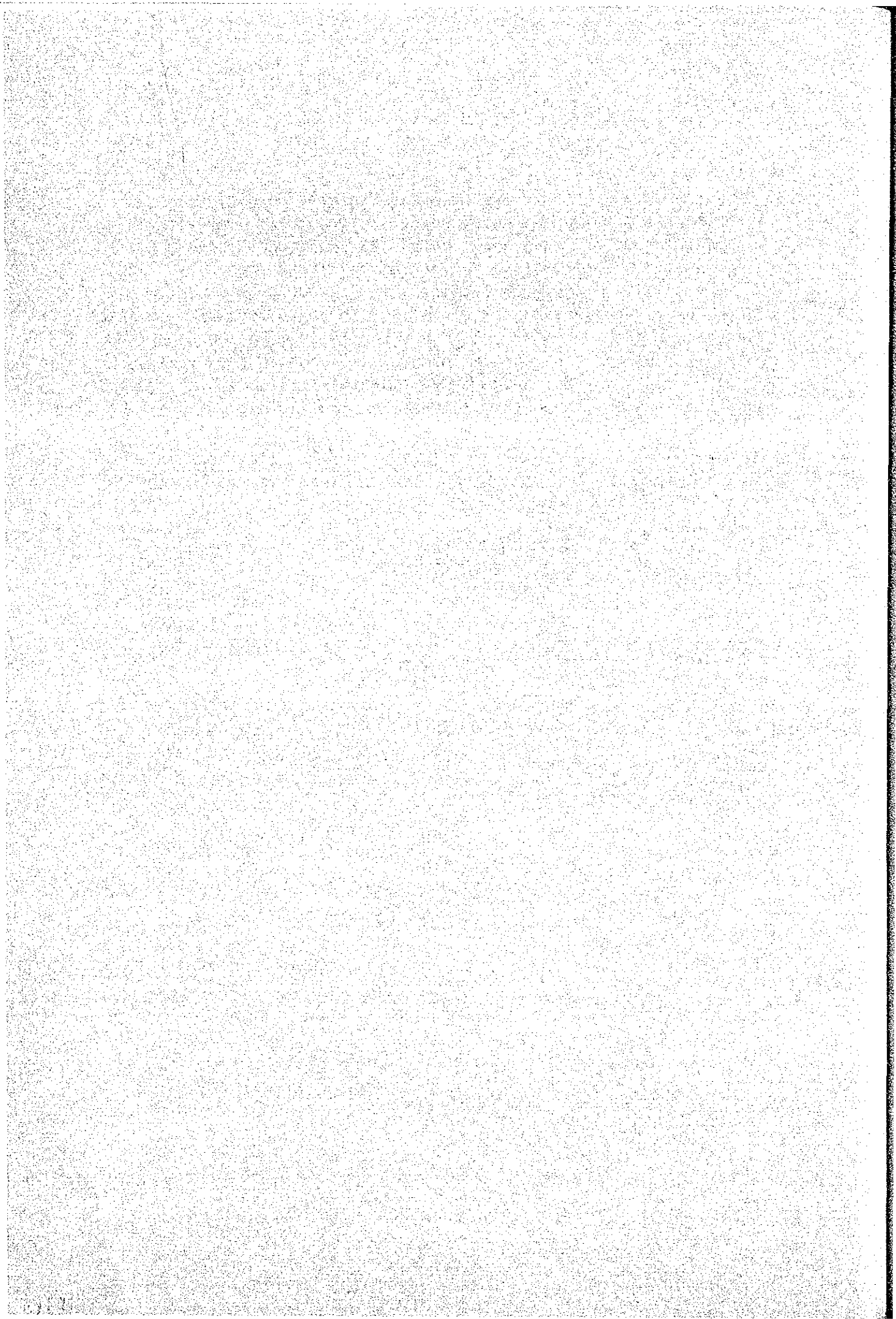


4. CMTCパンフレット



CMTC



CONSTRUCTION MACHINERY TRAINING CENTRE

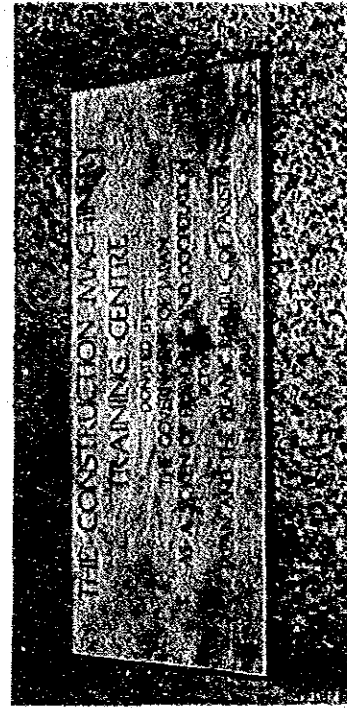
Contents

1. BACKGROUND
2. TRAINING PLAN
 - 2.1 Training Plan
 - 2.2 Training Targets of Courses
 - 2.3 Entry Qualification
3. CMTC ORGANIZATION
4. FACILITIES
 - 4.1 Outline
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5. INTRODUCTION TO JICA

