

Model Polytechnic College, Painavu

No. A/MPTC/MHRD – PUR/2016-17

Tender Notice

Model Polytechnic College (Under IHRD), Painavu

Idukki District Ph: 04862 – 232246

E – mail: mpainavu@gmail.com

Web: www.ihrd.ac.in

Separate sealed tenders are invited for the supply of the following items.

Sl.No	Name of lab	Tender No.	Cost of tender form
1	Electronic lab	A/MPTC/MHRD – PUR/2016-17(2)	Rs. 959+VAT
2	Electronic lab	A/MPTC/MHRD – PUR/2016-17(2)a	Rs. 949+VAT
3	Computer lab	A/MPTC/MHRD – PUR/2016-17(3)	Rs. 492+VAT
4	Computer lab	A/MPTC/MHRD – PUR/2016-17(3)b	Rs. 996+VAT
5	Computer lab	A/MPTC/MHRD – PUR/2016-17 (4)	Rs. 960+VAT
6	Computer lab	A/MPTC/MHRD – PUR/2016-17(4)a	Rs. 900+VAT
7	Computer lab	A/MPTC/MHRD – PUR/2016-17(4)b	Rs. 978+VAT
8	Computer lab	A/MPTC/MHRD – PUR/2016-17(6)	Rs. 740+VAT
9	Computer lab	A/MPTC/MHRD – PUR/2016-17(7)	Rs. 700+VAT
10	Bio – Medical Lab	A/MPTC/MHRD – PUR/2016-17(8)	Rs. 800+VAT

Tender details and specifications can be had from the IHRD web site: www.ihrd.ac.in

The last date and time of receiving tenders 27.2.2017 at 11 am. Date and time of opening tenders 27.2.2017 at 2 pm.

N.B- Tender cost as per the norms must be accompanied along with the tender in the form of DD in favour of the Principal, Model Polytechnic College, Painavu.

PRINCIPAL

31.1.2017

Model Polytechnic College

Painavu, Idukki

Tender No. A/MPTC/MHRD - PUR/2016-17(2) dtd 16.1.2017

SL. NO	NAME OF ITEMS/SPECIFICATION	UNIT COST	QTY RQD	TOTAL COST
1	<u>LCD Projector</u>	85000	2	170000
	Specification:- Aspect 16:9 Number of Pixels 1920 x 1080 x 3 (2,073,600 pixels x 3) Progressive Brightness 1200 ANSI Lumens Contrast Ratio 3300:1 Power AC100-240V 50/60Hz Dimensions 19.7"W x 16.5"D x 6.3"H Included Accessories Remote control, lens cap, operation manual, power cable, DVI cable (2 meters)			
2	<u>LAPTOP</u>	40000	1	40000
	Specification:- screen resolution 1366*768 screen size 14in processor intel core i7 processor speed 2.3 GHz video card intel HD graphics 3000 audio integrated OS Windows 7 Home premium Wi=Fi Built in webcam Built in mic memory card reader bluetooth memory 6 GB Hard drive 640 GB Battery 9 hours			
3	<u>INTERACTIVE BOARD</u>	75000	1	75000
	Specification;- [Minimum Diagonal size (mm) : 1700,Aspect Ratio 4:3, linux compatibility : Yes, Auto Calibration : Yes]			
4	<u>OPTIONAL ITEMS FOR INTERACTIVE BOARDS AND PANELS</u>	2500	1	2500
	Specification;- Electronic Pen			
5	<u>MULTIMEDIA PROJECTOR</u>	32000	1	32000
	Specification;- [Multimedia Projector with Minimum 10% Zoom Ratio, Resolution : 800 x 600 (SVGA), Brightness : 2500 ANSI Lumens]			
6	<u>Installation of Ceiling Mount Kit</u>	5000	1	5000
	Specification;- (Including 2ft Ceiling Mount, 10 mtr VGA & Power Cables)			
7	Portable Interactive Board Compatibility : Windows	39725	1	39725

