

8 List of equipment provided with experts

LIST OF EQUIPMENT PROVIDED WITH JICA EXPERT

Code	Name of Expert	Name of Equipment	Qty.	Price (¥)	Delivered date	Place
JEXPERT93001	Tomoyuki IRIE (Coordinator)	COPIER -Canon NP-2020 Copier	1 unit	363,000.00	26 July 1993	EXPERT ROOM 361
JEXPERT93002	Inosuke MORI (Chief Advisor)	PERSONAL COMPUTER AND PRINTER , SOFTWARE MAT 486DX-33C -14" SVGA CRT -120MB HDD STAR PRINTER XB2425 IBM DOS/V Ver5.02 ICHIHARO DASH LOTUS 123 NOTE	1 set	499,000.00	4 August 1993	EXPERT ROOM 361
JEXPERT93003	Masazumi KUMAGAI (Microcomputer)	Z80 CROSS ASSEMBLER -3.5" 5" FLOPPY DISK -INSTRUCTION MANUAL PLASTIC OPTICAL FIBER ASSEMBLING KIT DOWN TRANSFORMER FOR ABOVE ASSEMBLING KIT	5 set 1 set 1 set 1 set 1 set	200,000.00 7,000.00 180,000.00 6,000.00	26 Sep. 1993	MICRO COM. LAB MICRO COM. LAB COMMUNICATION LAB. COMMUNICATION LAB.
JEXPERT93006		BOOKS	22 vols	22,940.00		EXPERT ROOM 361
JEXPERT93007		1/4W CARBON RESISTOR 169-KINDS (50pcs/set)	1 set	19,800.00		EXPERT ROOM 361
JEXPERT93008		CERAMIC CONDENSER 55-KINDS (10pcs/set)	1 set	4,400.00		EXPERT ROOM 361
JEXPERT93009		MYLER CONDENSER 33-KINDS (10pcs/set)	1 set	4,400.00		EXPERT ROOM 361
JEXPERT93010		ELECTROLYSIS CONDENSER 55-KINDS (10pcs/set)	1 set	9,900.00		EXPERT ROOM 361
JEXPERT93011		COAXIAL CONNECTOR BNC-TA-JPJ	10 pcs	22,000.00		MICRO COM. LAB.
JEXPERT93012		JAMPER WIRE CP-002	1 set	3,750.00		EXPERT ROOM 361
JEXPERT93013		JAMPER KITS CP-012	1 set	3,750.00		EXPERT ROOM 361
JEXPERT93014		BNC-BNC COAXIAL CABLE 1m	10 pcs	23,000.00		MICRO COM. LAB.
JEXPERT93015		BNC-MINOMUSHI COAXIAL CABLE	10 pcs	18,700.00		MICRO COM. LAB.
JEXPERT93016		VZ EDITOR	1 pc	3,300.00		MICRO COM. LAB.
JEXPERT93017		TOOL SETS ENGINEER:KS-06	2 set	29,400.00		EXPERT ROOM 361.

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JEXPERT93018	Masaki KUDO (Sensor Technology)	OPTICAL FIBER CABLE G.50/125 1001	1,000m	85,000.00	26 Sep. 1993	COMMUNICATION LAB.
JEXPERT93019		OPTICAL FIBER CABLE G.50/125 3005	1,000m	85,000.00		COMMUNICATION LAB.
JEXPERT93020		OPTICAL FIBER CUTTER CT-02	1 pc	30,000.00		COMMUNICATION LAB.
JEXPERT93021		STRIPPER JS-01	1 pc	13,000.00		COMMUNICATION LAB.
JEXPERT93022		OBJECT LENS OB-5(X5)	2 pcs	13,000.00		COMMUNICATION LAB.
JEXPERT93023	Inosuke MORI (Chief Advisor)	BOOKS	46 vols	238,959.00	26 Nov. 1993	EXPERT ROOM 361
JEXPERT93024	Kensuke HASEGAWA (Robotics)	DC SERVO MOTER -UGRAMEM 40MA207	1 pc	149,300.00	13 Dec. 1993	SOLAR CAR LAB.
JEXPERT94025	Tadayoshi FURUYA (Automatic Control)	PERSONAL COMPUTER -DECpc LPv466DX2	1 set	342,000.00	22 March 1994	EXPERT ROOM 361
JEXPERT94026		PRINTER -Canon BJ-230	1 unit	65,000.00		EXPERT ROOM 361
JEXPERT94027	Katsumi ISHIHARA	HANDY DIGITAL GAUGE (SMB-10A)	1 pc	255,000.00	1 April 1994	EXPERT ROOM 361
JEXPERT94028	(Instrumentation)	CABLE U-16	1 pc	5,000.00		EXPERT ROOM 361
JEXPERT94029		GAUGE KFG-20-120-C1-11 N30C2	2 pcs	7,800.00		EXPERT ROOM 361
		KFG-10-120-C1-11 N30C2	2 pcs	7,800.00		EXPERT ROOM 361
		KFG-5-120-C1-11 N30C2	2 pcs	6,200.00		EXPERT ROOM 361
		KFG-10-120-D16-11 N30C2	2 pcs	17,400.00		EXPERT ROOM 361
		KFG-5-120-D16-11 N30C2	2 pcs	15,000.00		EXPERT ROOM 361
JEXPERT94030		LEAD WIRE L-5(100m)	1 pc	4,400.00		EXPERT ROOM 361
JEXPERT94031		STICK GAUGE	1 set	24,500.00		EXPERT ROOM 361
JEXPERT94032		STICK GAUGE R	1 set	19,600.00		EXPERT ROOM 361
JEXPERT94033		ADHESIVE PC-6	2 pcs	1,800.00		EXPERT ROOM 361
JEXPERT94034		ADHESIVE PC-28	2 pcs	2,600.00		EXPERT ROOM 361
JEXPERT94035		COATING MATERIAL C-1A	2 pcs	1,800.00		EXPERT ROOM 361
JEXPERT94036		TOOLS SET No. 700S	1 set	62,500.00		EXPERT ROOM 361
JEXPERT94037	Shuzo OKAZAKI	PERSONAL COMPUTER	1 pc	210,000.00	2 May 1994	EXPERT ROOM 361

LIST OF EQUIPMENT PROVIDED WITH JICA EXPERT

Code	Name of Expert	Name of Equipment	Qty.	Price (¥)	Delivered date	Place
	(CAD)					
		-IBM Think Pad 220				
		-EXTENTION MEMORY 4MB	1 pc	57,800.00		EXPERT ROOM 361
JEXPERT94038		WINDOWS 3.1 Japanese	1 set	18,500.00		EXPERT ROOM 361
JEXPERT94039		MS-EXCEL 5.0 Japanese	1 set	49,300.00		EXPERT ROOM 361
JEXPERT94040		MS-WORD 5.0 Japanese	1 set	49,300.00		EXPERT ROOM 361
JEXPERT94041		ENERGY INSPECTION APPARATUS FOR CONDENSOR	1 pc	19,800.00		MECHATRONICS DEP.
JEXPERT94042		VARIABLE RESISTOR RE-T2	1 pc	43,200.00		MECHATRONICS DEP.
JEXPERT94043	Yoshio SORIMACHI	TOOL SET S-10	2 sets	22,400.00	2 May 1994	EXPERT ROOM 361
JEXPERT94044	(Microcomputer)	UNVERSAL PRINTED CIRCUIT BOARD CPU-131	10 pcs	16,200.00		EXPERT ROOM 361
JEXPERT94045		I. C. TEST CRIP STC-16A	2 pcs	4,500.00		EXPERT ROOM 361
JEXPERT94046		I. C. TC4011BP	10 pcs	450.00		EXPERT ROOM 361
		TC4001BP	10 pcs	450.00		EXPERT ROOM 361
		TC4049BP	10 pcs	450.00		EXPERT ROOM 361
		MC4013BP	10 pcs	600.00		EXPERT ROOM 361
		TC4027BP	10 pcs	700.00		EXPERT ROOM 361
JEXPERT94047		OP AMPLIFIER LM741CH	10 pcs	1,600.00		EXPERT ROOM 361
		M1458	10 pcs	2,600.00		EXPERT ROOM 361
		MFC324	10 pcs	1,400.00		EXPERT ROOM 361
JEXPERT94048		I. C. SOCKET DICE-E8	20 pcs	640.00		EXPERT ROOM 361
		DICE-E14	20 pcs	1,120.00		EXPERT ROOM 361
		DICE-E16	20 pcs	1,280.00		EXPERT ROOM 361
JEXPERT94049		BISS/NUT 3φ x10mm	100 pcs	500.00		EXPERT ROOM 361
		3φ x30mm	100 pcs	1,000.00		EXPERT ROOM 361
		NUT 3mm	200 pcs	800.00		EXPERT ROOM 361
		FLAT WASHER 3mm	400 pcs	1,200.00		EXPERT ROOM 361
		SPRING WASHER 3mm	200 pcs	600.00		EXPERT ROOM 361
JEXPERT94050		PERSONAL COMPUTER	1 pc	219,000.00		EXPERT ROOM 361
		-IBM Think Pad 220				
		-EXTENTION MEMORY 4MB	1 pc	60,000.00		EXPERT ROOM 361
JEXPERT94051		TRANSFORMER MTB-100 220V/100V	1 pc	9,500.00		EXPERT ROOM 361
JEXPERT94052	Tomouji OITZUMI	HANDY PERSONAL COMPUTER	1 pc	77,400.00	2 May 1994	EXPERT ROOM 361
	(Digital Control)	YHP HP100XL				
JEXPERT94053		CONNECTIVITY PACK YHP P1021A	1 pc	14,100.00		EXPERT ROOM 361

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Code	Name of Expert	Name of Equipment	Qty.	Price (¥)	Delivered date	Place
JEXPERT94054		HANDY BOOK PLAYER SONY DD-22	1 pc	35,000.00		EXPERT ROOM 361
JEXPERT94055		HANDY BOOK PLAYER SONY DD30DBZ	1 pc	60,700.00		EXPERT ROOM 361
JEXPERT94056		CD FOR HANDY BOOK PLAYER	1 set	58,976.00		EXPERT ROOM 361
JEXPERT94057	Inosuke MORI (Chief Advisor)	BOOKS	74 vols	102,522.00	3 May 1994	EXPERT ROOM 361
JEXPERT94058	Katsumi ISHIHARA (Instrumentation)	BOOK	1 vol	35,100.00	27 June 1994	EXPERT ROOM 361
JEXPERT94059	Tomoju OOTZUMI (Digital Control)	DISK CARD (F1012A)	1 pc	48,200.00	27 June 1994	EXPERT ROOM 361
JEXPERT94060	Shuzo OKAZAKI (CAD)	POCKET COMPUTER (SHARP PC-E650) -MANUAL FOR PC-E500	42 pcs 42 vols	1,176,000.00 151,200.00	27 June 1994	MECHATRONICS DEP.
JEXPERT94061		PRINTER (SHARP CE-126P)	8 pcs	121,600.00		
JEXPERT94062	Tadayoshi FURUYA (Automatic Control)	PERSONAL COMPUTER -MACHINTOSH 8100/80V -DISPLAY -KEY BOARD BOOKS	1 pc 1 pc 1 pc 2 vols	700,000.00 400,000.00 13,000.00 22,860.00	27 June 1994	EXPERT ROOM 362
JEXPERT94064	Inosuke MORI	BORDA'S PENDULUM (BP-40)	2 sets	90,000.00	27 June 1994	PHYSICS LAB. 511
JEXPERT94065	(Chief Advisor)	YOUNG'S MODULUS APPARATUS EWING'S PATTERN (TY-400)	2 sets	159,800.00		PHYSICS LAB. 511
JEXPERT94066		TORSIONAL RIGIDITY APPARATUS (NP-190)	2 sets	102,000.00		PHYSICS LAB. 511
JEXPERT94067		ANGULAR MOMENTUM KIT (AE-420)	1 set	126,900.00		PHYSICS LAB. 511
JEXPERT94068		DEMONSTRATOR OF NEWTON'S LAWS OF MOTION (NO. 121-780)	1 set	103,400.00		PHYSICS LAB. 511
JEXPERT94069		ELECTRIC RESISTANCE COMPARISON APPARATUS (RSC-5)	1 set	58,300.00		PHYSICS LAB. 511
JEXPERT94070		RESISTANCE MEASURING EXPERIMENT APPARATUS (ST-103A)	1 set	103,400.00		PHYSICS LAB. 511
JEXPERT94071		ELECTRO-MAGNETIC INDUCTION EXPERIMENT APPARATUS (EIS-15) -TRANSFORMER (220V.-100V.)	1 set	145,800.00		PHYSICS LAB. 511

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JEXPERT94072	Shoji KINOSHITA (CAM/CIM)	PERSONAL COMPUTER -DECpc LPv+466DX2 -340 MB HDD -SAMP0 17" CRT	1 set	*96,300.00 Bath	2 August 1994	EXPERT ROOM 361
JEXPERT94073		PRINTER -HP DESKJET 1200C/PS	1 set	*73,723.00 Bath	2 August 1994	EXPERT ROOM 361
JEXPERT94074		ADDITIONAL PARTS FOR LAN SYSTEM -SEGATE 1.05 GB SCSI HDD -16MB MEMORY	1 set	*63,772.00 Bath	2 August 1994	CAD LAB. 382
JEXPERT94075	Inosuke MORI (Chief Advisor)	THERMO ELECTROMOTIVE FORCE MEASURING APPARATUS -SHIMAZU ST-105A	1 set	225,600.00	7 October 1994	PHYSICS LAB. 511
JEXPERT94076		ELECTRO-MAGNETIC FORCE MEASURING APPARATUS -SHIMAZU KEM-5	1 set	188,000.00	7 October 1994	PHYSICS LAB. 511
JEXPERT94077		OSCILLOSCOPE JDE-75N	2 pcs	94,340.00	7 October 1994	PHYSICS LAB. 511
JEXPERT94078		VOLT SLIDER SN-260-5	2 pcs	89,000.00	7 October 1994	PHYSICS LAB. 511
JEXPERT94079		SLIDE RHEOSTAT RE-5	2 pcs	51,600.00	7 October 1994	PHYSICS LAB. 511
JEXPERT94080		DC VOLTMETER HQ-300	2 pcs	25,800.00	7 October 1994	PHYSICS LAB. 511
JEXPERT94081		AC VOLTMETER HQ-150	2 pcs	25,800.00	7 October 1994	PHYSICS LAB. 511
JEXPERT94082		DC AMMETER HQ-5	2 pcs	25,800.00	7 October 1994	PHYSICS LAB. 511
JEXPERT94083		AC AMMETER HQ-10	2 pcs	25,800.00	7 October 1994	PHYSICS LAB. 511
JEXPERT94084		DC VOLTMETER MP-41	10 pcs	160,000.00	7 October 1994	PHYSICS LAB. 511
JEXPERT94085		AC VOLTMETER RP-41	12 pcs	192,000.00	7 October 1994	PHYSICS LAB. 511
JEXPERT94086	Norio FURUSE (Microcomputer)	MODEM -PANASONIC T0705B	1 set	35,000.00	14 December 1994	EXPERT ROOM 361
JEXPERT94087		MODEM -I/O DATA PCF-144	1 set	35,000.00	14 December 1994	EXPERT ROOM 361
JEXPERT94088		SOFTWARE -MICROSOFT OFFICE (JAPANESE)	1 pc	68,000.00	14 December 1994	EXPERT ROOM 361
JEXPERT94089		UPS -VICTRON MICRO 110	1 pc	*66,000.00 Bath	16 December 1994	EXPERT ROOM 361
JEXPERT95090	Yoshio SORIMACHI	IN-OUT PCT BOARD DT31-EZ	2 pcs	366,000.00	11 March 1995	EXPERT ROOM 362
JEXPERT95091	(Microcomputer)	SCREW TERMINAL STP-EZ	2 pcs	37,000.00	11 March 1995	EXPERT ROOM 362

