

Research Grant for establishment of Centre of Excellence "*Centre of Excellence for Internet of Things*"

Upflairs Pvt Ltd is a Certified ISO 9001:2008, technology service provider and Training Organization. The soul Mission of founders is to facilitate the Education, Research and Development Program; all under one roof. In a very short span of time our team has successfully delivered the impactful service to more than 350 colleges, including the most prestigious institutions of India, such as Techfest-IIT Bombay, Techkriti-IIT Kanpur, IIT Roorkee, nVision IIT Hyderabad, NITs and many more. In the vast growing 'Technical Era' we are rising with a mission to expand the set boundaries of the 'techie-brains' to Explore, Invent and Innovate!

We are here to make learning **ENGAGING, EFFECTIVE & EMPLOYABLE!**

We know that Industry and academics cannot be separated in fact we believe they go hand in hand. We thus have joined hands with academics institutes and universities. We understand that academic institute is looking for industry partners, who can help their students to get hands on experience, and improve employability.

In line with high quality research in academia and in conjunction with the corporate houses, Electronics and Communication Engineering department, JECRC, has launched a first of its kind Centre of Excellence in collaboration with us. CoE is a one stop resource system, working in partnership with industry to raise training standards, boost productivity, address emerging skill gaps and align training & research with industry needs.

As per the communication, the grant will be in form of equipment support to set up a centre of excellence –Internet of Things. Apart from equipments we will provide technical assistance in maintenance and trainers to run the equipments. The total value of our in-kind support will be worth of INR **10 Lakh**, in which first phase we will provide the equipment of INR **7,86,865/-** and the list of the equipment is enclosed along with this letter, with the cost incurred for training and maintenance as well.

We look forward to sign much more projects with you for future endeavors.

Date : 22/09/2021

For Upflairs Private Limited

Siddharth Singh
Authorised Signatory

Mr. Siddharth Singh
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Details of Training Centre Equipment List and Service Cost

S. No.	Name	Items Description	Qty	Price/Unit	Total
1	AVR development kit	Inbuilt Atmega 16 & Atmega 8 with LCD, 7 Segment, Graphical LCD, Variable power supply	5	23000	115000
2	Atmega 16 development Board	Universal Atmega 16 development board	5	2800	14000
3	Arduino Board development Board	Universal Atmega 8 development board	10	1100	11000
4	Arduino UNO	ATmega 328- 8 bit AVR family microcontroller; Accessories: Case shell enclosure, compatible USB cable(6 inch or more)	5	750	3750
5	Arduino Nano	ATmega 328- 8 bit AVR family microcontroller; Accessories: compatible USB cable(6 inch or more)	5	480	2400
6	Arduino Mega	ATmega 2560P- 8 bit AVR family microcontroller; Accessories: Case shell enclosure, compatible USB cable(6 inch or more)	5	715	3575
7	Raspberry Pi 3 B	Raspberry Pi 3 Model B; Accessories: MicroSD card-32 GB; USB 3.0 cable; HDMI to VGA- 1 meter; HDMI to VGA adaptor; case shell enclose	5	3200	16000
8	Breadboards and Mini Breadboard	Solder less 400 points	5	70	350
9		Solder less 800 points	5	90	450
10		Self-Adhesive Protoshield	5	130	650
11	General Purpose Solder able Board	FR2 A Grade material (140x90mm)	10	35	350
12		FR2 A Grade material (80x55mm)	10	28	280
13	Berg Strips	Female Berg Strip; 2.54mm pitch; 40 pin single row; breakable pin	30	9	270
14		Male Berg Strip; 2.54mm; 40 pin single row; breakable pin	30	12	360
15	16*2 LCD display	Dot Matrix LCD Display with 16 Characters * 2lines 12 C	5	130	650
16	USB Cables	USB Cable Set(A to B); 12 inch	10	48	480
17		USB Cable Set(Mini); 12 inch	10	52	520
18	9 Volt battery,		10	22	220
19	Resistor Kit	One kit contains- 30 carbon film resistors of 20 different resistance values each assorted, packaged together and labeled.	10	98	980
20		Values: 0, 1.5, 4.7, 10, 47, 100, 220, 330, 470, 680, 1k, 2.2k, 3.3k, 4.7k, 10k, 22k, 47k, 100k, 330k, 1M ohm		0	
21	Capacitor Kit	one kit contains: 20 electrolytic capacitors of 10 different capacitance values each	10	115	1150
22		Values: 10pF, 22pF, 100pF, 1nF, 10nF, 100nF, 1uF, 10uF, 100uF, 1000uF		0	
23	Linear Voltage Regulator	7805	30	15	450
24		7812		0	
25		7809		0	
26	Water Pump Module	DC 12V 3W Submersible Water Pump	5	95	475
27	Piezoelectric Plate	Normal Copper based 4 cm Diameter approx	5	28	140

