

GOVERNMENT ENGINEERING COLLEGE, KOZHIKODE-673005	
NOTICE INVITING (Re) E-TENDER	
No.P1/4540/23/GECK	02-05-2024
Tender No.	P1/01/2024-25
Subscription	Supply of Prototype developing tools for TBI of this institution.
Last date and time of receipt of tender	22/05/2024 3 PM On the website (www.etenders.kerala.gov.in)
Date and time of opening of tender	23/05/2024 3 PM
Bid Validity	120 days
Bidding Fee	₹.700/- + GST 126/-
E.M.D required	₹.3,566/-

Conditions:-

Price : Should include all charges and taxes which specifically stated.

Payment : Will be made only after the successful supply, installation of the items as per supply order.

Delivery F.O.R : Government Engineering College, Kozhikode.

Agreement : Preliminary Agreement in **Kerala Stamp Paper worth ₹.220/- (preliminary agreement shall be uploaded without fail otherwise bid will not be considered)**

Delivery Condition : Within 4 weeks from the Supply Order

Guaranty / Warranty : (1year) specified in the specification of items list

Date of opening : In case the proposed date declared as holiday, the tender will be opened on the next working day in the same time.

Special conditions

- The bidder must furnish name of institutions (under this department and others) in Kerala where the same items were supplied.
- Proforma Report / Original Pamphlet / Warranty Certificate / Preliminary Agreement in **Kerala stamp paper worth ₹.220/-** are required.
- The demonstration of the item / equipment will have to be arranged by the bidder before the evaluation committee during technical evaluation and if any of the items / equipment is not found suitable and / or up-to-the mark by the Committee, the same be liable to be rejected.
- The firm must have proven knowledge and expertise in standard system installation, commissioning and providing training.
- The price must be quoted in INR ₹.
- After E-tendering the hard copies of all the tender documents except BOQ/Schedule should be submitted to the Principal, Government Engineering College, Kozhikode and cover should be superscribed with the tender id, closing date and opening date of the tender.

NB: The tender procedure will be made as per Rules mentioned in the Revised Store Purchase Manual. The bidders should participate this tender through E-tendering system. Tender cost and EMD should be submitted only through online. for more details contact phone number 0495 2383220.

REGHURAJ P C

PRINCIPAL, EC



Signed by Reghuraj P C
Date: 02-05-2024 15:00:57
Reason: Approved

APPROXIMATE ESTIMATE OF ITEMS AND JUSTIFICATION

SINo	Description	Qty
1	<p>Development Board</p> <p>Operating Voltage 5V Input Voltage (recommended) 7-12V Input Voltage (limit) 6-20V Digital I/O Pins 54 (of which 15 provide PWM output) Analog Input Pins 16 DC Current per I/O Pin 20 mA DC Current for 3.3V Pin 50 mA Flash Memory 256 KB of which 8 KB used by bootloader SRAM 8 KB EEPROM 4 KB Clock Speed 16 MHz LED_BUILTIN 13 Length 101.52 mm Width 53.3 mm Weight 37 g</p>	3
2	<p>Development Board</p> <p>Microcontroller: LPC2148 with 512K on chip memory. Crystal for LPC2148: 12Mhz. Crystal for RTC: 32.768KHz. 50 pin Berg header for external interfacing. Operating Supply: 9V DC/AC. 2.4GHz ZigBee (XBee) wireless module adaptor. 512 bytes of I2C external EEPROM. USB Type B Connector.</p>	3
3	<p>Raspberry-Pi 3</p> <p>Quad Core 1.2GHz Broadcom BCM2837 64bit CPU. 1GB RAM. BCM43438 wireless LAN and Bluetooth Low Energy (BLE) on board. 100 Base Ethernet. 40-pin extended GPIO. 4 USB 2 ports. 4 Pole stereo output and composite video port. Full size HDMI.</p>	5