8	Vaccum cleaner: high Speed Vacuum Cleaner	6000	4	24000
9	Water Purifier: Electrically operated with UV treated	15000	3	45000
10	PORTABLE VISUALIZER	46000	1	46000
	Specification : Built in Memory High quality 3.2megapixel CMOS Camera sensor Total 3.2M Pixels Output Resolution HD 720p (1280 x 720) Total Zoom 16X Frame Rate 24fps Shooting Area 330 x 248 mm			
Total				479225

Tender No. A/MPTC/MHRD - PUR/2016-17(2)(a) dtd 17.1.2017

SL. NO	NAME OF ITEMS/SPECIFICATION	UNIT COST	QTY RQD	TOTAL COST
1	<u>Modem</u>	1500	5	7500
2	USB Drive 8 GB	600	5	3000
3	48 Port Hub: Specification:Network Interface: RJ-45: 100ohm, UTP/STP cable 10/100Base – EIA/TIA Categories 3 or 5 cable, Switching Method: Store – and – forward, Switch Fabric: 4.8Gbps, MAC Address Table: 8,000 entries, AC input: 100 to 240 VAC, 50 to 60 Hz	25000	3	75000
4	Network Cable (in meter)	75	500	37500
	Specification:- Freequency : 600MHz			
	Attenuation: 24dB			
	Characteristic Impedence: 100 ohms ± 15%			
	Propagation Delay: 548nsec			
	Topology:Physical Star			
Cable: OFC/ UTP				
5	Connector: RJ 45	20	400	8000
6	Network cable tester: Cable tester for RJ45 UTP, 10/100 COAX and TP (TC-NT2)	1200	5	6000

7	Crimping Tool kit: All in one Crimper for WE/SS- style data and phone cable provides multi fuction cutting Stipping and crimping, crimpes RJ45, RJ11/12, RJ22 handset plugs, Cuts and strips round UTP/STP common data cable	500	10	5000
8	External hard disk drive	2500	5	12500
	Specification:-			
	500gb portable usb 2.0			
9	SERVER COMPUTER Specifications: Two Processors Processor: Intel Xeon Quad Core, Configuration: Rack, CPU : Intel Xeon E 5506, 2.13 GHz ,4MB L3 Cache 800, Chipset : Intel 5500 or better, Memory : 8GB 1067/1333 MHz DDR3 RAM, Hard Disk Drive : 3 x 300 GB, 10,000 rpm SAS, Monitor : 43.2 cm (17") TFT/wide TFT, 110 Keys Keyboard, Mouse: Rack Mounted, DVD ROM : 8x or better DVD, Networking : Dual LAN (10/100/1000) NIC	120000	1	120000
10	Air Conditioner: 2 Ton Air conditioner with 5 star power conception Thermostat, 4Speed, turbo cooling	50000	4	200000
Total				474500

Tender No. A/MPTC/MHRD - PUR/2016-17(3) dtd 18.1.2017

SL. NO	NAME OF ITEMS/SPECIFICATION	UNIT COST	QTY RQD	TOTAL COST
1	Voltmeter 0-10 V	600	40	24000
2	Voltmeter 0-1 V	600	40	24000
3	Voltmeter 0-30 V	600	40	24000
4	Voltmeter 0-60 V	600	40	24000
	Specification:-			
	Display			
	Measurement Range/Resolution			

	Accuracy			
	Input Impedance			
	Frequency response			
	AC/DC Converter			
	Polarity			
	Zero Adjustment			
	Sampling Time			
	Operating Temperature			
	Power Supply			
	Power Consumption			
	Input Terminal			
5	Ammeter 0-100 microA	750	40	30000
6	Ammeter 0-1 mA	750	40	30000
7	Ammeter 0-10 mA	750	40	30000
8	Ammeter 0-20 mA	750	40	30000
9	Ammeter 0-100 mA	750	40	30000
	Specification:-			
	Display			
	Measurement			
	Range/Resolution			
	Accuracy			
	Voltage drop of the full scale			
	Overload Protection			
	Frequency response			
	AC/DC Converter			
	Polarity			
	Zero Adjustment			
	Over-Input			
	Safety			
	Sampling Time			
	Operating Temperature			
Power Supply				
Power Consumption				
Total				246000

