

TECHNICAL EDUCATION

IN

UTTAR PRADESH

With particulars of some institutions outside
the State offering courses at the Post-Graduate
and Degree level



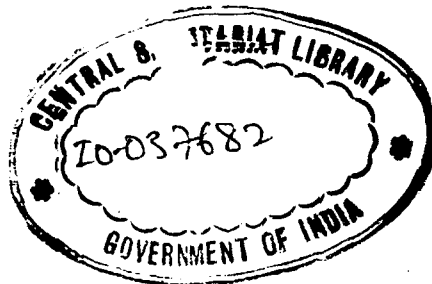
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FOREWORD

After independence, there has been rapid increase in the facilities for Technical Education all over the country. In Uttar Pradesh, we had until 1947, only five degree and eleven diploma institutions dealing with engineering and technological courses with an annual intake of 528 and 578 respectively. During the last eighteen years, their number has increased to eleven and thirtyeight respectively and the annual intake is now about four times for degree courses and about nine times for diploma courses. At the level of certificate courses, the increase has been phenomenal and the present intake of the forty-eight Industrial Training Institutes is 17,568. Further expansion is envisaged during the Fourth Five-Year Plan and the proposed outlay on technical education and training in this State during the Fourth Plan is over rupees fifty crores. This excludes outlay on the Universities at Banaras and Aligarh and the Indian Institute of Technology at Kanpur. I am glad that the booklet, which was originally brought out in 1962 giving history and growth of technical institutions and containing other relevant information, has been revised in the light of expansion that has taken place during the last four years. The revised edition will, I hope, serve a very useful purpose in apprising the candidates, their parents, and employers about the latest facilities for technical education and training available in Uttar Pradesh.

LUCKNOW :

March 19, 1966.



(SUCHETA KRIPALANI)

PREFACE TO THE SECOND EDITION

This booklet, compiled for the first time in 1962 to acquaint prospective trainees and their guardians with the facilities for technical education then available in Uttar Pradesh, proved very useful to the public and all copies of the First Edition have been sold out. During the last four years, there have been considerable expansion of the facilities as well as many organisational changes. Dr. T. G. K. Charlu, Director of Technical Education and Sri S. K. Mittal, Secretary, Board of Technical Education, have, therefore, revised the booklet in the light of these changes. The appendix containing particulars of institutions outside the State offering courses at the post-graduate and degree level has particularly been made more informative for students of this State.

S. S. SIDHU

Chairman,
Board of Technical Education and
Secy. to Govt. U. P., Tech. Edu. Department.

LUCKNOW :
March 19, 1966.

PREFACE TO THE FIRST EDITION

This booklet has been compiled with a view to provide not only a short compendium for reference purposes giving particulars of institutions, their location, intake, history of growth and other matter, but also to acquaint prospective trainees and their guardians with the facilities for technical education that are available in Uttar Pradesh. The idea of the compilation of such a booklet was conceived by Sri M. Zaheer, Joint Secretary to Government, and Sri S. K. Mittal, Secretary, State Board of Technical Education and this booklet is the result of their joint effort. Data for the compilation of this booklet had to be collected from many sources, and it is quite possible that minor mistakes might be there. Thanks are due to the authorities of all institutions and departments who were kind enough to provide data which made the writing of this booklet possible. Thanks are also due to the staff and students of the Northern Regional School of Printing Technology, Allahabad, who made unremitting efforts to print this booklet within a very short time.

SHRI PAT

Chairman,
State Board of Technical Education and
Secy. to Govt., U. P., Industries Department.

LUCKNOW :
January 15, 1962.

CONTENTS

	Page
CHAPTER I .. Introduction	1
CHAPTER II .. All India Council for Technical Education, Northern Regional Committee, Board of Technical Education and the Directorate of Technical Education	4
CHAPTER III .. Post-Graduate and Degree Institutions	8
CHAPTER IV .. Diploma Institutions	20
CHAPTER V .. Institutions at the Certificate Level	36
CHAPTER VI .. Technical Education Loans, Stipends and Scholarships for Technical Studies	46
CHAPTER VII .. Teachers Training Programmes and Training of Instructors ..	49
CHAPTER VIII .. Scope of Employment for Technical Personnel	52
APPENDIX 1 .. Facilities for Post-Graduate Courses in the State	54
APPENDIX 2 .. Facilities for Degree Courses in the State	58
APPENDIX 3.1 .. Facilities for Diploma courses in the State-Institutions affiliated to the Board of Technical Education	70
APPENDIX 3.2 .. Facilities for Diploma courses in the State not covered in Appendix 3.1	78
APPENDIX 4 .. Particulars of some institutions outside the State offering facilities at the Post-Graduate and Degree level	80
APPENDIX 5.1.1 .. Facilities at the Certificate Level-Institutions under the Directorate of Training and Employment	122
APPENDIX 5.1.2 .. Facilities at the Certificate Level-Institutions transferred from Industries Department to Labour Department	142
APPENDIX 5.2 .. Facilities at the Certificate Level-Secondary Technical Schools affiliated to the Board of Technical Education	148

	Pages
APPENDIX 5.3 .. Facilities at the Certificate Level-Institutions under the Directorate of Harijan and Social Welfare	150
APPENDIX 5.4 .. Facilities at the Certificate Level-Courses not covered in Appendices 5.1 to 5.3.	152
APPENDIX 5.5 .. Facilities at the Certificate Level-Institutions given grant-in-aid by the Directorate of Technical Education	156
APPENDIX 5.6 .. A comparative study of different types of certificate courses ..	160

Technical Education In Uttar Pradesh

CHAPTER I

INTRODUCTION

1.1. There is no universally accepted definition of Technical Education. Since technical education mainly owes its origin to the Industrial Revolution, it may be defined as instruction in the science and skill required for the practice of trades and professions, especially those involving use of machinery and scientific equipment. Broadly speaking, therefore, all branches of training which are outside the scope of general or academic education come under the ambit of technical education. As a result, it does cover even such fields as Industrial Management, Commerce and Applied Arts. However, for the sake of convenience, regular courses in Medical Science, Agriculture and other Applied Sciences have been excluded from the scope of this booklet.

1.2. Technical Education in India is a four-tiered structure comprising of—

- (1) Post-Graduate studies and research.
- (2) Degree and equivalent courses.
- (3) Diploma and equivalent courses.
- (4) Vocational or industrial training.

1.3. Those securing doctorates or post-graduate degrees in engineering are needed to guide research in new techniques in their field and for teaching jobs at the higher level. Students qualifying at post-graduate courses are needed primarily for teaching jobs, in degree institutions, and also for highly specialised planning assignments in industry, or undertakings employing techniques of applied science. Degree holders are needed for executive posts in their own branch of engineering or technology. Diploma holders are needed for overseeing and supervising posts, as links between the executive and the actual worker. Those who take certificate courses are needed for skilled technical jobs to work on lathes or machines, or as draughtsmen, fitters, mechanics, linesmen, and have an assignment on the machine or in the laboratory itself, but have no supervising duties. Broadly speaking, each tier is a self-sufficient vocation and the scope of performance is limited by the basic general education required for each level and also by the nature of the training imparted. The object of this booklet is mainly to give a comprehensive picture of the position of technical education at various levels in Uttar Pradesh with particular emphasis on the developments that have taken place in the post-independence period.

2. In 1947, the following institutions were catering for technical education at the degree and diploma levels :

Serial no.	Institution	Course	Intake of students per annum
Degree and equivalent courses :			
1	Thomason College of Civil Engineering, Roorkee.	Civil Engineering ..	40
		Electrical Engineering ..	20
		Mechanical Engineering ..	20
2	Banaras Hindu University, Varanasi—		
	(i) College of Technology	Industrial Chemistry ..	80
		(Post-Graduate) ..	15
		Glass Technology ..	15
		Ceramics Technology ..	16
		Pharmaceutics ..	22
	(ii) College of Engineering ..	Electrical Engineering ..	60
		Mechanical Engineering ..	60
	(iii) College of Mining and Metallurgy ..	Mining Engineering ..	16
		Metallurgical Engineering ..	32
3	College of Engineering and Technology, Muslim University, Aligarh.	Civil Engineering ..	40
		Electrical Engineering ..	25
		Mechanical Engineering ..	25
4	Harcourt Butler Technological Institute, Kanpur.	Chemical Technology ..	2
		Oil Technology ..	25
5	Allahabad Agricultural Institute, Allahabad	Agriculture Engineering ..	15
			<u>528</u>
Diploma, Overseers' Certificate or equivalent courses :			
1	Thomason College of Civil Engineering, Roorkee.	Civil Engineering ..	80
2	College of Engineering and Technology, Muslim University, Aligarh.	Civil Engineering ..	54
		Electrical Engineering ..	20
		Mechanical Engineering ..	
3	Hewett Engineering School, Lucknow ..	Civil Engineering ..	120
4	Civil Engineering School, Lucknow ..	Ditto ..	90
5	Technical College, Dayalbagh, Agra ..	Combined Course in Electrical and Mechanical Engineering.	40
6	Government Technical Institute, Lucknow ..	Ditto ..	40
7	Government Technical Institute, Gorakhpur	Ditto ..	40
8	Government Technical Institute, Jhansi ..	Ditto ..	12
9	P.M.V. Technical Institute, Mathura ..	Mechanical Engineering ..	30
10	Government Central Textile Institute, Kanpur	Textile Technology ..	16
		Textile Chemistry ..	16
11	Central Weaving Institute, Varanasi ..	Weaving Technology ..	20
			<u>578</u>

3. As against five institutions for post-graduate and degree courses with a total intake of 528, the number of degree institutions today is eleven with the sanctioned intake of 2252. In 1947, there were eleven institutions of the diploma level with an intake of 578 ; now they have increased to thirty-eight and the intake has gone up to 5285 which is about nine times.

4. In the field of training of the certificate standard, the level at which machinists, fitters, and skilled workers are turned out, the increase has been phenomenal. Fifteen institutions run by the Directorate of Training and Employment and the Directorate of Industries (now by the Directorate of Technical Education), had fairly standardised courses ; a few were running part-time courses, or courses combined with general education at the school level. Today there are forty-eight Industrial Training Institutes with an intake of 17,568 apart from other institutions which also offer certificate courses.

CHAPTER II

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION, NORTHERN REGIONAL COMMITTEE, BOARD OF TECHNICAL EDUCATION AND THE DIRECTORATE OF TECHNICAL EDUCATION.

1. The sudden increase in the requirements of technical personnel during the Second Great War outlined the necessity for placing Technical Education on a more stable and standard footing. The Central Advisory Board of Education, therefore, recommended in 1944, that a National Council of Technical Education be set up. The Government of India accepted the recommendations of the Advisory Board and set up the All India Council for Technical Education in 1945. Broadly speaking the Council was entrusted with the work of surveying the needs of the country as a whole keeping in view the requirements during the post war period, to advise Government about the areas and the locations where technical institutions needed to be set up, the branches of technology to be taught by each of these institutions, and the standards at which they should operate. The Council was also entrusted with the task of consulting the State (then Provincial) Governments and the acceding States in order to assess their requirements, to consider projects then under consideration of the various Ministries of the Government of India, to draw up a scheme for the establishment of institutions on the lines of the Massachusetts Institute of Technology, for the establishment of a Technical College for Electrical (Power) Engineering and to so formulate the scheme for the establishment of these institutions that it could form a workable pattern for the whole country. The Council was also to conduct preliminary investigations in order to ascertain the conditions on which the authorities in control of the existing technical institutions would be prepared to co-operate in an All-India Scheme.

2. The first meeting of the Council was held in April 1946, and amongst other things, it decided to advise on the contents and the standard of technical education, to constitute a diploma (now equivalent to a degree) and to award it on an All-India basis in subjects of engineering and technology, and to survey the facilities for higher technical education throughout the country.

3. In order to carry out its functions the Council decided to set up the following committees :

(1) Sub-committees or Boards of Technical Studies. These were constituted mainly of experts, specialists and eminent educationists, and one committee was formed for each of the six main subjects of technology.

(2) Four **Regional Committees** of the Council, one each for the eastern, the western, the southern, and the northern regions in order to perform such functions as may be assigned to them by the Council.

(3) Co-ordinating Committee of the Council in order to work as its executive committee to co-ordinate the work of the Boards of Technical Studies and the Regional Committees and to ensure that the development of technical education is made in conformity with well-defined general policies adopted by the Council.

4.1. The All-India Boards of Technical Studies are set up in the following subjects :

- (i) Engineering and Metallurgy.
- (ii) Architecture and Regional Planning.
- (iii) Commerce.
- (iv) Chemical Engineering and Chemical Technology.
- (v) Textile Technology.
- (vi) Applied Arts.
- (vii) Management (added subsequently).

4.2. These Boards are required to give technical advice, to make a comparative study of the contents of higher technical education in India and other countries, to draw up suitable curricula and syllabi, to suggest the scales at which staff should be employed, to formulate standards of equipment and to draw up their lists, and also to make recommendations with regard to the accommodation required for each branch of study. These Boards were also commissioned with the task of maintaining uniformly high standards of teaching and examination in technical subjects. The work relating to examinations is, however, gradually being entrusted to the State Boards set up in each State.

4.3. In addition to the above Boards, Special Committees have been constituted on (i) Mining, (ii) Metallurgy, (iii) Pharmacy, (iv) Aeronautical Engineering, and (v) Industrial Design.

4.4. There is also a Post-Graduate Engineering Board for all subjects to advise the Council about technical education at the post-graduate level. There is a Board of Assessment which assesses and recommends to the Government of India about the recognition of various qualifications at the diploma, degree and post-graduate level.

Northern Regional Committee

5.1. The Regional Committees are required in general to perform such functions as are assigned to them by the Council without in any way affecting the rights and privileges of any statutory bodies controlling non-University institutions.

5.2. Each Regional Committee consists of representatives of the State Governments within its region, of industry and commerce, of labour, of technical

institutions, of State Boards, of Universities and some experts. Their main functions are—

- (i) to survey facilities for technical education at all stages and to make recommendations on the development of technical education, including the establishment of new institutions wherever necessary ;
- (ii) to make a preliminary examination of any institution seeking recognition of the All-India Council ;
- (iii) to tender advice and guidance to technical institutions within the region ;
- (iv) to promote liaison between technical institutions and industry ;
- (v) to assist the States and institutions in securing practical training facilities.

5.3. The State of Uttar Pradesh falls within the area entrusted to the Northern Regional Committee, other States in the region being Punjab, Rajasthan, Jammu and Kashmir, Delhi and Himachal Pradesh. The office of the Northern Regional Committee was first set up at Delhi in 1954, but was transferred to Kanpur in 1956.

6. While the All-India Council for Technical Education, its Regional Committees and other Expert Committees were charged with the responsibility of advising on all aspects of technical education, the Government of India in 1956, recommended to the State Governments to set up in each State, an agency for bringing about co-ordinated development of technical education in order to provide for successful planning and execution of all schemes of technical education, to ensure proper standards of instructions and facilities in the institutions, to hold examinations of the proper standard for the candidates and to award diplomas which may be recognised on a country-wide-basis. It was also recommended that each State Government should set up a Department of Technical Education to look after technical education and training in the State as a whole.

Board of Technical Education

7.1. As a result of these recommendations, a State Board of Technical Education and Training was set up in this State in May, 1958, by an executive order of the State Government. The Board conducted its first examination in 1960, for courses of the diploma level and for the Draughtsman Certificate Course. These examinations were previously conducted either by the Directorate of Industries (Technical Education Section) or by the Ad Hoc Board. The Ad Hoc Board had been set up in 1956 in order to conduct the examinations of Hewett Engineering School (now known as Hewett Polytechnic) and Civil Engineering School (now known as Lucknow Polytechnic) and for a number of other private civil overseer institutions which came into existence during the two preceding years. The Ad Hoc Board ceased to function after the State Board was set up and started working. The Board affiliated Secondary

Technical Schools (formerly known as Junior Technical Schools) in 1961 conducting a certificate course of three years duration. The name of the State Board was changed to Board of Technical Education in 1962. In the same year, the "U. P. Pravidhik Shiksha Adhinyam, 1962" was enacted and the Board became a statutory body. The main functions of the Board are :

- (i) to affiliate institutions and prescribe courses of study and instructions leading to examinations conducted by it ;
- (ii) to prescribe standards for buildings, equipment and staff of affiliated institutions ;
- (iii) to grant certificates and diplomas to students who have passed the examinations conducted by it ;
- (iv) to advise the State Government on the co-ordinated development of technical education and training regarding the same.

7.2. It is now proposed to amend the Act to give powers to the Board to conduct Advanced or Higher Diploma examinations also similar to National Diplomas awarded by the All-India Council for Technical Education and considered equivalent to a degree for purposes of recruitment to superior services in the appropriate fields. The diplomas and certificates awarded by the Board are recognised by the State Government and Government of India from time to time.

Directorate of Technical Education

8. In conformity with the recommendations of Government of India, it was decided in 1961 to convert the Technical Education Section in the office of the Directorate of Industries into a separate Directorate of Technical Education with a Director as its head and the administration of all diploma institutions then run under the Power Department was also transferred to the Directorate of Technical Education. The Director is assisted by two Deputy Directors, six Assistant Directors and two Divisional Superintendents of Technical Education. The Directorate is responsible for the establishment, development and administration of all the diploma level institutions and Secondary Technical Schools in the State. The Directorate is also concerned with the planning of courses of study, and co-ordination of development at the degree level institutions. The office of the Directorate is located at Kanpur.

CHAPTER III

POST-GRADUATE AND DEGREE INSTITUTIONS

Administration

1.1. Technical Education at the post-graduate and degree levels is usually imparted in the University or in an institution affiliated to a University. The Central Government have, however, established five higher technological institutes, one in the North at Kanpur and others in the East at Kharagpur, in the South at Madras, in the West at Bombay and in the centre at Delhi. These institutions offer training facilities of highest level. These institutions have been authorised by the Parliament to issue degrees even though they are not universities or affiliated to any university. The Indian Institute of Technology at Kanpur is directly under the administrative control of the Government of India and so also are the Banaras Hindu University at Varanasi and the Muslim University at Aligarh.

1.2. The administration of degree institutions run by the Government of Uttar Pradesh was entrusted, at the level of the Government, partly to the Power and partly to the Industries Department. Matters concerning the administration of the Roorkee University, Roorkee, the Motilal Nehru Engineering College, Allahabad, and the new engineering college established at Gorakhpur and those concerning grants-in-aid to the Engineering College at Dayalbagh, Agra were the concern of the Power Department. The Harcourt Butler Technological Institute and Government Central Textile Institute at Kanpur were being run by the Industries Department. In order to provide unified administrative control at the Government level, a separate Department of Technical Education was set up in 1965 and all work relating to technical education at the diploma level and above was entrusted to this Department with an independent Secretary.

Roorkee University, Roorkee

2.1. The nucleus of Thomason College of Engineering, Roorkee, now known as the Roorkee University, Roorkee was formed in 1845 by Lieut. Richard Baird Smith of the Bengal Engineers who started to train some young men at Saharanpur in Civil Engineering. In 1846, Lieut. Col. Cautley of the Bengal Army suggested to the Government of the then North Western Provinces, the idea of founding an Engineering College at Roorkee. In 1847 when the work on the first line of the Ganga Canal had been started, Lord Hastings who was the Governor General of India, stressed the necessity of rapid progress on the Ganga Canal Scheme. With a view to supply skilled workmanship for a work

of such a magnitude and to secure adequate staff of well trained engineers to look after it on its completion, the need for the establishment of an Engineering College at Roorkee became all the more manifest. The Western and Eastern Yamuna Canals, not very far from Roorkee, which had originated as far back as 1817 and 1822 respectively, needed improvement and repairs. The roads from Jabalpur to Mirzapur and the Grand Trunk Roads from Calcutta to Delhi and from Agra to Bombay were being constructed and large buildings were being erected at important centres. Thus there had arisen a large demand for skilled Civil Engineers for execution and control in many directions. To meet this demand, officers of the army, British Non-Commissioned Officers, were available but they all required proper training in engineering theory and practice ; and in the case of the foreigners, a fair knowledge of the local languages and that of the peculiarities of Indian materials and method of works was also required. For the location of such a training centre, Roorkee offered special technical advantages. Mr. James Thomason, the then Governor of U. P., pointed out that the location of a College near the Solani Aqueduct on the Ganga Canal would afford peculiar facilities for instruction in Civil Engineering, while the large Canal Foundry Workshops started by Major Allen of the Benegal Army and other important structures which were also in course of construction would provide to students facilities of practical importance. The proposal for a State Engineering college met with cordial support from the Governor General of India and in October, 1847, a small college was started with Lt. Robert Maclagan of Bengal Engineers as Principal. It provided for three departments in the College, the first department was for training civilians as Sub-Assistant Civil Engineers, the second was for training European Non-Commissioned Officers and soldiers for appointment as overseers in the Public Works Department and the third was for training young Indians in Surveying and Levelling. For the first department, candidates were to be twenty-two years of age with ability to read and write English easily and have some knowledge of Mathematics. The number to be admitted to this class every year was eight. For the second department they were required only to pass, before admission, an elementary test in reading, writing, Drawing and easy Mathematics. The number of admissions was limited to ten a year. For the third department, candidates were only required to have some knowledge of Arithmetic and ability to read and write Urdu. Admissions were limited to sixteen per year.

2.2. Until 1854, the institution was known as the "Roorkee College" when the Directors of the East India Co. instituted a scholarship to be called "Thomason Scholarship". The Governor General simultaneously decreed that the college should be known as the "Thomason College of Civil Engineering" in recognition of the meritorious services of Mr. Thomason, Lt. Governor of U. P. In 1870, the nomenclature of the classes was changed to (i) Engineer Class—Military and Civil, (ii) Upper Subordinate Class and (iii) Lower Subordinate Class respectively. The total number on the roll in that year was 231. Gradually the engineering profession began to be popular with educated

Indians too and between 1873 and 1875 sixteen Indians passed out the Civil Engineering class as against only seventeen Indians during the previous twenty-six years of its existence.

2.3. Until 1875, pecuniary aid was given by the Government to most of the students of the college in the form of stipends. From 1875 onwards, though the pecuniary aid to the students was to a large extent stopped, most of the students paid practically nothing for their education. The training was, however, limited to Civil Engineering, Surveying and Allied subjects. Technical and Industrial classes did not exist. An examination fee of Rs.20 for the Engineering Class was for the first time introduced in 1876. From 1882, the entire financial responsibility of the college was left to the local (State) Government. The Secretary of State for India ordered that no European except Royal Engineers recruited from the Cooper's Hills' College, U. K. were to be appointed as engineers in India. Indians were, therefore, to be given most vacancies in the Public Works Departments, irrespective of the position to be held. European competitors received only such appointments for which Indians were unable to qualify. In 1894, a Provincial Service was formed and all successful students were appointed to the Provincial Service.

2.4. In 1896, it was decided that all students except those from the army would pay fees for their education. This decision of levying fees greatly added to the efficiency and activity of the college. Instead of adversely effecting admissions, the demand increased and some principle for making selections had to be introduced. Besides engineering education, industrial education was also added and an industrial class divided into fifteen sections was started. This included press work, photography and photo-mechanical processes. Classes for mechanical and electrical apprentices were also started. In 1908, an Automobile Drawing class was started which was transferred to Lucknow in 1911-12 and this marked the beginning of the gradual removal of technical and industrial classes from the Thomason College and its reversion to a purely Civil Engineering Institution. Admission to the Textile class ceased and in 1915 the Higher Division of the Department of Technology was abolished, and the Lower Division—the Mechanical Apprentice class—was transferred to Lucknow.

2.5. Between 1919 and 1922, a re-organisation scheme was drawn for the College. Under this scheme, admissions to Upper Subordinate, Lower Subordinate, Industrial Apprentices, Mechanical and Electrical Apprentice classes were stopped and it was decided finally that the training of Mechanical and Electrical students was not suited to Roorkee. To replace the Upper Subordinate and Lower Subordinate classes, a scheme was prepared for a new Overseer class of Intermediate standard. In 1922, the first Overseer Class of three years duration was started with 40 seats. The period was later reduced to two years.

2.6. In 1921, the College Committee of Management was replaced by an Advisory Council constituted by the Government. The Government of

India, offered to fill up nine and ten vacancies in alternate years in the Indian Service of Engineers as guaranteed appointments. This guarantee, however, continued till 1924 only and the first batch to which no such guarantee was offered passed in 1928. In 1928, the qualifying standard for entrance examination was prescribed as Intermediate pass or its equivalent. Starting with the batch passing out in July, 1941, the Government of U. P., guaranteed appointments in the Provincial Service of Engineers for two students of the Civil Engineer class. This number was later on increased to ten. In December, 1945, a Re-organisation Committee was set up under the chairmanship of Professor Cicil L. Fortescue, Head of Electrical Engineering Department, Imperial College of Science and Technology, London to examine the working of the Thomason College of Civil Engineering and to make it more useful, efficient and up-to-date. As a result of the recommendations of the committee, teaching in Electrical and Mechanical Engineering was started in 1945 and the College was renamed as the Thomason College of Engineering in 1946. From 1946, women students were also allowed to join the college.

2.7. The Roorkee University came into being in the year 1949 when the Thomason College of Engineering was raised to the status of a University. A Department of Architecture was started in the year 1956 and a year later the Tele-Communication Engineering Department was established. The duration of the Degree Courses was raised from three to four years in 1960. A few B.Sc. are also being admitted directly in the second year after qualifying in a separate entrance examination. In the session 1963-64, two new courses were started in Metallurgical and Chemical Engineering of four years duration.

2.8. The Re-organisation Committee appointed in December 1945 recommended that the overseer class should remain at Roorkee but not in the college and for this purpose a school known as the "Thomason Overseer School" under the control of Principal, Thomason College of Engineering was constituted. In March, 1955, on the advice of the University Grants Commission, based on the recommendations of the All-India Council for Technical Education, Overseer Courses in Electrical and Mechanical Engineering and a certificate course of Electrical and Mechanical Draughtsman were started. The intake for Overseer (Civil) Course was increased from 80 to 100 and that of Draughtsman (Civil) from 20 to 30. The total intake in all the courses was increased to 300 in 1957. As a result of the increase, separate staff was provided for the diploma classes and the school was renamed as Diploma Polytechnic. The Polytechnic adopted the three years course in 1958. Admission to diploma and certificate courses has, however, been stopped from the year 1964 and the space is being utilised to accommodate the expansion programme in degree courses.

2.9. Post-Graduate courses in Engineering of one year duration were started in 1953. As a result of the recommendations of Government of India, the duration of the Post-Graduate Degree courses was raised to two years in 1963. Facilities for Post-Graduate education in Civil, Electrical and Mechanical

Engineering have also been extended to engineers working in the Irrigation Research Institute and the Central Building Research Institute at Roorkee. Attending on part-time basis, they are allowed to complete the course in four years.

2.10. During the Fourth Five Year Plan, it is proposed to increase the intake of Civil, Electrical and Mechanical Engineering degree courses by 60 seats and of Tele-Communication and Chemical Engineering by 30 seats. New degree courses in Aeronautical Engineering, Mining Engineering and Instrumentation Engineering with an intake of 30 seats in each course and Industrial Engineering including Production Engineering with an intake of 60 seats are also proposed to be started.

Harcourt Butler Technological Institute, Kanpur

3.1. The Harcourt Butler Technological Institute, Kanpur was set up as a result of the recommendations of the Industrial Conference which met at Naini Tal in 1907. It recommended that there should be a technological institute for the United Provinces with two branches: (i) Engineering to be located at Roorkee and (ii) Chemical to be located at Kanpur. These recommendations, however, could not be given effect till 1920 when a Research Institute was established at Kanpur after the name of the then Governor of United Provinces Sir Harcourt Butler. In 1921, training of students was also started at the Institute on the recommendation of the Indian Industrial Commission. In 1928, a committee appointed by the Government of United Provinces, under the chairmanship of the Director of Public Instruction, United Provinces, recommended that teaching should have precedence over research and the entire set-up of the institute was adjusted to meet this objective. In 1932, an enquiry committee recommended establishment at the institute of a two years' course for Associateship with B. Sc. as minimum qualification for admission. To start with, subjects of Technology of Oils and General Chemistry were taken up but later on during the early thirties, the institute was provided with facilities for teaching and research in Oils, General Chemistry, Sugar and Leather. The Leather Section was abolished in 1932, owing to insufficient enrolment and in 1937, the Sugar Technology course was taken over by the Imperial (now Indian) Council for Agricultural Research.

3.2. In 1952, a committee was appointed by the Uttar Pradesh Government under the chairmanship of the late Dr. J. C. Ghosh, to examine the question of reorganisation of the Institute and the establishment of a Technical University at Kanpur. This Committee recommended that a Technical University should be established at Kanpur by utilising the resources of several local institutions including the Harcourt Butler Technological Institute as its nucleus. In the meantime, the Government of India decided to locate one of the Indian Institutes of Technology at Kanpur and the scheme of setting up a Technical University was given up. With the increased emphasis on

teaching of Chemical Engineering, the institute started teaching Chemical Engineering as a special course in 1954 in addition to the two years' course of Associateship. In 1958, the institute was affiliated to Agra University, the diplomas awarded by the institute were replaced by degrees and the intake of students in Chemical Engineering was raised to 30. With the establishment of the Indian Institute of Technology at Kanpur, the question of the re-organisation of the Harcourt Butler Technological Institute, Kanpur, again came before the State Government and they set up an expert committee in December, 1959 to make recommendations with regard to the future development of the institute. In 1962, the re-organisation of the institute was started and in 1964, the two years' course of Associateship was discontinued. The same year seven new courses in (i) Electrical Engineering, (ii) Mechanical Engineering, (iii) Bio-Chemical Engineering, (iv) Food Technology, (v) Oil Technology, (vi) Paint Technology and (vii) Plastic Technology were introduced. The State Government declared the institute an autonomous organisation in 1965 constituting a Board of Governors with the Chief Minister as its *ex-officio* Chairman. The institute has since then been registered under the Societies' Registration Act, 1860. It continues to be fully financed by the State Government.

3.3. Post-graduate courses in a variety of subjects have been introduced from 1965. It is proposed to start a degree course in Civil Engineering from 1966 with an intake of 60. It is also proposed to increase the intake in (i) Chemical Engineering, (ii) Mechanical Engineering and (iii) Electrical Engineering by 30, 50 and 50, respectively.

Banaras Hindu University, Varanasi :

College of Mining and Metallurgy.

4.1.1. The technological institutions in the Banaras Hindu University were founded as a result of the effort of the late Pt. Madan Mohan Malviya in the wake of the deliberations in 1916 of the Indian Industrial Commission. First of all the teaching of Mining and Metallurgy was started in 1919. A capital grant of rupees two lakhs and a revenue grant of Rs.24,000 per annum in perpetuity, donated by the Jodhpur Durbar was diverted to support this institution. The institution was the first of its kind to be established in India for instruction of the degree standard in Mining and Metallurgy. The first batch of 12 students was admitted in the year 1923 for the two courses. In this college a degree course in Fuel Technology was started in 1948, but it was abolished in 1960.

4.1.2. In 1957, on the suggestion of the Government of India, the intake of the College was increased from 48 to 80 in order to meet the increasing demand of Mining and Metallurgy graduates. A post-graduate degree course in Ferrous Production Metallurgy and Physical Metallurgy was started in the same year. The intake of the degree courses was further increased to 100 (40

for Mining Engineering and 60 for Metallurgical Engineering) in 1961. The intake for the post-graduate courses was increased from 10 to 16 in 1963.

4.1.3. Post-graduate courses in Coal Mining and Metalliferrous Mining leading to M. Sc. (Mining Engineering) degree are proposed to be started in July 1966.

College of Engineering

4.2.1. The College of Engineering, Banaras Hindu University, was also started in 1919 with thirty students for the degree courses and ten for the diploma course. The diploma course was, however, discontinued in 1932. Up to 1926, separate degree courses in (i) Mechanical Engineering and (ii) Electrical Engineering were run and in this year these were combined. The combined course continued up to 1948. In 1949, separate degree courses in (i) Civil and Municipal Engineering, (ii) Electrical Engineering, (iii) Mechanical Engineering were introduced each of four years duration. Since 1960 a five years' integrated course was introduced, but the first two years of this course are common for (i) Civil, (ii) Electrical, (iii) Mechanical, (iv) Mining, (v) Metallurgy and (vi) Chemical Engineering.

4.2.2. Till 1948, the intake for the first year class was 120 for courses in (i) Civil Engineering, (ii) Electrical Engineering and (iii) Mechanical Engineering when it was raised to 160. It was increased to 270 in 1957, under the expansion programme and further raised to 350 in 1963 under an emergency scheme.

4.2.3. It is also possible to obtain an honours degree in engineering provided a student is able to secure at least seventy-five per cent marks in the aggregate in the final examination. Several elective subjects have been introduced, viz., Advanced Mathematics, Town Planning, Surveying, Industrial Engineering, Electrical Traction and Electrical Communication to enable the students to specialise in any one line.

4.2.4. The first Post-graduate course was introduced in 1957 in Electrical Machine and the duration of the course was fifteen months. More courses were added in 1964 as given in Appendix I and the duration of each course was raised to two years. Proposal to start Post-graduate courses in the following fields is under consideration.

- (a) Electrical Engineering ..
 - (i) High Voltage Engineering.
 - (ii) Computer Technology.
 - (iii) Theory of Control.
 - (iv) Communication Theory.
 - (v) Solid State Devices.
- (b) Mechanical Engineering..
 - (i) Heat Power Engineering.
 - (ii) Fluid Power Engineering.
 - (iii) Metrology and Industrial Engineering.
 - (iv) Advanced Power Engineering.
 - (v) Refrigeration and Air-Conditioning.
 - (vi) Production Engineering.

- (c) Civil Engineering .. (i) Soil Mechanics and Foundation Engineering.
(ii) Structural Engineering.
(iii) Highway Engineering.
(iv) Advanced Surveying and Photogrammetry.
(v) Public Health Engineering.

College of Technology

4.3.1. In the College of Technology, there are at present three departments, viz., (i) Department of Chemical Engineering and Technology, (ii) Department of Silicate Technology and (iii) Department of Pharmaceutics.

