
Assembling of boilers, heavy vessels & plates	4	..	..	64	481	1	..	..	..	5	30	10
Heavy electrical machinery such as motor transformers etc.	2	..	..	..	..	..	..	..
Others	23	..	..	..	4	..	..	..	..	..	..	..

APPENDIX-IV—Contd.

	85	86	87	88	89	90	91	92	93	94	95	96
<i>Transport equipment</i>												
Repairing & servicing of motor vehicles	2	..	..	..	35	8	..	..	..	..	3	..
Building & repairing of ships, boats etc.	5	..	3	268	901	128	444	..	..	2	194	15
Others	..	..	..	..	3	9	6	..	..	..	5	..
<i>Miscellaneous industries</i>												
CONSTRUCTION	55	..	5	45	75	..	1	..	..	..	26	226
ELECTRICITY, GAS, WATER AND SANITARY SERVICES	..	..	..	..	1	..	7	..	..	..	1	1
TRADE AND COMMERCE	..	..	..	..	5	1	..	28	..	..	6	..
<i>Wholesale trade</i>												
Retail trade	..	..	..	..	4	..	..	28	..	..	5	..
<i>Miscellaneous</i>												
Importing & exporting of goods & com- modities	..	..	..	..	1	..	..	..	..	..	1	..
Providents & insurance	..	..	..	..	..	..	..	..	..	..	..	..
Banking & similar type of financial ope- rations	..	..	..	..	..	..	..	..	..	..	..	..
Others	..	..	..	..	..	..	..	..	..	..	..	..

Description of Industry	Occupation								GRAND TOTAL
	Boilermen	Stationery engine & related equipment operators others	Riggers	Crane operators	Production & related workers, others	Transport equipment operators	Production & related workers transport equipment operators TOTAL	Unskilled workers	
	97	98	99	100	101	102	103	104	105
<i>Chemical & chemical products</i>									
Fertilizers	..	..	..	..	18	45	402	208	914
Turpentine, synthetic, resin, etc.	11	5	..	1	..	4	194	170	515
Others	6	12	..	..	66	8	112	60	240
<i>Non-metallic mineral products other than petroleum and coal</i>									
Structural clay products such as bricks & tiles	2	..	..	..	..	..	273	247	615
Structural stone goods & stone crushing	..	3	..	..	4	2	246	328	599
Others	..	2	..	..	102	..	150	62	251
<i>Basic metals & their products except machinery & transport equipment</i>									
Iron & steel including smelting, refining etc.	..	1	..	3	3	..	151	22	278
Structural steel products such as rail, sheet, plate etc.	..	..	..	..	1	..	207	36	309
Aluminium products	3	..	..	..	53	..	161	13	204
Others, including sundry hardwares	..	2	..	5	90	..	691	189	1082
<i>Machinery & electrical equipment other than transport equipment</i>									
Assembling of boilers, heavy vessels & plates	..	20	131	68	30	38	2046	187	3288
Heavy electrical machinery such as motor transformers etc.	..	..	..	..	19	..	171	29	253
Others	2	..	..	..	4	..	87	26	145

APPENDIX-IV—Contd.

	97	98	99	100	101	102	103	104	105
<i>Transport equipment</i>									
Repairing & servicing of motor vehicles	..	13	..	..	..	8	453	32	652
Building & repairing of ships, boats etc.	..	26	40	82	17	421	4621	592	6618
Others	140	19	145
<i>Miscellaneous industries</i>									
CONSTRUCTION	..	261	..	94	410		2460	306	7644
ELECTRICITY, GAS, WATER AND SANITARY SERVICES	..	56	..	..	58	18	987	303	1981
TRADE AND COMMERCE	..	64	..	9	260	94	677	2441	10064
<i>Wholesale trade</i>	..	37	..	..	127	52	265	1336	3412
<i>Retail trade</i>	..	19	..	..	133	15	355	309	3464
<i>Miscellaneous</i>									
Importing & exporting of goods & commodities	..	5	..	9	..	17	43	133	548
Providents & insurance	..	—	3	4	35	314
Banking & similar type of financial operations	..	1	..	..	..	5	6	628	2302
Others	..	2	..	..	..	2	4	..	24

Description of Industry	Occupation												
	Physical scientists	Physical science technicians	Civil engineers	Electrical & electronic engineers	Mechanical engineers	Chemical engineers	Metallurgists	Industrial engineers	Architects, engineers, technologists and surveyors, others	Draughtsman	Civil engineering overseers & technicians	Electrical & electronic engineering overseers and technicians	Mechanical engineering overseers and technicians
	1	2	3	4	5	6	7	8	9	10	11	12	13
TRANSPORT, STORAGE & COMMUNICATION	8	..	25	44	9	..	3	13	56	34	208	19	..
Railways	8	..	22	39	9	..	3	13	56	34	206	3	..
Bus services	..	..	..	..	..	..	..	..	..	..	2	..	..
Services incidental to transport	..	..	3	..	..	..	..	..	..	..	..	..	..
Posts and telegraphs	..	..	..	..	..	..	..	..	..	..	..	16	..
Others	..	..	..	5	..	..	..	..	..	..	..	..	..
SERVICES	86	43	189	26	94	3	..	7	157	214	183	4	87
<i>Public services in administrative departments & offices of Government</i>	33	1	149	11	86	3	..	7	150	184	126	1	84
<i>Educational & Scientific services</i>	..	..	1	..	2	..	..	..	..	9	..	..	..
Educational services (technical)	..	..	1	..	2	..	..	..	..	9	..	..	..
Educational services (non-technical)	..	10	3	1	..	..	..	..	6	8	8	3	3
Research institutions & scientific services	52	32	..	12	4	..	..	..	..	9	..	..	..
<i>Medical & health services</i>	1	..	..	..	..	..	..	..	..	1	8	..	..
<i>Religious</i>	..	..	1	1	..	..	..	..	..	..	40	..	..
<i>Community</i>	..	..	4	..	2	..	..	..	..	..	..	..	..
<i>Recreation</i>	..	..	..	..	..	..	..	..	..	..	..	..	..
<i>Personal services</i>	..	..	..	1	..	..	..	..	..	..	..	..	..
Boarding & lodging	..	..	..	1	..	..	..	..	..	..	..	..	..
Others	..	..	31	..	..	..	..	..	..	..	..	..	..
GRAND TOTAL	143	80	520	305	720	53	94	53	249	526	751	121	552

Description of Industry	Occupation											
	Engineers, Technicians, others	Ship deck life officers, pilots & engineers	Life Scientists	Life Science Technicians	Physicians & surgeons (allopathic)	Veterinarians	Pharmacists	Physicians, ayurvedic, homeopathic, dentists, etc.	Nurses	Vaccinators, inoculators, veterinary assistants, midwives & health visitors, etc.	Accountants & auditors	Teachers, university & colleges
	14	15	16	17	18	19	20	21	22	23	24	25
TRANSPORT, STORAGE & COMMUNICATION	25	..	..	2	34	..	14	..	36	131	47	..
Railways	24	..	..	2	29	..	10	..	33	124	25	..
Bus services	..	..	..	..	..	..	..	..	..	..	3	..
Services incidental to transport	1	..	..	..	5	..	4	..	3	7	12	..
Posts and telegraphs	..	..	..	..	..	..	..	..	..	..	5	..
Others	..	..	..	..	..	..	..	..	..	..	2	..
SERVICES	211	115	105	109	276	83	199	58	311	2058	154	1230
<i>Public services in administrative departments & offices of Government</i>	192	104	..	6	27	1	20	1	25	134	118	..
<i>Educational & Scientific services</i>	..	5	..	37	3	..	4	2	5	21	2	271
Educational services (technical)	..	5	..	37	3	..	4	2	5	21	2	271
Educational services (non-technical)	4	..	..	9	4	..	7	..	3	17	7	..
Research institutions & scientific services	11	6	57	5	..	..	2	3	..	..	4	..
<i>Medical & health services</i>	..	..	5	52	200	31	112	7	271	1686	3	..
Religious	..	..	..	..	..	..	..	..	..	11	1	..
Community	2	..	43	..	42	51	54	45	7	187	9	..
Recreation	..	..	..	..	..	..	..	..	..	1	1	..
<i>Personal services</i>	..	..	..	..	..	..	..	..	..	..	..	..
Boarding & lodging	..	..	..	..	..	..	..	..	..	1	7	..
Others	2	..	..	..	..	..	..	..	..	..	2	..
GRAND TOTAL	361	125	145	112	327	93	238	58	360	2260	539	1230

Description of Industry	Occupation									
	Teachers higher secondary & secondary schools	Teachers middle school	Teachers primary school	Teachers pre-primary crafts etc.	Professional technical and related workers, others	Professional technical & related workers, TOTAL	Administrative & executive officials Government and local bodies	Working proprietors, directors and managers	Administrative, executive and managerial workers, others	Administrative, executive and managerial workers, TOTAL
	26	27	28	29	30	31	32	33	34	35
TRANSPORT, STORAGE & COMMUNICATION	..	13	..	..	57	778	15	143	2	160
Railways	..	..	..	..	23	663	4	10	2	16
Bus services	..	..	..	..	1	4	2	92	..	94
Services incidental to transport	..	13	..	..	6	56	2	21	..	23
Posts and telegraphs	..	..	..	..	..	5	6	19	..	25
Others	..	..	..	..	27	50	1	1	..	2
SERVICES	1663	3602	3151	296	1198	15912	595	691	91	1377
<i>Public services in administrative departments & offices of Government</i>	100	282	151	24	105	2125	456	..	16	472
<i>Educational & scientific services</i>										
Educational services (technical)	8	..	..	24	44	438	2	..	2	4
Educational services (non-technical)	1552	3291	2979	214	291	9379	28	..	31	59
Research institutions & scientific services	..	..	..	..	48	245	8	..	7	15
<i>Medical & health services</i>	2	3	..	2	110	2485	6	..	..	6
<i>Religious</i>	..	..	..	4	59	86	..	..	1	1
<i>Community</i>	1	26	21	28	528	1090	95	..	12	107
<i>Recreation</i>	..	..	..	..	1	3	..	144	..	144
<i>Personal services</i>										
Boarding & lodging	..	..	..	..	3	12	..	547	..	547
Others	..	..	..	..	9	49	..	..	..	22
GRAND TOTAL	1663	3615	3172	296	1376	20145	687	3847	136	4670

Description of Industry	Occupation												
	Clerical supervisors	Steno-graphers, typists	Book keepers	Clerical & related workers	Transport & Commu-nication supervisors	Transport conduc-tors & guards	Mail dis-tributors & related workers	Telephone & tele-graph operators	Clerical & related workers others	Clerical & related workers TOTAL	Sales workers Total	Cooks	Bearers & waiters
	36	37	38	39	40	41	42	43	44	45	46	47	48
TRANSPORT, STORAGE & COMMUNICATION	515	131	46	1588	510	462	1001	122	1	4376	..	21	24
Railways	414	94	12	710	317	249	17	20	1	1834	..	21	24
Bus services	12	8	9	145	16	181	..	..	..	371	..	..	..
Services incidental to trans- port	74	23	11	271	..	..	..	2	..	381	..	..	..
Posts and telegraphs	6	2	14	452	169	32	979	99	..	1753	..	..	..
Others	9	4	..	10	8	..	5	1	..	37	..	..	..
SERVICES	1512	555	291	4412	161	10	32	117	33	7123	7	993	2206
<i>Public services in administrative departments & offices of Go- vernment</i>	1050	375	228	2901	161	..	1	105	..	4821	3	24	19
<i>Educational & scientific services</i>													
Educational services (technical)	24	18	1	41	..	..	1	..	..	85	..	18	10
Educational services (non-technical)	209	46	4	452	..	2	..	2	..	715	2	65	62
Research institutions & scien- tific services	43	24	5	47	..	..	..	..	2	121	..	3	..
<i>Medical & health services</i>	86	19	2	92	..	..	14	3	31	247	..	63	22
<i>Religious</i>	7	2	1	28	..	8	..	1	..	47	..	16	4
<i>Community</i>	90	33	8	161	..	..	16	..	..	308	..	35	12
<i>Recreation</i>	..	..	15	612	..	..	..	..	..	627	1	..	..
<i>Personal services</i>													
Boarding & lodging	2	34	25	72	..	..	..	6	..	139	..	769	2077
Others	1	4	2	6	..	..	..	..	..	13	1	..	..
GRAND TOTAL	3097	1190	1577	9473	726	481	1101	540	40	18225	2130	1071	2311

Description of Industry	Occupation												
	Protective service workers	Ayahs, launders, dry cleaners, hairdressers, etc.	Service workers Total	Forestry workers	Farmer, fishermen, loggers and related workers, others	Farmers, fisherman, logger & related workers Total	Miners, quarrymen, well drillers & related workers	Metal processors	Wood preparation workers & paper makers	Chemical processors & related workers	Supervisors Spinning & weaving	Spinners	Weavers
	49	50	51	52	53	54	55	56	57	58	59	60	61
TRANSPORT, STORAGE & COMMUNICATION	468	42	555	..	14	14	..	..	..	..	..	..	..
Railways	465	39	549	..	11	11	..	..	..	..	..	..	..
Bus services	..	..	..	..	..	..	..	..	..	..	..	..	..
Services incidental to transport	..	1	1	..	2	2	..	..	..	..	..	..	..
Posts and telegraphs	..	1	1	..	..	..	..	..	..	..	..	..	..
Others	3	1	4	..	1	1	..	..	..	..	..	..	..
SERVICES	3009	691	6899	30	246	276	4	26	11	9	..	1	1
<i>Public services in administrative departments & offices of Government</i>	2895	64	3002	..	49	49	4	20	11	1	..	..	..
<i>Educational & scientific services</i>													
Educational services (technical)	10	21	59	..	6	6	..	..	..	..	..	..	..
Educational services (non-technical)	3	104	234	..	35	35	..	6	..	8	..	..	..
Research institutions & scientific services	2	2	7	23	92	115	..	..	..	..	..	..	..
<i>Medical & health services</i>	3	92	180	..	17	17	..	..	..	..	..	..	..
<i>Religious</i>	—	16	36	2	33	35	..	..	..	..	..	..	..
<i>Community</i>	95	75	217	5	6	11	..	..	..	..	..	..	..
<i>Recreation</i>	..	2	2	..	..	..	..	..	..	..	..	..	..
<i>Personal services</i>													
Boarding & lodging	1	281	3128	..	7	7	..	..	..	..	..	..	..
Others	..	34	34	..	1	1	..	..	..	..	..	..	..
GRAND TOTAL	3581	860	7823	288	551	839	365	416	267	486	324	3069	1574

APPENDIX-IV—Contd.

Description of Industry	Occupation											
	Spinners, Tanners, Weavers, felldyers, including knitters, bleachers, etc.	Tanners, fellmongers & pelt dressers	Sugar makers	Food beverage processors, including oil expelling operators, etc.	Tobacco preparers & tobacco product makers	Tailors	Dress makers, sewers, etc.	Shoe makers & leather goods makers	Carpenters, cabinet and related workers	Blacksmiths & hammermen	Machine tool operators	Metal grinders & tool sharpeners
	62	63	64	65	66	67	68	69	70	71	72	73
TRANSPORT, STORAGE & COMMUNICATION	31	..	53	132	76	3
Railways	2	..	50	132	76	3
Bus services	1	..	..	..
Services incidental to transport	29	..	2	..	..	..
Posts and telegraphs
Others
SERVICES	22	..	51	15	5	287	89	160	4
<i>Public services in administrative departments & offices of Government</i>	12	..	41	15	4	232	72	125	4
<i>Educational & scientific services</i>	1	..	..	18	11	13	..
Educational services (technical)	1	..	..	18	11	13	..
Educational services (non-technical)	2	..	..	..	1	18	5	16	..
Research institutions & scientific services	4	..	6	..
<i>Medical & health services</i>	4	..	6	..	..	9	1	..	..
<i>Religious</i>
<i>Community</i>	2	..	1	..	..	3	..	..	..
<i>Recreation</i>
<i>Personal services</i>
Boarding & lodging	2	..	2	..	..	2	..	..	..
Others	1	..	..	..
GRAND TOTAL	1456	46	632	455	31	413	859	93	1295	592	1229	68

Description of Industry	Occupation										
	Metal markers & tool setters, etc.	Supervisors & foreman machinery, instrument fitting, assembling, repairing & precision instrument marking (except electrical)	Watch, clock & precision instrument makers	Machinery fitters & machine assemblers	Motor Vehicle mechanics	Mechanics, repairmen others	Supervisors & foreman electrical and electronic equipment fitting, assembling, installing & repairing	Electricians electrical fitters & related workers	Radio television mechanics and repairmen	Electrician wiremen	Electric linemen & cable jointers
	74	75	76	77	78	79	80	81	82	83	84
TRANSPORT, STORAGE & COMMUNICATION	..	46	2	317	38	639	45	126	14	51	85
Railways	..	45	2	316	19	638	45	122	8	51	85
Bus services	..	1	..	1	17	..	..	..	..	..	..
Services incidental to transport	..	..	..	..	..	..	..	1	..	..	..
Posts & telegraphs	..	..	..	..	1	..	..	1	4	..	..
Others	..	..	..	..	1	1	..	2	2	..	..
SERVICES	497	182	56	380	139	403	162	199	22	44	39
<i>Public services in administrative departments & offices of Government</i>	496	176	50	346	125	351	158	160	15	33	38
<i>Educational & scientific services</i>											
Educational services (technical)	1	2	2	21	6	7	..	13	2	3	..
Educational services (non-technical)	..	4	1	8	4	41	4	10	..	8	1
Research institutions & scientific services	..	..	3	2	1	..	..	1	5	..	..
<i>Medical & health services</i>	..	..	..	2	1	2	..	9	..	..	..
<i>Religious</i>	..	..	..	..	2	..	..	..	..	..	..
<i>Community</i>	..	..	..	1	..	..	..	..	..	..	..
<i>Recreation</i>	..	..	..	..	..	11	..	1	..	..	..
<i>Personal services</i>											
Boarding & lodging	..	..	..	..	..	2	..	5	..	..	..
Others	..	..	..	..	..	..	..	..	..	..	..
GRAND TOTAL	760	412	108	2368	565	1727	344	1067	47	620	555