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28	8*8 LED Matrix	Max7219 Dot LED Matrix Module Mcu Control LED Display Module	5	145	725
29	Bluetooth Module	HC 05 Working voltage 5 volt	5	390	1950
30	7 Segment LED Display	LED 4-Digit Display Module; Voltage Rating: 2.4V to 5.5V; 4- Pin interface; Vcc, Gnd, Data, Clock	5	120	600
31	GSM	Sim 900 Gprs Transfer Board Micro Sim Gsm CoreTTL Port Module for Arduino	5	850	4250
32	GPS	GY-NEO6MV2 new GPS Module	3	1260	3780
33	Laser Diode Emitter	650nm 5mW Mini Laser Dot Diode Module	10	70	700
34	LDR Module	5mm/12mm, Photosensitive LDR Light sensor module	10	80	800
35	Keypad	Universal 16 Key Switch Keypad	5	145	725
36	Motor driver	L293D	10	40	400
37	DC Plastic Gear	1V, 150 rpm; Side Shaft BO Motor	10	120	1200
38	Node MCU	ESP 8266; 12C, 1 wire, plug and play	5	430	2150
39	Vibrating Motor	weight: 10 g; Operating Voltage: 1.5 to 3V	10	75	750
40	Battery Clips with DC	9 Volt Battery Clips with DC Jack	10	30	300
41	Hookup Wires	Red and black set 100 meters each	5	290	1450
42	Jumper Cable	Male-Male	200	5	1000
43		Male-Female	200	3	600
44		Female-Female	100	3	300
45	RGB LEDS	Regular 5mm 3-5 Volt range	40	12	480
46	LEDs(Red)	Regular 5mm 3-5 Volt range	100	1	100
47	LEDs(Green)	Regular 5mm 3-5 Volt range	100	1	100
48	LEDs(Blue)	Regular 5mm 3-5 Volt range	100	1	100
49	LEDs(Yellow)	Regular 5mm 3-5 Volt range	100	1	100
50	LEDs(White)	Regular 5mm 3-5 Volt range	100	1	100
51	555 timer IC	LM 555 timer IC; Voltage range- 4.5V to 16V	10	26	260
52	Atmega-16u2	8 bit microcontroller Individual IC (DIP); Voltage range: 2.7V to 5.5V; Operational range: -40 to+80 degree Celsius	10	130	1300
53	Diode and Transistors Kit	One kit contains: 25 Assorted basic diodes of 4 different types each	5	36	180
54		Types: NPN Transistor- 2N3904, BC547; PNP Transistor- 2N3906, BC557; Silicon Diode- 1N4148; Power Diode: 1N4004/4001		0	
55		Assorted kit packaged together and labeled.		0	
56	IR Sensors, Obstacle avoider sensor module	LM393; Detection Range- 2-30 cm; Detection Angle- 30-40 degree	20	76	1520
57	Triple Axis Magnetometer	3 Axis Magneto resistive, Sensors,	5	410	2050
58		I2C Digital Interface,		0	
59		Integrated 12 Bit ADC,		0	
60		Range of -8 to +8 Gauss,		0	
61		160 Hz Maximum output Rate		0	
62	Humidity Sensor	Operating Range: 20-95% RH,	5	390	1950
63		Temperature: 0-60 Degree		0	
64		Celsius, Power Supply: 1.5 Volt		0	
65		AC(Max Sine), Operating		0	

