EDGEFX
KITS & SOLUTIONS

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S.No.	Model No.	Product	Price			Category								
			DIY (Rs.)	Readymade (Rs.)	Project Kit (Rs.)	Embedded	Electrical	Android	General Electronics	Power Electronics	Communi-cation	Sensor based	Robotics	Solar
PRICE RANGE FOR PROJECT KIT: LESS THAN Rs.5000/- (all inclusive)														
1	214	**Wire Loop Breaking Alarm Signal:** The project is designed to generate an alarm signal in the event of breaking of a wire in loop. The project uses a buzzer to alert the user.	3199	1799	1699				Y					
2	441	**Burglar Alarm On Window Glass Breaking :** The project is designed to generate an alarm signal in the event of breaking of an hair thin wire pasted on the window glass panes . The project uses a buzzer to alert the user.	3199	1799	1699				Y					
3	193	**Remote Jamming Device:** The project is designed to develop IR rays of 38KHz usually emitted by a standard TV remote. The rays developed are powerful enough to overshadow the IR receiver in TV. Thus the remote used would lose its function as long as the IR rays generated by the project are falling on the receiver.	3899	2399	2199				Y			IR		
4	205	**Mains Operated Led Light**: A string of LED's are made to operate at 230V AC by using a series capacitor drop and current limit resistor. This concept of using leds can be adopted to home lighting system in a most cost effective way.	3899	2399	2199		Y		Y					
5	208	**Step Up 6 Volt Dc To 10 Volt Dc Using 555 Timer:** A 555 timer is used in astable mode to deliver the output approximately twice the input voltage. The output from the 555 timer is given to a voltage doubler circuit to get the desired output.	3899	2399	2199		Y		Y					
6	227	**Wireless Audio Transmitter For Tv: T**he audio output of the TV is fed to an FM transmitter that transmits the audio to be received by any FM receiver (or a cell phone having FM radio).It can be used to listen to TV sound without disturbing any one else.	3899	2399	2199				Y					

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7	442	**TV Operation Jamming System:** The project is designed to develop IR rays of 38KHz usually emitted by a standard TV remote. The rays developed are powerful enough to overshadow the IR receiver in TV. Thus the remote used would lose its function as long as the IR rays generated by the project are falling on the receiver.	3899	2399	2199				Y			IR		
8	443	**Power Saving Led Light Replacing Conventional Lamps:** A string of LED's are made to operate at 230V AC by using a series capacitor drop and current limit resistor. This concept of using leds can be adopted to home lighting system in a most cost effective way.	3899	2399	2199		Y		Y					
9	444	**Low Voltage Dc Tohigher Voltage Dc Up 6 Volt Dc To 10 Volt Dc Using 555 Timer**: A 555 timer is used in astable mode to deliver the output approximately twice the input voltage of 6v to 10 volts. The pwm output from the 555 timer is given to a voltage doubler circuit to get the desired output.	3899	2399	2199		Y		Y					
10	445	**Listen Privately To Tv Audio Wirelessly Over Fm Band:** The audio output of the TV is fed to an FM transmitter that transmits the audio to be received by any FM receiver (or a cell phone having FM radio).It can be used to listen to TV sound over ear phone without disturbing any one else.	3899	2399	2199				Y					
11	203	**Automatic Dusk To Dawn (Evening On To Morning Off):** Varying light intensity falling on an LDR is used as input to a comparator. It is compared with a fixed value to turn ON the appliances through relay at the falling light intensity in the evening to switch OFF in the morning light.	4299	2499	2399				Y					
12	446	**Sun Set To Sun Rise Lighting Switch (Evening On To Morning Off):** Varying light intensity falling on an LDR is used as input to a comparator. It is compared with a fixed value to turn ON the appliances through relay at the falling light intensity in the evening to switch OFF in the morning light.	4299	2499	2399				Y					
13	300	**Self Switching Power Supply:** This power supply unit gives a variable regulated DC for microcontroller circuits and switches off automatically in no load condition.	4499	2899	2499				Y					
14	447	**Auto Mains Disconnecting Dc Power Supply:** This power supply unit gives a variable & regulated DC for microcontroller circuits / cell phone charging but switches off automatically sensing no load condition.	4499	2899	2499				Y					

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15	215	**Video Activated Relay To Control The Load:** The project is designed to actuate a relay whenever an input video signal is fed to it. For example, It can be used for switching OFF a TV automatically once the video signals are not available.	4799	2999	2599				Y					
16	448	**Auto Switch 0ff Of Tv While Screen Goes Witout Video** : The project is designed to actuate a relay whenever an input video signal is fed to it. For example, It can be used for switching OFF a TV automatically once the video signals are not available.	4799	2999	2599				Y					
17	188	**Hidden Active Cell Phone Detector:** A 555 timer in mono-stable mode along with a high gain op amp is used to detect Giga Hertz induced signals so produced by an active cell phone with in closer proximity to sound a buzzer alarm.	4999	3199	2899				Y					
18	189	**Long Range Fm Transmitter With Audio Modulation:** A microphone is used to feed audio signals to modulate a carrier signal at a frequency of around 106 MHz. This signal is further amplified with an RF power amplifier that is connected to a tuned antenna to cover a line of sight distance of about 2 km (if we use Yagi antenna) or 20-30 Mtrs by GP/stick antenna.	5099	3499	2899				Y					
19	206	**Thermistor Based Temperature Control:** The project is designed to develop a temperature control system using a thermistor. An op-amp is used to sense the falling resistance of increasing temperature by the property of NTC (negative co-efficient thermistor). Then the op-amp used as a comparator actuates a relay.	5099	3299	2899				Y			Temperature		
20	216	**Touch Controlled Load Switch:** The project is designed to develop a touch sensitive switch to control any load. A 555 timer is used in monostable mode to drive a relay to switch ON a load for a fixed time duration.	4999	3199	2899		Y		Y					
21	254	**Phase Sequence Checker For Three Phase Supply:** 3-phase supply of 440V AC 50Hz is fed to a logic circuit comprising of NAND gates and OR gates to detect the sequence of R Y B by triggering a timer for a LED to indicate output phase out of sequence. The output can also be tested by using a sequence meter (not supplied with the kit).	5099	3299	2899		Y		Y					

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22	449	**Active Cell Phone Detector** : A 555 timer in mono-stable mode along with a high gain op amp is used to detect Giga Hertz induced signals so produced by an active cell phone with in closer proximity to sound a buzzer alarm.	4999	3199	2899				Y					
23	450	**Touch Switch For Short Duration Load:** The project is designed to develop a touch sensitive switch to control any load. A 555 timer is used in monostable mode to drive a relay to switch ON a load for a fixed time duration.	4999	3199	2899		Y		Y					
24	451	**Fm Transmitter 2 Km Range For Yagi Antenna**: A microphone is used to feed audio signals to modulate a carrier signal at a frequency of around 106 MHz. This signal is further amplified with an RF power amplifier that is connected to a tuned YAGI antenna to cover a line of sight distance of about 2 km or 20-100 Mtrs by GP/stick antenna.	5099	3499	2899				Y					
25	452	**Temperature Controlled Load By Thermistor Sensor :** The project is designed to develop a temperature control system using a thermistor. An op-amp is used to sense the falling resistance of increasing temperature by the property of NTC (negative co-efficient thermistor). Then the op-amp used as a comparator actuates a relay.	5099	3299	2899				Y			Temperature		
26	453	**3 Phase Sequence Checker By Led Indication:** 3-phase supply of 440V AC 50Hz is fed to a logic circuit comprising of NAND gates and OR gates to detect the sequence of R Y B by triggering a timer for a LED to indicate output phase out of sequence. The output can also be tested by using a sequence meter (not supplied with the kit).	5099	3299	2899		Y		Y					
27	209	**Over Voltage Or Under Voltage Tripping Mechanism:** Two 555 timers are used as window comparator. This delivers an error output if the input voltage to them crosses the range beyond the voltage window.A relay is then operated to cutff the load for saftey reasons.	5199	3499	2999		Y		Y					
28	218	**Time Delay Based Relay Operated Load:** The project is designed to develop a time delay based switch to control any load. A 555 timer is used in monostable mode to drive a relay to switch ON/OFF a load for a fixed time duration.	5099	3499	2999		Y		Y					

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29	297	**LED Based Automatic Emergency Light:** This emergency light takes 230V AC and it converts it in 12V DC to charge a set of rechargeable batteries which is used to lit up a pair of LEDs automatically in the event of mains failure.	5099	3499	2999				Y					
30	454	**Home Appliances Control With Time Delay Switch:** The project is designed to develop a time delay based switch to control any load. A 555 timer is used in monostable mode to drive a relay to switch ON/OFF a load for a fixed time duration.	5099	3499	2999		Y		Y					
31	455	**Automatic Emergency Light With LED :** This emergency light takes 230V AC and it converts it in 12V DC to charge a set of rechargeable batteries which is used to lit up a pair of LEDs automatically in the event of mains failure.	5099	3499	2999				Y					
32	456	**Load Cutoff Switch Upon Over Voltage Or Under Voltage:** Two 555 timers are used as window comparator. This delivers an error output if the input voltage to them crosses the range beyond the voltage window.A relay is then operated to cutff the load for saftey reasons.	5199	3499	2999		Y		Y					
33	204	**Rhythm Following Flashing Lights:** Sound signals sensed by condenser microphone are amplified to fed to a decade counter that drives a string of LEDs to blink rhythmatically as per the sound level.	5499	3599	3099				Y					
34	212	**Incoming Phone Ring Light Flasher:** A phone line is connected through an opto isolator to drive a relay whenever telephone ring is detected by the circuit. It switches a 230v lamp to flash as per the telephone ring to draw attention in higly noisy environment.	5499	3699	3099				Y					
35	457	**Music Tone Based Dancing LEDS:** Sound signals sensed by condenser microphone are amplified to fed to a decade counter that drives a string of LEDs to blink rhythmatically as per the sound level.	5499	3599	3099				Y					
36	458	**Telephone Ring Sensed Flasher In Industrial Area**: A phone line is connected through an opto isolator to drive a relay whenever telephone ring is detected by the circuit. It switches a 230v lamp to flash as per the telephone ring to draw attention in higly noisy environment.	5499	3699	3099				Y					