Description of Industry	Occupation											
	Electronics fitters, telephone & telegraph installers & repairmen, etc.	Cinema projectionists	Supervisors, plumbing, welding, etc.	Plumbers, and pipe fitters	Welders & flame cutters	Sheetmetal workers	Plumbers, welders, etc., others	Glass formers, potters & related workers	Rubber & plastic product makers	Printers & related workers	Painters	Brick layers and masons
	85	86	87	88	89	90	91	92	93	94	95	96
TRANSPORT, STORAGE & COMMUNICATION	46	2	6	25	30	37	76	..	..	..	43	43
Railways	42	..	6	22	30	37	76	..	..	..	43	42
Bus services	..	..	..	..	..	..	..	..	..	..	..	..
Services incidental to transport	..	..	..	3	..	..	..	..	..	..	..	1
Posts and telegraphs	..	..	..	..	..	..	..	..	..	..	..	..
Others	4	2	..	..	..	..	..	..	..	..	..	..
SERVICES	88	192	27	48	139	18	102	..	4	87	39	20
<i>Public services in administrative departments & offices of Government</i>	83	6	27	32	119	12	102	..	4	1	26	11
<i>Educational & scientific services</i>												
Educational services (technical)	..	1	..	2	14	6	..	..	..	8	1	..
Educational services (non-technical)	5	1	..	7	4	..	..	..	..	72	1	6
Research institutions & scientific services	..	..	..	..	2	..	..	..	..	..	..	..
<i>Medical & health services</i>	..	2	..	6	..	..	..	..	..	..	..	1
<i>Religious</i>	..	..	..	..	..	..	..	..	..	..	..	2
<i>Community</i>	..	6	..	..	..	..	..	..	..	4	..	..
<i>Recreation</i>	..	176	..	..	..	..	..	..	..	..	8	..
<i>Personal services</i>												
Boarding & lodging	..	..	..	1	..	..	..	..	..	..	1	..
Others	..	..	..	..	..	..	..	..	..	2	2	..
GRAND TOTAL	223	194	62	453	1936	325	649	302	106	400	377	392

Description of Industry	Occupation								GRAND TOTAL
	Boilermen	Stationery engine & related equipment operators, others	Riggers, slingers, etc.	Crane operators	Production process and related workers, others	Transport equipment operators	Production & related workers transport equipment operators, Total	Unskilled workers	
	97	98	99	100	101	102	103	104	105
TRANSPORT, STORAGE & COMMUNICATION	2	521	..	221	674	1764	5148	9262	20293
Railways	2	368	..	38	259	1393	3952	6214	13239
Bus services	..	145	..	..	14	237	416	87	972
Services incidental to transport	..	2	..	183	390	118	729	2768	3960
Posts and telegraphs	..	1	..	..	..	4	11	131	1926
Others	..	5	..	..	11	12	40	62	196
SERVICES	53	611	18	236	130	2934	7561	11858	51017
<i>Public services in administrative departments & Offices in Government</i>	40	491	18	236	8	2702	6407	7047	23926
<i>Educational & scientific services</i>									
Educational services (technical)	1	10	..	..	..	19	162	174	928
Educational services (non-technical)	11	49	..	..	64	30	383	1520	12331
Research institutions & scientific services	..	2	..	..	18	28	72	135	710
<i>Medical & health services</i>	..	38	..	..	13	58	152	1931	5018
<i>Religious</i>	..	9	..	..	3	13	29	110	344
<i>Community</i>	..	..	..	..	10	69	98	547	2378
<i>Recreation</i>	..	12	..	..	10	..	218	160	1155
<i>Personal services</i>									
Boarding & lodging	..	..	..	..	4	15	34	226	4093
Others	1	..	..	..	..	..	6	8	134
GRAND TOTAL	211	1870	189	719	2166	5665	38482	33701	126015

OCCUPATIONAL PATTERN OF WOMEN EMPLOYEES BY SELECTED INDUSTRIES IN 1974

Industry	Occupation	No. of employees in 1974
1	2	3
MANUFACTURING		
Edible fats and oils		194
	Working proprietors, Directors and Managers	1
	Unskilled worker	193
Food products, Miscellaneous		69
	Physicians and Surgeons	1
	Working Proprietors, Directors and Managers	1
	Stenographers & typists	1
	Clerical and Related workers	2
	Food and Beverage Processors	12
	Material Handling and Related Equipment Operators	22
	Unskilled Workers	30
Cotton ginning, Cleaning, Baling, etc.		55
	Spinners, Weavers, Knitting, Dyers and Related Workers	55
Cotton Spinning (other than in mills)		650
	Spinners, Weavers, Knitting Dyers and Related Workers	650
Recovery of All types of Fibres		77
	Spinners, Weavers, Knitting Dyers and Related Workers	77
Textile Garments		376
	Spinners, Weavers, Knitting Dyers and Related Workers	2
	Tailors, Dress Makers, Sewers, Upholsters and Related Workers	274
	Unskilled Workers	100
Chemical and Chemical Products		74
	Stenographer and Typists	1
	Clerical and Related Workers	6
	Chemical Processors and Related Workers	7
	Production Process Workers	18
	Unskilled Workers	42
Brick and Tiles		217
	Glass formers, Potters and Related Workers	62
	Unskilled Workers	155
Structural Stone Products and Stone Crushing		254
	Maids and Related Workers	3
	Miners, Quarryman and Related Workers	100
	Unskilled Workers	151
Construction		391
	Engineering Technicians	5
	Clerical and Other Supervisors	1
	Stenographers and Typists	9
	Clerical & Related Workers	27
	Transport and Communication Supervisors	18
	Telephone and Telegraph Operators	32

1	2	3
	Maids and Related House Keeping Workers	3
	Oiler and Greasers	1
	Unskilled Workers	295
	TRADE	
Wholesale		112
	Working Proprietors, Directors and Managers	6
	Stenographers and Typists	6
	Clerical and Related Workers	6
	Telephone and Telegraph Operator	1
	Salesman, Shop Assistants and Related Workers	8
	Unskilled Workers	85
Retail		105
	Working Proprietors, Directors and Managers	19
	Stenographers and Typists	5
	Clerical and Related Workers	10
	Salesmen, Shop Assistant and Related Workers	28
	Maids and Related House Keeping Workers	3
	Protective Service Workers	1
	Material Handling and Related Equipment Operators	11
	Unskilled	28
	TRANSPORT, STORAGE AND COMMUNICATION	
Railways		226
	Engineering Technicians	2
	Physicians and Surgeons	5
	Nurses and other Medical and Health Technicians	40
	Professional, Technical and Related Workers, others	1
	Clerical and other Supervisors	2
	Stenographers and Typists	5
	Clerical and Related Workers	9
	House-keepers, Matrons and Stewards	1
	Maids and Related House-keeping Workers	4
	Unskilled Workers	157
	SERVICES	
Public Services in Administrative Departments and Offices of Govt.		580
	Engineering Technicians	17
	Physicians and Surgeons	10
	Nurses and other Medical and Health Technicians	32
	Social Scientists and Related Workers	3
	Teachers	170
	Professional, technical and Related Workers	2
	Clerical and other Supervisors	8
	Stenographers and typists	38
	Book-Keepers, Cashiers and Related Workers	1
	Clerical and Related Workers	192
	Telephone and telegraph operators	5
	House-keepers, Matrons and Stewards	12
	Maids and Related House-keeping Workers	29
	Building Caretakers	10
	Transport Equipment Operators	7
	Unskilled Workers	44

1	2	3
Education (technical)		121
	Physicians and Surgeons	2
	Nurses and Medical and Health Technicians	13
	Social Scientists and Related Workers	3
	Teachers	68
	Professional, Technical and Related Workers	1
	Stenographers and Typists	4
	Clerical and Related Workers	3
	House Keepers, Matrons and Stewards	2
	Cooks, Waiters and Related Workers	2
	Maids and Related House Keeping Workers	12
	Unskilled Workers	11
Educational (Non-Technical)		2448
	Physicians and Surgeons	1
	Nurses and other Medical and Health Technicians	1
	Social Scientists and Related Workers	3
	Teachers	2064
	Professional, Technical and Related Workers	15
	Working Proprietors, Directors and Managers	6
	Clerical and Other Supervisors	7
	Stenographers and Typists	3
	Clerical and Related Workers	45
	Telephone and Telegraph Operators	2
	House Keepers, Matrons and Stewards	39
	Cooks, Waiters and Related Workers	6
	Maids & Related House Keeping Workers	112
	Building Caretakers	20
	Protective Service Workers	4
	Other Farm Workers	3
	Material Handling and Related Equipment Operators	1
	Unskilled Workers	116
Medical and Health		1366
	Physicians and Surgeons	87
	Nurses and Other Medical and Health Technicians	779
	Social Scientists and Related Workers	13
	Teachers	6
	Professional, Technical and Related Workers, Other	2
	Clerical and Other Supervisors	2
	Clerical and Related Workers	12
	House Keepers, Matrons and Related Workers	1
	Cooks, Waiters and Related Workers	15
	Maids and Related House Keeping Workers	20
	Building Caretakers	9
	Protective Service Workers	1
	Unskilled Workers	419
Community		297
	Physicians and Surgeons	5
	Nurses and Other Medical and Health Technicians	117
	Social Scientists and Related Workers	102
	Teachers	26
	Clerical and Related Workers	6
	House Keepers, Matrons and Related Workers	14
	Cooks, Waiters and Related Workers	10

APPENDIX-V—*Concl.*

1	2	3
	Maids and Related House Keeping Workers	2
	Protective Service Workers	1
	Tailors and Dress Makers	1
	Unskilled Workers	13

APPENDIX-VI

WOMEN EMPLOYEES BY OCCUPATION IN 1974

Occupation 1	No. of Women Employees 2
I. PROFESSIONAL, TECHNICAL AND RELATED WORKERS	3671
(i) Scientists, Engineers and Technicians	36
Chemist	1
Physical Science Technicians	2
Civil Engineer	1
Metallurgist	3
Draughtsman, Architectural	1
Draughtsman, Civil	9
Draughtsman, Other	1
Overseer, Civil Engineering	4
Technician, Electronic and Tele-Communication	2
Survey Technician	3
Agronomist	6
Life Science Technician	3
(ii) Doctors and Medical and Health Technician	1121
Physician and Surgeon, Allopathic	92
Pharmacist	25
Vaccinator and Dresser	10
Veterinary Assistant	3
Nurse, General	155
Nurse, Specialised	140
Midwife	458
X-Ray Technician	1
Nursing Attendant	200
Sanitary Inspector	25
Sanitary Daroga	6
Nurse and Other Medical & Health Technician, Other	6
(iii) Teacher	2362
University and College Arts	74
Education	4
Science	76
Engineering	1
Medicine & Surgery	58
Fine Arts	3
Others	3
Higher Secondary and Secondary School	265
Languages	139
Middle School	612
Languages	110
Primary School	941
Infant School	38
Hand work	12
Manual Training	16
Crafts, Art, Drawing etc.	10
(iv) Accountants, Social Scientists and Other Professional Workers	152
Librarian and Curator	7

1	2
Labour and Social Welfare Worker	121
Composer and Performing Artist	6
II. ADMINISTRATIVE, EXECUTIVE AND MANAGERIAL WORKERS	56
Working Proprietor, Director and Manager Wholesale and Retail Trade	20
Director and Manager, Banks and Financial Institutions	2
Working Proprietor and Manager, Mining, Quarrying and Well Drilling	2
Working Proprietor, Director and Manager, Manufacturing	11
Working Proprietor, Director and Manager, Transport, Storage and Communication	2
Working Proprietor, Director and Manager, Lodging and Catering Services	7
Working Proprietor and Manager, Recreation and Entertainment	2
Administrative, Executive and Managerial Workers, other	10
III. CLERICAL AND RELATED WORKERS	676
Section Officer	6
Inspector and Supervisor, Other Clerical	2
Office Assistant	29
Stenographer and Steno-Typist	38
Typist	81
Teleprinter Operator	3
Card and Tape Punching Machine Operator	5
Book-Keeper and Accounts Clerks	31
Cashier	3
Audit Clerk and Teller Bank	1
Clerks, General	388
Store Keeper and Related Worker	5
Library Clerk	5
Ticket Seller	4
Ticket Collector, Checker and Examiner	2
Clerical and Related Worker	1
Postmaster, Telegraph Master and Other Supervisor	16
Telephone Operator	54
Telegraphist and Signaller	2
IV. SALES WORKERS	38
Salesman, Wholesale and Retail Trade	37
Shop Assistant and Related Worker	1
V. SERVICE WORKERS	452
House Keeper, Matron and Steward	73
Cooks and Cook Bearer	32
Butler, Bearer and Waitor	4
Cook, Waitor and Related Worker	23
Ayah, Institutional and Domestic	210
Domestic Servant	12
Maid and Related House-Keeping Service Worker	46
Caretaker, Building	1
Protective Service Worker	30
Recreation and Other Service Worker	21
VI. FARMERS, FISHERMEN, LOGGERS AND RELATED WORKERS	3
Gardner	3
VII. PRODUCTION AND RELATED WORKERS, TRANSPORT EQUIPMENT OPERATORS	1390
(i) Production and Related Workers	1387
Quarrymen	100

1	2
Metal Plater and Coater	3
Crusher, Grinder and Mixer, Chemical	7
Teaser (Feeder and Receiver, Jute)	26
Fibre Preparer, Other	15
Fibre Preparation Operative	97
Hand Spinner (Cotton and Woollen Textile)	650
Reeler (Textile)	47
Bleacher, Dyer and Textile Product Finisher	2
Grain Miller, Parcher and Related Worker	4
Food Preserver and Canner	9
Brewer and Aerated Water and Beverage Maker	2
Tobacco Prepare and Tobacco Product Maker	1
Tailor and Dress Maker	1
Sewer and Emproider	274
Metal Grindner, Polisher and Tool Sharpener	6
Electrical Fitter and Related Worker	20
Brick and Tile Moulder, Hand	51
Glass Former, Potter and Related Worker, Other	10
Plastic Product Maker	3
Compositor	3
Photographic Dark Room Worker	1
Basketry Weaver and Brush Making	1
Production and Related Worker, Other	18
Concrete Moulder and Concrete Mixer, Tile Presser—Mosaic	2
Checker, Tester, Sorter and Weigher	2
Packer, Labeller and Related Worker	32
(ii) Transport Equipment Operator	3
Ship's Deck Tating, Barge Crew and Boatman	3
VIII. UNSKILLED WORKERS	2061
TOTAL	8347

APPENDIX-VII

Employment Growth by Economic Activity

Economic Activity	Number of Employees		
	1967	1974	1979
1	2	3	4
Agriculture, Livestock, Forestry and Fishing	777	769	4427
Production of cereal crops	194	207	234
Production of Pulses (Oil seeds)	22	22	22
Production of Coffee in Plantation	52	45	53
Conservation of forests	311	319	3942
Felling & Cutting of Trees & Transportation of Logs	..	17	17
Production of fish, by fishing in inland water	79	44	44
Production & rearing of livestock	49	36	36
Production of ducks, hens, eggs, etc., by poultry farming	37	41	41
Rearing of silk worm & Production of cocoons	33	38	38
Mining and Quarrying	39	121	228
Mining of Iron Ores	..	25	25
Mining of Mica	26	26	26
Mining of Other non-ferrous metallic ores	13	13	65
Mining and quarrying of non-metallic products	..	57	112
Manufacturing	18063	34126	45961
Rice	334	682	1065
Sugar & Syrup in mills	1763	2086	2703
Fruit Products	10	6	6
Meat & Fish	..	29	41
Bread & Other Bakery products	108	183	282
Dairy Products	94	143	782
Edible Fats & Oils	578	1163	1763
Miscellaneous Food Products	6	103	166
Aerated & Mineral Water	16	106	132
Ice	13	40	81
Ice-cream	11	19	26
Processing of Coffee in Curing Works	5	5	5
Cigars	22	37	47
Cotton ginning, cleaning baling etc.	52	85	85
Cotton Spinning (Other than in Mills)	2	758	1076
Cotton Spinning & Weaving in Mills	355	451	451
Cotton Dyeing & Bleaching	54	51	175
Cotton weaving in handlooms	10	20	20
Jute pressing & baling	303	380	487
Jute spinning & weaving	5148	8730	10338
Textile garments	177	486	814
Waterproof textile products	..	129	129
Recovery of all types of fibres	27	108	185
Umbrellas	8	5	5
Processing of Fibre etc.	136	150	160
Sawing & Planing of wood	224	445	687
Wooden furniture	79	204	330
Structural wooden goods	5	5	5
Wooden industrial goods	..	12	12
Veneer & Plywood	..	54	115

	1	2	3	4
Material from cork, bamboo, cane, leaves etc.		9	9	9
Paper bags		..	88	167
Printing		183	376	574
Binding		20	12	12
Currying & Tanning of leather		28	51	51
Leather footwear		33	94	98
Leather products		..	29	42
Tyres & Tubes		25	118	172
Petroleum & Petroleum Products		380	360	360
Production of coal-tar and coke		..	20	20
Basic industrial chemicals		2	6	6
Dyes, paints etc.		..	22	22
Fertilizers		162	914	951
Matches		..	14	90
Medicines, cosmetics etc.		22	40	40
Soap		15	19	25
Synthetic		..	515	515
Common Salt		126	118	166
Miscellaneous chemicals		21	21	71
Bricks & tiles		387	615	815
Cement products		58	137	164
Lime		6	46	46
Structural stone products & stone crushing		72	599	868
China-ware & crockery		..	13	19
Porcelain & its products		..	15	15
Glass & beads		9
Other non-metallic mineral products other than petroleum		21	40	156
Iron and Steel Smelting		232	278	291
Smelting of Zinc		..	112	903
Structural steel products		65	309	670
Iron & Steel furniture		13	21	38
Brass Products		116	112	112
Aluminium products		146	204	364
Metal products such as tin-can		33	114	114
Enamelling, plating etc.		8	13	27
Sundry hardwares		361	710	1118
Machinery other than textile etc.		53	49	58
Boilers, heavy plates & vesseles		34	3288	5494
Textile Machinery & Accessories		..	32	66
Heavy Electrical Machinery		229	253	314
Insulated wires & cables		13	12	17
Repair of Battery		21	47	73
Miscellaneous electrical maehinery		..	5	5
Assembling of motor vehicles (Except engines)		19	70	90
Repairing & servicing of motor vehicles		329	680	1064
Tri-cycles & accessories		5	11	11
Ship building & repairing		5137	6618	7176
Repairing of bicyeles & tricycles		11	36	56
Repairing of watches & clocks		10	20	30
Gold jewellery & silver wear		3	8	8
Miscellaneous goods		115	158	206
Construction		3259	7644	42635
Building including erection, electrical installators etc.		2195	3467	38219
Roads		..	421	421
Telegraph & telephone lines		469	803	1004

1	2	3	4
Waterways, embankments, dams etc.	595	2953	2991
Electricity, Gas, Water and Sanitary Services	950	1981	2734
Generation & Transmission of Electric Energy	..	449	937
Distribution of electric energy	950	1532	1797
Trade and Commerce	5742	10064	13223
Wholesale trading in cereals & pulses	882	1022	1061
Wholesale trading in sugar, spices and other food stuffs	811	1434	1892
Wholesale trading in fabrics	146	335	495
Wholesale trading in beverages	92	103	110
Wholesale trading in intoxicants	5	11	11
Wholesale trading in tobacco & its products	89	74	76
Wholesale trading in medicines	38	70	81
Wholesale trading in fuel & lighting products	33	58	58
Wholesale trading in petrol and allied products	99	152	232
Wholesale trading in building materials	23	20	20
Wholesale trading in wood	..	13	13
Wholesale trading in paper & stationery goods	..	5	10
Wholesale trading in electrical machinery and equipment	..	7	7
Wholesale trading in leather	7	12	17
Wholesale trading in hardware & sanitary equipment	..	5	10
Wholesale trading in general goods	73	91	106
Retail trading in cereals & pulses	156	192	215
Retail trading in beverages	8	7	7
Retail trading in intoxicants	14	50	80
Retail trading in fuel	18	38	38
Retail trading in Food Stuffs	5	11	17
Retail trading in straw & Fodder	..	11	22
Retail trading in all types of textiles	395	808	1107
Retail trading in medicines & chemicals	75	144	189
Retail trading in footwear	57	150	224
Retail trading in tyres & allied products	..	7	14
Retail trading in petrol & allied products	243	373	477
Retail trading in wooden and steel furniture	7	22	35
Retail trading in stationery goods	28	34	34
Retail trading in metal & glass utensils	19	47	68
Retail trading in bricks & other building materials	7	14	19
Retail trading in hardware & sanitary equipment	121	181	217
Retail trading in wood & allied products	37	54	59
Retail trading in other building material	7	18	29
Retail trading in agricultural and industrial machinery & equipment	38	63	86
Retail trading in transport equipment	143	296	482
Retail trading in electrical goods	44	110	165
Retail trading in leather	..	5	10
Retail trading in clock, watch etc.	5	34	61
Retail trading in jewellery	14	49	65
Retail trading in musical instruments, gramophone records etc.	13	18	23
Book selling	56	74	89
Retail trading in general goods	321	654	766
Importing & exporting of goods & commodities	141	548	590
Providents & Insurance	197	314	1104
Banking	1275	2307	2700
Distribution of motion pictures	..	19	32
Transport, Storage and Communication	12097	20293	22102
Transport by railways	8152	13239	13394

APPENDIX-VII—Contd.