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66		Frequency: 500 Hz-2 KHz			0
67		MQ-2 Smoke Detection	5	190	950
68		MQ-3 Alcohol - Ethanol Sensor	5	190	950
69		MQ-4 Methane Natural Gas	5	190	950
70	MQ Series	MQ-5 Methane Liquefied Gas	5	190	950
71		MQ-6 Liquefied Petroleum Gas sensor	5	190	950
72		MQ-7 High Sensitivity CO carbon Monoxide Sensor Detector	5	190	950
73		MQ-135 Air Quality Sensor	5	190	950
74		Ultrasonic Sensor Module HC-SR-04 or compatible	working Voltage DC 5V; Working Current: 15 mA; working Frequency: 40 Hz; Range- 1cm to 4m; Effectual Angle- <15 degree; measuring angle- 30 Degree; Resolution- 0.3 cm	5	290
75	Triple Axis accelerometer	3-Axis Sensing, Small, low profile		340	1700
76		package, 4mm*4mm*1.45mm	5		0
77		LPCSP, 5low power-3350 micro A			0
78	PIR Motion Detector Module	High Digital pulse when motion detected,		120	600
79		low digital pulse when idle/NO motion detected,	5		0
80		Sensitvity range (upto 6m),			0
81		power supply: 5 V-12V			0
82	Pulse Rate Heart Sensor	Pulse rate sensor finger based wore on the finger or ear lop	5	410	2050
83		working Voltage 3-5 Volt			0
84	Relay Module	5 Volt 10 A 2 Channel Relay module	5	190	950
85		5 Volt 10 A 1 Channel Relay module	5	120	600
86	Big Sound microphone module	Large Electret capsule sound module	5	310	1550
87	Soil moisture sensor module	FC-28 with LM293 comparator; Operating Voltage: 3.3v to 5V	5	420	2100
88	Temperature sensor	LM35 Full range temperature sensor. Voltage Range: 4V to 30V; Error: 0.5 degree C	5	60	300
89	Temperature and humidity sensor module	DHT 11	5	312	1560
90	Water flow sensor	Arduino Compatible water flow sensor; 5V DC Input	5	510	2550
91	Sound sensor	Sound sensor module, microphone module	5	710	3550
92	IR sensors array module for line following	IR sensors array for line following; Operating Voltage: 5V	5	650	3250
93	RFID Reader	Current: 13-26 mA/ DC 3.3 V, Idle		550	2750
94		current: 10-13 mA/ DC 3.3 V,			0
95		Sleep current less than 80 uA,	5		0
96		Peak current < 30 mA, Operating			0
97		frequency: 13.56 MHz< 30 mA,			0
98		read range b/w 20 cm-1m			0
99	RF Modules Tx& Rx 315 MHz ASK	Frequency range: 433.92/315MHz,		510	2550
100		Supply Voltage 3-6 V, Output	5		0
101		power 4-16 Dbm, Low power			0

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102		consumption, Easy application			0
103	Stepper motor with Driver board	28BYJ-48 ULN2003 5V Stepper Motor + ULN2003 Driver Board	5	390	1950
104	DC motor	12 Volt DC gear 150 rpm	10	180	1800
105	150 RPM BO motor	150 RPM BO motor	10	130	1300
106	L298P motor driver	L298P motor driver shield or relative driver shield	10	210	2100
107	STEM learning/application kit	Drone kit	5	6600	33000
108		3D Printer	1	42500	42500
109		Advanced automation system	2	4500	9000
110		Gesture control whee chair	2	5500	11000
111		AI based advanced robot	2	38000	76000
112		Robotic Hand	2	12500	25000
113					
114	Digital multimeter	AC voltage-200V-750V, Current Voltage-200uA-10A	5	600	3000
115	Others	Glue Gun	10	400	4000
116		Glue Stick	50	20	1000
117		Drilling Workstation	3	14500	43500
118		Soldering Work station	3	8600	25800
				Total	518530
Six Lakhs Eleven Thousand Eight Hundred Sixty Five.				Tax(18 %)	93335.4
				Total with tax	6,11,865/-
Training and Equipment Maintenance for 2 years				Inclusive of Tax.	175000
Over all Expenses					7,86,865/-

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