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37	222	**Fastest Finger Press Quiz Buzzer:** A set of 8 switches are interfaced to D-type flip flop working as priority encoder. While number of switches are pressed at same time, it takes the first swtich pressed into consideration and generates a buzzer sound along with the indication of the switch pressed.	5599	3699	3199				Y					
38	229	**Intelligent Overhead Tank Water Level Indicator:** The project is designed to give a display of water level in a tank. The reading given is in the sale of 0 to 9. A priority encoder is interfaced to a decoder to get the display of water level on 7 segment display.	5599	3699	3199				Y					
39	459	**Quiz Competition Sensor For Fastest Finger Press :** A set of 8 switches are interfaced to D-type flip flop working as priority encoder. While number of switches are pressed at same time, it takes the first swtich pressed into consideration and generates a buzzer sound along with the indication of the switch pressed.	5599	3699	3199				Y					
40	460	**9 Level Overhead Water Tank Ndicator:** The project is designed to give a display of water level in a tank. The reading given is in the sale of 0 to 9. A priority encoder is interfaced to a decoder to get the display of water level on 7 segment display.	5599	3699	3199				Y					
41	221	**Electronic Eye Controlled Security System:** The project is designed as a security system based on photo sensing arrangement. It uses a 14- stage ripple carry binary counter to sense the light intensity through LDR. The outup drives a buzzer and a relay for necessary action.	5799	3899	3499				Y					
42	461	**Security Alarm System By Photo Electric Sensor :** The project is designed as a security system based on photo sensing arrangement. It uses a 14- stage ripple carry binary counter to sense the light intensity through LDR. The outup drives a buzzer and a relay for necessary action.	5799	3899	3499				Y					
43	7	**Lamp Life Extender By ZVS (Zero Voltage Switching):** Incandescent lamps exhibit very low resistance in cold condition due to which it draws high current while switched on, resulting in fast failure . Engaging a triac whose switching on time can be precisely controlled by firing it after detecting the zero cross point of the waveform.	6199	4299	3599	MC 8051				Y				

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44	462	**Enhancing Projection Lamp Life By ZVS (Zero Voltage Switching):** Incandescent lamps exhibit very low resistance in cold condition due to which it draws high current while switched on, resulting in fast failure . Engaging a triac whose switching on time can be precisely controlled by firing it after detecting the zero cross point of the waveform.	6199	4299	3599	MC 8051				Y				
45	167	**Smooth Start Of A Single Phase Induction Motor:** The project uses two anti-parallel SCRs in series with the motor to the supply. SCRs are triggered gradually from heavily delayed firing angle to zero delay resulting in gradual increase of supply voltage to the motor. This leads to a smooth start of the motor. A lamp is provided as load for demonstration purpose.	6299	4399	3699					Y				
46	463	**Soft Start Of Single Phase Pump Motor:** The project uses two anti-parallel SCRs in series with the motor to the supply. SCRs are triggered gradually from heavily delayed firing angle to zero delay resulting in gradual increase of supply voltage to the motor. This leads to a smooth start of induction motor. A lamp is provided as load for demonstration purpose instead of motor.	6299	4399	3699					Y				
47	24	**Density Based Traffic Signal System:** The project is designed to develop a density based dynamic traffic signal system. The signal timing changes automatically on sensing the traffic density at the junction. IR sensors are used to monitor the density of the vehicles at the junction. The signals from the IR receivers are fed to the microcontroller to follow different time for different level of traffic.	6499	4599	3799	MC 8051						IR		
48	174	**Wireless Power Transfer:** The project is to develop a device to transfer power wirelessly to any gadget. This project can also be used for charging batteries those are physically not possible to be connected electrically.	6399	4499	3799		Y		Y					
49	237	**High Voltage Dc By Marx Generator Principles:** A number of capacitors are charged in parallel by pulsed voltage to a specific voltage (V), with 50% or less duty cycle from a DC source. The capacitors are automatically placed in series such that all the (V) gets added to deliver higher voltage based on the number of capacitors used.	6499	4499	3799					Y				
50	298	**RFID Based Paid Car Parking:** It uses a microcontroller along with sensing circuits monitoring entry and exit of cars with help of owner accessed RFID card swipe with a display indication besides indicating the available number of parking.	6499	4799	3799	MC 8051					RFID			

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51	464	**AC Power Transfer Wirelessly By Hf:** The project is to develop a device to transfer power wirelessly to any gadget. This project can also be used for charging batteries those are physically not possible to be connected electrically.	6399	4499	3799		Y		Y					
52	465	**Avaiation Obstruction Flashing Indicator:** An incandescent lamp is made to operate in flashing mode from a microcontroller of 8051 family. For example, this flashing is helpful in giving alert signals mounted on high masts /ambulance/aviation towers/sea shores etc.	6399	4499	3799	MC 8051								
53	466	**Traffic Density Sensed Signal Light System:** The project is designed to develop a density based dynamic traffic signal system. The signal timing changes automatically on sensing the traffic density at the junction. IR sensors are used to monitor the density of the vehicles at the junction. The signals from the IR receivers are fed to the microcontroller to follow different time for different level of traffic.	6499	4599	3799	MC 8051						IR		
54	467	**Marx Generator Based High Voltage Using Mosfets:** A number of capacitors are charged in parallel by pulsed voltage to a specific voltage (V), with 50% or less duty cycle from a DC source. The capacitors are automatically placed in series such that all the (V) gets added to deliver higher voltage based on the number of capacitors used.	6499	4499	3799					Y				
55	468	**Car Parking Management By RFID:** It uses a microcontroller along with sensing circuits monitoring entry and exit of cars with help of owner accessed RFID card swipe with a display indication besides indicating the available number of parking.	6499	4799	3799	MC 8051					RFID			
56	1A	**Beacon Flasher Using Microcontroller:** An incandescent lamp is made to operate in flashing mode from a microcontroller of 8051 family. For example, this flashing is helpful in giving alert signals mounted on high masts /ambulance/aviation towers/sea shores etc.	6399	4499	3799	MC 8051								
57	6	**Thyristor Controlled Power For Induction Motor:** The project is designed to control AC power based on the principle of firing angle control. Two thyristors connected in anti parallel are used in series with the load for power control. Efficiency of such power control is very high compared to any other method. A lamp is provided as load for demonstration purpose.	6799	4799	3899	MC 8051				Y				

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58	14	**Bidirectional Rotation Of An Induction Motor With A Remote Control Device:** The microcontroller receives the infrared signal from the IR remote, the code of which is identified by the receiver to operate a set of relays. The relays switches ON/OFF the appropriate relay to power a split phase induction motor to achieve desired direction by interchanging leading supply phase from the main winding to the auxiliary winding. Please note that a single phase induction motor can be procured at an extra cost over the kit cost.	6899	4999	3899	MC 8051	Y					IR		
59	202	**IR Obstacle Detection To Actuate Load:** The project is designed to actuate a load when IR rays are interrupted. This is helpful in industries for sensing movement of material in a conveyor belt for any action to be taken. The project uses 38 KHz IR signal generated feeding an IR diode which is received by tuned IR receiver. When this signal is interrupted and iutput is generated by the microcontroller.	6799	4799	3899	MC 8051						IR		
60	311	**Density Based Traffic Signal With Remote Override In Emmergency:** Remote override control of density based traffic signal by emmergency vehicles like ambulance,fire brigade etc for getting priority in the desired direction.	6899	4899	3899	MC 8051					IR, RF			
61	469	**Induction Motor Speed Control By Thyristor:** The project is designed to control AC power based on the principle of firing angle control. Two thyristors connected in anti parallel are used in series with the load for power control. Efficiency of such power control is very high compared to any other method. A lamp is provided as load for demonstration purpose instead of motor.	6799	4799	3899	MC 8051				Y				
62	470	**Obstacle Sensed Switching In Industrial Applications:** The project is designed to actuate a load when IR rays are interrupted. This is helpful in industries for sensing movement of material in a conveyor belt for any action to be taken. The project uses 38 KHz IR signal generated feeding an IR diode which is received by tuned IR receiver. When this signal is interrupted and iutput is generated by the microcontroller.	6799	4799	3899	MC 8051						IR		
63	471	**Urban Traffic Signal Based On Density And Also With Remote Override:** Remote override control of density based traffic signal by emmergency vehicles like ambulance,fire brigade etc for getting priority in the desired direction.	6899	4899	3899	MC 8051					IR, RF			

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64	472	**Exhaust Fan For Bidirectional Motion With Remote Control:** The microcontroller receives the infrared signal from the IR remote, the code of which is identified by the receiver to operate a set of relays. The relays switches ON/OFF the appropriate relay to power a split phase induction motor to achieve desired direction by interchanging leading supply phase from the main winding to the auxiliary winding. Please note that a single phase induction motor can be procured at an extra cost over the kit cost.	6899	4999	3899	MC 8051	Y					IR		
65	36	**Street Light That Glows On Detecting Vehicle Movement:** The project is designed for LED based street lights. A number of LED street lights glow for a specific distance ahead, on sensing an approaching vehicle and then switches OFF once the vehicle passes by. Thus a lot of energy is saved in this process. Optionally, dimming feature can be used in this sytem while no vehicles are passing on the road.	7099	5099	4199	MC 8051						IR		
66	178	**Life Cycle Testing Of Electrical Loads By Down Counter:** The project is designed to be used in industries for testing of electrical loads (lamps, motors etc) using a down counter. A desired number is entered through a keypad interfaced to a microcontroller of 8051 family. Upon activation, the system counts down one in each second till the set number reaches zero. A relay switches the load ON & OFF for every count thus testing the life cycle of the product.	7099	5099	4199	MC 8051								
67	474	**Vehicle Movement Tracked Street Lighting Of Highways :** The project is designed for LED based street lights. A number of LED street lights glow for a specific distance ahead, on sensing an approaching vehicle and then switches OFF once the vehicle passes by. Thus a lot of energy is saved in this process. Optionally, dimming feature can be used in this system while no vehicles are passing on the road.	7099	5099	4199	MC 8051						IR		
68	475	**Down Counter For Industrial Load Operation:** The project is designed to be used in industries for testing of electrical loads (lamps, motors etc) using a down counter. A desired number is entered through a keypad interfaced to a microcontroller of 8051 family. Upon activation, the system counts down, one in each second till the set number reaches zero. A relay switches the load ON & OFF for every count thus testing the life cycle of the product.	7099	5099	4199	MC 8051								

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69	476	**PIC Controlled Dynamic Time Based City Traffic Signal :** The project is designed to develop a density based dynamic traffic signal system. The signal timing changes automatically on sensing the traffic density at the junction. IR sensors are used to monitor the density of the vehicles at the junction. The signals from the IR receivers are fed to the microcontroller to follow different time for different level of traffic.	7099	5099	4199	MC PIC						IR		
70	PIC108	**Density Based Traffic Signal System Using Pic Microcontroller:** The project is designed to develop a density based dynamic traffic signal system. The signal timing changes automatically on sensing the traffic density at the junction. IR sensors are used to monitor the density of the vehicles at the junction. The signals from the IR receivers are fed to the microcontroller to follow different time for different level of traffic.	7099	5099	4199	MC PIC						IR		
71	399	**Programmable Decoration Light:** The project is designed for LED based decoration lights. A number of LED lights glow for a specific time in different combinations as per interruptions by a set of IR sensors on board as control commands using a 8051 series microcontroller.	7099	5099	4199	MC 8051			Y			IR, Photo		
72	1	**Auto Intensity Control Of Street Lights:** White Light Emitting Diodes (LED) replaces HID lamps in street lighting system to include dimming feature. A microcontroller of 8051 family is used to control the intensity by developing pulse width modulated signals that drives a MOSFET to switch the LEDs according to achieve desired operation.	7099	5099	4299	MC 8051			Y					
73	144	**Using TV Remote As A Cordless Mouse For The Computer:** TV remote is used in this project to act as a cordless mouse for the computer. This is achieved by reading the coded data sent from the TV remote by a sensor. The sensor is interfaced to a microcontroller which responds to the coded signals and sends appropriates instructions through serial communication to the PC.	7199	5199	4299	MC 8051					PC	IR		
74	166	**Display Of Dialed Telephone Numbers On Seven Segment Displays:** Dialed telephone numbers are picked up by a DTMF decoder to feed to a microcontroller. This data is trasnmitted ten no's seven segment LED displays for better visibility.	7299	5199	4299	MC 8051					DTMF			