4.3.2. The teaching of Industrial Chemistry, was started in 1920 with a course of two years duration known as B.Sc. (Industrial Chemistry). The minimum admission qualification was Intermediate Science with Physics, Chemistry and Mathematics. A separate section was later on created to teach the science of Ceramics and this was the nucleus of the present Department of Silicate Technology. In 1930, M.Sc. (Tech.) course was started in Industrial Chemistry on account of the demand for students with higher qualifications in this field. The course was open only to graduates in Industrial Chemistry and that, too, to those who obtained atleast 50 per cent marks in B. Sc. examination in Industrial Chemistry and the intake was, therefore, very limited. In 1939, the three departments of Industrial Chemistry, Glass and Ceramics and Pharmaceutics, which formed a part of the College of Science, were constituted into a separate College of Technology. In Ceramics, the training was in the beginning confined to a small group of Industrial Chemistry students who offered Ceramics as a special subject. Later on a 2 years' diploma course in Ceramics was started and subsequently converted into 3 years' degree course. While these changes were taking place in the teaching of Ceramics in the Department, a sister Department of Glass Technology also came into existence in 1935, with a three years' degree course. These courses were very much in demand and students from all over India and also from Burma, Ceylon and Nepal came to join them. In 1947, M. Sc. (Tech.) courses in the two subjects of Glass and Ceramics Technology were also started.

4.3.3. In 1949, a degree course of Chemical Engineering was started in the Department of Industrial Chemistry. The course in Industrial Chemistry continued to run side by side with Chemical Engineering, but in 1955, admission to the course in Industrial Chemistry was discontinued and the Department of Industrial Chemistry was, because of this change, re-named "Department of Chemical Engineering and Technology". The Departments of Glass and Ceramics Technology were also merged into one, to be known as the Department of Silicate Technology, and a combined course of Glass and Ceramics was introduced. This was a four years' course. Subsequently it was converted into a five years' course in Silicate Technology. The course in Chemical Engineering has also been made of five years duration. A course of M.Sc. in Chemical Engineering of two years duration was started in 1963.

Department of Pharmaceutics

4.4. The Department of Pharmaceutics was set up in 1932 and a two years' degree course in Pharmaceutical subjects was introduced in 1934 leading to B.Sc. in Pharmaceutical Chemistry. In 1936, when the first batch of Pharmaceutical Chemistry graduates came out, a post-graduate diploma in Pharmaceutical Chemistry was started. In 1937, the courses were reorganised and a three years' degree course leading to a degree in Pharmacy was introduced. The Pharmaceutical Chemistry (Ph.C.) course was abolished in 1940, and in 1941, a research course of fifteen months duration leading to the Degree of Master of Pharmacy was introduced. In 1942, a diploma course in Pharmaceutics known as L. Pharm. was started, but it was suspended after the admission of the first batch. The Ph.D. degree was started in the Department in 1945. In 1952, the duration of the M. Pharm. course was extended to 1½ years and an examination, in addition to research, was introduced for the award of the degree. In 1960, the three years' degree course was changed to a four years' course. The duration of the M. Pharm. course has been raised to two years since 1963.

Aligarh Muslim University, Aligarh :

College of Engineering and Technology

5.1. A three years' Electrician Foreman's course was started in 1935. This was redesignated as a diploma course in 1940. The same year a three years' degree course in Electrical and Mechanical Engineering was started. In 1942 a B.Sc. course in Civil Engineering was introduced.

5.2. The duration of the degree courses was raised to five years in 1962 with Pre-University pass as admission qualification. The present intake is 240. Post-Graduate courses of two years duration were introduced in 1964.

Engineering College, Dayalbagh, Agra

6.1. In 1927, a Technical School was founded by the Radhasoami Satsang Sabha of Dayalbagh at Dayalbagh, Agra. From a School, it developed into a college providing for diploma courses in Electrical and Mechanical Engineering of four years duration and a certificate course in Automobile Engineering of two years duration. In the post-independence period, the Government of India appointed a committee under the chairmanship of the late Dr. Shanti Swaroop Bhatnagar to inspect the college for its further development. The committee recommended raising of the teaching in the college to the degree standard. As a result of the recommendations of the committee, the new degree college, known as the Engineering College, Dayalbagh, Agra, was started in 1950, and was affiliated to the Agra University the same year.

6.2. The duration of the courses is four years. The annual intake is 60, i.e., 30 for Mechanical Engineering and 30 for Electrical Engineering. In the year 1963 and 1964, the college admitted 70 students and it admitted 80 students in 1965 due to emergency.

Allahabad Agricultural Institute, Allahabad

7. A three years' degree course leading to B.Sc. Agricultural Engineering was started in 1942, by the University of Allahabad in the Allahabad Agricultural Institute, Allahabad, as an associate college of the University. Students who have passed Intermediate in Agriculture of the Board of High School and Intermediate Education, Uttar Pradesh, are admitted to the course. The intake was increased from 30 to 40 in 1961. The duration of the course was raised to four years in 1964.

Government Central Textile Institute, Kanpur

8. An institution called the Government School of Dyeing and Printing was established in 1914 at Kanpur by the late Sir J. P. Srivastava, with a two year Foreman Dyer's Course. In 1923, the Textile Technology Department of Thomason College of Engineering, Roorkee, was shifted to Kanpur and set up at its present location and named as Government Textile School. In 1938, both the schools were amalgamated into one and named as Government Central Textile Institute, Kanpur and two diploma courses of three years duration, one in Textile Technology and another in Chemical Technology of Textiles (Textile Chemistry) were started under the administrative control of the Director of Industries (now under the Directorate of Technical Education). In 1953, the courses were re-oriented and four years diploma courses were started instead of the existing three year courses, but these were discontinued in 1959. In 1958, a degree course of four years duration in Textile Technology and Textile Chemistry leading to B. (Text) was started and the institute was affiliated to the Agra University. A proposal to start post-graduate courses in Textile Technology and Textile Chemistry is under consideration.

Motilal Nehru Engineering College, Allahabad

9.1. The Motilal Nehru Engineering College, Allahabad, was started in 1961, and is one of the eight regional engineering colleges sponsored by the Government of India during the Second Five-Year Plan. The other seven colleges opened in the Second Five-Year Plan are located at Srinagar (Kashmir), Surathkal (Mysore), Durgapur (Bengal), Jamshedpur (Bihar), Bhopal (Madhya Pradesh), Nagpur (Maharashtra) and Warrangal (Andhra Pradesh). The College is, therefore, a joint enterprise of the Government of India and the State Government. It is a residential institution with degree courses in Civil, Electrical and Mechanical Engineering each of four years duration and admissions are open to the students of both sexes drawn from all over the country.

9.2. The college is situated on the right bank of the river Ganga facing the Northern Regional School of Printing Technology. The college is under the control of Moti Lal Nehru Regional Engineering College Society, registered under the Societies' Registration Act, 1860 and functions as an autonomous

organisation for purposes of administration and finance. The administration is exercised on behalf of the Society by a Board of Governors. The college is affiliated to the Allahabad University.

9.3. The intake of the college is proposed to be increased from 250 to 360 during 1966-67. A proposal to start the following courses with an intake of 30 students in each course during the Fourth Plan is under consideration :

- (i) Metallurgical Engineering.
- (ii) Architecture.
- (iii) Aeronautical Engineering.
- (iv) Tele-Communication Engineering.

Indian Institute of Technology, Kanpur

10.1. The Indian Institute of Technology at Kanpur, set up in 1960, is the fourth institution in the chain of higher technological institutions set up by the Government of India, in pursuance of the recommendations of the Sarkar Committee appointed in 1945. The other three institutions have been set up at Kharagpur, Madras and Bombay. Subsequently the College of Engineering and Technology, Delhi, started in 1961, was also raised to the status of an Indian Institute of Technology. The Institute is an autonomous organisation set up by the Government of India. It is incorporated under an Act of Parliament and has been declared to be an institution of national importance and has the status of a University.

10.2. From its very inception, Indian Institute of Technology, Kanpur has sought to develop an excellent institution of Engineering and Scientific Research in tune with the spirit of the contemporary India. The Institution is receiving substantial assistance from the A. I. D. of the United States of America. Nine leading American Institute [California Institute of Technology; Carnegie Institute of Technology; Case Institute of Technology; Massachusetts Institute of Technology; Ohio State University; Princeton University; Purdue University; University of California (Berkeley); and University of Michigan], are participating in a group effort to develop this Institute and they have established into a consortium for the purpose. Development process is mainly being carried out in the sphere of curricula, teaching methods, new research programmes and modern laboratory equipment.

10.3. The institute is residential and all the students are required to stay in the Halls of Residence, provided by the Institute.

Madan Mohan Malviya Engineering College, Gorakhpur

11.1. The Madan Mohan Malaviya Engineering College, Gorakhpur, was set up by the State Government during the Third Five-Year Plan with an intake of 120 students for conducting degree courses in Civil, Electrical and Mechanical Engineering. The college started functioning from the session 1962-63. Due to limitation of space only 60 students are being admitted at present. From

the session 1966-67, it is expected that it would be possible to admit at least 120 students.

11.2. The College is affiliated to Gorakhpur University in which a separate Faculty of Engineering and Technology is being created. It is administered by an autonomous management called the Board of Governors registered under the Societies' Registration Act, 1860. It has already been approved for an intake of 250 students in Civil, Electrical and Mechanical Engineering. There is a proposal to increase its capacity to 360 and to add courses in Metallurgy and Chemical Engineering with 30 seats in each course during the Fourth Five-Year Plan.

**U. P. Agricultural University, Pantnagar (Naini Tal):
College of Agricultural Engineering and Technology**

12. The U. P. Agricultural University was established at Pantnagar (Naini Tal) in 1960, for degree courses in Agriculture and Animal Husbandry. In 1962, a College of Agricultural Engineering and Technology was also started under the University for a course in Agricultural Engineering with an intake of 75 students.

Fourth Plan Proposals

13. Proposals are under consideration of the State Government to start three new degree Engineering Colleges during the Fourth Plan at Rudrapur (Naini Tal), Lucknow and Jhansi, besides the increase in seats and addition of new courses in the existing institutions.

CHAPTER IV

DIPLOMA INSTITUTIONS

Administration

1.1. Until June 1961, the work relating to diploma institutions as well as the Board of Technical Education was distributed between three departments of the Government viz., Power, Industries, and General Administration Department. Some of the diploma institutions were being supervised by Government in the Power Department, those run by the Government were the concern of the Industries Department and the Board itself was set up by Government in the General Administration Department. In order, however, to achieve a better co-ordination of activities of the Government, it was decided to transfer all work relating to diploma institutions as well as that of the Board to the Industries Department. When a new Department of Technical Education was set up in 1965, all work relating to diploma institutions including that of the Board of Technical Education was entrusted to this Department. Most of the work relating to certificate courses hitherto done in the Industries Department has been transferred to Labour Department.

1.2. The Managing Committees of Diploma Institutions which are being given grants-in-aid by the State and Central Governments are constituted at present on three patterns. Some of these, such as the Hewett Polytechnic, Lucknow; Lucknow Polytechnic, Lucknow; P. M. V. Polytechnic, Mathura and Technical College, Dayalbagh, Agra have about 50 per cent representatives of the Societies which originally set up the institutions and about 50 per cent of the Central and State Governments, the All-India Council for Technical Education and the Board. The Naini Tal Polytechnic, Naini Tal; Handia Polytechnic, Handia (Allahabad); and Chandauli Polytechnic, Chandauli (Varanasi); have Managing Committees which are almost entirely composed of nominees of the State and Central Governments, the All-India Council for Technical Education and the Board. The M. P. Polytechnic, Gorakhpur; Town Polytechnic, Ballia; Allahabad Polytechnic, Allahabad; Gandhi Polytechnic, Muzaffarnagar; D. J. Polytechnic, Baraut (Meerut); K. L. Polytechnic, Roorkee and D. N. Polytechnic, Meerut have Managing Committees with three representatives of the Societies which originally set up the institutions and rest as representatives of the Central and State Governments, the Board and the All-India Council for Technical Education.

Courses of the Diploma Level

2.1. The more commonly known courses of the diploma level are the three years diploma courses in Civil, Electrical and Mechanical Engineering.

Other diploma courses are those in Leather Technology (Tanning) ; Textile Technology ; Textile Chemistry ; Printing Technology (Letter Press Printing) ; Printing Technology (Lithography) ; Architectural Assistantship ; Electronics ; Stenography and Secretarial Practice and Pulp and Paper Technology. Two years' diploma courses in Civil Engineering (Civil Construction Technology) , Mechanical Engineering (Machine Tool Technology) and Electrical Engineering have been started in 1964. A diploma course in Automobile Engineering is proposed to be started from next year. Courses in Pharmacy, Costume Design and Dress Making and a course for Chemical Operators are under consideration. In one or two places outside the State, a diploma course in Mining is also offered, but it has not yet been introduced in any institution in this State.

2.2. Prior to 1957, diploma courses offered in engineering were of two different forms. One was the Overseer Certificate course of two years' duration offered at a large number of private Civil Engineering Schools and at the Universities of Roorkee and Aligarh. The other was the diploma course in Electrical and Mechanical Engineering of three years duration offered in most of the technical institutes run by the Directorate of Industries and in Aligarh University. It was at the beginning of the Second Plan, that on the recommendations of the All-India Council for Technical Education, it was considered desirable to prescribe a syllabus of uniform pattern for these courses. The Government of India subsequently prescribed a three years' National Certificate Course in Civil, Mechanical and Electrical Engineering. This is the course known as the Diploma course in Civil, Mechanical or Electrical Engineering. In this State the three years' course was introduced in all the institutions in 1957, excepting those imparting Overseer Certificate courses. In the case of the latter, the three years' course was introduced in 1958. Another significant change that was introduced at the instance of the Government of India was that each institution catering for all the three courses should be known as a polytechnic. A Polytechnic, therefore, is ordinarily an engineering institution where training of the diploma level in the subjects of Civil, Mechanical and Electrical Engineering is imparted. Institutions which provide for education or training at the certificate level do not qualify to be called Polytechnics.

Government Polytechnic, Lucknow

3. The oldest technical institute in Uttar Pradesh is the Government Technical Institute, Lucknow, which was set up in 1892, under the name of 'Industrial School'. Railway apprentices required for Locomotive and Carriage Workshops were sent for free training by mutual arrangement between the then Government of United Provinces and the East Indian Railway. In 1910 this institution was renamed as 'Technical School'. During the period 1911-1919 on an average 50 boys were admitted per year for a course of two years' duration and a certificate was awarded to successful trainees. The institute was re-organised for the second time in 1931 and a combined Electrical and Mechanical Engineering Diploma course was introduced and the intake was

fixed at 40 during the period from 1931 to 1950. During the Second Five-Year Plan, the All-India Council for Technical Education recommended re-organisation of the institute and in 1957, the intake was increased to 210 under an expansion programme and a new diploma course in Civil Engineering was added. The combined course in Electrical and Mechanical Engineering was also separated into two separate courses. The intake was increased to 240 in 1960. The institute was re-named as Government Polytechnic in 1961. The intake was increased to 300 in 1963. From 1964, two years' diploma courses in Civil Engineering (Civil Construction Technology), Mechanical Engineering (Machine Tool Technology) and Electrical Engineering have been started with Intermediate Science as admission qualification instead of the three years' courses.

Government Polytechnic, Gorakhpur

4. Another technical institution called 'Government Technical School, Gorakhpur' was set up at Gorakhpur in 1909, with the object of imparting practical and theoretical training at two levels—one for training of mechanics, the other for turning out skilled workers or artisans. Training was given in Electrical and Mechanical trades. Certificates were awarded on the successful completion of the course. The mechanics course in Electrical and Mechanical trade was of a higher level than artisan course. The school was raised to the status of Government Technical Institute in 1939. In the meanwhile in 1931-32, the mechanics certificate course in Electrical and Mechanical Engineering was raised to the standard of a diploma. In 1947, the minimum qualification for admission to the diploma course was raised from 'read up to High School' to High School pass. Till 1957, the diploma course used to be a combined one in Electrical and Mechanical Engineering and in the final year students were given the choice to take either Electrical or Mechanical Engineering. But after 1957, the two courses were separated, the admission capacity was raised from 35 to 200 annually and a diploma course in Civil Engineering was also introduced. In 1959, the admission capacity of the institute was raised to 210. The capacity was further increased to 240 in 1960. The institute has been developed according to the standards laid down by the All-India Council for Technical Education. The Institute was renamed as Government Polytechnic in 1961. The intake was increased to 300 in 1963.

P. M. V. Polytechnic, Mathura

5. In 1909, a private institution for general education was started at Vrindaban by Raja Mahendra Pratap with classes in Carpentry, Drawing, Commerce and Pottery. Later on, more industrial subjects were introduced. In 1923, an Industrial class was also started by the Vidyalyaya. In the Industrial class, industrial subjects were taught in combination with literary subjects. The industrial subjects included (i) Mechanical Engineering, (ii) Carpentry, (iii) Carpet Weaving, (iv) Weaving, (v) Ceramics and Pottery, (vi) Moulding and (vii) Fitting. The students and the staff of this institution took part in

the freedom movement in 1930 which resulted in the closure of the institute in 1932. When popular Government came into power in 1938 in the State, the Vidyalaya was re-opened and it was decided to shift the engineering section of the Vidyalaya from Vrindaban to Prem Nagar, which is almost two miles from Mathura and it was re-named as Prem Maha Vidyalaya Engineering College. It started to teach Mechanical Engineering with a three years' course with the minimum admission qualification as Matriculation or its equivalent with Science and Mathematics. The examinations were conducted by the college itself. After Independence, the college started receiving grants-in-aid from the Director of Industries, Uttar Pradesh who from 1951, started conducting the examinations also and the State Government recognised the previous diplomas of the institute if the diploma holders could produce a certificate of five years' satisfactory service in a workshop. The Government of India and the State Government sanctioned grants-in-aid in 1954 to develop the college on the pattern suggested by the All-India Council for Technical Education. The name of the institute was changed to P. M. V. Technical Institute in 1958 and then to P. M. V. Polytechnic in 1961. From 1960 it has started all the three diploma courses i.e. Civil, Electrical and Mechanical Engineering. The present intake is 180.

Technical College, Dayalbagh, Agra

6. The initial start and development of Technical College, Dayalbagh, Agra, has already been described in Chapter III on Post-graduate and Degree Institutions. It has been stated that the authorities of the Sabha did not agree to raise the existing diploma institute to degree standard but decided to set up a new degree college in engineering. The Technical College was, therefore, developed for diploma courses of three years duration according to the standards prescribed by the All-India Council for Technical Education. A three years' diploma course in Automobile Engineering was also started in the college in 1957, on the recommendations of the Government of India. Subsequently in 1958, the Government of India recommended that the separate diploma course in Automobile Engineering should be abolished and in its place a one year post diploma course in Automobile Engineering should be introduced which should be open to those students who have already passed a three years' diploma course in Mechanical Engineering. As a result the three years' diploma course was abolished and the two years' Certificate Course was again started in 1959. A post-diploma course in Automobile Engineering was started in 1964. Now the Government of India have recommended for a three years' diploma course in Automobile Engineering which course is proposed to be started in the College from 1966 and the two years' Certificate Course would be abolished.

Hewett Polytechnic, Lucknow

7. The first overseer school, in U. P. was the Hewett Engineering School which was started in 1904, on a very small scale and a variety of courses of one to two years duration were offered. A few students who passed out the Overseer Certificate Course did very well in the Engineering Departments of Railways

and Public Works with the result that these departments gradually started recognising the utility of this school. Up to 1934, the institution was conducting its own examinations. Then the Registrar, Departmental Examinations, U. P., under control of Director of Public Instructions, Uttar Pradesh, started conducting the final year examination and granted the Overseer Certificate to the successful candidates. From 1943, onwards the final examinations were conducted by the Principal Thomason College of Engineering, Roorkee and this continued up to 1951, when the Controller of Examinations, Lucknow Engineering Schools, Roorkee started conducting the examinations. The Ad Hoc Board of Engineering Education which was set up at Roorkee started conducting the examination in 1956. In 1958, the two years' Overseer Certificate Course was converted into a three years' Diploma Course in Civil Engineering on the recommendations of the All-India Council for Technical Education and the institute was included amongst the institutions adopted for development as aided institutions. In 1961, diploma courses in the remaining two branches i.e., Electrical and Mechanical Engineering were added and the institute converted into a Polytechnic. The present intake is 240 and it is proposed to increase it to 300 from 1966. Four years' part time diploma courses in Civil, Electrical and Mechanical Engineering were also started at this Polytechnic in 1964, with an intake of 120 students. The courses are meant for those persons who are already in employment of a technical nature and are at least High School pass.

Government College of Arts and Crafts, Lucknow

8. The Government College of Arts and Crafts, Lucknow was established in 1911, as a result of the recommendations of the Industrial Conference held in 1907. The main aim of establishing the school was to improve design and to create taste therefor among the public. Alongwith the courses in Fine Arts Commercial Art, Litho Process, a five years' course in Architectural Draughtsman was also started which was subsequently named as Architectural Design and Draughtsman class. This course was abolished in 1955 and a five years' diploma course in Architecture was started in 1956, which was converted into a three years' course in 1960 and the college was affiliated to the Board of Technical Education. Even this course had to be abolished in 1961 on the recommendations of Government of India and a diploma course in Architectural Assistantship of three years' duration was started in 1962, for which the college is affiliated to the Board. The diploma course in Architectural Assistantship is recognised by the Government of India. Courses in Fine Art, Commercial Art and Sculpture have been re-organised on the pattern of National Diploma of the All-India Council for Technical Education. Proposals for introduction of new courses in Interior Design and Photography are under consideration of the State Government

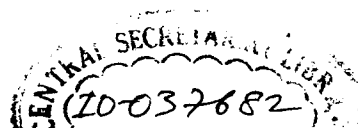
Government Leather Institute, Kanpur.

9. In 1916 the Government Leather Working School was set up at Kanpur in order to assist in the development of leather industry and it started with only

five students on the roll. The School was open to artisans and a certificate in leather goods manufacture was awarded. Up to 1953, only one course of study was available, but when the Board of High School and Intermediate Education introduced a High School Examination in leather technique, a course of High School (Tech.), in Leather was introduced. The school was provided with its own buildings in 1953. During the Second Five-Year Plan a two years' Post-Matriculate Certificate Course in Leather Goods Manufacture and a diploma course of two years' duration in Leather Technology (Tanning) were introduced in 1957 and 1958 respectively. The Board conducts the examination of the two years' diploma course in Leather Technology (Tanning) as the All-India Council for Technical Education approved this course only at that stage. The examinations of other courses are conducted by the Directorate of Technical Education. In 1958, the name of the Institute was changed to Government Leather Institute, Kanpur. The institute attracts students from all-parts of India, middle eastern countries and Africa. The question of conduct of examination by the Board in the Post-Matriculate Certificate course of Leather Goods Manufacture is under its consideration.

Lucknow Polytechnic, Lucknow

10. The Civil Engineering School, Lucknow was started in 1922, by the Hindu Education Society with Overseer and Sub-overseer classes of eighteen months and twelve months duration respectively with not more than two dozen students. The admission was open even to non-matriculates. A Board of Examiners used to conduct the examinations. In 1931, the institute opened a Sub-Engineer class with two years' course and admitted Intermediate pass and good High School pass students and renamed it as Civil Engineering College, Lucknow. The institute was not recognised till 1934, when the Provincial Government in the Education Department agreed to recognise it. As a condition of the grant of this recognition, the college was re-named "Civil Engineering School Lucknow" and all the classes except the overseer class were abolished. A two years' course of study for the overseer class was prescribed and only matriculates were admitted to it with an intake of 60. The Board of Examiners was abolished and the examination came to be conducted by the Registrar, Departmental Examinations, Uttar Pradesh from 1936. In 1939, grant-in-aid was for the first time given to the School. In 1943, the State Government decided to have a common examination for overseer classes at two centres i.e., Roorkee and Lucknow and this examination was to be conducted by the Principal, Thomason College of Civil Engineering, Roorkee. Later on the Ad Hoc Board took over this work. Gradually as the demand for trained overseers increased, the intake was increased to 90 and then to 120. During the First Five-Year Plan the intake of this school was further increased from 120 in 1950 to 340 in 1955. The school was running the two years' Overseer Certificate Course till 1958, when the three years' course was introduced with a reduced intake of 120 students only. The intake was reduced partly because the demand for civil overseers was gradually declining and partly



because the Government of India, while accepting to develop the school, recommended the reduction of its intake on the standard pattern of the intake of 120 students. A Draughtsman (Civil) course with an intake of 30 students was also introduced, but no classes could be run on account of poor response from candidates. Owing to the expansion of the school and the inadequacy of the buildings, it was decided by its management to shift it to a new location on the Kanpur-Road where the present buildings stand. With the help of grants from the State and Central Governments, the standard accommodation required has been provided at the new location. The school started Electrical and Mechanical Engineering Diploma Courses also from 1961 with the redistributed intake of 120 into 60 for Civil, 30 for Electrical and 30 for Mechanical Engineering and it was renamed as Lucknow Polytechnic. The present intake is 240.

Government Central Textile Institute, Kanpur

11. The Government Central Textile Institute at Kanpur has already been mentioned in Chapter II. It has been stated that in 1959 the four years' Diploma courses in Textile Technology and Textile Chemistry (Chemical Technology of Textiles) were abolished. In the same year, three years' diploma courses in both the branches were started and the institute was affiliated to the Board for the diploma course. The sanctioned intake in the diploma courses in Textile Technology and Textile Chemistry is 20 and 10 respectively.

M. G. Polytechnic, Hathras

12. The institution was started in 1955, when the Murlidhar Gajanand Educational Trust handed over to the State Government an area of 32 acres of land and a building—constructed for starting a degree college—for setting up a technical institute at Hathras and the State Government accepted the offer of the institution. The first batch of students was admitted in 1955 and two years' courses in Surveyors, Computers and Draughtsman (Civil) were started. It is administered by a Managing Committee of which the Director of Technical Education is the *ex-officio* Chairman. The Surveyors and Computers courses were, however, abolished in 1959 and a three years' diploma course in Civil Engineering with an intake of 60 students was started. Diploma courses in Electrical and Mechanical Engineering were added in 1960 with an intake of 30 in each of the two courses. The total intake now is 180.

13. During the First Plan, building activity increased and there was a great demand for civil overseers and similar demand during the Second Five-Year Plan was anticipated. The existing institutions were inadequate for the large demand that existed and a number of Civil Overseer institutions were started by private bodies during the years 1954–56 for teaching the Overseer Certificate Course of two years duration. Some institutions were also set up with the assistance of Government. Most of the institutions set up privately did not possess adequate facilities of accommodation, equipment and staff. Towards the end of the Second Five-Year Plan, the propriety of continuance

of these institutions, therefore, began to be questioned. In January, 1959, the Board of Technical Education was entrusted with the task of inspecting each institution with a view to examine the facilities available and to assess whether or not they were fit for grant of affiliation with the Board. As a result of the recommendations made by the Board, two institutions at Meerut were merged into one. The K. P. Engineering Institute at Allahabad set up by Kayastha Pathshala Society in 1956; the D. B. S. Engineering College at Kanpur set up in 1956 by D. A. V. College Trust and Management Society, Kanpur; the Gandhi Vidya Niketan Government Technical Training Centre (Overseer Class only), Naini Tal started in 1955 by the Harijan and Social Welfare Department and the Engineering Vocational School at Lucknow set up by Hindu Education Society in 1954 closed down. The remaining seven private institutions affiliated to the Board and developed during the Third Five-Year Plan are described in the following paragraphs.

Allahabad Polytechnic, Allahabad

14. The institution was started in 1955 by Harijan Sewak Sangh, Allahabad as "Civil Engineering School" for training of Civil Overseers. In 1957 a separate Society, "The Institute of Engineering Technology Society" was registered. The school admitted 450 students in 1955 and 700 in 1956 in the Civil Engineering course. One batch in Electrical and Mechanical Engineering was also admitted in 1957. The courses were of two years duration. On the recommendation of the All-India Council for Technical Education, the Civil Overseer course was converted into a three years' diploma course in Civil Engineering in 1958. The intake was reduced to 120 the same year. On the recommendation of the Board of Technical Education, the intake was further reduced to 60 in 1959. Subsequently in 1962, the school was accepted by the State Government for development under the Third Five-Year Plan and it was transferred under the management of a new Managing Committee constituted by the State Government with the Director of Technical Education as its *ex-officio* Chairman. The institution started developing according to the standards laid down by the All-India Council for Technical Education and the name of institute was changed to Allahabad Polytechnic. The intake was increased to 120 in 1962. Diploma courses in Electrical and Mechanical Engineering were also added the same year. The present intake is 180 and it is proposed to increase it to 300 from 1966.

K. L. Polytechnic, Roorkee

15. The institution was started in 1956 by Kanhaiya Lal Education Trust as "K. L. Technical Institute" for training of Civil Overseers. The institute admitted 238 students in 1956 and 148 in 1957, in the Civil Engineering course. The course was of two years duration. On the recommendation of the All-India Council for Technical Education, this was converted into a three years' diploma course in Civil Engineering in 1958.

On the recommendation of the Board of Technical Education, the intake was reduced to 60 in 1959. Subsequently in 1962-63, the institute was accepted by the State Government for development under the Third Five-Year Plan and it was transferred under the management of a new Managing Committee constituted by the State Government with the Director of Technical Education as its *ex-officio* Chairman. The institution started developing according to the standards laid down by the All-India Council for Technical Education and the name of institute was changed to K. L. Polytechnic in 1962. The intake was increased to 150 in 1963. Diploma Courses in Electrical and Mechanical Engineering were also added the same year. The present intake is 180 and it is proposed to increase it to 240 from 1966.

D. N. Polytechnic, Meerut

16. A institution was started in 1956 by D. N. College Association, Meerut as "Deva Nagri Institute of Engineering" to train Civil Overseers. Another similar institution called "Civil Engineering College, Meerut" had also been started in 1956, by the Civil Engineering Association, Meerut to train Civil Overseers. The D. N. Institute of Engineering had admitted 112 students in 1956 and 78 students in 1957 in the Civil Engineering course and the Civil Engineering College had admitted 254 and 144 students in 1956 and 1957 respectively. The course was of two years duration. On the recommendation of the All-India Council for Technical Education, this was converted into a three years' diploma course in Civil Engineering in 1958. Further on the recommendation of the Board of Technical Education, both these institutions were merged into one institution in 1959, as "D. N. Technical Institute, Meerut" and the intake was reduced to 60. Subsequently in 1962, the institute was accepted for development during the Third Five-Year Plan and it was transferred under the management of a new Managing Committee constituted by the State Government with the Director of Technical Education as its *ex-officio* Chairman. The institute started developing according to the standards laid down by the All-India Council for Technical Education and the name of the institute was changed to D. N. Polytechnic, in 1962. Courses in Electrical and Mechanical Engineering were also added the same year. The intake was increased to 150 in 1964. It is proposed to increase the intake to 180 from 1966.

D. J. Polytechnic, Baraut (Meerut)

17. The institution was started in 1956, by D. Jain High School Association as "D. J. Engineering Institute" to train Civil Overseers. The institute admitted 153 students in 1956 and 60 in 1957 in the Civil Engineering Course. The course was of two years duration. On the recommendation of the All-India Council for Technical Education, this was converted into a three years' diploma course in Civil Engineering in 1958. Subsequently in 1962 the institute was accepted by the State Government for development under the Third Five-Year Plan and it was transferred

under the management of a new Managing Committee constituted by the State Government with the Director of Technical Education as its *ex-officio* Chairman. The institution started developing according to the standards laid down by All-India Council for Technical Education and the name of the institute was changed to D. J. Polytechnic in 1962. Courses in Electrical and Mechanical Engineering were also added the same year. The intake was also increased to 120 in 1962.

Gandhi Polytechnic, Muzaffarnagar

18. The institution was started in 1956, by Gandhi Education Council, Muzaffarnagar, as "Gandhi Engineering Institute" to train Civil Overseers. The institute admitted 130 students in 1956. The course was of two years duration. On the recommendation of the All-India Council for Technical Education, this was converted into a three years' diploma course in Civil Engineering in 1958. Further on the recommendation of the Board of Technical Education, the intake was reduced to 60 in 1959. Subsequently in 1962-63 the institute was accepted by the State Government for development under the Third Five-Year Plan and it was transferred under the management of a new Managing Committee constituted by the State Government with the Director of Technical Education as its *ex-officio* Chairman. The institution started developing according to the standards laid down by the All-India Council for Technical Education and the name of the institute was changed to Gandhi Polytechnic in 1962. Diploma courses in Electrical and Mechanical Engineering were added the same year and the intake also increased to 120.

M. P. Polytechnic, Gorakhpur

19. The institution was started in 1956 by Maharana Pratap Shiksha Parishad Society, Gorakhpur, as "Maharana Pratap Engineering Institute" to train Civil Overseers. The institute admitted 226 students in 1956 and 120 in 1957, in the Civil Engineering course. The course was of two years duration. On the recommendation of the All-India Council for Technical Education this was converted into a three years' diploma course in Civil Engineering in 1958. Further on the recommendation of the Board of Technical Education, the intake was reduced to 60 in 1959. Subsequently in 1962, the institute was accepted by the State Government for development under the Third Five-Year Plan and it was transferred under the management of a new Managing Committee constituted by the State Government with the Director of Technical Education as its *ex-officio* Chairman. The institution started developing according to the standards laid down by the All-India Council for Technical Education and the name of the institute was changed to M. P. Polytechnic in 1962. The intake was increased to 120 in 1963. Diploma courses in Electrical and Mechanical Engineering were also added the same year.

Town Polytechnic, Ballia

20. The institution was started in 1956, by the Town College Society, Ballia, as "Civil Engineering School" to train Civil Overseers. The School admitted 282 students in 1956, in the Civil Engineering Course. The course was of two years duration. On the recommendation of the All-India Council for Technical Education this was converted into a three years' diploma course in Civil Engineering in 1958. Further on the recommendation of the Board of Technical Education, the intake was reduced to 60 in 1959. Subsequently in 1962, the school was accepted by the State Government for development under the Third Five-Year Plan and it was transferred under the management of a new Managing Committee constituted by the State Government with the Director of Technical Education as its *ex-officio* Chairman. The Institution started developing according to the standards laid down by the All-India Council for Technical Education and the name of the institute was changed to Town Polytechnic, in 1962. Diploma courses in Electrical and Mechanical Engineering were added from 1965. The present intake is 60.