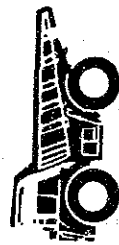
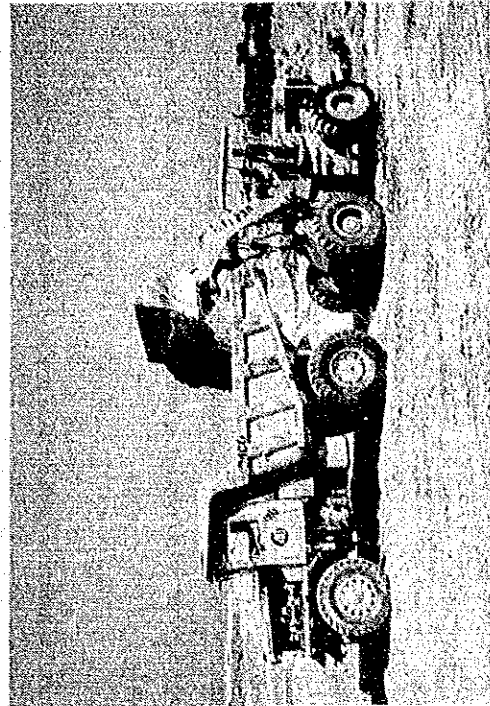
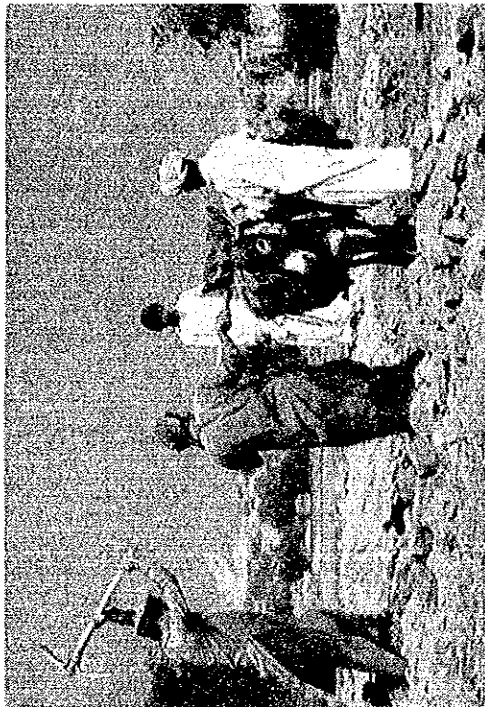
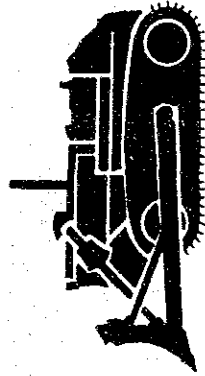
1. Background

In accordance with the 6th Five Year Economic Development Plan (1983-88), the Government of Pakistan has placed emphasis on the development of social infrastructure such as road network, dam, irrigation system and land reclamation and also on man-power development of unskilled labour. The Government of Pakistan is now introducing a large number of construction machinery in order to execute these various public works effectively and smoothly.

Under this circumstance, the technical cooperation between Pakistan and Japan has been set up and both governments signed the agreement on 10th Sept. 1984 to start the CMTC Project. The purpose of the CMTC is to provide skilled operators and mechanics with necessary knowledge, technique and practice to the agencies concerned to preserve construction machinery in good condition and thus contributing to the development of social infra-structure and man-power development of Pakistan.



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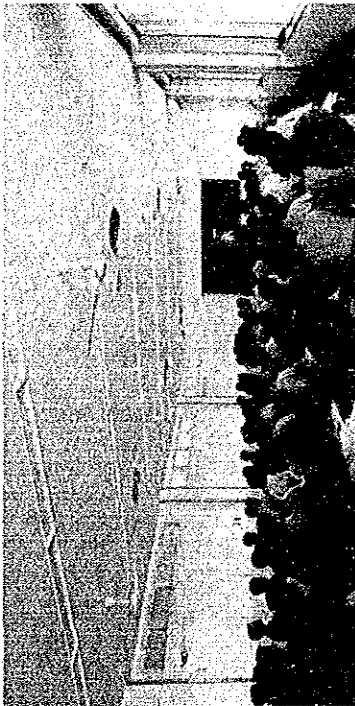
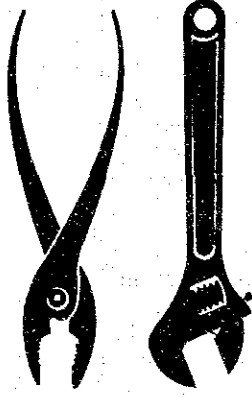
2. Training Plan

2.1 Training Plan

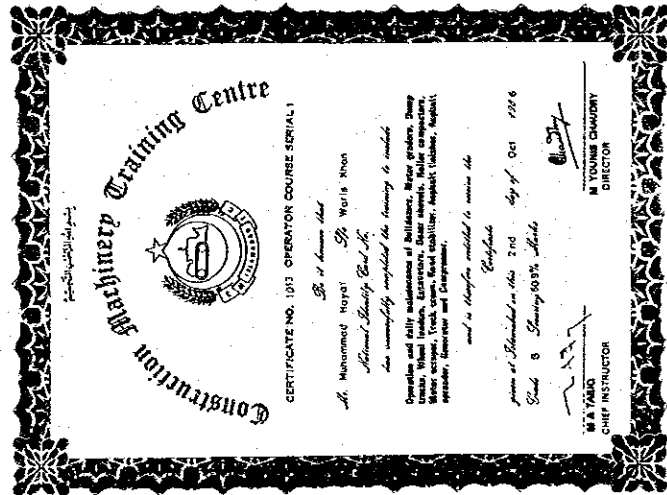
The course structure, enrolment and duration of training in the Centre are listed in the following table:

Training Course	Training period (month)	No. of trainees	No. of Courses per year	Annual output
Operator	3	40	3	120
Mechanic-I	3	20	3	60
Mechanic-II: Engine	5	20	2	40
Chassis	5	20	2	40

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Opening Ceremony

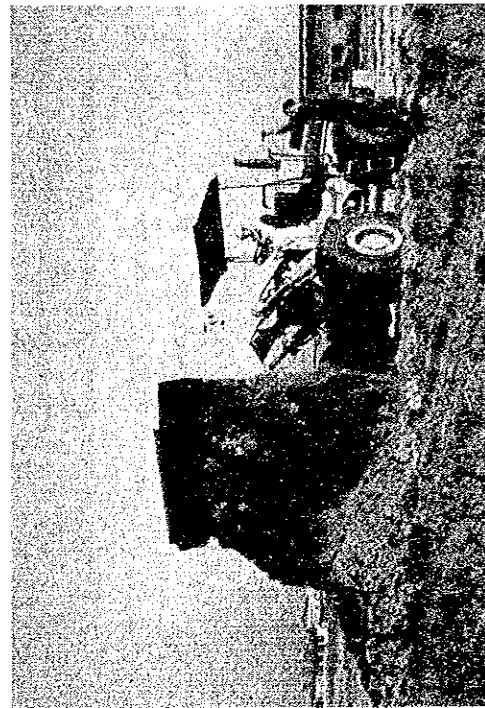


In the Class

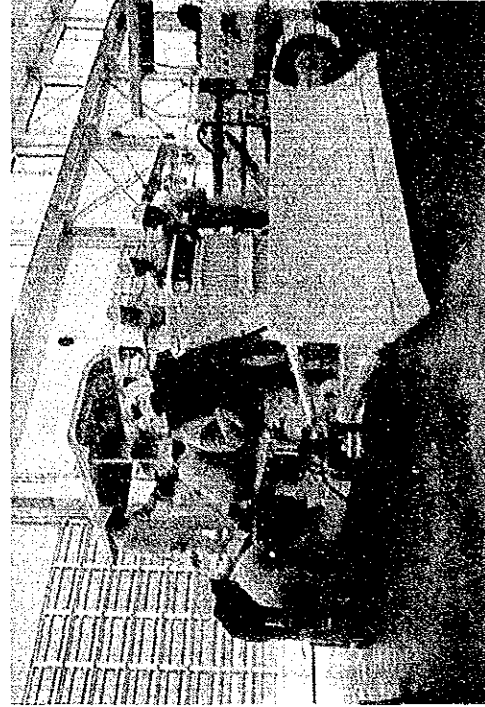
2.2 Training Targets of Courses:

Operator Course:

- 1) To provide trainees with knowledge and skill required for operation and daily maintenance of construction machinery.
- 2) Contents of Training:
 - a) General knowledge of construction machinery and components.
 - b) Practical training in machine operation and construction method.
 - c) Inspection and maintenance.



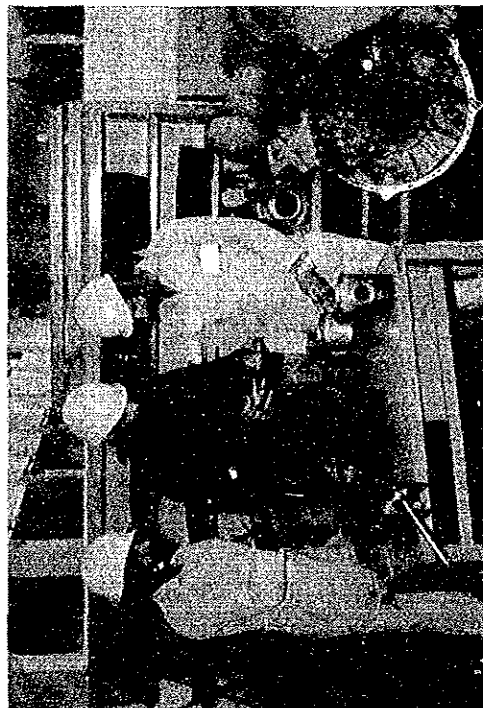
Operation Practice



Daily Maintenance

Mechanic-I Course:

- 1) To provide trainees with knowledge and skill required for maintenance and repairs of construction machinery.
- 2) Contents of training:
 - a) Handling of tools and measuring instruments.
 - b) General knowledge of construction machinery and components.
 - c) Inspection and maintenance.
 - d) Practical training in removal and installation of components.
 - e) Trouble shooting and practical training on repairs.



Measuring



Lecturing

Mechanic-II Course:

1) To provide trainees with all round knowledge and skill required for maintenance, repairs and testing of construction machinery.

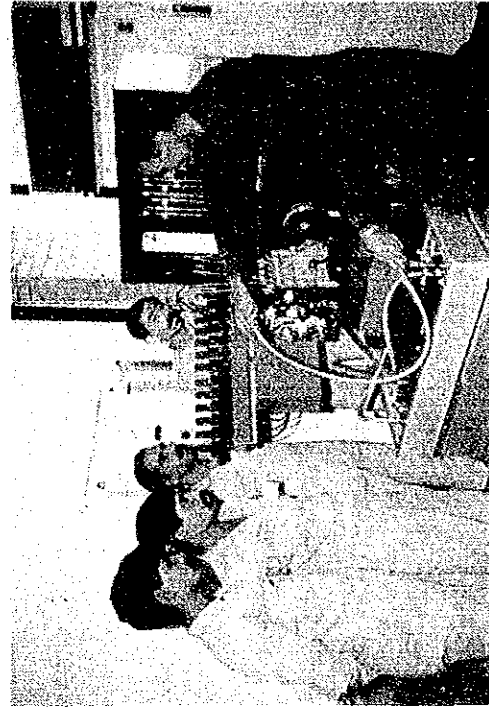
2) Contents of training:

Engine Course:

- a) Handling of tools and measuring instruments.
- b) General knowledge of construction machinery and components.
- c) Repairs and overhauling of engine.
- d) Repairs and testing of electric circuit and fuel system.
- e) Engine testing, trouble-shooting and adjustment.