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75	192	**Sun Tracking Solar Panel:** The project uses a solar panel coupled to a stepper motor to track the Sun so that maximum sun light is incident upon the panel at any given time of the day. The microcntroller used is programmed to rotate the stepper motor in regular time intervals so that it tracks the sun.This is better compared to light sensing method that may not be accurate always. The project uses a dummy solar panel for demonstration purpose.	7299	5199	4299	MC 8051								Y
76	211	**Object Counter With 7 Segment Display:** The project is designed to monitor the counting operations in industries. For example, products moving on a conveyor belt are counted by IR interruption concept and displayed on a seven segment display.	7199	5199	4299	MC 8051						IR		
77	228	**Four Quadrant Dc Motor Speed Control With Microcontroller:** The project has been designed to develop a speed control system for DC motor in all the four-quadrant. Using four-quadrant chopper it is possible to demonstrate forward, instant forward brake, reverse, instant reverse brake control of a DC motor It uses an 8051 family microcontroller along with a motor driver IC to drive the motor.	7099	5099	4299	MC 8051	Y							
78	477	**Intensity Controlled Energy Saving Led Street Lights:** White Light Emitting Diodes (LED) replaces HID lamps in street lighting system to include progressive dimming feature from dusk to dawn. A microcontroller of 8051 family is used for developing pulse width modulated signals that drives a MOSFET to control the LEDs with lesser and lesser intensity as the night advances to save energy.	7099	5099	4299	MC 8051			Y					
79	478	**DC Motor With PWM Speed Control In All Four Quadrants Using Microcontroller:** The project has been designed to develop a speed control system for DC motor in all the four-quadrant. Using four-quadrant chopper it is possible to demonstrate forward, instant forward brake, reverse, instant reverse brake control of a DC motor It uses an 8051 family microcontroller along with a motor driver IC to drive the motor.	7099	5099	4299	MC 8051	Y							
80	479	**Pub Used Disco Lights With Power Leds For Stroboscopic Effect:** Cluster of high power LEDs are used to act like stroboscopic light flasher. They are driven by a microcontroller of 8051 family through a MOSFET.	7099	5099	4299	MC 8051								

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81	480	**Mouse Function Achieved By A Tv Remote For Corddless Operation:** TV remote is used in this project to act as a cordless mouse for the computer. This is achieved by reading the coded data sent from the TV remote by a sensor. The sensor is interfaced to a microcontroller which responds to the coded signals and sends appropriates instructions through serial communication to the PC.	7199	5199	4299	MC 8051					PC	IR		
82	481	**Conveyor Belt Object Counting With Ir Sensing & Display:** The project is designed to monitor the counting operations in industries. For example, products moving on a conveyor belt are counted by IR interruption concept and displayed on a seven segment display.	7199	5199	4299	MC 8051						IR		
83	482	**Dialed Telephone Number Led Based Display System:** Dialed telephone numbers are picked up by a DTMF decoder to feed to a microcontroller. This data is trasnmitted ten no's seven segment LED displays for better visibility.	7299	5199	4299	MC 8051					DTMF			
84	483	**Time Programed Sun Tracking Solar Panel:** The project uses a dummy solar panel coupled to a stepper motor to track the Sun . The microcntroller used is programmed to rotate the stepper motor in regular time intervals so that it tracks the sun.This is far better compared to light (LDR) sensing method that is prone to erratic function in cloudy weather or dusty area.	7299	5199	4299	MC 8051								Y
85	1C	**Discotheque Light Stroboscopic Flasher:** Cluster of high power LEDs are used to act like stroboscopic light flasher. They are driven by a microcontroller of 8051 family through a MOSFET.	7099	5099	4299	MC 8051								
86	48	**Portable Programmable Medication Reminder:** The project acts as a reminder for people to take medicines in time. Keypad is used to enter the time at which the medicine is required to be taken. The real time clock (RTC) used keeps tracking the time to remind the person by a buzzer sound together with the name of the medicine on the LCD display.	7499	5499	4399	MC 8051								
87	161	**Cell Phone Based Dtmf Controlled Garage Door Opening System:** A mobile phone is connected to the control unit so that the data received by the phone is used to open/ close the door. This can be achieved using DTMF technology. The main feature of this project is that the user can control the garage door from any part of the world using his mobile phone.	7499	5499	4399	MC 8051					DTMF			

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88	484	**Patient Medication Reminder:** The project acts as a reminder for people to take medicines in time. Keypad is used to enter the time at which the medicine is required to be taken. The real time clock (RTC) used keeps tracking the time to remind the person by a buzzer sound together with the name of the medicine on the LCD display.	7499	5499	4399	MC 8051								
89	485	**Garage Door Lifting System By Cell Phone :** A mobile phone is connected to the control unit so that the data received by the phone is used to open/ close the door. This can be achieved using DTMF technology. The main feature of this project is that the user can control the garage door from any part of the world using his mobile phone.	7499	5499	4399	MC 8051					DTMF			
90	8	**Three Phase Solid State Relay With ZVS:** A three phase solid state relay uses three single phase units with each phase controlled individually by a power triac. A snubber network across the triacs are used for dV/dT protection for inductive loads. The zero crossing feature of the opto-isolator used ensures the load to be switched ON at start of the waveform**.**	7599	5499	4499	MC 8051				Y				
91	10	**Industrial Battery Charger By Thyristor Firing Angle Control:** DC power for a battery charger is derived from a thyristor controlled rectifier system. AC power is applied to the bridge rectifier comprising of diodes and triacs to get the control from a microcontroller interface through push button switches used for increasing or decreasiong the DC power.	7599	5499	4499	MC 8051				Y				
92	29	**Line Following Robotic Vehicle :** The project is designed to develop a robotic vehicle that follows a specific path. This project doesn't require a microcontroller for its operation. A pair of photo sensors comprising IR transmitter and photo diode are used to detect the specified path for its movement.	6999	5099	4499				Y			IR	Y	
93	33	**Programmable Load Shedding Time Management For Utility Department:** Multiple time operated electrical load control system is a reliable circuit that takes over the manual task of switch on/off the as per programed time. It has an inbuilt real time clock (RTC) to keep tracking the time and switch ON/OFF the load accordingly.	7599	5499	4499	MC 8051								

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94	225	**Speed Checker To Detect Rash Driving On Highways:** The time difference between 2 spots on a highway, one in advance to the other in the direction of the traffic flow, is sensed & fed to a control board to convert the same to the speed of a vehicle and generate a warning upon exceeding specified speed limit.	7699	5599	4499				Y			IR		
95	289	**Programmable AC Power:** Based on the principle of firing angle control of thyristors, their triggering is automatically adjusted to maintain the desired power to the load duly interfaced from a microcontroller with keypad entry programming features. The project uses a lamp such that the entered power matches the required one verified by its intensity. The above operation is carried out by using a TRIAC in series with the AC load.	7599	5599	4499	MC 8051				Y				
96	344	**AC PWM Control For Induction Motor:** AC PWM based Induction motor speed control having negligible harmonic distortion compared to simple phase angle delayed mode of control.	7699	5599	4499	MC 8051	Y			Y				
97	361	**Softstart Of Induction Motor By AC-PWM:** Soft start of induction motor with negligible harmonics by ac chopper using a full bridge in series with the load which is controlled by an IGBT . Soft Start by such method is very highly reliable compared to thyristor based firing angle control that is rich in THD and damages the motor. A lamp is provided as load for demonstration purpose.	7699	5599	4499	MC 8051								
98	473	**Track Sensing Robotic Vehicle Movement :** The project is designed to develop a robotic vehicle that follows a specific path. This project doesn't require a microcontroller for its operation. A pair of photo sensors comprising IR transmitter and photo diode are used to detect the specified path for its movement.	6999	5099	4499				Y			IR	Y	
99	486	**Semiconductor Relay With ZVS:** A three phase solid state relay uses three single phase units with each phase controlled individually by a power triac. A snubber network across the triacs are used for dV/dT protection for inductive loads. The zero crossing feature of the opto-isolator used ensures the load to be switched ON at start of the waveform.	7599	5499	4499	MC 8051				Y				

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100	487	**Battery Charging By Thyristor Triggering Control:** DC power for a battery charger is derived from a thyristor controlled rectifier system. AC power is applied to the bridge rectifier comprising of diodes and triacs to get the control from a microcontroller interface through push button switches used for increasing or decreasiong the DC power.	7599	5499	4499	MC 8051				Y				
101	488	**Time Programmable Switch To Control Load:** Multiple time operated electrical load control system is a reliable circuit that takes over the manual task of switch on/off the as per programed time. It has an inbuilt real time clock (RTC) to keep tracking the time and switch ON/OFF the load accordingly.	7599	5499	4499	MC 8051								
102	489	**Controlling Ac Power By Programming:** Based on the principle of firing angle control of thyristors, their triggering is automatically adjusted to maintain the desired power to the load duly interfaced from a microcontroller with keypad entry programming features. The project uses a lamp such that the entered power matches the required one verified by its intensity. The above operation is carried out by using a TRIAC in series with the AC load.	7599	5599	4499	MC 8051				Y				
103	491	**AC PWM Based Power Control By IGBT / MOSFET:** AC PWM based Induction motor speed control having negligible harmonic distortion compared to simple phase angle delayed mode of control using MOSFET / IGBT.	7699	5599	4499	MC 8051	Y			Y				
104	492	**IGBT Based Softstart For Induction Motor:** Soft start of induction motor with negligible harmonics by ac chopper using a full bridge in series with the load which is controlled by an IGBT . Soft Start by such method is very highly reliable compared to thyristor based firing angle control that is rich in THD and damages the motor. A lamp is provided as load for demonstration purpose.	7699	5599	4499	MC 8051								
105	493	**Vehicle Over Speed Detection On Highways:** The time difference between 2 spots on a highway, one in advance to the other in the direction of the traffic flow, is sensed & fed to a control board to convert the same to the speed of a vehicle and generate a warning upon exceeding specified speed limit.	7699	5599	4499				Y			IR		