Tender No. A/MPTC/MHRD - PUR/2016-17(3) b dtd 20.1.2017

SL. NO	NAME OF ITEMS/SPECIFICATION	UNIT COST	QTY RQD	TOTAL COST	
1	<u>LCR Meter</u>	18000	10	180000	
	Specification:-				
	Parameter L-Q, C-D, R-Q and Z-Q				
	Frequency 100 Hz, 120 Hz and 1 KHz				
	Accuracy Basic Accuracy : 0.3%				
	5 digits display for both primary and secondary				
	Measurement Range				
	L - 100 Hz, 120Hz 1mH - 9999H, 1KHz 0.1mH - 999.9H				
	C - 100 Hz, 120Hz 1pF - 9999mF, 1KHz 0.1pF - 999.9mF				
	R, Z - 0.0001W - 999.9 MW				
D, Q - 0.0001 - 9999					
2	Decade resistance box	5500	10	55000	
	Range				0 to 100M Ω
	Resolution				1 Ω steps
	Decade				Accuracy
	1 Ω				\pm 1%
	10 Ω				\pm 0.5%
	100 Ω , 1 K Ω , 10k Ω , 100k Ω				\pm 0.1%
	1M Ω				\pm 0.1%
	10M Ω				\pm 1%
	Residual Resistance				Less than 250m Ω
	Power Rating				1 watt per resistor
	Voltage Rating				Maximum 250V DC/AC RMS
	Temperature Coefficient				50ppm/ $^{\circ}$ C
3	Decade Capacitance box	5000	10	50000	
	Range				0 to 100 μ F
	Resolution				10pF steps
	Residual Capacitance				Approximately 55pF
	Decade				Capacitor Type
	10pF, 100pF, 1 nF, 10 nF				Silver mica
	100nF, 1 μ F				Polycarbonate
10 μ F	Polyester				
4	Decade Inductance box	6000	10	60000	
	Range				0 to 10H
	Resolution				1mH steps

	Decade	Accuracy at 1kHz			
	1mH, 10mH, 100mH, 1 H	3%			
	Residual Resistance	Less than 0.2Ω			
	Residual Inductance	Less than 1μH			
	Voltage Rating	Maximum 30V AC rms (non-switching). Subject to max current rating.			
	Temperature Coefficient	0.1%/°C			
5	<u>Rheostat 500 W 300 mA</u>		300	30	9000
	Specification:-				
	Sliding Rheostat;				
	This Sliding Rheostat has nickel and copper alloy resistance wire; uses the oxide film insulating layer onto porcelain tube				
	Sliding pole				
	Surroundings temperature: -10°C~+40°C. It can continuously work under relative humidity ≤85%.				
	Three 4mm sockets				
	The total length of rheostat: 150mm				
	Diameter of Tube: 30mm				
6	<u>Rheostat 1K 300 mA</u>		300	30	9000
	Specification:-				
	Sliding Rheostat;				
	This Sliding Rheostat has nickel and copper alloy resistance wire; uses the oxide film insulating layer onto porcelain tube				
	Sliding pole				
	Surroundings temperature: -10°C~+40°C. It can continuously work under relative humidity ≤85%.				
	Three 4mm sockets				
	The total length of rheostat: 150mm				
	Diameter of Tube: 30mm				
7	<u>Rheostat 2.2K 100 mA</u>		300	30	9000
	Specification:-				
	Sliding Rheostat;				
	This Sliding Rheostat has nickel and copper alloy resistance wire; uses the oxide film insulating layer onto porcelain tube				
	Sliding pole				
	Surroundings temperature: -10°C~+40°C. It can continuously work under relative humidity ≤85%.				
	Three 4mm sockets				