Handia Polytechnic, Handia (Allahabad)

21. The institution was set up by the State Government in Power Department in 1957, under the Second Five-Year Plan as "Technical Institute" with an autonomous Managing Committee. To start with, 60 students were admitted in the Civil Engineering course. The course was of two years duration. On the recommendation of the All-India Council for Technical Education, this was converted into a three years' diploma course in 1958. Courses in Electrical and Mechanical Engineering were also added in 1962 and the name of the institute was changed to Handia Polytechnic the same year. The present intake is 120.

Chandauli Polytechnic, Chandauli (Varanasi)

22. This institution was set up by the State Government in Power Department in 1957, under the Second Five-Year Plan as 'Civil Engineering School' with an autonomous Managing Committee. To start with 60 students were admitted in the Civil Engineering course. The course was of two years duration. On the recommendation of the All-India Council for Technical Education, this was converted into a three years' diploma course in 1958. The name of the school was changed to Chandauli Polytechnic in 1962. Courses in Electrical and Mechanical Engineering were added in 1963. The present intake is 120.

Naini Tal Polytechnic, Naini Tal

23. This institution was set up by the State Government in Power Department in 1957 under the Second Five-Year Plan as 'Overseer School' with an autonomous Managing Committee. To start with 60 students were admitted in the Civil Engineering course. The course was of two years duration. On the recommendation of All-India

Council for Technical Education, this was converted into a three years' diploma course in 1958. Courses in Electrical and Mechanical Engineering were added in 1962 and intake increased to 120. The name of the school was changed to Naini Tal Polytechnic the same year. The intake was further increased to 180 in 1963. From 1964, two years' diploma courses in Civil Engineering (Civil Construction Technology), Mechanical Engineering (Machine Tool Technology) and Electrical Engineering have been started with Intermediate Science as admission qualification instead of the three years' courses.

Northern Regional Institute of Printing Technology, Allahabad

24.1. The Northern Regional School of Printing Technology was started at Allahabad in 1957. It is one of the four regional institutes which the Government of India, on the recommendation of the All-India Board of Technical Studies in Applied Arts, decided to set up in the country to impart training in Printing and Allied Technology and Graphic Arts. The other three institutes have been set up at Calcutta, Bombay and Madras. Allahabad offered special advantages for the printing school as it is the traditional centre of the printing industry in U. P. and the Government Press is also situated there. The School caters for the needs of all States in the Northern Region viz., Uttar Pradesh, Rajasthan, Punjab, Delhi, Jammu and Kashmir and Himachal Pradesh.

24.2. The courses in the school were started with the object of training skilled craftsmen and technicians in different printing trades. Full-time and part-time courses in (i) Hand Composing, (ii) Letter Press Printing, (iii) Lino and Intertype, (iv) Monotype, (v) Binding and Stationery Manufacture and (vi) Photo-engraving were started. The intake is 60 and this is distributed as follows :

						Per cent
Uttar Pradesh .. .. .	..	..	..	..	..	50
Punjab .. .. .	..	..	..	..	..	15
Delhi .. .. .	..	..	..	..	..	15
Rajasthan .. .. .	..	..	..	..	..	15
Jammu and Kashmir .. .. .	..	..	..	..	..	4
Himachal Pradesh .. .. .	..	..	..	..	..	1

24.3. In 1960, the above courses were reorganised into a three years' diploma course, according to the syllabus prescribed by the All-India Board of Technical Studies in Applied Arts and two diploma courses : one in Letter Press Printing and another in Lithography were introduced. Four years' part-time courses are also running in the same subjects.

Seth Ganga Sagar Jatia Polytechnic, Khurja

25. Shrimati Indermani Jatia donated a sum of Rs.10 lakhs for the establishment of a Polytechnic at Khurja. A Government diploma institute was thus set up in 1960 in the name of Seth Ganga Sagar Jatia Technical Institute. The institute was subsequently renamed as Seth Ganga Sagar Jatia Polytechnic. In the first year of the establishment, only 60 students were admitted but in

1961, 120 students viz., 60 for Civil, 30 for Electrical and 30 for Mechanical Engineering were admitted. The total intake now is 180.

Government Polytechnic, Clutterbuckganj, Bareilly

26. A diploma institution was set up by the State Government at Bareilly in 1960 as 'New Diploma Institute' and to start with 60 students were admitted in Civil, Electrical and Mechanical Engineering. The name of the Institute was changed to Government Polytechnic in 1962. The present intake is 180 and it is proposed to increase it to 240 from 1966.

Government Polytechnic, Jhansi

27. A diploma institution was set up by the State Government at Jhansi in 1960 as 'New Diploma Institute' and to start with 60 students were admitted in Civil, Electrical and Mechanical Engineering. The name of the institute was changed to Government Polytechnic in 1962. The present intake is 180 and it is proposed to increase it to 240 from 1966.

Government Polytechnic, Kanpur

28. This institution was set up by the State Government in the Second Five-Year Plan. It admitted the first batch in 1962. To start with, 60 students were admitted in Civil, Electrical and Mechanical Engineering. Its present intake is 240 and it is proposed to increase it to 300 from 1966. Kanpur being an industrial town, part-time diploma courses of four years duration in Civil, Electrical and Mechanical Engineering were also started at this polytechnic in 1964 with an intake of 100 students. The courses are meant for those persons who are already in employment of a technical nature and are at least High School pass.

Government Polytechnic, Faizabad

29. This institution was set up by the State Government during the Second Five-Year Plan. It admitted the first batch in 1963. To start with 60 students were admitted in Civil, Electrical and Mechanical Engineering. Its present intake is 120 and it is proposed to increase it to 180 from 1966.

Government Polytechnic, Azamgarh

30. This institution has been set up during the Third Five-Year Plan. It admitted the first batch in 1963. To start with 60 students were admitted in Civil, Electrical and Mechanical Engineering. Its present intake is 120 and it is proposed to increase it to 180 from 1966.

Government Leather Institute, Agra

31. A diploma institute in Leather Technology was set up at Agra in 1963 with an intake of 10 students in Leather Technology (Tanning). A Post-matriculate course of two years' duration in Leather Goods' Manufacture is also running with an intake of 20 students.

Girls' Polytechnic, Lucknow

32. A Girls' Polytechnic was set up at Lucknow in 1963. The object is to train girls so as to make them productive members of the community and to enable them to find gainful employment outside their domestic duties without their necessarily looking on marriage as a secure career. There are, however, certain difficulties in a project of this type. Vocational education for girls and women, to equip them for taking up specific occupations, is a relatively new concept in this country; such a training is a matter of comparatively recent development even in the West. On an experimental basis diploma courses in (i) Electronics, (ii) Stenography and Secretarial Practice, and (iii) Architectural Assistantship were started. Courses in Costume Design and Dress-Making and Pharmacy are under consideration of the State Government.

Government Polytechnic, Mirzapur

33. This institution is one of the government polytechnics which was to be set up during the Second Five-Year Plan. It, however, started functioning in 1964 with an intake of 120 students and courses in Civil, Electrical and Mechanical Engineering. It is proposed to increase its intake to 180 from 1966.

Government Polytechnic, Moradabad

34. This institution has been set up during the Third Five-Year Plan. It admitted the first batch in 1964. To start with 60 students were admitted in Civil, Electrical and Mechanical Engineering. Its present intake is 180 and it is proposed to increase it to 240 from 1966.

Government Polytechnics at Gonda and Basti

35. These two institutions have been set up under the Third Five-Year Plan, and have started functioning from 1965 with courses in Civil, Electrical and Mechanical Engineering. The intake was 60 at Gonda and 90 at Basti. It is proposed to increase the intake to 120 in each institution from 1966.

School of Paper Technology, Saharanpur

36. The school has been set up to meet the need of technical personnel of the Paper Industry, under the Swedish Aid Programme and in co-operation with the Paper Industry in the country for diploma and certificate courses in Pulp and Paper Technology. It is a joint enterprise of the Government of India and the State Government. It started functioning from January, 1965 and to start with admitted fifteen students in the two years' Diploma course for Science Graduates and thirty students in the three years' Operative Certificate Course. It is administered by an autonomous Board of Management and the Secretary to Government, Uttar Pradesh, Technical Education Department is *ex-officio* Chairman of the Board. The sanctioned intake is 30 for the diploma course and 60 for the certificate course. Diploma course for "Operatives from Industry" and "Specialist Mechanics" certificate courses are also proposed in the scheme.

Muslim University Polytechnic, Aligarh

37. A Polytechnic was started in the Muslim University, Aligarh, in 1955 and since then the Diploma Courses in Civil, Electrical and Mechanical Engineering leading to a Diploma of the University are being run by the polytechnic. The intake is 240 of which 120 is for Civil, 60 for Mechanical and 60 for Electrical Engineering. It is proposed to start two years' diploma courses in (i) Civil Construction Technology, (ii) Electronic Technology and (iii) Machine Shop Technology with Higher Secondary as admission qualification from the year 1966. It is also proposed to set up a Women's Polytechnic with courses in (i) Architectural Assistantship (ii) Costume Design and Dress Making and (iii) Electronic Engineering, from the same year.

Government Polytechnic, Aryanagar Settlement, Lucknow

38. The Directorate of Harijan and Social Welfare, Uttar Pradesh proposed to upgrade during the Third Plan their existing three centres at Bakshi-ka-Talab (Lucknow), Gorakhpur and Naini Tal into Polytechnics with diploma courses in Electrical and Mechanical Engineering with an intake of 45 in each course. The proposed polytechnic at Bakshi-ka-Talab has been started at Aryanagar Settlement, Lucknow, in 1965 with an intake of 60 students and courses in Civil, Electrical and Mechanical Engineering.

Balwant Vidyapeeth Institute of Rural Higher Education, Bichpuri (Agra)

39. The Balwant Vidyapeeth Institute of Rural Higher Education, Bichpuri, Agra, was started in 1956 by the Balwant Rajput Educational Association and is one of the ten Rural Higher Institutes sponsored by the Government of India. These institutions aim at producing technicians for rural services. The institute at Bichpuri conducts a three years' diploma course in Civil and Rural Engineering. The examination is conducted directly by the National Council for Rural Higher Education, Ministry of Education, Government of India.

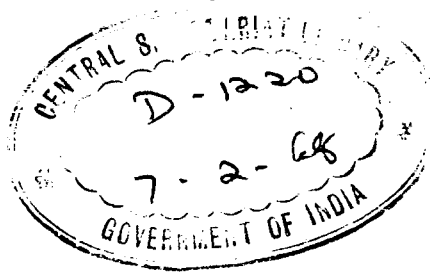
Indian Institute of Handloom Technology, Varanasi

40. As a result of one of the recommendations of the Industrial Conference held in 1907, at Naini Tal, an Experimental Weaving Station was established in 1911, at Varanasi, with classes in Weaving and Hosiery. In 1916, it was renamed as Central Weaving Institute. Each of the two courses were further sub-divided into courses known as Junior and Artisan and were of four and two years duration respectively, except that in Hosiery, the artisan class was of one years duration only. The Hosiery class was, however, abolished in 1934. Changes continued to be made from time to time and now the institution runs a diploma course in Handloom Technology only. The institution was under the Director of Industries till 1956, when it was transferred to the administrative control of the All-India Handloom Board, Ministry of Commerce, Government of India. The name of the institute was changed to Indian Institute of Handloom Technology in 1962. The students at this institute are selected for training mainly from the Northern and Eastern States of the Country, viz. Assam, Bihar, Madhya Pradesh, Orissa, Punjab, Rajasthan, Uttar

Pradesh, West Bengal, Himachal Pradesh, Manipur, Tripura, Delhi and Jammu and Kashmir. It is proposed to start diploma courses in (i) Weaving, (ii) Dyeing, (iii) Designing, (iv) Powerloom Weaving, and (v) Marketing in the Fourth Plan.

Further Expansion

41. A Government Polytechnic at Srinagar (Garhwal), proposed to be set up during the Third Five-Year Plan, is expected to start from 1966. Six Government Polytechnics with an intake of 300 each are proposed to be set up at (i) Dehra Dun/Rishikesh, (ii) Banda, (iii) Deoria, (iv) Jaunpur, (v) Ghaziabad and (vi) Bijnor during the Fourth Five-Year Plan in addition to the increase in seats in the existing institutions. It is also proposed to start a Chemical Operators course, in the Government Polytechnics at Kanpur, Mirzapur and Bareilly.



CHAPTER V

INSTITUTIONS AT THE CERTIFICATE LEVEL

Administration

1. Training given for working at the machines or with tools is usually known as training in vocational trades and these trades are further classified into engineering and non-engineering trades. Trades, such as, Moulding, Blacksmithy, Electroplating, Fitting, Painting and Decorating, Pattern Making, Plumbing, Sheet Metal Smithy, Tool Making, Turning, Welding and those of Draughtsman—Civil, Mechanical and Electrical, Electrician, Motor Mechanic, Refrigeration Mechanic, Instrument Mechanic, Machinist, Wireman are classed as engineering trades and certain other trades such as Bleaching, Dyeing and Printing, Book-Binding, Cutting and Tailoring, Embroidery, Hand Composition, Knitting with Hand and Machine, Manufacturing of Leather Goods, Stenography and that of Printing Machine Operator are classed as vocational or non-engineering trades. The aim of this training is to turn out mechanics and fitters and workers who do the job by their own hand and are not supervisors or overseers. While a large number of institutions imparting such training have been set up by the Government, some have come up as a result of the efforts of private organisations. One set of institutions imparting such training are called Industrial Training Institutes, and are run by the Directorate of Training and Employment under the Labour Department. They impart training in most of the trades mentioned above. There are forty-eight such institutions and further details of these are given in Appendix 5.1.1. Training of a similar nature used to be imparted in institutions known as Industrial and Technical Institutes run by the Directorate of Technical Education. With the transfer of work of certificate courses to the Labour Department in 1965, ten such Industrial and Technical Institutions and four other institutions, viz. Government Central Wood Working Institute, Bareilly; Government Wood Working Institute, Allahabad; Government Leather School, Fatehpur and Government Weaving Institute, Mau (Azamgarh) have been transferred from this Directorate to the Directorate of Training and Employment particularly with a view to re-organise the courses in these institutions on the lines of the National Council for Training in Vocational Trades. The work relating to Secondary Technical Schools continues to be under the Directorate of Technical Education. Certificate courses running in four institutions, viz. Government Central Textile Institute, Kanpur; Government Leather Institute, Kanpur; Government Polytechnic, Lucknow and Government Polytechnic, Gorakhpur, also continue to be under the Directorate of Technical Education in addition to the 82 private institutions included in Appendix 5.5 to which grants-in-aid is given by the State

Government. Similar institutions, although only three in number, are run by the Directorate of Harijan and Social Welfare. No fees is charged in any institution and on the other hand stipends are given to a fair proportion of students. Details would be found in Appendices 5.1.1 to 5.5.

Training Schemes under the Directorate of Training and Employment

2.1. It was for the first time in 1940, during the Second World War, that the Ministry of Labour, Government of India, finding an acute shortage of skilled craftsmen and technicians, introduced technical schemes for the training of craftsmen on a national basis to provide skilled and semi-skilled workers for defence services and other industries engaged in the war work. At the end of 1942, nearly 380 training centres with an admission capacity of about 60,000 were functioning throughout the country under the Ministry of Labour. This scheme was discontinued in March 1946.

2.2. After the end of the War, a number of new schemes were introduced with the object of training ex-servicemen for their resettlement in civilian life. There were five such schemes, viz. :

(i) Technical training scheme for demobilised personnel which lasted from March, 1946 to July, 1950.

(ii) Apprenticeship training scheme for demobilised personnel. The duration was September, 1946 to July, 1950.

(iii) Apprenticeship training scheme for demobilised personnel. The duration was July, 1947 to July, 1950.

(iv) Scheme for the vocational training of ex-service women. The duration was July, 1946 to March 1948.

(v) Schemes for the training of disabled ex-service men. The duration was July, 1946 to August, 1949.

2.3. In 1947, the sudden movement of population due to partition of the country, presented before the Government of India, a colossal problem of finding suitable employment for persons who were uprooted from their environment and whose economic life had been disrupted. A number of training schemes were, therefore, launched towards the beginning of 1948 to provide training facilities for displaced persons so as to fit them for suitable alternative occupations. All these training facilities were, however, meant for a section of the population and were envisaged as a measure of emergency. These did not result from any planned effort to meet the growing requirements of production and industry. When the planned system of economy was adopted and the need of technical man-power was estimated, it was felt that there would be a very considerable demand of skilled craftsmen and technicians in various

trades in the years to come. An integrated scheme known as Adults Civilian Training Scheme was subsequently introduced in 1950 by the Government of India, with the collaboration of the State Governments in place of the schemes for ex-service men and displaced persons. The object of these schemes were to :

- (i) ensure a steady flow of skilled workers for industry,
- (ii) raise the quality and quantity of production by systematic training of workers.
- (iii) reduce unemployment among educated youngmen by equipping them for suitable industrial employment.

and two types of courses were provided under this Scheme :

- (a) Technical training in engineering and building trades,
- (b) Vocational training in cottage and small scale industries.

2.4. In 1951, the survey of National Trades Investigation Committee, pointed out wide diversity in training in institutions and observed that in the absence of a uniform system of training, the standards of training, methods of conducting examinations and issuing of certificates varied from State to State. In 1952, the Training and Employment Services Organisation Committee (Shivarao Committee) recommended that for the industrialisation of the country, the organisation of a proper system for training of craftsmen was essential. The Government of India considered these recommendations and agreed that there was need for setting up of a central agency for carrying out the training programmes in the country and for bringing about uniformity in matters of standards and in awarding certificates of proficiency in craftsmanship on an All-India basis.

2.5. In 1956, the administration of the training organisation under the Directorate General of Resettlement and Employment was transferred to the control of the State Governments concerned. The National Council for Training in Vocational Trades was set up in 1957 and it was entrusted with the functions relating to the establishment of standards and curricula for craftsmen training in technical and vocational trades throughout the country and for advising and assisting the Central Government on overall training policies and programme. It was also decided that a similar body should be set up for each State.

2.6. An organisation known as the State Council for Training in Vocational Trades was, therefore, set up by the State Government in 1960. This Council advises the State Government on the training of craftsmen and on matters concerning the programme for vocational training in the State. The State Council has been entrusted with the responsibility of executing the policy decisions of National Council with regard to the award of National Trades Certificates, formulation of standards of syllabi, equipment, accommodation, duration of courses and method of training. It arranges for the exami-

nations of the Industrial Training Institutions held by the National Council for Training in Vocational Trades as well as for occasional or periodical inspections of the institutions.

2.7. In the forty-eight Industrial Training Institutions, detailed in Appendix 5.1.1. including the one at Dehra Dun which is exclusively for women, training is imparted in a number of engineering and non-engineering trades. The total sanctioned annual admission capacity of all these institutions is 17,568. The trainees are given the following concessions while in training at the institution :

- (i) Free training.
- (ii) Free supply of workshop clothing every four months to those who have to work near moving machinery.
- (iii) Free facilities for recreation and medical treatment.
- (iv) Free hostel accommodation, if available.

2.8. The institute buildings at Kanpur, Meerut, Lucknow, Agra, Srinagar (Garhwal), Almora and Aligarh, have been completed and the institutions at these places are running in their own buildings. Construction of buildings at Faizabad, Bijnor, Haldwani, Jaunpur and Azamgarh are also almost complete. The constructions of buildings for other institutions is on way. The National Trade Certificates awarded in various engineering and non-engineering trades have been recognised by the State Government for purposes of recruitment to various posts under the control of the State Government.

2.9. From January, 1959, the National Council for Training in Vocational Trades has also permitted private candidates to sit for trade tests conducted under the craftsmen training scheme. Candidates eligible to sit at these tests must possess the same academic qualification as the regular trainees and a minimum of three years industrial experience in a recognised workshop of the trade in which the candidates want to be tested. They are required to pay an examination fee of Rs.20 and produce a detailed report of the work done during service in an industrial workshop or factory duly certified by its manager or employer.

2.10. In the context of rapid industrial expansion in the country and consequential demand for skilled craftsmen therefor, it has been felt necessary to increase the craftsmen training facilities. The present seating capacity in the Industrial Training Institutes is 17,568. It has been proposed that this capacity should be increased by another 16,000 seats during the Fourth Five-Year Plan, so that by the end of Fourth Plan, the total number of seats would be 33,568.

Apprenticeship Training Scheme

2.11. Under the Directorate of Training and Employment, the Apprenticeship Training Scheme started from January, 1963, in accordance with the

Apprentices Act, 1961, to train youngmen as skilled craftsmen in trades which are customarily learnt in a practical way through training and work experience on the job. So far 1,933 establishments have been surveyed, as a result of which opportunities for 900 full term and 2,735 short term apprentices have been explored. Four hundred and twenty-nine full term and 1,299 short term apprentices are presently undergoing training.

3.1. The institutions of certificate standard which were previously running under the control of the Directorate of Technical Education and have now been transferred to the Directorate of Training and Employment are included in Appendix 5.1.2. and are described in the following paragraphs. In order to standardise the training at these institutions, the courses taught thereat are being brought on the pattern of the National Council for Training in Vocational Trades, with the same syllabii and training facilities as are in vogue in the Industrial Training Institutes. So far it has been possible to bring only some of the trades on the pattern of National Council while some trades are running on the old pattern for the present.

Government Industrial and Technical Institute, Charkhari, Hamirpur

3.1.1. This institute was founded in 1892 as Wilson Industrial School in the memory of Mr. Wilson, then Political Agent of Central Indian States, with courses in (i) Weaving (Chanderi Work), (ii) Dari, Carpets, Niwar and Rope making, (iii) Zardozi work, (iv) Embroidery, (v) Blacksmithy, (vi) Hosiery and (vii) Carpentry. The institute has been transferred to Labour Department in 1965. The courses now being run are given in Appendix 5.1.2.

Government Weaving School, Mau (Azamgarh)

3.1.2. In 1902, a private Weaving School was started on a very small scale at Mau (Azamgarh), to impart training in handloom weaving. In 1954, two years' certificate course in Elementary Weaving and Dyeing and Artisan Weaving and Dyeing were introduced. During the Second Five Year Plan, facilities of stipends and scholarships were increased and in the beginning of the Third Plan, a one year Advanced Course in Weaving was introduced. The institute has been transferred to Labour Department in 1965.

Government Central Wood Working Institute, Bareilly

3.1.3. The Government Carpentry School, Bareilly now known as the Government Central Wood Working Institute, was started in 1911. The institute has been transferred to Labour Department in 1965. The courses now being run are given in Appendix 5.1.2.

Government Wood Working Institute, Allahabad

3.1.4. The Government Wood Working Institute, Allahabad was set up in 1919, to impart practical training in all branches of wood work. The insti-

tute has been transferred to Labour Department in 1965. The courses now being run are given in Appendix 5.1.2.

Government Tanning School, Fatehpur

3.1.5. In 1927, a Tanning School was started by the Directorate of Industries as Government Tanning School, Fatehpur. Fatehpur is an important centre for raw hide and the principal tanning material Babool bark is also available in abundance in the area. Setting up of a school in this place, made available to the village tanners, the advantage of modern methods of tanning, curing and finishing. A two years' certificate course in tanning was started and students with knowledge of reading and writing were admitted. In the Second Five Year Plan, the school was re-organised and a new course of two years' duration in Leather Working was introduced. The school has been transferred to Labour Department in 1965.

B. P. K. Industrial and Technical Institute, Varanasi

3.1.6. The Batuk Prasad Khattri Industrial and Technical Institute, Varanasi was established in 1927 in the name of Rai Bahadur Batuk Prasad Khattri of Varanasi who created the "Batuk Prasad Khattri Trust" with one lakh of rupees to run an institute from the interest of this endowment. The institute was named as B. P. K. Polytechnic in 1955. Since then, considerable buildings have been provided for the institute on a new site. In the beginning, the institute started the trades of (i) Shape Making, Turning and Polishing, (ii) Repousse and Chasing, (iii) Engraving and Enamelling, (iv) Casting and Clay Modelling. Later on in 1955, Goldsmithy and Electroplating were added. The institute has been transferred to Labour Department in 1965 and the courses now being run are given in Appendix 5.1.2.

Government Industrial and Technical Institute, Srinagar (Garhwal)

3.1.7. Government Industrial and Technical Institute Srinagar (Garhwal) came into existence in November, 1945, in the name of Government Polytechnic as a result of the amalgamation of the District Board Carpentry School, Srinagar and District Board Weaving School, Chinka. It was then placed under the administrative control of the Directorate of Industries. Up to 1953, a three years' certificate course in Elementary Cabinet Making and Joinery and a one year artisan certificate course in Weaving was run. In 1953, both the courses were re-organised and re-named as :- (i) Elementary Cabinet Making and Joinery Course, (ii) Elementary Weaving and Dyeing Course. A two years' certificate course in Cutting and Tailoring was introduced in 1950. In 1957, another course, High School (Technical) in (i) Weaving and Dyeing and (ii) Carpentry was introduced. In order to provide for further training to those students who passed the Elementary Weaving and Dyeing course, a one year Advance Weaving course was introduced from July, 1961. The institute has been transferred to Labour Department in 1965 and the courses now being run are given in Appendix 5.1.2.

Pt. J. J. Government Industrial and Technical Institute, Almora

3.1.8. In 1947, Pt. J. J. Government Industrial and Technical Institute was started at Almora in the name of Pandit Janardan Joshi who donated a sum of Rs 50,000 for constructing a building for the Polytechnic. Courses in (i) Elementary Weaving and Dyeing, (ii) Elementary Cabinet Making and Joinery, (iii) Dyeing and Printing and (iv) Leather Working were started. Later on in 1952, the Dyeing and Printing and Leather Working classes were abolished and Hosiery and Tailoring classes were started instead. In 1954, the High School (Technical) course with Carpentry was started. High School (Technical) in Weaving was added in 1958. The institute has been transferred to Labour Department in 1965 and the courses now being run are given in Appendix 5.1.2.

Government Industrial and Technical Institute, Tehri (Garhwal)

3.1.9. The Government Industrial and Technical Institute, Tehri (Garhwal), was established in 1950 in the name of Government Polytechnic with a course in Weaving. In 1951, Carpentry and Cane Making were added. In 1958, the High School (Technical) in Weaving and Carpentry were started. A one year advanced course in Weaving and Dyeing was introduced from 1961. The institute has been transferred to Labour Department in 1965 and the courses now being run are given in Appendix 5.1.2.

Government Girls Industrial and Technical Institute, Rampur

3.1.10. In 1950, after the State of Rampur was merged in Uttar Pradesh, an institution for training of women in Rampur was handed over to the Industries Department. The institution was re-organised in 1951 and in 1957, it was named as Government Girls Polytechnic. The nomenclature was again changed to Government Girls Industrial and Technical Institute in 1962. The Institute is running a certificate course in Tailoring and Allied Crafts. It has been transferred to Labour Department in 1965.

Government Industrial and Technical Institute, Lucknow

3.1.11. The Government Industrial and Technical Institute, Lucknow was started in 1948 in the name of Government Occupational Institute, Lucknow with eight certificate courses each of one years duration. These were (i) Motor Mechanic, (ii) Radio Mechanic, (iii) Electrical Instruments Mechanic, (iv) Welding, (v) Plumbing, (vi) Tin and Copper Smithy, (vii) Steam Engine Driving and (viii) I. C. Engine Driving with a view to turn out practical skilled workmen. The name was changed to Government Polytechnic in 1954 and two new courses namely Refrigeration Mechanic and Electroplating each of two years' duration were added. During the same year, a new scheme called "Relief to Unemployed among Educated Youngmen" was introduced. The object was to train youngmen as skilled workmen to enable them either to join industry or to start their own workshop. Under this scheme, training in

eleven courses namely: (i) Turning, (ii) General Mechanic, (iii) Moulding, (iv) Watch Mechanic, (v) Blacksmithy, (vi) Carpentry, (vii) Mechanical Draughtsman, (viii) Typewriter Mechanic, (ix) Armature Winding, (x) Electric Lineman, and (xi) Tractor Mechanic, each of one year's duration, was started. In 1959 the course in Electric Instruments Mechanic was changed to Electrical Supervisors' course adopting the syllabus prescribed by the Electrical Inspector to Government, Uttar Pradesh, for the Electrical Supervisors' Examination. In 1960 training in three trades, (i) Moulding, (ii) Blacksmithy and (iii) Carpentry was discontinued on account of very poor demand for these courses. The institute has been transferred to Labour Department in 1965 and the courses now being run are given in Appendix 5.1.2.

Government Industrial and Technical Institute, Gorakhpur

3.1.12. The Government Industrial and Technical Institute, Gorakhpur, previously known as Government Polytechnic, Gorakhpur, was set up in 1956 with admissions in four trades, viz., (i) Tractor Mechanic, (ii) Motor Mechanic, (iii) Electrical Supervisor, and (iv) Diesel Engine Mechanic each of two years duration. The institute has now been transferred to Labour Department and the courses now being run are given in Appendix 5.1.2.

Government Industrial and Technical Institute, Dehra Dun

3.1.13. The Government Industrial and Technical Institute, Dehra Dun previously known as Government Polytechnic was set up in 1952 and courses in (i) Electric Wireman, (ii) Motor Mechanic, (iii) Carpentry were started. In 1945, High School (Technical) in Carpentry was added. The Electric Wireman course was changed to Electrical Supervisors' course in 1958. The institute has been transferred to Labour Department in 1965 and the courses now being run are given in Appendix 5.1.2.

Government Industrial and Technical Institute, Meerut

3.1.14. The Government Industrial and Technical Institute, Meerut previously known as Government Polytechnic, Meerut was set up in 1952. The institute has been transferred to Labour Department in 1965 and the courses now being run are given in Appendix 5.1.2.

Training Centres Under the Directorate of Harijan and Social Welfare

4. Under the Directorate of Harijan and Social Welfare, a training centre known as Government Technical Training Centre was opened in 1950 at Bakshi-ka-Talab, Lucknow and courses with the trade names (i) Electrician, (ii) Fitter, (iii) Motor Mechanic, (iv) Turner, (v) Moulding, and (vi) Carpentry were started. In 1961, a course in Welding was also added. Two other training centres were set up in 1955, one at Naini Tal and another at Gorakhpur.

Motilal Memorial Society Automobile Training Centre, Lucknow

5. The training centre was started by the Motilal Memorial Society in 1960 for training automobile mechanics. The centre is attached to the workshop of Messrs. Motor Sales, dealers of Tata Mercedes-Benz vehicles, and has facilities for practical training in the workshop.

Secondary Technical Schools

6. The courses mentioned so far in this chapter are terminal courses in their respective trades. Trainees passing these courses must either go into industry or start their own work. The scheme of the Secondary Technical Certificate Course provides for training of craftsmen yet it is not necessarily a terminal course. The duration of the course is three years and students are admitted after passing eighth class or Junior High School. On the recommendations of Government of India, this course was started for the first time in 1959 under the Directorate of Industries (now under the Directorate of Technical Education) in the five Industrial and Technical Institutions (then known as Polytechnics) at (i) Jhansi, (ii) Jaunpur, (iii) Daurala (Meerut), (iv) Ghazipur and (v) Allahabad. The trade courses were abolished and the name of the institutions was changed to 'Junior Technical Schools'. The name was subsequently changed to Secondary Technical Schools in 1963. In these institutions, education and training is imparted in general and technical subjects. At present there are five trades for specialisation, viz. Fitting, Turning, Machining, Foundry, and Welding and a student can take any one of them. A student who has completed a Secondary Technical Certificate Course may directly enter industry in his particular field of training or he can seek admission to the diploma course in engineering. The Board conducted the Final Examination of the first batch in 1962. Six Secondary Technical Schools at Gorakhpur, Bareilly, Faizabad, Lucknow, Mirzapur and Azamgarh, were opened in 1964 adjunct to Polytechnics. Two more at Moradabad and Gonda have been started in 1965. The certificates awarded by the Board are recognised by the State Government for recruitment to suitable posts and services under various departments of the State Government for which a certificate in respective trade is prescribed as a qualification.

High School (Technical) and Intermediate (Technical)

7. The Board of High School and Intermediate Education, Uttar Pradesh Allahabad, introduced engineering courses at the High School and Intermediate stages in 1957. These are known as High School (Technical) and Intermediate (Technical). To the High School (Technical) course are admitted students who have passed the eighth class or Junior High School Examination after giving them an attainment test in Mathematics and Science and also a psychological test for general intelligence and capacity to visualise and manipulate objects in three dimensions. General engineering is taught at the High School stage and those who pass the High School (Technical) are

admitted to Intermediate (Technical) in which a certain amount of specialisation in Mechanical or Electrical Engineering is sought. The High School (Technical) course was introduced in ten Government institutions at Meerut, Moradabad, Allahabad, Jhansi, Pilibhit, Kanpur, Gyanpur (Varanasi), Deoria, Faizabad, and Lucknow and in one non-Government institution at Fatehgarh. A comparative statement of the Secondary Technical Certificate Course, High School (Technical) and Intermediate (Technical) and other certificate courses is given in Appendix 5.6.

Pilot Workshop Scheme

8.1. The Directorate of Industries introduced a 'Pilot-Workshop Scheme' in 1950 with a view to extend facilities of technical training to rural areas. The aim was to train artisans in manufacture and repairs of agricultural implements such as Ploughs, Tractors, Threshers, Cheff-Cutters, Persian Wheels and House-hold articles. Training is imparted in eight trades, viz. (i) Motor Mechanic, (ii) Electrician, (iii) Machinist, (iv) Fitting, (v) Carpentry, (vi) Turning, (vii) Moulding, and (viii) Blacksmithy.

8.2. The Scheme was originally launched during the First Five-Year Plan at Kurwar (Sultanpur) and Lakhana (Etawah). The centre at Lakhana was transferred to Bakewar (Etawah) during the Second Five-Year Plan and the scheme extended to Deoband (Saharanpur), Atrauli (Aligarh) and Azamgarh. The duration of training is two years and the boys who have passed Junior High School are admitted. Certificates are awarded by the Directorate of Industries on satisfactory completion of the training.