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106	700	**Line Following Robotic Vehicle Expandable to Walking and Climbing Robot:** The project is designed to develop a robotic vehicle that follows a specific path and also walks and climbs wall. This project doesn't require a microcontroller for its operation. A pair of photo sensors comprising IR transmitter and photo diode is used to detect the specified path for its movement. Note: As per government security norms, batteries would not be included in the kit.	6999	5099	4499				Y					
107	4	**Thyristor Power Control By Ir Remote:** Project uses a standard TV remote for speed control of an induction motor such as fans. An IR receiver is interfaced to a microcontroller to read the coded data from the remote to activate the corresponding output with a digital display. A lamp is provided as load for demonstration purpose.	7699	5699	4599	MC 8051				Y		IR		
108	19	**Optimum Energy Management System:** The project is designed to monitor the number of persons entering as well as exiting a room. Electrical loads are switched ON as the first person enters and switches OFF when the last person leaves. IR sensors used in combination with microcontroller to monitor all the operations. This helps in saving lot of energy.	7699	5699	4599	MC 8051	Y					IR		
109	109	**Parallel Telephone Lines With Security System:** This project can be used in houses and offices where more than one telephone is connected in parallel from a single telephone line. The project is used to connect four telephones in parallel to one line. When any phone is lifted, all the other phones are disconnected from the telephone line automatically with a display of the phone in use.	7799	5799	4599	MC 2051								
110	234	**PC Controlled Scrolling Message Display For Notice Board:** Message sent from the PC is transmitted to the notice board over cable. It goes on scrolling on a LCD display of 2 lines until the next message is entered.	7699	5699	4599	MC 8051					PC			
111	241	**Four Quadrant Dc Motor Control Without Microcontroller:** The project has been designed to develop a system using timers for DC motor control in all the four-quadrants. Using four-quadrant chopper it is possible to demonstrate forward, instant forward brake, reverse, instant reverse brake control of a DC motor.	7799	5799	4599		Y		Y					

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112	242	**Speed Checker To Detect Rash Driving On Highways:** The time difference between 2 spots on a highway, one in advance to the other in the direction of the traffic flow, is sensed & fed to a programmed microcontroller to convert the same to the speed of a vehicle and generate a warning upon exceeding specified speed limit.	7799	5699	4599	MC 8051						IR		
113	494	**Fan Speed Control Control By TV REMOTE:** Project uses a standard TV remote for speed control of an induction motor such as fans. An IR receiver is interfaced to a microcontroller to read the coded data from the remote to activate the corresponding output with a digital display. A lamp is provided as load for demonstration purpose.	7699	5699	4599	MC 8051				Y		IR		
114	495	**Entry Exit Couner Cum Electrical Load Management:** The project is designed to monitor the number of persons entering as well as exiting a room. Electrical loads are switched ON as the first person enters and switches OFF when the last person leaves. IR sensors used in combination with microcontroller to monitor all the operations. This helps in saving lot of energy.	7699	5699	4599	MC 8051	Y					IR		
115	496	**Scrolling Message Display By Lcd From PC Terminal:** Message sent from the PC is transmitted to the notice board over cable. It goes on scrolling on a LCD display of 2 lines until the next message is entered.	7699	5699	4599	MC 8051					PC			
116	497	**Ensuring Secrecy In Parallel Connected Telephone Instruments:** This project can be used in houses and offices where more than one telephone is connected in parallel from a single telephone line. The project is used to connect four telephones in parallel to one line. When any phone is lifted, all the other phones are disconnected from the telephone line automatically with a display of the phone in use.	7799	5799	4599	MC 2051								
117	498	**AC TO DC With Four Quadrant Motor Operation:** The project has been designed to develop a system using timers for DC motor control in all the four-quadrants. Using four-quadrant chopper it is possible to demonstrate forward, instant forward brake, reverse, instant reverse brake control of a DC motor. It does not use any microcontroller.	7799	5799	4599		Y		Y					

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118	499	**Detecting Speed Limit Violation On Highways:** The time difference between 2 spots on a highway, one in advance to the other in the direction of the traffic flow, is sensed & fed to a programmed microcontroller to convert the same to the speed of a vehicle and generate a warning upon exceeding specified speed limit.	7799	5699	4599	MC 8051						IR		
119	9	**Industrial Power Control By Integral Cycle Switching Without Generating Harmonics:** Integral cycle control is a method to remove portions of full cycles/one cycle of an AC signal for controlling AC power across linear loads interfaced to a programmed microcontroller of 8051 series. This process of power control generates 1% THD as against 61% of firing angle control. A lamp is provided as load for demonstration purpose.	7999	5899	4799	MC 8051				Y				
120	22	**PC Based Electrical Load Control:** Electrical appliances can be controlled through a PC interfaced to a microcontroller. This interface is done through a level shifter IC. The loads are then controlled through the relays duly interfaced to the relay driver which in turn is connected to the microcontroller.	7799	5799	4799	MC 8051	Y				PC			
121	181	**BLDC Motor Speed Control With RPM Display:** The project is used for controlling the speed of BLDC motor and display the same using an IR method of speed sensing mechanism being driven by PWM controlled MOSFET. This project uses an 8051 family microcontroller.	7999	5899	4799	MC 8051	Y					IR		
122	185	**Stamp Value Calculator For Postage Needs:** Calculating the weight of the postal documents by an arrangement that is used to control a potentiometer. The output of the same is fed to an ADC duly interfaced to a microcontroller that generates the desired display.	7799	5799	4799	MC 8051								
123	500	**Electrical Load Control From Pc Terminal:** Electrical appliances can be controlled through a PC interfaced to a microcontroller. This interface is done through a level shifter IC. The loads are then controlled through the relays duly interfaced to the relay driver which in turn is connected to the microcontroller.	7799	5799	4799	MC 8051	Y				PC			
124	501	**Precise Weight Measurement Using ADC :** Calculating the weight of the postal documents by an arrangement that is used to control a potentiometer. The output of the same is fed to an ADC duly interfaced to a microcontroller that generates the desired display.	7799	5799	4799	MC 8051								

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125	502	**Integral Cycle Switching (Cycle Stealing) Means Of Power Control Without Generating Harmonics:** Integral cycle control is a method to remove portions of full cycles/one cycle of an AC signal for controlling AC power across linear loads interfaced to a programmed microcontroller of 8051 series. This process of power control generates 1% THD only as against 61% of firing angle control. A lamp is provided as load for demonstration purpose.	7999	5899	4799	MC 8051				Y				
126	503	**Brussless Dc Motor (BLDC) /PMDC Speed Control By Pwm With Rpm Display:** The project is used for controlling the speed of BLDC motor and display the same using an IR method of speed sensing mechanism being driven by PWM controlled MOSFET. This project uses an 8051 family microcontroller.	7999	5899	4799	MC 8051	Y					IR		
127	424	**PC Mouse operated Electrical Load Control Using VB Application:** Electrical appliances are controlled through a PC, upon a GUI in VB interfaced to a microcontroller. This interface is done through a level shifter IC. The loads are then controlled through the relays duly interfaced to the relay driver which in turn is connected to the microcontroller.	7799	5799	4799	MC 8051	Y		Y		PC			
128	3	**Auto Power Supply Control From 4 Different Sources: Solar, Mains, Generator & Inverter to ensure no break power:** The main scope of the project is to consume the power from supply mains, generator, inverter and solar optimally by using appropriate program through microcontroller in most cost effective way.	8199	5999	4899	MC 8051	Y							
129	156	**Automatic Survelliance Camera Panning System From Pc:** The project uses a PC with RS 232 interface to a microcontroller for enabling speed the speed control of motor from the PC by a motor driver IC controlled from the microcontroller.	8199	5999	4899	MC 8051					PC			
130	182	**Predefined Speed Control Of Bldc Motor:** The project uses a 8051 family microcontroller interfaced to EEPROM to store the speed information for operation of the motor which is driven by a PWM fed MOSFET. The speed of the motor is sensed through IR sensing mechanism. The input speed is given by a set of switches. A LCD display is interfaced to the microcontroller to display the speed of the motor.	8199	5999	4899	MC 8051	Y					IR		

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131	504	**Auto Selection Of Optimum Power From 4 Different Sources: Solar, Mains, Generator & Inverter to ensure no break power:** The main scope of the project is to consume the power from supply mains, generator, inverter and solar optimally by using appropriate program through microcontroller in most cost effective way.	8199	5999	4899	MC 8051	Y							
132	505	**PC Controlled Survelliance Camera :** The project uses a PC with RS 232 interface to a microcontroller for enabling speed the speed control of motor from the PC by a motor driver IC controlled from the microcontroller.	8199	5999	4899	MC 8051					PC			
133	506	**Eeprom Based Preset Speed Control Of Bldc Motor:** The project uses a 8051 family microcontroller interfaced to EEPROM to store the speed information for operation of the motor which is driven by a PWM fed MOSFET. The speed of the motor is sensed through IR sensing mechanism. The input speed is given by a set of switches. A LCD display is interfaced to the microcontroller to display the speed of the motor.	8199	5999	4899	MC 8051	Y					IR		
134	148	**DTMF Based Load Control System:** The project works on the principle of DTMF tone command so received from any phone to remotely switch any electrical load such as agricultural pump, domestic and industrial loads etc. This device uses a microcontroller of 8051 family interfaced to DTMF decoder for receiving tone commands to actuate loads from the output of the microcontroller as per the program.	8199	5999	4999	MC 8051	Y				DTMF			
135	150	**Synchronized Traffic Signals :** (Get green signal all through successive street junctions).All the traffic junctions in a main road are synchronized for signal lighting such that the vehicle gets green signal at all the junctions while moving at a normal speed.	8199	5999	4999	MC 8051								
136	171	**Line Following Robotic Vehicle Using Microcontroller :** The project is designed to develop a robotic vehicle that follows a specific path. This project uses a microcontroller of 8051 family for its operation. A pair of photo sensors comprising IR transmitter and photo diode are interfaced to the controller to detect the specified path for its movement.	7599	5699	4999	MC 8051						IR	Y	