	The total length of rheostat: 150mm			
	Diameter of Tube: 30mm			
8	AUTOMATIC WIRE STRIPPER Specifications: Automatic wire stripper for Wires from 0.2-6.0 mm (AWC 24 - t0) No adjustment necessary for different Suitable for wires with insulation of PVC and other materials Adjustable length scale from 6,0 - 15,0 mm Outside safety wire cutter for wires up to max.2,5 mm' Pliers body made of fiberglass-reinforced polyamide	1000	10	10000
9	Spiral Binding machine: • manual spiral binding machine • A4 size • punch selecting facility	6000	2	12000
10	Component Organizer: Length : 400mm,H :250mm,Depth:160mm , No of Boxes :25 Drawer Spec:L:150mm H:35mm,W:70mm	3000	10	30000
11	Wire Stripper Chrome vanadium Steel Hardened & tempered	100	40	4000
12	CRO Probe	100	200	20000
	BNC TO Crocodile connector			
	BNC TO BNC connector			
13	CRO Probe Holder	3000	10	30000
Total				498000

Tender No. A/MPTC/MHRD - PUR/2016-17(4) dtd 21.1.2017

SL. NO	NAME OF ITEMS/SPECIFICATION	UNIT COST	QTY RQD	TOTAL COST
1	8051 Microcontroller Kit Specification:- 8051 Microcontroller Kit with Power Supply 8051/89C52 CPU operating @ 11.0592 MHz. 32K user RAM using 62256 with Battery Backup using NICD Battery 16K bytes of powerful monitor EPROM using 27512. One memory socket is provided for expansion up	12000	40	480000

<p>to 64k 48 I/O lines using 2 Nos. of 8255 brought at 26 Pins FRC Connector to interface with IC-XX Series. Three Channel Timer/Counter using 8253 brought out at 10 Pins FRC Connector. 20x2 Alphanumeric LCD Display with Backlite. 101 ASCII Keyboard interface using 89C2051 operating @ 12MHz. Two External interrupts INT0 & INT1 are available at 40 pin FRC connector. RS-232C using RX/TX of 8051 terminated on 9 Pins D-Type Connector.. Onboard Single Line Assembler / Disassembler. Two modes of operation:- ASCII Keyboard Mode.- Serial Mode. Facility for Downloading/Uploading files from/to PC. All Address, Data, Control & Port lines are available on 40 Pins & 10 Pins FRC Connector. All ICS are mounted on IC Sockets. In-Built Power Supply of +5V/1.5A, ±12V/250mA 8bit ADC & DAC interface, Stepper motor Interface, Seven segment display Interface, Temperature measurement Interface</p>			
Total			480000

Tender No. A/MPTC/MHRD - PUR/2016-17(4)a dtd 23.1.2017

SL. NO	NAME OF ITEMS/SPECIFICATION	UNIT COST	QTY RQD	TOTAL COST
1	<p>Embedded AVR Trainer Kit: Specification: High performance MCU, 8 bit 32K program flash, 8 bit I/O, ISP programming facility, USB to USART converter, RS 232 interface, On board LEDs (8 to 16 Nos.), 8 way dip switch, onboard 16X2 LCD, Seven segment display (min. 4 Nos.), Temperature sensor interface, onboard 12 V relay driver, onboard 4X4 keyboard interface, onboard stepper motor driver, Onboard supply: +/- 12 V, 5 V, Supply input voltage: 230 V AC</p>	15000	30	450000
Total				450000