Railway Training Institutions

9.1. There are four technical training institutions of the Indian Railways at Lucknow, Gorakhpur, Varanasi, and Jhansi. The institute at Jhansi, known as the Railway Training Institute was originally run jointly by the Central Railway and the Directorate of Industries, but in November, 1958, it was transferred entirely to the Central Railway. The other old institute is the one at Gorakhpur. The Railway Technical School at Lucknow (now known as Railway System School) and the Technical Training School of Locomotive Component Works, Varanasi, were set up in 1956 and 1959 respectively.

9.2. These institutions take apprentices for training them as journeymen, chargemen and craftsmen, most of whom are employed in the workshops of the Railways. The admission requirements are usually eighth class pass or High School pass. The duration of training is usually five years, and a system of training is followed which is known as the 'sandwich' system, i.e., a period spent in workshop is followed by a period spent in the class-room. No tuition fee is charged in these institutions but instead some stipends are paid. These institutions do not award any certificate after training.

CHAPTER VI

TECHNICAL EDUCATION LOANS, STIPENDS AND SCHOLARSHIPS FOR TECHNICAL STUDIES

Technical Education Loans

1. In 1950-51, a scheme known as the 'Uttar Pradesh Technical Education Loans Scheme' was introduced by the State Government for granting loans to the residents of Uttar Pradesh for technical and scientific studies both in India as well as abroad. This scheme is administered by the Director, Technical Education, U. P. Kanpur. Ordinarily, loans are granted to such students as are of more than average ability and do not possess adequate means to pursue the particular course of study. Amounts up to Rs.5,000 can be granted for studies in India and up to Rs.10,000 for studies abroad. Interest is now charged at the rate of three per cent per annum. Repayment starts one year after completion of the training in instalments spread over a period of seven years. In the case of loans for studies abroad, the necessary pre-requisites are that—(i) the course of training should not be available in India, (ii) the study should be of help in the development of the country, (iii) the student should have had a very good academic career, so that he can not only take the best advantage of this opportunity, he should be better than the average representative of the educated youth of the country. To start with, a provision of rupees one lakh was made in 1950-51 and the total number of students to whom the loan was sanctioned was only nine. Gradually the loan scheme became popular and by the end of the First Five-Year Plan about rupees three lakhs had been sanctioned as loan to two hundred and sixty-three students. During the Second and Third Five-Year Plans, loans were sanctioned to 1,398 and 4,800 students respectively. In order to make this facility more extensive, a sum of Rs.2.5 crores has been provided in Fourth Five-Year Plan as against that of rupees fifteen lacs in the Second Five-Year Plan and ninety-two lakhs in the Third Five-Year Plan.

Stipends awarded by the Directorate of Technical Education

2.1. The State Government award stipends of rupees fifty per month to students of Uttar Pradesh studying outside the State in certain specialised subjects. At present 33 stipends @ Rs.50 p.m. are awarded as detailed below:—

Serial no.	Name of Institute	Number of stipends
1	Indian School of Mines, Dhanbad	8
2	Indian Institute of Technology, Kharagpur	8
3	Sir, J. J. College of Architecture, Bombay	5
4	Indian Institute of Science, Bangalore	9
5	J. K. Institute of Applied Physics, Allahabad	3
	Total	33

2.2. These stipends are sanctioned in the first year and are thereafter renewed by the Government on receipt of satisfactory reports in respect of the stipendiary from the Heads of the Institutions concerned. The past academic career of the applicant alongwith the financial status of his supporter are the two factors taken into consideration for the sanction of stipends. An agreement in writing is taken from the students studying at the Indian Institute of Science, Bangalore, stipulating that the stipendiaries will, on the completion of their training at the institute, serve the State Government, if so required for a period of at least two years at a salary considered adequate by the State Government. No agreement is obtained from the students studying at the institutions at Dhanbad, Bombay or Kharagpur.

Merit-cum-means scholarships under the Directorate of Technical Education

3. In the Fourth Five-Year Plan, the State Government have introduced a scheme to award merit-cum-means scholarships to students studying in a degree or diploma institution in the State. It is proposed to award this scholarship to 10 per cent of the students at the diploma level for which a provision of Rs.8.5 lakhs has been made in 1966-67. Provision of Rs.3.5 lakhs has also been made for 282 stipends for students at the degree level.

Stipends awarded by the Directorate of Education

4. The Director of Education awards annually five stipends of the value of Rs.25 a month each to candidates domiciled in Uttar Pradesh who have secured admission to the Indian Mercantile Marine Trainingship "Dufferin", Bombay and who have not the means to complete the course at their own expense. The stipends are tenable for two years. Preference in case of one of the stipends is given to candidates of the scheduled castes. The Director of Education also awards one stipend annually at the rate of Rs.50 a month to a candidate domiciled in Uttar Pradesh and who has secured admission for training at the Marine Engineering College, Calcutta in the subject of "Marine Engineering" and who has not the means to complete the course at his own expense. The stipend is tenable for a period of four years.

National Loan Scholarships and National Scholarships awarded by Government of India.

5. Some National Loan Scholarships of Rs.60 per month for diploma courses and of Rs.80 per month for degree courses in engineering and technology are awarded to those who pass with 50 per cent marks in the aggregate from Uttar Pradesh and whose parents income does not exceed Rs.6,000 per annum. No interest is charged except in case of default in payment of instalments and 1/10th of the loan is written off for every years' service as a teacher if the loanee joins this profession. A few National Scholarships @ Rs.100 p.m. are also awarded on the result of High School Examination for the degree courses in engineering and technology. These schemes are administered by the Director of Education, U. P., Allahabad.

Aid for passage money to students proceeding abroad

6. Indian students who are awarded scholarships or training facilities by foreign Government organisations for advanced studies abroad and find difficulty in arranging their entire passage money, are given financial assistance to supplement their resources, at the discretion of the Government, from the funds specially provided for the purpose in the budget of the Education Department.

Stipends to Fighters of Freedom

7. Stipends to fighters in the struggle for freedom and their dependants are awarded by the Regional Deputy Directors of Education and Regional Inspectress of Girls Schools concerned for studies including technical education. The rates of scholarships for technical courses are at the diploma level Rs.30 per month, for degree courses Rs.35 per month and Rs.50 a month for pursuing research work. Some non-recurring grant for books is also given to deserving students at the rate of Rs.150 for degree classes and Rs.180 for post-graduate classes.

8. Information in respect of stipends and scholarships awarded by individual institutions has been incorporated against each institution in the appendices.

CHAPTER VII

TEACHERS TRAINING PROGRAMMES AND TRAINING OF INSTRUCTORS

Teachers training programme for technical institutions at the degree level

1.1. A 'Teachers Training Programme' has been formulated with the main object of attracting bright young engineering graduates to the teaching profession. For a graduate, the period of training is ordinarily three years and that for a person holding a Masters' degree two years. Senior Fellowships of the value of Rs.350-15-400 are awarded by the Ministry of Education (Technical Division) Government of India to such trainees who are expected, after completion of training, to occupy teaching positions in engineering and technological institutions of the degree standard. For the present such training facilities have been provided at five centres in India of which one is the University of Roorkee.

1.2. The Senior Fellowships are usually awarded to young first class graduates. Preference is given to those who have some practical training or industrial experience. Persons already working on the staff of institutions are also eligible. Candidates should ordinarily be less than twenty-seven years of age on the first July of the year of admission. The selection is made by a committee appointed by the Government of India, in the Ministry of Education (Technical Division). The trainees selected are also required to fill in a bond agreeing to serve after completion of training a technical institution designated by the Government of India for a minimum period of three years. Those who are not absorbed by the State Governments, universities or private institutions sponsoring the training, are placed in suitable employment by the Government of India. On satisfactory completion of training, no conferments or awards are given but a certificate of having undergone such a course is issued to each trainee.

Training of Polytechnic teachers

2. In order to meet the growing demand of trained teachers for polytechnics, four Regional Institutes are being set up in the country, one in each region at Madras, Bhopal, Jadavpur and Chandigarh. The institute at Chandigarh will cater for the needs of Uttar Pradesh.

Summer Schools

3.1. The tremendous expansion of technical education in India during the past decade has confronted all institutions with the serious problem of

shortage of suitably trained teachers. The Summer School programme has been organised since 1964 by the Association of Principals of Technical Institutions (India) in collaboration with the Ministry of Education and the United States Agency for International Development, to provide the teachers of Engineering Colleges and Polytechnics with the opportunity of learning the latest methods and techniques of teaching and to become familiar with recent developments in their respective fields.

3.2. In 1964, four centres for Engineering College teachers and four for the Polytechnic teachers were established, these being distributed one in each region i.e. Northern, Southern, Western and Eastern. The response from the teachers and the general consensus of the organisers were such that it was decided to increase the number of centres in the year 1965 to eight for Polytechnic teachers and eight for Engineering College teachers. The additional four centres for the Engineering College teachers in 1965 offered advanced courses of specialised nature. It is proposed to increase the number of the Engineering College centres dealing with specialised fields to eight thereby bringing the total number of Summer School centres to 20 in the year 1966. The objectives of Polytechnic Summer Schools are :

- (i) to introduce the best teaching methods and techniques for the various disciplines,
- (ii) to improve the subject-matter competence of the participating teachers,
- (iii) to improve their skills as teachers and their ability to inspire students,
- (iv) to stimulate the interest of teachers by bringing them in contact with prominent men in their field of teaching,
- (v) to promote greater understanding and appreciation of each other's teaching.
- (vi) to relate Polytechnic education to the needs of Indian industry,
- (vii) to provide opportunity to selected individuals to acquire the skills and knowledge related to the operation of summer school programmes,
- (viii) to provide the forum for discussion amongst the participant teachers with similar backgrounds, interests and problems so as to create greater mutual understanding and appreciation of each other's teaching problems.

3.3. At present two Summer Schools are being held in each region and enrolment is limited to 60 participants at each Summer School. In the Northern Region, the first Summer School was held in 1965 at Government Polytechnic, Lucknow for the teachers of Uttar Pradesh and the second is being held in 1966 at Allahabad Polytechnic, Allahabad. The Director of Technical Education, U. P. is the co-ordinator for the Summer School for Uttar Pradesh.

Training of Instructors

4.1. This scheme is for the training of teachers in institutions imparting training in vocational trades. The first Central Training Institute for training of instructors was set up by the Ministry of Labour, Government of India in 1948 at Koni (Bilaspur), Madhya Pradesh. The objects of setting up such an institute are—

(i) to improve the efficiency of instructors employed in the Central and State training institutes as also in private institutions and industrial establishments by giving them a course of theoretical and practical instructions in their respective trades and in the art of teaching,

(ii) to train new instructors to meet the needs of existing institutions and those being established under the development plans in public and private sector, and

(iii) to provide a refresher course for instructor with a view to ensure that they are always up-to-date and conversant with the latest methods of production and teaching.

4.2. To meet the growing demand of trained instructors, a Central Training Institute for Instructors has also been set up at Kanpur in 1961. The institute imparts training in the following trades :

1. Electrician, 2. Fitter, 3. Wireman, 4. Machinist, 5. Motor Mechanic, 6. Moulder, 7. Turner, 8. Welder (Gas and Electric), 9. Hand Weaving, 10. Cutting and Tailoring, 11. Manufacture of Leather Goods and 12. Manufacture of Foot-wear.

4.3. The duration of training is nine months and accordingly admissions are also made every nine months. The requirements of admission are that a candidate should be High School and between twenty to forty years of age. He should possess a recognised certificate in the relevant trade with good practical experience. There is a Supervisors' Course also which runs concurrently and for which candidates are selected after their admission in the institute for training as instructors. A tuition fee of Rs.135.00 per head per session is charged from private candidates and rupees ninety per head per session from nominees of private industries and private institutions, whereas no tuition fee is charged from nominees of Central or State Government Departments. The examinations are held under the auspices of the National Council for Training in Vocational Trades, Government of India and proficiency certificates are issued to successful candidates.

CHAPTER VIII

SCOPE OF EMPLOYMENT FOR TECHNICAL PERSONNEL

Posts for which technically qualified and technically trained personnel are usually required are numerous and it is difficult to make out an exhaustive list. The pay scales, the nature and responsibility of the jobs, the type of personnel required for jobs vary for the different Government departments and the diversity is even greater in industry. With the setting up of new industrial projects, both in the public as well as in the private sector and with the opening of new technical institutions, the field of employment is also increasing day-by-day. But, if a general classification was attempted, technical personnel required in each of the main avenues of employment could be divided into the following four categories :

Category of employment	Qualification	Approximate emoluments
1	2	3
1. Principals and Professors of Engineering Colleges, Senior Executives and officers of equivalent rank.	Post-Graduate Degree or a Degree in Engineering or Technology.	Scales varying from Rs.1,000 to Rs.2,000 a month.
2. Junior Executives, Executive Engineers, Assistant Engineers, Principals of Diploma Institutions, Senior and Junior Teachers in Engineering Institutions, Deputy Directors, Assistant Directors, Research Officers, Technical Officers, Stores Officers and Workshop Superintendents.	Degree in Engineering or Technology.	Scales of pay starting from Rs.300 to Rs.900 and going up to about Rs.1,400.
3. Minor Executives, Foremen, Charge-men, Overseers, Supervisors, Workshop Superintendents, Instructors, Demonstrators in Technical Institutions.	Diploma in Engineering.	Scales varying from Rs.175 to Rs.300 as starting salary and going up to Rs.900.
4. Skilled Craftsmen, Skilled Operatives, Junior Instructors, Assistant Foremen, Mistries, Mechanics.	Certificate in a Trade Course.	Starting at about Rs.100 and going up to about Rs.300.

APPENDICES

APPENDIX
FACILITIES FOR POST-GRADUATE

Serial no.	Name of institution and its location	Courses of study
1	2	3
1	Aligarh Muslim University, Aligarh College of Engineering and Technology	(a) Civil Engineering (i) Hydraulics (b) Electrical Engineering (i) Measurement and Control (c) Mechanical Engineering (i) Heat Power.
2	Allahabad Agriculture Institute, Allahabad	Agricultural Engineering
3	Banaras Hindu University, Varanasi— (1) College of Mining and Metallurgy (2) College of Engineering (3) College of Technology	Metallurgy (Facilities for Ph.D. are also available) (a) Civil Engineering (i) Hydraulics and Hydraulics Structure. (b) Electrical Engineering (i) Power System Engineering (ii) Applied Electronics and Servo-Mechanism (iii) Electrical Machine Design (c) Mechanical Engineering (i) Machine Design. (Facilities for Ph.D. are also available) (a) Department of Silicate Technology. Silicate Technology with specialisation in any of the following— (i) Glass (ii) Pottery (iii) Refractories (iv) Enamels (v) Cement. (Facilities for Ph.D. are also available) (b) Department of Pharmaceutics. (i) Pharmaceutics (Facilities for Ph.D. are also available) (c) Department of Chemical Engineering and Technology— (i) Chemical Engineering (ii) Chemical Technology (Facilities for Ph.D. are also available)
4	Harcourt Butler Technological Institute, Kanpur.	(i) Chemical Engineering (ii) Chemical Engineering Practice (iii) Bio-Chemical Engineering (iv) Food Technology (v) Oil Technology (vi) Paint Technology (vii) Plastic Technology (Facilities for Ph.D. are also available).

COURSES IN THE STATE (AS IN 1965-66)

Duration of Course	Annual intake	Admission requirements	Diploma or Degree awarded
4	5	6	7
2 years	10	B.Sc. Degree in the relevant branch of Engg. having secured not less than 60 per cent marks.	M.Sc. (Engg.)
	10		Ditto
	10		Ditto
2 years	10	B.Sc. (in Agr. Engg.)	M.Sc. (Pass) in Agr. Engg.
1½ years	16	B.Sc. (Met.) or equivalent	M.Sc. (Met. Engg.)
2 years	12	First class Degree in the respective branch	M.Sc. (Civil Engg.)
	18		M.Sc. (Elect. Engg.)
	6		M.Sc. (Mech. Engg.)
1 year	10 for Glass and 10 for Ceramics	B.Sc. (Glass and Ceramics) or B.Sc. Sil. Tech. with at least 60 per cent marks.	M.Sc. (Tech. in Glass or Ceramics.)
2 years	10	B. Pharm. with at least 60 per cent marks	M. Pharm.
2 years	10	B.Sc. (Chem. Engg.) with at least 60 per cent marks.	M.Sc. (Chem. Engg.)
2 years	10	B.Sc. (Chem. Engg.) of Agra University or equivalent.	M.Sc. (Chem. Engg.)
	10	Ditto	M.Sc. (Chem. Tech.)
	10	B.Sc. (Chem. Tech.) in Bio-Chemical Engg. or B.Sc. (Chem. Engg.)	Ditto
	10	B.Sc. (Chem. Tech.) in Food Tech. or B.Sc. (Chem. Engg.)	Ditto
	10	B.Sc. (Chem. Tech.) in Oil Tech. or AHBTI	Ditto
	10	B.Sc. (Chem. Tech.) in Paint Tech. or AHBTI	Ditto
	10	B.Sc. (Chem. Tech.) in Plastic Tech. or B.Sc. (Chem. Engg.)	Ditto

1	2	3
5	Indian Institute of Technology, Kanpur	(i) Aeronautical Engineering . (ii) Chemical Engineering. (iii) Civil Engineering . (iv) Electrical Engineering. (v) Mechanical Engineering. (vi) Metallurgical Engineering (Facilities for Ph.D. are available in all the courses.)
6	J. K. Institute of Applied Physics, Allahabad University, Allahabad.	Electronics and Radio Engineering.
7	Roorkee University, Roorkee	(a) Civil Engineering— (i) Hydraulics, Dam Design and Irrigation Engineering. (ii) Structural Engineering. (iii) Soil Mechanics and Foundation Engineering. (iv) Highway Engineering. (v) Public Health Engineering. (vi) Advanced Survey and Photo-Grammetry. (b) Electrical Engineering— (i) Advanced Electrical Machines (ii) Power System Engineering. (c) Tele-Communication Engineering— (i) Applied Electronics and Servo-Mechanism. (d) Mechanical Engineering— (i) Applied Thermodynamics. (ii) Machine Design. (iii) Production Engineering. (iv) Refrigeration and Air-Conditioning. (Facilities for Ph.D. are available in all the courses.)

1—(concl.)

4	5	6	7
2 years	100 for all courses.	Admission is made on the basis of candidate's merit in the qualifying examination in the concerned discipline followed by an interview.	M. Tech. Ditto Ditto Ditto Ditto
3 years		B.Sc. with Physics and Mathematics	M.Sc. (Tech.)
2 years	12	B.E. Degree in the respective branch	M.E.
	12		Ditto
	12		Ditto
	12		Ditto
	12		Ditto
	12		Ditto
	12		Ditto
	12		Ditto
	12		Ditto
	12		Ditto
	Not known		Ditto
	12		Ditto
	Not known		Ditto

FACILITIES FOR DEGREE COURSES

Sl. no.	Name of Institution, University with year of establishment	Name of Course	Duration	Annual sanctioned intake	Name of Award	Tuition and other fees
1	2	3	4	5	6	7
1	Aligarh Muslim University, Aligarh— College of Engineering and Technology (1935).	(i) Civil Engg. (ii) Elect. Engg. (iii) Mech. Engg.	5 years 5 years 5 years	60 90 90	B.Sc. (Engg.) Ditto Ditto	Tuition fees. Average rate Rs. 240 p.a.
2	Allahabad Agriculture Institute, Allahabad (1910).	Agriculture Engg.	4 years	40	B.Sc. (Ag. Engg.)	Rs. 31 p.m.
3	Banaras Hindu University, Varanasi— (a) College of Mining and Metallurgy (1923).	(i) Mining Engg. (ii) Metallurgical Engg.	5 years 5 years	40 60	B. Sc. (Min. Engg.) B.Sc. (Met. Engg.)	Tuition fees. Average rate of Rs. 230; Other Fees: Rs. 180 per session.

IN THE STATE (AS IN 1965-66)

Scholarships, stipends and freeships, if any	Minimum admission qualification	Session and last date of receipt of application	Minimum and maximum age requirements	Reservation of seats
8	9	10	11	12
A limited number of Merit Scholarships of Rs. 75 and Rs. 60 per month are awarded.	<p>A. For direct admission to first year— Pre-University Examination of Aligarh University or equivalent with Phy., Chem., and Maths. with atleast 50 per cent marks in the aggregate.</p> <p>B. For direct admission to Second Year B.Sc. Part I of Aligarh University with Phy., Chem., and Maths., or equivalent with atleast 50 per cent marks in the aggregate.</p>	Session Commences on 6th July. Last date 30th June.	16 to 20 years on 1st October.	2 seats, for Scheduled Castes, seats for Backward classes and 4 seats for Government nominees.
No Scholarships or stipends.	Intermediate in Agriculture	Session Commences on 10th July, Last date 20th June.	None	No reservation.
Merit Scholarships are available.	<p>A. For first year of the five year course—</p> <p>(i) Pre-University Examination in Science of B.H.U. with Phy., Chem., and Maths. or</p> <p>(ii) Senior Cambridge Examination of the University of Cambridge with Phy., Chem. and Maths., or</p> <p>(iii) Higher Secondary Examination of the University of Delhi with Phy., Chem., and Maths., or</p> <p>(iv) Such other Examinations conducted by either Universities or Boards of Education in the Indian Union which have been declared by the Standing Committee of the Academic Council as equivalent to (i) above.</p> <p>B. For direct admission to second year— (For the balance of the seats left after the promotion of students from the first year)—should have passed any one of the following Examination with 50 per cent marks in the Science group and in the aggregate :</p> <p>(i) Intermediate Science with Phy., Chem. and Maths., or</p> <p>(ii) The Pre-Engineering, or Pre-Professional, or</p> <p>(iii) The B. Sc., Part I Examination conducted by a University of the Three Year Degree Course.</p>	Session commences on 9th July. Last date 15th June.	For admission in first year—16 to 20 years. For admission in second year— 17 to 21 years.	Nil.

1	2	3	4	5	6	7
(b) College of Engineering	(i) Civil Engg. (ii) Elect. Engg. (iii) Mech. Engg.	5 years 5 years 5 years		1. First year of the five year inte-grated course—175 (for all the three branches). 2. Direct admission to second year—175 (for all the three branches).	B.Sc. (Civil Engg.) B.Sc. (Elect. Engg.) B.Sc. (Mech. Engg.)	Rs. 120 per annum in first year and Rs. 230 per annum from second year besides other fees.

NOTE—First two years of the course are common for Civil, Electrical and Mechanical Engineering, made in the Third year as (i) Civil Engineering —100, (ii) Electrical Engineering—125, and (iii) Mechanical

(c) College of Technology—

(i) Department of Chemical Engineering and Technology (1949). [Originally established in 1920.]	(i) Chem. Engg.	5 years	30 (30 additional seats for direct admission in second year).	B.Sc. (Chem. Engg.)	Rs. 120 per annum in first year and Rs. 230 per annum from second year, besides other fees.
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(ii) Department of Silicate Technology (1956). (Originally established in 1937).	(i) Silicate Technology.	5 years	20 (10 additional seats for direct admission to second year).	B.Sc. Silicate Technology.	Ditto
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8	9	10	11	12
Merit Scholarships on the basis of last examination results I in II year, I in III year, 6 in IV year and 6 in V year.	<p>1. For first year of the five year integrated course—Higher Secondary or equivalent Examination with Phy., Chem. and Maths. with at least 50 per cent marks in Science subjects as well as in the aggregate.</p> <p>2. For second year of the Five year integrated course—I.Sc. or its equivalent with Phy., Chem. and Maths. with at least 50 per cent marks in Science subjects as well as in the aggregate.</p>	Session starts from 9th July. (a) Last date usually between 15-31 May.	As in Serial 3	Scheduled Caste students are given 15 per cent weightage in marks.
Specialisation commences in Third year and the distribution of seats in the three branches is Engineering—125.				
Merit Scholarships are available. (In addition, freeships to 20 per cent of students are available.)	<p>A. For first year of the five year integrated course—</p> <p>(i) Pre-University Examination in Science of the Banaras Hindu University with Phy., Chem. and Maths., or</p> <p>(ii) Senior Cambridge Examination of the University of Cambridge with Phy., Chem., and Maths., or</p> <p>(iii) Higher Secondary Examination of the University of Delhi with Phy., Chem. and Maths., or</p> <p>(iv) Such other Examination conducted by either Universities or Boards of Education in the Indian Union which are declared by the Standing Committee of the Academic Council as equivalent to the Pre-University Examination in Science of the B. H. U.</p> <p>B. For Second year of the five-year integrated course—</p> <p>(i) First year of the five-year integrated courses in Technology from Banaras Hindu University or any other examination considered equivalent to it, or</p> <p>(ii) I.Sc. with Phy. Chem. and Maths., or</p> <p>(iii) Pre-Professional course examination in Technology recognised by the University.</p> <p>C. Candidates should have secured a minimum of 50 per cent marks in the aggregate and 50 per cent in the Science subjects in the prescribed qualifications.</p>	Session commences on 9th July. Last date 15th June.	Ditto	Admission is made on merit in accordance with zonal quota fixed for each zone.
Ditto	Ditto	Ditto	Ditto	Ditto.

APPENDIX

1	2	3	4	5	6	7
	(iii) Department of Pharmaceutics (1932).	(i) Pharmaceutics.	4 years	11 (11 additional seats for admission to second year.)	B. Pharm.	Rs. 230 per annum besides other fees.
4	Engineering College, Dayalbagh, Agra (1950).	(i) Mech. Engg.	4 years	30	B.Sc. (Engg.)	Tuition fee Rs.300 p.a., Other fees Rs.170 p.a.
		(ii) Elect. Engg.	4 years	30	Ditto	
5	Government Central Textile Institute, Kanpur (1914).	(i) Textile Technology.	4 years	20	B. (Text.)	Tuition fee Rs.180 p.a.,
		(ii) Textile Chemistry.	4 years	10	Ditto	Other fees Rs.25 p.a.
6	Harcourt Butler Technological Institute, Kanpur (1920).	(a) Four year courses:				
		(i) Chem. Engg.	4 years	60	B.Sc. (Chem. Engg.)	Tuition fee Rs.180 p.a. Other fees Rs.113. Hostel fees Rs.260.
		(ii) Mech. Engg.	4 years	25	B.Sc. (Mech. Engg.)	
		(iii) Elect. Engg.	4 years	25	B.Sc. (Elect. Engg.)	
		(b) Three year courses:				
		(i) Bio-chemical Engg.	3 years	15	B.Sc. (Chem. Tech.).	Ditto
		(ii) Food Technology.	3 years	15	Ditto	
		(iii) Oil Technology.	3 years	15	Ditto	
		(iv) Paint Technology.	3 years	15	Ditto	
		(v) Plastic Technology.	3 years	15	Ditto	

8	9	10	11	12
As in serial 3(c)(i)	(i) I. Sc. with Phy., Chem. and Maths. or Phy., Chem. and Biology, or I. Pharm., or (ii) Pre-Professional course examination in Technology recognised by the University. (iii) Candidates should have secured a minimum of 50 per cent marks in aggregate and 50 per cent in the Science subjects in the prescribed qualification.	As in serial 3 (c)(i).	As in serial 3(a).	As in serial (c)(i).
Stipends and Scholarships are available to S. C./S.T. and Backward Class students.	I.Sc. with Phy., Chem. and Maths. or its equivalent.	Session commences on 9th July. Last date 27th June.	17 to 21 years on 1st July.	2 Seats for S. C. 1 seat for S.T., 1 seat for De-notified Tribe students provided they have secured at least 50 per cent marks.
3 Scholarships of Rs.75 each, 6 stipends of Rs.40 each.	I. Sc. with Science and Maths.	Session commences on 1st July. Last date 6th July.	16 to 21 years	25 per cent of the seats are reserved for S.C. and Backward Class students.
Merit-cum-means Scholarships, Merit Scholarships, Free-ships and Half-Freeships are available.	Intermediate Science with Phy., Chem. and Maths.	Session commences in 1st week of August. Last date-generally in the 1st week of July.	No age limit.	For S. C./S. T. and Backward class students, as per U. P. Government rules.
Ditto	B.Sc. with Phy., Chem. and Maths.	Ditto	Ditto	Ditto.

1	2	3	4	5	6	7
7	Indian Institute of Technology, Kanpur (1960).	(i) Civil Engg.	5 years	60	B. (Tech.)	Rs.200 p.a.
		(ii) Chem. Engg.	5 years	50	Ditto	
		(iii) Elect. Engg.	5 years	60	Ditto	
		(iv) Mech. Engg.	5 years	60	Ditto	
		(v) Metallurgical Engg.	5 years	50	Ditto	
		(vi) Aeronautical Engg.	5 years	20	Ditto	
8	Madan Mohan Malviya Engineering College, Gorakhpur (1962).	(i) Mech. Engg.	4 years	22	B.E.	Rs.376 per session in three instalments.
		(ii) Elect. Engg.	4 years	23	Ditto	
		(iii) Civil Engg.	4 years	15	Ditto	

8	9	10	11	12
<p>Scholarships of Rs. 75 p. m. awarded to 25 per cent of the students on the basis of their performance in the entrance examination of which 7 per cent is reserved on the basis of merit and 18 per cent for merit-cum-means. (Scholarships carry with them free tuition.) In addition, 10 per cent of the students are awarded free studenthip.</p>	<p>(i) Higher Secondary Exam. of recognized Board of Secondary Education either in the Science stream with Maths., Phy., and Chem. or in Technical stream., or (ii) Pre-University Exam. of a recognised University or Board with Phy., Chem., and Maths. after passing the Matriculation or School Final or S.S.L.C. or High School Exam. or equivalent examination conducted by a recognised University or Board, or (iii) Senior Cambridge or the Indian School Certificate Exam. with Elementary Maths. and Additional Maths., Phy., and Chem. as separate subjects, or, (iv) General Certificate Exam. ('O' level) with Chem., Maths. and Phy. as separate subjects, or (v) First Year Exam. of the two year Inter-Science or F.Sc. course of a recognised University or Board or Institute affiliated to a recognised University or Board with Chem., Maths., and Phy. as separate subjects, or (vi) Jamia Higher Secondary (Three-year course after VIII standard) with Chem., Maths. and Phy. as separate subjects, or (vii) First Year Exam. of the two year course of the Joint Services Wing of the National Defence Academy with Chem., Maths. and Phy. as separate subjects, and (viii) Army Higher Secondary Certificate Exam. with Chem., Maths. and Phy. (ix) Candidates who have passed the Intermediate Science or any higher examination of a recognised University or Board with Chem., Maths. and Phy. are also eligible.</p>	<p>Session July to April/May. Last date usually in 3rd week of Feb.</p>	<p>Minimum age 16 years on 1st October.</p>	<p>Candidates belonging to Scheduled Castes and Scheduled Tribes are extended certain concessions by way of award of some additional marks in the Entrance Examination to enable them being called for interview provided they reach the minimum marks required for the purpose by such award of additional marks.</p>
<p>(i) Merit-cum-means scholarships of Rs.75 p.m. of Govt. of India together with exemption from tuition fee. (ii) Merit scholarships of Rs.75 p.m., together with exemption from tuition fee. (iii) Stipends of Rs.50 p.m. (iv) Scholarships for— (a) students belonging to Uttarakhand Division. (b) Fighters of Freedom.</p>	<p>(i) Intermediate with Phy., Chem. and Maths. of any recognised Board or University in the Indian Union, or (ii) Pre-Engg. or Pre-Professional Exam. with Phy., Chem. and Maths, or (iii) Overseer Certificate or Diploma in Civil, Mechanical and Electrical recognised by the U. P. Govt., or (iv) First Year of the three year degree course with Phy., Chem. and Maths., or (v) B.A.(Hons.) Maths. of Delhi University provided science subjects were taken in H.S. Examination, or (vi) General certificate of Education Examination of the University of London with Phy., Chem., and Maths. at advanced level.</p>	<p>Session commences in August. Last date 14th June.</p>	<p>17 to 21 years. Relaxable up to three years, for Scheduled Castes and Scheduled Tribe candidates.</p>	<p>(1) 20 per cent seats reserved for S.C./S.T. candidates. (2) 2 seats for candidates coming from the districts of Uttarakhand Division of the State.</p>

APPENDIX

1	2	3	4	5	6	7
9	Motilal Nehru Regional Engineering College, Allahabad (1961).	(i) Civil Engg.	4 years	70	B.E. (Civil)	Tuition fee Rs.200 p.m.
		(ii) Elect. Engg.	4 years	90	B.E. (Elect.)	Other fees: Rs 415 p.m.
		(iii) Mech. Engg.	4 years	90	B.E. (Mech.)	
(The proposed intake in 1966-67						
10	Roorkee University, Roorkee (1847).	(i) Civil Engg.	4 years	120	B.E. (Civil)	Tuition fees Rs.316 p.a.
		(ii) Elect. Engg.	4 years	90	B.E. (Elect.)	Other fees: About Rs.386 per session.
		(iii) Mech. Engg.	4 years	90	B.E. (Mech.)	
		(iv) Tele-Communication Engg.	4 years	30	B.E. (Tele.-Com.).	
		(v) Architecture	5 years	30	B. Arch.	
		(vi) Metallurgy	4 years	60	B.E. (Met.)	
		(vii) Chem. Engg.	4 years	30	B.E. (Chem. Engg.)	