	1	2	3	4
Transport by bus service		542	637	2164
Transport by motor vehicles other than omnibus		191	335	386
Transport by air		44	53	53
Services incidental to transport		1713	3960	3976
Posts & telegraphs		1319	1926	1962
Information & broadcasting		136	143	167
Services		34511	51017	62411
Public service in central Government		2720	5839	8035
Public services in local bodies and quasi-government		7318	11875	12433
Public service in State Government		4374	6212	6634
Educational services (technical)		886	928	963
Educational services (non-technical)		9957	12331	16923
Scientific services & research institutions		532	710	793
Public health & medical services		4064	4900	5090
Veterinary services		117	118	240
Religious services for workship activities		337	344	345
Engineering services		..	48	53
Business services by accountants, auditors, etc.		5	10	15
Business services rendered by professional organisations like publicity and advertising agencies		..	6	12
Services rendered by trade associations		10	78	148
Cultural services		198	232	248
Community services		2005	2068	2208
Recreation services		533	1155	1827
Catering services		1409	4093	6363
Laundry services		30	28	29
Hair dressing & other services		6	21	31
Commercial photography		10	21	21
GRAND TOTAL		75438	126015	193721

APPENDIX-VIII

Employment Growth by occupation

Occupation	Number of employees		
	1967	1974	1979
	1	2	3
1. Professional, Technical & Related Workers	14585	20145	27201
(i) Scientists, Engineers & Technologists	2457	4918	6885
Physicist	..	2	4
Chemist	67	104	124
Geologist and Geophysicist	..	8	10
Meteorologist	10	28	55
Oceanographer	..	1	1
Physical Science Technician	81	80	103
Architect and Town Planner	3	5	6
Civil Engineer	226	520	726
Electrical and Electronic Engineer	198	305	569
Mechanical Engineer	148	720	1005
Chemical Engineer	29	53	78
Metallurgist	3	94	306
Mining Engineer	..	3	3
Industrial Engineer	33	53	54
Surveyor	73	116	117
Architect, Engineer, Technologist & Surveyor, other	71	133	182
Draughtsman, Architectural	5	13	13
Draughtsman, Civil	167	279	386
Draughtsman, Electrical	14	32	32
Draughtsman, Mechanical	112	165	176
Draughtsman, other	11	37	37
Overseer, Civil Engineering	301	490	710
Permanent Way Inspector	47	71	71
Civil Engineering Technicians, other	75	190	190
Technician, Electrical Engineering	42	104	231
Technician, Electronic & Tele-communication	12	17	38
Technician, Mechanical & Automotive Engineering	197	552	754
Chemical Engineering Technician	..	27	27
Metallurgical Technician	6	8	33
Survey Technician	135	163	164
Engineering, Technician, other	109	163	241
Ship's Deck Officers and Pilots	56	94	94
Ship's Engineer	19	31	31
Biologist, Zoologist, Botanist & Related Scientist	24	21	30
Bacteriologists, Pharmacologist & Related Scientist	9	9	10
Agronomist	81	99	123
Agricultural Scientists	15	16	16
Life Science Technician	78	112	135
(ii) Doctors & Medical and Health Technician	2611	3336	3705
Physician and Surgeons, Allopathic	214	327	369
Physician, Ayurvedic	17	48	48
Dentist	2	2	2
Veterinarian	95	93	128
Pharmacist	249	238	299

	1	2	3	4
Dietician		1	1	1
Health Officer		8	7	7
Vaccinator and Dresser		8	21	34
Dental Assistant		6	6	6
Veterinary Assistant		83	87	87
Nurse, General		119	189	261
Nurse, Specialised		121	159	159
Nurse, Industrial & Professional		7	12	12
Midwife		176	361	417
Lady Health Visitor		83	108	123
X-Ray Technician		21	23	26
Optician, General		2	2	2
Physiotherapist		1	2	2
Nursing Attendent		426	519	564
Sanitary Inspector		310	511	511
Sanitary Darogha		215	200	210
Nurses and Other Medical & Health Technicians, other		447	420	437
(iii) Teacher		8106	9976	14457
University and colleges Arts		247	362	375
Commerce		36	55	56
Education		8	10	10
Law		7	14	14
Science		376	463	474
Engineering		110	150	151
Medicine & Surgery		141	156	157
Fine Arts		10	12	12
Others		..	8	8
Higher Secondary & Secondary Schools		820	1256	3120
Languages		363	407	504
Middle School		2599	3277	5590
Languages		198	338	357
Primary School		2960	3172	3302
Infant School		5	44	65
Hand work		12	14	14
Manual Training		112	123	129
Craft, Art, Drawing etc.		102	115	119
Accountants, Social Scientists and other Professional Workers		1411	1915	2154
Mathematician		..	1	3
Statistician		1	3	5
System Analysts and Programmers		..	15	15
Statistical Assistant		37	48	52
Economic Investigator		7	9	11
Accountant and Auditor		324	525	616
Cost Accountant		2	14	21
Librarian and Curator		51	72	78
Translator		12	15	25
Personnel and Occupational Specialist		17	35	50
Village level worker		413	432	432
Labour and Social Welfare Worker		70	150	168
Social Scientists and Related Worker, other		36	31	40
Jurists		19	26	28
Publicity Officer and Assistant		1	3	3
Public Relation Officer		34	27	27
Sculptors, Painter, Photographer and Related Creative Artists		14	32	32

APPENDIX-VIII—Contd.

	1	2	3	4
Composer and Performing Artist		32	39	39
Priest		12	10	10
Purohit		13	16	16
Non-ordained Religious worker, other		14	15	15
Physical Training Instructor		126	144	182
Athletes, Sportsman and Related worker		3	7	7
Handwriting & Finger Print Expert and Impression Taker		3	3	3
Laboratory Attendant		170	243	276
II. Administrative, Executive and Managerial Workers		2431	4670	6349
Administrative and Executive Official, Union Government		54	88	118
Administrative & Executive Official, State Govt.		246	380	398
Administrative & Executive Official, Quasi-Government		32	93	102
Administrative & Executive Official, Local Bodies		142	126	126
Working Proprietors, Directors and Manager, Wholesale and Retail Trade		762	1351	1775
Director and Manager Banks and Financial Institutions		132	293	405
Working Proprietor and Manager, Mining, Quarrying and Well Drilling		7	14	15
Working Proprietor, Director & Manager, construction		11	58	95
Director and Manager, Electricity, Gas and Water		3	4	
Working Proprietor, Director & Manager, Manufacturing		629	1293	1884
Working Proprietor & Manager, Transport, Storage and Communication		101	143	171
Working Proprietor, Director and Manager, Lodging & Catering Services		182	547	868
Working Proprietor and Manager, Recreation and Entertainment		65	144	219
Administrative, Executive & Managerial workers, other		65	136	168
III. Clerical and Related Workers		11942	18225	22766
Section Officer		387	639	784
Inspector and Supervisor, other, Clerical		527	874	990
Office Assistant		1092	1584	2302
Stenographer and Steno-typist		205	442	560
Typist		465	725	894
Teleprinter Operator		..	8	11
Card and Tape Punching Machine Operator		..	15	15
Book-Keeper and Accounts Clerk		645	1028	1232
Cashier		253	445	529
Audit Clerk and Teller Bank		77	104	105
Computer and Calculating Machine Operator		11	34	36
Machine Supervisor, Data Processing		..	2	2
Computing Machine Operator		..	4	4
Clerk, General		5236	7563	9059
Store Keeper and Related worker		372	719	1002
Receptionist (Hotel)		..	12	27
Library Clerk		23	28	29
Time Keeper		66	100	108
Ticket Seller		355	653	1132
Ticket Collector, Checker and Examiner		146	144	154
Clerical and Related worker (including proof reader and copy holder)		188	254	289
Station Master and Superintendent, Transport		85	139	139
Postmaster, Telegraph Master and other Supervisor		80	205	234
Transport and Communication Supervisors		266	382	412
Guard and Breaksman, Railway		123	201	201
Conductor, Transport		193	196	660
Transport Conductor and Guard, other		34	84	84
Postman		192	213	213
Messenger and Despatch Riders		130	218	247
Mail Distributor and Related Worker		465	670	670

APPENDIX-VIII--Contd.

	1	2	3	4
Telephone Operator		161	342	442
Telegraphist and Signaller		113	160	160
Radio Communication and Wireless Operator		31	33	34
Telephone and Telegraph Operator, other		21	5	6
IV. Sales Workers		1231	2130	3037
Retail Dealer		51	87	110
Sales Supervisor		60	71	98
Purchasing Agent		12	45	253
Selling Agent		3	4	5
Manufacturing Agent		9	16	24
Technical Salesman and Service Advisor		8	21	37
Commercial Travellers, General		4	11	17
Technical Salesman and Commercial Traveller		2	5	6
Salesman, Wholesale and Retail Trade		735	1318	1745
Salesman, Shop Assistant and Demonstrator		136	215	284
Street Vendor, Canvasser and News Vendor		45	56	59
Shop Assistant and Related worker		161	259	367
Propagandist and Broker		..	5	9
Valuer		1	1	1
Money Lender		4	4	4
Sales worker, other		..	12	18
V. Service Workers		3995	7823	10148
House Keeper, Matron and Steward		69	131	136
Cook and Cook Bearer		466	1071	1508
Butler, Bearer and Waitor		510	1319	2092
Cook, Waitor and Related Worker		398	992	1456
Ayah, Institutional and Domestic		192	226	264
Domestic Servant		..	12	12
Maid and Related House Keeping service worker		113	295	412
Caretaker, Building		18	20	60
Laundryman, washerman and Dhobi		66	81	89
Dry Cleaner and Presser		15	16	16
Barber and Hair Dresser (Ladies)		29	44	56
Protective Service Worker		2083	3581	4012
Recreation and other service worker		36	35	35
VI. Farmer, Fishermen, Loggers and Related Workers		741	839	4509
Farm Manager and Supervisor, Crop Production		229	275	277
Manager, Livestock, Dairy and Poultry Farm		6	9	41
Cultivator, General		15	15	15
Farmer other than Cultivator		16	17	27
Farm Machinery Operator		13	14	18
Farm Worker, Animal, Bird and Insect Rearing		2	6	6
Gardner		148	195	221
Forester and Related worker		279	288	3884
Fisherman and Related Worker, other		33	20	20
VII. Production and Related Workers, Transport Equipment Operator		2296	38482	67585
(i) Production and related workers		17909	32817	60902
Supervisor and Foreman, Mining and Quarrying		2	10	16
Pick Miner		..	20	20
Quarryman		..	225	250
Driller, Miner and Querries		2	57	356
Spot Firer		1	20	106

1	2	3	4
Miner and Quarryman, other	41	24	24
Well Drilling Operative, other than Petroleum and Gas	2	2	2
Mineral Treater	2	7	18
Supervisor and Foreman, Metal Smelting, Converting and refining	7	12	213
Metal Smelting, Converting & Refining Furnaceman	5	19	62
Metal Rolling Mill Worker	8	66	142
Metal Melter and Reheater	28	46	64
Metal Caster	8	8	20
Moulder, General	112	135	185
Metal Moulder and Core Maker, other	34	54	78
Annealer and Hardner, Metal	..	8	15
Metal Drawer and Extruder	17	16	41
Metal Plater and Coater	30	48	62
Metal Processor, other	..	4	19
Supervisor and Foreman, Wood Preparation and Paper Making	..	2	2
egnator, Wood	1	1	1
Sawyer, Machine, General	70	104	135
Plywood Maker and Related Wood Pressing worker, other	68	143	209
Chipperman, Paper Pulp	..	16	16
Cutter and Machine Operator, Paper	..	1	2
Supervisor & Foreman, Chemical Processing and related activities	34	88	88
Crusher, Grinder and Mixer, Chemical	1	11	38
Processman and paste Maker, Chemical	1	5	6
Filter and Separator Operator	8	6	6
Continuous still operator, Chemical	15	217	217
Continuous still Operator, Petroleum	124	101	101
Chemical Processor and related worker	34	58	66
Supervisor and Foreman, Spinning, Weaving, Knitting, Dyeing & related			
Processes	75	324	328
Selector, Jute	58	81	92
Softner Feeder and Receiver, Jute	70	141	141
Root Cutter, Jute	11	22	22
Teaser (Feeder & Receiver, Jute)	40	52	79
Fibre Preparer, Grass	..	22	44
Breaker Feeder, Jute	90	319	364
Breaker Receiver & Finisher Feeder, Jute	123	190	244
Fibre Preparer, Other	86	121	131
Fibre Preparation Operative	222	326	904
Drawing Tenter	124	158	226
Inter Tenter.	20	45	45
Hand Spinner (Cotton and Woollen Textile)	..	687	937
Mule Piecer	131	157	157
Spinner, Jute	566	765	765
Twister	220	336	341
Doffer, Spinning	59	40	40
Winder (Textile)	345	475	523
Reeler (Textile)	207	238	256
Spinning and Weaving Operative	147	168	177
Weaving and Knitting Machine Setter and Pattern Card Preparer	48	132	132
Drawer	79	103	302
Weaver Power Loom	624	1220	1320
Smash Hand	27	70	113
Weaven Handloom	1	55	105
Drawing and Weaving Operative	65	126	227
Flat Knitter Machine	1	1	1
Bleacher, Dyer and Textile Product Finisher	53	54	71

1	2	3	4
Supervisor & Foreman, Tanning & Pelt Dressing	1	2	2
Tanner and Fellmonger	23	44	54
Supervisor & Foreman, Food & Beverage Processing	13	34	66
Grain Miller, Parcher and Related worker	88	181	259
Crusher and Presser, Oil Seed	55	109	169
Khandsari, Sugar and Gur Maker	123	260	267
Khandsari, Sugar and Gur Making Operative	353	372	376
Slaughterer	4	4	4
Food Preserver and Canner	7	17	30
Dairy Product Processor	4	10	82
Baker, Confectioner, Candy and Sweet Meat Maker	10	31	57
Baking, confectionery, candy and sweet meat making operative	35	40	79
Brewer and Aerated water and Beverage Maker	1	29	31
Tobacco Preparer and Tobacco Product maker	18	31	36
Tailor and Dress Maker	139	413	684
Pattern Maker and Cutter	5	21	28
Sewer and Embroider	493	805	853
Upholster and Related worker	18	33	37
Supervisor and Foreman, Shoe and Leather Good making	..	5	5
Shoemaker and shoe repairer	26	46	51
Shoe cutter, laster, sewer and related worker	1	42	53
Supervisor and foreman, carpentry, Cabinet Making, and Related wood working processes	19	40	43
Carpenter, General	258	491	670
Carpenter, Construction	19	72	3294
Carpenter, ship	362	419	419
Carpenter, Cabinet and Related Wood worker	218	221	263
Carpentry and Joinery operative	20	52	1349
Stone Cutter and Carver	7	4	7
Supervisor and Foreman, Blacksmithy, Tool making and machine Tool Operations	5	11	15
Blacksmith	172	335	462
Village Blacksmith	6	10	13
Hammerman	104	164	182
Smithy Operative	55	83	119
Marker Metal	65	153	281
Tool Maker and Metal Pattern Maker	24	37	63
Machine Tool Setter	1	7	7
Machinist, General	180	540	735
Turner	247	465	619
Driller Metal, General	20	41	55
Machine Tool Operator	47	63	69
Machine Tool Operative	54	120	198
Grinder, General	11	15	648
Metal Grinder, Polisher and Tool Sharpener	32	53	88
Blacksmith, Tool Maker and Machine Tool Operator, other	461	563	760
Supervisor and foreman, Machinery Fitting, Assembling, Repairing and Precision Instrument Making (except Electrical)	347	412	437
Watch, clock and precision Instrument Maker (except Electrical)	45	108	143
Fitter, General	861	1429	3870
Fitter, Bench	61	106	177
Assembler, Workshop Machines and Equipment	18	265	575
Erector Machine and Assembler, continuity	8	32	34
Fitting, Assembling and Machine erecting Operatives	239	536	1659
Assembler, Automobile	5	7	24

1	2	3	4
Mechanic Automobile	157	370	678
Fitter Automobile	20	16	19
Mechanic Motor Cycle	11	17	19
Motor Vehicle Repairing Operative	53	155	299
Mechanic Aircraft Engine, field Service	2	2	2
Mechanic Petrol Engine	22	67	67
Mechanic, Diesel Engine	83	150	155
Fitter, Marine	8	20	100
Fitter, Loco	291	300	300
Fitter, Railway Carriage	195	255	255
Mill-wright	40	157	167
Mechanic Maintenance	84	86	90
Mechanic, Textile Machinery	238	276	286
Mechanic Refrigeration and Air-conditioning	15	37	64
Fitter, Bicycle	18	27	34
Fitter, Signal	31	38	38
Mechanic and Repairman, other	76	162	181
Overhauling and Repairing Operative	56	149	259
Viewer-Workshop and Machine Assembler and fitter	..	1	7
Supervisor and Foreman, Electrical and Electronic Equipment, fitting, Assembling, Installing and Repairing	237	344	349
Electrician	243	492	871
Electrical fitter and Related worker	150	262	262
Electrician, Electrical Repairman and Related Electrical Operatives	163	313	398
Electronics Fitter	8	29	35
Electrical & Electronic Equipment Assembler	14	20	20
Radio Mechanic and Repairman	24	47	72
Wireman, Light and Power	263	407	605
Electrical Wiring Operative	29	213	784
Maintenance Mechanic telephone and telegraph	61	81	108
Teleprinter Mechanic	1	1	1
Lineman, Light and Power	109	246	351
Lineman, Telephone and Telegraph	104	223	302
Cable Jointer	11	17	57
Lineman and Cable Jointing Operative	1	69	128
Mechanical fitter and Related Electronic Worker	46	92	137
Supervisor, Broadcasting	3	5	5
Sound Equipment operator and Cinema Projectionist	104	194	304
Supervisor and Foreman Plumbing, Welding Structural and Sheet Metal working	21	62	67
Plumber, General	165	206	386
Pipe fitter	88	132	228
Plumbing and Pipe fitting operative	35	115	177
Welder, Gas	72	183	297
Welder, Electric	342	1237	2525
Gas Cutter	105	177	304
Welding and Flame Cutting operatives	102	339	736
Sheet Metal workers, structural	92	102	102
Tind-smith	39	100	141
Sheet Metal worker, other	38	68	105
Sheet Metal working operative	22	55	71
Plater	152	115	128
Boiler Maker	71	58	58
Erector, Structural	334	332	414
Rivetter	56	51	51
Metal Plate and Structural Metal working operative	42	59	879