Tender No. A/MPTC/MHRD - PUR/2016-17(4) b dtd 24.1.2017

SL. NO	NAME OF ITEMS/SPECIFICATION	UNIT COST	QTY RQD	TOTAL COST
1	Digital IC Trainer Kit	8000	30	240000
	Indicators			
	10 TTL/ CMOS Logic Level Inputs with Dual Colour LED indication for Logic low and logic high			
	10 LED for output indication			
	Clock generator			
	Fixed Clock generation of 1Hz,10Hz,100Hz,1KHz,10KHz,100KHz and 1MHz			
	Pulse generator :Logic Pulser provides single pole double throw bounce less pulses of Low to high and high to low transitions .			
	Logic Probe: Logic probe facility provided with LED indicators to indicate High,Low,and Tri-state			
	Potentiometers:Variable potentiometers of 1k,10k,100k provided on board			
	Bread Board Area FourDistribution Strip of 100 tie points each totaling 400tie ,Two Terminal Strip 630 tie Points totaling 1260 tie points			
	Function Generator : Provides Sine,Square and Triangular output waveforms ,			
	Display : Four digit seven segment LED display			
	Power Supplies : Fixed DC Power Supply +5V,+12 V			
	One IC each of 7400,7402,7408,7432,7404,7490,7495,7486,7447, 7476			
2	<u>Universal IC Tester</u>	63000	3	189000
	Specification:-			
	Tests a wide range of Digital IC's such as 74 Series, 40/45 Series			
	It can test the following items			
	Peripherals 8255, 8279, 8253, 8259 8251, 8155,			
	Microprocessor 8085, 8086, Z80.			
	Tests a wide range of Analog Ic's such as ADC, DAC, Opamp, 555, Transistor Arrays, Analog Switches, Waveform Generator Line Drivers, Voltages References opto couplers, Comparators, Voltages Followers and Others.			
	Display: 16x2 Backlit LCD Display			
Supply Input Voltage: 230V AC.				
3	4 1/2 Auto Range Digital Multimeter	3000	20	60000
	DCV			
	200mV/2V/20V/200V/1000V			

ACV			
200mV/2V/20V/200V/750V	±(0.8%+10dgt) on all ranges except ±(1.0%+15dgt) on 750V		
DCA			
2mA/20mA/200mA/20A	±(0.5%+5dgt)on 2/20mA ±(0.8%+5dgt)on 200mA ±(2.0%+10dgt)on 20A		
ACA			
20/200mA/20A	±(0.8%+10dgt)on 20/200mA ±(3.0%+10dgt) on 20A		
Resistance	200Ω/2KΩ/20KΩ/200kΩ/2MΩ/ 200MΩ		
Capacitance	20nF/200nF/2/200μF		
Frequency	20KHz		
Diode Test ,Hfe test,Overload Protection,Continuity buzzer,Data Hold,Capacitance,			
Total			489000

Tender No. A/MPTC/MHRD - PUR/2016-17 (6) dtd 25.1.2017

SL. NO	NAME OF ITEMS/SPECIFICATION	UNIT COST	QTY RQD	TOTAL COST	
1	<u>PCB DESIGN & FABRICATION UNIT</u>		250000	1	250000
	Specification :-				
	PCB Artwork Film Maker	Supply : 230 V AC ±10%, 50 Hz			
		Operating Mode : Manual / Automatic			
		Timer : Adjustable from 1 Sec to 10 Sec with 1 sec interval			
		Display : 16 x 2 LCD for timer and lamp status display			
		Exposing area : 20" x 10"			
		Buzzer : For timer indication			
		Lamp indicator : Status of internal exposing lamp			
	Photo Resist Dip Coating Machine	Supply : 230 V AC ± 10%, 50 Hz			
Timer : Adjustable from 1 Sec to 30 Sec at interval of 5 sec					
Display : 16 x 2 LCD for timer					
Buzzer : For timer indication					
Dipping area : 12" x 10"					
PCB Shearing	Mounting Base : Table Mounted				