8	9	10	11	12	
<p>Merit and merit-cum-means scholarships each of Rs.75 per month to 25 per cent Students with exemption from tuition fee.</p>	<p>I. Sc. or equivalent with Phys., Chem. and Maths.</p>	<p>Session commences in July.</p>	<p>17 to 21 years, upper age limit relaxable by 3 years in case of S.C. and S. T. candidates.</p>	<p>50 per cent seats reserved for students of U. P. and 50 per cent for students of other States of India on population basis. 20 per cent seats reserved for S.C./S.T. candidates.</p>	
<p>is 360.)</p>	<p>33 Merit scholarships of Rs. 50 p.m. In addition, 3 scholarships for S. C. candidates.</p>	<p>(i) Intermediate Exam. with Maths., Phys., Chem. or Geology or Inter. Tech. Exam. of the Board of High School and Intermediate Education, U. P., or of any other recognised Board or University in the Indian Union, or (ii) Intermediate Exam. in Arts with Maths. of the Board of High school and Intermediate Education, U. P., or any other recognised Board or University in the Indian Union, provided that the High School Examination has been passed with Phys. and Chem. (This applies to candidates for Architecture Course only) or (iii) Higher School Certificate of the Cambridge University with Phys., Chem., and Maths., or (iv) Pre-Engineering Exam. or Pre-Professional Exam. of all statutory Universities in India with Maths., Phys. and Chem., or (v) B.Sc. Exam. of all statutory Universities in India with English, Maths., and Phys., or Chem. provided that Chem. or Phys., as the case may be, has been taken in the Higher Secondary or its equivalent Examination of the Board/University, or (vi) First Year Exam. of the 3 year degree course of statutory Universities in India with Maths., Phys. and Chem., or (vii) First Year Exam. of 5 year integrated course of all statutory Universities or of recognised Central Institutes, or (viii) B.A. (Honours) Maths. of the Delhi University provided Science subjects were taken in the Higher Secondary Exam., or (ix) Diploma in Civil/Electrical/Mechanical Engg. of the University of Roorkee or any other Diploma recognised by the University as equivalent to it, or</p>	<p>Session commences in July. Last date of application—31st January.</p>	<p>17 to 21 years on 1st October of the year, upper age limit relaxable by three year in the case of S.C. and S.T. candidates.</p>	<p>(i) 8 seats in Engg. and 2 seats for Architecture are reserved for women candidates who qualify in the examination. (ii) 20 per cent seats are reserved for S.C. and S. T. candidates, provided they qualify in the entrance examination. (iii) 3 seats are reserved for sons of the members of the old boy's association, one seat each for a candidate from tribal areas and for a candidate of Backward class are reserved over and above the normal strength</p>

1	2	3	4	5	6	7
11	U. P. Agriculture University, Pantnagar, College of Agriculture Engineering and Technology, Pantnagar (1962).	Agriculture Engg.	4 years	75	B.Sc. Ag. Engg. and Tech.	Rs.11 p.m.

Additional Information—The mode of admission in the institutions is by selection, except in Roorkee joint entrance examination is held for admissions to the Institutes at Kanpur, Madras, Kharagpur, Bombay and

8	9	10	11	12
	(x) Diploma in Engg. of the Board of Technical Education, U. P., Lucknow, or			
	(xi) Draughtsman Certificate or Diploma Exam. of the University of Roorkee, or			
	(xii) National Certificate in Engg. of All-India Council for Technical Education, or			
	(xiii) N.C.C. Exam. in Civil, Elect. and Mech. Engg. of the Board of Technical Education, Punjab, or			
	(xiv) The Second Year Exam. of the National Defence Academy, or			
	(xv) The General Certificate of Education Examination of the University of London with Phy., Chem. and Maths. at advanced level, or			
	(xvi) The German Abitur Exam. with Phy., Chem. and Maths., or			
	(xvii) Inter Science Exam. of Tribhuwan University, Nepal.			
One merit scholarship of Rs.75 p.m., in each class.	Intermediate with Maths., and Science or Intermediate with Agriculture.	Session commences in July, Last date—15th June.	Min.-16 years on 1st October.	10 per cent seats are reserved for nominees of Government of India.

University and Indian Institute of Technology, Kanpur. In case of Indian Institute of Technology, Kanpur, a Delhi. In case of Roorkee University, a separate competitive examination is held.

FACILITIES FOR DIPLOMA COURSES IN THE STATE—INSTITUTIONS

Sl. no.	Name of Institution, its location and year of establishment	Name of Course	Annual sanctioned intake	Duration	Tuition fee, if any
1	2	3	4	5	6
1	Allahabad Polytechnic, Allahabad (1955).	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering	60 60 60	3 years .. 3 years 3 years	Rs.240 p.a.
2	Chandauli Polytechnic, Chandauli (Varanasi) (1957).	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering	30 45 45	3 years .. 3 years 3 years	Rs.240 p.a.
3	D. J. Polytechnic, Baraut (Meerut) (1956).	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering	30 45 45	3 years .. 3 years 3 years	Rs.240 p.a.
4	D.N. Polytechnic, Meerut (1956).	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering	60 45 45	3 years .. 3 years 3 years	Rs.240 p.a.
5	Gandhi Polytechnic, Muzafranagar (1956).	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering	30 45 45	3 years .. 3 years 3 years	Rs.240 p.a.
6	Government Polytechnic, Aryanagar Settlement, Lucknow (1965).	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering	20 20 20	3 years .. 3 years 3 years	No tuition fee
7	Government Polytechnic, Azamgarh (1963).	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering	30 45 45	3 years .. 3 years 3 years	Rs.10 p.m.
8	Government Polytechnic, Clutterbuckganj, Bareilly (1957).	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering	60 60 60	3 years .. 3 years 3 years	Rs.10 p.m.
9	Government Polytechnic, Basti (1965).	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering	16 37 37	3 years .. 3 years 3 years	Rs.10 p.m.
10	Government Polytechnic, Faizabad (1963)	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering	30 45 45	3 years .. 3 years 3 years	Rs.10 p.m.

3.1

AFFILIATED TO THE BOARD OF TECHNICAL EDUCATION (AS IN 1965-66)

Scholarships and stipends, if any	Minimum admission qualification	Mode of Selection	Minimum and Maximum age requirements	Whether Government or Aided
7	8	9	10	11
(i) Merit Scholarships of Rs. 30 p.m., one for each course and each class.	45.0 per cent or above marks in the aggregate with Science and Maths. (not Elementary) in Higher Secondary or High School or equivalent examination from a recognised body (recognised by the Board of High School and Intermediate Education, U. P., Allahabad) or the Secondary Technical Certificate Examination conducted by the Board of Technical Education.	Selection according to Merit.	14 years to 21 years on 30th June of the year, upper age-limit relaxable by three years for S. C./S. T., Backward classes and other deserving candidates.	Aided
(ii) Stipends of Rs.25 p.m. to 5 per cent of the students.				
Ditto	Ditto	Ditto	Ditto	Ditto
Ditto	Ditto	Ditto	Ditto	Ditto
Ditto	Ditto	Ditto	Ditto	Ditto
Ditto	Ditto	Ditto	Ditto	Ditto
Scholarship of Rs.60 p.m. is given to each S.C. and B.C. student in addition to free hostel accommodation.	Ditto	Ditto	Ditto	Under the Department of Harijan and Social Welfare.
Nil	Ditto	Ditto	Ditto	Government
(i) 18 Merit Scholarships of Rs. 30 p.m.	Ditto	Ditto	Ditto	Ditto
(ii) 18 Stipends at Rs. 25 p.m.				
Nil	Ditto	Ditto	Ditto	Ditto
Nil	Ditto	Ditto	Ditto	Ditto

APPENDIX

1	2	3	4	5	6
11	Government Polytechnic, Gonda (1965).	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering	10 25 25	3 years 3 years 3 years	.. Rs.10 p.m.
12	Government Polytechnic, Gorakhpur (1909).	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering	90 105 105	3 years 3 years 3 years	.. Rs.10 p.m.
13	Government Polytechnic, Jhansi (1957).	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering	60 60 60	3 years 3 years 3 years	.. Rs.10 p.m.
14	Government Polytechnic, Kanpur (1962).	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering (iv) Partime Courses in the above three bran- ches of Engineering.	60 90 90 100	3 years 3 years 3 years 4 years	.. Rs.10 p.m. .. No tuition fee
15	Government Polytechnic, Lucknow (1892).	(i) Civil Engineering (Civil Construction Technology). (ii) Electrical Engineering (iii) Mechanical Engineering (Machine Tool Techno- logy).	90 105 105	2 years 2 years 2 years	.. Rs. 10 p.m.
16	Government Polytechnic, Mirzapur (1964).	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering	30 45 45	3 years 3 years 3 years	.. Rs. 10 p.m.
17	Government Polytechnic, Moradabad. 1964.	(i) Civil Engineering .. (ii) Electrical Engineering (iii) Mechanical Engineering	60 60 60	3 years 3 years 3 years	.. Rs. 10 p.m.
18	Handia Polytechnic, Handia (Allahabad) (1957).	(i) Civil Engineering (ii) Electrical Engineering (iii) Mechanical Engineering	30 45 45	3 years 3 years 3 years	.. Rs. 240 p.a.

3.1—(contd.)

7	8	9	10	11
Nil	.. Same as in Sl. 1	.. Same as in Sl. 1	Same as in Sl. 1	Government
(ii) 6 Scholarships of Rs. 15 p.m.	Ditto	Ditto	Ditto	Ditto
(iii) 23 Scholarships of Rs. 12 p.m.				
(ii) 25 stipends of Rs. 5 p.m.				
(i) 18 Merit Scholarships at Rs. 30 p.m.	Ditto	Ditto	Ditto	Ditto
(ii) 18 Stipends of Rs. 25 p.m.				
	Ditto	Ditto	Ditto	Ditto
Nil	High School with at least 2 years practical experience of a technical nature in a Government Department or Industry.	By Selection	No upper age-limit.	Ditto
(i) 2 Scholarships of Rs. 12 p.m.	Intermediate with 45.0 per cent marks in the aggregate with Phy., Chem. and Maths.	Same as in Sl. 1	Ditto	Ditto
(ii) 4 Scholarships of Rs. 10 p.m.				
(iii) 3 Stipends of Rs. 15 p.m.				
Nil	45.0 per cent or above marks in the aggregate with Science and Maths. (not Elementary) in Higher Secondary or High School or equivalent examination from a recognised body (recognised by the Board of High School and Intermediate Education U. P., Allahabad) or the Secondary Technical Certificate Examination conducted by the Board of Technical Education.	Ditto	Ditto	Ditto
Nil	Ditto	Ditto	Ditto	Ditto
Same as in Sl. 1	Ditto	Ditto	Ditto	Aided

APPENDIX

1	2	3	4	5	6	
19	Hewett Polytechnic, Lucknow (1904).	(i) Civil Engineering .. (ii) Electrical Engineering .. (iii) Mechanical Engineering (iv) Part-time courses in the above three branches of Engineering.	60 90 90 100	3 years 3 years 3 years 4 years	.. .. ..	Rs. 240 p.a. No tuition fee
20	K. L. Polytechnic, Roorkee (1956).	(i) Civil Engineering .. (ii) Electrical Engineering .. (iii) Mechanical Engineering	60 60 60	3 years 3 years 3 years	..	Rs. 240 p.a.
21	Lucknow Polytechnic, Lucknow (1922).	(i) Civil Engineering .. (ii) Electrical Engineering .. (iii) Mechanical Engineering	90 75 75	3 years 3 years 3 years	..	Rs. 240 p.a.
22	M. G. Polytechnic, Hathras (1955).	(i) Civil Engineering .. (ii) Electrical Engineering .. (iii) Mechanical Engineering	60 60 60	3 years 3 years 3 years	..	Rs. 240 p.a.
23	M. P. Polytechnic, Gorakhpur (1956).	(i) Civil Engineering .. (ii) Electrical Engineering .. (iii) Mechanical Engineering	30 45 45	3 years 3 years 3 years	..	Rs. 240 p.a.
24	Naini Tal Polytechnic, Naini Tal (1957).	(i) Civil Engineering (Civil Construction Technology). (ii) Electrical Engineering .. (iii) Mechanical Engineering (Machine Tool Technology).	60 60 60	2 years 2 years 2 years	..	Rs. 240 p.a.
25	P.M.V. Polytechnic, Mathura (1909).	(i) Civil Engineering .. (ii) Electrical Engineering .. (iii) Mechanical Engineering	60 60 60	3 years 3 years 3 years	..	Rs. 240 p.a.
26	Seth Ganga Sagar Jatia Polytechnic, Khurja (1960).	(i) Civil Engineering .. (ii) Electrical Engineering .. (iii) Mechanical Engineering	60 60 60	3 years 3 years 3 years	..	Rs. 10 p. m.
27	Technical College, Dayalbagh, Agra (1927).	(i) Electrical Engineering .. (ii) Mechanical Engineering (iii) Post-Diploma in Automobile Engineering.	60 60 10	3 years 3 years 1 year	.. ..	Rs. 180 p.a. No tuition fee
28	Town Polytechnic, Ballia (1956).	(i) Civil Engineering .. (ii) Electrical Engineering .. (iii) Mechanical Engineering	30 15 15	3 years 3 years 3 years	..	Rs. 240 p.a.
29	Government Girls' Polytechnic, Lucknow (1963).	(i) Electronics (ii) Architectural Assistantship.	30 20	3 years 3 years	.. ..	Nil

3.1—(contd.)

7	8	9	10	11
Same as in Sl. 1	Same as in Sl. 1	Same as in Sl. 1	Same as in Sl. 1	Aided
..	High School with at least 2 years' practical experience of a technical nature in a Government Department or Industry.	By selection	No upper age-limit.	Ditto
Ditto	.. Same as in Sl. 1 ..	Same as in Sl. 1	Same as in Sl. 1 ..	Ditto
Ditto	.. Ditto	Ditto ..	Ditto ..	Ditto
Ditto	.. Ditto	Ditto ..	Ditto ..	Ditto
Ditto	.. Ditto	Ditto ..	Ditto ..	Ditto
Ditto	.. Intermediate with 45.0 per cent marks in the aggregate with Phy., Chem. and Maths.	Ditto ..	Ditto ..	Ditto
Ditto	.. Same as in Sl. 1 ..	Ditto ..	Ditto ..	Ditto
Nil	.. Ditto	Ditto ..	Ditto ..	Government
Nil	.. Ditto	Ditto ..	Ditto ..	Aided
..	Diploma in Electrical and Mech. Engg.	Ditto ..	No upper age-limit	
Same as in Sl. 1.	.. Same as in Sl. 1 ..	Ditto ..	Same as in Sl. 1 ..	Ditto
Stipends of Rs. 50 p.m. to 50 per cent of the Students.	45.0 per cent marks either in aggregate or only in Science and Mathematics (taken together) at the High School or equivalent examination.	Ditto ..	Minimum—15 years. No upper age-limit.	Government
Ditto	.. 45.0 per cent marks either in aggregate or only in Mathematics in High School or its equivalent examination.			

APPENDIX

1	2	3	4	5	6
		(iii) Stenography and Secretarial Practice.	30	2 years	..
30	Government Central Textile Institute, Kanpur (1914).	(i) Textile Technology .. (ii) Textile Chemistry ..	20 10	3 years 3 years	.. Rs. 10 p.m.
31	Government Leather Institute, Kanpur (1916).	Leather Technology (Tanning)	10	2 years	.. Rs. 36 p.a.
32	Government Leather Institute, Agra (1963).	Leather Technology (Tanning)	10	2 years	.. Rs. 36 p.a.
33	Northern Regional Institute of Printing Technology, Allahabad (1957).	(i) Printing Technology (Letter Press Printing). (ii) Printing Technology (Lithography). (iii) Part-time courses in the above two branches.	30 30 60	3 years 3 years 4 years	.. Rs. 72 p.a. Rs. 60 p.a.
34	Government College of Arts and Crafts, Lucknow (1911).	(i) Architectural Assistantship	30	3 years	Rs. 5 p.m.
(The College runs other Diploma Courses					
35	School of Paper Technology, Saharanpur (1965).	(i) Pulp and Paper Technology.	15	2 years	Rs. 180 p.a.

(The School runs a Operative

ADDITIONAL INFORMATION—

1. 18 per cent of seats are reserved for Scheduled Caste Candidates except at Serial 6 in which case the reservation is 70 per cent for Scheduled Caste and 15 per cent for Backward Classes. 5 per cent reduction in minimum percentage of marks is allowed to Scheduled Caste students where the minimum prescribed requirement is 45 per cent marks either in the aggregate or in any individual subject.

2. Some seats are also reserved for (i) students from border area (Uttarakhand Division comprising of three districts—Chamoli, Uttarkashi and Pithoragarh), (ii) sons, daughters or wards wholly dependent on military personnel in active service, (iii) political sufferers fighters of freedom or their direct male descendents or the direct male descendents of the real brother of political sufferers fighters for freedom and (iv) children/wards of Goldsmiths who have been adversely affected by promulgation of the Gold Control Rules.

3. The minimum qualification for admission of candidates from border areas and for sons, daughters or wards wholly dependent on military personnel in active service, seeking admission against reserved seats is 45.0 per cent marks obtained in Science and Mathematics (taken together—irrespective of marks in the aggregate) at the High School or Higher Secondary or an examination recognised equivalent thereto.

3.1—(concl'd.)

	7	8	9	10	11
Stipends of Rs. 25 p.m. to 33 per cent of the students.		High School or Higher Secondary or equivalent examination.			
18 Stipends of Rs. 30 p.m.		Same as in Sl. 1	Same as in Sl. 1	Same as in Sl. 1	Government
12 Stipends of Rs. 30 p.m.		Ditto	Ditto	Ditto	Ditto
20 Stipends of Rs. 25 p.m.		Ditto	Ditto	Ditto	Ditto
(i) 10 Scholarships of Rs. 30 p.m.		High School	Ditto	Ditto	Ditto
(ii) 24 Stipends of Rs. 25 p.m.		Ditto	By selection	No upper age limit.	
Some Scholarships are awarded.		45.0 per cent marks in aggregate with Mathematics at the High School or equivalent examination.	Same as in Sl. 1	Same as in Sl. 1	Under the Department of Cultural Affairs and Scientific Research.
and they are mentioned in Appendix 3.2)					
One Scholarship and one Stipend of Rs. 75 p.m. each in First and second year.		B.Sc. with Phy., Chem., and Maths. or equivalent examination.	Ditto	Minimum— 14 years. Maximum— 24 years.	Aided

Certificate Course also and is mentioned in Appendix 5.4)

4. The session starts on 15th July in First year.

5. The last date for receipt of applications for admission is generally 5th July.

6. The Administrative Department in respect of all institutions except at Serials 6 and 34 is the Directorate of Technical Education, Uttar Pradesh, Kanpur.

7. Freeships and half freeships are given to 15 per cent and 30 per cent students respectively in all institutions under the administrative control of the Director of Technical Education.

8. In addition to the Scholarships and Stipends shown in Column 7, some merit-cum-means scholarships of Rs. 50 p.m. are awarded by Government of India.

APPENDIX
FACILITIES FOR DIPLOMA COURSES IN THE STATE

Sl. no.	Name of institution, its location, with year of establishment	Courses offered	Sanctioned intake	Duration	Fees, if any	Scholarships, Stipends and freships, if any	
1	2	3	4	5	6	7	
1	Aligarh Muslim University Aligarh. Muslim University Polytechnic (1937).	(i) Civil Engineering (ii) Electrical Engineering (iii) Mechanical Engineering	120 60 60	3 years 3 years 3 years	Rs. 110 p.a.	(i) 45 resident Studentships of Rs. 30 p.m. (ii) 20 non-resident Studentship of Rs.10 per month. (iii) Merit Scholarships from the common pool of Rs. 1,500, (iv) 5 Merit Scholarships of Rs. 60 p.m. (v) 14 Merit Scholarships of Rs. 50 p.m.	
2	Balwant Vidyapeeth Institute of Rural Higher Education, Bichpuri (Agra) (1956).	(i) Civil and Rural Engineering.	60	3 years	Rs. 12 p.m.	Government of India Stipends of Rs. 50 p.m. for 20% of the number of students in the 1st year class or Rs. 25 p. m. to 40 per cent of the students of 1st year class. 10 per cent of the students are also allowed freships and other 10 per cent half freships.	
3	Government College of Arts and Crafts, Lucknow (1911).	(i) Fine Art (ii) Commercial Art (iii) Sculpture (iv) Litho Process, Photo Mechanical.	— — — —	30 30 5 years 2	5 years 5 years 5 years 5 years	Rs. 5 p.m. Rs. 5 p.m. Rs. 5 p.m. Rs. 2 p.m.	(a) One Entrant Scholarship of Rs. 50 p.m. for 10 months. (b) Seventy stipends of Rs. 30 p.m. each for Art students tenable for 10 months. (c) Two Post-Diploma Scholarships at the rate of Rs. 75 p.m. each for 10 months. (d) Thirty Stipends of Rs.20 each for Craft students.
4	Indian Institute of Handloom Technology, Varanasi (1911).	(i) Handloom Technology	20	3 years	No tuition fee is charged.	A sum of Rs. 60 p.m. is given as Stipend to all the trainees.	

3.2

NOT COVERED IN APPENDIX 3.1 (AS IN 1965-66)

Admission qualification	Method of selection	Age requirement	Whether Government or Aided	Examining Body
8	9	10	11	12
High School with Maths. and Science as optional subjects, or a higher examination with Phy., Chem. and Maths. with at least 45 per cent of marks in these subjects.	By interview	.. 15 to 21 years	Autonomous ..	Aligarh Muslim University.
High School in IInd Division with Physics, Chemistry and Mathematics.	Merit and interview	.. 16 to 20 years	Managing Body.	Diploma awarded by National Council for Rural Higher Education, Ministry of Education, Government of India.
High School with Art	On the basis of test and viva voce.	14 to 21 years	Under the Cultural Affairs and Scientific Research Department.	The first three Courses have been reorganised from 1964 on the pattern of National Diploma of the All-India Council for Technical Education. The nomenclature of the award is under consideration.
..	..	15 to 18 years	..	The college conducts its own examination and awards a Diploma.
High School with Science (Phy., and Chem.) and Maths.	Selection of candidates is made with the help of respective State Governments.	Minimum 16 years.	Government of India.	All India Handloom Board,, Government of India.

PARTICULARS OF SOME INSTITUTIONS OUTSIDE THE STATE OFFERING

Serial no.	Name of Institution, its location with the year of establishment	Courses offered	Annual sanctioned intake	Duration of course
1	2	3	4	5
POST-GRADUATE				
1	Alagappa Chettiar College of Technology, Guindy, Madras (Madras)(1944).	(i) Chemical Engineering (ii) Textile Technology (iii) Leather Technology	.. 10 .. 5 .. 5	2 Years Ditto Ditto
DEGREE				
		(i) Chemical Engineering (ii) Textile Technology (iii) Leather Technology	.. 60 .. 30 .. 10	5 Years Ditto Ditto
POST-GRADUATE				
2	Bengal Engineering College, Shibpore Howrah (West Bengal) (1857).	(i) Civil Engineering (ii) Mechanical Engineering (iii) Electrical Engineering (iv) Metallurgical Engineering	.. 30 for all courses	2 Years Ditto Ditto Ditto
POST-GRADUATE DIPLOMA				
		Town and Regional Planning		2 Years
DEGREE				
		(i) Civil Engineering (ii) Mechanical Engineering (iii) Electrical Engineering (iv) Metallurgical Engineering (v) Mining (vi) Tele-Communication (vii) Architecture	.. 160 .. 60 .. 60 .. 30 .. 30 .. 40 .. 20	5 Years Ditto Ditto Ditto Ditto Ditto 6 Years
POST-GRADUATE				
3	Birla Institute of Technology and Science, Pilani (Rajasthan) Faculty of Engineering and Technology [Previously Birla College of Engineering (1946)].	(i) Electronics (ii) Electronics (iii) Mechanical Engineering (iv) Electrical Engineering (v) Civil Engineering	.. 10 .. 10 .. 10 .. 10 .. 10	2 Years Ditto Ditto Ditto Ditto
DEGREE				
		(i) Mechanical Engineering (ii) Electrical Engineering (iii) Tele-Communication (iv) Civil Engineering (v) Chemical Engineering	.. 90 .. 90 .. 30 .. 60 .. 30	5 Years Ditto Ditto Ditto Ditto

FACILITIES AT THE POST-GRADUATE AND DEGREE LEVEL (AS IN 1965-66)

Minimum admission qualification	Age requirements	Start of session	Whom to write for further information	Award	Reservation of seats, if any
6	7	8	9	10	11
B. Tech. or B.Sc. (Tech.) Degree Examination of the University of Madras in the particular branch of study or an examination of some other university accepted by the Syndicate as equivalent thereto.	No age requirement	October	The Director	M. Tech.	Nil
Pre-University Examination of the University of Madras with Maths. and Physical Sciences as optional subjects under Part III ; or any examination recognised as equivalent thereto.	Min. 15½ years in July.	July		B. Tech.	30 per cent seats are reserved for candidates appearing from outside the Madras State.
B. E. Degree in the respective branch.	No age limit	30th August	The Principal	M.E.(Civil) M.E.(Mech.) M.E.(Elect.) M.E.(Met.)	Nil
B. E. Degree in Civil Engg. or B. Arch. Degree.	Ditto	2nd August		Diploma	Nil
Pre-University of the Calcutta University or its equivalent with Phy., Chem. and Maths.	Max. 19 years	5th July		B.E.(Civil) B.E.(Mech.) B.E.(Elect.) B.E.(Met.) B.E.(Min.) B.E.(Tele.-Com.) B. Arch.	A total number of 15 seats are reserved for the students belonging to other States.
M.Sc. (Phy.) B.E. (Tele.-Com.) B.E. (Mech.) B.E. (Elect.) B.E. (Civil)	No age restriction	15th July	The Dean	M.Sc.(Tech.) Electronics M.E.(Elect.) M.E.(Mech.) M.E.(Elect.) M.E.(Civil.)	Students are admitted from all States in India. A few seats are reserved for S. C./S.T. students.
Higher Secondary or its equivalent.	16 years	10th July		B.E.(Mech.) B.E.(Elect.) B.E.(Tele.-Com.) B.E.(Civil) B.E.(Chem.)	Ditto

1	2	3	4	5
		POST-GRADUATE		
4	Birla Institute of Technology, Mesra, Ranchi (Bihar) (1955).	(i) Electrical Engineering (ii) Mechanical Engineering (iii) Communication Engineering	5 5 5	2 Years Ditto Ditto
		POST-GRADUATE DIPLOMA		
		(i) Space Engineering and Rocketry	10	1 Year
		DEGREE		
		(i) Electrical Engineering (ii) Mechanical Engineering (iii) Civil Engineering	90 120 90	5 Years Ditto Ditto
		(It is proposed to start a course in Production Engineering		
		POST-GRADUATE		
5	Birla Vishvakarma Mahavidyalaya (Engineering College) Vallabh Vidyanagar, Kaira (Gujarat) (1948).	1. CIVIL ENGINEERING (i) Dam Design, Irrigation and Hydraulics. (ii) Structural Engineering including Concrete Technology.		2 Years Ditto
		2. MECHANICAL ENGINEERING (i) Vibrations (ii) Refrigeration and Air Condi- tioning. (iii) Turbo Machinery		2 Years Ditto Ditto
		3. ELECTRICAL ENGINEERING (i) Electrical Power System (ii) Applied Electronics (iii) Electrical Machine Design		2 Years Ditto Ditto
		DEGREE		
		(i) Civil Engineering (ii) Mechanical Engineering (iii) Electrical Engineering	120 90 90	5 Years Ditto Ditto

4. (contd.)

6	7	8	9	10	11
B.Sc. (Engg.) in Electrical, Mechanical, Communication or equivalent.	No age restriction	15th August	The Registrar	M.Sc.(Engg.)	Nil
B.Sc. (Engg.) Electrical and Mechanical.	Ditto	Ditto		Diploma	Nil
Higher Secondary/Pre-University or equivalent.	Min.—16 years. Max.—20 years.	15th July		B.Sc.(Engg.)	Admissions are made on merit and State-wise.
with an intake of 30 students from the Session 1966-67.)					
B.E. (Civil) Ditto	No age limit	1st July	The Principal	M.E. (Civil.)	Nil
B.E. (Mech.) Ditto Ditto				M.E. (Mech.)	
B.E. (Elect.) Ditto Ditto				M.E. (Elect.)	
Preparatory Science or its equivalent Examination.	16 years	15th June		B.E. (Civil) B.E. (Mech.) B.E. (Elect.)	Preference is given to Scheduled Caste and Scheduled Tribes students provided they come up to the standard of admission. 10 seats are reserved for the students coming from outside Gujarat State Universities.

1	2	3	4	5
		DEGREE		
6	Calicut Regional Engineering College, Chathamangalam (Kozhikode Kerala) (1961).	(i) Civil Engineering (ii) Mechanical Engineering (iii) Electrical Engineering	.. 50 .. 65 .. 65	5 Years Ditto Ditto
			(Proposed to be increased to 250 from 1966-67)	
		DEGREE		
7	College of Ceramic Technology, Calcutta (West Bengal) (1962).	Ceramic Technology	12	4 Years
		POST-GRADUATE		
8	College of Engineering and Technology, Jadavpur, Jadavpur University, Calcutta (West Bengal) (1906).	(i) Chemical Engineering (ii) Electrical Engineering (iii) Civil Engineering (iv) Mechanical Engineering (v) Tele-Communication Engineering (vi) Food Technology	.. 20 .. 20 .. 20 .. 20 .. 20 .. 6	2 Years Ditto Ditto Ditto Ditto Ditto
		DEGREE		
		(i) Architecture (ii) Chemical Engineering (iii) Civil Engineering (iv) Electrical Engineering (v) Mechanical Engineering (vi) Tele-Communication Engineering	.. 30 .. 60 .. 90 .. 90 .. 90 .. 40	5 Years Ditto Ditto Ditto Ditto Ditto
		(vii) Pharmacy	.. 80	4 Years
		(viii) Food Technology and Bio-Chemical Engineering.	15	3 Years
	(It is proposed to start degree courses in Metallurgy and Instrumentation and Control Engineering			
		DEGREE		
9	College of Leather Technology, Calcutta (West Bengal) (1919).	Leather Technology	.. 15	4 Years
		DEGREE		
10	College of Textile Technology, Serampore (West Bengal) (1908).	Textile Technology	.. 33	4 Years

6	7	8	9	10	11
PUC or equivalent examination with 50 per cent marks each in Maths. and Physical Sciences (Physics and Chemistry combined), 45, per cent marks for Scheduled Caste and Scheduled Tribes.	Min. 16 years and Max. 21 years as on 1st Oct. of the academic year.	14th July	The Principal	B.Sc. Engg. in the respective branch.	50 per cent seats are reserved for students of Kerala and 50 per cent seats are reserved on the basis of population for other States of India.
Higher Secondary or Pre-University examination with Phy., Chem. and Maths.	Max. 19 years	September	The Principal	B.Sc. (Tech.) in Ceramic Technology.	2 seats reserved for other States.
B.Ch.E. B.E.E. B.C.E. B.M.E. B. Tel. E. B. Tech. or B. Ch. E. with Food Tech. as one of the subjects.	No age restriction	16th August	The Registrar, Jadavpur University.	M.Ch.E. M.E.E. M.C.E. M.M.E. M.Tel. E. M. Tech.	Nil
Higher Secondary or equivalent examination with Phy., Chem. and Maths. and should have obtained atleast 50 per cent marks in Maths. or 60 per cent in average in Phy., Chem. and Maths.	Min. 16 years Max. 19 years	1st July		B. Arch. B.Ch.E. B.C.E. B.E.E. B.M.E. B.Tel. E.	Some seats are reserved for Union Territories Jammu and Kashmir, Himachal Pradesh, Rajasthan, Assam, Bihar and Orissa.
Higher Secondary or equivalent Exam. or diploma in Pharmacy.	Min. 16 years Max. 19 years (22 years in case of B.Sc. and 25 years for diploma holders.)	Ditto		B. Pharm.	
B.Sc. with Phy., Chem. and Maths.	22 years	Ditto		B. Tech.	Nil
and post-graduate courses in Pharmacy and Library Science from the session 1966-67)					
Higher Secondary or Pre-University with Phy., Chem. and Maths.	Max. 19 years relaxable up to 21 years in case of S.C. and S.T. and other backward class candidates.	August	The Principal	B.Sc. (Tech.)	5 seats reserved for the nominees of other States.
Higher Secondary exam. or its equivalent with Phy., Chem. and Maths.	19 years on 1st January	July	The Principal	B.Sc. Tech. (Textile).	Nil

1	2	3	4	5
		DEGREE		
11	College of Textile Technology, Berhampore (West Bengal) (1927).	Textile Technology	33	4 Years
		DEGREE		
12	Delhi College of Engineering, Delhi (Delhi) [formerly Delhi Polytechnic (1941).]	(i) Mechanical Engineering ..	90	5 Years
		(ii) Electrical Engineering ..	90	Ditto
		(iii) Civil Engineering ..	70	Ditto
		DEGREE (PART-TIME)		
		(i) Mechanical Engineering ..	45	5 Years
		(ii) Electrical Engineering ..	45	Ditto
		(iii) Civil Engineering ..	30	Ditto
		POST-GRADUATE		
13	Department of Chemical Engineering and Technology, Punjab University, Chandigarh (Punjab) (1958).	Chemical Engineering ..	10	2 Years
		DEGREE		
		Chemical Engineering and Technology.	60	4 Years
		POST-GRADUATE		
14	Department of Pharmacy, Punjab University, Chandigarh (Punjab) (1944).	(i) Pharmaceutical Chemistry ..	10	2 Years
		(ii) Pharmacognosy ..	for all courses.	
		(iii) Pharmaceutics ..		
		(iv) Pharmacology ..		
		DEGREE		
		(i) Pharmacy ..	25	3 Years

6	7	8	9	10	11
(1) Higher Secondary in (a) Science Group, (b) Technical Group with Phy., Chem. and Maths. or, (2) Pre-University course of Calcutta University with Phy., Chem., and Maths. or an equivalent examination recognised by the University of Calcutta.	Maximum 19 years, relaxable by the Government up to 21 years in exceptional cases of deserving candidates belonging to the educationally backward classes and communities.	July	The Principal	B.Sc. (Tech.)	Three seats reserved for the students from Manipur, Assam and Orissa States.
Higher Secondary or equivalent with Eng., Phy., Chem., Maths. with 60% marks in the aggr. (55% for S.C./T.)	Min. 16 years	16th July	The Deputy Administrative Officer.	B.Sc. (Mech.) B.Sc. (Elect.) B.Sc. (Civil)	15% of total seats in each course for Scheduled Castes and 5 per cent for Scheduled Tribes. Vacancies are mutually interchangeable. 5% of total seats for Centrally Administered Territories other than Delhi. 75% seats for Delhi Candidates.
State Diploma or other exam. equivalent to the National Certificate of A.I.C.T.E. in E.M.C. Engg. with 66 per cent marks in aggr. (61 for S.C./T.)	Ditto	Ditto		B.E. (Tech.) (M.ch.) B.E. (Tech.) (Elect.) B.E. (Tech.) (Civil)	Ditto
First class graduate in Chemical Engineering.	No age restriction	1st August	The Head of Chemical Engineering Department.	M.Sc. Chem. Engg.	No reservation
At least 50% marks in Phy., Maths. and Chem.	No age limit at present.	First week of July.		B.Sc. Chem. Engg. and Tech.	Ditto
B. Pharm.	Nil	June	The Head of the Department.	M. Pharm.	Nil
Diploma in Pharmacy or Pre-Medical.	Ditto	Ditto	Ditto	B. Pharm.	The candidate of the Scheduled Caste is given credit of 10 per cent of marks to compete for the merit and if he comes in the list, he is selected.