	1	2	3	4
Metal Plate and structural metal worker, other		28	12	14
Plumber, welder, sheet Metal and structural metal Preparer and Erector		15	22	36
Jeweller, Goldsmith and Silversmith		5	16	19
Engraver		1	2	5
Supervisor and foreman, Glass forming, Pottery and Related activities		3	9	9
Glass former, cutter, grinder and finisher		5	24	46
Brick and Tile Moulder, Hand		116	179	206
Potter and Related Clay and Abrasive former		42	42	49
Glass and Ceramic Kilnmen		9	46	49
Engraver, Glass		2	2	2
Glass former, Potter and Related worker, other		37	438	464
Supervisor and foreman Rubber and Plastic Product making		2	14	16
Plastic product maker		..	29	29
Tyre maker and vulcaniser		19	63	95
Paper and paper product maker		..	8	34
Supervisor and foreman printing and related work		..	1	2
Compositor		71	118	180
Lino and photo type setting machine operator		..	2	2
Printing pressman		63	142	209
Etcher, photo Engraving		..	2	2
Book-Binder		48	88	121
Book-Binding Operative		20	33	46
Photographic Dark room worker		10	11	11
Printer and related worker		..	3	5
Supervisor and Foreman, Painting		..	2	2
Painter, construction		117	209	228
Painter, spray and sign writing		53	149	181
Painter, other		6	17	20
Supervisor and foreman production and related activities, other		3	6	11
Basketry weaver and brush maker		8	13	19
Non-Metallic Mineral product maker		12	22	22
Production and related worker, other		31	49	110
Supervisor and foreman bricklaying and other construction work		165	257	276
Stone Mason		93	370	2064
Bricklayer and Tile setter		18	22	641
Concrete moulder and concrete mixer, tile presser-Mosaic		19	51	66
Insulator		2	3	3
Glazier		1	3	5
Construction worker, other		2	134	1224
Supervisor and foreman stationary and related equipment operator		2	9	14
Stationary Engine Driver, Steam		3	3	3
Stationary Engine Driver, Internal Combustion		20	81	101
Air Compressor Operator		12	33	73
Turbine Operator, Steam		39	88	88
Electrical Switch Board Operator		43	87	141
Ammonia Compressor operator		4	7	9
Air Conditioning & Refrigeration Plant Attendent		6	9	24
Pumpman		117	221	258
Stationary Engine and related Equipment operator		36	165	182
Boilerman and fireman		190	211	250
Oiler and Greaser, Stationary Engine & Machinery		141	194	255
Cleaner—Motor vehicle		349	357	655
Loco cleaner		277	220	221
Oiler, greaser and cleaner, other		285	391	407
Water Treatment Plant operator		1	1	1

APPENDIX-VIII—Concl'd.

1	2	3	4
Stationary engine and related equipment operator, other	..	4	4
Supervisor and foreman, Material and Freight handling and related equipment operations	17	167	196
Rigger	33	65	3108
Slinger	..	106	397
Rigger and cable splicer, other	1	18	18
Crane operator, Diesel/Electric	155	287	395
Mobile Crane operator	5	66	106
Winchman	181	189	194
Crane and Hoist operator, other	27	54	54
Crane and Hoist operative	146	123	227
Bulldozer operator	6	23	43
Power Shovel operator	2	9	9
Pumper operator	6	208	229
Fork Lift Truck operator	2	82	88
Conveyor operator	29	47	147
Earth Moving & related machinery operator, other	13	28	115
Earth Moving & Related Machinery operative	79	6	37
Checker, Tester, Sorter and Weigher	227	253	254
Packer, labeller and related workers	123	272	331
Tractor Driver, construction	18	22	51
Liftman	3	9	9
Material Handling equipment operator, other	2	18	18
(ii) Transport Equipment Operator	4387	5665	6683
Serang, Deck	75	82	82
Tindal Deck	228	259	259
Seacony	45	72	72
Lascar	1074	1518	1734
Shrip's Deck Ratings, Barge Crews and Boatman	289	236	236
Shrip's Engine room rating	137	87	91
Driver, Railway Engine (Steam)	153	252	252
Driver, Railway engine (diesel)	112	251	251
Driver, shunting (Loco)	109	101	101
Fireman, locomotive	298	292	293
Signalman, railway	50	55	55
Foreman, Signalling Railway	3	3	3
Pointsman Railway	283	363	363
Traffic Shunter, Railway	99	134	134
Shunting jamadar	82	99	99
Pointsman, Signalman and shunter, railway, other	275	338	338
Trolley Driver	34	39	39
Driver, car	302	441	484
Driver, bus	214	233	699
Driver, truck	332	484	716
Driver, fire brigade vehicle	60	70	85
Driver, Auto rickshaw	..	2	2
Cart, driver	6	5	7
Driver, cycle rickshaw	3	18	26
Rickshaw puller	3	5	11
Transport Equipment operator and driver, other	121	226	251
VIII. Unskilled Workers	18217	33701	52126
TOTAL	75438	126015	193721

APPENDIX IX

MANPOWER REQUIREMENTS

Occupation	Number
1	2
I. Professional, Technical & Related workers	9,807
(i) Scientists, Engineers & Technologists	2857
Physicists	5
Chemists	36
Geologist and Geophysicists	18
Meteorologists	37
Physical Science Technicians	36
Architects & town planners	2
Civil Engineers	301
Electrical & Electronic engineers	319
Mechanical Engineers	467
Chemical Engineers	31
Metallurgists	242
Industrial Engineers	12
Surveyors	13
Architect, Engineers, Technologists and Surveyors, other	63
Draughtsman, Architectural	1
Draughtsmen, Civil	169
Draughtsmen, Electrical	3
Draughtsmen, Mechanical	58
Draughtsmen, other	8
Overseer, Civil Engineering]	295
Permanent Way Inspectors	7
Civil Engineering Technicians, others	20
Technicians, Electrical engineering	140
Technicians, Electronic and Tele-Communications	24
Technicians, Mechanical & Automotive Engineering	268
Chemical Engineering Technicians	3
Metallurgical Technicians	26
Survey Technicians	29
Engineering Technicians, other	107
Ship's Deck Officers and pilots	9
Ship Engineer	3
Biologist, Zoologist, Botanist & Related scientists	23
Bacteriologist, pharmacologist & related scientists	3
Agronomist	39
Agricultural Scientist	3
Life Science Technician	37
(ii) Doctors & Medical and Health Technicians	774
Physicians and Surgeons, Allopathic	78
Physician, Ayurvedic	5
Veterinarian	46
Pharmacist	104
Health Officer	1
Vaccinator and Dresser	18
Dental Assistant	1
Veterinary Assistant	9

1	2
Nurse, general	102
Nurse, specialised	16
Nurse, Industrial & Professional	1
Midwife	100
Lady Health visitor	26
X-ray Technician	7
Physiotherapist	3
Nursing Attendent	104
Sanitary Inspector	57
Sanitary Darogha	32
Nurses and other medical & health Technicians, other	64
(iii) Teachers	5,663
University and colleges —Arts	82
—Commerce	7
—Education	3
—Law	2
—Science	94
—Engineering	28
—Medicine & Surgery	30
—Fine Arts	3
—Others	1
Higher Secondary and Secondary Schools	2,000
—Languages	141
Middle School	2,660
—Languages	62
Primary School	489
Infant School	25
Hand work	2
Manual Training	19
Craft, Art, Drawing, etc.	15
(iv) Accountants, Social Scientists and other Professional workers	513
Mathematician	2
Statistician	2
System Analysts and Programmer	5
Statistical Assistant	11
Economic Investigator	3
Accountant and Auditor	150
Cost Accountant	8
Librarian and curator	16
Translator	23
Personnel and occupational specialists	18
Village level worker	43
Labour and Social Welfare worker	40
Social Scientists and Related workers, other	15
Jurist	5
Public Relations Officer	16
Sculptor, painter, Photographer & related creative artists	13
Composer and performing artist	16
Priest	2
Purohit	2
Non-ordained Religion worker, other	2
Physical Training Instructor	53
Athletes, sportsman and related workers	1

1	2
Handwriting & Finger print expert and Impression taker	1
Laboratory Attendent	66
II. Administrative, Executive and Managerial Workers	2,190
Administrative and Executive Official, Union Government	44
Administrative and Executive Official, State Government	67
Administrative and Executive Official, Quasi-Government	19
Administrative and Executive official, Local Bodies	26
Working Proprietors, Directors and Managers, Wholesale and retail trade	558
Director and Manager, Bank & Financial Institutions	146
Working Proprietor and Manager, Mining Quarrying and well drilling	2
Working proprietor, Director and Manager, Construction	43
Director and Manager, Electricity, gas and water	1
Working proprietor, Director and Manager, Manufacturing	725
Working Proprietor and Manager, Transport Storage and Communication	43
Working proprietor, Director and Manager, Lodging and catering services	371
Working proprietor and Manager, Recreation and entertainment	91
Administrative, Executive and Managerial workers, other	54
III. Clerical and Related Workers	6,900
Section Officer	228
Inspector and Supervisor, other, clerical	234
Stenographer and Steno Typist	204
Office Assistant	901
Typist	251
Teleprinter operator	4
Book-Keeper and Accounts clerk	310
Card Tape Punching Machine Operator	4
Cashier	128
Audit clerk and Teller Bank	13
Computer and Calculating Machine Operator	5
Clerk-General	2,431
Store Keeper and related workers	392
Receptionist (Hotel)	16
Library Clerk	4
Time Keeper	18
Ticket Seller	545
Ticket Collector, Checker and Examiner	25
Clerical and Related workers (including Proof-reader and copy holder)	64
Station Masters and Superintendent, Transport	37
Postmaster, Telegraph Master and other Supervisors	50
Transport and Communication Supervisor	69
Guard and Breaksman, Railway	30
Conductor, Transport	485
Transport Conductor and Guard, other	11
Postman	38
Messenger and Despatch Rider	61
Mail Distributor & related workers	110
Telephone Operator	185
Telegraphist and Signaler	29
Radio Communication and wireless operator	16
Telephone and Telegraph operator, other	2
IV. Sales Workers	1,128
Retail Dealer	32
Sales Supervisor	36
Purchasing Agent	213

1	2
Selling Agent	2
Manufactures Agent	10
Technical Salesman and Service Advisor	18
Commercial Traveller, General	7
Technical Salesman and Commerical Traveller	2
Salesman, wholesale and retail trade	560
Salesman, Shop Assistant and Demonstrator	91
Street vendor, Convassor and News vendor	9
Shop Assistant and related workers	136
Propagandist and Broker	5
Sales worker, other	7
V. Service Workers	3,390
House keeper, Matron and steward	22
Cooks and Cook Bearer	552
Butler, Bearer and waiter	938
Cooks, waiter and related workers	572
Ayah, Institutional & Domestic	67
Maid and related house keeping service workers	147
Caretaker, Building	42
Laundryman, Washerman and dhobi	23
Drycleaner and presser	2
Barber and Hair Dresser (Ladies)	16
Protective service worker	1,002
Recreation and other service workers	6
VI. Farmer, Fisherman, Loggers and Related Workers	3,757
Farm Manager and Supervisor crop production	31
Manager, Livestock, Dairy and Poultry Farm	32
Cultivator, General	2
Farmer other than cultivator	13
Farm Machinery operator	5
Farm worker, Animal, Bird and Insect Rearing	1
Gardner	46
Forester and related worker	3,625
Fisherman and related worker, other	2
VII. Production and Related workers Transport Equipment Operators	33,977
(i) Production & related workers	32,313
Supervisor and foreman, Mining and quarrying	7
Pick Miner	2
Quarryman	50
Driller, Mines and quarries	305
Shot Firer	88
Miner and quarryman, other	2
Mineral Treaters	12
Supervisor and Foreman, Metal smelting converting and refining	202
Metal Smelting, Converting and refining furnaceman	45
Metal Rolling Mill worker	83
Metal Melter and reheater	24
Metal caster	13
Moulder, general	65
Metal moulder and core maker, other	36
Annealer and Hardener, Metal	9
Metal Drawer and Extruder	27
Metal Plater and Coater	22

1	2
Metal Processor, other	15
Wood Sawyer, Machine, General	41
Sawyer, Plywood maker and related wood processing workers, other	80
Chipperman, Paper Pulp	2
Cutter and Machine Operator, Paper	1
Supervisor and foreman, chemical processing & related activities	9
Crusher, grinder and Mixer, chemical	28
Processmen and Paste maker, chemical	2
Filter and Separator operator	1
Continuous still operator, Chemical	22
Continuous still operator, Petroleum	10
Chemical Processor & related workers	14
Supervisor and Foreman, spinning, weaving, knitting, dyeing & related works	36
Selector, Jute	19
Softner, Feeder and receiver, jute	14
Root Cutter, Jute	2
Teaser (Feeder and receiver, Jute)	32
Fibre Preparer, grass	24
Breaber Feeder, Jute	77
Breaber Receiver and Finisher Feeder, Jute	73
Fibre Preparer, other	22
Fibre Preparation operative	611
Drawing Tenter	84
Inter Tenter	5
Hand Spinner (cotton and woollen textiles)	319
Mule Piecer	16
Spinner, Jute	77
Twister	39
Doffer, Spinning	4
Winder (Textile)	96
Reeler (Textile)	42
Spinning and weaving operative	23
Weaving and knitting machine setter and pattern card preparer	13
Drawer	209
Weaver powerloom	222
Smash hand	50
Weaver handloom	56
Drawing and Weaving operative	114
Bleacher, Dyer and Textile Product Finisher	22
Tanner and Fellmonger	14
Supervisor and Foreman, Food and Beverage Processing	35
Grain Miller, Parcher and related workers	96
Crusher and Presser, oil seed	70
Khandsari, Sigar and gur maker	33
Khandsari, Sugar and Gur making operative	41
Food Preserver and Canner	15
Dairy Product Processor	73
Baker, Confectioner, Candy and sweet meat maker	29
Baking Confectionery, Candy and sweet meat making operative	43
Brewer and Aerated water and Beverage maker	5
Tobacco Preparer and Tobacco Product maker	8
Tailor and Dress Maker	312
Pattern maker and cutter	9
Sewer and Embroider	129
Upholster and related workers	7

1	2
Supervisor and Foreman, Shoe & Leather goods making	1
Shoeman and Shoe repairer	10
Shoe cutter, Lather, Sewer and related worker	24
Supervisor and Foreman, Carpentry, Cabinet making and related wood working Processes	7
Carpenter General	229
Carpenter, Construction	3229
Carpenter, Ship	42
Carpenter, Cabinet and related wood workers	64
Carpentry and Joinery operative	1302
Stone Cutters and Carver	3
Supervisor and foreman, Blacksmithy, Tool making and Machine Tool Operation	5
Black Smith	174
Village Black Smith	4
Hammer man	36
Smithy Operative	44
Marker Metal	146
Tool maker and Metal Pattern Maker	33
Machine Tool Setter	1
Machinist, General	262
Turner	221
Driller Metal, General	20
Machine Tool Operator	14
Machine Tool Operative	91
Grinder, General	641
Metal Grinder, Polisher and Tool Sharpener	42
Black Smith, Tool maker and Machine Tool Operator	401
Supervisor and Foreman, Machinery Fitting, Assembling, repairing and precision Instrument making (Except Electrical)	118
Watch, Clock & Precision Instrument maker (except Electrical)	151
Fitter, General	2601
Fitter, Bench	86
Assembler, Workshop Machines and Equipment	337
Erector Machine and Assembler, Continuity	3
Fitting, Assembling and Machine Erecting Operatives	1178
Assembler, Automobile	18
Mechanic, Automobile	365
Fitter, Automobile	5
Mechanic, Motor Cycle	6
Motor Vehicle Repairing Operative	161
Mechanic, Petrol Engine	30
Mechanic, Diesel Engine	153
Fitter, Marine	82
Fitter, Loco	30
Fitter, Railway Carriage	26
Millwright	31
Mechanic Maintenance	13
Mechanic, Textile Machinery	38
Mechanic Refrigeration and Air-Conditioning	37
Fitter, Bicycle	10
Fitter, Signal	4
Mechanic and Repairman, other	36
Overhauling and Repairing Operation	125
Viewer-workshop and Machine Assembler and Fitter	6
Fitting, Assembling, Installing and Repairing	72

1	2
Electrician	434
Electrical Fitter and Related Worker	79
Electrician, Electrical Repairman and related Electrical Operatives	117
Electronics Fitter	10
Electrical and Electronic Equipment Assembler	2
Radio Mechanic and Repairman	39
Wireman, Light and Power	249
Electrical Wiring Operative	592
Maintenance Mechanic	43
Lineman, Light and Power	130
Lineman, Telephone and Telegraph	102
Cable Jointer	44
Lineman and Cable Jointing Operative	67
Electrical Fitter and Related Electrical Worker	65
Supervisor, Broadcasting	1
Sound Equipment Operator and Cinema Projectionist	133
Supervisor and Foreman Plumbing, Welding Structural and Sheet Metal Working	29
Plumber, General	204
Pipe Fitter	114
Plumbing and Pipe Fitting Operatives	74
Welder, Gas	140
Welder, Electric	1412
Gas Cutter	145
Welding and Flame Cutting Operatives	458
Sheet Metal Workers, Structural	10
Tinsmith	55
Sheet Metal Worker, Other	44
Sheet Metal Working Operative	22
Plater	52
Boiler Maker	6
Erector, Structural	115
Rivetter	5
Metal Plate and Structural Metal Working Operative	826
Metal Plate and Structural Metal Worker, Other	4
Plumber, Welder, Sheet Metal & Structural Metal Prepares & Erector	17
Jeweller, Goldsmith and Silversmith	6
Engraver	4
Supervisor and Foreman, Glass forming, Pottery and related activities	1
Glass former, Cutter, Grinder and finisher	24
Bricks and Tile Moulder, Hand	45
Potter and related clay and Abrasive Former	11
Glass and Ceramic Kilnmen	8
Glass former, Potter and Related worker, other	70
Supervisor and Foreman Rubber and Plastic Product making	4
Plastic Product Maker	3
Tyre Maker and Vulcaniser	38
Paper and Paper Product Maker	27
Supervisor and Foreman, Printing and Related work	1
Compositor	76
Lino and Photo Type Setting Machine Operator	4
Printing Pressman	83
Book Binder	42
Book Binding Operative	16
Photographic Dark Room Worker	1
Printer and Related Worker	2