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Code	Name of Expert	Name of Equipment	Qty.	Price(¥)	Delivered date	Place
JEXPERT95092		SERVO MOTOR SSPS105	4 pcs	160,000.00	1 March 1995	EXPERT ROOM 362
JEXPERT95093	Yasuaki HIRAO	EDGE TOP POSITIONING MEASURE	1 pc	32,120.00	1 May 1995	MECHATRONICS DEP.
JEXPERT95094	(CAD)	POSITIONING MEASURE	2 pcs	57,480.00	1 May 1995	MECHATRONICS DEP.
JEXPERT95095		MODELING WAX	4 box	48,620.00	1 May 1995	MECHATRONICS DEP.
JEXPERT95096		PAGE MILL	1 pc	42,130.00	1 May 1995	MECHATRONICS DEP.
JEXPERT95097		ULTRA HARD TIP	10 pcs	12,100.00	1 May 1995	MECHATRONICS DEP.
JEXPERT95098		ULTRA HARD BALL MILL	4 pcs	45,000.00	1 May 1995	MECHATRONICS DEP.
JEXPERT95099		END MILL	3 pcs	33,000.00	1 May 1995	MECHATRONICS DEP.
JEXPERT95100	Toshiya SAKABE	PERSONAL COMPUTER				
	(Sensor Technology)	-APPLE POWERBOOK 520C	1 set	333,000.00	1 May 1995	EXPERT ROOM 361
JEXPERT95101		SOFTWARE				
		-EG WORD V6.0	1 set	17,500.00	1 May 1995	EXPERT ROOM 361
JEXPERT95102		SOFTWARE				
		-MS WORD V6.0 for MAC	1 set	38,350.00	1 May 1995	EXPERT ROOM 361
JEXPERT95103		SOFTWARE				
		-ALDUS SUPER PAINT 3.5J for MAC	1 set	20,860.00	1 May 1995	EXPERT ROOM 361
JEXPERT95104		SOFTWARE				
		-MS EXCEL 5.0J for MAC	1 set	37,700.00	1 May 1995	EXPERT ROOM 361
JEXPERT95105		SOFTWARE				
		-FILE MAKER PRO 2.1	1 set	37,700.00	1 May 1995	EXPERT ROOM 361
JEXPERT95106	Shuzo OKAZAKI	SOFTWARE				
	(CAD)	-ADOBE PHOTOSHOP 3.0J for MAC	1 set	105,400.00	10 May 1995	EXPERT ROOM 361
JEXPERT95107		SOFTWARE				
		-ADOBE ILLUSTRATOR 5.0 for MAC	1 set	81,600.00	10 May 1995	EXPERT ROOM 361
JEXPERT95108		SOFTWARE				
		-ALDUS PAGE MAKER 5.0J for MAC	1 set	100,640.00	10 May 1995	EXPERT ROOM 361
JEXPERT95109		SOFTWARE				
		-CLARIS WORKS 2.0V2 for MAC	1 set	25,840.00	10 May 1995	EXPERT ROOM 361
JEXPERT95110		SOFTWARE				
		-MAC DRAW PRO 1.5V2	1 set	47,600.00	10 May 1995	EXPERT ROOM 361
JEXPERT95111		COLOR IMAGE SCANNER				
		-EPSON GT-8500ART	1 set	83,200.00	10 May 1995	EXPERT ROOM 362
JEXPERT95112	Tomoyuki IRIE	COPPER				

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Code	Name of Expert	Name of Equipment	Qty.	Price (¥)	Delivered date	Place
JEXPERT95113	(Coordinator)	-MINOLTA EP-1080 AUTOMATIC DOCUMENT FEEDER	1 unit	*105,000.00	10 May 1995	EXPERT ROOM 361
JEXPERT95114		-MINOLTA AF-3 10-BIN SORTER	1 unit	*29,250.00	10 May 1995	EXPERT ROOM 361
JEXPERT95114		-MINOLTA S-104	1 unit	*31,500.00	10 May 1995	EXPERT ROOM 361
JEXPERT95115	Yoshio SORIMACHI (Microcomputer)	PERSONAL COMPUTER -DELL OMNI PLEX 590	1 set	864,000.00	25 May 1995	EXPERT ROOM 362
JEXPERT95116		LASER PRINTER -CANON LBP8406EII	1 set	242,200.00	25 May 1995	EXPERT ROOM 362
JEXPERT95117		MODEM -MD144XT10V-W	1 set	46,400.00	25 May 1995	EXPERT ROOM 362
JEXPERT95118		SOFTWARE -MATLAB APPLICATION	8 sets	595,000.00	25 May 1995	EXPERT ROOM 362
JEXPERT95119	Inosuke MORI Chief Advisor)	HARD DISK -EXTERNAL HDD FOR HP EMS (1GB)	1 unit	*80,250.00	13 June 1995	EXPERT ROOM 361
JEXPERT95120	Shuzo OKAZAKI (CAD)	PERSONAL COMPUTER -DELL OMNI PLEX 590	1 unit	600,000.00	29 June 1995	EXPERT ROOM 362
JEXPERT95121		LASER PRINTER -CANON LBP8406EII	1 unit	170,000.00	29 June 1995	EXPERT ROOM 362
JEXPERT95122	Shohei MIYAGAWA (Robotics)	SIMM MEMORY -16MB RAM for DEC PC	2 unit	*44,000.00	10 July 1995	EXPERT ROOM 361
JEXPERT95123		SIMM MEMORY -4MB RAM for IBM PC	2 unit	*13,600.00	10 July 1995	EXPERT ROOM 362
JEXPERT95124		IDE HARD DISK -525MB HDD for DEC PC	1 unit	*6,900.00	10 July 1995	EXPERT ROOM 361
JEXPERT95125		IDE HARD DISK -540MB HDD for IBM PC	1 unit	*7,800.00	10 July 1995	EXPERT ROOM 362
JEXPERT95126		GP-IB CARD -HP-IB 823358	1 set	*16,500.00	10 July 1995	EXPERT ROOM 362
JEXPERT95127	Shoji YAMACHI (Fluid Power Control)	POCKET COMPUTER -SHARP PC-E500	6 sets	*23,368.80	28 July 1995	MECHATRONICS DEP

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JEXPERT95128	Takehisa OHNO (Fluid Power Control)	SOFTWARE -MS WINDOWS 3.1E	1 set	14,000.00	31 July 1995	EXPERT ROOM 361
JEXPERT95129		SOFTWARE -ICHIHARA V6.0 FOR WIN	1 set	34,000.00	31 July 1995	EXPERT ROOM 361
JEXPERT95130		SOFTWARE -HANAKO V3.1 FOR WIN	1 set	34,000.00	31 July 1995	EXPERT ROOM 361
JEXPERT95131	Norio FURUSE	PLABEL I/O CARD AT-03	2 pcs	44,800.00	3 August 1995	EXPERT ROOM 361
JEXPERT95132	(Microcomputer)	A/D CONVERTER CARD AT-14	1 pce	32,000.00	3 August 1995	EXPERT ROOM 361
JEXPERT95133		D/A CONVERTER CARD A-15	1 pce	32,000.00	3 August 1995	EXPERT ROOM 361
JEXPERT95134		ENCORDER COUNTER UTC-ATEN	1 pce	43,000.00	3 August 1995	EXPERT ROOM 361
JEXPERT95135		RELAY CARD AISA-R08	1 pce	36,000.00	3 August 1995	EXPERT ROOM 361
JEXPERT95136		AC/DC CONVERTER 200V/+5V	1 pce	11,000.00	3 August 1995	EXPERT ROOM 361
JEXPERT95137		AC/DC CONVERTER 200V/+12V	2 pcs	22,000.00	3 August 1995	EXPERT ROOM 361
JEXPERT95138		ENCORDER TSS307N510	1 pce	12,000.00	3 August 1995	EXPERT ROOM 361
JEXPERT95139		ENCORDER TSS320N510	1 pce	12,000.00	3 August 1995	EXPERT ROOM 361
JEXPERT95140		DC MORTER DME3456HPB	2 pcs	3,400.00	3 August 1995	EXPERT ROOM 361
JEXPERT95141		DC MORTER GEAR HEAD 6H600	2 pcs	5,200.00	3 August 1995	EXPERT ROOM 361
JEXPERT95142		STEPPING MOTER UNIT UMD-245-A	1 pce	45,800.00	3 August 1995	EXPERT ROOM 361
JEXPERT95143		DIGITAL MULTI METER 754401	1 pce	45,800.00	3 August 1995	EXPERT ROOM 361
JEXPERT95144		SOFT WARE -OS2 WARP V3 (Japanese)	1 pce	33,000.00	3 August 1995	EXPERT ROOM 361
JEXPERT95145	Shoji YAMACHI (Fluid Power Control)	DC POWER SUPPLY HP6654A -540W HP-IB PROGRAMMABLE POWER SUPPLY	1 unit	*105,000.00 bath	31 August 1995	EXPERT ROOM 362
JEXPERT95146	Matsuyoshi OKITSU (Dept. Management)	READING TELESCOPE WITH SCALE & SUPPORT	1 set	108,000.00	25 OCTOBER 1995	PHYSICS LAB. 511
JEXPERT95147		ELECTRONIC COUNTER XN-10	1 set	144,000.00	25 OCTOBER 1995	PHYSICS LAB. 511
JEXPERT95148		SUSPENSION WIRE	2 pcs	6,000.00	25 OCTOBER 1995	PHYSICS LAB. 511
JEXPERT95149		STEEL BALL 3pcs/SET	1 set	1,600.00	25 OCTOBER 1995	PHYSICS LAB. 511
JEXPERT95150		SOFTWARE -AUTO-CAD(R12J)LIBRARY 2.2(9)	1 set	81,000.00	25 OCTOBER 1995	EXPERT ROOM 361
JEXPERT95151		SOFTWARE -WIN CAD 4 FOR PC	1 set	52,200.00	25 OCTOBER 1995	EXPERT ROOM 361

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JEXPERT95152	HITOSHI ASANO (Microcomputer)	OVERDRIVE PROCESSOR(DX40DP100)	3 pcs	87,000.00	10 DECEMBER 1995	EXPERT ROOM 362 (ON PC)
JEXPERT95153		DIGITAL CAMERA(CASIO)	1 pc	48,000.00	10 DECEMBER 1995	EXPERT ROOM 362
JEXPERT95154		INTERFACE OF DIGITAL CAMERA FOR WINDOWS(LK-1)	1 pc	9,600.00	10 DECEMBER 1995	EXPERT ROOM 362
JEXPERT95155		INTERFACE OF DIGITAL CAMERA FOR MACINTOSH(LK-2)	1 pc	9,600.00	10 DECEMBER 1995	EXPERT ROOM 362
JEXPERT95156		TRANSCIEVER(CENTER COM MX60T)	1 pc	6,200.00	10 DECEMBER 1995	EXPERT ROOM 362
JEXPERT95157		LAN ADAPTER(RE2001 PLUS-W)	1 pc	21,000.00	10 DECEMBER 1995	EXPERT ROOM 362
JEXPERT95158		SOFTWARE				
		-CCT-WIN	1 set	16,000.00	10 DECEMBER 1995	EXPERT ROOM 362
JEXPERT95159		TWIST PAIRS CABLE	3 pcs	6,000.00	10 DECEMBER 1995	EXPERT ROOM 362
JEXPERT95160		SOFTWARE				
		-CENTURE NET PC/TCP VER. 5	2 sets	40,000.00	10 DECEMBER 1995	EXPERT ROOM 362
JEXPERT95161	YOSHIKAZU TAKAHASHI	ENGINE UNIT WITH CELL	2 pcs	152,000.00	17 MARCH 1996	MECHATRONICS DEPT.
JEXPERT95162	(Automatic Control)	AIR PUMP FXDX	1 pce	7,500.00	17 MARCH 1996	MECHATRONICS DEPT.
JEXPERT95163		BATTERY CHARGER II	1 pce	20,000.00	17 MARCH 1996	MECHATRONICS DEPT.
JEXPERT95164	RITSU KAGAWA (Digital Control)	MECHATRO TRAINING MATERIAL - SKY TRO	1 set	328,000.00	26 MARCH 1996	EXPERT ROOM 361
JEXPERT95165	SHOHEI MIYAGAWA (Robotics)	PROGRAMABLE CONTROLLER consist of	1 set	177,600.00	1 APRIL 1996	EXPERT ROOM 362
		-BASIC UNIT KZ-16T				
		-POWER SUPPLY UNIT KZ-U2				
		-SOFTWARE KZ-3H4				
JEXPERT95166	TOSHIYA SAKABE	PRINTER HP-DESKJET 850c	1 pce	65,200.00	1 APRIL 1996	EXPERT ROOM 362
JEXPERT95167	(Sensor Technology)	DIGITAL STORAGE SCOPE -IWATSU DS-8601A	1 pce	143,500.00	1 APRIL 1996	EXPERT ROOM 362
JEXPERT95168		THERMAL PRINTER -IWATSU SE3303	1 pce	47,520.00	1 APRIL 1996	EXPERT ROOM 362
JEXPERT95169		LOGIC PROBE -IWATSU DS-001	1 pce	34,600.00	1 APRIL 1996	EXPERT ROOM 362
JEXPERT95170	HARUAKI KISHIGE (Fluid Power Control)	PERSONAL COMPUTER -APPLE POWERBOOK 5300c/100	1 set	372,500.00	28 APRIL 1996	EXPERT ROOM 362

9. List of equipment purchased by JICA local cost

LIST OF EQUIPMENT PURCHASED BY JICA LOCAL COST

Code	Name of Equipment	Supplier	Qty.	Price(Baht)	Date of deliver	Place or User
JLOCAL93001	PERSONAL COMPUTER Fujitsu MY320ST(5 MB)	M. A. T. Co., Ltd. Tel:261-5100	1 set	39,996.60	16-Jul-93	Expert Room(361)
	-CPU386SX-20MHz					
	-5Mb Ram, 40Mb Harddisk					
	-14"Color CRT, Mouse					
	-Keyboard					
JLOCAL93002	PRINTER Star printer XB2425	M. A. T. Co., Ltd. Tel:261-5100	1 unit	23,540.00	19-Jul-93	Expert Room(361)
	-24 Pin Dot Matrix					
JLOCAL93003	PERSONAL COMPUTER Fujitsu MY320ST(1 MB)	M. A. T. Co., Ltd. Tel:261-5100	1 set	32,635.00	4-Aug-93	Expert Room(361)
	-CPU386SX-20MHz					
	-1Mb Ram, 40Mb Harddisk					
	-14"Color CRT, Mouse					
	-Keyboard					
	-Printer Switch					
JLOCAL93004	AUTOMATIC DOCUMENT FEEDER Canon ADF for NP-2020	FMA Co., Ltd. Tel:235-0156	1 unit	34,000.00	9-Aug-93	Expert Room(361)
JLOCAL93005	PERSONAL COMPUTER Fujitsu MY320ST(1 MB)	M. A. T. Co., Ltd. Tel:261-5100	1 set	31,565.00	4-Sep-93	Expert Room(361)
	-CPU386SX-20MHz					
	-1Mb Ram, 40Mb Harddisk					
	-14"Color CRT, Mouse					
	-Keyboard					
	-Printer Switch					
JLOCAL93006	SORTER Canon MS-A1 for NP-2020	FMA Co., Ltd. Tel:235-0156	1 unit	24,824.00	17-Sep-93	Expert Room(361)
JLOCAL93007	PRINTER Star printer XB2425	M. A. T. Co., Ltd. Tel:261-5100	1 unit	23,540.00	9-Nov-93	Expert Room(361)
	-24 Pin Dot Matrix					
JLOCAL93008	PRINTER HP Laserjet 4ML	M. A. T. Co., Ltd. Tel:261-5100	1 set	40,660.00	13-Dec-93	Expert Room(361)
	-Apple Talk Cable					
JLOCAL93009	FACSIMILE Canon T-301	FMA Co., Ltd. Tel:235-0156	1 unit	32,100.00	17-Jan-94	Expert Room(361)
JLOCAL94010	PERSONAL COMPUTER MAT 386DX-40C	M. A. T. Co., Ltd. Tel:261-5100	1 set	42,800.00	19-Jan-94	Expert Room(361)

LIST OF EQUIPMENT PURCHASED BY JICA LOCAL COST

Code	Name of Equipment	Supplier	Qty.	Price (Baht)	Date of deliver	Place of User
	-CPU 386DX-40MHzCache128KB					
	-4MB Ram, FDD, 5" x1.5, 2.5" x1					
	-130MB HDD, SVGA Graphic					
	-SVGA 14" Color CRT					
	-Keyboard, Mouse					
	-DOS/V, Windows preloaded					
JLOCAL93011	PRINTER	M. A. T. Co., Ltd.	1 unit	22,470.00	25-Jan-94	Expert Room (361)
	Star printer XB2425	Tel:261-5100				
	-24 Pin Dot Matrix					
JLOCAL93012	TELEPHONE	F. T. Sales and Services Co.	1 set	33,800.00	26-Jan-94	Expert Room (361)
	Mobila Cityman 200	Tel:279-4115				
	-Battery, 800MHz, 1100MHz					
JLOCAL93013	COLOR MONITOR	M. A. T. Co., Ltd.	1 unit	10,400.00	19-Feb-94	Expert Room (361)
	DEC 14" Color crt.	Tel:261-5100				
JLOCAL93014	PERSONAL COMPUTER	M. A. T. Co., Ltd.	1 set	39,996.60	21-Feb-94	Expert Room (361)
	DECpc LPv425SX	Tel:261-5100				
	-CPU 486SX-25MHz					
	-8MB RAM, FDD 3.5" x1					
	-170MB HDD, S3 Graphic					
	-Keyboard, Mouse					
	-DOS/V, Windows preloaded					
JLOCAL93015	COPIER	FMA Co., Ltd.	1 unit	45,000.00	25-Feb-94	Expert Room (361)
	Canon PC-11 Copier	Tel:235-0156				
JLOCAL93016	POCKET COMPUTER	SHARP CO., LTD.	1 unit	4,160.00	31-Mar-94	Expert Room (361)
	SHARP PC-E500	Tel:236-0170				
JLOCAL94017	POCKET COMPUTER	SHARP CO., LTD.	1 unit	4,160.00	25-Apr-94	Mr. Pramot S.
	SHARP PC-E500	Tel:236-0170				
JLOCAL94018	HARD DISK 250MB	AND COMPUTER CO., LTD.	1 unit	6,500.00	25-Apr-94	Expert Room (362)
	MODEM	CO., LTD.				on DECpc Lpv466
JLOCAL94019	GVC High Speed Modem (14400)	BYFAR (THAILAND) CO., LTD.	1 unit	6,500.00	16-May-94	Expert Room (362)
JLOCAL94020	COMPUTER SOFTWARE	M. A. T. Co., Ltd.	1 set	17,976.00	6-Jun-94	Expert Room (361)
	Ichitaro Vers for Windows	Tel:261-5100				
JLOCAL94021	PRINTER		1 pc	22,470.00	8-Jun-94	Expert Room (361)
	HP Laser Jet 4L					
JLOCAL94022	PRINTER SWITCH	AND COMPUTER CO	1 pc	2,900.00	20-Jul-94	Expert Room (362)
	Auto Cross 410	Tel:254-9797	1 pc			