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137	220	**Precise Illumination Control Of Lamp:** A precise illumination in terms of percentage of the full illumination is entered through a numeric keypad. A microcontroller of 8051 family is used to maintain the illumination of a lamp. The firing angle is automatically adjusted to maintain the load power to the lamp such that the entered intensity matches the required one.	8399	6299	4999	MC 8051				Y				
138	490	**Path Tracking Robotic Vehicle By Programmed Microcontroller :** The project is designed to develop a robotic vehicle that follows a specific path. This project uses a microcontroller of 8051 family for its operation. A pair of photo sensors comprising IR transmitter and photo diode are interfaced to the controller to detect the specified path for its movement.	7599	5699	4999	MC 8051						IR	Y	
139	507	**Phone Controlled Load Management System:** The project works on the principle of DTMF tone command so received from any phone to remotely switch any electrical load such as agricultural pump, domestic and industrial loads etc. This device uses a microcontroller of 8051 family interfaced to DTMF decoder for receiving tone commands to actuate loads from the output of the microcontroller as per the program.	8199	5999	4999	MC 8051	Y				DTMF			
140	508	**Intelligent Traffic Management By Synchronized Signalling :** (Get green signal all through successive street junctions).All the traffic junctions in a main road are synchronized for signal lighting such that the vehicle gets green signal at all the junctions while moving at a specified speed.	8199	5999	4999	MC 8051								
141	509	**Cordless Mouse Features By TV Remote Using PIC Microcontroller:** TV remote is used in this project to act as a cordless mouse for the computer. This is achieved by reading the coded data sent from the TV remote by a sensor. The sensor is interfaced to a microcontroller which responds to the coded signals and sends appropriates instructions through serial communication to the PC.	8199	5999	4999	MC PIC					PC	IR		
142	510	**Program Based Accurate Intensity Control Lamp :** A precise illumination in terms of percentage of the full illumination is entered through a numeric keypad. A microcontroller of 8051 family is used to maintain the illumination of a lamp. The firing angle is automatically adjusted to maintain the load power to the lamp such that the entered intensity matches the required one.	8399	6299	4999	MC 8051				Y				

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143	511	**Vehicle Movement Sensed Led Street Light With Idle Time Dimming :** The project is designed for LED based street lights using PIC microcontroller. A number of LED street lights glow for a specific distance ahead, on sensing an approaching vehicle and then switches OFF once the vehicle passes by. Thus a lot of energy is saved in this process. Optionally, dimming feature can be used in this system while no vehicles are passing on the road.	8399	6299	4999	MC PIC						IR		
144	PIC 107	**Street Light That Glows On Detecting Vehicle Movement:** The project is designed for LED based street lights using PIC microcontroller. A number of LED street lights glow for a specific distance ahead, on sensing an approaching vehicle and then switches OFF once the vehicle passes by. Thus a lot of energy is saved in this process. Optionally, dimming feature can be used in this system while no vehicles are passing on the road.	8399	6299	4999	MC PIC						IR		
145	PIC 117	**Using TV Remote As A Cordless Mouse For The Computer Using PIC Microcontroller:** TV remote is used in this project to act as a cordless mouse for the computer. This is achieved by reading the coded data sent from the TV remote by a sensor. The sensor is interfaced to a microcontroller which responds to the coded signals and sends appropriates instructions through serial communication to the PC.	8199	5999	4999	MC PIC					PC	IR		
PRICE RANGE FOR PROJECT KIT: LESS THAN Rs.10000/- (all inclusive)														
146	53	**Security System With User Changeable Password:** The microcontroller based lock indication is an access control system that allows only authorized persons knowing the password only. Password is stored in another dedicated EEPROM that can be changed at any time unlike a fixed one burnt permanently on to the microcontroller.	8599	6399	5099	MC 8051								
147	64	**Detecting Power Grid Synchronisation Failure On Sensing Frequency or Voltage Beyond Acceptable Range:** Synchronization failure of an alternate supply source connected to the grid is detected by this system. The failure can be either under/over voltage or under/over frequency. The project uses a 8051 family microcontroller to perform this operation. This mechanism is popularly known as islanding of grid connected source.	8499	6299	5099	MC 8051	Y							

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148	512	**Programable School / College Bell Ringing System For :** The project is designed to develop an automatic bell system for academic institutions. Multiple time operated electrical load control circuit is used to develop this system. It has an inbuilt real time clock (RTC) to keep tracking the time and switch ON/OFF the bell accordingly.	8399	6299	5099	MC 8051								
149	513	**Grid Synchronisation Fail Detection On Sensing Frequency Or Voltage Beyond Range:** Synchronization failure of an alternate supply source connected to the grid is detected by this system. The failure can be either under/over voltage or under/over frequency. The project uses a 8051 family microcontroller to perform this operation. This mechanism is popularly known as islanding of grid connected source.	8499	6299	5099	MC 8051	Y							
150	514	**Super Fast Electronic Circuit Breaker:** The project is to shut down the power supply when it is overloaded. Conventional circuit breaker like MCB based is on thermal bimetal lever trip mechanism. It is very slow and the trip time is dependent upon the percentage of overload. This project senses the current passing through a series element and the corresponding voltage drop is compared against the preset voltage proportional to the current by a level comparator to generate an output for the load to trip.	8599	6399	5099	MC 8051	Y							
151	515	**Authorised Access With User Defined Password:** The microcontroller based lock indication is an access control system that allows only authorized persons knowing the password only. Password is stored in another dedicated EEPROM that can be changed at any time unlike a fixed one burnt permanently on to the microcontroller.	8599	6399	5099	MC 8051								
152	33A	**Automatic Bell System For Institutions:** The project is designed to develop an automatic bell system for academic institutions. Multiple time operated electrical load control circuit is used to develop this system. It has an inbuilt real time clock (RTC) to keep tracking the time and switch ON/OFF the bell accordingly.	8399	6299	5099	MC 8051								

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153	30	**TV Remote Operated Domestic Appliances Control:** The project is designed to operate electrical loads using a TV remote. The remote transmits coded infrared data which is then received by a sensor interfaced to the control unit. The system operates electrical loads depending on the data transmitted from the TV remote.	8899	6499	5199	MC 2051						IR		
154	169	**Non Contact Techometer:** The project uses the IR transmitting and receiving technique by reflection of IR rays from any rotating object such as a motor shaft. This will help measuring the speed without any physical contact often required in industrial environment.	8599	6399	5199	MC 8051						IR		
155	516	**Contactless Techometer:** The project uses the IR transmitting and receiving technique by reflection of IR rays from any rotating object such as a motor shaft. This will help measuring the speed without any physical contact often required in industrial environment.	8599	6399	5199	MC 8051						IR		
156	520	**Home Appliances Control By Tv Remote :** The project is designed to operate electrical loads using a TV remote. The remote transmits coded infrared data which is then received by a sensor interfaced to the control unit. The system operates electrical loads depending on the data transmitted from the TV remote.	8899	6499	5199	MC 2051						IR		
157	2	**Speed Control Unit Designed For a DC Motor:** The speed of a DC motor is directly proportional to the voltage applied across its terminals. This project uses the above principle to control the speed of the motor by varying the duty cycle of the pulse applied to it (popularly known as PWM control). A microcontroller is used to deliver the PWM pulses to the motor.	9099	6899	5499	MC 8051	Y							
158	12	**Automatic Irrigation System On Sensing Soil Moisture Content:** The project is designed to operate a pump for automatic irrigation. It comprises of moisture sensing arrangement interfaced to an op-amp configured as a comparator. So whenver moisture in the soil reduces, it turns the water pump ON. This results in increase of the moisture content which in tunr switches OFF the motor. The above operations are monitored by a 8051 family microcontroller.	8999	6799	5499	MC 8051								

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159	15	**Programmable Switching Control For Industrial Automation In Repetitive Nature Of Work:** The project is based on a microcontroller (8051 series MC) for programmable logic control of industrial loads by the user. Few switches are duly interfaced to the microcontroller which can be used to program the system in set mode, auto mode or manual mode. Loads are driven sequentially or individually in programmable time intervals from the output of the microcontroller based on the mode selected.	8999	6799	5499	MC 8051	Y							
160	155	**Closed Loop Control For A Brushless Dc Motor To Run At The Exactly Entered Speed:** A keypad is interfaced to a 8051 series microcontroller to enter the desired speed for a BLDC motor. Speed sensing arrangement is made on IR reflection principle which is interfaced to the microcontroller as an input for the program to deliver serired PWM pulses to maintain the speed.	8999	6799	5499	MC 8051						IR		
161	522	**SOIL Moisture Sensed Auto Irrigation System :** The project is designed to operate a pump for automatic irrigation. It comprises of moisture sensing arrangement interfaced to an op-amp configured as a comparator. So whenver moisture in the soil reduces, it turns the water pump ON. This results in increase of the moisture content which in tunr switches OFF the motor. The above operations are monitored by a 8051 family microcontroller.	8999	6799	5499	MC 8051								
162	523	**Sequential Switching System Replacing PLCS:** The project is based on a microcontroller (8051 series MC) for programmable logic control of industrial loads by the user. Few switches are duly interfaced to the microcontroller which can be used to program the system in set mode, auto mode or manual mode. Loads are driven sequentially or individually in programmable time intervals from the output of the microcontroller based on the mode selected.	8999	6799	5499	MC 8051	Y							
163	524	**PI Control For Brushless Dc Motor Runnig At Entered Speed:** A keypad is interfaced to a 8051 series microcontroller to enter the desired speed for a BLDC motor. Speed sensing arrangement is made on IR reflection principle which is interfaced to the microcontroller as an input for the program to deliver serired PWM pulses to maintain the speed.	8999	6799	5499	MC 8051						IR		

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164	525	**Medication Reminder Using Pic Microcontroller:** The project acts as a reminder for people to take medicines in time. Keypad is used to enter the time at which the medicine is required to be taken. The real time clock (RTC) used keeps tracking the time to remind the person by a buzzer sound together with the name of the medicine on the LCD display.	8999	6799	5499	MC PIC								
165	526	**PWM Based Speed Control For Dc Motor:** The speed of a DC motor is directly proportional to the voltage applied acr-oss its terminals. This project uses the above principle to con-trol the speed of the motor by varying the duty cycle of the pulse applied to it (popularly known as PWM control). A micr-ocontroller is used to deliver the PWM pulses to the motor.	9099	6899	5499	MC 8051	Y							
166	PIC115	**Portable Programmable Medication Reminder Using PIC Microcontroller:** The project acts as a reminder for people to take medicines in time. Keypad is used to enter the time at which the medicine is required to be taken. The real time clock (RTC) used keeps tracking the time to remind the person by a buzzer sound together with the name of the medicine on the LCD display.	8999	6799	5499	MC PIC								
167	49	**Programable Energy Meter For Electrical Load Survey:** A The project is designed to automatically calculate energy details within a minute using programmble microcntroller of 8051 family. It indicates on an LCD display, the load consumption in units and cost in rupees for any load required to be used for a specific number of hours.	8799	6499	5599	MC 8051	Y							
168	164	**Underground Cable Fault Distance Locator:** A fixed set of resistors are used representing the distance of the cable in kilometers. A DC voltage is fed over the line in mutiplexing mode in combination with a ADC to detect the fault current and show the distance on a LCD display based on voltage drop principle.	9299	6999	5599	MC 8051	Y							
169	213	**Solar Power Charge Controller:** The solar energy is converted to electrical energy by photo-voltaic cells. This energy is stored in batteries during day time for utilizing the same during night time. This project deals with a controlled charging mechanism which over charge, deep discharge and under voltage of the battery.	8599	6399	5599		Y		Y					Y