1	2
Painter, Construction	40
Painter, Spray and Sign Writing	49
Painter, Other	6
Supervisor and Foreman Production and Related Activities, other	6
Basketry weaver and Brush Maker	9
Non Metallic Mineral Product Maker	3
Production and Related Worker, other	66
Supervisor and Foreman Brick lying & other Construction work	49
Stone Mason	1735
Brick layer and Tile Setter	621
Concrete Moulder and Mixer, Tile Presser Mosaic	21
Glazier	2
Construction Worker, other	1103
Supervisor and Foreman Stationary and Related Equipment Operator	6
Stationary Engine Driver, Steam	1
Stationary Engine Driver, Internal Combustion	28
Air Compressor, Operator	47
Turbine Operator, Steam	9
Electrical Switch Board Operator	72
Amonia Compressor Operator	3
Air Conditioning and Refrigeration Plant Attendant	16
Pumpman	64
Stationary Engine and Related Equipment Operator	34
Boilerman and Fireman	63
Oiler and Greaser, Stationary Engine and Machinery	80
Cleaner Motor Vehicle	337
Loco Cleaner	23
Oiler, Greaser and Cleaner, other	57
Water Treatment Plant Operator	1
Supervisor and Foreman, Material and Freight Handling and Related equipment Operations	46
Rigger	3054
Slinger	302
Rigger and Cable Splicer, other	2
Crane Operator, Diesel/Electric	160
Mobile Crane Operator	47
Winch man	24
Crane and Hoist Operator, other	6
Crane and Hoist Operative	116
Bulldozer Operator	22
Power Shovel Operator	1
Dumper Operator	42
Fork Lift Truck Operator	14
Conveyor Operator	105
Earth Moving and Related Machinery Operator, Other	91
Earth Moving and Related Machinery Operative	34
Checker, Tester, Sorter and Weigher	54
Packer, Labeller and Related worker	88
Tractor Driver, Construction	31
Liftsman	1
Material Handling Equipment Operator, other	3
(ii) Transport Equipment Operator	1664
Serang, Deck	9
Tindal, Deck	26
Seacony	7

1	2
Lascar	375
Ship's Deck Ratings, Barge Crews and Boatman	24
Ship's Engine Room Rating	14
Driver, Railway Engine (Steam)	25
Driver, Railway Engine (Diesel)	25
Driver, Shunting (Loco)	10
Fireman, Locomotive	30
Signalman, Railway	19
Shunting Jamadar	10
Pointsman, Railway	36
Traffic Shunter, Railway	13
Pointsman, Signalman and Shunter, Railway—other	36
Trolley Driver	4
Driver, Car	90
Driver, Bus	491
Driver, Truck	312
Driver, Fire Brigade Vehicle	23
Cart, Driver	3
Driver, Cycle Rickshaw	10
Rickshaw Puller	7
Transport Equipment Operator and Driver, other	65
VIII Unskilled Worker	23013
TOTAL	84162

TRAINING FACILITIES
PART A—Details of Educational Institutions

APPENDIX-X—PART A

Particulars of Institution, Name and Address	Course Taught	Duration of Course in Yrs.		Minimum Admission requirements		Method of admission	Details of Award			Tuition fee Rs.	Stipend if any Rs.	Last date for applicant for admission	Date of Commencement of course	Sanctioned intake capacity for each session course
		Institutional	Practical	Age in Yrs.	Educational		Nature and title	Whether recognised Yes/No.	Authority confirming award					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Andhra University Waltair	M.A. History	2 Yrs.	..	..	B.A. (History)	General & Merit	P.G.	Yes.	A.U.	Rs. 163-25+105-50 per term	..	..	July	40
	M.A. Ancient History Archeology	..	..	..	B.A. or B.Sc.,	..	..	..	..	..	..	..	..	40
	M.A. Mathematics	..	..	..	B.A. Home Science	..	..	..	..	..	..	..	..	40
	M.A. Philosophy	..	..	..	B.A./ B. Sc.,	..	..	..	..	..	..	..	..	40
	.. Anthropology	..	..	..	Degree	..	..	..	..	..	..	..	..	40
	.. Applied Economics	..	..	..	..	..	..	..	..	..	..	..	..	40
	.. English	..	..	..	..	..	..	..	..	..	..	..	..	35
	.. Hindi	..	..	..	.. with diploma in Hindi	..	..	..	..	..	..	..	..	30
	.. Telugu	..	..	..	Degree	..	..	..	..	..	..	..	..	40
	.. Sanskrit	..	..	..	..	..	..	..	..	..	..	..	..	40
	.. Economics	..	..	..	..	..	..	..	..	..	..	..	..	40
	.. Politics	..	..	..	..	..	..	..	..	..	..	..	..	40
	.. Public Administration	..	..	..	..	..	..	..	..	..	..	..	..	40
	M.A. Psychology	..	..	..	..	..	..	..	..	..	..	..	..	40

APPENDIX X—PART A—Contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	M. A. Social Work	2 Yrs.	..	..	Degree	General & Merit	P.G.	Yes.	A.U.	178-35 + 129-50 per term	..	..	July	40
	" Indl. & Public Relation Labour Welfare	"	..	..	"	"	"	"	"	163-25 + 105-50 per term	..	..	"	40
	" Sociology	"	..	..	"	"	"	"	"	"	..	..	"	40
	" Education	"	..	..	P.G.	"	"	"	"	"	..	..	"	40
	M.Com.,	"	..	..	B. Com.	"	"	"	"	"	..	..	"	100
	M.B.A. Master of Business Administration	"	..	..	Degree	"	"	"	"	"	..	..	"	20
	B.G.L. Bachelor of General Law	3 yrs.	..	..	"	"	Degree	"	"	173-25 + 125-50 per term	..	..	"	20
	B. Law	"	..	..	"	"	Degree	"	"	"	..	..	"	20
	M. Law	2 Yrs.	..	..	B.L.	"	P.G.	"	"	112-50	..	..	"	20
	M.Sc., Applied Mathematics	"	..	..	B.Sc.,	"	"	"	"	75-00 163-25 per term	..	..	"	60
	M. Sc., Physics	"	..	..	"	"	"	"	"	105-50 + 200-75 per term	..	..	"	60
	" Tech. Electronics (Phy.)	3 Yrs.	..	..	"	"	"	"	"	+ 128-00 135-75 + 68-00 per term	..	..	"	6
	" Chemistry	2 yrs.	..	..	"	"	"	"	"	200-75 + 128-00 per term	..	..	"	60
	" Botany	2 yrs.	..	..	"	"	"	"	"	"	..	..	..	60
	" Zoology	"	..	..	"	"	"	"	"	"	..	..	..	60
	" Geology	"	..	..	B.Sc.	"	"	"	"	200-75 + 128-00 per term	..	..	July	5
	" Applied Geology Tech.)	"	..	..	"	"	"	"	"	163-25 + 105-50 per term	..	..	"	5
	" Nuclear Physics	"	..	..	" (General)	"	"	"	"	200-75 + 128-00 per term	..	..	"	32

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	M.Sc. Statistics	3 yrs.	..	..	Degree	General Merit	P.G.	Yes	A.V.	Rs. 200-75 +128-00 per term	..	..	July	15
	" Mineral Processing	1 yr.	..	..	M. Sc.,	"	"	"	"	"	..	..	"	5
	" Geophysics (Tech.)	3 Yrs.	..	..	B. Sc.,	"	"	"	"	"	..	..	"	12
	" Meteorology (Tech.) & Oceanography	"	..	..	" (General)	"	"	"	"	"	..	..	"	40
	" Bio-chemistry	2 Yrs.	..	..	B. Sc.	"	"	"	"	"	..	..	"	11
	" Geography	"	..	..	" (Hon)	"	"	"	"	"	..	..	"	12
	" Human Genetics Pyl Anthropology	"	..	..	" (CBZ)	"	"	"	"	"	..	..	"	16
	" Applied Physics (Tech.)	3 yrs.	..	..	" (MPC)	"	"	"	"	163-25 +105-50 per term	..	..	"	30
	M. Pharmacy	2 yrs.	..	..	B. Pharm	"	"	"	"	"	..	..	"	30
	B. Pharmacy	4 Yrs.	..	..	PUC	"	Degree	"	"	"	..	..	"	30
ENGINEERING COURSES														
	B.E. Civil	5 Yrs.	..	..	"	"	"	"	"	240-25 per term	..	..	"	36
	" Electrical	"	..	..	"	"	"	"	"	"	..	..	"	25
	" Mechanical	"	..	..	"	"	"	"	"	"	..	..	"	35
	" Electrical & Tele-Communication	"	..	..	"	"	"	"	"	"	..	..	"	19
	" Marine Engineering	"	..	..	"	"	"	"	"	"	..	..	"	10
	B. Chemical Engineering (Tech)	"	..	..	"	"	"	"	"	230-25 per term	..	..	"	60
	M.E. Civil Hydraulics	2 Yrs.	..	..	B.E.	"	P.G.	"	"	220-25 per term	..	..	"	5

APPENDIX X—PART A—Contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	M.E. Civil Public Health	2 years	..	..	B.E.	General Merit	P.G.	Yes	A.U.	225-25 Per term	..	..	July	5
	" Civil Structural	"	..	..	"	"	"	"	"	"	..	..	"	5
	" Electrical Machinery, Power System Engg.	"	..	..	"	"	"	"	"	"	..	..	"	20
	" Machine Design (Mech.)	"	..	..	"	"	"	"	"	"	..	..	"	20
	M. Chemical (Tech.) Engg.	"	..	..	"	"	"	"	"	"	..	..	"	20
	P.G. Dip. Co-op. Rural Studies	1 Yr.	..	..	Degree	"	DIP	"	"	118-25 +65-00 per term	..	..	"	18
	P.G. Sanskrit	"	..	..	"	"	"	"	"	88-25 +35-00 per term	..	..	"	20
	Sr. PG Dip. in Sanskrit	"	..	..	PG. Dip. Sanskrit	"	"	"	"	98-25 +45-00 per term	..	..	"	20
	Jr. Dip. Russian Language	"	..	..	Matric	"	"	"	"	"	..	..	"	20
	Sr. Dip. Russian Language	"	..	..	Jr. Dip. in Russian Language	"	"	"	"	"	..	..	"	20
	Jr. Dip. in French	"	..	..	Matric	"	"	"	"	"	..	..	"	20
	B. Library Science	"	..	..	Degree	"	Degree	"	"	"	..	..	"	35
	Dip. in Acting	"	..	..	PUC	"	DIP	"	"	"	..	..	"	20
	Dip. in Play Direction	"	..	..	1st Yr. Degree	"	"	"	"	"	..	..	"	20
	Dip. in Hindi	"	..	..	Matric	"	"	"	"	"	..	..	"	15
	Dip. in Radio & Electronics (Physics)	"	..	..	M.Sc., Nuclear phy.	"	"	"	"	"	..	..	"	2
	PG. Dip. in Applied Statistics	"	..	..	MA/ M.Sc.	"	"	"	"	"	..	..	"	14
	Sanitary Inspector Training	10 Months	..	..	Matric	"	Certificate	"	"	144-00	SC/ST Rs. 31-80 B.C. 12-00	..	Aug.	100
Andhra Medical College Visakhapatnam	P.G. DIPLOMA Ophthalmology	2 Yrs.	..	..	MBBS.	"	Dip.	"	"	240-00	300-00	..	June	8
	Obst. & Gynaecology	"	..	..	"	"	"	"	"	"	"	..	"	12

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Venerology	2 Yrs.	..	..	..	M.B.B.S.	General & Dip. Merit	Yes	A.U.	240-00	300.00	..	June	3	
Tuberculosis	"	..	..	..	"	"	"	"	"	"	"	"	2	
Clinical Pathology	"	..	..	..	"	"	"	"	"	"	"	"	6	
Anesthesiology	"	..	..	..	"	"	"	"	"	"	"	"	8	
Child Health	"	..	..	..	"	"	"	"	"	"	"	"	8	
Dermatology	"	..	..	..	"	"	"	"	"	"	"	"	5	
Laryngology & Otology	"	..	..	..	"	"	"	"	"	"	"	"	6	
M.B.B.S.	5½ Yrs.	..	One yr. internship	..	Inter	"	"	"	150/1st Yr, 240/- 2nd Yr. onwards	TWS. 78/- SWS. 75/- NMS. 110/- SMS. 150/- NLS. 91/- PSS. 50/- GOICS. 300/-	..	Aug.	150	
P.G. & Phd. LEVEL														
M.S. General Surgery	3 Yrs.	..	..	..	M.B.B.S.	P.G.	"	"	"	120/- per Yr.	300/- P.M.	..	June	10
Orthopaedics	"	..	..	..	"	"	"	"	"	"	"	"	"	4
E.N.T. Part -II	"	..	..	..	"	"	"	"	"	"	"	"	"	6
M.D. Pathology	"	..	..	..	"	"	"	"	"	"	"	"	"	4
Biochemistry	"	..	..	..	"	"	"	"	"	"	"	"	"	2
General Medicine	"	..	..	..	"	"	"	"	"	"	"	"	"	12
Microbiology	"	..	..	..	"	"	"	"	"	"	"	"	"	2
Obst. & Gynaecology	"	..	..	..	"	"	"	"	"	"	"	"	"	10
Dermatology	"	..	..	..	"	"	"	"	"	"	"	"	"	4
Anesthesiology	"	..	..	..	"	"	"	"	"	"	"	"	"	4
Paediatrics	"	..	..	..	"	"	"	"	"	"	"	"	"	6
Anatomy	"	..	..	..	"	"	"	"	"	"	"	"	"	4
Physiology	"	..	..	..	"	"	"	"	"	"	"	"	"	6
Ophthalmology	"	..	..	..	"	"	"	"	"	"	"	"	"	6

APPENDIX-X PART-A—Contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Bethal Indl. Educational Society, Anakapalli	Composing Tradllemen	2 Yrs.	..	..	9th Std.	General & Merit	Certificate	No	N.A.	No	40/- p.m.	..	July	10
King George Hospital, Visakhapatnam-2	Nursing	3 Yrs.	..	..	SSC	Written & Oral	"	Yes	State Govt.	No	1st yr. 70/- 2nd yr. 75/- 3rd Yr. 80/-	..	Feb.	250
	Midwifery	6 months	..	..	Gnl. Ntsg.	"	"	"	"	"	"	..	"	280
	Radiological Assistant	1 Yr.	..	..	Inter	"	"	"	"	120/- per Year	"	..	"	8
	Dark Room Assistant	6 months	..	..	SSC	"	"	"	"	"	"	..	"	9
Health Visitors Trg. School, Vizag. 2	Health Visitors Trg.	2½ Yrs.	..	..	"	Merit	"	"	"	"	75,00 P.M.	..	July	30
Bureau of Data Processing	Auto Coder Programmer	6 week full time 9 week part-time	..	..	Degree	"	"	"	"	350/- per course	"	..	..	10
	Card Punching	2 months	..	..	SSC	"	"	"	"	125/per course	"	..	..	6
Maharaja's College of Education, Vizianagaram	B. Ed. Trg.	1 Yr.	..	..	Degree	Genl. & Merit	Graduate	"	A.U.	Rs. 54/- per 3 months	NLS for 4 students Rs. 900/- p.a. SWS for 3 students Rs. 267/- p.a.	..	June	250
	M. Ed.	1 Yr.	..	..	B. Ed.	"	P.G.	"	"	Rs. 150/- P.m.	"	..	"	15
Maharaja's Music & Dance College, Vizianagaram	Music	4 Yrs.	..	..	5th Std.	"	Certificate	"	TEDSG	"	"	..	July	20
	Dance	"	..	..	"	"	"	"	"	"	"	..	"	6
	Music (Diploma)	2 Yrs.	..	..	3rd Std.	"	DIP	"	"	"	"	..	"	8
Government Polytechnic Visakhapatnam	L.M.E. Licentiate Mechanical Engg.	3 Yrs.	..	..	SSLC	"	"	"	"	Rs. 21/- special fees per yr.	S/Ship Rs.7300/ p.a. for LME only	..	"	50

APPENDIX-X PART-A—Contd

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	L.E.E. Licenciate Electrical Engg.	3 Yrs.	..	..	S.S.L.C.	General & Merit	DIP	Yes	TEDSG	Rs. 21/- special fees per yr.	S/Ship Rs. 7500/- p.a.	..	July	50
	L.C.E. Licenciate Civil Engg.	"	..	..	"	"	"	"	"	"	S/Ship Rs. 8000/- p.a.	..	"	20
	L.M.E. Sandwich (Licenciate Mechanical Engg. Sandwich)	4 Yrs.	..	..	"	"	"	"	"	"	S/Ship Rs. 3500/- p.a. @40/- for 20 Students as stipend	..	"	30
	Pharmacy course	2 Yrs.	..	..	"	"	"	"	"	"	S/Ship Rs. 7000/- p.a.	..	"	20
	Chemical Engineering	3½ Yrs.	..	..	"	"	"	"	"	"	S/Ship Rs. 3500/- p.a. & Rs. 100/- during 3 months training	..	"	30
	L.M.E. Part time	4 Yrs.	..	..	"	"	"	"	"	"	..	..	"	20
	L.E.E. Part-time	"	..	..	"	"	"	"	"	"	..	..	"	20
SFS Printing School, Nehru Nagar, Vizag.	Printing Technology	3 Yrs.	..	..	8th Std.	"	Certificate	No	SFS Printing School	..	..	..	June	10
Industrial Training Institute, Vizag	Electrician	2 Yrs.	..	..	SSC	"	"	Yes	State Govt.	..	Rs. 25/- p.m. to 1/3 of the total strength in each trade	..	August	16
	Instrument Mechanic	"	..	..	"	"	"	"	"	..	"	..	"	16
	Radio & T.V.	"	..	..	"	"	"	"	"	..	"	..	"	32
	Tool & Die Making	"	..	..	"	"	"	"	"	..	"	..	"	32
	Draughtsman Mechanical	"	..	..	"	"	"	"	"	..	"	..	"	16