1	2	3	4	5
		POST-GRADUATE		
15	Department of Chemical Technology, Bombay University, Bombay (Maharashtra) (1934).	(i) Food Technology	Not available	2 Years.
		(ii) Chemical Engineering	available	Ditto
			(A number of post-graduate courses	
		DEGREE		
		(i) Textile Chemistry	34	3 Years
		(ii) Food Technology	15	Ditto
		(iii) Technology of Intermediates and Dyes	16	Ditto
		(iv) Technology of Plastics	8	Ditto
		(v) Technology of Pigments, Paints and Var-nishes.	8	Ditto
		(vi) Technology of Oils, Fats and Waxes..	16	Ditto
		(vii) Technology of Pharmaceuticals and Fine Chemicals.	18	Ditto
		(viii) Chemical Engineering	60	4 Years
		(ix) Pharmaceutics	15	3 Years
		POST-GRADUATE		
16	Engineering College, Anna-malai University, Annamalai-nagar (Madras) (1945)	1. Civil Engineering—		2 Years
		(i) Structural Engineering		Ditto
		(ii) Soil Mechanics and Foundation Engineering.	15 for both courses.	
		2. Mechanical Engineering—		
		(i) Heat Power Engineering	6	Ditto
		3. Electrical Engineering—		
		(i) Power System Engineering	10	Ditto
		4. Chemical Engineering	Not known	Ditto
		DEGREE		
		(i) Civil Engineering	60	5 Years
		(ii) Mechanical Engineering	60	Ditto
		(iii) Electrical Engineering	60	Ditto
		(iv) Chemical Engineering	60	Ditto
		DEGREE		
17	Faculty of Engineering, (M.B.M. Engineering College, Univer-sity of Jodhpur, Jodhpur (Rajasthan) (1951).	(i) Civil Engineering	90	5 Years
		(ii) Mechanical Engineering	60	Ditto
		(iii) Electrical Engineering	60	Ditto
		(iv) Mining Engineering	40	Ditto

	6	7	8	9	10	11
Degree in respective branch.	..	No age restriction	Information not available.	The Director of the Department.	M.Sc. (Tech.) Ditto	Nil
are being added from 1966)						
For courses (i) to (vii) B.Sc., with principal Chem., subsidiary Phy. and subsidiary Botany only for Pharmaceuticals and Fine Chemicals.	Ditto		20th June ..	..	B.Sc. (Tech.)	Information not available.
I.Sc. with Phy., Chem. and Maths	Ditto	..	Ditto ..	..	B. Chem. Engg.	Ditto
I.Sc. with Phy., Chem. and Biology.	Ditto	..	Ditto ..	..	B.Pharm.	Ditto
B.E. (Civil)	..	.. No age restriction	Third week of July.	The Registrar	M.Sc. (Engg.)	Nil
B.E. (Mech.)	..	..	..	..	Ditto	.. Nil
B.E. (Elec.)	..	..	..	..	Ditto	.. Nil
B.E. (Chem.)	..	..	..	..	M.E. (Chem.)	Nil
A pass in P.U.C. with Maths. and Physical Science as optional subjects with not less than 110 marks in Maths. and Physical Science put together and not lower than 'B' Grade in either.	21 years on 1st July		Ditto ..	..	B.E. (Civil) B.E. (Mech.) B.E. (Elec.) B.E. (Chem.)	15% for Scheduled Caste and 5% for Scheduled Tribes. 30% of the seats are reserved for States other than Madras.
Higher Secondary or its equivalent.	16 to 21 years	..	July ..	The Dean	B.E. (Civil) B.E. (Mech.) B.E. (Elec.) B.E. (Mining)	(i) 50% for bonafide residents of Rajasthan, (ii) 2 seats in each of the cases for candidates from J and K and Gujarat. (iii) 20% for S.C. and S. T.

1	2	3	4	5
POST-GRADUATE				
18 Faculty of Technology and Engineering, M. S. University of Baroda, Baroda (Gujarat) (1889).	1. Civil Engineering	40	2 Years	
	(i) Soil Mechanics and Foundation Engineering.			
	(ii) Highway and Bridge Engineering			
	(iii) Hydraulic Structures			
	(iv) Public Health Engineering			
	(v) Structural Engineering			
	2. Mechanical Engineering ..	15	Ditto	
	(i) Internal Combustion Engineering			
	(ii) Production Engineering			
	3. Electrical Engineering ..	15	Ditto	
(i) Servo-Mechanism and Automatic Control Devices.				
(ii) Electric power				
4. Textile Engineering	10	Ditto		
5. Architecture	10	Ditto		
(i) Urban Design				
POST-GRADUATE DIPLOMA				
	Refrigeration and Air-Conditioning ..	10	1 Year	
DEGREE				
	(i) Chemical Engineering. . . .	30	5 Years	
	(ii) Civil Engineering	120	Ditto	
	(iii) Mechanical Engineering ..	90	Ditto	
	(iv) Electrical Engineering ..	90	Ditto	
	(v) Textile Engineering	30	4 Years	
	(vi) Textile Technology	30	Ditto	
	(vii) Architecture	40	5 Years	
DEGREE				
19 Guru Nanak Engineering College, Ludhiana (Punjab) (1953) (Degree courses started in 1956).	(i) Civil Engineering	60	4 Years	
	(ii) Mechanical Engineering ..	60	Ditto	
	(iii) Electrical Engineering ..	60	Ditto	
POST-GRADUATE				
20 Indian Institute of Science, Bangalore (Mysore) (1909),	(i) Aeronautical Engineering ..	24	2 Years	
	(ii) Internal Combustion Engineering	24	Ditto	

6	7	8	9	10	11
Bachelors degree in the respective branch with first class or Higher second class.	No age restriction	15th August	The Dean	M.E.	20% seats are reserved for Scheduled Caste and Scheduled tribes candidates.
.. ..	..	..	..	Ditto	
.. ..	..	..	..	Ditto	
.. ..	..	..	..	Ditto	
.. ..	..	..	..	M. Arch.	
Ditto	Ditto	Ditto	Ditto	Post-graduate Diploma.	Ditto
Preparatory Science of M. S. University or F.Y.Sc. or Higher Secondary School certificate or equivalent with at least 50% marks.	16 to 24 years	20th June	..	B.E. (Chem.) B.E. (Civil) B.E. (Mech.) B.E. (Elect.)	20% seats are reserved for Scheduled Caste and Scheduled tribes candidates.
Same qualification as above but with at least 45% marks.	..	..	..	B. Text. (Engg.) B. Text. (Tech.) B. Arch.	
Ditto .. ..	..	..	..
Pre-Engg./F.Sc. (Non-medical) with Phy., Chem., Maths. & English of Punjab University or any equivalent examination with not less than 50 per cent. marks excluding optional subject.	Between 16 and 22 years on 1st October,	16th July	The Principal	B.Sc. (Civil Engg.).. B.Sc. (Mech. Engg.) B.Sc. (Elect. Engg.)	20% for Scheduled Caste and 5% for other States.
..		
I or II class in Aeronautical, Mechanical, Electrical or Civil Engineering or I or II class Diploma of Madras Institute of Technology in Aeronautical Engineering with at least 50% marks in aggregate.	No age restriction	1st August	The Registrar	M.E.	.. Nil.
I or II class B.E./B. Tech./B.Sc. (Engg.) in Mechanical Engg. or I or II class Diploma of Madras Institute of Technology in Automobile Engineering with at least 50% marks in the aggregate.	..	..	..	Ditto	

1	2	3	4	5
		(iii) Metallurgy	.. 20	2 Years
		(iv) Electrical Engineering	.. 24	Ditto
		(v) Mechanical Engineering	.. 30	Ditto
		(vi) Civil and Hydraulic Engineering	30	Ditto
		(vii) High Voltage Engineering	.. 10	Ditto
		(viii) Electrical Communication Engineering.	.. 16	Ditto
		(ix) Chemical Engineering	.. 24	Ditto
		DEGREE		(Facilities for Ph.D. are available
		(i) Metallurgy	.. .. 36	3 Years
		(ii) Electrical Technology	.. 30	Ditto

6	7	8	9	10	11
I or II class B.E./B. Tech./ B.Sc. (Engg.) in Metallurgy or D. I. I. Sc. or B.E. of Indian Institute of Science, with at least 50% marks in the aggregate.	No age restriction	1st August	The Registrar	M.E.	Nil
D. I. I. Sc. or B.E. in Electrical Technology of Indian Institute of Science or I or II class B.E./B.Tech. B.Sc. (Engg.) in Electrical Engineering with at least 50% marks in the aggregate.				Ditto	
I or II class B.E./B.Tech./B.Sc. (Engg.) in Mechanical Engineering or Metallurgy with at least 50% marks in the aggregate.				Ditto	
I or II class B.E./B.Tech./ B.Sc. (Engg.) in Civil Engineering with at least 50 per cent. marks in the aggregate.				Ditto	
D. I. I. Sc. or B.E. in Electrical Technology of Indian Institute of Science or B.E./ B.Tech./B.Sc. (Engg.) in Electrical Engineering with at least 50% marks in the aggregate or I or II class B.E. in Electrical Communication Engineering.				Ditto	
D. I. I. Sc. or B.E. in Electrical Communication Engg. of Indian Institute of Science or I or II class B.E./B.Tech./ B.Sc.(Engg.) in Communication Engineering or I or II class Diploma of Madras Institute of Technology in Electronic Engineering with at least 50% marks in aggregate.				Ditto	
I or II class B.E./B.Tech./B.Sc. (Engg.) in Chemical Engineering with at least 50% marks in aggregate or D.I.I.Sc. in Chemical Engineering.				Ditto	
in a number of branches.)					
First class B.Sc. with Phy., Chem. and Maths. with at least 60% marks in the aggregate.	Ditto			B. E.	
First class B.Sc. with Phy., Chem. and Maths. with at least 60% marks in the aggregate.				Ditto	

1	2	3	4	5
		(iii) Electrical Communication Engineering.	30	3 years
		POST-GRADUATE	250	
21.	Indian Institute of Technology, Kharagpur (West Bengal) (1951)..	1. Agricultural Engineering— (i) Farm Machinery and Power .. (ii) Soil and Water Conservation Engineering.		2 years
		2. Regional Planning (Town and Country)		Ditto.
		3. Civil Engineering— (i) Structural Engineering .. (ii) Dam Construction and Water Power Engineering. (iii) Soil Mechanics and Foundation Engineering. (iv) High Way Engineering .. (v) Harbour Engineering .. (vi) Public Health Engineering ..		Ditto.
		4. Electrical Engineering— (i) Electric Machine Design .. (ii) Control System Engineering .. (iii) Power System Engineering ..		Ditto.
		5. Electronics and Electrical Communication Engineering— (i) Ultra High Frequency and Microwave Engineering. (ii) Industrial Electronics ..		Ditto.
		6. Mechanical Engineering— (i) Foundry Engineering .. (ii) Industrial Engineering and Operation Research. (iii) Machine Design .. (iv) Mechanical Handling Science and Technology. (v) Production Science and Technology (vi) Heat Power .. (vii) Mechanism and Vibration ..		Ditto.
		7. Chemical Engineering— (i) Combustion Engineering and Fuel Economy. (ii) Chemical Engineering Plant Design and Fabrication (iii) Petroleum Refinery Engineering and Petro-Chemicals.		Ditto.
		8. Metallurgical Engineering— (i) Physical Metallurgy ..		Ditto.
		(ii) Process Metallurgy ..		

4 (contd.)

6	7	8	9	10	11
First class B.A. or B.Sc. with Phy., Chem. and Maths. with at least 60% marks in the aggregate; or I or II class M.A. or M.Sc. in Maths. with at least 50% marks in the aggregate, provided the candidate has passed his B.A., or B.Sc., with Phy. Chem. and Maths.	No age restriction ..	1st August	The Registrar.	B. E. ..	Nil.
A First Class Degre in En- gineering.	No age limit	2nd August	The Registrar	M. Tech.	Nil.
Ditto				Ditto	
Ditto				Ditto	
Ditto				Ditto	
Ditto				Ditto	
Ditto				Ditto	
Ditto				Ditto	
A First Class Degree in Metal- lurgical Engineering. M.Sc., Degree holders in Phy., or Chem. with 3 years experi- ence in a Metallurgical esta- blishment are also eligible.				Ditto.	

1	2	3	4	5
		POST-GRADUATE DIPLOMA	(Information not available)	
		(i) Industrial Psychology and Industrial Relations.		1 year
		(ii) Regional Planning		2 years
		(iii) Soil Technology		1 year
		(iv) High-Polymer and Rubber Technology.		Ditto.
		(v) Synthetic Drugs and Chemicals ..		Ditto.
		(vi) Applied Geology ..		Ditto.
		(vii) Exploration Geo-Physics ..		Ditto.
		(viii) Geo-Chemistry ..		Ditto.
		(ix) Structural Steel Design ..		Ditto.
		DEGREE—		
		(a) Five-Year Integrated Courses—		
		(i) Civil Engineering ..	70	5 years
		(ii) Mechanical Engineering ..	70	Ditto.
		(iii) Electrical Engineering ..	40	Ditto.
		(iv) Metallurgical Engineering ..	35	Ditto.
		(v) Agricultural Engineering ..	20	Ditto.
		(vi) Chemical Engineering ..	45	Ditto.
		(vii) Mining Engineering ..	25	Ditto.
		(viii) Electronics and Electrical Communication Engineering.	30	Ditto.
		(ix) Applied Geology and Exploration Geo-Physics.	20	Ditto.
		(x) Naval Architecture ..	15	5½ years
		(xi) Architecture ..	30	Ditto.

6	7	8	9	10	11
First Class Degree in Engineering or First class Master's Degree in Psychology, Industrial Relations or Economics.	No age limit	26th July	The Registrar	D. I. I. T.	Nil.
Masters Degree in Geography or Economics or Social Sciences.					
First Class Master's Degree in Agriculture or Social Science or equivalent.					
First Class Master's Degree in Physical or Applied Chem. or B. Sc. with Phy., Chem. and Maths. with experience in Polymer and Rubber Industry.					
First Class Master's Degree in Organic Chemistry with Phy. and Maths. in B. Sc.					
First Class Master's Degree in Geology.					
First Class Master's Degree in Geo-Physics or Physics.					
First Class Master's Degree in Geology with Maths. in B.Sc.					
First Class Degree in Civil Engineering.					
(i) Higher Secondary Exam. of a recognised Board of Secondary Education either in the Science stream with Maths., Phy. and Chem. or in the Technical stream, or	Min. 16 years on 1st October.	1st July, last date usually in 3rd week of Feb.		B. Tech. Ditto Ditto Ditto Ditto Ditto Ditto	
(ii) Pre-University Exam. of a recognised University or Board with Phy., Chem. and Maths. after passing the Matriculation or School Final or S. S. L. C. or High School Exam. or Equivalent examination conducted by a recognised University or Board, or				B Tech. (Naval Architecture) B. Arch.	
(iii) The Senior Cambridge or the Indian School Certificate Exam. with Elementary Maths. and Additional Maths., Phy. and Chem. as separate subjects, or					
(iv) General Certificate Exam. ('O' level) with Chem., Maths. and Phy., as separate subjects, or					

1	2	3	4	5
		(b) Three Years' Courses--		
		(i) Civil Engineering	20	3 years
		(ii) Electrical Engineering	20	Ditto
		(iii) Mechanical Engineering	20	Ditto
		(iv) Chemical Engineering	20	Ditto
		(v) Electronics and Electrical Com- munication Engineering.	20	Ditto
		(vi) Metallurgical Engineering	20	Ditto
		POST-GRADUATE		
22	Indian Institute of Technology, Madras, (Madras) (1959).	(i) Chemical Engineering	12	2 years.
		(ii) Civil Engineering	12	Ditto
		(iii) Electrical Engineering	12	Ditto
		(iv) Mechanical Engineering	12	Ditto
		Facilities for Ph. D.		

6	7	8	9	10	11
<p>(v) The First Year Exam. of the two year Inter-Science or F. Sc. course of a recognised University or Board or Institute affiliated to a recognised University or Board with Chem., Maths. and Phy. as separate subjects ; or</p>					
<p>(vi) Jamia Higher Secondary (Three Year course after VIII standard) with Chem., Maths. and Phy. as separate subjects; or</p>					
<p>(vii) First Year Exam. of the two year course of the Joint Services Wing of the National Defence Academy with Chem., Maths. and Phy. as separate subjects, and</p>					
<p>(viii) Army Higher Secondary Certificate Exam. with Chem., Maths. and Phy.</p>					
<p>(ix) Candidates who have passed the Intermediate Science or any higher examination of a recognised University or Board with Chem., Maths., and Phy. are also eligible.</p>					
<p>B.Sc. with Phy., Chem. and Maths. or a pass in B.Sc. Degree course (3 years) with Honours in either Phy., or Chem. or Maths. with other two subjects as subsidiary subjects.</p>	Min. 18 years	15th July	The Registrar	<p>B. Tech. Ditto Ditto Ditto Ditto Ditto</p>	Information not available.
<p>B.E./B.Tech. Degree in the branch of study for which admission is sought.</p>	No age restriction.	26th July	The Registrar	M. Tech.	No reservation.

are also available.

1	2	3	4	5
DEGREE				
(a) Five year integrated courses—				
	(i) Aeronautical Engineering	..	15	.. 5 years
	(ii) Chemical Engineering	..	30	.. Ditto
	(iii) Civil Engineering	..	45	.. Ditto
	(iv) Electrical Engineering	..	45	.. Ditto
	(v) Mechanical Engineering	..	60	.. Ditto
	(vi) Metallurgy	..	30	.. Ditto

(b) Three year courses—				
	(i) Chemical Engineering	..	15	.. 3-years
	(ii) Civil Engineering	..	15	.. Ditto
	(iii) Electrical Engineering	..	30	.. Ditto
	(iv) Mechanical Engineering	..	30	.. Ditto

6	7	8	9	10	11
<p>(i) Higher Secondary Exam. of a recognised Board of Secondary Education either in the Science stream with Maths., Phy. and Chem. or in the Technical stream, or</p> <p>(ii) Pre-University Exam. of a recognised University or Board with Phy., Chem. and Maths. after passing the Matriculation or School Final or S. S. L. C. or High School Exam. or equivalent examination conducted by a recognised University or Board, or</p> <p>(iii) The Senior Cambridge or the Indian School Certificate Exam. with Elementary Maths. and Additional Maths., Phy. and Chem. as separate subjects; or</p> <p>(iv) General Certificate Exam. ('O' level) with Chem., maths. and Phy. as separate subjects; or</p> <p>(v) The First Year Exam. of the two year Inter-Science or F.Sc. course of a recognised University or Board or Institute affiliated to a recognised University or Board with Chem., Maths. and Phy. as separate subjects; or</p> <p>(vi) Jamia Higher Secondary (Three Year course after VIII standard) with Chem., Maths. and Phy. as separate subjects; or</p> <p>(vii) First Year Exam. of the two year course of the Joint Services Wing of the National Defence Academy with Chem., Maths. and Phy. as separate subjects, and</p> <p>(viii) Army Higher Secondary Certificate Exam. with Chem., Maths. and Phy.</p> <p>(ix) Candidates who have passed the Intermediate Science or any higher examination of a recognised University or Board with Chem., Maths. and Phy. are also eligible.</p>	<p>16 years on 1st Oct.</p>	<p>5th July, Last date usually in 3rd week of Feb.</p>	<p>The Registrar</p>	<p>B. Tech.</p>	<p>Admission made strictly on merit. However in the case of S.C./ST. candidates getting less than the qualifying marks and therefore not eligible for being called for interview may be called for interview by awarding additional marks up to 10% of the marks secured by the lowest candidate called for interview in the general list but will be kept at the bottom of those already called for interview according to their merit.</p>
<p>3. Sc. with Phy., Chem. and Maths.</p>	<p>No age limit</p>	<p>2nd Aug.</p>	<p>Ditto</p>	<p>Ditto</p>	<p>Ditto.</p>

1	2	3	4	5
		POST-GRADUATE		
23	Indian Institute of Technology, New Delhi (Delhi) (1961).	(i) Soil Mechanics and Foundation Engineering.	10	2 years
		(ii) Electrical Communication/Electronics	12	Ditto
		(iii) Control Engineering/Instrumentation	12	Ditto
		POST-GRADUATE DIPLOMA		
		(i) Applied Optics	10	1 year
		DEGREE		
		(i) Mechanical Engineering ..	60	5 years
		(ii) Electrical Engineering	60	Ditto
		(iii) Chemical Engineering	60	Ditto
		(iv) Civil Engineering	60	Ditto
		(v) Textile Technology	30	Ditto

6	7	8	9	10	11
First Class Bachelor's Degree in Civil Engg.	No age restriction	15th July Last date usually in 3rd week of Feb.	The Registrar.	M. Tech. (Soil Mechanics and Foundation Engg.)	Nil.
First Class Bachelor's Degree in Elec. Engg. Ditto				M. Tech. (Elec. Communication/ Electronics.) M. Tech. (Control Engg. Instrumentation). Post-M.Sc. Diploma in Applied Optics.	
First Class M.Sc. in Physics. .					
(i) Higher Secondary Exam. of a recognised Board of Secondary Education either in the Science stream with Maths., Phy. and Chem. or in the Technical stream; or (ii) Pre-University Exam. of a recognised University or Board with Phy., Chem. and Maths. after passing the Matriculation or School Final or S. S. I. C. or High School Exam. or equivalent examination conducted by a recognised University or Board; or (iii) The Senior Cambridge or the Indian School Certificate Exam. with Elementary Maths. and Additional Maths., Phy. and Chem. as separate subjects; or (iv) General Certificate Exam. ('O' level) with Chem., Maths. and Phy. as separate subjects; or (v) The First Year Exam. of the two year Inter-Science or F. Sc. course of a recognised University or Board or Institute affiliated to a recognised University or Board with Chem., Maths. and Phy. as separate subjects; or (vi) Jamia Higher Secondary (Three Year course after VIII standard) with Chem., Maths. and Phy. as separate subject; or (vii) First Year Exam. of the two year course of the Joint Services Wing of the National Defence Academy with Chem. Maths., and Phy. as separate subjects; and	Min. 16 years on 1st Oct.	Ditto	Ditto	B.Tech (Mech. Engg.) B. Tech. (Elect. Engg.) B. Tech. (Chem. Engg.) B. Tech. (Civil Engg.) B. Tech. (Text. Tech.).	15 per cent for Scheduled Castes and 5 per cent for Scheduled Tribes.

1	2	3	4	5
POST-GRADUATE				
24 Indian Institute of Technology, Powai, Bombay (Maharashtra) (1958.)	1. Chemical Engineering	8 in each	2 years	
	2. Civil Engineering	field of	Ditto	
	(i) Hydraulics	speciali-		
	(ii) Soil Engineering	sation		
	(iii) Structural Engineering			
	3. Electrical Engineering		Ditto	
	(i) Applied Electronics			
	(ii) Electron Devices			
	(iii) Communication Engineering			
	(iv) Energetics			
	4. Mechanical Engineering		Ditto	
	(i) Machine Tool Design			
	(ii) Machine Design			
(iii) Refrigeration				
(iv) Advanced I.C. Engineering				
(v) Fluid Power Engineering				
(vi) Thermal Power Engineering				
5. Metallurgical Engineering		Ditto		
(i) Physical Metallurgy				
(ii) Ferrous Process Metallurgy				
(iii) Extract Metallurgy				
		(Fields of specialisation		
6. Applied Geology	10	3 years		
POST-GRADUATE DIPLOMA				
(i) Furnace Technology	10	1 year		
(ii) Cellulose Technology	10	1 year		
(iii) Dock and Harbour Engineering	10	1 year		
DEGREE				
(i) Chemical Engineering	320	5 years		
(ii) Civil Engineering	for all the	Ditto		
(iii) Electrical Engineering	courses.	Ditto		
(iv) Mechanical Engineering		Ditto		
(v) Metallurgical Engineering		Ditto		

(viii) Army Higher Secondary Certificate Exam. with Chem., Maths. and Phy.

(ix) Candidates who have passed the Intermediate-Science or any higher examination of a recognised University or Board with Chem., Maths. and Phy. are also eligible.

Good Bachelor's Degree in appropriate branch of Engg. or its equivalent qualification. No age restriction . . 1st August The Registrar. M. Tech.

Candidates with Master's Degree in Physical Chemistry will be considered for admission to Master's Degree in Chemical Engg. or for some of the electives in Met. Engg. provided they have passed the qualifying examination with at least 50 per cent marks.

Ditto

Ditto

*Candidates with Master's Degree in Physics with Wireless/Electronics/Radio Physics as special subject(s) will also be considered for admission to restricted options in Electrical Engg./Electronics.

Ditto

*(Subject to revision)

in each branch are determined every year)

Bachelor's Degree in Science with Phy., Chem., or Maths.

M.Sc.

Good Bachelor's Degree in appropriate branch in Engg. or an equivalent qualification.

D.I.I.T.

Ditto

Ditto

(i) Higher Secondary Exam. of a recognised Board of Secondary Education either in the Science stream with Maths., Phy. and Chem. or in the Technical stream; or

16 years on 1st. Oct.

5th July. Last date usually in 3rd week of Feb.

The Assistant Registrar (Academic)

B. Tech

Ditto

Ditto

Ditto

Ditto

Information not available.

(ii) Pre-University Exam. of a recognised University or Board with Phy., Chem., and Maths. after passing the Matriculation or School Final or S.S.L.C. or High School Exam. or equivalent examination conducted by a recognised University or Board; or

- (iii) The Senior Cambridge or the Indian School Certificate Exam. with Elementary Maths. and Additional Maths., Phy. and Chem. as separate subjects; or
- (iv) General Certificate Exam. ('O' level) with Chem., Maths. and Phy. as separate subjects; or
- (v) The First Year Exam. of the two year Inter-Science or F.Sc. course of a recognised University or Board or Institute affiliated to a recognised University or Board with Chem., Maths. and Phy. as separate subjects; or
- (vi) Jamia Higher Secondary (Three Year course after VIII standard) with Chem., Maths. and Phy. as separate subject; or
- (vii) First Year Exam. of the two year course of the Joint Services Wing of the National Defence Academy with Chem., Maths. and Phy. as separate subjects, and
- (viii) Army Higher Secondary Certificate Exam. with Chem. Maths. and Phy.
- (ix) Candidates who have passed the Intermediate Science or any higher examination of a recognised University or Board with Chem., Maths. and Phy. are also eligible.

Bachelor's Degree with Maths. No age restriction 1st August
(Compulsory) Phy. and Chem.
with 60 per cent marks in
each subject.

B. Tech.

Engineering will be started from 1966-67.)

Higher Secondary or equivalent	Min. 16 years and Max. 19 years.	1st July	The Registrar.	*B.Sc. (Mining) *B.Sc. P.T. *AISM. (P. T.) *M.Sc. (Geology) *M.Sc. (Gph.) AISM. (Gph.)	15 per cent for Scheduled Castes, 5 per cent for Scheduled Tribes candi- dates and 30 per cent for States not having such training faci- lities.
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Ranchi University.

1	2	3	4	5
		POST-GRADUATE		
26	Institute of Radio-Physics and Electronics, University College of Technology, Calcutta (West Bengal) (1949).	Radio-Physics and Electronics	.. Not known	1 year
		DEGREE		
		Radio Physics and Electronics	.. 24	2 years
		DEGREE		
27	Karnataka Regional Engineering College, Sreenivasnagar, Surathkal, Manglore, (Mysore) (1960).	(i) Mechanical Engineering	.. 90	5 years
		(ii) Electrical Engineering	.. 60	Ditto
		(iii) Civil Engineering	.. 42	Ditto
		(iv) Chemical Engineering	.. 30	Ditto
		(v) Metallurgy	.. 30	Ditto
		POST-GRADUATE		
28	L. M. College of Pharmacy, Navrangpura, Ahmedabad (Gujarat) (1947)	(i) Pharmacy	.. .. 16	1½ years
		DEGREE		
		(i) Pharmacy	.. .. 75	3 years
		(Courses of Diploma in Pharmacy and Inter		

6	7	8	9	10	11
B. Tech. in Radio Physics and Electronics.	No age restriction	June	Secretary, ¹ Council of the University Colleges of Science and Technology.	M. Tech.	.. Not known.
B.Sc. with Phy. and Maths.	Ditto	Ditto	..	B. Tech.	.. W.B. : 14 Bihar : 1 Assam : 1 U. P. : 1 J. & K. : 1 Punjab : 1 Rajasthan : 1 Unreserved seats : 4
P. U. C. or its equivalent	Min. 16 years	24th June	The Principal	B.E. (Mech.) B.E. (Elect.) B.E. (Civil) B.E. (Chem.) B.E. (Metallurgy)	1. 15 per cent of the seats are reserved for candidates belonging to the Scheduled Castes, and 5 per cent to the Scheduled Tribes. 2. The distribution of seats is— Mysore State 50 per cent. All other States of India 50 per cent. (Number of seats are allotted to each State on the basis of population and number of applications received from those areas.)
B. Pharm.	.. No age restriction	15th June	The Principal	M. Pharm.	Nil.
Inter Pharm. or Diploma in Pharmacy.	Ditto	Ditto	..	B. Pharm.	Ditto.
Pharmacy are run in the College).					

1	2	3	4	5	
DIPLOMA (EQUIVALENT TO A DEGREE)					
29	Madras Institute of Technology, Chrompet, Madras (Madras) (1949).	(i) Aeronautical Engineering .. (ii) Automobile Engineering .. (iii) Electronics .. (iv) Instruments Technology	10 30 30 30	3 years Ditto Ditto Ditto
DEGREE					
30	Malviya Regional Engineering College, Jaipur (Rajasthan) (1963).	(i) Civil Engineering .. (ii) Electrical Engineering .. (iii) Mechanical Engineering .. (iv) Metallurgy	30 90 90 30	5 years Ditto Ditto Ditto
DEGREE					
31	Maulana Azad College of Technology, Bhopal (Madhya Pradesh) (1960)	(i) Civil Engineering .. (ii) Mechanical Engineering .. (iii) Electrical Engineering .. (iv) Architecture	40 90 90 30	5 years Ditto Ditto Ditto
DEGREE					
32	Regional Engineering College, Durgapur, Burdwan (West Bengal) (1960).	(i) Civil Engineering .. (ii) Electrical Engineering .. (iii) Mechanical Engineering .. (iv) Chemical Engineering .. (v) Metallurgical Engineering	30 60 90 30 40	5 years Ditto Ditto Ditto Ditto

6	7	8	9	10	11
B.Sc. with Maths, Phy., and Chem. with 50 per cent marks (B.E. degree holders in Elect. or Mech. Engineering are admitted direct in Second year).	Maximum 22 years	1st July	.. The Principal	Diploma of the Institute (D.M.I.T.).	30 per cent of the seats are reserved for students of Universities other than those of the Madras State.
Information on not available	Information not available.	Information not available	The Principal	B.E. B.E. B.E. B.E.	.. Information not available.
Higher Secondary, Intermediate, Senior Cambridge Pre-University or its equivalent with atleast 55 per cent marks in aggregate and also at least 55 per cent marks in the aggregate of Phy., Chem., Maths., and English,	16 to 21 years on 1st October.	1st July the year.	of The Principal	B.E. (Civil) B.E. (Mech.) B.E. (Elect) B. Arch.	50 per cent seats are reserved for Madhya Pradesh candidates and 50 per cent seats for the candidates other than M. P. State; 15 per cent for S.C.; 5 per cent for S. T.; 50 per cent seats for rest of India are distributed to all the States according to their population.
Pass in Higher Secondary Examination or any equivalent examination.	Min. 16 years and Max. 19 years.	July	The Principal	Not known	50 per cent of the seats are reserved for candidates who normally reside and study in West Bengal and remaining 50 per cent of seats are reserved for candidates who normally reside and study outside West Bengal. 15 per cent of the total seats are reserved for Scheduled Castes and that of 5 per cent for Scheduled Tribe candidates.

1	2	3	4	5
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DEGREE

33	Regional Engineering College, Kurukshetra (Punjab) (1963)	(i) Civil Engineering	30	5 years
		(ii) Electrical Engineering	45	Ditto
		(iii) Mechanical Engineering	45	Ditto

(Intake will be 250 from 1966-67)

DEGREE

34	Regional Engineering College Naseembagh, Srinagar (Jammu and Kashmir) (1960)	(i) Civil Engineering	40	5 years
		(ii) Electrical Engineering	60	Ditto
		(iii) Mechanical Engineering	60	Ditto
		(iv) Metallurgical Engineering	30	Ditto
		(v) Chemical Engineering	30	Ditto
		(vi) Mining Engineering	30	Ditto

DEGREE

35	Regional Engineering College, Rourkela (Orissa) (1961)	(i) Civil Engineering	30	5 years
		(ii) Electrical Engineering	80	Ditto
		(iii) Mechanical Engineering	80	Ditto
		(iv) Chemical Engineering	30	Ditto
		(v) Metallurgical Engineering	30	Ditto

6	7	8	9	10	11
At least 55 per cent marks in the aggregate in Pre-Engineering or Pre-University or Higher Secondary or Intermediate with English, Phy., Chem., and Maths.	16 to 21 years 24 years (for S.C./S.T.) candidates	16th July	The Principal	B.Sc. (Engg.) D'tto Ditto	1. 15 per cent seats are reserved for Scheduled Castes, 5 per cent seats are reserved for Scheduled Tribes. 2. 50 per cent seats are reserved for Punjab State. 45 per cent seats are reserved for all other States in the Indian Union. 5 per cent seats are reserved for Himachal Pradesh.
i.e. Civil Engineering—70, Electrical Engineering—90, Mechanical Engineering—90)					
Higher Secondary or its equivalent.	Min. 16 years Max. 21 years	15th Sept.,	The Principal	B.E. (Civil) B.E. (Elect.) B.E. (Mech.) B.E. (Met.) B.E. (Chem.) Not known	15 per cent seats are reserved for Scheduled Castes and 5 per cent for Scheduled Tribes. Of the rest 50 per cent for the Jammu and Kashmir State and 50 per cent for other States to be distributed on the basis of population.
55 per cent marks in the aggregate in Eng., Phy., Chem., and Maths., in Higher Secondary or Pre-University of Utkal University or an examination equivalent thereto recognised by the Utkal University.	Min. 16 years Max. 21 years.	July	The Principal	B.Sc. (Engg.) Ditto. Ditto. Ditto. Ditto.	(i) 15 per cent for Scheduled Castes and 5 per cent for Scheduled Tribes candidates. (ii) 50 per cent for Orissa State students and 50 per cent for other States of India on population basis.