SINo	Description		Qty	
4	Micro SD card (16 GB)	Capacity 16 GB Standard SDA 3.0 Dimensions (L x W x H) 5 x 11 x 1.0mm Weight 0.25g Voltage 2.7~3.6V Performance Seq Read/Write rate up to 50 / 10 (MB/s)** Random Read/Write: 1400 /100 (IOPs)** Certifications FCC, CE, BSMI, VCCI Warranty 5 Years Note **Read/write speed based on internal testing; performance may be lower depending on host device. Speed Class Speed Class: Class 10 Compatibility Smartphone/ Tablet/ Car black box Operating temperature -25°C (-13°F) ~ 85°C (185°F)		3
5	USB Adapter 2A	Adapter type: Switching Input voltage: 100 ... 240 V AC AC input frequency: 50 / 60 Hz Output voltage: 5.0 V DC Output current: 2.0 A Output power: 10.0 W Output: USB-A Color: White Weight: 0.032 kg Dimensions: 69 x 37 x 22 mm Warranty: 2 years		6
6	12 V, 1 Amp SMPS	Input Rating : 110-240V AV 50Hz. Output Rating : 12V DC 1Amp 15Watt Peak Load. Size (LWH) : 40X40X22mm. Working Temperature : 0 to 70 degree celsius. 3 Months Brand warranty excluding physical and liquid damage.		1
7	Zigbee Modules 100m range	Supply voltage: 2.8V to 3.4V; Average current consumption at 3.3V: 50mA; Maximum transfer rate 250 kbps; Frequency: 2.4 GHz; Output 1 mW (+ 0 dBm); Transmission range: 100 m; FCC certificate; 6 input ADC (10-bit) input pins; 8 pin digital IO; 128-bit encryption Local or Wireless Configuration; Accepts the AT or API command set;		6

SI No	Description		Qty
8	Zigbee Modules Adapter	<p>Compatible with all ZigBee modules (Series 1 and Series 2.5, standard and Pro)</p> <p>The built-in 3V3 Voltage regulator</p> <p>Onboard 3V3 <->5V level converter (easy to interface 5V Devices)</p> <p>Status LEDs (RX,TX,RSSI,Power)</p> <p>Zig Bee Pins available at 2.54 mm berg strip</p> <p>USB Powered.</p> <p>Small footprint.</p> <p>All XBee pins are broken out.</p> <p>Reset button.</p>	6
9	Metal-gear Servo Motors	<p>Power: 4.8V - 6V DC max</p> <p>Avg Speed: 60° in 0.20 sec (@ 4.8V),</p> <p>60° in 0.16 sec (@ 6.0V)</p> <p>Weight: 62.41g.</p>	6
10	ESP8266 Development Board	<p>Processor: L106 32-bit RISC microprocessor core based on the Tensilica Diamond Standard 106Micro running at 80 or 160 MHz.</p> <p>Memory: ...</p> <p>External QSPI flash: up to 16 MiB is supported (512 KiB to 4 MiB typically included)</p> <p>IEEE 802.11 b/g/n Wi-Fi. ...</p> <p>17 GPIO pins.</p> <p>Serial Peripheral Interface Bus (SPI)</p>	2
11	ESP32 Development Board	<p>Microcontroller: Tensilica 32-bit Single-/Dual-core CPU Xtensa LX6.</p> <p>Operating Voltage: 3.3V.</p> <p>Input Voltage: 7-12V.</p> <p>Digital I/O Pins (DIO): 25.</p> <p>Analog Input Pins (ADC): 6.</p> <p>Analog Outputs Pins (DAC): 2.</p> <p>UARTs: 3.</p> <p>SPIs: 2.</p>	2
12	2-Channel Relay Board (12 volt)	<p>Power supply: 12V.</p> <p>Coil voltage: 12V.</p> <p>Max switching voltage: 250VAC / 30VDC.</p> <p>Max switching current: 10A.</p> <p>logic: 5V.</p>	2
13	2-Channel Relay Board (5 volt)	<p>Supply voltage – 3.75V to 6V</p> <p>Trigger current – 5mA</p> <p>Current when relay is active - ~70mA (single), ~140mA (both)</p> <p>Relay maximum contact voltage – 250VAC, 30VDC</p> <p>Relay maximum current – 10A</p>	2