APPENDIX-X PART-A—Contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Electronics	2 Yrs.	..	..	SSC	General & Merit	Certificate	Yes	State Govt.	..	Rs. 25/- p.m. to 1/3 of the total strength in each trade	..	August	16
	Fitter	..	..	..	8th Std.	..	..	..	..	..	..	..	..	64
	Machinist (Composite)	..	..	..	..	..	..	..	..	..	..	..	..	48
	Turner	..	..	..	..	..	..	..	..	..	..	..	..	36
	Wiremen	..	..	..	..	..	..	..	..	..	..	..	..	32
	Machinist (Grinder)	..	..	..	..	..	..	..	..	..	..	..	..	12
	Mill Wright	1 Yr.	..	..	..	..	..	..	..	..	..	..	..	12
	Carpentry	..	..	..	..	..	..	..	..	..	..	..	..	32
	Motor Mechanic	..	..	..	..	..	..	..	..	..	..	..	..	48
	Plumber	..	..	..	..	..	..	..	..	..	..	..	..	32
	Sheet Metal Work	..	..	..	..	..	..	..	..	..	..	..	..	32
	Welder	..	..	..	..	..	..	..	..	..	..	..	..	96
	Blacksmith	..	..	..	..	..	..	..	..	..	..	..	..	16
	Refrigeration & AC Mech.	..	..	..	SSC	..	..	..	..	..	..	..	..	32
	Compositor Hand	..	..	..	..	..	..	..	..	..	..	..	..	16
	Letter Pressmen (Machine)	..	..	..	8th Std.	..	..	..	..	..	..	..	..	16
Industrial Training Inst., Vizianagaram (to be set up)	Turner	2 Yrs.	..	..	..	..	..	..	..	..	..	..	July	12
	Fitter	..	..	..	..	..	..	..	..	..	..	..	..	16
	Wiremen	..	..	..	..	..	..	..	..	..	..	..	..	16
	Welder	1 Yr.	..	..	..	..	..	..	..	..	..	..	..	16
	Carpentry	..	..	..	..	..	..	..	..	..	..	..	..	16
Institute of Tele-Technology, Visakhapatnam	Telephone Operators	3 months	..	..	SSC	..	..	..	ITT	Rs. 80/- per course	Nil	..	N.A.	100
	Telegraph Signalmen	..	..	..	..	..	..	..	..	Rs. 100/- per course	..	..	..	30
	Wireless Operator	..	..	..	..	..	..	..	..	..	..	..	..	30
	Radio Mechanic	6 months	..	..	..	..	..	..	..	Rs. 250/- per course	..	..	..	20

APPENDIX-X PART-A—Contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
College of Technology & Engg. Dabagardens, Visakhapatnam	Radio Mechanic	1 Yr.	..	..	8th Std.	General & Merit	Certificate	Yes	CTE	Rs. 400/- p.a.	..	..	May & Nov.	25
	Refrigeration & A/C	..	..	..	..	..	..	..	..	..	..	..	..	25
	Draughtsmen Mech. & Civil	..	..	..	..	..	..	..	..	..	..	..	..	25
	L.C.E.	3 Yrs.	..	..	Matric	..	DIP	..	..	..	..	..	..	6
	L.M.E.	..	..	..	..	..	..	..	..	..	..	..	..	6
	L.E.C.E.	..	..	..	..	..	..	..	..	..	..	..	..	6
	L.E.E.	..	..	..	..	..	..	..	..	..	..	..	..	6
	A.M.I.E.	..	..	..	Degree/ Dip.	..	Graduate	..	..	..	..	..	..	12
	A.M.E.S.I.	..	..	..	..	..	..	..	..	..	..	..	..	12
	I.T.E.	..	..	..	..	..	..	..	..	..	..	..	..	12
	A.M.I.I.	..	..	..	..	..	..	..	..	..	..	..	..	12
	I.E.R.E.C.	..	..	..	..	..	..	..	..	..	..	..	..	12
	A.M.I.E.E.	..	..	..	..	..	..	..	..	..	..	..	..	12
Training Institute Ship Mechala, Visakhapatnam	Seamen Deck	½ Yr.	..	..	8th Std.	..	Certificate	..	TIS	Nil	..	..	Every alternative months	90
	Seamen Engine	..	..	..	..	..	..	..	..	..	..	..	..	60
Raja Tailoring Home, Vizag	Tailoring	1 Yr.	..	..	..	..	..	No	RTH	10/- p.m.	..	..	..	5
Vasudeva Tailoring Inst. Vizag	..	1½ Yrs.	..	..	Xth Std.	..	..	..	VTI	8/- p.m.	..	..	..	4
Tailoring Trg. Centre, Vizag	Tailoring	1 Yr.	..	..	8th Std.	..	..	..	TTC	5/- p.m.	..	..	..	10
Dress Making Trg. Centre, Vizag	..	..	..	..	SC	Only for S/C	..	..	DMTC	..	..	..	..	20
Sunder Coml. Type Inst., Vizag	Type Lower	½ Yr.	..	..	..	..	..	Yes	TEDSG	Rs. 6/- p.m.	..	..	..	32
	Type Higher	..	..	..	..+LT	..	..	..	..	Rs. 7/- p.m.	..	..	..	10
Krupanedhi Type Inst. AKP	Type Lower	..	..	..	..	..	..	..	..	Rs. 6/- p.m.	..	..	..	28
Dayanidhi Type Inst., AKP	Type Higher	..	..	..	..+LT	..	..	..	..	Rs. 7/- p.m.	..	..	..	20

APPENDIX-X PART-A--Contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Type Lower	½ Yr.	..	..	SSC +LT	..	Certificate	Yes	TEDSG	Rs. 6/-p.m.	Nil	..	..	60
Sri Srinivasa Coml. Inst., Gagapathinagaram	Type Lower	..	..	..	..	..	..	..	..	Rs. 6/-p.m.	..	..	..	40
Damma Satyanarayana, Nakkapalli	Type Lower	..	..	..	..	..	..	No	..	Rs. 6/-p.m.	..	..	..	15
Mahesh Type Inst., S. Kota	Type Lower	..	..	..	..	..	..	Yes	..	..	..	..	..	47
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 8/-p.m.	..	..	..	8
Raja Tech. Inst., Narsipatnam	Type Lower	..	..	..	..	..	..	..	..	Rs. 7/-p.m.	..	..	..	60
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 8/-p.m.	..	..	..	30
Sree Rama Krishna Commercial Institute, Chodavaram	Type Lower	..	..	..	..	..	..	..	..	Rs. 7/-p.m.	..	..	..	81
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 8 /-p.m.	..	..	..	54
	Type Lower Telugu	..	..	..	..	..	..	..	..	Rs. 7/-p.m.	..	..	..	20
	Type Higher Telugu	..	..	..	.. +LT	..	..	..	..	Rs. 8/-p.m.	..	..	..	20
	Short-hand Lower	..	..	..	..	..	..	..	..	Rs. 10/-p.m.	..	..	..	12
	Shorthand Higher	..	..	..	.. +SL	..	..	..	..	Rs. 10/-p.m.	..	..	..	12
Sh. Bhavanishankar Coml. Institute, Chodavaram	Type Lower	..	..	..	..	..	..	..	..	Rs. 7/-p.m.	..	..	..	64
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 8/-p.m.	..	..	..	30
	Shorthand Lower	..	..	..	..	..	..	..	..	..	..	..	..	2
	Shorthand Higher	..	..	..	..	..	..	..	..	..	..	..	..	2
Sh. Ramalakshmi Narayana Coml. Institute Chodavaram	Type Lower	½ Yr.	..	..	..	General & Merit	..	..	..	..	Nil	..	..	74
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 9/-p.m.	..	..	..	30

APPENDIX-X PART-A—Contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Shorthand Lower	½ Yr.	..	..	SSC	General & Merit	Certificate	Yes	TEDSG	Rs. 7/- p.m.	Nil	..	..	6
Bharat Type Institute, AKP	Type Lower	..	..	..	..	..	..	..	..	Rs. 7/- p.m.	..	..	..	60
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 8/- p.m.	..	..	..	10
Sh. Srinivasa Coml. Inst., AKP	Type Lower	..	..	..	..	..	..	..	..	Rs. 7/- p.m.	..	..	..	75
K. Appa Rao Coml. Inst., AKP	Type Lower	..	..	..	..	..	..	..	..	Rs. 6/- p.m.	..	..	..	35
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 7/- p.m.	..	..	..	18
	Shorthand Lower	..	..	..	..	..	..	..	..	Rs. 6/- p.m.	..	..	..	6
	Shorthand Higher	..	..	..	.. +LS	..	..	..	..	Rs. 7/- p.m.	..	..	..	2
D. Jaganatha Sastry Tech. Inst., Yelamanchalli	Type Lower	..	..	..	..	..	..	..	..	Rs. 6 p. m.	..	..	..	13
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 7/- p.m.	..	..	..	4
	Shorthand Lower	..	..	..	..	..	..	..	..	..	..	..	..	6
Sri Devi Coml. Institute, Yelamanchalli	Type Lower	..	..	..	..	..	..	..	..	Rs. 7/- p.m.	..	..	..	13
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 8/- p.m.	..	..	..	5
Kusuma Harinatha Coml. Inst., Gudivada	Type Lower	..	..	..	..	..	..	No	..	..	..	..	..	20
Saibaba Coml. Inst., Madugula	Type Lower	..	..	..	..	..	..	..	..	Rs. 6/- p.m.	..	..	..	30
Gopal Coml. Inst., Madugula	Type Lower	..	..	..	..	..	..	..	..	..	..	..	..	20
Sri Srinivasa Inst., S. Kota	Type Lower	..	..	..	..	..	..	Yes	..	..	..	..	..	17
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 8/- p.m.	..	..	..	3

APPENDIX-X PART (A)—Contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Murthy Type Inst., Gajapatinagaram	Type Lower	½ Yr.	..	..	SSC	General & Merit	Certificate	No	TEDSG	Rs. 6/- p.m.	Nil	..	..	8
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 7/- p.m.	..	..	..	2
Shorthand School, Vizianagaram-2	Shorthand Lower	..	..	..	..	..	..	Yes	..	Rs. 6/- p.m.	..	..	..	10
Vijaya Type Inst., Vizianagaram	Type Lower	..	..	..	..	..	..	No	..	Rs. 5/- p.m.	..	..	..	45
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 6/- p.m.	..	..	..	20
Narsiah Type Inst. Vizianagaram	Type Lower	..	..	..	..	..	..	..	..	Rs. 6/- p.m.	..	..	..	10
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 6/- p.m.	..	..	..	50
Faculty of Commerce, Vizianagaram	Type Lower	..	..	..	..	..	..	..	..	Rs. 6-50/- p.m.	..	..	..	80
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 5/- p.m.	..	..	..	80
Ramakrishna Coml. Institute, Viziana- garam.	Type Lower	..	..	..	..	..	..	..	..	Rs. 6/- p.m.	..	..	..	12
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 7/- p.m.	..	..	..	5
Sri Rama Type & Shorthand Institute, Vizianagaram	Type Lower	..	..	..	..	..	..	No	..	Rs. 5/- p.m.	..	..	..	35
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 6/- p.m.	..	..	..	10
	Shorthand Lower	..	..	..	..	..	..	..	..	Rs. 5/- p.m.	..	..	..	5
Sh. Surya Anjanaya Type Inst., Viziana- garam	Type Lower	..	..	..	..	..	..	Yes	..	Rs. 6/- p.m.	..	..	..	30
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 7/- p.m.	..	..	..	10
Sh. Lakshmi Type Inst., Vizianagaram.	Type Lower	..	..	..	..	..	..	..	..	Rs. 5/- p.m.	..	..	..	30
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 6/- p.m.	..	..	..	6
Kusumahara Type Inst., Vizianagaram	Type Lower	..	..	..	..	..	..	..	..	Rs. 6/- p.m.	..	..	..	160

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Sh. Venkateswara Coml., Inst. Vizianagaram	Type Higher	½ Yr.	..	..	SSC +LT	General & Merit	Certificate	..	TEDSG	Rs. 7/- p.m.	Nil	..	..	30
	Shorthand Lower	"	..	..	"	"	"	..	"	Rs. 6/- p.m.	"	..	..	15
	Type Lower	"	..	..	"	"	"	..	"	Rs. 6-50/- p.m.	"	..	..	360
	Type Higher	"	..	..	" +LT	"	"	..	"	Rs. 7-50 p.m.	"	..	..	160
New Commercial Institute, Bhimili	Type Lower	"	..	..	"	"	"	..	"	Rs. 5/- p.m.	"	..	..	5
	Type Higher	"	..	..	" +LT	"	"	..	"	Rs. 6/- p.m.	"	..	—	5
Srinivasa Type Inst., Bhimili	Type Lower	"	..	..	"	"	"	..	"	"	"	..	..	17
	Type Higher	"	..	..	" +LT	"	"	..	"	"	"	..	..	5
Venkata Ramanjanya Type Inst., Kothavalsa	Type Lower	"	..	..	SSC	"	"	No	"	Rs. 8/- p.m.	"	..	Nov. & Mar.	28
Ratna Comml. Inst., Gajuwaka	Type Lower	"	..	..	"	"	"	Yes	"	Rs. 6/- p.m.	"	..	"	35
	Type Higher	"	..	..	" +LT	"	"	"	"	"	"	..	"	17
	Shorthand Lower	"	..	..	"	"	"	"	"	"	"	..	"	4
Sh. Venkatapadma Coml. Inst., Pandhurthi	Type Lower	"	..	..	"	"	"	No	"	Rs. 8/- p.m.	"	—	"	40
	Type Higher	"	..	..	" +LT	"	"	"	"	Rs. 10/- p.m.	"	..	"	2
Shorthand Type Institute, Visakapatnam	Type Lower	"	..	..	"	"	"	Yes	"	Rs. 8/- p.m.	"	..	"	53
	Type Higher	"	..	..	" +LT	"	"	"	"	Rs. 10/- p.m.	"	..	"	13
	Shorthand Lower	"	..	..	"	"	"	"	"	Rs. 8/-	"	..	"	23
Sh. Srinivasa Type Institute, Sriharipuram, Visakapatnam-11	Type Higher	"	..	..	" +LT	"	"	"	"	Rs. 10/- p.m.	"	..	"	9
	Type Lower	"	..	..	"	"	"	"	"	Rs. 8/- p.m.	"	..	"	45
Sh. Venkataramana Coml. Institute, Kancharapalan, Visakapatnam	Type Lower	"	..	..	"	"	"	"	"	Rs. 8/- p.m.	"	..	"	70

APPENDIX-V—Contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Higher S. Hand.	½ year	..	..	SSC +LS	General & Merit	Certifi- cate	Yes	TEDSG	Rs. 10/- p.m.	Nil	..	Nov. & Mar.	2
	Lower S. Hand.	..	..	..	..	..	..	..	..	Rs. 8/- p.m.	..	..	..	8
Vivekananda Coml. Institute, Visakapatnam	Type Lower	..	..	..	..	..	..	No	..	Rs. 8/- p.m.	..	..	..	100
	Lower S. Hand	..	..	..	..	..	..	..	..	Rs. 10/- p.m.	..	..	..	17
Modern Coml. Inst., Visakapatnam-4	Type Lower	..	..	..	..	..	..	Yes	..	Rs. 8/- p.m.	..	..	..	70
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 10/- p.m.	..	..	..	45
	Shorthand Lower	..	..	..	..	..	..	..	..	Rs. 8/- p.m.	..	..	..	16
	Shorthand Higher	..	..	..	.. +LS	..	..	..	..	Rs. 10/- p.m.	..	..	..	3
Venu Coml. Institute, Manipallem, Visakapatnam.	Type Lower	..	..	..	..	..	..	..	..	Rs. 8/- p.m.	..	..	..	30
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 10/- p.m.	..	..	..	3
	Shorthand Lower	..	..	..	..	..	..	..	..	Rs. 8/- p.m.	..	..	..	7
S.M. Commerical Inst., Vizag-4	Type Lower	..	..	..	..	..	..	No	..	Rs. 8/- p.m.	..	..	..	25
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 10/- p.m.	..	..	..	6
	S. Lower	..	..	..	..	..	..	..	..	Rs. 8/- p.m.	..	..	..	3
The City Commercial Institute, Visakhatnam-4	Type Lower	..	..	..	SSC	..	..	Yes	..	Rs. 8/- p.m.	..	..	..	25
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 10/ p.m.	..	..	..	8
Visakha Type Institute, Vizag-4	Type Lower	..	..	..	..	..	..	No	..	Rs. 8/- p.m.	Yes	..	..	25
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 10/- p.m.	..	..	..	10
Venus Type Inst., Visakhapatnam	Type Lower	..	..	..	..	..	..	Yes	..	Rs. 8/- p.m.	No	..	..	6
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 10/- p.m.	..	..	..	3

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
School of Coml. Institute, Allipuram, Visakapatnam	Type Lower	½ Yr.	..	..	SSC	General & Merit	Certificate	Yes	TEDSG	Rs. 8/- p.m.	Nil	..	Nov. & Mar.	25
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 10/- p.m.	..	..	..	12
Ravi Commercial Institute, Gopalapatnam, Visakhapatnam	Type Lower	..	..	..	..	..	..	..	..	Rs. 9/- p.m.	..	..	..	65
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 10-50 p.m.	..	..	..	10
Friends Commercial Institute, Visakapatnam-8	Type Lower	..	..	..	..	..	..	No	..	Rs. 9/- p.m.	..	..	..	30
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 10/-50 p.m.	..	..	..	10
Kala Coml. Institute, New Colony, Vizag	Type Lower	..	..	..	..	..	..	No	..	Rs. 8/- p.m.	..	..	..	70
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 10/- p.m.	..	..	..	6
	Shorthand Lower	..	..	..	..	..	..	..	..	Rs. 8/- p.m.	..	..	..	2
V.S. Commercial Inst., Visakapatnam-1	Type Lower	..	..	..	..	..	..	..	..	..	..	..	..	66
Andhra Technical School, Vizag-13.	Type Lower	..	..	..	..	..	..	..	..	Rs. 8/- p.m.	..	..	..	5
Excel Coml. Institute, Visakhapatnam-8	Type Lower	..	..	..	..	..	..	..	..	Rs. 8/- p.m.	..	..	..	60
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 10/- p.m.	..	..	..	20
Andhra Commercial Inst., Visakhapatnam-2.	Type Lower	..	..	..	..	..	..	Yes	..	Rs. 8/- p.m.	..	..	..	50
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 10/- p.m.	..	..	..	15
	Shorthand Lower	..	..	..	..	..	..	..	..	..	..	..	..	8
	Short hand Higher	..	..	..	.. +LS	..	..	..	..	..	..	..	..	6
Vivekananda School of Commercial Institute, Visakhapatnam	Type Lower	..	..	..	..	..	..	..	..	Rs. 8/- p.m.	..	..	..	35
	Type Higher	..	..	..	.. +LT	..	..	..	..	Rs. 10/- p.m.	..	..	..	12
Shri Bhavani Commercial Institute, Visakhapatnam-3	Type Lower	..	..	..	..	..	..	..	..	Rs. 8/- p.m.	..	..	..	70
	Type Higher +LT	..	..	..	..	..	..	..	..	Rs. 10/- p.m.	..	..	..	25

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Shri Venkateswara	Type Lower	½ Yr.	..	..	SSC	General & Merit	Certifi- cate	Yes	TEDSG	Rs. 8/- p.m.	Nil	..	Nov. & Mar.	50
Commercial Inst., Waltair, Visakhapatnam	Shorthand Lower	..	..	..	..	..	..	..	..	..	..	..	..	20
Krishna Type Inst., Waltair, Vizag	Type Lower	..	..	..	..	..	..	No	..	..	..	..	..	15
Eswara Type Inst., Visakhapatnam-4	Type Lower Type Higher +LT	..	..	..	..	..	..	Yes	..	..	..	..	..	11 3
Sh. Venkateswara Type, Institute Visa- kapatnam	Type Lower	..	..	..	..	..	..	..	..	Rs. 7/- p.m.	..	..	..	28
	Type Higher +LT	..	..	..	..	..	..	..	..	Rs. 8/- p.m.	..	..	..	20
	Shorthand	..	..	..	..	..	..	..	..	..	..	..	..	4
Sh. VSV Institute, Madhava Nagar, Vi- sakapatnam-4	Type Lower	..	..	..	..	..	..	..	..	..	..	..	..	40
	Shorthand Lower	..	..	..	..	..	..	..	..	..	..	..	..	6
School of Shorthand Maharanipeta, Visa- kapatnam-2	Type Lower	..	..	..	..	..	..	No	..	Rs. 7/- p.m.	..	..	..	120
	Shorthand Lower	..	..	..	..	..	..	..	..	Rs. 8/- p.m.	..	..	..	3