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170	282	**Industrial Temperature Controller:** This practical temperature controller controls the temperature of any heating device according to its requirement for any industrial application. Using IC DS1621 Digital temperature sensor user-defined maximum and minimum temperature settings are stored in a nonvolatile memory EEPROM through 8051 series microcontroller to switch on and off the heater load to maintain the temperature with in the limits.	9099	6899	5599	MC 8051	Y					Temp		
171	517	**Charge And Load Protection In Solar Power Management:** The solar energy is converted to electrical energy by photo-voltaic cells. This energy is stored in batteries during day time for utilizing the same during night time. This project deals with a controlled charging mechanism which over charge, deep discharge and under voltage of the battery.	8599	6399	5599		Y		Y					Y
172	518	**Instant Electrical Load Survey For Industries / Home :** A The project is designed to automatically calculate energy details within a minute using programmble microcntroller of 8051 family. It indicates on an LCD display, the load consumption in units and cost in rupees for any load required to be used for a specific number of hours.	8799	6499	5599	MC 8051	Y							
173	527	**Programable Digital Temperature Controller:** This practical temperature controller controls the temperature of any heating device according to its requirement for any industrial application. Using IC DS1621 Digital temperature sensor user-defined maximum and minimum temperature settings are stored in a nonvolatile memory EEPROM through 8051 series microcontroller to switch on and off the heater load to maintain the temperature with in the limits.	9099	6899	5599	MC 8051	Y					Temp		
174	528	**Precise Detection Of Distance In Underground Cable Fault :** A fixed set of resistors are used representing the distance of the cable in kilometers. A DC voltage is fed over the line in mutiplexing mode in combination with a ADC to detect the fault current and show the distance on a LCD display based on voltage drop principle.	9299	6999	5599	MC 8051	Y							

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175	145	**Movement Sensed Automatic Door Opening System:** Automatic door opening system is achieved by sensing any approaching body by PIR sensor interfaced to programmed microcontroller of 8051 family. Upon sensing the movement, microcontroller drives a motor through motor driver IC with locked rotor protection system for door operation.	9499	7199	5699	MC 8051						PIR		
176	172	**Automatic Dialing To Any Telephone Using I2c Protocol On Detecting Burglary:** Automatic dialing of stored number (in EEPROM) by a microcontroller is achieved in the event of any burgalary attempt. A keypad is used to load the number onto the EEPROM. An encoder is used to dial the number through the landline connected to the device. The system is protected by a password.	9499	7099	5699	MC 8051					DTM F			
177	519	**Robotic Vehicle Movement By Cell Phone :** The project is designed to develop a robotic vehicle that is controlled by a cell phone. DTMF commands from a phone is sent to another cell phone which is mounted on the robot. These commands are fed to a microcontroller of 8051 family to operate the vehicle movement through motor interface.	8799	6499	5699	MC 8051					DTM F		Y	
178	531	**Human Body Temperature Sensed Automatic Door Opening System:** Automatic door opening system is achieved by sensing any approaching body by PIR sensor interfaced to programmed microcontroller of 8051 family. Upon sensing human movement, microcontroller drives a motor through motor driver IC with locked rotor protection system for door operation.	9499	7199	5699	MC 8051						PIR		
179	532	**Auto Dialing On Detecting Burglary Using I2c Protocol:** Automatic dialing of stored number (in EEPROM) by a microcontroller is achieved in the event of any burgalary attempt. A keypad is used to load the number onto the EEPROM. An encoder is used to dial the number through the landline connected to the device. The system is protected by a password.	9499	7099	5699	MC 8051					DTM F			
180	35A	**Cell Phone Controlled Robotic Vehicle:** The project is designed to develop a robotic vehicle that is controlled by a cell phone. DTMF commands from a phone is sent to another cell phone which is mounted on the robot. These commands are fed to a microcontroller of 8051 family to operate the vehicle movement through motor interface.	8799	6499	5699	MC 8051					DTM F		Y	

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181	186	**Dish Positioning Control By Ir Remote:** Pthe project is designed to enable 3D movement of a dish by using two DC geared motors. One motor rotates in horizontal plane while the other in vertical plane. The project is controlled by a IR remote for distant operation of the dish positioning.	9699	7299	5799	MC 8051	Y					IR		
182	290	**Dual Converter:** This single phase dual converter consists of a pair of thyristor controlled bridge (4 SCRs X 2) that enables a DC motor to get reversed polarity for either direction rotation and speed control also by thyristor triggering from Microcontroller to each bridge SCR bank of duly interfaced through opto-isolators.	9699	7299	5799	MC 8051				Y				
183	521	**Robotic Vehicle Operated By A Tv Remote:** The project is designed to control a robotic vehicle using a standard TV remote. IR sensor is interfaced to the control unit on the robot for sensing the IR signals transmitted by the remote. This data is conveyed to the control unit which moves the robot as desired. An 8051 series microcontroller is used in this project as control device.	8899	6799	5799	MC 8051						IR	Y	
184	534	**Remote Operation Of Dish Antenna Positioning :** The project is designed to enable 3D movement of a dish antenna using two DC geared motors. One motor rotates in horizontal plane while the other in vertical plane. The project is controlled by a TV remote for distant operation of the dish positioning.	9699	7299	5799	MC 8051	Y					IR		
185	535	**Pair of SCR Bridge Based High Power Dual Converter:** This single phase dual converter consists of a pair of thyristor controlled bridge (4 SCRs X 2) that enables a DC motor to get reversed polarity for either direction rotation and speed control also by thyristor triggering from Microcontroller to each bridge SCR bank of duly interfaced through opto-isolators.	9699	7299	5799	MC 8051				Y				
186	28A	**IR Controlled Robotic Vehicle:** The project is designed to control a robotic vehicle using a standard TV remote. IR sensor is interfaced to the control unit on the robot for sensing the IR signals transmitted by the remote. This data is conveyed to the control unit which moves the robot as desired. An 8051 series microcontroller is used in this project as control device.	8899	6799	5799	MC 8051						IR	Y	

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187	32	**Password Based Circuit Breaker:** The project is designed to control a circuit breaker with help of a password only. A keypad is interfaced to a microcontroller to enter the password. Fatal electrical accidents to the line man can thus be avoided which often happens due to lack of communication and co-ordination between the maintenance staff and the electric substation staff.	9799	7499	5899	MC 8051	Y							
188	42	**CYCLO Converter Using Thyristors:** It is difficult to vary speed of an induction motor which is one of the main disadvantage. This is overcome by using a thyristor controlled cycloconverter that enables the speed to be lowered in three steps. A microcontroller of 8051 family is used to trigger a SCR bank of 8nos, isolated by opto isolators to achieve F,F/2 & F/3 by an appropriate program. F stands for frequency. Please note that a single phase induction motor can be procured at an extra cost over the kit cost.	9899	7599	5899	MC 8051				Y				
189	61	**Networking Of Multiple Microcontrollers:** The project uses three microcontrollers in network to establish communication between them. One MC is connected to the input while the other to a display unit and the thrid one to an output device. Being interconnected, serial communication between them results in desired action to take place as per the logic of the program.	9799	7499	5899	MC 8051								
190	363	**Over Voltage- Under Voltage Protection:** Two comparators of a quad OPAMP IC is used to form a window comparator for sensing low / high input voltage while their 'OR' logic wired output drives a relay to cut-off the load beyond a specified range for safety reasons with an audio alarm by a buzzer driven from another comparator.	9799	7499	5899		Y			Y				
191	536	**Mains Supply Sensed Over Voltage- Under Voltage Trip Switch:** Two comparators of a quad OPAMP IC is used to form a window comparator for sensing low / high input voltage while their 'OR' logic wired output drives a relay to cut-off the load beyond a specified range for safety reasons with an audio alarm by a buzzer driven from another comparator.	9799	7499	5899		Y			Y				

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192	537	**Electric Line Man Safety With Password Based Circuit Breaker:** The project is designed to control a circuit breaker with help of a password only. A keypad is interfaced to a microcontroller to enter the password. Fatal electrical accidents to the line man can thus be avoided which often happens due to lack of communication and co-ordination between the maintenance staff and the electric substation staff.	9799	7499	5899	MC 8051	Y							
193	538	**Multiple Microcontrollers In Lan Like Setup:** The project uses three microcontrollers in network to establish communication between them. One MC is connected to the input while the other to a display unit and the thrid one to an output device. Being interconnected, serial communication between them results in desired action to take place as per the logic of the program.	9799	7499	5899	MC 8051								
194	540	**SCR Based Single Phase Cyclo Converter Using:** It is difficult to vary speed of an induction motor which is one of the main disadvantage. This is overcome by using a thyristor controlled cycloconverter that enables the speed to be lowered in three steps. A microcontroller of 8051 family is used to trigger a SCR bank of 8nos, isolated by opto isolators to achieve F,F/2 & F/3 by an appropriate program. F stands for frequency. Please note that a single phase induction motor can be procured at an extra cost over the kit cost.	9899	7599	5899	MC 8051				Y				
195	18	**Precise Digital Temperature Control :** The project uses a digital temperature sensor for precise control of temperature in medical applications or industries. This system is better than analog/thermostat system, which has poor accuracy. A microcontroller of 8051 family is interfaced with set of swithces, sensor and 7 segment displays for setting the desired temperature. A load such as heater or lamp is thus accuated to maintain the desired temperature.	9899	7599	5999	MC 8051						Temperature		
196	343	**Wireless Power Transfer In 3d Space:** Wireless power transfer up to 10 watts in 3 D space using high frequency from 38 KHz to 40 KHz through tuned circuits.	9899	7599	5999		Y		Y					
197	539	**Power Transfer To Load Wirelessly In 3d Space:** Wireless power transfer up to 10 watts in 3 D space using high frequency from 38 KHz to 40 KHz through tuned circuits.	9899	7599	5999		Y		Y					