SINo	Description	Qty
14	L298N Motor Driver Module	4
15	Quad Encoder Geared DC Motor 200 RPM, 12 V DC	8
16	Micro servo motors	4
17	L3G4200 3 axis digital gyroscope	2
18	LSM303 3 axis digital accelerometer and 3 axis magnetometer	2

Driver Model: L298N 2A
 Driver Chip: Double H Bridge L298N
 Motor Supply Voltage (Maximum): 46V
 Motor Supply Current (Maximum): 2A
 Logic Voltage: 5V
 Driver Voltage: 5-35V
 Driver Current: 2A
 Logical Current: 0-36mA
 Maximum Power (W): 25W
 Current Sense for each motor
 Heatsink for better performance
 Power-On LED indicator

Motor with Quad encoder
 200RPM 12V DC motors with Metal Gearbox and Metal Gears
 4680 Counts per Revolution.
 6mm Dia shaft with M3 thread hole
 Gearbox diameter 37 mm.
 Motor Diameter 28.5 mm
 Length 84.5 mm without shaft
 Shaft length 30mm
 170gm weight
 13.5kgcm Holding Torque
 No-load current : 800 mA, Load current : upto 7.5 A(Max)

Operating Voltage is +5V typically · Torque: 2.5kg/cm · Operating speed is 0.1s/60° · Gear Type: Plastic · Rotation : 0°-180° · Weight of motor : 9gm

Current draw: 6.7mA @ 3.3VDC, 7mA @ 5VDC. Communication: I2C (up to 400kHz) or SPI (10MHz; 4 & 3 wire) Dimensions: 0.85 x 0.80 in (2.16 x 2.03cm) Operating temp range: -40 to +185 °F (-40 to +85 °C)

Onboard 3.3V Low Drop voltage regulator with input range of 3.6V to 6V. Logic supply voltage range of 1.8 to 3.3V. Logic supply pin is accessible through 9 pin header
 Dimensions: 0.9”(L) X 0.5”(W)
 2 x Mounting holes
 3 magnetic field axis and 3 acceleration axis
 Full scale range of ± 1.3 to ±8.1 gauss magnetic field
 ±2g/±4g/±8g/±16g user selectable full-scale acceleration ranges
 16 bit data output
 I2C serial interface
 Power-down mode/ low-power mode
 2 independent programmable interrupt generators for free-fall and motion detection
 Embedded temperature sensor
 6DOF orientation detection

SINo	Description		Qty
19	Gyroscope, accelerometer and GPS interfacing module for the robot	Operating Voltage 5V (typical) Accelerometer Range $\pm 2g, \pm 4g, \pm 8g, \pm 16g$ Gyroscope Range $\pm 250^\circ/s, \pm 500^\circ/s, \pm 1000^\circ/s, \pm 2000^\circ/s$ Temperature Range -40 to +85°C Absolute Maximum Acceleration Up to 10,000g	2
20	GPS receiver	48 Channel . Frequency LI 1575 MHz, 3.0-3.6 V DC, Position Accuracy 2.5 m, Prorocol- NMEA SiRF Binary , Module Interface - I2C, SPI, UART	2
21	Two Axis Camera pod with Wireless Camera	Image sensor CMOS Image sensor size 1/2.8 Lightfinder Lightfinder 2.0 Wide dynamic range Forensic WDR Min illumination/ light sensitivity (Color) 0.05 lux Min illumination/ light sensitivity (B/W) 0.01 lux	2
22	USB TV Tuner for Interfacing wireless camera with Laptop (supports windows 8)	Package Dimensions 12 x 8 x 5 cm; 80 Grams Operating System Windows, Microsoft Hardware Interface USB, USB 2.0	2
23	Arduino Uno with sensors	Microcontroller: ATmega328P Operating Voltage: 5V Input Voltage (recommended): 7-12V Inout Voltage (limit): 6-20V Digital I/O Pins: 14 (of which 6 provide PWM output) PWM Digital I/O Pins: 6 Analog Input Pins: 6 DC Current per I/O Pin: 20 mA DC current for 3.3V Pin: 50 mA Flash Memory: 32 KB (ATmega328P) of which 0.5 KB used by bootloader SRAM: 2 KB (ATmega328P) EEPROM: 1 KB (ATmega328P) Clock Speed: 16 MHz LED_BUILTIN: 13 Length: 68.6 mm Width: 58.4 mm Weight: 25 g	10
24	Metal-gear Servo Motors	Size: 40x20x40.5mm Weight: 60g Voltage: 4.8V – 6.6V Stall Torque (4.8V): 18.5 kg/cm Stall Torque (7.2V): 21.8 kg/cm Rotation: 180 Degree Gear: Metal Gear	10