Abbreviations :

A.U.	Andhra University
DIP.	Diploma
TEDSG	Technical Education Department State Government
NCTVT	National Certificate of Technical and Vocational Training
Comml.	Commercial
Inst.	Institute
LT	Lower Typewriting
LS	Lower Shorthand
Trg.	Training

APPENDIX-X PART-B

OUT-TURN FROM RECOGNISED INSTITUTIONS IMPARTING PROFESSIONAL AND TECHNICAL TRAINING

Trade/Course/Faculty	Duration of course (Years)	Seating capacity	Out-turn	
			Actual 1973	During 1974-79
1	2	3	4	5
A. POST GRADUATE LEVEL (Including doctorates)		1534	1238	6150
(i) Engineering		80	38	170
Civil-Hydraulics, Public health & structural	2	15	3	30
Mechanical-Machine design	2	20	6	35
Electrical-Machinery Power system engineering	2	20	14	55
Chemical	2	20	15	50
Mineral processing	1	5	..	..
(ii) Medicine		80	33	205
General Surgery	3	10	3	30
Orthopaedics	3	4	2	15
E.N.T.	3	6	6	20
Pathology	3	4	1	10
General Medicine	3	12	4	20
Micro-biology	3	2	2	10
Obstetrics & Gynaecology	3	10	1	25
Dermatology	3	4	1	5
Anaestheology	3	4	2	10
Paediatrics	3	6	2	20
Anatomy	3	4	1	5
Psychiatry	3	6	1	5
Ophthalmology	3	6	6	20
Bio-chemistry	3	2	1	10
(iii) Pharmacy	4	30	11	45
(iv) Science		484	376	1705
Applied physics	3	30	..	..
Applied mathematics	2	60	37	165
Physics-Nucluar	2	32	29	140
Physics	2	60	58	245
Electronics-physics	3	6	22	85
Chemistry	2	60	56	290
Zoology	2	60	46	210
Botany	2	60	29	155
Geology	2	5	5	25
Applied geology	2	5	5	30
Geophysics	3	12	24	115
Statistics	3	15	14	80
Meteorology & Oceanography	3	40	40	95
Bio-chemistry	2	11	11	55
Geography	2	12	..	15
Humangenetics & physical anthropology	2	16	..	..
(v) Law	2	20	1	5
(vi) Education		55	..	200
Training	1	15	..	..
General	2	40	..	200

APPENDIX-X PART-(B)—Contd.

1	2	3	4	5
(vii) Arts & Humanities		785	779	3820
History	2	40	61	235
Ancient history & Archeology	2	40	8	40
Mathematics	2	40	15	110
Philosophy	2	40	32	115
Anthropology	2	40	32	145
Applied economics	2	40	28	120
Politics	2	40	76	285
Public administration	2	40	24	140
Psychology	2	40	6	40
Social work/Sociology	2	80	64	270
Industrial & Public relation	2	40	33	130
Business Administration	2	20	8	55
English	2	35	86	515
Hindi	2	30	39	155
Telugu	2	40	101	480
Sanskrit	2	40	9	30
Economics	2	40	83	385
Commerce	2	100	74	570
B. GRADUATE LEVEL		690	710	3145
(i) Engineering		185	212	975
Civil	5	36	33	115
Electrical	5	25	41	210
Mechanical	5	35	52	235
Tele-communication	5	19	37	135
Marine	5	10	7	30
Chemical	5	60	42	250
(ii) Medicine	5	150	193	690
(iii) Pharmacy	4	30	24	125
(iv) Library Science	1	35	21	115
(v) Education	1	250	211	1000
(vi) Law	3	40	49	240
C. DIPLOMA LEVEL		495	194	1262
(i) Engineering		220	56	490
Civil	3	20	10	50
Electrical	3	50	8	50
Electrical-part time	4	20	2	25
Mechanical	3	50	11	110
Machanical-part time	4½	50	25	105
Chemical (Sandwitch)	3½	30	...	150
(ii) Medicine		58	40	185
Ophthalmology	2	8	8	40
Obstetrics & Gynaecology	2	12	12	50
Venereology	2	3	2	10
Tuberculosis	2	2	2	5
Clinical pathology	2	6	3	15
Anaestheology	2	8	1	10
Child health	2	8	8	30
Dermatology	2	5	1	10
Lyratology & otology	2	6	3	15
(iii) Pharmacy	2	20	15	55

	1	2	3	4	5
(iv) Radio physics & electronics		1	2	2	10
(v) Applied statistics		1	14	9	65
(vi) Languages			75	49	295
Russian		1	40	23	180
French		1	20	11	55
Hindi		1	15	15	60
(vii) Others			106	23	162
Sanskrit		1	40	14	105
Acting		1	20	3	15
Play direction		1	20	..	5
Music		2	8	..	2
Co-operation in rural study		1	18	6	35
D. CERTIFICATE LEVEL			5112	2152	11095
(i) Engineering			716	596	3352
Turner		2	48	40	216
Fitter		2	80	46	253
Wireman		2	48	31	153
Welder		1 to 2	112	115	640
Carpenter		1 to 2	48	26	205
Electrician		2	16	17	125
Mechanic—Instrument		2	16	8	40
Mechanic—Radio		2	20	15	150
Radio & TV Mechanic		2	32	10	50
Mechanic—Motor		1	48	48	195
Mechanic—Refrigeration & Air-conditioning		1	32	33	270
Tool & Die Making		2	32	34	170
Draughtsman—Mechanical		2	16	10	60
Electronics		2	16	12	60
Machinist—Composite		2	48	50	210
Machinist Grinder		2	12	..	60
Mill wright		1	12	15	60
Plumber		1	32	39	195
Sheet metal worker		1	32	23	120
Blacksmith		1	16	24	120
(ii) Non-Engineering Trades			32	21	90
Compositor—hand		2	16	13	50
Printing technology		3	16	8	40
(iii) Medical & Health			677	205	1005
Sanitary inspector		5 to 6	100	42	240
Nursing		3	250	54	250
Radiological assistants		1	8	8	40
Darkroom assistants		$\frac{1}{2}$	9	9	45
Health visitors		$2\frac{1}{2}$	30	30	150
Midwife		$\frac{1}{2}$	280	62	280
(iv) Miscellaneous			3687	1330	6648
Type lower—english		$\frac{1}{2}$	2343	741	3505
Type higher—english		$\frac{1}{2}$	740	240	1262
Type lower—telugu		$\frac{1}{2}$	12	6	30
Type higher—telugu		$\frac{1}{2}$	12	6	30
Shorthand lower—english		$\frac{1}{2}$	182	54	274
Shorthand higher—english		$\frac{1}{2}$	36	7	35
Seamen deck		$\frac{1}{2}$	90	90	450
Seamen engine		$\frac{1}{2}$	60	60	300

APPENDIX-X-PART (B)—*Contd.*

	1	2	3	4	5
Music		4	20	6	30
Dance		4	6	..	2
Telephone Operator		$\frac{1}{4}$	100	80	400
Telephone signal		$\frac{1}{4}$	30	20	100
Wireless operator		$\frac{1}{4}$	30	20	100
Auto coding		$\frac{1}{4}$	10	..	50
Card punching		1/6	16	..	80
			7831	4294	21652

TRAINING FACILITIES

Details of Educational Institutions by level of education

A. POST-GRADUATE LEVEL

Sl. No.	Name of Training/Educational Institution	Trade/Course/Faculty	Entry Qualification	Duration of course	Number of seats	Scholarship/stipend
1	2	3	4	5	6	7
1.	Andhra University, Waltair	M. Sc., (Applied Mathematics)	B.Sc., with Maths.	2 years	60	Jr. fellowship (CSIR) Rs. 250 p.m. for 87.
		M.Sc., (Physics)	B.Sc. with Physics/Maths	2 years	60	
		M.Sc., Tech., Electronics (Phy.)	B.Sc.	3 years	6	Doctorate level —Sr. Fellowship (CSIR) Rs. 400 p.m. for 6 persons.
		M.Sc., Chemistry	B.Sc.	2 years	60	
		M.Sc., Botany	B.Sc. with Botany	2 years	60	
		M.Sc., Geology	B.Sc. with Geology	2 years	5	
		M.Sc. (Tech.) Appld. Geology	B.Sc. with Geology	2 years	5	
		M.Sc., Nuclear Physics	B.Sc. with P.C.M.	2 years	32	
		M.Sc., Statistics	B.Sc. with Math.	3 years	15	
		M.Sc., Mineral Processing	M.Sc.,	1 year	5	
		M.Sc., (Tech.) Geo Physics	B.Sc.	3 years	12	
		M.Sc. (Tech.) Meteorology and Oceanography	B.Sc.	3 years	40	
		M.Sc., Biochemistry	B.Sc.	2 years	11	
		M.Sc., Geography Zoology	B.Sc. (Hons)	2 years	12	
		M.Sc., Human Genetics & Physical Anthropology	B.Sc., C.B.Z.	2 years	16	
		M. Pharmacy	B. Pharmacy	2 years	30	
		M.E., Civil Hydraulics	B.E. Civil	2 years	5	
		M.E. Civil (Public Health)	B.E. Civil	2 years	5	
		M.E. Civil structural	B.E. Civil	2 years	5	
		M.E., (Electrical) Machinery Power System Engg.	B.E. Electrical	2 years	20	
		M.E. (Mech.) Machine Design	B.E.	2 years	20	
		M.Tech. (Chemical Engg.)	B.E.	2 years	20	
		M.A. History	B.A., History	2 years	40	

APPENDIX X PART (C)—Contd.

1	2	3	4	5	6	7
		M.A., Ancient History Archeology	B.A., or B.Sc., Home Science	2 years	40	
		M.A., Mathematics	B.A./B.Sc.	2 years	40	
		M.A., Philosophy	Degree	2 years	40	
		M.A., Anthropology	Degree	2 years	40	
		M.A., Applied Economics	Degree	2 years	40	
		M.A., English	B.A. English (Hons)	2 years	35	
		M.A., Hindi	B.A./Degree	2 years	30	
		M.A., Telugu	B.A./Degree	2 years	40	
		M.A., Sanskrit	B.A./Degree	2 years	40	
		M.A., Economics	B.A./Degree	2 years	40	
		M.A., Politics	B.A./Degree	2 years	40	
		M.A., Public Administration	B.A./Degree	2 years	40	
		M.A., Psychology	B.A./Degree	2 years	40	
		M.A., Social Science (Sociology)	B.A./Degree	2 years	40	
		M.A., Industrial & Public relation & Labour Welfare	B.A./Degree	2 years	40	
		M.A., Sociology	B.A./Degree	2 years	40	
		M.A., Education	M.A., or Post Graduate	2 years	40	
		M.Com.	B. Com.	2 years	100	
		M.B.A.	Degree	3 years	20	
		M. Law	B.L.	2 years	20	
2.	Andhra Medical College, Vishakapatnam.	M.S., General Surgery	M.B.B.S.	3 years	10	Rs. 300 p.m.
		M.S., Arthopadics	M.B.B.S.	3 years	4	Rs. 300 p.m.
		M.S., E.N.T. Part II	M.B.B.S.	3 years	6	Rs. 300 p.m.
		M.D., Pathology	M.B.B.S.	3 years	4	Rs. 300 p.m.
		M.D., Biochemistry	M.B.B.S.	3 years	2	Rs. 300 p.m.
		M.D., General Medicine	M.B.B.S.	3 years	12	Rs. 300 p.m.
		M.D., Microbiology	M.B.B.S.	3 years	2	Rs. 300 p.m.
		M.D. Obstetrics & Gynaecology	M.B.B.S.	3 years	10	Rs. 300 p.m.
		M.D., Dermatology	M.B.B.S.	3 years	4	Rs. 300 p.m.
		M.D., Anesthesiology	M.B.B.S.	3 years	4	Rs. 300 p.m.
		M.D., Paediatrics	M.B.B.S.	3 years	6	Rs. 300 p.m.
		M.D., Anatomy	M.B.B.S.	3 years	4	(i) National loan scholarship or merit basis Rs. 900 p. m. for 4 persons.
		M.D., Physiology	M.B.B.S.	3 years	6	
		M.D., Ophthalmology	M.B.B.S.	3 years	6	
3.	Maharaja's College of Education, Vizianagaram.	M.Ed.	B.Ed.	1 year	15	(ii) Social Welfare scholarship Rs. 267 per year.

B. GRADUATE LEVEL

1	2	3	4	5	6	7	
1. Andhra University, Waltair	B. Pharmacy B. Library Science		P.U.C.	4 years	30	(1) Social Welfare Scholarship Central (for SC/ST) @Rs. 75 & @ Rs. 60 per 65 persons.	
			Degree	1 year	35		
	B.E., (Civil) B.E., (Electrical)			P.U.C.	5 years	36	(2) From State @Rs. 50 & @ Rs. 35 per 19 persons.
				P.U.C.	5 years	25	
	B.E., (Mechanical) B.E., (Elec. & Telecommn.)			P.U.C.	5 years	35	(3) Merit Scholarship Central @ Rs. 110 & Rs. 100 p.m. for 70 pns. From State:—
				P.U.C.	5 years	19	
	B.E., (Marine) B.Tech., (Chemical)			P.U.C.	5 years	10	@Rs. 100 p.m. for 12 persons.
				P.U.C.	5 years	60	
	B.G.L. (Bachelor of General Law) B.Law			Degree	3 years	20	(4) A.P. Govt. Special merit Rs. 1500 per year for 23 persons.
				Degree	3 years	20	
	2. Andhra Medical College, Visakhapatnam.	M.B.B.S.		P.U.C. or 1st year	5½ years	150	(5) General merit @Rs. 400 for 2.
							(6) Political sufferers Rs. 400 for 2.
(7) Rayatha Scholarship Rs. 300 for 1.							
(8) Teachers son Rs. 1200 per year for 2.							
(9) Physical Handicapped Rs. 50 p.m. for 1.							
(10) National loan Rs. 970 per year for 107 persons.							
(11) State Govt., scholarship Rs. 1000 per year for 30 persons.							
(12) Commercial scholarship Rs. 250 p.m. for 1 and 1257 p.m. for 3 persons from Tata Iron & Steel Co. 7 Nagaland Govt. Rs. 175 p.m. for 11 persons. Sikkim Govt. Rs. 200 p.m. for 1 person.							
						Rs. 240—stipend for MBBS Tribal Welfare Rs. 78 p.m. for 14 persons. Social Welfare Rs. 75 p.m. for 126 persons.	

1	2	3	4	5	6	7
2.	Andhra Medical College, Vishakapatnam.	P.G. Diploma in:— Ophthalmology Obst. & Gynaecology Venereology Tuberculosis Clinical Pathology Anesthesiology Child Health Dermatology Laryngology & Otology	M.B.B.S. M.B.B.S. M.B.B.S. M.B.B.S. M.B.B.S. M.B.B.S. M.B.B.S. M.B.B.S. M.B.B.S.	2 years 2 years 2 years 2 years 2 years 2 years 2 years 2 years 2 years	8 12 3 2 6 8 8 5 6	
3.	Maharaja's Music & Dance College, Vizianagaram.	Music	IIIrd Std.	2 years	8	
4.	Government Polytechnic, Visakapatnam.	E.M.E. (Lower Mech. Engg.) LEE (Lower Elec. Engg.) LCE (Lower Civil Engg.) LME (Sandwitch) LME (Part time) LEE (Part time) Pharmacy Course Chemical Engg. (Sandwitch)	Matric or SLC Matric or SLC Matric or SLC Matric or SLC Matric or SLC Matric or SLC Matric or SLC Matric or SLC	3 years 3 years 3 years 4 years 4 years 4 years 2 years 3½ years	50 50 20 30 20 20 20 30	(1) Govt. of India Social Welfare scholarship Rs. 650 to 900 per year LME (for 1), LEE (for 26) LCE (for 2) LME-SWC (for 4) Pharmacy (for 5). (2) Loan scholarship on merit basis Rs. 50 p.m. (LME). (3) State social welfare scholarship Rs. 400 per year LME (for 2) LEE (for 3) LME—SEC (for 6). (4) Merit scholarship on merit basis Rs. 20 p.m. LME (for 19) Pharmacy (for 4 persons). (5) National loan Central Rs. 720 per year LME for 1 person.
5.	College of Technology & Engg. Dabagardens, Visakapatnam.	LCE LME LCE LEE	Matric Matric Matric Matric	3 years 3 years 3 years 3 years	6 6 6 6	

D. CERTIFICATE LEVEL

1	2	3	4	5	6	7
1.	Andhra Medical College, Visakapatnam.	Sanitary Inspector	Matric	10 months	100	

APPENDIX X PART (C)—Contd.