LIST OF EQUIPMENT PURCHASED BY JTCA LOCAL COST

Code	Name of Equipment	Supplier	Qty.	Plice(Baht)	Date of deliver	Place or User
JLOCAL94023	CD-ROM DRIVE	BYFAR(THAILAND) CO.,LTD.	1 pc	5,090.00	7-Sep-94	Expert Room(361)
JLOCAL94024	Sony CDU33A-01 internal type OVER DRIVE PROCESSOR(CPU)	M.A.T.Co.,Ltd. Tel:261-5100	1 pc	10,593.00	7-Sep-94	Expert Room(361)
JLOCAL94025	Intel ODP 486DX/66 MODEM	AND COMPUTER CO.1 Tel:264-9797	1 pc	7,500.00	7-Sep-94	on DBCpc Lpv425 Expert Room(361)
JLOCAL94026	GVC Fax/Data Modem(14400) LAN ADAPTER CARD	M.A.T.Co.,Ltd. Tel:261-5100	4 pc	24,824.00	20-Sep-94	Expert Room(361)
JLOCAL94027	Intel Eherexpress 16 TP PRINTER	BYFAR(THAILAND) CO.,LTD.	1 pc	19,500.00	26-Sep-94	(362) on PC Expert Room(361)
JLOCAL94028	HP Laser Jet 4L A/D BOARD	M.A.T.Co.,Ltd. Tel:261-5100	1 pc	48,150.00	13-Oct-94	Expert Room(362)
JLOCAL94029	Canopus A/D Board ADM-A110 PERSONAL COMPUTER	ATEC COMPUTER CO.,LTD.	1 pc	47,080.00	10-Jan-95	Mechatronics Eng
JLOCAL94030	ATEC Prestage(Pentium90MHz) 8MB RAM,739MB HDD	Tel:251-2667	1 pc	17,013.00	11-Jan-95	Mechatronics Eng
JLOCAL94031	14" Super VGA COLOR MONITOR	ATEC COMPUTER CO.,LTD.	1 pc	50,290.00	26-Jan-95	Mechatronics Eng
JLOCAL94032	HP Laserjet 4Plus PERSONAL COMPUTER	METRO SYSTEM CO.1 Tel:226-0022	1 pc	55,105.00	26-Jan-95	Mechatronics Eng
JLOCAL94033	DELL OptiPlex 466/Lc 1486DX2 66MHz 8MB RAM,520MB HDD	BUSINESS PUBLIC CO.,LTD. Tel:253-5000	1 pc	72,100.00	22-Feb-95	Expert Room(361)
JLOCAL94034	14 Color Monitor DIGITAL THERMOMETER	YOKOGAWA (THAILAND)LTD.	1 pc	7,300.00	22-Feb-95	Expert Room(361)
JLOCAL94035	YOKOGAWA 750101-A/F OPTION: D/A CONVERTER PROGRAMMABLE SCANNER	YOKOGAWA (THAILAND)LTD. Tel:3810071	1 pc	97,900.00	22-Feb-95	Expert Room(361)
JLOCAL94036	YOKOGAWA 750101-A/F RELAY CARD	YOKOGAWA (THAILAND)LTD. Tel:3810071	1 pc	36,100.00	22-Feb-95	Expert Room(361)
JLOCAL94037	YOKOGAWA 7506111 GPIB CARD "N" P/N:776113-01	YOKOGAWA (THAILAND)LTD. Tel:3810071	1 pc	21,200.00	22-Feb-95	Expert Room(361)
JLOCAL94038	COPIER SCANNER	METRO SYSTEM CO.1 Tel:3810071	1 pc	29,800.00	1-Mar-95	Expert Room(361)

LIST OF EQUIPMENT PURCHASED BY JICA LOCAL COST

Code	Name of Equipment	Supplier	Qty.	Price(Baht)	Date of deliver	Place or User
JLOCAL95043	HP SCANJET II CX	Tel:226-0022				
JLOCAL94038	PROTRACTOR EYEPIECE 375-043	J. SRI RUN RUENG	1 pc	39,700.00	16-Mar-95	Mechatronics Eng
		IMPEX CO. LTD				
		Tel:225-2830-2				
JLOCAL94039	ROTARY TEMPLATE EYEPIECE 176	J. SRI RUN RUENG	1 pc	46,500.00	16-Mar-95	Mechatronics Eng
		IMPEX CO. LTD				
		Tel:225-2830-2				
JLOCAL94040	SWIVEL CENTER SUPPORT 172-197	J. SRI RUN RUENG	1 pc	23,400.00	16-Mar-95	Mechatronics Eng
		IMPEX CO. LTD				
		Tel:225-2830-2				
JLOCAL95041	IEEE-488 GPIB CABLE	SHOKU ENGINEER	6 pc	33,600.00	10-Apr-95	Expert Room(362)
		-ING LTD. PART.				
		Tel:566-3459				
JLOCAL95042	8MB RAM MEMORY FOR COMPUTER	M. A. T. Co., Ltd.	2 pc	26,000.00	9-May-95	Expert Room(362)
		Tel:261-5100				(on IBM PS/4)
JLOCAL95043	COLOR PRINTER	METRO SYSTEM CO	1 set	20,240.00	22-Jun-95	Expert Room(362)
		Tel:226-0022				
JLOCAL95044	SOFTWARE	M. A. T. Co., Ltd.	1 set	34,800.00	28-Jun-95	Expert Room(362)
	HP VEE FOR WINDOWS	Tel:261-5100				
JLOCAL95045	8MB RAM MEMORY FOR MACHINTOSH	UTO-MAX CO., LTD	2 pc	22,470.00	29-Jun-95	Expert Room(362)
		Tel:214-0171				
JLOCAL95046	TRANSFORMER	S. P. ELECTRONICS	1 pc	2,000.00	7-Aug-95	Expert Room(362)
		Tel:217-9549				
JLOCAL95047	COLOR MONITOR	M. A. T. Co., Ltd.	1 pc	46,224.00	18-Sep-95	Expert Room(362)
	21" SUPER VGA	Tel:261-5100				
JLOCAL95048	SOFTWARE	N. R. AUTOMATION	1 set	20,865.00	21-Sep-95	Expert Room(362)
	DESIGNER Ver. 1.2	SYSTEM CO., LTD.				
	AUTOSURF FOR R. 13	Tel:748-7303				
JLOCAL95049	SOFTWARE	N. R. AUTOMATION	1 set	15,515.00	22-Sep-95	Expert Room(362)
	AUTOCAD R.13 FOR WINDOWS	SYSTEM CO., LTD.				
		Tel:748-7303				
JLOCAL95050	SOFTWARE	FAMOUS COMPUTER	1 set	6,300.00	29-Sep-95	Expert Room(361)
	WINDOWS 95(ENGLISH)	CO., LTD.				Mechatronics Dept.
		Tel:255-4122				
JLOCAL95051	4x SPEED CD-ROM DRIVE	FAMOUS COMPUTER	2 pcs	9,000.00	29-Sep-95	Expert Room(362)
		CO., LTD.				
		Tel:255-4122				

10 List of books purchased by JICA local cost

BOOKS PROVIDED BY JICA BUDGET

YEAR	CODE	TITLE	AUTHOR	SELLER	PRICE(BAHT)	REMARKS
1993	L.C.-1	ORDINARY DIFFERENTIAL EQUATIONS Fourth Edition	Garrett Birkhoff Gian-Carlo Rota	D.K.Mah Boon Krong Co., Ltd.	462.00	All Books are stored in Expert Room 361
	L.C.-2	INTRODYCTION TO ADVANCED MATHEMATICS	William Barmier Norman Feldman		449.00	
	L.C.-3	APPLIED CALCULUS for BUSINESS ECONOMICS, LIFE SCIENCES & SOCIAL SCIENCES Fourth Edition	Raymond A. Barnett Michael R. Ziegler		449.00	
	L.C.-4	ADVANCED ENGINEERING MATHEMATICS	Michael D. Greenberg		414.00	
	L.C.-5	INTRODUCTION TO CALCULUS WITH APPLICATIONS	Stanley J.Fardow Gary M. Haggard		509.00	
	L.C.-6	READINGS IN ENGLISH for GENERAL PURPOSES	Pikul Boonyaratapan		45.00	
	L.C.-7	DICTIONARY OF COMPUTER	Wart Ungpagon		95.00	
	L.C.-8	CALCULUS with ANALYTIC GEOMETRY Fourth Edition	Howard Anton		660.00	
	L.C.-9	PHYSICS Fifth Edition	Arthur Beiser		645.00	
	L.C.-10	COLLEGE PHYSICS Second Edition	Serway & Faughn		480.00	
	L.C.-11	DEVELOPING WRITING SKILLS IN ENGLISH Students' Book	Doug Case John Milne		130.00	
	L.C.-12	DEVELOPING WRITING SKILLS IN ENGLISH Work Book	Doug Case John Milne, Jhon Davey		99.00	

BOOKS PROVIDED BY JICA BUDGET

YEAR	CODE	TITLE	AUTHOR	SELLER	PRICE(BAHT)	REMARKS
1993	L.C-13	PRENTICE HALL HANDBOOK FOR WRITERS Eleventh Edition	Glenn Leggett C.David Mead	Unversity Book Center Chulalongkorn Univ.	809.00	All Books are scored in Expert Room 361
	L.C-14	VOCABULARY FOR COMPUTER	Bunpluk Chadamura		45.00	
	L.C-15	TECHNICAL MATHEMATICS with CALCULUS	Paul Carter		539.00	
	L.C-16	THE FOURIER TRANSFORM AND ITS APPLICATIONS Second Edition	Ronald N. Bracewell		280.00	
	L.C-17	HOW TO WRITE & PRESENT TECHNICAL INFORMATION Second Edition	Charles H. Sides		597.00	
	L.C-18	REPORT WRITING Second Edition	Joan Van Emden Jennifer Eastreal		412.00	
	L.C-19	ADVANCED MECHATRONICS	JSME International Conference	JSME(Japan)	3,496.50	
	L.C-20	SOLAR CAR	Kouji Goto	Kinkodo(Japan)	377.00	
	L.C-21	SOLAR CAR(ILLUSTRATIONS)	Kasanori Hashiguchi		400.00	
	L.C-22	SOLAR CELLS AND THEIR APPLICATIONS	Yukinori Kuwano		485.00	
	L.C-23	SOLAR CAR(SOFT ENERGY FOR EARTH)	Masaharu Fujinaka		365.00	
	L.C-24	ELECTRICAL ENGINEERING HANDBOOK	Richard C. Dorf	CRC Press	5,990.00	
	L.C-25	NIHONGO NO KISO (I)	AOTS	Kinokuniya Thailand Co.	378.00	
	L.C-26	NIHONGO NO KISO (II)	AOTS		376.00	
	L.C-27	LINEAR ALGEBRA AND ITS APPLICATIONS	D.H.Giffel		1,719.00	

BOOKS PROVIDED BY JICA BUDGET

YEAR	CODE	TITLE	AUTHOR	SELLER	PRICE(BAHT)	REMARKS
1993	L.C.-28	PHYSICSPHYSICS FOR SCIENTISTS AND ENGINEERS	Douglas C. Giancoli	Kinokuniya Thailand Co.	2,910.00	All Books are stored in Expert Room 361
	L.C.-29	INTRODUCTION TO ORDINARY DIFFERENTIAL EQUATIONS	Shepley L. Ross Shepley L. Ross, II		1,532.00	
	L.C.-30	ADVANCED ENGINEERING MATHEMATICS Seventh Edition	Erwin Kreyszig		1,105.00	
	L.C.-31	THE ELECTRONIC STRUCTURE OF ATOMS	Levets Szasz		8,906.00	
	L.C.-32	MOLECULAR DYNAMICS SIMULATION, ELEMENTRY METHODS	J.M. Haile		3,989.00	
	L.C.-33	TECHNICAL WRITING & PROFESSIONAL COMMUNICATION FOR NONNATIVE SPEAKERS OF ENGLISH	Thomas N. Huckin Leslie A. Olsen		1,990.00	
	L.C.-34	ROBOTICS DESIGNING THE MECHANISMS FOR AUTOMATED MACHINERY	Ben-Zion Sandler	University Book Center Chulalongkom Univ.	420.00	
	L.C.-35	AUTOMATION, PRODUCTION SYSTEMS, AND COMPUTER INTEGRATED MANUFACTURING	Mikell P. Groover		435.00	
	L.C.-36	ENGINEERING ECONOMY (THIRD EDITION)	Leland T. Blank Anthony J. Tarquin		363.00	
	L.C.-37	PROCESSES AND DESIGN FOR MANUFACTURING	Sherif D. El Wakil		479.00	
	L.C.-38	ROBOTS AND MANUFACTURING AUTOMATION	C.Ray Afshari		408.00	
	L.C.-39	FOUNDATIONS OF ELECTROMAGNETIC	Reitz Milford,	Kinokuniya Thailand Co.	3,301.00	

BOOKS PROVIDED BY JICA BUDGET

YEAR	CODE	TITLE	AUTHOR	SELLER	PRICE(BAHT)	REMARKS
1993		THEORY				All Books are stored in Expert Room 361
	L.C. 40	MODERN ENGINEERING MATHEMATICS	Glynn James	Kinokuniya Thailand Co.	1,529.00	
	L.C. 41	DICTIONARY OF TECHNICIAN	Luangvitan Yontakan		210.00	
	L.C. 42	JAPANESE FOR BEGINNERS	Yasuo Yoshida Shunsuke Okunishi Naotomi Kuratani		290.00	
	L.C. 43	NIHONGO NO KISO I GRAMMATICAL NOTES IN ENGLISH	AOTS		509.00	
	L.C. 44	NIHONGO NO KISO II GRAMMATICAL NOTES IN ENGLISH	AOTS		492.00	
	L.C. 45	COSMIC RAYS AND PARTICLE PHYSICS	Thomas K. Gaisser		1,838.00	
	L.C. 46	NEWTON TO EINSTEIN	Ralph Baierlein		2,147.00	
	L.C. 47	JAPANESE FOR BEGINNERS (TAPE 1) JAPANESE FOR BEGINNERS (TAPE 2)	BARRON'S EDUCATIONAL SERIES, INC		712.00	
	L.C. 48	INTERNATIONAL TRENDS IN OPTICS	Joseph W. Goodman		3,989.00	
	L.C. 49	NONLINEAR SURFACE ELECTROMAGNETICS PHETROMAGNETICS	H.-E. Ponath And G.I. Stegeman		9,828.00	
	L.C. 50	ADVANCES IN ATOMIC MOLECULAR, AND OPTICAL PHYSICS	Sir David Bates Benjamin Bederson		7,678.00	
	L.C. 51	CONTROL SYSTEM	Suwlay Klankwamdu	University Book Center Chulalongkorn Univ	265.00	
	L.C. 52	MODERN CONTROL THEORY	William L. Brogan		435.00	