1	2	3	4	5
		DEGREE	150	
36	Regional Engineering College Tiruchirapalli (Madras) (1964)	(i) Civil Engineering (ii) Electrical Engineering (iii) Mechanical Engineering (iv) Metallurgical Engineering	for all the four courses	5 years Ditto Ditto Ditto
		POST-GRADUATE		
37	Regional Engineering College, Warangal, P. O. Kazipet (Andhra Pradesh) (1959)	(i) Soil Mechanics and Foundation Engineering. (ii) Hydraulics Engineering (iii) Power System Engineering.	4 4 4	2 years Ditto. Ditto.
		DEGREE		
		(i) Civil Engineering. (ii) Electrical Engineering. (iii) Mechanical Engineering. (iv) Metallurgy. (v) Chemical Engineering.	55 75 75 30 15	5 years Ditto Ditto Ditto Ditto
		(M. E. Course in Electrical Machinery and Control)		
		DEGREE		
38.	Regional Institute of Technology, Jamshedpur (Bihar) (1960)	(i) Civil Engineering (ii) Electrical Engineering (iii) Mechanical Engineering (iv) Metallurgical Engineering	60 75 75 40	5 years Di to Ditto Ditto
		DEGREE		
39.	Sardar Vallabhai Regional Col- lege of Engineering and Techno- logy, Surat (Gujarat) (1961)	(i) Civil Engineering (ii) Mechanical Engineering (iii) Electrical Engineering	60 60 60	5 years Ditto Ditto

(In 1966-67, 60 seats out of 180 seats will be filled)

6	7	8	9	10	11
P. U. C. or other equivalent examination.	Min. 16 years	15th July	The Principal	B.E. Degree in appropriate branch.	15 per cent seats for Scheduled Castes and 5 per cent for Scheduled Tribes. The distribution of seats is—Madras State 50 per cent. All other States of India 50 per cent.
I Class B.E. Degree or 60 per cent aggregate in the qualifying examination in the concerned branch.	Nil.	October,	The Principal	M.E.	5 per cent reservation for Scheduled Castes and Tribes. The admission is open to all the States on merit basis.
P.U.C. or Higher Secondary Certificate or any equivalent examination with atleast 50 per cent aggregate in Phy., Chem. and Math. 40 per cent for Scheduled Castes and Scheduled Tribes.	Min-16 years	August,	The Principal	B.E. B.E. B.E. B. Tech.	15 per cent reservation for Scheduled Castes 50 per cent of the seats are reserved for other States.
System is proposed to be started from 1966-67)					
Pre-University or Higher Secondary or equivalent.	Min. 16 years. Max. 20 years	15th July	The Principal	B.Sc. Engg. (Civil.) B.Sc. Engg. (Elect.) B.Sc. Engg. (Mech.) B.Sc. Engg. (Met.)	50 per cent for Bihar 50 per cent for rest of India.
Pre. Univ. Science of Gujarat University or its equivalent.	21 years on 1st June and 27 years for Backward class candidates.	15th June	The Principal	B.E.(Civil) B.E.(Mech.) B.E.(Elect.)	15 per cent for S.C. and other Backward Classes. 5 per cent for S.T., 50 per cent for Gujarat State, 50 per cent for States other than Gujarat on population basis.
from B.Sc. students for a 3 year course.)					

1	2	3	4	5
POST-GRADUATE DIPLOMA				
40	School of Planning and Architecture, Delhi (Delhi) (1955).	(i) Town and Country Planning (Full time) (ii) Town and Country Planning (Part-time)	25 10	2 years 3 years
		(iii) Housing	15	1 year
DEGREE				
		(i) Architecture (Full-time course)	30	5 years
		(ii) Architecture (Part-time course)	30	7 years
DEGREE				
41	Technological Institute of Textiles, Bhiwani (Punjab) (1943).	B.Sc. Textiles	60	4 years
DEGREE				
42	*Thapar College of Engineering, Patiala (Punjab) (1956),	(i) Civil Engineering (ii) Electrical Engineering (iii) Mechanical Engineering	60 60 60	4 years Ditto Ditto
(*A unit of the Thapar Institute)				
POST-GRADUATE				
43	University College of Engineering, Bangalore (Mysore) (1917).	(1) Civil Engineering (i) Structures (ii) Soil Mechanics and Foundation Engineering. (2) Mechanical Engineering— (i) Machine Design ..	10 6 5	2 years Ditto

6	7	8	9	10	11
Degree or Diploma in Architecture or Degree in Civil Engineering or Part A & B of A.M.I.E. or Second Class Master's degree in Geography Sociology, Economics or Law.	No age limit	16th August	The Registrar	Diploma in Town and Country Planning.	Nil
Degree Qualification in Architecture or Engineering	Ditto			Diploma in Housing	
Higher Secondary or equivalent with Phy. and Maths.	16 years	16th July		B.Arch.	Information not available.
Matriculation or equivalent with Science and Maths. and 18 months experience as full time Draughtsman.	18 years			N.D. Arch.	
To have passed in first or second class (securing at least 50 per cent marks in the aggregate) the Hr. Sec. or Pre-University (Science-Group) Exam. with Phy., Chem., Maths. and Eng. or any other exam. recognised by the Punjab University as equivalent to its Hr. Sec. Exam. Students having passed the Intermediate Science Exam. with Phy., Chem., Maths. and Eng. in 1st or 2nd class, securing at least 50 per cent marks in the aggregate are also eligible.	16 years on 1st Oct.	15th July	The Principal	B.Sc. Textiles	One seat for Jammu and Kashmir Government.
Pre-Engg. with 50 per cent marks in Eng. Phy., Chem. and Maths.	16 years.	13th July	The Principal	B.E. Ditto Ditto	(1) Some seats are reserved for the candidates of Scheduled Castes/Tribes. (2) One seat is reserved for the nominee of Tripura State.
Engineering and Technology.)					
B. E. Degree or equivalent	No age restriction	24th June	The Principal	M. E	Nil

1	2	3	4	5
		DEGREE		
		(i) Civil Engineering	90	5 years
		(ii) Mechanical Engineering	60	Ditto
		(iii) Electrical Engineering	60	Ditto
		DEGREE		
44	University Department of Pharmacy, Nagpur University, Nagpur (Maharashtra) (1956).	(i) Pharmacy	Not known	3 years
		POST-GRADUATE	50	
45	Victoria Jubilee Technical Institute, Matunga, Bombay (Maharashtra) (1887)	1. Electrical Engineering		2 years
		2. Mechanical Engineering		Ditto
		3. Automobile Engineering		Ditto
		4. Civil Engineering—		
		(i) Public Health Engineering		Ditto
		(ii) Structural Engineering		
		5. Textile Technology		Ditto
		POST-GRADUATE DIPLOMA		
		(i) Industrial Engineering		3 years (Part-time)
		DEGREE		
		(i) Mechanical Engineering	60	3 years
		(ii) Electrical Engineering	60	Ditto
		(iii) Civil Engineering	70	Ditto
		(iv) Textile Technology	20	4 years

6	7	8	9	10	11
P.U.-C. Or equivalent.	16 years	.. 24th June	The Principal	B.E. in the respective branch.	The Director of Technical Education reserves cases, if any, in consultation with the State Government and Central Government.
Intermediate Science or B.Sc. Part I, or equivalent.	Min. 16 years	.. 20th June	The Head of Department of Pharmacy.	B. Pharm	
B.E. Degree in appropriate branch.	No age limit	.. 20th June	The Principal	M.E. (Elect.) M.E. (Mech.) M.E. (Auto.) M.E. (Civil.) M. (Text.)	Information not available.
B.E., B.Sc. (Tech.), B. Chem. (Engg.) or B. (Text).		..	..	B.I.E.	
Inter Science Ditto .. Ditto .. Ditto ..	Max. 23 years	.. Ditto	..	B.E. (Mech.), B.E. (Elect.) B.E. (Civil.) B.Text.	(i) The students] from States other than Maharashtra State are admitted to various degree courses in accordance with the quota fixed by the Government of India. (ii) Seats are reserved for S.C. and S. T. and other Backward classes as per Government directive.

1	2	3	4	5
DEGREE				
46.	Visvesvaraya Regional College of Engineering, Nagpur (Maharashtra (1956).	(i) Civil Engineering (ii) Mechanical Engineering (iii) Electrical Engineering (iv) Metallurgical Engineering	60 60 60 15	Five year integrated course but started at the Second year stage.
		(v) Architecture	30	5 years

6	7	8	9	10	11
<p>B. Sc. Part I or Inter Science or Preprofessional (Engg.) Exam. of Nagpur University with Phy., Chem. and Maths. or any other Exam. of an Indian or Foreign University recognized by Nagpur University as equivalent to that examination.</p>	<p>Min. 17 years Max. 23 years on 1st Oct.</p>	<p>21st June</p>	<p>The Principal</p>	<p>B.E. (Civil) B.E. (Mech.) B.E. (Elect.) B.E. (Met.)</p>	<p>Maharashtra State 50 per cent. Other States 50 per cent. Filled up on common merit list of the students irres- pective of their State of domicile <i>Reservation for backward classes (a) Maharashtra State—</i> According to the orders of State Government. <i>(b) Other States</i> According to the orders of Govt. of India.</p>
<p>Passing of Higher S. S. C. Exam. of Vidarbha Board of Secondary Education or any other Board or Pre-University Exam. in Science with Phy., Chem. and Maths. of Nagpur University or any other University or Body recognized by the Nagpur University, as equivalent thereto.</p>	<p>Min. 16 years Max. 22 years.</p>	<p>Ditto</p>	<p>Ditto</p>	<p>B. Arch.</p>	

FACILITIES AT THE CERTIFICATE LEVEL-INSTITUTIONS UNDER THE

Sl. no.	Name of the institution, its location with year of establishment	Name of trade	Annual sanctioned intake
1	2	3	4
1	Industrial Training Institute, Agra (1957)	.. Engineering Trades :	
		(i) Blacksmithy	32
		(ii) Carpentry	32
		(iii) Draughtsman (Civil)	32
		(iv) Draughtsman (Mech.)	32
		(v) Electrician	64
		(vi) Fitter	96
		(vii) Motor Mechanic	32
		(viii) Machinist	24
		(ix) Radio Mechanic	16
		(x) Surveyor	32
		(xi) Turner	72
		(xii) Wireman	32
		(xiii) Welder	48
		Non-Engineering Trades :	
		(i) Cutting and Tailoring	80
		(ii) Embroidery	32
		(iii) Knitting with Hand and Machine	16
2	Industrial Training Institute, Allahabad (1952)	.. Engineering Trades :	
		(i) Blacksmithy	32
		(ii) Carpentry	64
		(iii) Draughtsman (Mech.)	64
		(iv) Electrician	80
		(v) Fitter	96
		(vi) Grinder	24
		(vii) Motor Mechanic	32
		(viii) Machinist	48
		(ix) Mechanic (Instrument)	48
		(x) Moulder	32
		(xi) Turner	24
		(xii) Wireman	32
		(xiii) Welder	24
		Non-Engineering Trades :	
		(i) Cutting and Tailoring	64
		(ii) Embroidery	32
		(iii) Knitting with Hand and Machine	32
		(iv) Stenography (English)	32
3	Industrial Training Institute, Aligarh (1950)	.. Engineering Trades :	
		(i) Blacksmithy	32
		(ii) Draughtsman (Mech.)	64
		(iii) Electrician	64
		(iv) Fitter	64
		(v) Motor Mechanic	64
		(vi) Machinist	48
		(vii) Mechanic (Instrument)	64
		(viii) Moulder	32
		(ix) Mechanic (I.C. Engine)	32
		(x) Pattern Maker	32
		(xi) Sheet Metal	32
		(xii) Turner	72
		(xiii) Wireman	32
		(xiv) Welder	96

5.1.1.

DIRECTORATE OF TRAINING AND EMPLOYMENT (AS IN 1965-66)

Duration	Minimum admission qualification	Session
5	6	7
For every engineering trade the duration is 2 years of which 18 months in the training centre and 6 months in an Industrial undertaking.	VIII Class Ditto High School Ditto Ditto VIII Class Ditto Ditto High School Ditto VIII Class Ditto Ditto	Admissions in engineering trades are made every nine months.
1 year Ditto Ditto	VIII Class Ditto Ditto	Admissions are made in July each year.
As in Serial 1	VIII Class Ditto High School Ditto VIII Class Ditto Ditto Ditto High School VIII Class Ditto Ditto Ditto	As in Serial 1.
1 year Ditto Ditto Ditto	VIII Class Ditto Ditto High School	Admissions are made in July each year.
As in Serial 1	VIII Class High School Ditto VIII Class Ditto Ditto High School VIII Class Ditto Ditto Ditto Ditto Ditto	As in Serial 1

1	2	3	4
4	Industrial Training Institute, Almora (1947)	.. Engineering Trades :	
		(i) Carpentry	16
		(ii) Draughtsman (Civil)	32
		(iii) Draughtsman (Mech.)	32
		(iv) Electrician	32
		(v) Fitter	64
		(vi) Motor Mechanic	32
		(vii) Surveyor	32
		(viii) Sheet Metal	32
		(ix) Turner	24
		(x) Wireman	32
		(xi) Welder	24
		(xii) Building Construction	16
		Non-Engineering Trades :	
		(i) Cutting and Tailoring	48
		(ii) Embroidery	16
		(iii) Knitting with Hand and Machine	16
		(iv) Stenography (English)	32
5	Industrial Training Institute, Azamgarh (1962)	.. Engineering Trades :	
		(i) Blacksmithy	16
		(ii) Carpentry	32
		(iii) Electrician	32
		(iv) Fitter	96
		(v) Turner	48
		(vi) Wireman	32
6	Industrial Training Institute, Bahraich (1965)	.. Engineering Trades :	
		(i) Blacksmithy	16
		(ii) Carpentry	16
		(iii) Electrician	32
		(iv) Fitter	64
		(v) Sheet Metal	16
		(vi) Wireman	32
7	Industrial Training Institute, Ballia (1959)	.. Engineering Trades :	
		(i) Blacksmithy	32
		(ii) Carpentry	32
		(iii) Draughtsman (Civil)	16
		(iv) Draughtsman (Mech.)	32
		(v) Electrician	32
		(vi) Fitter	32
		(vii) Surveyor	16
		(viii) Turner	24
		(ix) Welder	34
8	Industrial Training Institute, Bareilly (1957)	.. Engineering Trades :	
		(i) Blacksmithy	32
		(ii) Carpentry	32
		(iii) Draughtsman (Civil)	32
		(iv) Draughtsman (Mech.)	32
		(v) Electrician	32
		(vi) Fitter	32
		(vii) Motor Mechanic	32
		(viii) Machinist	24
		(ix) Surveyor	32
		(x) Turner	24
		(xi) Tractor Mechanic	32
		(xii) Welder	24

5.1.1—(contd.)

5	6	7
As in Serial 1	VIII Class High School Ditto Ditto VIII Class Ditto High School VIII Class Ditto Ditto Ditto Ditto	As in Serial 1
I year Ditto Ditto Ditto	VIII Class Ditto Ditto High School	Admissions are made in July each year.
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School Ditto Ditto VIII Class High School VIII Class Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School Ditto Ditto VIII Class Ditto Ditto High School VIII Class Ditto Ditto	As in Serial 1

1	2	3	4
9	Industrial Training Institute, Basti (1962)	.. Engineering Trades :	
		(i) Blacksmithy	16
		(ii) Carpentry	32
		(iii) Electrician	32
		(iv) Fitter	96
		(v) Turner	48
		(vi) Wireman	32
10	Industrial Training Institute, Bijnor (1963)	.. Engineering Trades :	
		(i) Blacksmithy	16
		(ii) Carpentry	32
		(iii) Electrician	32
		(iv) Fitter	96
		(v) Turner	48
		(vi) Wireman	32
11	Industrial Training Institute, Bulandshahr (1963)	.. Engineering Trades :	
		(i) Blacksmithy	32
		(ii) Carpentry	16
		(iii) Electrician	32
		(iv) Fitter	96
		(v) Turner	48
		(vi) Wireman	32
12	Industrial Training Institute, Dehra Dun (1965)	.. Engineering Trades :	
		(i) Blacksmithy	16
		(ii) Carpentry	16
		(iii) Electrician	32
		(iv) Fitter	64
		(v) Motor Mechanic	32
		(vi) Sheet Metal	32
		(vii) Wireman	32
13	Industrial Training Institute, Dehra Dun (exclusively for women candidates).	Non-Engineering Trades :	
		(i) Bleaching, Dyeing and Printing	16
		(ii) Cutting and Tailoring	112
		(iii) Embroidery	48
		(iv) Hand Weaving	32
		(v) Knitting with Hand and Machine	16
		(vi) Stenography (Hindi)	32
		(vii) Stenography (English)	32
14	Industrial Training Institute, Deoria (1963)	.. Engineering Trades :	
		(i) Blacksmithy	16
		(ii) Carpentry	32
		(iii) Electrician	32
		(iv) Fitter	96
		(v) Turner	48
		(vi) Wireman	32
15	Industrial Training Institute, Dineshpur (Naini Tal) (1963).	Engineering Trades :	
		(i) Carpentry	16
		(ii) Fitter	16
		(iii) Wireman	16
		(iv) Welder	12
		Non-Engineering Trades :	
		(i) Cutting and Tailoring	16
		(ii) Knitting with Hand and Machine	16

3. I. 1-- (contd.)

5	6	7
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto Ditto	As in Serial 1
I year Ditto Ditto Ditto Ditto Ditto Ditto	VIII Class Ditto Ditto Ditto Ditto High School Ditto	Admissions are made in July each year.
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto Ditto Ditto	As in Serial 1
1 year Ditto	VIII Class Ditto	Admissions are made in July each year.

1	3	4
16 Industrial Training Institute, Etah (1962)	.. Engineering Trades :	
	(i) Blacksmithy	16
	(ii) Carpentry	32
	(iii) Electrician	32
	(iv) Fitter	96
	(v) Turner	48
	(vi) Wireman	32
17 Industrial Training Institute, Etawah (1962)	.. Engineering Trades :	
	(i) Blacksmithy	16
	(ii) Carpentry	32
	(iii) Electrician	32
	(iv) Fitter	96
	(v) Turner	48
	(vi) Wireman	32
18 Industrial Training Institute, Faizabad (1962)	.. Engineering Trades :	
	(i) Blacksmithy	16
	(ii) Carpentry	16
	(iii) Electrician	32
	(iv) Fitter	96
	(v) Machinist	24
	(vi) Turner	24
	(vii) Wireman	32
	(viii) Welder	24
19 Industrial Training Institute, Fatehgarh (1963)	.. Engineering Trades :	
	(i) Blacksmithy	16
	(ii) Carpentry	32
	(iii) Electrician	32
	(iv) Fitter	96
	(v) Turner	48
	(vi) Wireman	32
20 Industrial Training Institute, Fatehpur (1962)	.. Engineering Trades :	
	(i) Blacksmithy	16
	(ii) Carpentry	32
	(iii) Electrician	32
	(iv) Fitter	96
	(v) Turner	48
	(vi) Wireman	32
21 Industrial Training Institute, Ghazipur (1965)	.. Engineering Trades :	
	(i) Blacksmithy	32
	(ii) Carpentry	32
	(iii) Electrician	32
	(iv) Fitter	64
	(v) Sheet Metal	32
	(vi) Wireman	32
22 Industrial Training Institute, Gonda (1957)	.. Engineering Trades :	
	(i) Blacksmithy	32
	(ii) Carpentry	32
	(iii) Draughtsman (Civil)	32
	(iv) Draughtsman (Mech.)	32
	(v) Electrician	64
	(vi) Fitter	64
	(vii) Surveyor	32
	(viii) Turner	24
	(ix) Wireman	32
	(x) Welder	24

5.1.1—(contd.)

5	6	7
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School Ditto Ditto VIII Class High School VIII Class Ditto Ditto	As in Serial 1

1	2	3	4
23	Industrial Training Institute, Gorakhpur (1962) ..	Engineering Trades :	
		(i) Blacksmithy	32
		(ii) Carpentry	16
		(iii) Electrician	32
		(iv) Fitter	96
		(v) Motor Mechanic	16
		(vi) Turner	24
		(vii) Wireman	32
		(viii) Welder	24
24	Industrial Training Institute, Haldwani (Naini Tal) (1963).	Engineering Trades :	
		(i) Carpentry	32
		(ii) Electrician	32
		(iii) Fitter	96
		(iv) Turner	12
		(v) Wirmman	32
25	Industrial Training Institute, Hardoi (1963) ..	Engineering Trades :	
		(i) Blacksmithy	16
		(ii) Carpentry	16
		(iii) Electrician	32
		(iv) Fitter	96
		(v) Machinist	24
		(vi) Turner	24
		(vii) Wireman	32
		(viii) Welder	24
26	Industrial Training Institute, Hardwar (1963) ..	Engineering Trades :	
		(i) Blacksmithy	32
		(ii) Carpentry	32
		(iii) Electrician	32
		(iv) Fitter	64
		(v) Machinist	24
		(vi) Turner	24
		(vii) Wireman	32
		(viii) Welder	24
27	Industrial Training Institute, Jalaun (1963) ..	Engineering Trades :	
		(i) Blacksmithy	32
		(ii) Carpentry	64
		(iii) Electrician	32
		(iv) Fitter	96
		(v) Turner	48
		(vi) Wireman	32
28	Industrial Training Institute, Jaunpur (1962) ..	Engineering Trades :	
		(i) Blacksmithy	16
		(ii) Carpentry	32
		(iii) Electrician	32
		(iv) Fitter	96
		(v) Turner	48
		(vi) Wireman	32
29	Industrial Training Institute, Jhansi (1963) ..	Engineering Trades :	
		(i) Blacksmithy	16
		(ii) Carpentry	16
		(iii) Electrician	32
		(iv) Fitter	96
		(v) Motor Mechanic	32
		(vi) Machinist	24
		(vii) Turner	48
		(viii) Wireman	32
		(ix) Welder	24

5. I. I.—(contd.)

5	6	7
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto Ditto Ditto	As in Serial 1

1	2	3	4
30	Industrial Training Institute, Kanpur (1957)	.. Engineering Trades :	
		(i) Blacksmithy	96
		(ii) Carpentry	64
		(iii) Draughtsman (Civil)	64
		(iv) Draughtsman (Mech.)	64
		(v) Electrician	96
		(vi) Electroplator	32
		(vii) Fitter	512
		(viii) Grinder	24
		(ix) Motor Mechanic	32
		(x) Machinist	84
		(xi) Mechanic (Instrument)	48
		(xii) Mechanic (Dom. Refrigerator)]	32
		(xiii) Moulder	64
		(xiv) Painter and Decorator	32
		(xv) Plumber	32
		(xvi) Pattern Maker	32
		(xvii) Radio Mechanic	16
		(xviii) Surveyor	32
		(xix) Sheet Metal	48
		(xx) Turner	120
		(xxi) Upholster	32
		(xxii) Wireman	96
		(xxiii) Welder	96
		Non-Engineering Trades :	
		(i) Book-Binding	16
		(ii) Cutting and Tailoring	64
		(iii) Embroidery	32
		(iv) Hand Composition	16
		(v) Hand Weaving	32
		(vi) Knitting with Hand and Machine	16
		(vii) Manufacture of Suit Cases and Leather Goods.	16
		(viii) Printing Machine Operator	16
31	Industrial Training Institute, Lakhimpur-Kheri (1963)	Engineering Trades :	
		(i) Blacksmithy	16
		(ii) Carpentry	32
		(iii) Electrician	32
		(iv) Fitter	96
		(v) Turner	48
		(vi) Wireman	32
32	Industrial Training Institute, Lucknow (1948)	.. Engineering Trades :	
		(i) Blacksmithy	32
		(ii) Carpentry	16
		(iii) Draughtsman (Civil)	32
		(iv) Draughtsman (Mech.)	64
		(v) Electrician	64
		(vi) Electroplator	32
		(vii) Fitter	64
		(viii) Grinder	24
		(ix) Motor Mechanic	64
		(x) Machinist	48
		(xi) Mechanic (Dom. Refrigerator)	32
		(xii) Moulder	16
		(xiii) Painter and Decorator	32
		(xiv) Plumber	32
		(xv) Pattern Maker	32
		(xvi) Radio Mechanic	16
		(xvii) Sheet Metal	16
		(xviii) Turner	72
		(xix) Wireman	48
		(xx) Welder	12

5.1.1—(Contd.)

5	6	7
As in Serial 1	VIII Class Ditto High School Ditto Ditto VIII Class Ditto Ditto Ditto High School Ditto VIII Class Ditto Ditto VIII Class High School Ditto VIII Class Ditto Ditto Ditto Ditto	As in Serial 1
1 year Ditto Ditto Ditto Ditto Ditto Ditto	VIII Class Ditto Ditto Ditto Ditto Ditto	Admissions are made in July each year
Ditto	Ditto	
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School Ditto Ditto VIII Class Ditto Ditto Ditto Ditto High School VIII Class Ditto Ditto Ditto High School VIII Class Ditto Ditto Ditto	As in Serial 1

1	2	3	4
		Non-Engineering Trades :	
		(i) Bleaching, Dyeing and Printing ..	16
		(ii) Book Binding ..	16
		(iii) Cutting and Tailoring ..	64
		(iv) Embroidery ..	48
		(v) Hand Composition ..	16
		(vi) Knitting with Hand and Machine ..	32
		(vii) Manufacture of Suit Cases and Leather Goods.	16
		(viii) Printing Machine Operator ..	16
		(ix) Stenography (English) ..	32
		Engineering Trades :	
33	Industrial Training Institute, Mainpuri (1962)	(i) Blacksmithy ..	16
		(ii) Carpentry ..	32
		(iii) Electrician ..	32
		(iv) Fitter ..	96
		(v) Turner ..	48
		(vi) Wireman ..	32
		Engineering Trades :	
34	Industrial Training Institute, Mathura (1962)	(i) Blacksmithy ..	16
		(ii) Carpentry ..	32
		(iii) Electrician ..	32
		(iv) Fitter ..	96
		(v) Turner ..	48
		(vi) Wireman ..	32
		Engineering Trades :	
35	Industrial Training Institute, Meerut (1947)	(i) Blacksmithy ..	16
		(ii) Carpentry ..	16
		(iii) Electrician ..	64
		(iv) Electroplator ..	32
		(v) Fitter ..	64
		(vi) Grinder ..	24
		(vii) Motor Mechanic ..	32
		(viii) Machinist ..	48
		(ix) Mechanic (Instrument) ..	16
		(x) Radio Mechanic ..	48
		(xi) Turner ..	96
		(xii) Tractor Mechanic ..	24
		(xiii) Wireless Operator ..	32
		(xiv) Wireman ..	16
		(xv) Welder ..	60
		Non-Engineering Trades :	
		(i) Cutting and Tailoring ..	64
		(ii) Embroidery ..	32
		(iii) Knitting with Hand and Machine ..	16
		(iv) Manufacture of Sports Goods ..	16
		Engineering Trades :	
36	Industrial Training Institute, Mirzapur (1957)	(i) Blacksmithy ..	32
		(ii) Carpentry ..	32
		(iii) Draughtsman (Civil) ..	32
		(iv) Draughtsman (Mech.) ..	32
		(v) Electrician ..	32
		(vi) Fitter ..	64
		(vii) Turner ..	24
		(viii) Wireman ..	32
		(ix) Welder ..	24

5.1.1—(contd.)

5	6	7
1 year	VIII Class	.. .. Admissions are made in July each year.
Ditto	Ditto	
Ditto	Ditto	
Ditto	Ditto	
Ditto	Ditto	
Ditto	Ditto	
Ditto	Ditto	
Ditto	Ditto	
Ditto	Ditto	
Ditto	Ditto	
Ditto	Ditto	
Ditto	Ditto	
Ditto	Ditto	
Ditto	Ditto	
Ditto	Ditto	
Ditto	Ditto	
As in Serial 1	VIII Class	.. .. As in Serial 1
	Ditto	
	High School	
	VIII Class	
	Ditto	
	Ditto	
As in Serial 1	VIII Class	.. .. As in Serial 1
	Ditto	
	High School	
	VIII Class	
	Ditto	
	Ditto	
As in Serial 1	VIII Class	.. .. As in Serial 1
	Ditto	
	High School	
	VIII Class	
	Ditto	
	Ditto	
	Ditto	
	Ditto	
	High School	
	Ditto	
	VIII Class	
	Ditto	
	High School	
	VIII Class	
	Ditto	
1 year	VIII Class	.. .. Admissions are made in July each year.
Ditto	Ditto	
Ditto	Ditto	
2 years	Ditto	
As in Serial 1	VIII Class	.. .. As in Serial 1
	Ditto	
	High School	
	Ditto	
	High School	
	VIII Class	
	Ditto	
	Ditto	
	Ditto	

1	2	3	4
37	Industrial Training Institute, Moradabad (1963)	Engineering Trades : (i) Blacksmithy (ii) Carpentry (iii) Electrician (iv) Fitter (v) Machinist (vi) Turner (vii) Wireman (viii) Welder	16 16 32 96 24 24 32 24
38	Industrial Training Institute, Muzaffarnagar (1963)	Engineering Trades : (i) Blacksmithy (ii) Carpentry (iii) Electrician (iv) Fitter (v) Turner (vi) Wireman	16 32 32 96 36 32
39	Industrial Training Institute, Pilibhit (1962)	Engineering Trades : (i) Blacksmithy (ii) Carpentry (iii) Electrician (iv) Fitter (v) Machinist (vi) Turner (vii) Wireman (viii) Welder	16 16 32 96 24 24 32 24
40	Industrial Training Institute, Pratapgarh (1962)	Engineering Trades : (i) Blacksmithy (ii) Carpentry (iii) Electrician (iv) Fitter (v) Turner (vi) Wireman	16 32 32 96 48 32
41	Industrial Training Institute, Rae-Bareilly (1962)	Engineering Trades : (i) Blacksmithy (ii) Carpentry (iii) Electrician (iv) Fitter (v) Turner (vi) Wireman	16 32 32 96 48 32
42	Industrial Training Institute, Rampur (1950)	Engineering Trades : (i) Blacksmithy (ii) Carpentry (iii) Draughts man (Civil) (iv) Electrician (v) Electroplator (vi) Fitter (vii) Machinist (viii) Turner (ix) Wireman (x) Welder Non-Engineering Trades : (i) Bleaching, Dyeing and Printing (ii) Cutting, and Tailoring (iii) Hand Weaving	32 64 64 96 32 96 24 48 32 48 16 32 16

5. I. 1—(contd.)

5	6	7
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto Ditto Ditto Ditto	As in Serial 1
year Ditto Ditto	VIII Class Ditto Ditto	Admissions are made in July each year.

1	2	3	4
43	Industrial Training Institute, Saharanpur (1963)	Engineering Trades : (i) Blacksmithy (ii) Carpentry (iii) Electrician (iv) Fitter (v) Machinist (vi) Turner (vii) Wireman (viii) Welder	116 116 32 96 24 24 32 24
44	Industrial Training Institute, Shahjahanpur (1962)	Engineering Trades : (i) Blacksmithy (ii) Carpentry (iii) Electrician (iv) Fitter (v) Turner (vi) Wireman	116 32 32 96 48 32
45	Industrial Training Institute, Sitapur (1962)	Engineering Trades : (i) Blacksmithy (ii) Carpentry (iii) Electrician (iv) Fitter (v) Turner (vi) Wireman	116 32 32 96 48 32
46	Industrial Training Institute, Srinagar (Garhwal) (1959).	Engineering Trades : (i) Carpentry (ii) Draughtsman (Civil) (iii) Draughtsman (Mech.) (iv) Electrician (v) Fitter (vi) Surveyor Non-Engineering Trades : (i) Stenography (Hindi)	32 32 32 32 32 32 32
47	Industrial Training Institute, Sultanpur (1965)	Engineering Trades : (i) Blacksmithy (ii) Carpentry (iii) Electrician (iv) Fitter (v) Sheet Metal (vi) Wireman	32 32 32 64 32 32
48	Industrial Training Institute, Varanasi (1941)	Engineering Trades : (i) Draughtsman (Civil) (ii) Draughtsman (Mech.) (iii) Electrician (iv) Fitter (v) Grinder (vi) Motor Mechanic (vii) Machinist (viii) Mechanic (Instrument) (ix) Mechanic (Dom. Refrigerator) (x) Moulder (xi) Plumber (xii) Radio Mechanic (xiii) Surveyor (xiv) Turner (xv) Wireman	64 64 80 32 24 32 48 16 32 32 32 16 32 48 32

5.1.1—(contd.)

5	6	7
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	VIII Class High School Ditto Ditto VIII Class High School	As in Serial 1
year	Ditto	
As in Serial 1	VIII Class Ditto High School VIII Class Ditto Ditto	As in Serial 1
As in Serial 1	High School Ditto Ditto VIII Class Ditto Ditto Ditto High School Ditto VIII Class Ditto High School Ditto VIII Class Ditto	As in Serial 1

1	2	3	4
		Non-Engineering Trades :	
		(i) Cutting and Tailoring	48
		(ii) Embroidery	32
		(iii) Knitting with Hand and Machine ..	16

ADDITIONAL INFORMATION

1. The age requirements are ordinarily between 16 to 25 years, upper age limit being relaxable in deserving cases.
2. The examinations are arranged by the State Council for Training in Vocational Trades under the auspices of the National Council for Training in Vocational Trades.
3. Admissions are made by selection through a Selection Committee.