Crankshaft Rebuilding



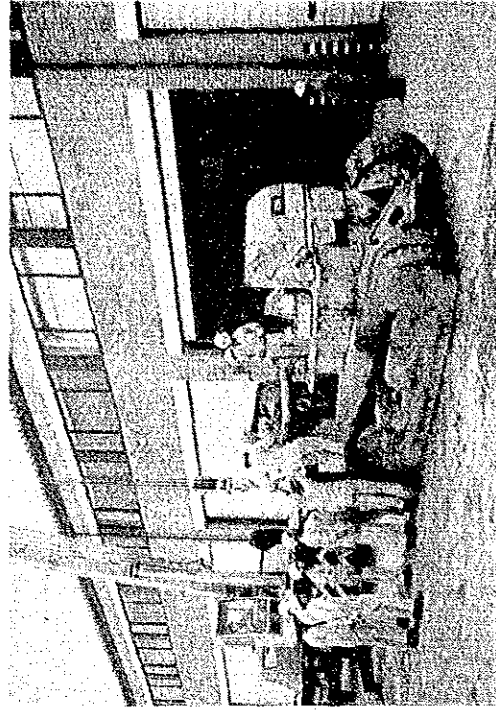
Injection Pump Testing

Chassis Course:

- a) Handling of tools and measuring instruments.
- b) General knowledge of construction machinery and components.
- c) Structure and repairs of power line.
- d) Structure and repairs of hydraulic system.
- e) Trouble-shooting of chassis.
- f) Operation of workshop equipment.



Hydraulic Tank Testing



Removal of Components

2.3 Entry Qualification:

(1) Operator Course:

- a) To be eighteen (18) years of age and above.
- b) To be Secondary School Graduate and one (1) year professional experience of construction machinery or more is preferable.
- c) To have knowledge of written English.

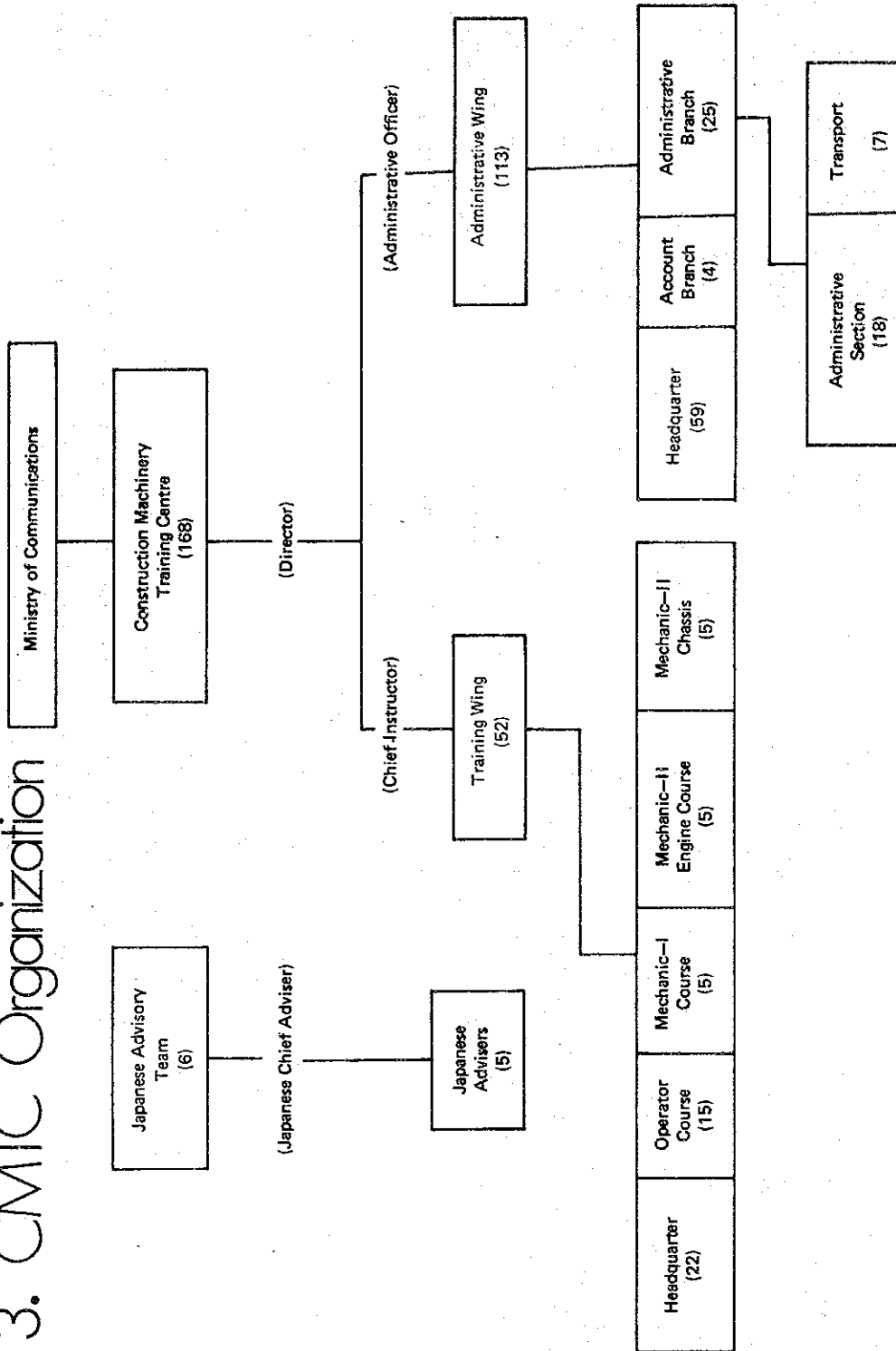
(2) Mechanic-I Course:

Same as in (1) Operator Course (a to c).

(3) Mechanic-II Course (Engine & Chassis):

- a) To be eighteen (18) years of age and above.
- b) To be Secondary School Graduate with three (3) years of experience and above as an Assistant Mechanic, or to be Intermediate College Graduate with one (1) year of experience and above as an Assistant Mechanic.
- c) To have knowledge of written English.

3. CMTC Organization



4. Facilities

4.1 Outline:

Owner : Ministry of Communications.

Basic Design : Japan International Cooperation Agency.

Grant Amount : 2,970,000,000 Yen = Rs. 179,471,000

4.2 Outline of the Building

(1) Administration Building

- a) Main Entrance
- b) Lounge
- c) Administration Office
- d) Library
- e) Conference Room (30 seats)
- f) Preparation Room
- g) Lecture Hall (117 seats)
- h) Director Office
- i) Chief Adviser Office
- j) Instructor Room

(2) Training Building

- a) Class-rooms (4 Rooms)
- b) Simulator Room

(3) Canteen

- a) Trainees Dining Hall (108 seats)
- b) Staff Dining Room (24 seats)
- c) Complete Kitchen Facilities

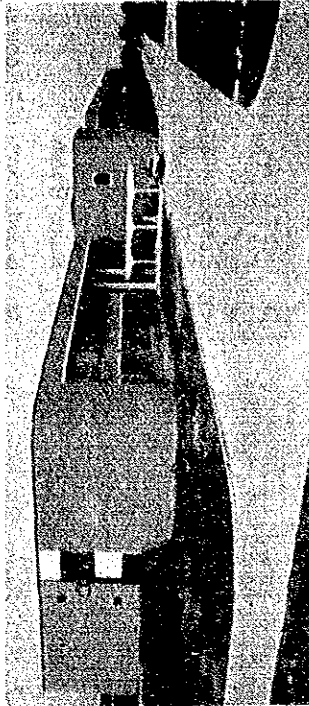
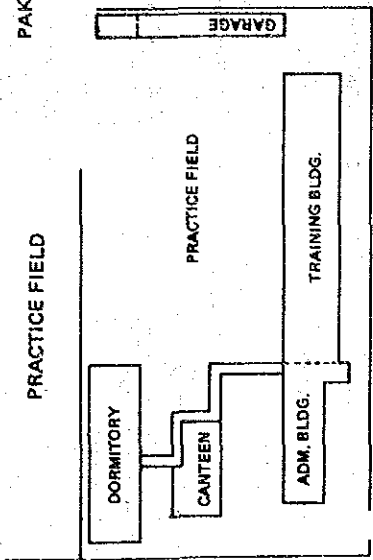
(4) Dormitory

- a) Lounge
- b) Study Room
- c) 6-Bed Rooms (17 Rooms)
- d) 1-Bed Rooms (5 Rooms)
- e) Washing Room

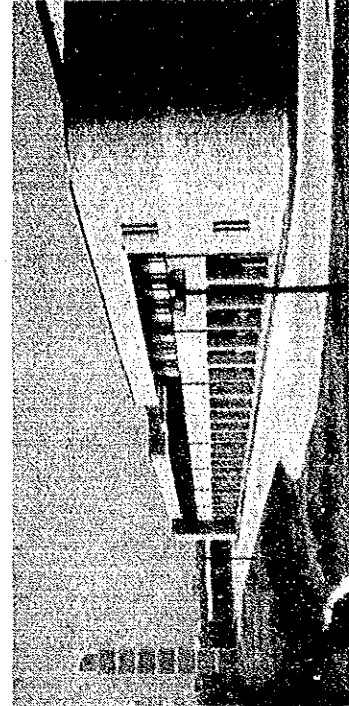
(5) Other Facilities

- a) Construction Machinery Garages
- b) Diesel Pumping Station (19000 ltr)
- c) Gate House
- d) Maintenance Shop
- e) Elevated Water Tank
- c) Audio-visual Room
- d) Workshop
- Rebuild Shop
- Machine Shop
- Powerline Shop
- Engine Shop
- Chassis Shop
- e) Test Rooms
- Fuel Injection
- Electrical System
- Hydraulic Component
- Engine
- f) Miscellaneous
- Shop Class Rooms
- Sub Instructor Rooms
- Tool Room
- Parts Warehouse
- Overhead Cranes