Machine	/ Floor Mounted			
	Cutting Area : 12"			
Artwork Table	Supply : 230 V AC \pm 10%, 50 Hz			
	Light Exposed area : 17" x 13"			
Solderable Lacquer Tank	Supply : 230 V AC \pm 10%, 50 Hz			
	Timer : Adjustable			
	Display : 16 x 2 LCD for timer			
	Buzzer : For timer indication			
	Dipping area : 12" x 10"			
PCB Curing Machine	type: Blower			
	Heating area: 12" x 12"			
PCB Designer Kit				
Drill Machine	Supply : 230 V AC \pm 10%, 50 Hz			
	rpm : 1500 (adjustable)			
	Drill bit: 0.8 mm, 1mm			
UV Exposure Unit	Supply : 230 V AC \pm 10%, 50 Hz			
	Timer : Adjustable			
	Exposing area : 20"X 10"			
	Display : 16 x 2 LCD for timer			
Etching Machine	Supply : 230 V AC \pm 10%, 50 Hz			
	Spray etching			
	0.6 HP Spray motor			
	Display : 16 x 2 LCD for timer			
2	<u>Function generator10MHz</u>	10000	12	120000
	specification:-			
	Sine, Triangle, Square Output Waveforms			
	Easy Control of Generator Frequency			
	Frequency Readout in Hz, KHz, MHz			
	Output Attenuation upto 40dB			
	Low Cost			
	Frequency Range Sine : 1Hz to 10MHz.			
	Square : 1Hz to 5MHz.			
	Triangle : 1Hz to 1MHz.			
	Accuracy \pm 1% of the range.			
	Output Waveform Sine, Triangle, Square.			
	Output Level 20V p-p (without termination)			
	10V p-p (into 50 ohms termination).			
	Rise & Fall Time 100ns at 1MHz (typically).			
	Sine Wave Distortion <3%.			
	AC Mains Power 230V \pm 10%, 50Hz. Optional 115V AC \pm 10%.			
	Dimensions (mm) (approx.) 241 (W) x 66 (H) x 270 (D) w/o packing / 325 (W) x 153 (H) x 380 (D) with packing.			

Weight (approx.) 3 Kg. approx. (w/o packing) / 4 Kg. (with packing).			
Standard Accessories BNC to BNC Co-axial			
Cable - 1 No.			
Operation Manual - 1 No			
Total			370000

Tender No. A/MPTC/MHRD - PUR/2016-17 (7) dtd 27.1.2017

SL. NO	NAME OF ITEMS/SPECIFICATION	UNIT COST	QTY RQD	TOTAL COST	
1	<u>Centrifuge</u>	18000	2	36000	
	Specification:-				
	Wavelength Range				400 nm to 700 nm with 8 optical filters
	Filter's peak wavelength				420 nm, 440 nm, 490 nm, 520 nm,
	(typical)				540 nm, 570 nm, 600 nm, 700 nm.
	Measuring Modes				%T&Abs
	Photometric Resolution				1% T & 0.01 in Abs upto 1.99 Abs (O.D.)
	Display				3-Digit LED
	K-Factor Range				
	Concentration				
	Memory				
	Sample Volume				1ml in 4ml Test tube
	Source				White LED
	Detector				Hermetically Sealed photodiode
	Printer Port				
	Power				230V ±10%, 50 Hz
	Dimension				160 (W) X 200 (D) X 100 (H) mm
	Weight				1.5 Kg (Approx)
Accessories	a) Four test tubes				
2	<u>pH Meter</u>	16000	2	32000	
	Specification:-				
	pH range				0 to 14.00pH
	millivolt range				0 to ±1999mV
	Slope correction				85% to 115%
	Resolution				0.01 pH, 1mV mode