SINo	Description	Qty
25	Sharp GP2D120C infrared range sensor (4cm to 30cm) operating voltage: 4.5 V to 5.5 V average current consumption: 33 mA (typical) distance measuring range: 4 cm to 30 cm (1.5" to 12") output type: analog voltage output voltage differential over distance range: 2.3 V (typical) response time: 38 ± 10 ms package size: 29.5×13.0×13.5 mm (1.16×0.5×0.53") weight: 3.5 g (0.12 oz)	10
26	Sharp GP2Y0A21YK0F infrared range sensor (10cm to 80cm) Operating Voltage (VDC) 4.5 ~ 5.5 Distance measuring range (cm) 10 ~ 80 cm Screw Holes 37mm apart, 3 mm diameter. Connecting cable length - 15 cm Length - 44 mm Width - 18 mm Height - 13 mm Weight - 4gm	10
27	Sharp GP2Y0A02YK infrared range sensor (20cm to 150cm) Operating voltage: 4.5 V to 5.5 V Average current consumption: 33 mA (note: this sensor draws current in large, short bursts, and the manufacturer recommends putting a 10 µF capacitor or larger across power and ground close to the sensor to stabilize the power supply line) Distance measuring range: 20 cm to 150 cm (8" to 60") Output type: analog voltage Output voltage differential over distance range: 2.05 V (typical) Update period: 38 ± 10 ms Size: 44.5 mm × 18.9 mm × 21.6 mm (1.75" × 0.75" × 0.85") Weight: 5 g (0.18 oz)	5
28	Sharp GP2Y0A710K0F infrared range sensor (100cm to 500cm) Supply voltage: 5V - Current: 33-50mA - Detecting range: 100-550cm - Output: Analog, proportional to distance	5

SINo	Description	Qty
29	<p>Maxbotix ultrasonic range sensor</p> <p>Resolution of 1 inch 20Hz reading rate 42kHz Ultrasonic sensor measures distance to objects RoHS Compliant Read from all 3 sensor outputs: Analog Voltage, RS232 Serial, Pulse Width Virtually no sensor dead zone, objects closer than 6 inches range as 6 inches Maximum Range of 254 inches (645 cm) Operates from 2.5-5.5V Low 2.0mA average current requirement Small, lightweight module Designed for easy integration into your project or product Widest beam of the L.V-MaxSonar-EZ sensors Great for people detection applications</p>	5
30	<p>12V Linear Actuator</p> <p>Max Force/Thrust - 8.9 N, External Length- 21.31 mm, Supply voltage - 12 V DC, Product range- 26 DBM-L, Motor Size- 26.16 mm</p>	3
31	<p>12V 1/2 inch solenoid valve</p> <p>Rated Operating Voltage - 12V DC Rated Current - 0.6A Operation Mode Normally Closed Power Consumption - 8W Pressure - 0.02- 0.8Mpa Filtering capabilities Removable cleaning filtration devices Energized forms -mIntermittent Inlet and outlet Dimeter - 1/2" (outer diameter) hose Dimensions (mm) LxWxH - 80 x 88 x 50 Weight (gm) -100</p>	3

For spec. enquiry:- iedc@geckkd.ac.in

*Dr. Francis
Emmatty
(TBI faculty in
charge)*
20/11/2023

[Signature]
**PRINCIPAL
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