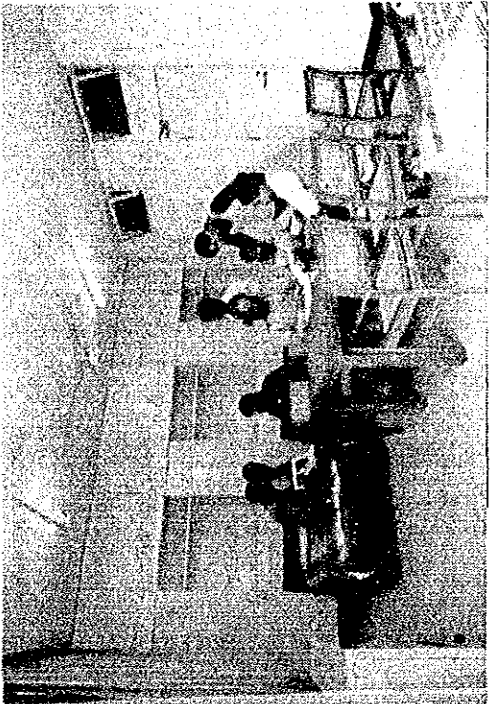
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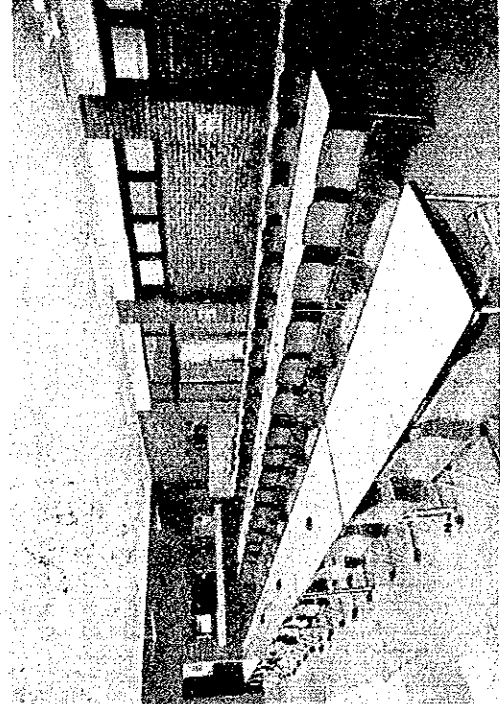
Adm. Building



Training Building



Relaxing Time in Dormitory



Canteen

4.3 Outline of the equipment

(1) For operator Training Course:

- a) Bulldozer
- b) Wheel Loader
- c) Road Stabilizer
- d) Excavator
- e) Motor Scraper
- f) Tire Roller
- g) Asphalt Finisher
- h) Dozer Shovel
- i) Motor Grader
- j) Dump Truck
- k) Truck Crane
- l) Vibratory Roller
- m) Driving Simulator System



Construction Machine Fleet



Driving Simulator Practice

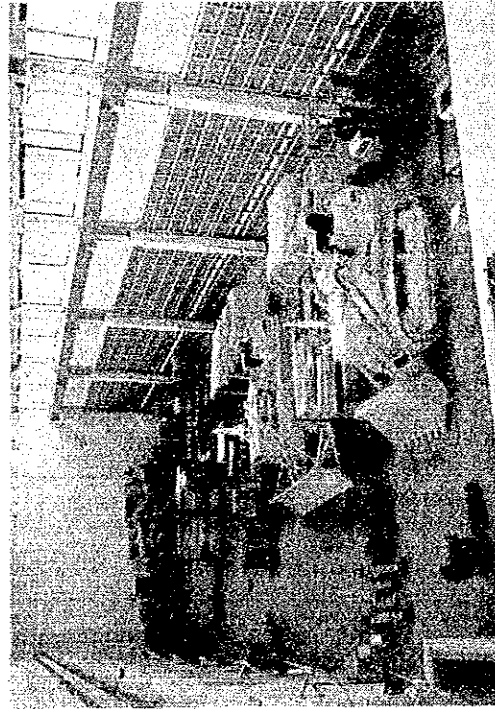
(2) For Mechanic Training Course:

Machine for Workshop practice:

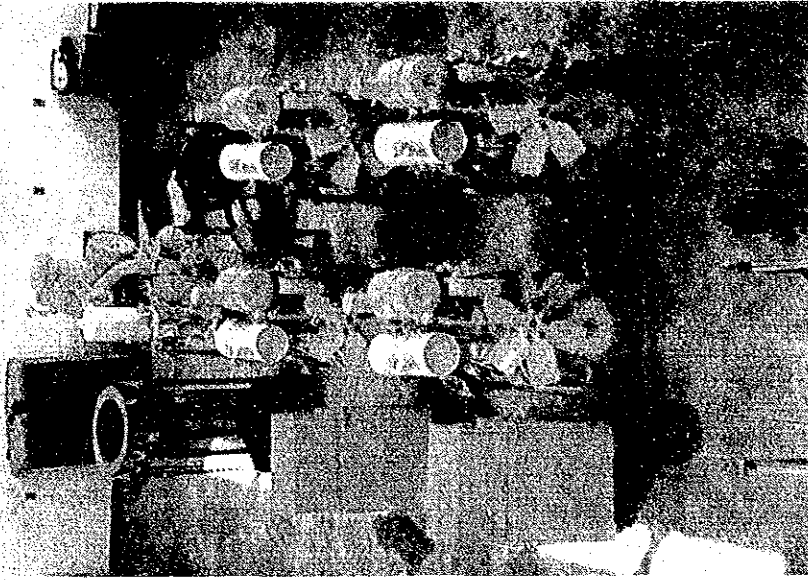
- a) Bulldozers
- b) Motor Grader
- c) Wheel Loader
- d) Excavator

Components for workshop practice:

- a) Engine Assembly
- b) Transmissions
- c) Hydraulic Pump Assembly
- d) Various System Boards
- e) Torque Converter Assembly
- f) Fuel Pump Assembly



Machine for Workshop Practice



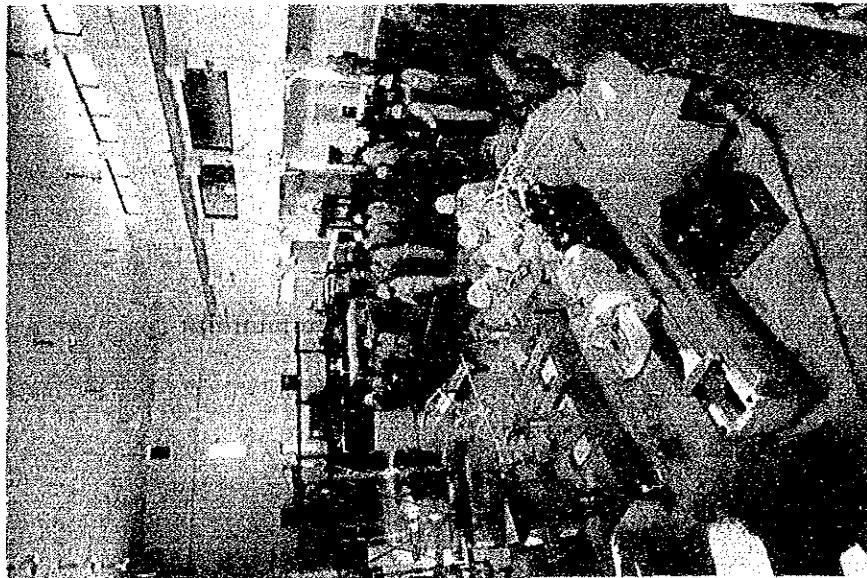
Engine for Workshop Practice

Workshop equipment for repair practice:

- a) Track Link Rebuilding Machine
- b) Crankshaft Rebuilding Machine
- c) Crankshaft Grinder
- d) Milling Machine
- e) Roller Idler Press
- f) Surface Grinder
- g) Lathe Machine

Test equipment

- a) Fuel Injection Pump Tester
- b) Dynamometer with Control Panel
- c) Hydraulic Component Universal Tester
- d) Starter, Generator Tester



Machine Tools



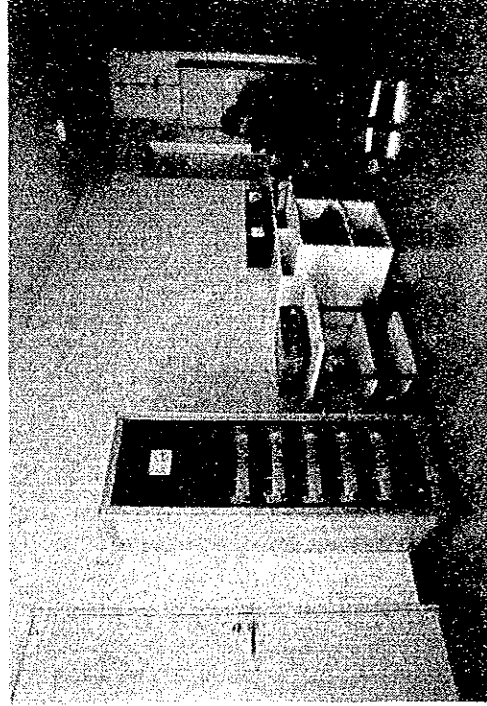
Engine Test Control Room

Other equipment for special training:

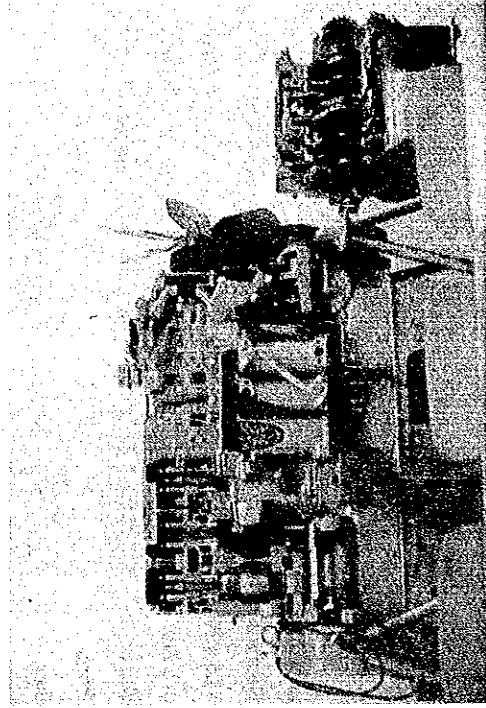
- a) Audio-Visual System
- b) Micro-Computer
- c) Various Cutaway Models