BOOKS PROVIDED BY JICA BUDGET

YEAR	CODE	TITLE	AUTHOR	SELLER	PRICE(BAHT)	REMARKS
1994	L.C.-53	MATHEMATICA	Addition Wesley Publishing Company	Computer Business Co.	1,000.00	All Books are stored in Expert Room 361
	L.C.-54	AUTOMATIC CONTROL	Chawaphong Singhaphat	Kasasart University	120.00	
	L.C.-55	ENGINEERING MECHANICS (DYNAMICS)	J.L.Meniam	D.K.Siam Square Co.	479.00	
	L.C.-56	ENGINEERING MECHANICS (STATICS)	L.G.Kraige J.L.Meniam		479.00	
	L.C.-57	BASIC OF CONTROL ENGINEERING	Sutien Kiatsumton	D.K.Mah Boon Krong Co.	160.00	
	L.C.-58	MODERN TECHNICAL PHYSICS	Arthur Beiser		599.00	
	L.C.-59	CONTROL SYSTEM	Suwalai Kankamdee	University Book Center Chulalongkorn Univ.	228.50	
	L.C.-60	MS-DOS & WINDOWS	Takshina Swananan		150.00	
	L.C.-61	COMPUTERS: AN INTRODUCTION TO HARDWARE AND SOFTWARE DESIGN	Larry L. Wear James R. Pinkert Larry C. Wear William G. Lane		392.00	
	L.C.-62	CI PROGRAMMING PRINCIPLES AND PRACTICES	M. Tim Grady		289.00	
	L.C.-63	PROGRAMMING WITH C	Byron S. Gottfried		231.00	
	L.C.-64	PROGRAMMING WITH STRUCTURED BASIC	Byron S. Gottfried		201.00	
	L.C.-65	APPLIED CALCULUS	Bernard Kolman Charles G. Denlinger Dean S. Edmonds	Kinokuniya Thailand Co.	3,194.00	
	L.C.-66	CIOFFARI'S EXPERIMENTS IN COLLEGE PHYSICS	John C. Spence		1,289.00	
	L.C.-67	EXPERIMENTAL HIGH-RESOLUTION ELECTRON MICROSCOPY	John C. Spence		13,513.00	
	L.C.-68	INTRODUCTION TO MATHEMATICAL PHYSICS	Chun Wa Wong		1,432.00	

BOOKS PROVIDED BY JICA BUDGET

YEAR	CODE	TITLE	AUTHOR	SELLER	PRICE(BAHT)	REMARKS
1994	L.C.-69	ELECTRICAL ENGINEERING HANDBOOK	Richard C. Dorf	Kinokuniya Thailand Co.	5,524.00	All Books are stored in Expert Room 361
	L.C.-70	HARVARD DRAW FOR WINDOWS SETUP GUIDE	SPC Software Publishing	Byfer (Thailand) Co., Ltd.	750.00	
	L.C.-71	HARVARD DRAW FOR WINDOWS LEARNING GUIDE	SPC Software Publishing		750.00	
	L.C.-72	CONTROL SYSTEM DESIGN USING MATLAB	Bahram Shahian Michael Hassul	D.K. Book House	539.00	
	L.C.-73	AUTOMATIC CONTROL SYSTEMS	Benjamin C. Kuo		419.00	
	L.C.-74	DIGITAL CONTROL SYSTEMS	Benjamin C. Kuo		480.00	
	L.C.-75	A USER GUIDE TO THE UNIX SYSTEM	Rebecca Thomas Jean Yates		202.00	
	L.C.-76	THE PC INTERNET TOUR GUIDE	Michel Fraase		685.00	
	L.C.-77	UNIX NETWORK PROGRAMMING	W. Richard Stevens		508.00	
	L.C.-78	DOS FOR BEGINNERS	Udo Bretschneider		689.00	
	L.C.-79	ANSI C. PROBLEM SOLVING AND PROGRAMMING	Kenneth A. Barclay		435.00	
	L.C.-80	MATHEMATICA	Stephen Wolfram	Samakhtisan (Dokya) Co.	618.00	
	L.C.-81	CONTROL SYSTEM DESIGN AND SIMULATION	Jack Golten Andy Verwer	D.K. Book House	376.00	
	L.C.-82	DYNAMICAL SYSTEMS AND AUTOMATIC CONTROL	J.E. Martins De Carvalho		521.00	
	L.C.-83	USING TURBO C++	David S. Linthicum Larry Klein	D.K. Mah Boon Krong Co.	608.00	

BOOKS PROVIDED BY JICA BUDGET.

YEAR	CODE	TITLE	AUTHOR	SELLER	PRICE(BAHT)	REMARKS
1994						
	L.C.-84	A STUDENTS GUIDE TO UNIX	Harley Hahn	D.K.Mah Boon Krong Co.	363.00	All Books are stored in Expert Room 361
	L.C.-85	3D MODELING LAB	Philip Snaddock		925.00	
	L.C.-86	MECHANICAL MEASUREMENTS	Thomas G. Beckwith Roy D. Marangoni John H. Lienhard V		539.00	
	L.C.-87	A NEW ENGLISH-THAI DICTIONARY	Tianchai lamworamare		880.00	
	L.C.-88	WINDOWS 3.1 HANDBOOK (Japanese)	Akio Shimatani	Kinokuniya Thailand Co.	572.00	
	L.C.-89	TURBO C++ FOR BEGINNER	Shinichi Koike Hiroshi Mori Tomiya Yamazumi		875.00	
	L.C.-90	DIGITAL CONTROL AND ESTIMATION	Richard H. Middleton Graham C. Goodwin	D.K.Mah Boon Krong Co.	389.00	
	L.C.-91	IDEAS OF SPACE	Jeremy Gray	Kinokuniya Thailand Co.	1,512.00	
	L.C.-92	ELECTRICITY AND MAGNETISM (1)	B.I.Bleaney B.Bleaney	Kinokuniya Thailand Co.	846.00	
	L.C.-93	ELECTRICITY AND MAGNETISM (2)	B.I.Bleaney B.Bleaney	Kinokuniya Thailand Co.	1,148.00	
	L.C.-94	MATHCAD PLUS 5.0 USERS GUIDE	Math Soft	Soft Systems Co.	950.00	
	L.C.-95	INDUSTRIAL LASERS AND THEIR APPLICATIONS	James T. Luxon David E. Parker	D. K. Mah Boon Krong	449.00	
	L.C.-96	WINDOWS 3.1 HANDBOOK	Microsoft Press	D. K. Mah Boon Krong	365.00	

BOOKS PROVIDED BY JICA BUDGET

YEAR	CODE	TITLE	AUTHOR	SELLER	PRICE(BAHT)	REMARKS
1994	L.C.-97	FANDAMENTALS OF COMPUTER INTEGRATED MANUFACTURING	Arthur L. Fosson Carolena L. Smith Tony Au	D. K. Mah Boon Krong	463.00	All Books are stored in Expert Room 361
	L.C.-98	FUNDAMENTALS OF FLUID MECHANICS	Bruce R. Munson Donald F. Young Theodore H. Okiishi	D. K. Siam Square	577.00	
	L.C.-99	ADAPTIVE OPTIMAL CONTROL	Robert R. Bitmead Michel Gevers Vincent Wertz	D. K. Mah Boon Krong	495.00	
	L.C.-100	SYSTEM IDENTIFICATION AND CONTROL DESIGN	Ioan Dorelandau	D. K. Mah Boon Krong	539.00	
	L.C.-101	FUZZY LOGIC AND CONTROL	Mohammad Jamshidi Nader Vadiee Timothy J. Ross	D. K. Mah Boon Krong	569.00	
	L.C.-102	DISCRETE TIME CONTROL SYSTEMS	Katsuhiko Ogata	D. K. Mah Boon Krong	510.00	
	L.C.-103	FUNDAMENTALS OF ROBOTICS ANALYSIS AND CONTROL	Robert J. Schilling	D. K. Siam Square	350.00	
	L.C.-104	AUTOCAD RELEASE 12	Wiraya Sanwontham	D. K. Mah Boon Krong	750.00	
	L.C.-105	WORD VER.5 FOR WINDOWS (JAPANESE)	Kimihiko Shiokawa	Kinokuniya Thailand Co.	977.00	
	L.C.-106	MODERN CONTROL THEORY (JAPANESE)	Tsunoo Yoshikawa Junichi Imura	Kinokuniya Thailand Co.	1,280.00	
	L.C.-107	TURBO C PROGRAMMING 1 (JAPANESE)	Asao Kawanishi	Kinokuniya Thailand Co.	744.00	
	L.C.-108	TURBO C PROGRAMMING 2 (JAPANESE)	Asao Kawanishi	Kinokuniya Thailand Co.	840.00	

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1994	L.C-109	THE MCGRAW HILL ILLUSTRATED ENCYCLOPEDIA OF ROBOTICS AND ARTIFICIAL INTELLIGENCE	Stan Gibilisco	Kinokuniya Thailand Co.	2,585.00	All Books are stored in Expert Room 361
	L.C-110	AN INTRODUCTION TO DIFFERENTIAL EQUATIONS AND LINEAR ALGEBRA	Stephen W. Goode	Kinokuniya Thailand Co.	829.00	
	L.C-111	TURBO C++ FOR WINDOWS (THAI)	Herbert Schildt	Kinokuniya Thailand Co.	240.00	
	L.C-112	CONFUSING WORDS AND PHRASES & GRAMMATICAL EXPLANATIONS	Milow Nancy	Kinokuniya Thailand Co.	135.00	
	L.C-113	COMUNICATIVE ENGLISH FOR TOURISM	Kanitta Utawanit	Kinokuniya Thailand Co.	120.00	
	L.C-114	USER'S GUIDE FOR C (THAI)	Herbert Schildt	Kinokuniya Thailand Co.	287.00	
	L.C-115	BUSINESS ENGLIS COMMUNICATION	Ninnat Olanvoravuth	Kinokuniya Thailand Co.	60.00	
	L.C-116	ELECTRICAL CIRCUITS (THAI)	Mongkol Tongsongkram	Kinokuniya Thailand Co.	150.00	
	L.C-117	ELECTRICAL CIRCUITS 2 (THAI)	Mongkol Tongsongkram	Kinokuniya Thailand Co.	135.00	
	L.C-118	CNC TECHNOLOGY (THAI)	Chail Takarkul	Kinokuniya Thailand Co.	165.00	
	L.C-119	FUNDAMENTAL PHYSICS.ELECTROMAGNETIC (THAI)	Paishash Trihanakul	Kinokuniya Thailand Co.	65.00	
	L.C-120	C PROGRAMMING FOR BEGINNER (THAI)	Wiraya Ruangornwisut	Kinokuniya Thailand Co.	220.00	
	L.C-121	GENERAL CHEMISTRY BOOK 1 (THAI)	Chulalongkon Univ.	Kinokuniya Thailand Co.	99.00	
	L.C-122	GENERAL CHEMISTRY BOOK 2 (THAI)	Chulalongkon Univ.	Kinokuniya Thailand Co.	110.00	
	L.C-123	PHYSICS FOR UNIVERSITY (THAI)	Banchop Supprasutsut	Kinokuniya Thailand Co.	70.00	
	L.C-124	COMPUTER AIDED INDUSTRY (THAI)	Pulpom Bunpram	Kinokuniya Thailand Co.	85.00	

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	L.C.-125	MODERN PHYSICS (THAI)	Tamrong Metasin	Kinokuniya Thailand Co.	250.00	in Expert Room 361
	L.C.-126	ELECTRICAL INSTRUMENT AND ELECTRONIC (THAI)	Pansak Punmanitpong	Kinokuniya Thailand Co.	175.00	
	L.C.-127	GENERAL CHEMISTRY (THAI)	Intira Hanpongpan	Kinokuniya Thailand Co.	190.00	
	L.C.-128	ESSENTIALS OF FUZZY MODELING AND CONTROL	Ronald R. Yager Dimitar P. Filev	Kinokuniya Thailand Co.	3,375.00	
	L.C.-129	MODERN CONTROL ENGINEERING	Katsuhiko Ogata	D. K. Mah Boon Krong	389.00	
	L.C.-130	DESIGNING LINEAR CONTROL SYSTEMS WITH MATLAB	Katsuhiko Ogata	D. K. Mah Boon Krong	521.00	
	L.C.-131	LINEAR ROBUST CONTROL	Michael Green David J. N. Limebeer	D.K. Siam Square	539.00	
	L.C.-132	MODERN CONTROL SYSTEMS ANALYSIS AND DESIGN USING MATLAB	Robert H. Bishop	D.K. Siam Square	105.00	
	L.C.-133	SOLVING CONTROL ENGINEERING PROBLEM WITH MATLAB	Katsuhiko Ogata	D. K. Mah Boon Krong	521.00	
	L.C.-134	CREATIVE CORRESPONDENCE	Roger Alsing	Kinokuniya Thailand Co.	100.00	
	L.C.-135	ADVANCED ENGINEERING MATHEMATICS	Erwin Kreyszig	Kinokuniya Thailand Co.	699.00	
	L.C.-136	PHYSICS CLASSICAL AND MODERN	Frederick J. Keller W. Edward Gettys Malcolm J. Stove	Kinokuniya Thailand Co.	2,937.00	
	L.C.-137	BASIC ELECTRICITY A TEXT-LAB MANUAL	Paul B. Zbar Gordon Rockmaker	Kinokuniya Thailand Co.	518.00	
	L.C.-138	CIRCUITS, DEVICES AND SYSTEMS	Ralph J. Smith	Kinokuniya Thailand Co.	700.00	

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1994			Ricard C. Dorf			All Books are stored in Expert Room 361
	L.C-139	3000 UNRESOLVED PROBLEMS IN PHYSICS	Alvin Halpern	Kinokuniya Thailand Co.	493.00	
	L.C-140	ELECTRIC CIRCUIT ANALYSIS	David E. Johnson Johnny R. Johnson John L. Hilburn	Kinokuniya Thailand Co.	559.00	
	L.C-141	ELECTRIC CIRCUITS	Theodore F. Bogart, J.	Kinokuniya Thailand Co.	763.00	
	L.C-142	ELECTRONIC INSTRUMENTS AND MEASUREMENTS	Larry D. Jones A Foster Chin	Kinokuniya Thailand Co.	539.00	
	L.C-143	BORLAND C++ POWER PROGRAMMING	Clayton Waltrum	Kinokuniya Thailand Co.	999.00	
	L.C-144	ELECTRO MAGNET WAVE(THAI)	Thawe Tankasin	Kinokuniya Thailand Co.	80.00	
	L.C-145	BORLAND C++ TECHNIQUES AND UTILITIES	Kaare Christian	Kinokuniya Thailand Co.	2,330.00	
	L.C-146	INTRODUCTION TO COMPUTING FOR ENGINEERS	Steven C. Chapra Raymond P. Canale	Kinokuniya Thailand Co.	2,720.00	
	L.C-147	FOUNDATIONS OF FUZZY SYSTEMS	R. Kruse J. Gebhardt F. Klawonn	Kinokuniya Thailand Co.	2,889.00	
	L.C-148	THE REPORT ON THE 17TH CONFERENCE OF ELECTRICAL ENGINEERING		KMITL	700.00	
	L.C-149	ANALYSIS OF DISCRETE-TIME CONTROL SYSTEMS (THAI)	Wiphun Prechaphanit	KMITL	165.00	
	L.C-150	FEEDBACK CONTROL SYSTEMS (THAI)	Suthien Keitsoonthorn	KMITL	77.00	
	L.C-151	ANALYSIS OF CONTROL SYSTEMS LINEAR (THAI)	Kitti Teersate	KMITL	105.00	

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	L.C.-152	ANALYSIS OF MODERN SYSTEMS (THAI)	Wiphun Prechaphant	KMITL	54.00	All Books are stored in Expert Room 361
	L.C.-153	HOW TO USE THE C PROGRAMMING LANGUAGE (1-3)	Chula University	D. K. Mah Boon Krong	420.00	
	L.C.-154	AUTOMATIC CONTROL ENGINEERING	Francis H. Raven	Kinokuniya Thailand Co.	3,034.00	
	L.C.-155	PHYSICS FOR SCIENTISTS AND ENGINEERS WITH MODERN PHYSICS	Saunders College Publishing	D. K. Mah Boon Krong	540.00	
	L.C.-156	INTRODUCTION TO DYNAMICS SYSTEMS MODELING FOR DESIGN	David L. Smith	University Book Center Chulalongkorn Univ.	521.00	
	L.C.-157	MATLAB TOOLS FOR CONTROL SYSTEM ANALYSIS AND DESIGN	Benjamin C. Kuo Duane C. Hanselman	D. K. Mah Boon Krong	521.00	
	L.C.-158	ADAPTED WAVELET ANALYSIS FROM THEORY TO SOFTWARE	Maden Victor Wickerhauser	D. K. Sian Square	2,098.00	
	L.C.-159	JIS HANDBOOK 1993 "MACHINE ELEMENTS"	Japanese Standards Association	Kinokuniya Thailand Co.	7,497.00	
	L.C.-160	JIS HANDBOOK 1993 "MECHANICAL INSTRUMENTATION"	Japanese Standards Association	Kinokuniya Thailand Co.	5,712.00	
	L.C.-161	JIS HANDBOOK 1992 "TOOLS"	Japanese Standards Association	Kinokuniya Thailand Co.	7,854.00	
	L.C.-162	CNC COMPUTER NUMERICAL CONTROL	Herman W. Pollack Terrance Robinson	D. K. Mah Boon Krong	250.00	
	L.C.-163	COMPUTER-AIDED DESIGN AND MANUFACTURING	Fand M.L. Amirouche	D. K. Mah Boon Krong	525.00	
	L.C.-164	THE COMPUTER IDIOTS	Greg Perry	D. K. Mah Boon Krong	405.00	