	Standardisation range	±1pH			
	power	230v±50Hz			
3	<u>Centrifuge</u>		10000	2	20000
	Specification:-				
	cap	4×15 ml			
	rpm	4500			
	Power	230V ±10%, 50 Hz			
4	<u>Glucometer</u>		1000	2	2000
	Specification:-				
	Test Sample	Whole blood			
	Test Result	Plasma equivalent			
	Sample Volume	1.5 micro L			
	Measuring Range (mg/dL)	19.8-599.4			
	Measuring Time (sec)	5			
	Memory Feature	Last test memory			
	Battery Type	One non replaceable 3.0 V lithium battery			
	Battery Life	4 years			
	Operating Temperature Range	12 to 42 C Deg			
	Coding	Coding required			
Strip format	Single				
5	<u>Heart Rate Monitor cum ECG Trainer</u>		18000	2	36000
	Specification:-				
	Self contained and easy to operate				
	3 Digit Digital display of heartbeats/minute				
	On board Heartbeat event indicator				
	Separate test points to observe ECG waveforms after each block				
	On board one minute indicator				
	User selectable Heart Rate, Bradycardia limit, Tachycardia limit display				
6	<u>B.P. Apparatus</u>		5000	1	5000
7	<u>Respiration-Rate Monitor</u>		17000	2	34000
	Specification:-				
	Self contained and easy to operate.				
	User selectable Respiration-Rate, Tachypnea limit display.				
	On board Tachypnea and Apnea Indicator.				
	On board Tachypnea limit adjustment.				
User selectable Apnea period control.					

	On board Respiration event Indicator.			
	3 Digit Digital display of breaths/minute.			
	On board sensitivity control and noise rejection.			
	User selectable buzzer for abnormality indication.			
	On board Reset arrangement for display and one minute timer			
8	<u>Electro-Myograph Trainer</u>	20000	1	20000
	Specification:-			
	Separate test-points to observe waveforms after each block			
	Provides amplified real time EMG output			
	Inbuilt EMG Simulator			
	Provides information about 10 simulated EMG outputs			
	Visible LED indication for all the simulated EMG outputs			
9	<u>Phonocardiograph Trainer</u>	19000	2	38000
	Specification:-			
	Provides amplified Phonocardiogram output.			
	User selectable filter section.			
	On board Variable gain control facility.			
	Separate test-points to observe waveforms after each block.			
	Buffer stage for oscilloscope display.			
	With Real time PCG acquisition software.			
Self contained and easy to operate and Specially designed for educational purpose.				
10	<u>Heart/Pulse Rate Measurement Trainer</u>	21000	2	42000
	Specification:-			
	Provide amplified pulse output			
	On board variable gain control facility			
	Separate test points to observe waveform after each block			
	Self contained and easy to operate			
	LCD display for different accuracy level			
Accuracy +4%				
11	<u>Blood Pressure Measurement (Oscillometric)</u>	37000	1	37000
	Specification:-			
	Provide accurate value of systolic and diastolic pressure			
	Separate test points to observe the waveform after each block			
	Self contained and easy to operate			
	Provide LCD display facility			
	Korotkoff sound can also be detected using headphone			
	Oscilloscope can be used to observe the waveform			

	Specially designed for educational purpose			
12	<u>Single Channel ECG Telemetry Trainer</u>	22000	1	22000
	Specification:-			
	Provides amplified ECG output with P, Q, R, S, T, U waves.			
	Inbuilt ECG Simulator and Real Time ECG Measurement System.			
	Provides depth study of all Standard Unipolar and Bipolar Leads Configuration of ECG Measurement.			
	Variable Heart-Rate Generation from 30-300 Heartbeats/Minute.			
	Variable ECG amplitude 200mV ? 4V DC.			
	Every Systole indication is given by LED (visible).			
	Provides 12 leads real time amplified ECG output.			
13	<u>12 Lead Real Time ECG Trainer</u>	20000	1	20000
	Specification:-			
	Provides in-depth study of Standard Unipolar and Bipolar Leads Configuration for all ECG wave measurement in real time.			
	Inbuilt touch screen 7.5 LCD for examining wave shapes and measurements.			
	Provides on screen information about different types of heart diseases (Bradycardia & Tachycardia).			
	Provides on screen information about leads connection and electrode placement on the patient body.			
On screen Amplitude and heart frequency calculation.				
On screen Calculation of wave duration and wave interval				
14	Stethoscope: Double sided chest piece with diaphragm on both sides, Yshaped tubing with concealed spring	200	5	1000
15	Sphygmomanometer: Portable type, cloth cuff, Velero grip, rubber bulb	1000	5	5000
Total				350000