1	2	3	4	5	6	7
2.	Industrial Trg. Instt., Vizianagaram (to be set up)	Turner	VIIIth Class	2 years	12	
		Fitter	VIIIth Class	2 years	16	
		Wireman	VIIIth Class	2 years	116	
		Welder	VIIIth Class	2 years	16	
		Carpenter	VIIIth Class	1 year	16	
3.	Maharaja Music & Dance College, Visakhapatnam.	Musie	Vth Std.	4 years	20	
		Dance	Vth Std.	4 years	6	
4.	King George Hospital, Visakhapatnam-2.	Nurses Trg.	S.S.C.	3 years	250	Stipend Rs. 70 for 1st year Rs. 75 for 2nd year, Rs. 80 for 3rd year.
		Midwifery	General Nursing	6 months	280	
		Radiological Assistant	Intermediate	1 year	8	
		Dark room Assistant	S.S.C.	6 months	9	
5.	Health Visitors Trg. School, Visakhapatnam.	Health Visitors Trg.	S.S.C.	2½ years	30	Stipend Rs. 75 p.m. for all the regular trainees.
6.	Andhra Technical School, Visakhapatnam-13.	Type Lower	S.S.C.	½ year	5	
7.	Andhra Commercial Instt., Visakhapatnam-2.	Type Higher	S.S.C.+LT	½ year	15	
		Shorthand Lower	S.S.C.+LT	½ year	8	
		Shorthand Higher	S.S.C.+LS	½ year	6	
8.	Excel Coml. Institute, Visakhapatnam-4.	Type Lower	S.S.C.+LS	½ year	60	
		Type Higher	S.S.C.+LT	½ year	20	
9.	Easwara Type Institute, Visakhapatnam-4.	Type Lower	S.S.C.	½ year	11	
		Type Higher	S.S.C.+LT	½ year	3	
10.	Kala Coml. Instt., New Colony, Vizag.	Type Lower	S.S.C.+LT	½ year	70	
		Type Higher	S.S.C.+LT	½ year	6	
		Shorthand Lower	S.S.C.	½ year	2	
11.	Industrial Training Institute, Visakhapatnam-7.	Electrician	S.S.C.	2 years	16	(1) On the basis of merit Rs. 15 p.m. from Employment & Trg. Deptt. In all one year course No. of students (15) or 2 years course (12).
		Instructor Meeh.	S.S.C.	2 years	16	
		Radio & T.V. Mech.	S.S.C.	2 years	32	
		Tool & Die Making	S.S.C.	2 years	32	
		Draughtsman (Mech.)	S.S.C.	2 years	16	
		Electronics	S.S.C.	2 years	16	
		Fitter	VIII Class	2 years	64	(2) On the basis of poverty (S/C & S/T) No. of students 26 & 21.
Machinists (Comp.)	VIII Class	2 years	48			

1	2	3	4	5	6	7	
		Turner	VIII Class	2 years	36	(3) By other communities 42 One year course students & 572 years course students.	
		Wireman	VIII Class	2 years	32		
		Machinists (Grinder)	VIII Class	2 years	12	(4) Stipends Rs. 25 p.m. 1/3 strength of all trades eandi- dates & Rs. 45 p.m. for S/C and S/T.	
		Millwright	VIII Class	1 year	12		
		Carpentary	VIII Class	1 year	32		
		Motor Mechanism	VIII Class	1 year	48		
		Plumper	VIII Class	1 year	32		
		Sheet Metal Works	VIII Class	1 year	32		
		Welder	VIII Class	1 year	96		
		Blacksmiths	VIII Class	1 year	16		
		Refrigeration & Air Conditioning	S.S.C.	1 year	32		
		Compositor (Hand)	S.S.C.	1 year	16		
		Letter Press Machine	VIII Class	1 year	16		
12.	College of Technology & Engineer- ing, Daba Gardens, Visakhapatnam.	Radio Mechanics	VIII Class	1 year	25		Nil
		Refrigerator & Air Conditioning	VIII Class	1 year	25		Nil
		Draughtsmanship	VIII Class	1 year	25	Nil	
13.	Training Institute, 'Mekhala' Visa- kapatnam.	Pre Sea Ratings (Seamen Deck)	VIII Class	6 months	90	A pocket money of 2-50 per week is paid subject of maxi- mum of Rs. 60 during the period of 6 months & Lodging and boarding is free.	
		Sea man Engine	VIII Class	6 months	60		
14.	Bethal Indl. Bethal Educational Socy., Anakapalle.	Compositing	IX or X Class	2 years	10	Stipend Rs. 40 per head per month.	
		Tradesman	IX or X Class	2 years	4		
15.	Institute of Tele Technology, Visa- kapatnam.	Telephone Operators	SSC or SSLC	3 months	100	Nil	
		Telegraph Signalmen	"	"	30	"	
		Wireless Operators	"	"	30	"	
		Radio Mechanic	"	"	20	"	
16.	Bureau of data processing System, Visakhapatnam-2.	Autocoder Programming for IBM 40 series	Graduate	6 weeks full time 9 weeks part-time	10	"	
		Card Punching	SSC	2 months	16	"	
17.	SFS Printing School, Nehru Nagar, V. Patnam.	Printing Technology	VIII Class	3 years	10	"	
18.	Raja Tailoring Course, Allipuram, Vizag.	Tailoring	IIIrd Std.	1 year	5	"	
19.	Vasudeva Tailoring Instt., Lalit Nagar, Vizag.	Tailoring	Xth Std.	1½ years	4	"	

APPENDIX X—PART(C)—Contd.

1	2	3	4	5	6	7
20.	Tailoring Training Centre Vizag.	Tailoring	IIIrd Std.	1 year	10	Nil
21.	Dress Making Training Centre, Lalitnagar.	Tailoring	"	"	20	"
22.	Shri Venkataramana Comml. In.t. K. Palam, Visakhapatnam.	Twtg. Lower	SSLC	6 month	70	"
		Shorthand-Lower	"	"	8	"
		Shorthand-Higher	" & Sh. Lower	"	2	"
23.	Sunder Comml. Type Inst. Anakapalle	Twtg. Lower	"	"	32	"
		Twtg. Higher	" & T. Lower	"	10	"
24.	Krupanithi Type Instt. Anakapalle	Twtg. Lower	"	"	28	"
25.	Dayanithi Type Instt. Anakapalle	Twtg. Lower	"	"	60	"
		Twtg. Higher	" & T. Lower	"	20	"
26.	Srinivasa Comml. Instt. Gajapati-nagaram.	Typewriting	"	"	40	"
27.	Damma Satyanarayana Nakka-palle	Typewriting	"	"	15	"
28.	Mahesh Typewriting Inst. S. Kota	Typewriting Lower	SSLC	"	47	"
		" Higher	" & T. Lower	"	8	"
29.	Raje Technical Instt. Narsipatnam.	" Lower	"	"	60	"
		" Higher	" & T. Lower	"	30	"
30.	Bharat Type Inst. Anakapalle	" Lower	"	"	60	"
		" Higher	" & T. Lower	"	10	"
31.	Shri Ramakrishna Comml. Instt. Chodavaram.	" Lower	"	"	81	"
		" Higher	" & T. Lower	"	54	"
		" Lower (Telugu)	"	"	20	"
		" Higher (")	" & T. Tel	"	20	"
		S. Hand (Lower)	" (Lower)	"	12	"
		" Higher	" & S. Lower	"	12	"
32.	Sri Bhavanisankar Comml. Instt. Chodavaram.	Typewriting Lower	"	"	64	"
		" Higher	" & T. Lower	"	30	"
		S. Hand Lower	"	"	2	"
		" Higher	" & S. Hand Lower	"	2	"
33.	Sri Ramalakshmi Narayana Coml. Inst. Chodavaram.	Twtg. Lower	"	"	74	"
		" Higher	" & T. Lower	"	30	"
		Shorthand	"	"	6	"

1	2	3	4	5	6	7
34.	Sri Sreenivasa Coml. Inst. Anakapalle (No. 2)	Twtg. Lower	SSLC	6 months	75	Nil
35.	K. Apparao Coml. Inst. Anakapalle	Twtg. Lower	"	"	35	"
		" Higher	" & T. Lower	"	18	"
		S. Hand Lower	"	"	6	"
		" Higher	" & S. Hand	"	2	"
36.	D. Jaganathsasthy Tech. Inst. Yeramanchalli	Twtg. Lower	" Lower	"	13	"
		" Higher	" & T. Lower	"	4	"
		S. Hand Lower	"	"	6	"
37.	Sri Devi Comml Inst. GNT Road, Yellamanchli.	Twtg. Lower	SSC	"	13	"
		" Higher	" + L. Twtg.	"	5	"
38.	Kusum Comml Type Instt. Gudivada.	" Lower	"	"	20	"
39.	Sai Baba Comml. Type Instt. Madugula, Visakhapatnam	" Lower	"	"	30	"
40.	Gopal Comml. Type Instt. Madugula.	" Lower	"	"	20	"
41.	Sri Srinivasa Type Instt. Kapu Street, S. Kota.	" Lower	"	"	17	"
		" Higher	" + L. Twtg.	"	3	"
42.	Murty Type Inst. Gajpata Rd. V. Patnam-2.	" Lower	"	"	8	"
		" Higher	" + L. Twtg.	"	2	"
43.	V. K. Chenulu Shorthand School Near Bus Stand, Vizianagaram.	S. Hand Lower	"	"	10	"
44.	Vijaya Type Inst. Vizianagaram.	Twtg. Lower	"	"	45	"
		" Higher	" + L. Twtg.	"	20	"
45.	Narasih Type Inst. Vizianagaram	" Lower	"	"	50	"
		" Higher	" + L. Twtg.	"	10	"
46.	Faculty of Commerce, Vizianagaram	" Lower	"	"	80	"
		" Higher	" + L. Twtg.	"	80	"
47.	Rama Krishana Comml. Instt. Vizianagaram	" Lower	"	"	12	"
		" Higher	" + L. Twtg.	"	5	"
48.	Sri Rama Type & S. Hand Instt. Vizianagaram	" Lower	"	"	35	"
		" Higher	" + L. Twtg.	"	10	"
		S. Hand Lower	"	"	5	"
49.	Sri Surya Anjanaya Type Instt. Vizianagaram	Twtg. Lower	"	"	30	"
		" Higher	" + L. Twtg.	"	10	"

APPENDIX X—PART(C)—Contd.

1	2	3	4	5	6	7
50.	Sree Lakshmi Type Instt. Vizianagaram.	Twtg. Lower	SSC	6 months	30	Nil
		„ Higher	„ + L. Twtg.	„	6	„
51.	Kusmahara Type Instt. Vizianagaram.	„ Lower	„	„	160	„
		„ Higher	„ + L. Twtg.	„	30	„
		S. Hand Lower	„	„	15	„
52.	Venkateswara Comml. Instt. Vizianagaram.	Twtg. Lower	„	„	360	„
		„ Higher	„ + L. Twtg.	„	160	„
53.	New Comml. Instt. Bhimili	„ Lower	„	„	5	„
		„ Higher	„ + L. Twtg.	„	5	„
54.	Sri Srinivasa Type Instt. Bhimili	Twtg. Lower	„	„	17	„
		„ Higher	„ + L. Twtg.	„	5	„
55.	Venkala Ramanjanya Type Instt. Kothavalsa.	„ Lower	„	„	28	„
56.	Ratna Comml. Institute, Gajuwaka, V. Patnam.	„ Lower	„	„	35	„
		„ Higher	„ + L. Twtg.	„	17	„
57.	Sri Venkatapadwa Comml. Instt. Pendhurthi.	S. Hand Lower	„	„	4	„
		Twtg. Lower	„	„	40	„
		„ Higher	„ + L. Twtg.	„	2	„
58.	Shorthand Typewriting Instt. Visakhapatnam.	„ Lower	„	„	53	„
		„ Higher	„ + L. Twtg.	„	13	„
		S. Hand Lower	„	„	23	„
59.	Sri Srinivasa Type Instt. Sriharipuram.	Twtg. Lower	„	„	45	„
		„ Higher	„ + L. Twtg.	„	9	„
60.	Vivekananda Comml. Instt. Visakhapatnam-4.	„ Lower	„	„	100	„
		S. Hand Lower	„	„	17	„
61.	Modern Comml. Instt. Visakhapatnam.	Twtg. Lower	„	„	70	„
		„ Higher	„ + L. Twtg.	„	45	„
		S. Hand Lower	„	„	16	„
		„ Higher	„ + S. Hand Lower.	„	3	„
62.	Sree Venu Comml Instt. Visakhapatnam. 7	Twtg. Lower	„	„	30	„
		„ Higher	„ + L. Twtg.	„	3	„
		S. Hand Lower	„	„	7	„
63.	Sashm Memorial Comml. Instt. Visakhapatnam-4.	Twtg. Lower	„	„	25	„
		„ Higher	„ + L. Twtg.	„	6	„
		S. Hand Lower	„	„	3	„

1	2	3	4	5	6	7
64.	City Comm'l Instt. Visakhapatnam.	Twtg. Lower	SSC.	6 months	25	Nil
		„ Higher	„ + L. Twtg.	„	8	„
65.	Ch. Santaram Visakha Type Instt. V. Patnam-4.	Twtg. Lower	„	„	25	„
		„ Higher	„ + L. Twtg.	„	10	„
66.	Venus Typewriting Inst. Visakhapatnam.	Twtg. Lower	„	„	6	„
		„ Higher	„ + L. Twtg.	„	3	„
67.	School of Commerce Instt. Visakhapatnam-4.	„ Lower	„	„	25	„
		„ Higher	„ + L. Twtg.	„	12	„
68.	Ravi Comm'l. Instt. Gopalpatnam Visakhapatnam.	Twtg. Lower	„	„	65	„
		„ Higher	„ + L. Twtg.	„	10	„
69.	Friends Comm'l. Type Instt. Gopalpatnam.	„ Lower	„	„	30	„
		„ Higher	„ + L. Twtg.	„	10	„
70.	Krishna Type Institute Waltair Vizag.	„ Lower	„	„	15	„
71.	V S Commercial Instt. Visakhapatnam-1	„ Lower	„	„	66	„
72.	Vivekananda School of Commercial Inst.	„ Lower	„	„	35	„
		„ Higher	„ + L. Twtg.	„	12	„
73.	Shri Bhavani Commercial Institute Visakhapatnam-2	„ Lower	„	„	70	„
		„ Higher	„ + L. Twtg.	„	25	„
74.	Shri Venkateswara Commercial Instt. Waltair, Visakhapatnam.	„ Lower	„	„	50	„
		S. Hand Lower	„	„	20	„
75.	Shri Venkateswara Type Instt. Visakhapatnam.	Twtg. Lower	„	„	28	„
		„ Higher	„ + L. Twtg.	„	20	„
		S. Hand Lower	„	„	4	„
6.	Shri V.S.V. Institute, Madhava Nagar, Visakhapatnam.	Twtg. Lower	„	„	40	„
		S. Hand Lower	„	„	6	„
77.	School of Shorthand, Maharani-peta, Visakhapatnam.	Twtg. Lower	„	„	120	„
		S. Hand Lower	„	„	3	„

APPENDIX X—PART(D)

EXISTING TRAINING OPPORTUNITIES WITHIN THE ESTABLISHMENTS

Name of Establishment	Occupation	Entry qualifications Education Code	Duration of Course.	Intake capacity	Remarks.
1	2	3	4	5	6
1. Chodavaram Agrl. Co-op Indl. Society Sugar Factory, Govada.	Fitter General	Matric +ITI	2 Years	4	Apprenticeship Act.
2. Thandava Co-op. Agrl. & Indl. Socy. Sugar Factory, Payakaraopeta	Fitter General	8th +ITI	1 Year	2	„
	Turner	„	„	1	„
3. Ethikoppaka Co-op. Agrl. Indl. Society Sugar Factory, Etikoppaka.	Technician (Mechanical Engg)	LME	N.A.	4	Own Training Programme.
	Fitter General	ITI	1 Year	2	Apprenticeship Act
4. Anakapalle Agrl. & Indl. Co-operative Society Sugar Factory, Thummapala.	Turner	„	„	1	„
	Fitter General	„	„	1	„
	Electrician	„	2 Years	3	„
	Boiler Attendant.	„	„	2	„
5. Chittivalasa Jute Mills, Chittivalasa.	Carpenter	„	„	2	„
	Machinist	„	„	1	„
	Turner	„	„	2	„
	Fitter Genera	„	„	1	„
	Electrician	Matric + ITI	1 Year	2	„
	Wireman	„	„	1	„
	Welder gas	ITI	2 Years	1	„
6. Nellimarla Jute Mills Nellimarla.	Machinist	„	1 Year	1	„
	Turner	„	„	2	„
	Fitter General	„	„	1	„
	Electrician	„	„	1	„
7. Arun Jute Mills, Vizianagaram Genl. Indl. Society Limited.	Turner	„	„	1	„
	Fitter General	„	„	1	„
	Wireman	„	„	1	„

1	2	3	4	5	6
8. Coromandal Fertilizers Ltd. Visakhapatnam	Machinist	8th + ITI	2 Years	1	Apprenticeship Act
	Motor Mechanic	"	2 Years	2	"
	Diesel engine Mech.	SSLC+ITI	1 Year	5	"
	Maintenance Mech.	"	1 Year	10	"
	Refrigeration & airconditioning mechanic	"	"	1	"
	Welder electric	"	"	1	"
	Boiler attendant	"	"	6	"
9. Caltex Oil Refinery, Malkapuram, Visakhapatnam	Turner	8th + ITI	"	1	"
	Instrument Mech.	SSLC + ITI	"	2	"
	Fitter General	"	"	3	"
	Motor Mecalmic	"	2 Years	2	"
	Refrigeration & airconditioning mechanic	"	"	1	"
	Electrician	"	1 Year	1	"
	Welder gas	"	"	1	"
10. Hindustan Polymers Ltd. Gopalapatnam, Visakhapatnam.	Instrument Mech.	8th + ITI	"	2	"
	Electrical	"	"	2	"
	Welder Electric	"	"	1	"
11. Bharat Heavy Plates & Vessels Limited, Visakhapatnam.	Draughtsman Mech.	SSLC+ITI	"	17	"
	Moulder metal	"	2 Years	14	"
	Tool maker	"	"	7	"
	Machinist	"	"	33	"
	Turner	"	1 Year	21	"
	Fitter General	"	"	52	"
	Fitter bench	"	2 Years	32	"
	Electrician	"	1 Year	9	"
	Welder gas	"	"	46	"
12. Andhra Pradesh Electrical Equipment Corporation (Motor Division) Visakhapatnam.	Electrical fitter	SSLC	½ Year	8	"
13. Andhra Pradesh Electric Equipment Corporation, Visakapatnam.	Electrical fitter	SSLC	½ Year	20	"
14. *Hindustan Shipyard Ltd. Visakhapatnam.	Carpenter	SSLC + ITI	2 Years	40	"
	Machinist	"	"	4	"
	Turner	"	1 Year	10	"
	Fitter general	"	"	40	"
	Fitter bench	"	3 Years	140	"
	Electrician	"	1 Year	15	"

APPENDIX X—PART(D)—Contd.

1	2	3	4	5	6
	Wireman	SSLC+ITI	1 Year	15	Apprenticeship Act.
	Plumber	"	2 Years	40	"
	Welder Gas	"	1 Year	40	"
	Sheetmetal worker	"	2 Years	20	"
15.	S.R.M.T. Limited, Visakhapatnam.	Blacksmith	8th + ITI	"	1
		Motor Mechanic	"	"	4
16.	*Eastern Naval Command H.Q.	Moulder	"	"	1
	N.S. Circar, Visakhapatnam.	Carpenter	"	"	2
		Machinist	"	"	1
		Turner	"	1 Year	6
		Fitter bench	SSLC + ITI	"	4
		Fitter general	8th + ITI	"	26
		Mechanic automobile	"	2 Years	12
		Refrigeration & airconditioning mechanic	SSLC + ITI	"	8
		Electrician	"	1 Year	3
		Electrical fitter	8th + ITI	"	12
		Radio Mechanic	SSLC + ITI	"	5
		Plumber	8th + ITI	2 Years	3
		Welder Gas	"	1 Year	3
	Visakhapatnam Port Trust Visakhapatnam.	Electrical Engineer	LEE	6 months	6 Own Training Programme.
		Mechanical Engineer	LME	"	"
		Mechanical Engineer Marine	PUC+Apprentice fitter	4½ Years	34
		Carpenter	8th	3 Years	40 Apprenticeship Act.
		Machinist	"	"	4
		Turner	"	"	10
		Fitter	"	"	40
		Fitter	Apprenticeship in fitter	1 Year	4 Own Training Programme.
		Fitter bench	8th	3 Years	140 Apprenticeship Act.
		Electrician	SSLC	"	15
		Wireman	8th	"	15
		Plumber	"	"	40
		Welder Gas	"	2 Years	40
		Sheetmetal worker	"	3 Years	20

*Public Sector Establishment.

173, Shaubhine
 DOC. No. 173
 Date: 30/1/82
 Planning and Administration
 National Institute of Education
 National Systems Unit
 Visakhapatnam