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1995		GUIDE TO QBASIC				All Books are stored in Expert Room 361
	LC-165	AUTOLISP	George Omura	D. K. Mah Boon Krong	275.00	
	LC-166	INTRODUCTION TO ROBOTICS	Phillip John Mckerrrow	D. K. Mah Boon Krong	2,339.00	
	LC-167	ROBOTICS CONTROL, SENSING, VISION AND INTELLIGENCE	R.S. Fu R.C. Gonzalez C.S.G. Lee	D. K. Mah Boon Krong	276.00	
	LC-168	THE DISTRIBUTED FIBRE OPTIC SENSING HANDBOOK	John P Dakin Editor	D. K. Mah Boon Krong	3,564.00	
	LC-169	LASERS PRINCIPLES AND APPLICATIONS	J. Wilson J.F.B. Hawkes	D. K. Mah Boon Krong	449.00	
	LC-170	OPTOELECTRONICS AN INTRODUCTION SECOND EDITION	J. Wilson J.F.B. Hawkes	D. K. Mah Boon Krong	449.00	
	LC-171	MICROSOFT POWERPOINT 4.0 : THE PRESENTATION	Nivat shottivong	D. K. Mah Boon Krong	350.00	
	LC-172	WINDOWS NT	Helen Custer	D. K. Mah Boon Krong	310.00	
	LC-173	ELECTRONIC DEVICES AND CIRCUIT THEORY	Robert Boylestad Louis Nashelsky	D. K. Mah Boon Krong	479.00	
	LC-174	INTRODUCTORY ELECTRONIC DEVICES AND CIRCUITS	Robert T. Paynter	D. K. Mah Boon Krong	599.00	
	LC-175	A NEW ENGLISH-THAI DICTIONARY	Wit Thiangbratthum	D.K. Man Boon Krong	300.00	
	LC-176	An Advanced Pocket Thai - Thai - English Dictionary	Wit Thiangbratthum	D.K. Man Boon Krong	200.00	
	LC-177	FUNDAMENTAL OF CLASSICAL.	Gordon J. Van Wylen	D.K. Man Boon Krong	635.00	

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1995		THERMODYNAMICS	Richard E. Sonntag Claus Borgnakke			All Books are stored in Expert Room 361
	L.C.-178	MECHANICS OF FLUIDS	Mette C. Potter David C. Wiggert	D.K. Man Boon Krong	539.00	
	L.C.-179	FUNDAMENTALS OF FLUID MECHANICS	Bruce R. Munson Donald F. Young Theodore H. Oklishi	D.K. Man Boon Krong	577.00	
	L.C.-180	CLASSICAL THERMODYNAMICS	Lynn D. Russell George A. Adebisi	D.K. Man Boon Krong	540.00	
	L.C.-181	OBJECT-ORIENTED INTERFACING TO 16-BIT MICROCONTROLLERS	G.J. Lipovski	C.U. Book	509.00	
	L.C.-182	INDUSTRIAL ELECTRONICS	James Maas	C.U. Book	539.00	
	L.C.-183	STRUCTURING TECHNIQUES AN INTRODUCTION USING TURBO C++	Andrew C. Staugard, Jr	C.U. Book	539.00	
	L.C.-184	COMPUTER BASED EXERCISES FOR SIGNAL PROCESSING USING MATLAB	C.Sidney Burrus James H. McClellan Alan V. Oppenheim Thomas W. Parks Ronald W. Scharfer Hans W. Schuessler	C.U. Book	492.00	
	L.C.-185	DRAFFING AUTO CAD	Kobkaed Saubon	Dokya	360.00	
	L.C.-186	CRETING SOLID 3 DIMENSION AN SHADE IN AUTO CAD	Kobkaed Saubon	Dokya	280.00	
	L.C.-187.5	PHYSICS	Linnajit Kripongssa			

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1995	L.C.-188	LASER ELECTRONICS	Joseph T. Verdeyen	C.U. Book Center	539.00	All Books are stored in Expert Room 361
	L.C.-189	MOSAIC HANDBOOK WINDOWS (Japanese)	Dele Dougherty Richard Koman	Kinokuniya Thailand Co.	1,438.00	
	L.C.-190	MOSAIC HANDBOOK X-WINDOWS (Japanese)	Dele Dougherty Richard Koman Paula Ferguson	Kinokuniya Thailand Co.	1,505.00	
	L.C.-191	INFORMATION PROCESSING HANDBOOK (Japanese)		Kinokuniya Thailand Co.	13,380.00	
	L.C.-192	NECHATRONICS NYUMON (Japanese)	Takeshi Tsuchiya Kenichi Fukaya	Kinokuniya Thailand Co.	1,049.00	
	L.C.-193	OS/2 WARP V3 TECHNICAL ANSWER BOOK (Japanese)	Team OS/2 Japan	Kinokuniya Thailand Co.	602.00	
	L.C.-194	INSIDE WIN/V (Japanese)	C.F. Computing Pie Dey	Kinokuniya Thailand Co.	3,087.00	
	L.C.-195	THE MOSAIC HANDBOOK FOR MACINTOSH	Dale Dougherty Richard Koman	The Book Chest Co. Ltd	900.00	
	L.C.-196	HTML PUBLISHING INTERNET ASSISTANT FOR WINDOWS	Gayle Kidder Stuart Harris	D.K. Man Boon Krong Co.	840.00	
	L.C.-197	NETSCAPE QUICK TOUR FOR WINDOWS	Gayle Kidder Stuart Harris	D.K. Man Boon Krong Co.	688.00	
	L.C.-198	WEB PUBLISHING WITH HTML	Laura Lemay	Samakhsisan (Dokya) Co.	653.00	
	L.C.-199	HTML VISUAL QUICK REFERENCE	Dean Schar	Samakhsisan (Dokya) Co.	319.00	
	L.C.-200	INTERNET CD TUTOR	Dee Ann	Samakhsisan (Dokya) Co.	928.00	

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1995			Robert LeBlanc			All Books are stored in Expert Room 361
	L.C.-201	MASTERING AUTO CAD 13	George Omura	Samakkhisan (Dokya) Co.	660.00	
	L.C.-202	NETWARE 3.12	Krisda Singhawon	Samakkhisan (Dokya) Co.	375.00	
	L.C.-203	MECHANICAL VIBRATIONS	Singiresu S. Rao	D.K.Mah Boon Krong Co.	569.00	
	L.C.-204	VIBRATION PROBLEMS IN ENGINEERING	William Weaver, Jr. Stephen P. Timoshenko Donoran H. Young	D.K.Mah Boon Krong Co.	355.00	
	L.C.-205	THEORY OF VIBRATION WITH APPLICATIONS	William T. Thomson	D.K.Mah Boon Krong Co.	569.00	
	L.C.-206	VIBRATION FOR ENGINEERING	Andrew D. Dimarogonas Sam Haddad	D.K.Mah Boon Krong Co.	509.00	
	L.C.-207	FUNDAMENTALS OF MECHANICAL VIBRATION	S. Graham Kelly	D.K.Mah Boon Krong Co.	456.00	
	L.C.-208	THEORY OF VIBRATION WITH APPLICATIONS FRURTH EDITION	William T. Thomson. Professor Ementue	D.K.Mah Boon Krong Co.	569.00	
	L.C.-209	FUNDAMENTALS OF MECHANICAL VIBRATIONS	S. Graham Kelly	D.K.Mah Boon Krong Co.	465.00	
	L.C.-210	MECHANICAL VIBRATIONS	Singiresu S. Rao	D.K.Mah Boon Krong Co.	569.00	
	L.C.-211	MECHANICS OF SOLIDS AND STRUCTURES	D.W.A. Rees	D.K.Mah Boon Krong Co.	579.00	
	L.C.-212	INTERFACING SENSORS TO THE IBM PC	Willis J. Tompkins John G. Webster	D.K.Mah Boon Krong Co.	448.00	
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1995	L.C.-214	MECHANICS OF MATERIALS	A. C. Ugural	D.K Mah Boon Krong Co.	421.00	All Books are stored in Expert Room 361
	L.C.-215	AN INTRODUCTION TO THE MECHANICS OF SOLIDS	Stephen H. Crandall Norman C. Dahl Thomas J. Lardner	D.K Mah Boon Krong Co.	276.00	
	L.C.-216	MODERN MANUFACTURING PROCESSES	David L. Goetsch	D.K Mah Boon Krong Co.	419.00	
	L.C.-217	MANUFACTURING ENGINEERING AND TECHNOLOGY	Serope Kalpakjian	D.K Mah Boon Krong Co.	599.00	
	L.C.-218	MICROPROCESSORS AND INTERFACTION PROGRAMMING AND HARDWARE	Douglas V. Hall	D.K Mah Boon Krong Co.	363.00	
	L.C.-219	MECHANICS OF MATERIALS	Ferdinand P. Beer E. Russell Jongston, Jr.	D.K Mah Boon Krong Co.	508.00	
	L.C.-220	MUMERICAL METHODS FOR ENGINEERS	Steven C. Chapra Raymond P. Canale	D.K Mah Boon Krong Co.	521.00	
	L.C.-221	MECHANICS OF MATERIALS	James M. Gere Stephen P. Timoshenko	D.K Mah Boon Krong Co.	537.00	
	L.C.-222	SENSORS AND CONTROL SYSTEMS IN MANUFACTURING	Sabne Doloman	D.K Mah Boon Krong Co.	521.00	
	L.C.-223	POWER ELECTRONICS CONVERTERS, APPLICATIONS AND DESIGN	Ned Nohan Tore M. Undeland William P. Robbins	D.K Mah Boon Krong Co.	444.00	
	L.C.-224	DIGITAL CONTROL SYSTEMS THEORY, HARDWARE, SOFTWARE	Constantine H. Houps Gary B. Lamont	D.K Mah Boon Krong Co.	389.00	
	L.C.-225	MECHANICS OF SOLIDS	Chamrun Tantiphisamkul	D.K Mah Boon Krong Co.	98.00	

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1993	J.E.-1	MICRO COMPUTER PROGRAMMING (1) 基本的なプログラミングと割り込み	A. KAYOMATA, Y. KATO	DR. MASAZUMI KUMAGAI	All Books are stored in Expert Room 361
	J.E.-2	MICRO COMPUTER PROGRAMMING (2) マイクロコンピュータ周辺割込み技術	A. KAYOMATA, Y. KATO	熊谷正純	
	J.E.-3	VZ EDITOR DOS/V VZエディタ・ユーザマニュアル	M. KUMAGAI		(Total value is ¥23,940,00)
	J.E.-4	THE TRANSISTOR MANUAL トランジスタ規格表	Y. HYODO		
	J.E.-5	THE TRANSISTOR SUBSTITUTION MANUAL トランジスタ互換表			
	J.E.-6	THE DIODE MANUAL ダイオード規格表			
	J.E.-7	THE FET MANUAL FET規格表			
	J.E.-8	POWER & INDUSTRIAL SEMICONDUCTOR MANUAL 電力用素子規格表			
	J.E.-9	THE OPTICAL DEVICES MANUAL 光半導体素子規格表			
	J.E.-10	THE HIGH FREQUENCY DEVICE MANUAL 高周波デバイス規格表			
	J.E.-11	THE 74 SERIES IC MANUAL 74シリーズIC規格表			
	J.E.-12	THE CMOS DEVICE MANUAL CMOSデバイス規格表			
	J.E.-13	THE MEMORY (RAM) IC MANUAL メモリアイック規格表 (RAM編)			
	J.E.-14	THE MEMORY (ROM) IC MANUAL メモリアイック規格表 (ROM編)			
	J.E.-15	THE MONOLITHIC OP AMP MANUAL モノリシックOPアンプ規格表			
	J.E.-16	THE HYBRID OP AMP MANUAL アンプ規格表			
	J.E.-17	THE INDUSTRIAL LINEAR IC MANUAL (PART-1)			

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1993	J.E.-18	産業用リニアIC規格表(PART-1) THE INDUSTRIAL LINEAR IC MANUAL (PART-2)	CQ PRESS	DR. MASAZUMI KUMAGAI 熊谷正純	All Books are stored In Expert Room 361
	J.E.-19	産業用リニアIC規格表(PART-2) THE POWER SUPPLY IC MANUAL 電源用IC規格表	CQ PRESS		
	J.E.-20	THE INTERFACE IC/DEVICE MANUAL インターフェース素子規格表	CQ PRESS		
	J.E.-21	THE A-D/D-A CONVERTER IC MANUAL A-D/D-Aコンバータ規格表	CQ PRESS		
	J.E.-22	THE MICROCOMPUTER PERIPHERAL LSI MANUAL	CQ PRESS		
	J.E.-23	マイクロ周辺LSI規格表 VIDEO SIGNAL PROCESSOR IC MANUAL ビデオ信号処理用IC規格表	CQ PRESS		
1993	J.E.-24	ASAHI DATA BOOK 1993 朝日年鑑1993年	ASAHI NEWSPAPER	MR. INOSUKE MORI 森徳之輔	(Total value is ¥238,959.00)
	J.E.-25	JAPANESE-ENGLISH DICTIONARY 新和英大辞典	KENKYUSHA		
	J.E.-26	ENGLISH-JAPANESE DICTIONARY 新英和大辞典	KENKYUSHA		
	J.E.-27	ELECTRICAL PRACTICE 1 電気実験(基礎計測編)	ELECTRIC ACADEMY		
	J.E.-28	ELECTRICAL PRACTICE 2 電気実験(電気機器・電力編)	ELECTRIC ACADEMY		
	J.E.-29	ELECTRICAL PRACTICE 3 電気実験(電子編)	ELECTRIC ACADEMY		
	J.E.-30	BIOMECHANIC OF ENGINEERING バイオメカニクス工学	S. HIROKAWA		
	J.E.-31	MECATRONICS GUIDE 1 ロボット制御入門	Y. AMEMIYA		
	J.E.-32	MECATRONICS GUIDE 2 メカトロニクスの電気学入門	Y. AMEMIYA		
	J.E.-33	MECATRONICS GUIDE 3 メカトロニクスの電子学入門	Y. AMEMIYA		

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1993	J.E.-34	MECATRONICS GUIDE 4 電子機械制御入門	Y. AMEMIYA	MR. INOSUKE MORI 森住之輔	All Books are stored in Expert Room 361
	J.E.-35	MECATRONICS GUIDE 5 デジタル制御入門	Y. AMEMIYA		
	J.E.-36	MECATRONICS GUIDE 6 CAD/CAM/CAE 入門	Y. AMEMIYA		
	J.E.-37	MECATRONICS GUIDE 7 センサ入門	Y. AMEMIYA		
	J.E.-38	MECATRONICS GUIDE 8 マイクロエータ入門	Y. AMEMIYA		
	J.E.-39	MECATRONICS GUIDE 9 制御用マイコン入門	Y. AMEMIYA		
	J.E.-40	MECATRONICS GUIDE 10 インターフェースの電子回路入門	Y. AMEMIYA		
	J.E.-41	MECATRONICS GUIDE 11 機械制御入門	Y. AMEMIYA		
	J.E.-42	MECATRONICS GUIDE 12 電子処理入門	Y. AMEMIYA		
	J.E.-43	STANDARD DICTIONARY 世界の規格辞典	JAPAN STANDARD ASSOCIATION		
	J.E.-44	ENGLISH-JAPANESE MECHANICAL DIC. 機械英和辞典	MR. S. OKAJI		
	J.E.-45	SI UNITS POCKETBOOK SI単位ポケットブック	KOKUSAITANIKENKYUKAI		
	J.E.-46	DICTIONARY FOR MECHANICAL 機械を説明する英語	KOUGYOUNGHOUSAKAI		
	J.E.-47	ENGLISH TEXTBOOK ON MECHATRONICS メカトロニクス英語教本	KYORITU PRESS		
	J.E.-48	JIS-ASME-DIN-BS HANDBOOK 材料規格対照表	NIHONKOUGYOU PRESS		
	J.E.-49	MECHATRONICS VOCABULARY DICTIONARY メカトロニクス用語辞典	MR. S. OZAKI		
	J.E.-50	JIS LIST JIS総目録	JAPAN STANDARD ASSOCIATION		
	J.E.-51	TECHNICAL ENGLISH HANDBOOK	MR. Y. SUMAHARA		