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198	541	**Temperature Control With Digital Sensor :** The project uses a digital temperature sensor for precise control of temperature in medical applications or industries. This system is better than analog/thermostat system, which has poor accuracy. A microcontroller of 8051 family is interfaced with set of swithces, sensor and 7 segment displays for setting the desired temperature. A load such as heater or lamp is thus accuated to maintain the desired temperature.	9899	7599	5999	MC 8051						Temperature		
199	533	**Measuring Solar Photovoltaic Power:** Solar photo-voltaic data such as voltage, current, temperature, light intensity for calculating solar insolation etc are monitored by a PIC microcontroller having built in multi channel ADC and displayed on a LCD screen.	9499	7299	6199	MC PIC						Temperature		Y
200	PIC111	**Solar Energy Measurement System:** Solar photo-voltaic data such as voltage, current, temperature, light intensity for calculating solar insolation etc are monitored by a PIC microcontroller having built in multi channel ADC and displayed on a LCD screen.	9499	7299	6199	MC PIC						Temperature		Y
201	47	**Distance Measurement By Ultrasonic Sensor:** The project is designed to measure the distance of any object by using an ultrasonic transducer. The transmitted ultrasonic waves are reflected back from the object and received by the transducer again. The total time taken from sending the waves to receiving it is calculated by taking into consideration the velocity of sound by a program running on the microcontroller. The distance is then displayed on an LCD interfaced to the microcontroller of 8051 family.	9299	7199	6399	MC 8051						Ultra sonic		
202	76	**SCADA (Supervisory Control & Data Acquisition) For Remote Industrial Plant:** Supervisor sitting on the PC terminal is able to control plant parameters remotely over RS232 network while monitoring the data acquired through several sensors. The project uses a front end for the control and a backend with microcontroller interfaced to an ADC from temperature sensors for data collection and control.	10399	7999	6399	MC 8051					PC	Temperature		
203	292	**Contactless Liquid Level Controller:** Unlike traditional contact based level controller this most reliable controller uses ultrasonic reflection for sensing liquid level in a tank to start the filling pump at certain low level and stop that at highest level automatically.	9299	7199	6399	MC 8051						Ultra sonic		

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204	529	**Ultrasonic Sound Reflecting Means Of Distance Measurement :** The project is designed to measure the distance of any object by using an ultrasonic transducer. The transmitted ultrasonic waves are reflected back from the object and received by the transducer again. The total time taken from sending the waves to receiving it is calculated by taking into consideration the velocity of sound by a program running on the microcontroller. The distance is then displayed on an LCD interfaced to the microcontroller of 8051 family.	9299	7199	6399	MC 8051						Ultra sonic		
205	530	**Any Type Of Liquid Level Controller Using Ultrasonic Transducer:** Unlike traditional contact based level controller this most reliable controller uses contactless ultrasonic reflection for sensing liquid level in a tank to start the filling pump at certain low level and stop that at highest level automatically.	9299	7199	6399	MC 8051						Ultra sonic		
206	542	**SCADA (Supervisory Control & Data Acquisition) Using Pc And Embedded System:** Supervisor sitting on the PC terminal is able to control plant parameters remotely over RS232 network while monitoring the data acquired through several sensors. The project uses a front end for the control and a backend with microcontroller interfaced to an ADC from temperature sensors for data collection and control.	10399	7999	6399	MC 8051					PC	Temp eratu re		
207	406	**Single Phase Induction Motor Speed Control:** The project uses two anti-parallel SCRs in series with an induction motor to the mains supply. SCRs are triggered from a firing angle trigger circuit having a potentio meter to gradually control delayed firing angle from zero delay resulting in gradual increase in supply voltage to the motor. This leads to a smooth speed control of the motor. A lamp is provided as load for demonstration purpose.	10599	8199	6399		Y			Y				
208	59	**Minimising Penality In Industrial Power Consumption By Engaging Apfc Unit:** Automatic Power Factor Compensation (APFC) is achieved by engaging number of shunt capacitor in parallel to inductive loads. The time lag between zero voltage and zero current is fed to the microcontroller (8051 family) that drives relays from its output for bringing shunt capacitors across the load till the power factor reaches 0.9.	10899	8399	6499	MC 8051	Y							

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209	251	**Power Saver For Industries & Commercial Establishments:** The project is designed for lagging current compensation by engaging shunt capacitors automatically as per the requirement against the inductive loads largely used in industries. This saves lot of power and thus reduces electric bill in domestic and commercial establishments.	10999	8399	6499	MC 8051	Y							
210	547	**Networking Of Multiple Street Junction Signals For Better Traffic Management:** (Get green signal all through successive street junctions).All the traffic junctions in a main road are synchronized for signal lighting such that the vehicle gets green signal at all the junctions while moving at a normal speed.	10799	8299	6499	MC PIC								
211	549	**APFC (Automatic Power Factor Compensation) For Industrial Power Use To Minimisie Penality :** APFC is achieved by engaging number of shunt capacitor in parallel to inductive loads. The time lag between zero voltage and zero current is fed to the microcontroller (8051 family) that drives relays from its output for bringing shunt capacitors across the load till the power factor reaches 0.9.	10899	8399	6499	MC 8051	Y							
212	551	**Reducing Electric Bill For Industries & Commercial Establishments:** The project is designed for lagging current compensation by engaging shunt capacitors automatically as per the requirement against the inductive loads largely used in industries. This improves power factor and thus reduces electric bill in industrial and commercial establishments.	10999	8399	6499	MC 8051	Y							
213	PIC112	**Synchronized Traffic Signals At Various Junctions Using PIC Microcontroller :** Get green signal all through successive street junctions).All the traffic junctions in a main road are synchronized for signal lighting such that the vehicle gets green signal at all the junctions while moving at a normal speed.	10799	8299	6499	MC PIC								
214	400	**Parking Availability Indication System:** The project is designed to develop a density based parking availability indication system. The parking availability changes automatically on sensing the vehicle density at the entry point through IR sensors. Signals from IR receivers are fed to the microcontroller to monitor the availability of parking space.	10899	8399	6499	MC 8051			Y			IR, Photo		

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215	160	**Induction Motor Protection System:** The project is designed to protect an induction motor from single phasing and over temperature. It uses sensors interfaced to comparators for disconnecting the motor through a realy. The project is supplied with lamps in place of 3 phase motor for demonstration purpose.	11199	8599	6799		Y		Y					
216	168	**High Voltage Dc Upto 2kv From Ac By Using Diode And Capacitors In Voltage Multiplier Circuit:** 1000 PIV diodes in combination with 100uF electrolytic capacitors forming a ladder network multiplies the input AC to develop DC output 7 times the input read on a multimeter approximately.	11099	8599	6799		Y							
217	244	**FACTS (Flexible Ac Transmission) By TSR:** The project is used to achieve static voltage compensation under FACTS using thyristor switched reactor (TSR) in shunt. This helps in lowering the voltage at the load end that may draw leading current either during charging the transmission line or during low loads.	11099	8599	6799	MC 8051				Y				
218	243	**Facts By SVC (Flexible Ac Transmission):** Static VAR Compensation under FACTS is achieved using TSC, thyristor switched capacitors based on shunt compensation. These are duly controlled from a programmed microcontroller of 8051 family.	11299	8799	6899	MC 8051				Y				
219	13	**Automatic Star Delta Starter Using Relays And Adjustable Electronic Timer For Induction Motor:** The project is designed to start a 3 phase motor at 440 volt AC mains supply 50 Hz with a set of 12 volt DC relays in star mode and then to delta mode by an electronically adjustable timer. A set of relays are used to shift the motor connections from star to delta with a time delay. The project is supplied with six lamps instead of a 3 phase motor i.e., two lamps representing each phase winding of the motor.	11499	8899	6999		Y							
220	165	**Three Phase Fault Analysis With Auto Reset On Temporary Fault And Permanent Trip Otherwise:** Six numbers of step down transformers are used for forming star and delta secondaries at low voltage output. Fault condition is created with a set of switches to input LL, LG, 3L fault to the circuit. This triggers a 555 timer in monostable to reset after fault clearance in a short duration temporary fault or permanentaly trip the output incase of prolonged fault.	11399	8999	6999		Y		Y					

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221	401	**Ambulance Flashing Light with Beeper:** An incandescent lamp is made to operate in flashing mode from a microcontroller of 8051 family. For example, this flashing is helpful in giving specific visual alert signals mounted on ambulance together with audio signal by a buzzer.	11499	8899	6999	MC 8051			Y					
222	374	**EVM-Electronic Voting Machine using PIC Microcontroller:** 8 candidate based EVM to store and retrieve cumulative data at any time saved in non-volatile EEPROM interfaced to a set of 8 switches for 8 candidates (expandable) using a PIC series microcontroller.	11499	8999	6999	MC PIC			Y					
223	381	**LDR Based Power Saver for Intensity Controlled Street Light:** .White Light Emitting Diodes (LED) replaces HID lamps in street lighting system to include dimming feature for dimming together with LDR sensing for daylight inhibit. A 8051 series microcontroller is used to control the intensity by developing pulse width modulated signals that drives a MOSFET to switch the LEDs according to achieve desired operation.	11499	8899	6999	MC 8051	Y			Y		LDR		
224	402	**LED Lamp Dimmer Circuit:** White Light Emitting Diodes (LED) replaces HID lamps in industrial lighting system to include dimming feature for energy saving during off peak/ idling hours. A microcontroller of 8051 family is used to control the intensity by developing pulse width modulated signals that drives a MOSFET to switch the LEDs according to the push button commands sent.	11499	8899	6999	MC 8051	Y		Y			LDR		
225	423	**Four Quadrant DC Motor Control without Microcontroller with speed control:** The project has been designed to develop a system using timers for DC motor control in all the four-quadrants together with speed control. Using four-quadrant chopper it is made to demonstrate forward, instant forward brake, reverse, instant reverse brake control of a DC motor.	11499	8999	6999		Y		Y					
226	232	**Pre Stampede Monitoring And Alarm System:** A large number of pressure actuated switches interfaced to a microcontroller is used to achieve pre-stampede alarm system. A buzzer sound is generated once the large crowd concentrates at place exceeding the safe number.	11699	9099	7099	MC 8051								

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227	309	**Propller Display Of Message By Virtual Leds**: Microcontroller interfaced LEDs mounted on a single coloumn of 10 LEDs only displays programed text message virtually while rotating at high speed based upon the principle of persitence of vision of eye.	10599	8399	7099	MC 8051			Y					
228	545	**Virtual Display Of Message By Propller Driven Leds:** Microcontroller interfaced LEDs mounted on a single coloumn of 10 LEDs only displays programed text message virtually while rotating at high speed based upon the principle of persitence of vision of eye.	10599	8399	7099	MC 8051			Y					
229	727	**IOT Based Home Automation Over The Cloud:** It is to control electrical load over the internet from anywhere in the world with status update on password protected dedicated web site with all the hardware housed in a supplied compact enclosure of 2" x 2.5" for plug and play home automation .	11099	8599	7099	LUA	Y		Y		WiFi			
230	728	**IOT based load control over standalone Wi-Fi :** It is to control electrical load over a wifi network with status update on password protected dedicated Android app with all the hardware housed in a supplied compact enclosure of 2" x 2.5" for plug and play home automation .	11099	8599	7099	LUA	Y	Y	Y		WiFi			
231	430	**Industrial Power Control by Integral Cycle Switching without Generating Harmonics using PIC Microcontroller:** Integral cycle control is a method to remove portions of full cycles or cycle of an AC signal for controlling AC power across linear loads interfaced to a programmed PIC microcontroller. This process of power control generates 1% THD as against 61% of firing angle control. A lamp is provided as load for demonstration purpose.	11499	9099	7099	MC PIC	Y			Y				
232	149A	**Metal Detector Robotic Vehicle:** The project is designed to develop a robotic vehicle that can sense land mines ahead of it. The robot is controlled by a remote using RF technology. It consists of a metal detector circuit interfaced to the control unit that alarms the user behind it about a suspected land mine ahead. An 8051 series of microcontroller is used for the desired operation.	11199	8799	7199	MC 8051					RF		Y	
233	226	**Home Automation Using Digital Control:** A circuit interfaced to a land line telephone is used to control home appliances remotely using DTMF technology but without using any microcontroller or any program.	11899	9299	7299				Y		DTMF			