5.1.1—(contd.)

5	6	7
1 year Ditto Ditto	VIII Class Ditto Ditto	Admissions are made in July every year.

4. Stipends of Rs.25 per month are given to 33-1/2 per cent of the trainees subject to a reservation of 12-1/2 per cent for Scheduled Castes and 5 per cent for Scheduled Tribes candidates.

5. Twenty per cent of the seats are reserved for Scheduled Castes and Scheduled Tribes candidates.

FACILITIES AT THE CERTIFICATE LEVEL—INSTITUTIONS TRANSFERRED FROM THE

Sl. no.	Name of the institution, its location with year of establishment	Courses offered	Duration
1	2	3	4
1	B. P. K. Government Industrial and Technical Institute, Varanasi (1927).	Trades on NCTVT pattern : (i) Electroplator	2 years of which 18 months in the training centre and 6 months in an Industrial undertaking.
		Trades on the old pattern : (ii) Shape Making (iii) Repouse and Chasing (iv) Engraving and Enamelling (v) Casting and Clay Modelling (vi) Gold Smithy	3 years. Ditto. Ditto. Ditto. Ditto.
2	Government Central Wood Working Institute, Bareilly, (1911).	Trades on NCTVT pattern : (i) Carpentry (ii) Painting and Decorating (iii) Upholstry	2 years of which 18 months in the training centre and 6 months in an Industrial undertaking.
		Trades on the old pattern : (iv) Advance Wood Working (v) Teachers' course (vi) Artizan (vii) Machine Tool (viii) Kiln Operator (ix) High School (Tech.)	2 years. Ditto. Ditto. Ditto. 1 year. 2 years.
3	Government Girl's Industrial and Technical Institute, Rampur (1950).	Trade on the old pattern (i) Tailoring	2 years.
4	Government Industrial and Technical Institute, Charkhari (Hamirpur) (1892)	Trades on NCTVT pattern : (i) Carpentry	2 years of which 18 months in the training centre and 6 months in an Industrial undertaking.
		Trades on the old pattern : (ii) Duri and Niwar Making (iii) Advance Weaving (iv) Weaving and Dyeing (v) Cutting and Tailoring (vi) Leather Foot wear (vii) High School (Tech.)	1 year. Ditto. 2 years. Ditto. Ditto. Ditto.
5	Government Industrial and Technical Institute, Dehra Dun (1952)	Trades on NCTVT pattern : (i) Electrician (ii) Mechanic (Motor) (iii) Mechanic (Radio) (iv) Carpentry.	2 years of which 18 months in the training centre and 6 months in an Industrial undertaking.
		Trade on old pattern : (v) High School (Tech.)	2 years.
6	Government Industrial and Technical Institute, Gorakhpur (1956)	Trades on NCTVT pattern : (i) Mechanic (Motor) (ii) Mechanic (Tractor) (iii) Mechanic (I.C.E.) (iv) Electrician	2 years of which 18 months in the training centre and 6 months in an Industrial undertaking.

5.1.2.

INDUSTRIES DEPARTMENT TO LABOUR DEPARTMENT (AS IN 1965-66)

Intake	Minimum admission qualification	Minimum and maximum age requirements
5	6	7
16	VIII Class	16 years to 25 years.
18	Ditto	Not below 14 years.
18	Ditto	Ditto.
18	Ditto	Ditto.
36	Ditto	Ditto.
84	Ditto	Ditto.
16	VIII Class	16 years to 25 years.
16	Ditto	Ditto.
16	Ditto	Ditto.
60	General Wood Working Artizan course pass	15 years to 21 years.
12	Advanced Wood Working pass	Ditto.
24	Ability to read and write with practical knowledge of carpentry.	13 years to 21 years.
24	VIII class	14 years to 25 years.
16	High School with Mathematics and Science	16 years to 22 years.
72	VIII Class	Information not available.
120	Junior High School pass or VII7 class	Min. 13 years. No upper age restriction.
16	VIII Class	16 years to 25 years.
12	Ability to read and write	14 years to 17 years.
12	VIII Class	..
24	Pass in Weaving course	14 years to 17 years.
24	VIII Class	Ditto.
24	Ability to read and write	Ditto.
48	VIII Class	13 years to 16 years.
16	High School	16 years to 25 years
16	VIII Class	Ditto.
16	High School	Ditto.
16	VIII Class	Ditto.
30	VIII Class	13 years to 16 years.
16	VIII Class	16 years to 25 years
16	Ditto	Ditto.
16	Ditto	Ditto.
16	High School	Ditto.

1	2	3	4
7	Government Industrial and Technical Institute, Lucknow (1948)	Trades on NCTVT pattern : (i) Mechanic (Motor) (ii) Mechanic (Radio) (iii) Electrician (iv) Mechanic (Refrigerator) (v) Electroplator (vi) Welder (vii) Plumber (viii) Sheet Metal Worker (ix) Mechanic (I.C.E.)	2 years of which 18 months in the training centre and 6 months in an Industrial undertaking.
		Trades on old pattern : (x) Steam Engine Driving	1 year.
8	Government Industrial and Technical Institute, Meerut (1922)	Trades on NCTVT pattern : (i) Fitter (ii) Mechanic (Motor) (iii) Electrician (iv) Electroplator (v) Sheet Metal Worker (vi) Turner.	2 years of which 18 months in the training centre and 6 months in an Industrial undertaking.
9	Government Industrial and Technical Institute, Srinagar (Garhwal) (1945)	Trades on NCTVT pattern : (i) Carpentry	Ditto.
		Trades on old pattern : (ii) Elementary Weaving (iii) Cutting and Tailoring (iv) Advance Weaving (v) High School Tech. (Carpentry) (vi) High School Tech. (Weaving)	2 years. Ditto. Ditto. Ditto. Ditto.
10	Government Industrial and Technical Institute, Tehri-Garhwal (1950)	Trades on NCTVT pattern: (i) Carpentry.	2 years of which 18 months in the training centre and 6 months in an Industrial undertaking.
		Trades on old pattern : (ii) Elementary Weaving (iii) Cutting and Tailoring (iv) Cane Making (v) Advanced Weaving (vi) High School Tech. (Carpentry) (vii) High School Tech. (Weaving)	2 years. Ditto. 1 year. Ditto. 2 years. Ditto.
11	Government Leather School, Fatehpur (1927)	Trades on the old pattern : (i) Tanning (ii) Leather Working	2 years. Ditto.
12	Government Weaving School, Mau, Azamgarh (1902)	Trades on old pattern : (i) Artizan Weaving (ii) Elementary Weaving (iii) Advance Weaving	2 years. Ditto. 1 year.
13	Government Wood Working Institute, Allahabad (1919)	Trades on NCTVT pattern : (i) Carpentry (ii) Painting and Decorating (iii) Upholstry	2 years of which 18 months in the training centre and 6 months in an Industrial undertaking.
		Trades on old pattern : (iv) Artizan Wood Working (v) Advance Wood Working (vi) Teacher's Training (vii) High School (Tech.)	2 years. Ditto. Ditto. Ditto.

5.1.2—(contd.)

5	6	7
16	VIII Class	16 years to 25 years
16	High School	Ditto
16	Ditto	Ditto
16	Ditto	Ditto
16	VIII Class	Ditto
12	Ditto	Ditto
16	Ditto	Ditto
16	Ditto	Ditto
16	Ditto	Ditto
12	VIII Class	16 years to 20 years
16	VIII Class	16 to 25 years
16	Ditto	Ditto
16	High School	Ditto
16	VIII Class	Ditto
16	Ditto	Ditto
12	Ditto	Ditto
16	VIII Class	16 years to 25 years
24	VIII Class	16 years to 21 years
24	Ditto	Ditto
10	Elementary Weaving pass	18 years to 21 years
18	VIII Class	14 years to 17 years
36	Ditto	Ditto
16	VIII Class	16 years to 25 years
24	VIII Class	14 years
24	Ditto	Ditto
6	V Class	Ditto
10	Pass in Elementary Weaving	16 years
48	VIII Class	14 years
48	Ditto	Ditto
72	VIII Class	13 years to 21 years
72	Ditto	Ditto
40	Ability to read and write	14 years to 21 years
48	VIII Class	Ditto
10	Elementary Weaving pass	16 years to 21 years
16	VIII Class	16 years to 25 years
16	Ditto	Ditto
16	Ditto	Ditto
24	Ability to read and write	13 years to 21 years
36	Artizan Wood Working pass	15 years to 21 years
6	Advanced Wood Working pass	Ditto
72	VIII Class pass.	13 years to 21 years

1	2	3	4
14	Pt. J.J. Government Industrial and Technical Institute, Almora (1947)	Trades on NCTVT pattern : (i) Carpentry Trades on the old pattern : (ii) Elementary Weaving (iii) Hosiery (iv) Cutting and Tailoring (v) Advance Weaving (vi) High School (Tech).	2 years of which 18 months in the training centre and 6 months in an Industrial undertaking. 3 years 2 years Ditto 1 year 2 years

NOTES :—

1. N.C.T.V.T. means "National Council for Training in Vocational Trades", Government of India.
2. The Examining body for the High School (Tech.) courses is the "Board of High School and Intermediate Education, U. P., Allahabad." These courses are different from the High School (Technical) courses in engineering subjects referred to in Appendix 5.6.

5.1.2—(contd.)

5	6	7
16	VIII Class	16 years to 25 years.
30	VIII Class	14 years.
30	Ditto	Ditto
30	Ditto	Ditto
10	Elementary Weaving	16 years to 21 years.
40	VIII Class pass.	14 years.

3. These institutions have been recently transferred from the Directorate of Technical Education to the Directorate of Training and Employment, U. P., Lucknow.

4. The information in columns 4, 6 and 7 about the "Trades or old Pattern" is based on 1962 particulars.

FACILITIES AT THE CERTIFICATE LEVEL--SECONDARY TECHNICAL SCHOOLS

Sl. no.	Name of the institution, its location with year of establishment	Trades of specialisation	Duration	Annual sanctioned intake	Minimum admission qualification
1	2	3	4	5	6
1	Government Secondary Technical School, Allahabad (1948).	(i) Fitting (ii) Turning (iii) Machining (iv) Foundry (v) Welding	3 years	60	Junior High School or VIII class with English, Science and Mathematics.
2	Government Secondary Technical School, Ghazipur (1950).	Ditto	Ditto	60	Ditto
3	Government Secondary Technical School, Jaunpur (1954).	Ditto	Ditto	60	Ditto
4	Government Secondary Technical School, Daurala (Meerut) (1956).	Ditto	Ditto	60	Ditto
5	Government Secondary Technical School, Jhansi (1958).	Ditto	Ditto	60	Ditto
6	Government Secondary Technical School, Gorakhpur (1964).	Ditto	Ditto	60	Ditto
7	Government Secondary Technical School, Bareilly (1964).	Ditto	Ditto	60	Ditto
8	Government Secondary Technical School, Faizabad (1964).	Ditto	Ditto	60	Ditto
9	Government Secondary Technical School, Lucknow (1964).	Ditto	Ditto	60	Ditto
10	Government Secondary Technical School, Mirzapur (1964).	Ditto	Ditto	60	Ditto
11	Government Secondary Technical School, Azamgarh (1964).	Ditto	Ditto	60	Ditto
12	Government Secondary Technical School, Gonda (1965).	Ditto	Ditto	60	Ditto
13	Government Secondary Technical School, Moradabad (1965).	Ditto	Ditto	60	Ditto

NOTES—(1) Admission is made through selection by the Principal of the school.

(2) The final passing out examination is conducted by the Board. The 1st and 2nd year Annual Examinations are conducted by the Principals of the institutions.

5.2

AFFILIATED TO THE BOARD OF TECHNICAL EDUCATION (A S IN 1965-66).

Session	Minimum and Maximum age requirements	Scholarships, stipends if any
7	8	9
July 15 to May 14. For first year the session starts on July 10.	13 to 17 Years, upper age relaxable by 3 years specially in case of S.C./S.T. and other deserving cases.	Stipends are awarded to 50 per cent students on roll at Rs.20 p.m. to I and II year students and at Rs.30 p.m. for the III year students.
Ditto	Ditto	Ditto
Ditto	Ditto	Ditto
Ditto	Ditto	Ditto
Ditto	Ditto	Ditto
Ditto	Ditto	Ditto
Ditto	Ditto	Ditto
Ditto	Ditto	Ditto
Ditto	Ditto	Ditto
Ditto	Ditto	Ditto
Ditto	Ditto	Ditto
Ditto	Ditto	Ditto
Ditto	Ditto	Ditto

(3) 18 % of the seats are reserved for Scheduled Caste candidates.

(4) These Schools are under the administrative control of the Directorate of Technical Education, U. P., Kanpur.

FACILITIES AT THE CERTIFICATE LEVEL—INSTITUTIONS UNDER THE

Sl. no.	Name of institution, its location with year of establishment	Name of the course	Duration	Annual sanctioned intake
1	2	3	4	5
1	Government Technical Training Centre, Bakshi-ka-Talab, Lucknow (1950)	1. Electrician	2 years	16
		2. Fitter	Ditto	16
		3. Motor Mechanic	Ditto	16
		4. Turner	Ditto	12
		5. Moulding	Ditto	16
		6. Carpentry	Ditto	16
		7. Welding	Ditto	12
		8. Wireman	Ditto	16
		9. Tailoring	1 year	16
2	Government Technical Training Centre, Laldiggi, Gorakhpur (1955)	1. Electrician	2 years	16
		2. Fitter	Ditto	16
		3. Tube-well Operator	Ditto	16
3	Government Technical Training Centre, Naini Tal (1955).	1. Electrician	Ditto	16
		2. Motor Mechanic	Ditto	16
		3. Tailoring	1 year	16
		4. Carpentry	2 years	16

NOTE—Free education, boarding, medical treatment and games are also provided to each trainee in

5.3

DIRECTORATE OF HARIJAN AND SOCIAL WELFARE (AS IN 1965-66)

Minimum admission qualification	Minimum and Maximum age requirements	Scholarships, stipends, if any	Reservation, if any
6	7	8	9
High School	16 to 25 years	Every trainee gets a stipend of Rs.30 p.m.	70 per cent for Harijans.
VIII Class pass	Ditto		15 per cent for Backward Classes.
Ditto	Ditto		15 per cent for Non-Harijans.
Ditto	Ditto		
Ditto	Ditto		
Ditto	Ditto		
Ditto	Ditto		
Ditto	Ditto		
Ditto	Ditto		
High School	Ditto	Every trainee gets a stipend of Rs.30 p.m.	Ditto
VIII Class pass	Ditto		
High School	Ditto		
Ditto	Ditto	Every trainee gets a stipend of Rs.35 per month.	Ditto
VIII Class pass	Ditto		
Ditto	Ditto		
Ditto	Ditto		

all the above three institutions and Certificates are awarded by the Department.

APPENDIX

FACILITIES AT THE CERTIFICATE LEVEL—COURSES

Sl. no.	Name of institutions, its location with year of establishment	Courses offered	Duration	Annual intake
1	2	3	4	5
1	Government College of Arts and Crafts, Lucknow (1911).	(i) Pottery	3 years	3
		(ii) Art Master's Training	2 years	20
		(iii) Home Arts and Home Crafts.	2 years	10
2	Government Leather Institute, Agra (1963)	(i) Post-Matriculate Certificate course in Footwear and Leather Goods Manufacture.	2 years	20
3	Government Leather Institute, Kanpur (1916)	(i) Post Matriculate Certificate course in Footwear and Leather Goods Manufacture.	2 years	20
		(ii) High School (Tech.)	Ditto	20
		(iii) Certificate Course in Footwear and Leather Goods Manufacture.	Ditto	20
4	Government Pilot Workshop, Atrauli (Aligarh)	(i) Machinist	2 years	} 22.5
		(ii) Moulding	2 years	
		(iii) Motor Mechanic	2 years	
		(iv) Electrician	2 years	
		(v) Fitting	2 years	
		(vi) Black Smithy	2 years	
		(vii) Turner	2 years	
		(viii) Carpenter	2 years	
5	Government Pilot Workshop, Azamgarh	Same as in sl. 4	Same as in sl. 4	
6	Government Pilot Workshop, Bakewar (Etawah) (1950)	Ditto	Ditto	
7	Government Pilot Workshop, Deoband (Saharanpur)	Ditto	Ditto	
8	Government Pilot Workshop, Sultanpur (1950)	Ditto	Ditto	
9	Government Polytechnic, Gorakhpur (1909)	(i) Artisan Class	2 years	60
		(ii) Wireman Class	Ditto	20

5.4

NOT COVERED BY APPENDIX 5.1 TO 5.3 (AS IN 1965-66)

Minimum admission qualification	Minimum and maximum age requirements	Administrative Department
6	7	8
High School	14 years to 18 years	Cultural Affairs and Scientific Research Department.
High School with Art., preference is given to Intermediate pass with Technical Drawing.	18 years to 21 years	
High School with Art	15 years to 18 years	
High School with Science and Maths.	14 years to 21 years	Directorate of Technical Education.
High School with Science and Maths.	14 years to 21 years	Ditto.
VIII Class	Max. 16 years, relaxable by 2 years for S. C., S. T. and B.C. students	
Ditto	14 years to 21 years	
VIII Class	15 years to 35 years	Directorate of Industries.
Ditto	Ditto	Ditto
Ditto	Ditto	Ditto
Ditto	Ditto	Ditto
Ditto	Ditto	Ditto
Junior High School or VIII Class	14 years to 21 years	Directorate of Technical Education.
Ditto	Ditto	

APPENDIX

1	2	3	4	5
10	Government Polytechnic, Lucknow (1889)	(i) Light Machine Mechanic.	2 years	45
		(ii) Electric Wireman	1 year	18
11	Moti Lal Memorial Society, Automobile Training Centre, Lucknow (1960)	Automobile Engi- neering.	2½ years	15
12	School of Paper Technology, Saharanpur (1965)	Operatives Certificate Course in Pulp and Paper Technology.	3 years	30

5.4—(contd.)

6	7	8
VIII Class	Information not available	Directorate of Technical Education.
Junior High School	13 years to 21 years on 1st July of year	
High School with Maths. and Science	18 years to 24 years	The centre is run by the Motilal Memorial Society and the certificate is awarded by the Society.
45.0 per cent or above marks in the aggregate with Science and Maths. (not Elementary) in Higher Secondary or High School or equivalent examination from a recognized body (recognized by the Board of High School and Intermediate Education, U.P., Allahabad) or the Secondary Technical Certificate Examination conducted by the Board of Technical Education.	14 years to 21 years on 30th June of the year. Upper age limit relaxable by three years for S.C./S.T. Backward class and other deserving candidates.	Autonomous. The School is affiliated to the Board of Technical Education for the final Certificate Examination.

FACILITIES AT THE CERTIFICATE LEVEL—INSTITUTIONS GIVEN GRANT-IN-AID

Sl. no.	Name of Institution						
1	2						
1	Acharya Narendra Deo Junior Hgh School, Orai (Jalaun)	..	..	..	..	..	..
*2	All-India Shia Orphanage, Luckrow	..	..	..	..	..	..
3	All-India Women Conference Lucknow	..	..	..	..	..	..
4	Anjumane Islamia Khalil Industrial School, Bareilly	..	..	..	..	..	..
5	Arjun Mahila Shilp Kala Kendra, Kanpur	..	..	..	..	..	..
6	Arya Samaj Tailoring School Lucknow	..	..	..	..	..	..
7	Bareilly Mahila Kala Kendra, Bareilly	..	..	..	..	..	..
8	Bhagini Mahila Mandal Sahayak Sangh, Jhansi	..	..	..	..	..	..
9	Bharat Shilp Kala Kendra, Kanpur	..	..	..	..	..	..
10	Bhartiya Adarsh Mahila Sewa-Mandal, Jhansi	..	..	..	..	..	..
11	Chaturvedi Mahila Shilp Vidyalaya, Mathura	..	..	..	..	..	..
12	Ch. Gurnarain Technical Institute, Manikpur, Etawah	..	..	..	..	..	..
13	Dayawati Modi Mahila Shilp Kala Vidyalaya, Modinagar, Meerut	..	..	..	..	..	..
*14	Deaf and Dumb School, Allahabad	..	..	..	..	..	..
*15	Deaf and Dumb School, Lucknow	..	..	..	..	..	..
*16	Deaf and Dumb School, Saharanpur	..	..	..	..	..	..
17	District Board Arts School, Muzaffarnagar	..	..	..	..	..	..
18	District Board Industrial School, Hardoi	..	..	..	..	..	..
19	District Board Weaving School, Gorakhpur	..	..	..	..	..	..
20	District Dalit Varg Sangh, Gaziabad (Meerut)	..	..	..	..	..	..
21	Dr. Choit Ram Gidwani, Nuri Kala Kendra, Kanpur	..	..	..	..	..	..
22	Gandhi Audyogic College, Orai (Jalaun)	..	..	..	..	..	..
23	Gandhi Mahila Vidyalaya, Roorkee, Saharanpur	..	..	..	..	..	..
24	Girls College of Arts and Crafts, Allahabad	..	..	..	..	..	..
25	Gita Ashram Women Industrial School, Mathura	..	..	..	..	..	..
*26	Gunge Baheron-Ka-Vidyalaya, Kanpur	..	..	..	..	..	..
*27	Harijan Ashram, Harijan Sevak Sangh, Allahabad	..	..	..	..	..	..
28	Hewett Weaving School, Bara Banki	..	..	..	..	..	..
*29	Hindu Orphanage, Kanpur	..	..	..	..	..	..
30	Indra Gandhi Mahila Kalayin Samiti, Varanasi	..	..	..	..	..	..
31	Jaspath Rai Mahila Shilp Kala Vidyalaya, Kanpur	..	..	..	..	..	..
32	Kamlesh Mahila Shilp Vidyalaya, Chandausi (Moradabad)	..	..	..	..	..	..
33	Kanya Kala Pathshala, Moradabad	..	..	..	..	..	..
34	Krishna Shiksha Niketan, Lucknow	..	..	..	..	..	..
35	Kunwar Lal Singh Man Singh Industrial School, Mainpur	..	..	..	..	..	..
36	Leading Tailoring and Cutting Academy, Varanasi	..	..	..	..	..	..
37	Leather Working School, Dyalbagh, Agra	..	..	..	..	..	..
38	Mahila Hitkari Parishad, Muzaffarnagar	..	..	..	..	..	..
39	Mahila Kala Kendra, Kathghar Road, Allahabad	..	..	..	..	..	..
40	Mahila Kala Kendra, Roorkee	..	..	..	..	..	..
41	Mahila Mandal, Kashi, Varanasi	..	..	..	..	..	..

Course	Duration of course	Admission qualification
3	4	5
Tailoring and Cutting	3 years	Ability to read and write.
Weaving, Tailoring, Carpentry, and Leather Work	2 years	Ditto.
Tailoring and Allied Crafts	Ditto	VI Class pass.
Tailoring and Carpentry	Ditto	VIII Class standard.
Tailoring and Allied Crafts	Ditto	VI Class pass.
Tailoring and Allied Crafts	Ditto	VIII Class standard.
Tailoring and Knitting	Ditto	Information not available.
Tailoring and Allied Craft	Ditto	VI Class pass.
Ditto	Ditto	Ditto.
Tailoring and Allied Crafts	Ditto	Ability to read and write.
Ditto	Ditto	VIII Class standard.
Electrical Supervisor and General Mechanic	Ditto	Junior High School.
Tailoring and Allied Crafts	Ditto	Information not available.
Calico Printing	3 years	Ability to read and write.
Weaving, Tailoring, Cutting, Clay Modelling and Cane Work	2 years	Information not available.
Tailoring, Embroidery, Carpentry and Polishing	Ditto	Ditto.
Tailoring and Carpentry	Ditto	Junior High School.
Cutting and Tailoring	Ditto	VII Class pass.
Elementary Weaving and Dyeing	Ditto	VIII Class pass.
Tailoring and Allied Crafts	Ditto	VI Class pass.
Ditto	Ditto	Ditto.
Tailoring and Cutting	Ditto	Ability to read and write.
Tailoring and Allied Crafts	Ditto	Ditto.
Ditto	Ditto	V Class standard.
Ditto	Ditto	VI Class standard.
Photo Frames and Glass Cutting, Toy and Flower Making, Painting	Ditto	Information not available.
Basket Making, Tanning and Iron work	1 year	VIII Class pass.
Weaving	2 years	V Class standard.
Carpentry	Ditto	VI Class pass.
Tailoring and Knitting	Ditto	Information not available.
Tailoring and Allied Crafts	Ditto	Ability to read and write.
Ditto	Ditto	VI Class pass.
Ditto	Ditto	VIII Class standard.
Ditto	Ditto	V Class pass.
Weaving, Tailoring, Carpentry and Tar-kashi Work	Ditto	VIII Class standard.
Tailoring and Allied Crafts	Ditto	Junior High School.
Leather Work	Ditto	VIII Class pass.
Tailoring and Allied Crafts	Ditto	Ability to read and write.
Ditto	Ditto	VI Class pass.
Ditto	Ditto	Ditto.
Ditto	Ditto	Ability to read and write.

1	2	3	4	5	6	7	8	9	10
42	Mahila Shilp Kala Vidyalaya, adaad, Mathura	..	..	..	..	..	..	..	..
43	Mahila Shilp Kutir, Agra	..	..	..	..	..	..	..	..
44	Mahila Shilp Niketan, Ghaziabad	..	..	..	..	..	..	..	..
45	Mahila Shilp Sadan, Mathura	..	..	..	..	..	..	..	..
46	Mahila Shilp Shikshalaya, Lucknow	..	..	..	..	..	..	..	..
47	Mahila Shilp Vidyalaya, Mathura	..	..	..	..	..	..	..	..
*48	Mahila Shilp Udyog Sadan Taula Naini Tal	..	..	..	..	..	..	..	..
49	Mahila Shilp Vidya Mandir, Araigarh, Varanasi	..	..	..	..	..	..	..	..
50	Mahila Udyog Shilp Kala Kendra, Azamgarh	..	..	..	..	..	..	..	..
51	Mason Leather Working School, Fudauli	..	..	..	..	..	..	..	..
52	M. M. Training-cum-Production Centre, Ghaziabad (Meerut)	..	..	..	..	..	..	..	..
*53	Mook Badhir Vidyalaya, Gorakhpur	..	..	..	..	..	..	..	..
*54	Mumtaz Orphanage, Lucknow	..	..	..	..	..	..	..	..
55	Municipal Leather Working School, Allahabad	..	..	..	..	..	..	..	..
56	Municipal Leather Working School, Varanasi	..	..	..	..	..	..	..	..
57	Municipal Tailoring School, Bareilly	..	..	..	..	..	..	..	..
*58	Muslim Orphanage, Kanpur	..	..	..	..	..	..	..	..
59	Nari Kala Kendra, Kanpur	..	..	..	..	..	..	..	..
60	Nari Kala Mandir, Lucknow	..	..	..	..	..	..	..	..
61	Nari Kala Udyog Kendra, Lucknow	..	..	..	..	..	..	..	..
62	Nari Jagriti Sewa Samaj, Lucknow	..	..	..	..	..	..	..	..
63	Nari Siksha Vidyalaya, Varanasi	..	..	..	..	..	..	..	..
64	New Ladies Tailoring School, Lucknow	..	..	..	..	..	..	..	..
65	Nutan Paridhan Kala Mandir Mainpuri	..	..	..	..	..	..	..	..
66	Rajesh Shilp Kala Mandir, Kanpur	..	..	..	..	..	..	..	..
67	Raj Kumari Shilp Kala Sadan, Fatehgarh	..	..	..	..	..	..	..	..
68	Ram Piarj Arya Kanya Pathshala Chandausi, Moradabad	..	..	..	..	..	..	..	..
69	Santi Kala Bhawan, Varanasi	..	..	..	..	..	..	..	..
70	Saroj Shilp Kala Niketan, Kanpur	..	..	..	..	..	..	..	..
*71	School for Blind, Sitapur	..	..	..	..	..	..	..	..
72	Shailendra Shiksha Niketan, Chardpur, Rae-Bareilly	..	..	..	..	..	..	..	..
73	Sharda Mahila Shilp Kala Kendra, Kanpur	..	..	..	..	..	..	..	..
74	Sharadhanand Anath Banita Ashram, Dehra Dun	..	..	..	..	..	..	..	..
75	S. K. Industrial School, Moradabad	..	..	..	..	..	..	..	..
76	Shilp Kala Niketan, Muthiganj, Allahabad	..	..	..	..	..	..	..	..
77	Sudhakar Girls College of Arts, Varanasi	..	..	..	..	..	..	..	..
78	Urmila Mahila Dastkari School, Meerut	..	..	..	..	..	..	..	..
*79	Vaish Orphanage, Meerut	..	..	..	..	..	..	..	..
80	Vishnu Shilp Kala Vidyalaya, Kidwai Nagar, Kanpur	..	..	..	..	..	..	..	..
81	Vocational Training Girls College, Allahabad	..	..	..	..	..	..	..	..
82	Vocational Training School, Shahjahanpur	..	..	..	..	..	..	..	..

NOTE—The examination in respect of the institutions marked with an asterisk (*) is not

3	5
Tailoring and Knitting	2 years .. Information not available.
Tailoring and Allied Crafts	Dito .. V Class pass.
Ditto	Dito .. VI Class standard.
Ditto	Dito .. VIII Class standard.
Ditto	Dito .. VI Class pass.
Tailoring and Allied Crafts	Dito .. VI class standard.
Ditto	Dito .. VI Class pass.
Ditto	Dito .. VI Class standard.
Ditto	Dito .. Information not available.
Leather Work	Dito .. Ability to read and write.
Tailoring and Allied Craft	Dito .. VIII Class standard.
Tailoring, Cane Work, Umber-Charakha, Fret and Plastic work ..	Dito .. Deaf and Dumb.
Carpentry and Leather work	Dito .. VIII Class standard.
Leather Working Certificate	Dito .. Upto VIII Class.
Leather work	Dito .. Ability to read and write.
Tailoring and Cutting	Dito .. Ditto.
Carpentry	Dito .. V Class pass.
Tailoring and Allied Crafts	Dito .. V Class pass.
Ditto	Dito .. VIII Class standard.
Ditto	Dito .. V Class pass.
Tailoring and Knitting	Dito .. Information not available.
Tailoring and Allied Crafts	Dito .. Ability to read and write.
Ditto	Dito .. Information not available.
Ditto	Dito .. VI Class pass.
Ditto	Dito .. Information not available.
Ditto	Dito .. VI Class pass.
Tailoring and Knitting	Dito .. Information not available.
Tailoring and Allied Crafts	Dito .. High School with Science and Maths.
Ditto	Dito .. VI Class pass.
Ditto	Dito .. VI Class pass.
Ditto	Dito .. VI Class.
Ditto	Dito .. VI Class pass.
Tailoring and Allied Crafts	Dito .. VIII Class standard.
Durie Making, Newar Making, Rope, Basket and Hand Bag Making etc. ..	1 year .. Information not available.
Tailoring and Knitting	2 years .. Ditto.
Durie Weaving, Hosiery, Tailoring	Dito .. Ability to read and write.
Tailoring and Knitting	Dito .. Information not available.
Tailoring and Allied Crafts	Dito .. VI Class pass.
Tailoring, Knitting and Embroidery, Carpentry	Dito .. VIII Class pass.
Tailoring, Leather work and Carpentry	Dito .. VIII Class standard.
Tailoring and Cutting	Dito .. Junior High School.

conducted. by the Directorate of Technical Education, U. P., Kanpur.

AP PENDIX
A COMPARATIVE STUDY OF DIFFERENT

Sl. no.	Name of course	Admission qualification	Duration
1	2	3	4
1	Secondary Technical Certificate Course.	VIII class or Junior High School pass.	3 years
2	High School (Technical)	VIII class or Junior High School pass.	2 years, but it is a continuous course for another two years for Intermediate (Technical).
3	Intermediate (Tech.)	High School (Tech.)	2 years
4	Certificate course in any one trade mentioned in Appendix 5.1.1.	For most of the trades High School pass; for some trades VIII class pass.	2 years

TYPES OF CERTIFICATE COURSES

Subjects taught	Award and the awarding authority	Object of education or training
5	6	7
English, Hindi, Humanities, Mathematics, Science, Engineering, Drawing, Elementary Mechanical Engineering, Elementary Electrical Engineering. Any of the trades such as Fitting, Turning, Machining, Foundry or Welding, (Theory and Practice.)	Certificate by the Board of Technical Education, U. P.	Boys after passing the course can either go directly into industry and work in the field of their training or join the three years' diploma course in Engineering.
English, Hindi, Mathematics, Science General Engineering comprising of Elementary Electricity, Elementary Applied Mechanics, Workshop Practice and Elementary Technical Drawing.	High School (Tech.) awarded by the Board of High School and Intermediate Education, U. P.	According to the scheme, the boys after passing the course should join Intermediate (Technical). Students can, however, also join the three years' diploma course in Engineering. The Board of Technical Education has allowed a preference of five per cent marks over ordinary High School Science students in the matter of admissions.
English, Hindi, Technical subjects comprising of Applied Mathematics, Applied Science, Applied Mechanics and Hydraulics, Direct Current Machines, Heat Engines, Alternating Current Machines and House Wiring and Practicals in Mechanical Engineering and Heat Engines or Practical Electrical Engineering, Technical Drawing, Science and Mechanics.	Intermediate (Tech.) of the Board of High School and Intermediate Education, U. P.	Boys may go into industry direct or take admission in diploma courses in Engineering. The Intermediate (Tech.) is recognised by the Board of Technical Education, as equivalent to Intermediate Science for purposes of admission in diploma courses.
Course designed to meet the requirements of the trade including both theory and practical instructions. More emphasis on practical work.	Certificate by the National Council for Training in Vocational Trades.	Boys go direct into industry or can start their own work.

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