LIST OF BOOKS PROVIDED WITH JICA EXPERT

YEAR	CODE	TITLE	AUTHOR	NAME OF EXPERT	REMARKS
1993					
	J.E.-52	技術英語ハンドブック OUTLINE OF MECHATRONICS	MR. Y. FUJINO	MR. INOSUKE MORI 森保之輔	All books are stored in Export Room 361
	J.E.-53	メカトロニクス概論 COUNSEL OF CAD パソコンCAD製図のすすめ	DR. KAWAGUCHI DR. KAGAWA		
	J.E.-54	DICTIONARY OF PHYSICS / MATHEMATICS 物理・数学用語辞典	MORIKITA PRESS		
	J.E.-55	DICTIONARY ON MECHANICAL ENG. 機械術語大辞典			
	J.E.-56	JSME MECHANICAL ENG. HANDBOOK A. B. 機械工学便覧(基礎編・応用編)	JSME		
	J.E.-57	JSME MECHANICAL ENG. HANDBOOK C. 機械工学便覧(エレクトロニクス編)	JSME		
	J.E.-58	ASAHI ENCYCLOPEDIA OF CURRENT TERMS 知恵蔵1993	ASAHI NEWSPAPER		
	J.E.-59	INTEGRATED CIRCUITS IN DIGITAL ELECTRONICS	ARPAD BARVA DAN I. PORAT		
	J.E.-60	BASIC ELECTRONICS FOR SCIENTISTS	JAMES J. BROPHY		
	J.E.-61	ELECTROMECHANICAL MOTION DEVICES	PAUL C. KRAUSE		
	J.E.-62	INTRODUCTION TO LANGUAGES AND THE THEORY OF COMPUTATION	OLEG WASYNCZUK JOHN C. MARTIN		
	J.E.-63	OPERATIONAL AMPLIFIERS	ARPAD BARVA DAN I. PORAT		
	J.E.-64	MODERN MANUFACTURING PROCESS ENG.	BENJAMIN W. NIEBEL ALAN B. DRAPER		
	J.E.-65	COMPUTER-AIDED MANUFACTURING	RICHARD A. WYSK TIEN-CHEN CHANG RICHARD A. WYSK		
	J.E.-66	THEORY AND DESIGN FOR MECHANICAL MEASUREMENTS	HSU-PIN WANG RICHARD S. FIGLIOLA DONALD E. BEASLEY		
	J.E.-67	ELECTRONIC INSTRUMENTS AND MEASUREMENTS	LARRY D. JONES A. FOSTER CHIN		

LIST OF BOOKS PROVIDED WITH JICA EXPERT

YEAR	CODE	TITLE	AUTHOR	NAME OF EXPERT	REMARKS
1993	J.E.-68	COMPUTER CONCEPTS AND APPLICATIONS	DONALD H. SANDERS	MR. INOSUKE MORI	All Books are stored in Expert Room 361
	J.E.-69	DIGITAL LOGIC-ANALYSIS, APPLICATION AND DESIGN	SUSAN A. R. GARROD ROBERT J. BORNS	森澤之輔	
	J.E.-70	MECHATRONICS	DENNY K. MITU		
	J.E.-71	ROBOTICS	BEN-ZION SANDLER		
	J.E.-72-1 4	JAPANESE AN INTEGRATED CONVERSATION APPROACH 教師用引のための日本語 (教師用引き)	JICA		
	J.E.-73-1 10	GRAMMATICAL NOTES 初級用修のための日本語 (初級用)	JICA		
	J.E.-74-1 10	JAPANESE CONVERSATION 簡単な日本語会話	JICA		
	J.E.-75-1 10	JAPANESE CONVERSATION 50 HOURS 語時間修のための日本語 50時間	JICA		
	J.E.-76-1 10	GUJYUTUKENSHU NO TAME NO NIHONGO (語英版のための日本語 (英語版))	JICA		
	J.E.-77-1 10	GUJYUTUKENSHU NO TAME NO NIHONGO (SHOKYU) 本語字) のための日本語 (0-1) / 本語字 / 本語)	JICA		
	J.E.-78-1 10	GUJYUTUKENSHU NO TAME NO NIHONGO (ELEMENTARY1) 本語研修のための日本語 (0-1) / 本語 / 本語 (1)	JICA		
	J.E.-79-1 10	GUJYUTUKENSHU NO TAME NO NIHONGO (ELEMENTARY2) 修本語修のための日本語 (0-1) / 本語 / 本語 (2)	JICA		
1994	J.E.-80	MECHANICAL ENGINEERS' HANDBOOK	MYER KUTZ	DR. KATSUMI ISHIHARA 克原克己	(¥35, 100. 00)
1994	J.E.-81	MATLAB TOOLBOXES AND APPLICATIONS FOR CONTROL	A J CHIPPERFIELD AND P J FLEMING	DR. TADAYOSHI FURUYA 志義忠義	(¥22, 860. 00)
	J.E.-82	SOLVING PROBLEMS IN SCIENTIFIC COMPUTING USING MAPLE AND MATLAB	SPRINGER-VERLAG		
1995	J.E.-83	KOUKOU BUTSURI 1 物物物理1	MORIKITA SHUPPAN	MR. TAKEHISA OHNO 武久武久	(¥12, 510. 00)
	J.E.-84	YASASHI BUTSURI 物理しい物理	MORIKITA SHUPPAN		
	J.E.-85	BUTSURI SIMULATION	MORIKITA SHUPPAN		

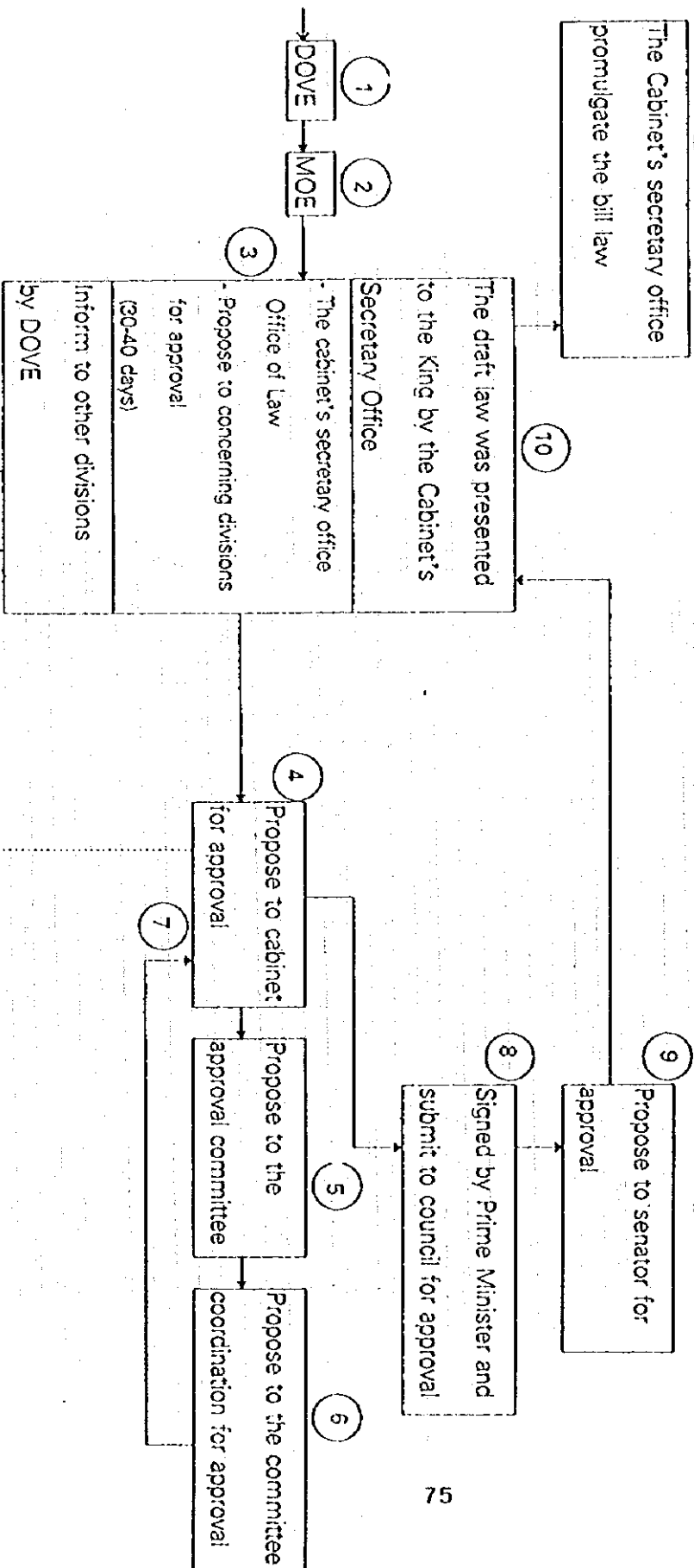
12 Step of proposing and approval the Vocational Bill

Step for Proposing and Approval

11

The Vocational Bill

The Cabinet's secretary office promulgate the bill law

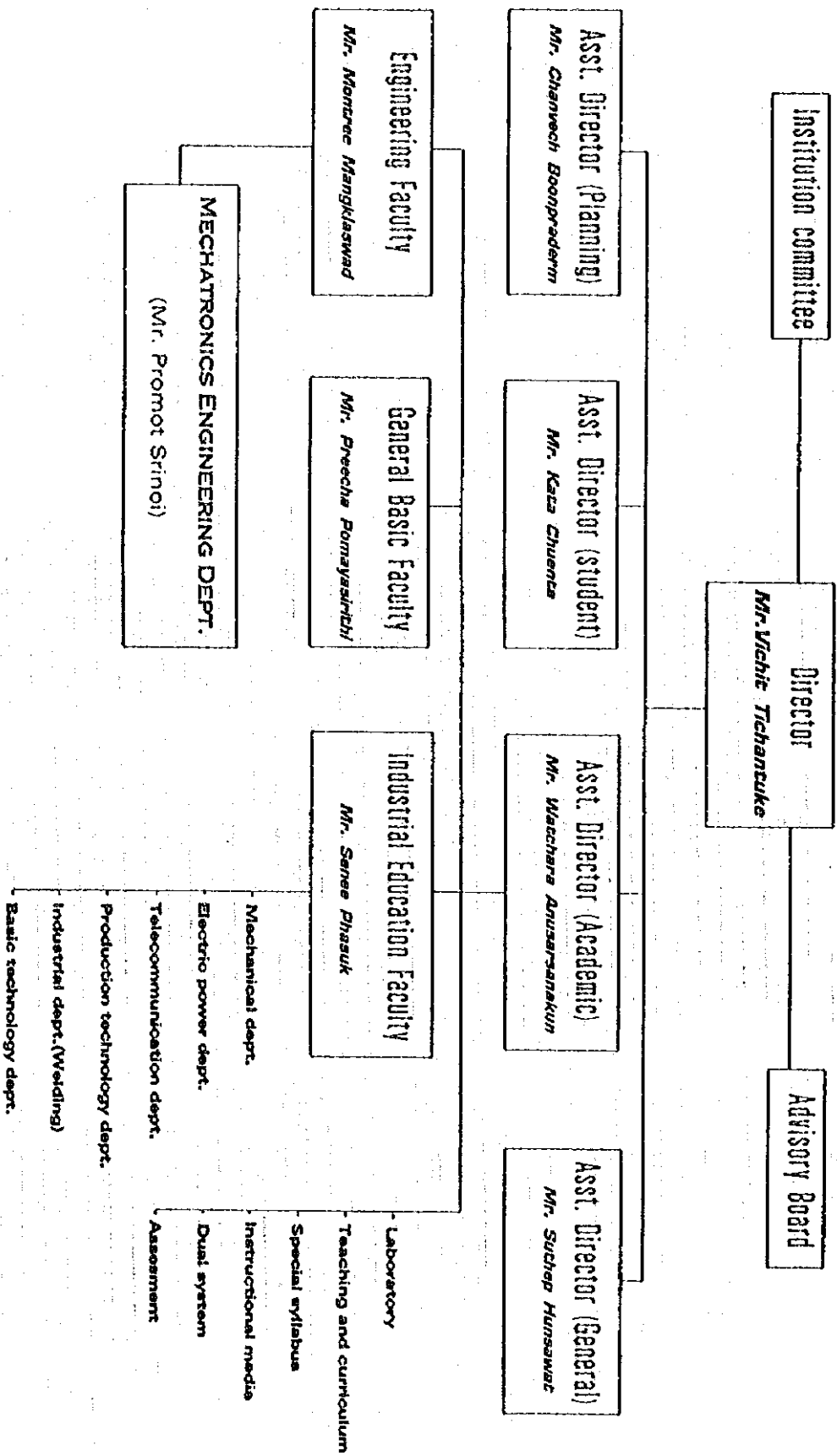


1. Director of Fiscal Bureau
2. Minister of Ministry of university Affairs
3. Secretary general of the office of National Education Commission
4. Secretary general of National Economic and Social Development Board
5. Minister of Ministry of Finance

Representative :
Mr. Pajit Srivorakarn
Submit the Bill to Deputy Prime Minister
(General Chaowarit Yongjaiyut)

13 Organization chart of Pathumwan Technical College

ORGANIZATION CHART OF PATHUMWAN TECHNICAL COLLEGE (Present Status)



Job Description on Organization of PTC

1. Director (Mr.Vichit Tichantuk)

Duties and responsibilities classify as following

- 1.1 To manage PTC by the policy of DOVE and Ministry of Education
- 1.2 To provide the projects plan, operation , ordering, coordinating, control and follow up the output of every sections.
- 1.3 To provide the rules and regulation of PTC
- 1.4 To command and evaluate every teachers, students and staffs
- 1.5 To consider and solve problems in PTC
- 1.6 To conduct technology and innovation to improve PTC
- 1.7 To promote the relation and coordination between PTC and communities.

2. Institution Committee

To assist the PTC director for administration and considering to suggest as following

- 2.1 Improvement of administration units and projects plan of PTC
- 2.2 Managing system, curriculums and departments.
- 2.3 Improving or changing of PTC's rules and regulations.
- 2.4 Educational assessment and evaluation
- 2.5 Operating system

3. Advisory Board

- 3.1 To promote the relation between PTC and other sectors in society.
- 3.2 To give consults and suggestion to PTC

4. Assistance Director (Planning and Developing Affair)

To responsible on duties of

- Educational information for career and manpower.
- Education planning and budgeting
- Research and development
- Productivities Promotion

5. Assistance Director (Student Affair)

To responsible on duties of

- Career guidance and job replacement.
- Students activities
- Special project
- Student welfare
- Student health service and dormitory.

6. Assistance Director (Academic Affair)

To responsible on duties of

- Controlling and providing on teaching , studying , training , assesment activities.
- Studying program of faculties
- Special syllabus
- Curriculum and teaching activities
- Instructional media
- Evaluation and assesment activities
- Library

7. Assistance Director (General Affair)

To responsible on duties of

- Financing and accounting
- Documentary
- Public relation
- Personnel
- Printing
- Registration
- Storage and purchasing
- Building facilities and placing

8. Engineering Faculty

- 8.1 Commanding and controlling of Mechatronics Engineering Department
- 8.2 Engineering Faculty Activities (Personnel, Education service, Planning and project, documentary, assessment)
- 8.3 Planning and Inspection of Educational Activities
- 8.4 Supervising on Studying Activities
- 8.5 Consult Solve Guide for the outline of teaching together with all teaching staff
- 8.6 Supervise and Assist to all members to be done under rule and regulation of PTC
- 8.7 Coordinating, meeting, consulting together with the PTC administrator.
- 8.8 Submit project of operation to PTC administrator.
- 8.9 Present the value of technical result (Document, textbook) to the public.
- 8.10 Report the result of operation to administrator.