Tender No. A/MPTC/MHRD - PUR/2016-17 (8) dtd 28.1.2017

SL. NO	NAME OF ITEMS/SPECIFICATION	UNIT COST	QTY RQD	TOTAL COST
1	Digital steel Podium	37000	1	37000

	Built in 60W RMS Amplifier			
	Built in three 4" Woofer & 2 " Tweeter			
	One flexible Gooseneck Microphone			
	One Led Gooseneck light			
	Two VHF Handheld microphones			
	MIC2/line output for speaker			
	ACpower switch and light power operation			
	Wooden top, steel body and bottom			
2	<p>POWER AMPLIFIER 350W</p> <p>Power Output : 450W Max., 350W RMS at 10% THD 320W RMS at 5% THD, 300W RMS at 2% THD</p> <p>Output Regulation: 2 dB, no load to full load at 1kHz</p> <p>Input Channels: 7 × Mic 0.8mV/4.7k, 1 × Aux 100mV/470k ,1 × Aux 200mV/470k, 1 × Line 1V/50k</p> <p>Frequency Response : 50-15,000Hz ±3dB</p> <p>Signal to Noise Ratio: 60dB</p> <p>Outputs: Preamp 200mV/600, Line 1V/1k Speaker Outputs: 4Ω, 8Ω, 70V & 100V</p>	21000	1	21000
3	<p>DJ MIXER</p> <p>Mic Input (Impedance/Gain) :2kohm Balanced/62 dB 1k Unbalanced/62dB</p> <p>Line Input (Impedance/Gain):20kohm Balanced/42dB 10k Unbalanced/42dB</p> <p>THD : < 0.1 %</p> <p>Frequency Response : 20Hz-18 kHz (-1dB)</p> <p>Equalisation (Bass/Treble) : ±12dB at 100 Hz / ±12dB at 10kHz</p> <p>Line Output L/R Nominal : 0dBm (775mv)</p> <p>Maximum :+18dBm (6.5V)</p> <p>Output Impedance :600ohm</p> <p>S/N Ratio : > 68dB</p> <p>Clip LED Indication : 4dB prior to true clip</p>	14500	1	14500
4	<p>Microphone Stands</p> <p>Type : Table/Floor Stand</p> <p>Height :350-530 mm</p> <p>Base Dia : 150 mm</p> <p>Weight : 2.20kg</p>	4000	5	20000
5	<p>MICROPHONE</p> <p>Unidirectional Dynamic</p> <p>Speech & Vocal</p>	4500	6	27000

	frequency Response	50-16,000Hz			
	Sensitivity	2mV/Pa			
	Impedance	300			
6	LoudSpeaker 100W		6000	2	12000
7	LoudSpeaker 200W		10000	2	20000
8	LoudSpeaker 500W		15000	2	30000
9	Public Address System: PA System with 250W RMS, 6 Channel MIC input, 4ohm, 8ohm 70V and 100V, Two BOX Type Speakers 8W RMS		30000	1	30000
10	<u>5KVA Portable silent Diesel generator</u>		150000	1	150000
	Rating : 5 KVA				
	Phase : Single				
	Frequency : 50 hz				
	Voltage : 230 volts				
	Power Factor : 0.8				
	Starting System : Electric				
	Fuel Tank : 12.5 ltrs				
	Weight : 195 kg				
	Size : 1140 * 550 * 820				
	ENGINE:				
	Model : CC418				
	BHP : 7.5				
	No.Of Cylinder : 1				
	Displacement : 418 cc				
	RPM : 3000				
	Bore*stroke : 86*72 mm				
	Cooling: Air cooled				
	Aspiration: Naturally inspirated				
Type: 4 stroke, Diesel					
CONTROL PANEL:					
Voltmeter : Yes					
Voltage Indicator Lamp: Yes					
MCB: Yes					
11	WIRELESS MICROPHONE		3900	6	23400
12	PUBIC ADDRESS WALL SPEKERS		3000	5	15000
Total					399900

PRINCIPAL