Lecturing in Audio-Visual Room



Editing Room

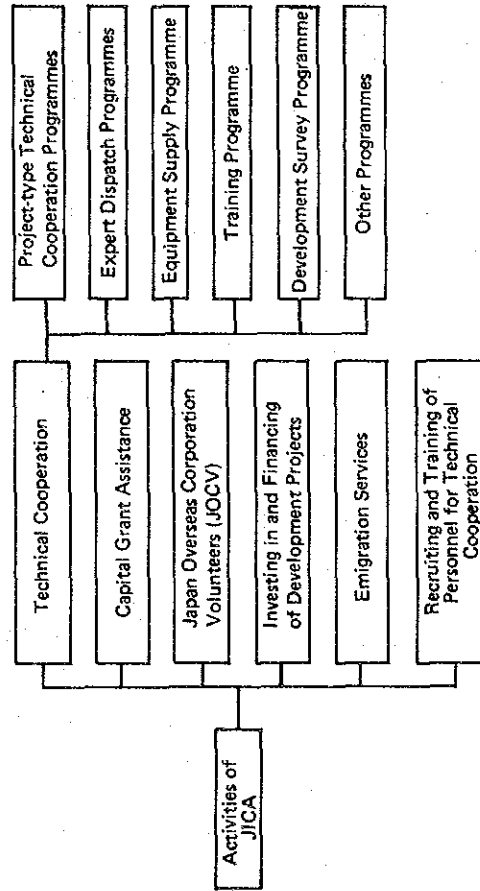


Cutaway Models

5. Introduction to JICA

The Japan International Cooperation Agency (JICA) was established by the Government of Japan on August 1, 1974 with a view to promoting international cooperation for the social economic development of the developing world.

Its activities fall under the following categories:—



Project-type Technical Cooperation Programmes

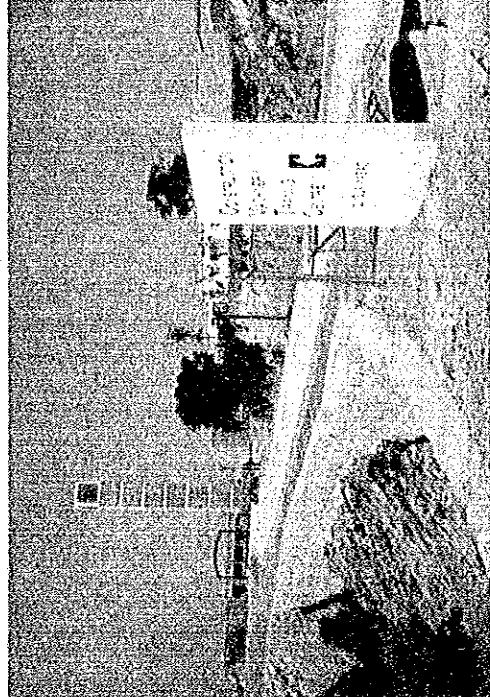
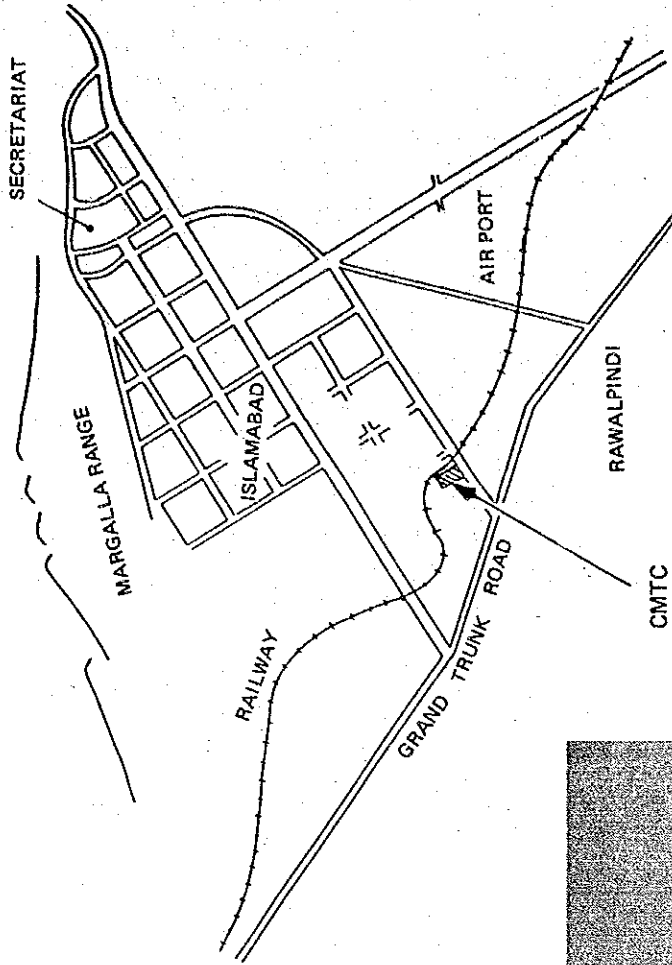
The Project-type Technical Cooperation Programme for its implementation consist of three components as follows:—

- * Dispatch of Japanese Experts,
- * Technical Training in Japan and abroad, and
- * Supply of Equipment and Materials.

Since the Capital Grant Assistance for the Construction Machinery Training Centre was committed by the Government of Japan on 10th Sept. 1984 the construction work on CMTC was being implemented by the Japan International Cooperation Agency which successfully completed on May 3, 1986.

Following the completion of the building and installation of equipment etc., the Technical Cooperation Project Team, comprising six (6) members of Japanese Experts, was posted by JICA in the CMTC to carry out the Project-type Technical Cooperation.

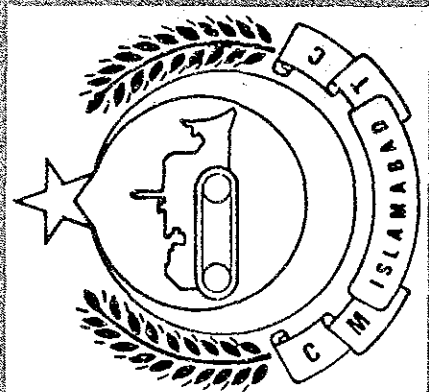
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