9. Head of General Basic Faculty

- To arrange teaching table of Dept. and individual teaching table of each subject.
- To provide teaching materials and equipments.
- To make teaching plan of each semester.
- To discuss on teaching problem with staff.
- To control and look after students and staff.
- To Cooperate with other institute.
- To submit project and report implementation of Dept. to administrator.
- Other given duties

10. Head of Industrial Education Faculty

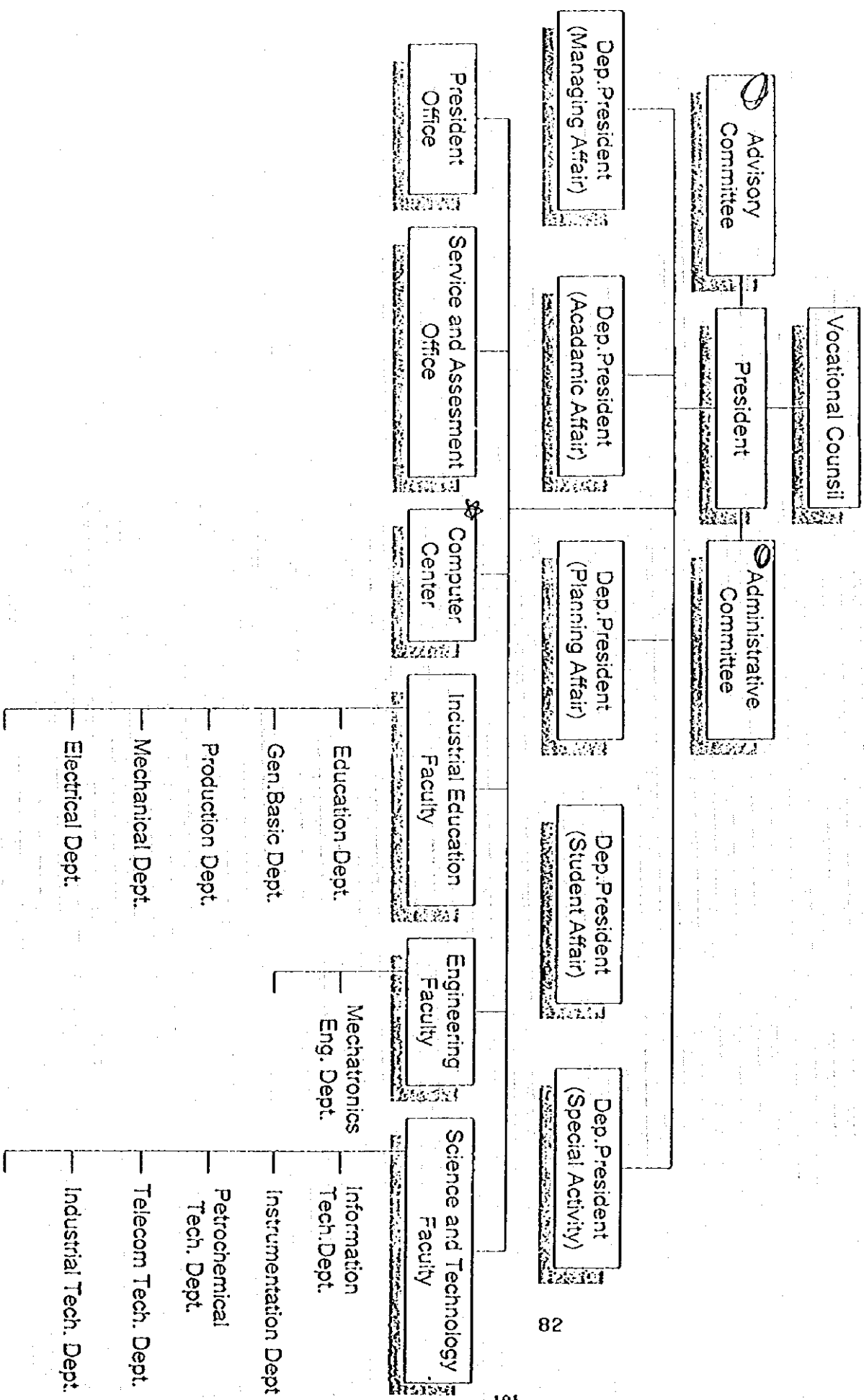
- 10.1 To control faculty, mechanical dept., electric power dept., telecommunication dept., production technology dept., industrial dept and basic technology dept.
- 10.2 To investigate , order, plan, control and look after personnel section, academic service section, planning and project and special affairs.
- 10.3 To control, investigate, and to plan the teaching plan, teaching project of instruction in each dept.
- 10.4 To follow ups teaching and learning of each dept.
- 10.5 To advise and to solve the problems in teaching of instructors.
- 10.6 To support scholarship of in country training and oversea training for instructors of each department
- 10.7 To cooperate with the administrations.
- 10.8 To submit projects to the administrators.
- 10.9 To promote and support instructors in making teaching documents, research work, journal and academic newsletter.
- 10.10 To report its duties to administrators.
- 10.11 To implement other given duties.

11. Head of Mechatronics Engineering Department

- To arrange teaching table of Dept. and individual teaching table of each subject.
- To provide teaching materials and equipments.
- To make teaching plan of each semester.
- To discuss on teaching problem with staff.
- To control and look after students and staff.
- To Cooperate with other institute.
- To submit project and report implementation of Dept. to administrator.
- Other given duties

14 Organization chart of the Vocational Institute

ORGANIZATION CHART OF THE VOCATIONAL INSTITUTE



15 Allocation of teaching staff and counterparts

ALLOCATION OF TEACHING STAFF AND COUNTERPARTS IN MECHATRONICS ENGINEERING DEPARTMENT

Name	Degree	Actual status/Teaching subject in Mechatronics Eng. Dept.	Training fields in Japan/year
Mr. Montree Mungkalasawat	B.I.Tech.(Industrial Engineering)	- Head of faculty of Engineering - Engineering Measurement	Factory Automation 1995
Mr. Pramot Srinoi	M.Eng.(CIM)	- Head of Department of Mechatronics Engineering - Introduction to Mechatronics Engineering - Computer Aided Design	Microcomputer 1996
Mr. Chatchawan Pongpatitkun	Grad.Dip.(Electrical Engineering)	- Head of Department of Instrumentation & Process Control Technology	CAM/CIM 1993
Mr. Paisan Taraksa	B.S.I.Ed.(Electrical Engineering)	- Instructor of Electronics Dept. - Computer programming (1994) - Computer programming Lab.(1994) - On leave for further studying in Master of Industrial Education	Instrumentation 1993
Mr. Uthai Munwong	B.S.I.Ed.(Electrical Engineering)	- Instructor of Electric power Dept. - Electrical Measurement (1994)	Automatic control 1995
Mr. Yonyong Chantawiroc	B.S.I.Ed.(Electrical Communication)	- Instructor of Electronics Dept. - Computer programming - Computer programming Lab.	CAD 1994

Name	Degree	Actual status/Teaching subject in Mechatronics Eng. Dept.	Training fields in Japan/year
Mr. Ataporn Kannehanalhep	B.S.I.Ed.(Electrical Engineering)	- Electronics circuit - Electronics circuit Lab. - Digital - Digital Lab.	Microcomputer 1994
Mr. Suriya Warin	B.S.I.Ed.(Electrical Engineering)	- Electric circuit (1996) - Electric circuit Lab. (1996)	Digital Control 1994
Mr. Prasert Prachprayoon	Higher Dip.Tech.(Production Tech.)	- Computer Aided Design	CAD 1995
Mr. Kosuehon Satayotin	B.S.I.Ed.(Industrial Tech.)	- Manufacturing Process	CAM/CIM 1995
Mr. Sami Wangnipanito	M.Eng.(Energy Technology)	- Thermodynamic & Fluid mechanic	Sensor Technology 1995
Mr. Boornrueng Wangsilabur	B.S.I.Ed.(Electrical Engineering)	- Power electronic (1996) - Power electronic Lab. (1996)	Robotics 1995 On leave for further studying in Master of Engineering (Part time student)
Mr. Panya Minyong	B.I.Tech.(IPC)	- Automatic control - Automatic control Lab.	On leave for further studying in Master of Engineering (1996)
Mr. Somchai Kongwongsitiporn	B.Eng.(IPC)	- Electrical Measurement (1995) - Instructor of IPC. Dept.	
Mr. Witoon Obrom	Higher Dip.Tech.(Production Tech.)		On leave for further studying in Master of Engineering
Mr. Tiab Eufki	M.Eng.(Mechanical Engineering)		Fluid Power Control 1996
Mr. Sathien Tanyasirint	M.S.I.Ed.(Electrical Engineering)		Robotics No.2 1996
Mr. Arkom Maneekanto	B.I.Tech.(IPC)		Process control 1996

16 Number of student and teacher

Number of Student and Teacher in Mechatronics Engineering Department

Year	No. of Student					No. of Teacher			No. of Teacher for Further studies	
	1st year	2nd year	3rd year	4th year		B	M	Dr.	M.Eng.	D.Eng.
	14	-	-	-		5	1	-	-	-
	35	14	-	-		9	2	-	1	-
	53	35	14	-		11	4	-	4	1
1997	80	53	35	14	182	11	6	-	8	2
1998	80	80	53	35	248	10	8	-	10	2

Remark:

B = Bachelor Degree

M = Master Degree

Dr = Doctorate Degree

17 Table of arrangement of teacher and staff in 1996

Table of arrangement of teachers and staffs for Mechatronics Eng. Dept. in 1996

No.	Qualification	Quantit	Position
1	M.Eng. (Electrical Engineering)	1	Teacher
2	M.Eng. (Mecanical Engineering)	1	Teacher
3	M.Eng. or M.Sc. (Computer/Infor. Tech.)	1	Teacher
4	Dip. Trade & Industry (Electrical/Electronic)	2	Technician

18 List of students

Namelist of 1st Year(1/1)Mechatronics Engineering Student (1995)

No	Name	1 st semester	2nd semester	3rd semester	average
1	Mr.Gritus Phurisri	1.94			
2	Mr.Govit Saksagagul	2.27			
3	Mr.Gampholchai Siriboonyawong	1.88			
4	Mr.Chimnong Caanchareon	1.33			
5	Mr.Chaloh Whangrangsimagul	1.33			
6	Teppakorn Sasom	1.88			
7	Mr.Teerarit Theerananont	2.72			
8	Mr.Banyad Viseskote	1.50			
9	Mr.Panya Thongasem	2.22			
10	Mr.Vasan Boonkhan	2.22			
11	Mr.Vichai Peingaham	2.16			
12	Mr.Vitoon Munpansa	2.05			
13	Mr.Visut Wongsri	1.38			
14	Mr.Santiphong Kongmai	2.72			
15	Mr.Sanij Sisod	2.11			
16	Mr.Supijit Saothong	2.50			
17	Mr.Anont Yatana	2.27			
18	Mr.Anuchit Dikkansay	2.05			

Namelist of 1st Year(1/2)Mechatronics Engineering Student (1995)

No	Name	1 st semester	2nd semester	3rd semester	average
1	Mr.Ketsiri Wantong	2.38			
2	Mr.Jaturapich Potwana	2.11			
3	Mr. Chumpol Chandawong	2.22			
4	Mr.Nirut Sinakom	2.22			
5	Mr.Nattapol Apipatwong	2.61			
6	Mr.Prasong Yenchareon	3.27			
7	Mr.Premsak Kamhai	2.50			
8	Mr.Pansak Unjai	3.00			
9	Mr.Yattana Kamolmal	2.94			
10	Mr.Yattasej Mhoprha	3.05			
11	Mr.Rungroj Chantam	3.44			
12	Mr.Watchara Kaewthep	2.22			
13	Mr.Sakda Junkam	2.00			
14	Mr.Saravut Pirahusit	2.72			
15	Mr.Surapon Pakdisri	3.22			
16	Mr.Arurach Anuwatworakul	3.11			
17	Mr.Uthan Thongnam	2.27			

Namelist of 2nd Year Mechatronics Engineering Student (1995)

No	Name	1 st semester	2nd semester	3rd semester	average
1	Mr.Chatrchai Phiewngam	2.61	3.40	2.57	2.87
2	Mr.Cherdkiat Sriroj	3.83	3.80	3.36	3.66
3	Mr.Chaiyan Chitrlhang	2.88	3.05	3.05	3.00
4	Mr.Dusitsan Nakprasert	2.72	3.35	2.68	2.92
5	Mr.Thani Maneenutr	3.22	3.65	3.05	3.31
6	Mr.Theerapong Kingsabutr	3.27	3.65	3.52	3.49
7	Mr.Nirun Palaphol	2.65	2.90	2.73	2.77
8	Mr.Panot Phamonkul	3.27	3.50	2.68	3.15
9	Mr.Monchai Sriartornsup	2.94	2.75	2.84	2.84
10	Mr.Wara Viratasanusorn	3.27	3.20	3.00	3.15
11	Mr.Somchai Suksaad	3.27	3.35		
12	Mr.Sarayuth Lamduan	2.50	3.20	2.42	2.71
13	Mr.Seksan Chaijit	2.94	3.35	2.84	3.05
14	Mr.Aunchat Ratnhirankorn	3.08	3.50	3.05	3.21

19 Process of new student admission in 1996

• Process of New Students Admission (1996)

- Selection System

By means of quota system , only a qualified student (mentioned in the syllabus) of each field in a college is nomination to be selected by 5 Regions of Vocational Education of Thailand. The total number of selected students was 300. These 300 nominated students took an entrance examination at PTC. After being interviewed , the 70 students were admitted , and only 69 registered to be Mechatronics Engineering Student in PTC.

- Orientation

The Mechatronics Engineering Students joined the program of orientation at Thammakay Temple , Pathumthani , on May 1996. The training to be in the Buddhism Philosophy,

Study Basic Knowledge

The first year students must be study basic subjects (mathematic , Physic , computer) During 13 - 24 May 1996. To Adjusting thier knowledge before study on Mechatronics Engineering Courses.

- Accommodation

The First year students will be staying at the PTC dorm and look after by two teachers of Mechatronics Eng. Dept.

- Students Activities

1. Study tour at Srinakkarinri Dam , Kanchanaburi , to study the production of electrical power and control room , on 1st August 1996.
2. Study tour at The Center NECTEC System , on September 1996. (Only 1st student)
3. Presentation The solar battery car (Remote Control) on World Trade Exhibition , Nakornrach Asrima , November - December 1996.

20 Thai budget

**THAI BUDGET FOR THAI-JAPAN COOPERATION
PROJECT 1995**

(8,135,564 BAHT)

1. Wages (165,960)		
• Wage for 2 typist		68,880
• Wage for 2 officers of chemical Laboratory		68,880
• Wage for driver		28,200
2. Remuneration, Sundry Expenses, and Supplies Materials (4,569,764)		
2.1 Remuneration	60,000	
• Food & beverage for over time working of the project officers		60,000
2.2 Sundry Expenses	3,249,794	
• Six stories building cleanliness cost		479,000
• Security service cost		382,200
• Elevator Maintenance cost		66,564
• Transportation, stipend & lodging for training in Japan (2 persons x 30 days)		
Airfares		40,000
Living Stipend		150,000
• Transportation, stipend & lodging for study tour in Japan		
Airfares (2 persons)		55,000
Airfares (4 persons)		88,000
Airfares (2 persons)		40,000
Accommodation (6 persons)		216,000
Accommodation (2 persons)		50,000
Living Stipend (6 persons)		73,000
Living Stipend (2 persons)		18,800
Clothes (8 persons)		72,000
General expense (8 persons)		129,000
In country study tour cost		252,000
• In-country seminars cost		
Seminar project on making the teaching planning of mechatronics Engineering course		331,640
Seminar project on automatic production technology		40,000
Seminar project on sensor technology		50,000
Seminar project on CNC Programming		5,000
Seminar project on CAD		5,000
Seminar project on material testing in practical		15,000
Seminar project on engineering welding		15,000
Seminar project on CNC technology		5,000
Seminar project on short course of auto-mechanic		10,000
Seminar project on knowledge based of robotics		2,000

Seminar project on the application of CAD	1,000
Seminar project on the application of computer in office	24,300
• Promote new technology research project	
Research project on the navigation system	25,000
Research project on the capability of CNC machine	50,000
Research project on the solar car	100,000
Research project on facility system in mini-bus	200,000
Project on the introduction of course in Mechatronics Engineering	46,144.56
Project on repairing of the computer	29,853
Project on the development of hydraulic training system project	49,244
Project on the development of refrigeration assembly	96,648.44
Project on the development of electrical systems	46,400
2.3 Supplies & Materials 1,260,000	
• Material charge 3,000 per head for training hour of 420 students in 3 fields	1,260,000
3. Public Utilities (750,000)	
• Electricity cost	750,000
4. Equipment (2,648,810)	
• Microcomputer (for designing and controlling the CNC machine)	650,000
• Microcomputer laboratory	1,400,000
• Materials & equipment for the project training laboratory	361,000
• Materials & equipment for the FMS laboratory	70,000
• Materials & equipment for short term and long term experts	167,810

**THAI BUDGET FOR THAI-JAPAN COOPERATION
PROJECT 1996**

(5,147,000 BAHT)

1. Remuneration, Sundry Expenses, and Supplies Materials (4,745,700)	
1.1 Remuneration	72,000
• Food & beverage for over time working of the project officers	72,000
1.2 Sundry Expenses	3,249,794
• Six stories building cleanliness cost	548,000
• Security service cost	440,400
• Elevator Maintenance cost	72,000
• Transportation, stipend & lodging for study tour in Japan (7 persons x 7 days)	
Airfares	161,000
Accommodation	281,750
Living Stipend	161,000
• In-country seminars cost	145,000
• Transportation, stipend & loding for in-country seminar	200,000
• Promote new technology research project	427,025
• Machine maintenance cost	397,525
1.3 Supplies & Materials	1,840,000
• General material cost	400,000
• Material charge 3,000 per head for training hour of 480 students in 3 fields	1,440,000
2. Public Utilities (400,000)	
• Electricity cost	300,000
• Water supply cost	100,000

**THAI BUDGET FOR THAI-JAPAN COOPERATION
PROJECT 1997**

(10,000,000 BAHT)

1. Wages (152,640)		
• Wage for 2 officers of the project		152,640
2. Remuneration, Sundry Expenses, and Supplies Materials (8,445,360)		
2.1 Remuneration 72,000		
• Food & beverage for over time working of the project officers		72,000
2.2 Sundry Expenses 5,763,360		
• Six stories building cleanliness cost		548,000
• Security service cost		440,400
• Elevator Maintenance cost		72,000
• Air conditioning Maintenance cost		310,300
• Transportation, stipend & lodging for study tour in Japan (7 persons x 7 days)		
Airfares		161,000
Accommodation		281,750
Living Stipend		161,000
• In-country study tour cost		435,000
• Transportation, stipend & loding for in-country seminar		600,000
• Promote new technology research project		1,500,000
• Machine maintenance cost		1,183,910
2.3 Supplies & Materials 2,610,000		
• General material cost		600,000
• Material charge 3,000 per head for training hour of 670 students in 3 fields		2,010,000
3. Public Utilities (1,400,000)		
• Electricity cost		1,000,000
• Water supply cost		400,000

21 List of equipment purchased by Thai budget

1994

LIST OF EQUIPMENT PURCHASED BY THAI BUDGET

No.	Code No.	Name of Equipment	Qty.	Price (Baht)	Location	Remark
1	2320-004-0002	Utility car with cab: -Nissan Big-M 1.6, Gasoline DX -Load capacity : 1 Ton -Color : white	1 unit	295,000	PTC	
2	2310-004-0006-371-01	Van with 11 seats: -Toyota Hi-Ace RZS 112-RBMRS -Color : white	1 unit	479,895	PTC	
3	5815-012-0003-371-01	Fax machine	1 unit	24,750	Store	
4	4110-001-0004-371-01	Refrigerator: -DR-461A -5.9 ft ³	1 unit	5,600	Director office	
5	9925-009-004-371-01-03	Buddha's praising set: -9 pieces/set	3 set	45,000	-Director room - conference m	
6	7430-001-0032-371-01	Electric typewriting machine: -IBM Model Personal wheel writer 2	1 unit	25,000	Thai co-ordinator office	
7	7440-001-0010-371-01	Personal computer and printer: -Computer: LEO 80486 DX2-66 -Printer: Epson LQ-1170i	1 set	61,000	Thai co-ordinator office	

1995

No.	Code No.	Name of Equipment	Qty.	Price (Bath)	Location	Remark
8	7440-042-0001-381-01	Microcomputer for CNC machining workshop; each set consist of: Personal Computer, Dell XMT 590 -CPU Pentium 90mhz -16 Mb RAM, 1GB HDD -17" SVGA -CD-ROM DRIVE Laser Printer, HP Laserjet 4Plus	5 set	649,947	CNC Workshop (Mechatronic)	
9	6930-031-0001-381-01-95	Equipment for project training laboratory; each set consist of: - Computer table - Working table - Chair - Cabinet	20 set	330,400	Project room (Mechatronic)	
10	7110-007-0054-381-01-03 7110-007-0053-381-01-02 7110-007-0055-381-01-03 3442-002-0006-381-01	Equipment for FMS laboratory: - Computer table - Working table (for robotics) - Small Computer table - Pump	1 set	66,500	Robotics & FMS Lab. (Mechatronic)	
11		Equipment for experts room - Computer table - Working table - Chair - Cabinet	1 set	167,810	Mechatronic staff room	

22 Necessary laboratory and research room

Necessary Laboratory and Research room for Mechatronics Eng. Dept.

Item	Name of Room	Space	Room No.	Responsible person
1	Electric & Electronic circuits Lab.	10x10	337*	Mr. Suriya, Attapon
2	Power Electronics & Drive Lab.	10x10	356*	Mr. Boonrueng
3	Digital & Microprocessor Lab.	10x10	334*	Mr. Attapon
4	Microcomputer Lab.	10x10	335*	Mr. Pramot, Satian
5	Computer Aided Design Lab. (CAD1)	10 x12.5	338	Mr. Yanyong
6	Computer Aided Design Lab. CAD2)	10 x12.5	331	Mr. Prasert
7	Computer Programming and Simulation Software Lab.	10x10	336*	Mr. Yanyong, Prasert
8	Sensor Technology Lab.	10x10	357*	Mr. Santi
9	Robotics & FMS Lab.	10x10	353	Mr. Satian, Boonrueng
10	Fluid Power Control Lab.	10x10	347*	Mr. Teiab
11	Engineering Measurement Lab.	10x10	313	Mr. Kohsuchon, Montree
12	CNC Workshop	30x10	314	Mr. Kohuchon, Witoon
13	Automatic control Lab.	10x10	354*	Mr. Satian, Utai
14	Sequence Control Lab.	10 x12.5	348*	Mr. Arkom, Utai
15	Factory Automation Lab	10x12.5	348*	Mr. Montree
16	Process control Lab.	10x10	344	Mr. Arkom
17	Laser Lab.	10x5	312	Mr. Santi, Teiab
18	Digital Control Lab.	10x5	355*	Mr. Suriya
19	Mechatronics Training Lab.	10x12.5	351	Mr. Pramot, Witoon
20	CAD/CAM/CAE Lab. (EWS)	10x5	315	Mr. Pramot, Prasert

Remark * These laboratories will be setup after the two departments (Electrical Technology and Electronics Technology Departments) move to the new building.

The Library, Office, Conference room, and Staff rooms of Mechatronic Eng. Dept.

Item	Name of Room	Space	Room No.	Responsible person
1	Library	10x12.5	363*	Mr. Witoon
2	Office of Mechatronics Eng. Dept.	10x12.5	311*	Mr. Montree, Pramot
3	Conference and Staff Room	10x12.5	325	Mr. Montree
4	Staff Rooms	10x5	322*, 332*, 333*, 352*, 355*	

Remark * These laboratories will be setup after the two departments (Electrical Technology and Electronics Technology Departments) move to the new building.

23 Record of weekly meeting

Minutes of Weekly Meeting
Mechatronics Engineering Department No.7/1996
20 May 1996, 10.30 a.m.
at Staff Room, 2nd floor, Thai-Japanese Building

Participants

Thai Side	Japanese Side
1. Mr.Vichit Tichantuck	Director of PTC Chairman
2. Mr.Watchara Anusasanakul	Assistan Director
3. Mr.Montree Mungkalasawad	
4. Mr.Pramot Srinoi	
5. Mr.Yanyong Chantasrivirote	
6. Mr.Prasert Pradprayoon	
7. Mr.Boonrueng Wangsilabat	
8. Mr.Kosuchol Satayothin	
9. Mr.Sunti Wangnipanto	
10. Mr.Tieb Eurkit	
11. Mr.Satien Tanyasrirat	
12. Mr.Suriya Warin	
13. Miss.Kanchana Ratanachotechuang	
Non - Participants	
1. Mr.Attapol Kanchanathep	
2. Mr.Uthai Mungwong	

Commencement 10.30 a.m.

The chairman informed the participants that JICA Technical Guidance Team would come to PTC between 12 - 17 June 1996 in order to evaluate the Project . The Thai-side Joint Cimmittee would hold a meeting at DOVE on 23 May, at 9.30 a.m.

Agenda 1 Distribution of textbooks which published by JICA

Mr.Montree stated that textbooks published by JICA budget for each subjects should be arranged the system of distribution or new publication and the responsible person on this matter.

The chaiman assigned Mech Dept. to nominate committee included Head of Dept., Head of Division and writer of each textbooks. The price of textbooks should be determined by this committee. These textbooks would by sold be college's cooperative store.

Agenda 2 Equipment which donated by JICA and purchased by Thai Budget.

This agenda have to discussed furthermore.

Prof.Mori stated that the equipment valued about 125 million baht should belong to 3 departments as follows :

- Industrial Electronics
- Instrumentation
- Mechatronics

These equipment couldn't be separated or used by each department. As for the Project of Mechatronics Eng. Dept., the equipment valued about 50 million baht should belong to Mech.Eng. Dept.

Agenda 3 Joint Committee Meeting between 12 - 17 June 1996

Prof.Mori informed the meeting that the tentative schedule of JICA Technical Guidance Team between 11 - 20 June 1996 as on attached paper. The Third Joint Committee Meeting would discuss on these followings topics :

1. Progress of Project - following PDM
2. Thai - organization executing the Project
3. Allocation of C/P and activities on
 - Education
 - Research
 - Project
 - Responsible subject correspond of their training term and responsible subject as well as lab.
4. Punctual meeting by members of the Dept. and is its output (to make subject revising curriculum teaching plan , life style of students.....)
5. Usage and maintenance of equipment
 - Responsible teacher and technician
6. Status of students
7. Vocational Bill
8. Thai budget for
 - Equipment
 - Teaching material
 - Construction
 - Semjnar
 - Aux. furniture equipment
 - Maintenance of equip.
9. Special topics proposed by Thai-side
10. Future substainbility of the project

Agenda 4 Others

The budget of in-country study tour and equipment should manage before the end of fiscal year.

The meeting was declared close at 12.15 p.m.



(Kanchana Ratanachotechuang)

Note - taker

24 Implementation of the project in accordance with PDM

Implementation of the Project in accordance with the Project Design Matrix

Activities	Implementation	Results/outputs	Remarks
1.1 Improvement of the course study	<ol style="list-style-type: none"> 1. The committee of designing curriculum due to the announcement of Ministry of Education No.1575/1993 Dated 16 December 1993, held the first meeting on 20 January 1994 in order to review the curriculum structure, course, course description and study plan of each semester. 2. JICA chief advisor, Prof.MORI, presented the first reviewed courses during 29 January - 9 February 1994 and the courses, courses description, study plan had been reviewed again. 3. Project of course study improvement after assessment. 	<p>The first reviewed courses by the Thai side committee of designing curriculum.</p> <p>The second reviewed courses by Japanese side committee.</p> <p>Review course study in accordance with society and technology.</p>	<p>At Pathumwan Technical College.</p> <p>Meeting in Japan</p> <p>End of academic year</p>
1.2 Improvement of teaching methodology	<ol style="list-style-type: none"> 1. The seminar of making teaching plan for the courses of semester 1 - 2 during 17 - 20 May 1994, prepared contents, teaching method, learning resources of teaching materials, assessment and evaluation etc. 	<p>The teaching plan for courses of semester 1 - 2 both in Thai and English.</p>	<p>At Seabreeze Hotel, Patayya.</p>

Implementation of the Project in accordance with the Project Design Matrix

Activities	Implementation	Results/outputs	Remarks
	<p>2. The first meeting of teachers who taught in semester 1 - 2 Academic year 1994, on 20 June 1994 at 13.30 p.m. discussed on the problems and obstacles of teaching theory and practical subject.</p> <p>3. The second meeting of teachers who taught in semester 1 - 2 Academic year 1994, on 25 Aug. 1994 at 9.30 a.m. discussed on the problem of teaching and learning, learning resources of teaching materials for the courses of semester 1 and prepared for the semester 2.</p> <p>4. The preparation of the seminar on making <u>teaching plan</u> for courses of semester 3 - 4 during 27 - 31 March 1995. The steps of preparation were as follows:</p> <p>4.1 The meeting of teaching staff on 10 March 1994 at 13.30 p.m. to make the mutual understanding before seminar.</p>	<p>The teachers acknowledged the policy of teaching in the same way.</p> <p>Cooperation in solving the problems to be the guideline for next semester.</p> <p>The teaching plan for the courses of semester 3 - 4 both in Thai and English.</p> <p>The committee received courses and their description of semester 3 - 4. The draft of teaching plan of semester 3 - 4</p>	<p>Meeting room, 2nd floor, Administration Bldg.</p> <p>Meeting room, 2nd floor, Administration Bldg.</p> <p>At Mananklong Grandview Hotel Nakornpanom</p> <p>Meeting room, 2nd floor, Thai - Japan Building.</p>

Implementation of the Project in accordance with the Project Design Matrix

Activities	Implementation	Results/outputs	Remarks
<p>1.3 Preparation of teaching materials</p>	<p>4.2 During 11- 25 March 1995 the teaching staff studied information, course description and made the draft of teaching plan.</p> <p>4.3 The teaches prepared textbook/ documents concerning the subjects.</p> <p>4.4 The seminar held on 27 - 31 March 1995.</p> <p>5. The seminar on making teaching plan for the courses of semester 5 -6</p> <p>6. The seminar on making teaching plan for the courses of semester 7 - 8</p>	<p>Teaching plan for the courses of Semester 5 - 6 both in Thai and English.</p> <p>Teaching plan for the courses of semester 7 - 8 both in Thai and English</p> <p>Textbooks in Thai</p> <p>Supplementary in following subjects:</p> <ol style="list-style-type: none"> 1. Engineering Measurements 2. CNC 3. Robotics 4. Computer Aided Design Laboratory 	<p>Prepared by</p> <p>Ms.Linchit</p> <p>Mrs.Pasada, Mr.Panya</p> <p>Mr.Montree</p> <p>Mr.Pramot</p> <p>Mr.Witron</p> <p>Mr.Kosuchon</p> <p>Mr.Praserit</p> <p>Mr.Santi</p> <p>Mr.Boonraung</p>

Implementation of the Project in accordance with the Project Design Matrix

Activities	Implementation	Results/outputs	Remarks
	- Manuals/instructions in Thai of following machines : 1. Wire Cut 2. CNC Wire Cut 3. CMM 4. Surface Tester 5. Roundness Tester 6. Programming Method 7. FMS 8. Industrial Robotics - Work Sheets for testing in Engineering Measurements	Manuals and work sheets in following subjects : 1. Engineering Measurements 2. Mechatronics System Engineering 3. CNC Mechanics and Applications 4. Industrial Robotics	
1.4 Guidance for research work	- Solar battery car research project. - Economy Engine Car	The solar battery car for driving in plane way The Economy Engine car and testing results	Responsible Persons : 1. Mr. Montree 2. Mr. Sompong 3. Mr. Witoon By : Prof. Takahashi Takamatsu Technical College and Thai counterparts

Implementation of the Project in accordance with the Project Design Matrix

Activities	Implementation	Results/outputs	Remarks
1.5 Presentation of Research work	1994 - Assembly for mechanical parts 1995 - Assembly the robotics control system for driving 1996 - Assembly electrical control system - Preparation of research work (Commenced on 1 Nov. 1994) 1. Feasibility study 2. Work plan 3. Location, budget, methodology, equipment, researcher and expert. 4. Research title and researcher 5. Research implementation 6. Conclusion and report 7. Presentation	- The process of research work in Mechatronics Engineering Field - The result of research work in accordance with industrial system. - The teaching staff and students can study new technology research work.	Responsible persons are The teaching staff in Mechatronics Engineering Department
1.6 Study of the advanced technology	1. Dispatching PTC teachers to be trained in Japan 1993 (October 1993 - March 1994) No. of trainees : 3 1994 (August 1994 - March 1995) No. of trainees : 3	Training in the fields of Automatic Control, Instrumentation Training in the fields of Microcomputer, CAD and Digital Control	Mr. Uthai Munnwong Mr. Paisan Tharaksa Mr. Charchaval Pornparakun Mr. Attaphon Kanchanatop Mr. Yanyong Chathasrivivrote Mr. Suriya Warin

Implementation of the Project in accordance with the Project Design Matrix

Activities	Implementation	Results/outputs	Remarks
	<p>1995 (September 1995 - March 1996) No. of trainees : 5</p> <p>1996 (April 1996 - March 1997) B.No.of trainees : 4</p> <p>2. Training in Pathumwan Technical College 1994</p> <p>1. Seminar on Application of Computer Numerical Control By Prof.KINOSHITA during 25 July - 30 August 1994</p> <p>2. Seminar on Industrial Robotics and Flexible Manufacturing systems by Prof.Haruo NAKA during 10 August - 30 September 1994</p> <p>1995</p> <p>1. Training on the use of Computer Aided Design Laboratory by Prof. Dr. Shuzo OKAZAKI during 29 -30 April 1995</p>	<p>Training in the fields of CAD, Robotics , FMS, Factory Automation, Sensor Technology and CAM/CNC</p> <p>Training in the fields of Microcomputer, Fluid Power Control, Process Control, Robotics and FMS.</p> <p>The teaching staff of Mechatronics Engineering Department obtained knowledge and skill of application, controlling and programming in</p> <ul style="list-style-type: none"> - CNC - Robotics - Factory Automation 	<p>Mr.Prasert Mr.Boonraung Mr.Montree Mr.Santi Mr.Kosuehon</p> <p>Mr.Pramot Srinoi Mr.Arkorn Maneekantro Mr.Tieb Aurkit Mr.Sathian Tsanyastirain</p> <p>The teaching staff of each departments :</p> <ul style="list-style-type: none"> -Mechatronics Engineering -Electrical -Automotive -Production Technology -Industrial Technology -Instrumentation

Implementation of the Project in accordance with the Project Design Matrix

Activities	Implementation	Results/outputs	Remarks
<p>2.1 Improvement of the functions of the committee of teaching staff</p>	<p>1996</p> <p>2. Seminar on the following topics by Jica Expert:</p> <ul style="list-style-type: none"> - Microcomputer - Digital Control - Sensor - Factory Automation - Laser Technology - Physics <p>1996 The seminar will be conducted in following topics:</p> <ol style="list-style-type: none"> 1. Process Control 2. Hydraulic Control 3. Robotics Control 4. Mechatronics System <p>- Conduction the meeting of each group of course study once a week or once a month in order to acknowledge the problem and the way how to solve the Problem.</p> <p>- Conducting the seminar of each course once a week or every semester after the assessment.</p>	<p>-Guideline to solve the problem on teaching method, contents and teaching aids.</p>	
<p>2.2 Improvement of curriculum</p>	<p>- Project improvement of curriculum every 4 year in order to study problems/obstacles</p>	<p>- Curriculum in line with society and modern technology.</p>	