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234	163A	**Electronic Soft Start For 3 Phase Induction Motor:** 6nos. of SCRs i.e., two in anti parallel in each phase are phase controlled in a similar manner to a light dimmer. They are gradually turned ON for a part of each cycle to control the voltage by varying the conduction angle of the SCRs. By variation of the conduction angle, the output voltage is reduced during start and then smoothly increased to full value within few cycles. Please note that lamps are provided in this project for demonstration purpose.	11899	9299	7299					Y				
235	428	**Auto Power Supply Control from 4 Different Sources using PIC Microcontroller: Solar, Mains, Generator & Inverter to Ensure No Break Power:** The main scope of the project is to use the power from 4 different sources of energy such as utility mains, generator, inverter and solar optimally by using appropriate program through microcontroller in the most cost effective way.	11799	9299	7299	MC PIC	Y		Y					
236	375	**Vehicle Movement Sensed Streetlight with Daytime auto off Features: .**The project is designed for LED based street lights. A number of LED street lights glow for a specific distance ahead, on sensing an approaching vehicle and then switches off once the vehicle passes by. Thus a lot of energy is saved in this process. Dimming feature provided is used in this system while no vehicles are passing on the road. It has built in daytime auto switch off features by LDR sensing.	11899	9299	7299	MC 8051			Y			IR,Photo		
237	434	**Tank Water Level Controller:** .The project is designed to give a display of water level in a tank by 16x2 LCD display and control a pump motor on or off depending upon the requirement to maintain a certain water level as required.	11899	9399	7299	MC 8051			Y			water		
238	376	**Cell Phone Controlled Home Appliance Switching by PIC microcontroller:** The project works on the principle of DTMF tone command received from any cell phone to remotely operate any electrical load such as agricultural pump, domestic and industrial loads etc. This device uses a microcontroller of PIC family interfaced to DTMF decoder for receiving tone commands to actuate loads from the output of the microcontroller as per the program.	11999	9599	7399	MC PIC	Y				DTMF			

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239	427	**Speed Control Unit Designed for a DC Motor using PIC Microcontroller:** The speed of a DC motor is directly proportional to the voltage applied across its terminals. This project uses the above principle to control the speed of the motor by varying the duty cycle of the pulse applied to it popularly known as PWM control. A PIC microcontroller is used to deliver the PWM pulses to the motor.	11999	9499	7399	MC PIC	Y		Y					
240	245	**Upfcrelated Display Of Lag And Lead Power Factor:** Microcontroller based LCD display of lagging current , leading current & linear current together with reading of power factor & the leading / lagging time of the current vs voltage. It has provision of choosing the increasing inductive load , switching to linear load and also has an arrangement of auto increment of the capacitive load programmatically.	11999	9599	7499	MC 8051				Y				
241	339	**Density Based Auto Traffic Signal Control With Android Based Remote Override:** Remote override control of density based traffic signal by emmergency vehicles like ambulance,fire brigade etc for getting priority in the desired direction through remotely operated commands to a microcontroller by touch screen based user friendly GUI on any smart phone with Android applications.	10599	8399	7499	MC 8051		Y			Blue Toot h			
242	546	**Smart Phone Controlled Traffic Signal Override With Density Sensing System:** Remote override of traffic signal for emergency vehicles like ambulance, fire brigade etc for getting priority in the desired direction through cell phone operated commands sent to a microcontroller over and above density sensing based automatic signal timing control.	10599	8399	7499	MC 8051		Y			Blue Toot h			
243	27	**RF Controlled Robotic Vehicle With Laser Beam Arrangement:** The project is designed to control a robotic vehicle by using a RF technology for remote operation. A low power laser light is interfaced for demonstrating the possibilities of destroying a distant object by its beam. An 8051 series of microcontroller is used for the desired operation.	11899	9499	7599	MC 8051					RF		Y	

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244	66	**Solar Powererd Led Street Light With Auto Intensity Control:** The project is designed for LED based street lights with auto intensity control using solar power from photovoltaic cells. Intensity control is achieved through a microcontroller of 8051 family. The project stores energy in a battery during day time and automatically operates street light in evening with varying intensity control to minimize waste of energy.	11699	9099	7599	MC 8051	Y							Y
245	247	**Wireless Message Communication Between Two Computers:** A pair of 2.4Ghz transreceiver units are used for bidirectional communication from one PC to another wirelessly using hyper terminal.	10399	8399	7599						PC, XBEE			
246	249	**Obstacle Avoidance Robotic Vehicle:** Ultrasonic sensor based robotic vehicle that avoids any obstacle and changes its direction as required. A microcontroller of 8051 family is used for achieving the desired function.	10399	8299	7599	MC 8051						Ultra sonic	Y	
247	329	**Remote Induction Motor Control By Android Application With 7 Segment Display:** Speed control of an induction motor such as fans by a triac interfaced microcontroller through remotely operated commands to it in steps by touch screen based user friendly GUI on any smart phone with Android applications.	10899	8599	7599	MC 8051		Y			Blue Toot h			
248	429	**Thyristor Controlled Power for Induction Motor using PIC Microcontroller:** The project is designed to control AC power based on the principle of firing angle control. Two thyristors connected in antiparallel are used in series with the load for power control. A lamp is provided as load for demonstration purpose.	12299	9699	7599	MC PIC	Y		Y					
249	431	**Ultrafast Acting Electronic Circuit Breaker Using PIC Microcontroller:** The project is used to shut down the power supply when it is overloaded. Conventional circuit breaker like MCB is based on thermal bimetal lever trip mechanism. It is very slow and the trip time is dependent upon the percentage of overload. This project senses the current passing through a series element and the corresponding voltage drop across it is compared against a preset voltage proportional to the current by a level comparator to generate an output for the load to trip having display arrangement by a PIC microcontroller.	12399	9899	7599	MC PIC	Y			Y				

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250	543	**Dedicated Message Communication Wirelessly, Between Two Computers:** A pair of 2.4Ghz transreceiver units are used for bidirectional communication from one PC to another wirelessly using hyper terminal.	10399	8399	7599						PC, XBEE			
251	544	**Ultrasonic Obstacle Sensed Robotic Vehicle:** Ultrasonic sensor based robotic vehicle that avoids any obstacle and changes its direction as required. A microcontroller of 8051 family is used for achieving the desired function.	10399	8299	7599	MC 8051						Ultra sonic	Y	
252	548	**Android Based Smart Phone Used For Induction Motor Control:** Speed control of an induction motor such as fans by a triac interfaced microcontroller through remotely operated commands to it in steps by touch screen based user friendly GUI on any smart phone with Android applications.	10899	8599	7599	MC 8051		Y			Blue Toot h			
253	380	**Solar Highway Lighting System with Auto Turn Off in Daytime :** The project is designed for LED based solar street light with charge controller. The lights glow in the dark with full intensity and becomes dim progressively as the day approaches to get fully switched off.Thus a lot of energy is saved in this process. It has built in auto daytime turn off feature by LDR sensing.	11499	9199	7599	MC 8051	Y			Y		LDR		Y
254	426	**Auto Intensity Control of Street Lights using PIC Microcontroller:** White Light Emitting Diodes (LED) replaces HID lamps in street lighting system to include dimming feature. A PIC microcontroller is used to control the intensity by developing pulse width modulated signals that drives a MOSFET to switch the LEDs to achieve desired operation.	12399	9699	7599	MC PIC	Y		Y					
255	369	**EVM-Electronic Voting Machine:** 8 candidate based EVM to store and retrieve cumulative data at any time saved in non-volatile EEPROM interfaced to a set of 8 switches for 8 candidates (expandable) using a programmed microcontroller.	12499	9699	7599	MC 8051			Y					
256	170	**RFID Based Attendance System:** RFID tag with details of the employee keep tracking of their attendance while swiped on the RFID reader interfaced to a microcontroller with LCD display for indication.	11099	8899	7699	MC 8051					RFID			

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257	338	**Android Based Remotely Programmable Sequential Load Operation:** The project is designed to operate electrical loads using relays interfaced to a microcontroller through remotely operated commands to it by touch screen based user friendly GUI on any smart phone with Android applications .The touch screen switches operated remotely are used to program the system in set mode, auto mode or manual mode. Loads are driven sequentially or individually in programmable time intervals from the output of the microcontroller based on the mode selected remotely.	11199	8999	7699	MC 8051		Y			Blue Toot h			
258	348	**Arduino Based Auto Intensity Control Of Street Lights:** White Light Emitting Diodes (LED) replacing HID lamps in street lighting system with light dimming feature is interfaced to an Arduino board used to develop pulse width modulated signals that drives a MOSFET to switch a number of LEDs for controling the intensity.	10999	8599	7699	MC ATM EGA			Y					
259	550	**Arduino Based Led Street Lights With Auto Intensity Control:** White Light Emitting Diodes (LED) replacing HID lamps in street lighting system with light dimming feature is interfaced to an Arduino board used to develop pulse width modulated signals that drives a MOSFET to switch a number of LEDs for controling the intensity.	10999	8599	7699	MC ATM EGA			Y					
260	170A	**RFID Based Passport Details:** Identifying the passport holder through data stored in RFID tag by retrieving the same through a reader duly interfaced to the microcontroller by a LCD display.	11099	8899	7699	MC 8051					RFID			
261	417	**Embedded Password Based Access Control System using I2C Protocol:** The project is designed to control a circuit breaker with help of a password only. A keypad is interfaced to a microcontroller to enter the password which is stored in EEPROM. Only after the password matches the circuit breaker can be operated. Fatal electrical accidents to the line man can thus be avoided.	12599	10099	7699	MC 8051	Y							
262	246	**RF Based Home Automation System:** Using RF technology several loads in home or office to be controlled for optimum use of energy.	12899	10199	7799	MC 8051				Y	RF			

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263	393	**Embedded Quiz Monitoring System for Team Performance Evaluation:** A set of 8 switches are interfaced to a microcontroller with display and priority time allotment features. If a number of switches are pressed at same time, it takes the first switch pressed into consideration and generates a buzzer sound along with the display after expiry of the time limit.	12899	10199	7799	MC 8051			Y					
264	418	**Celsius Scale Thermometer using Microcontroller:** Reading precise analog temperature from LM35 using an A to D converter duly interfaced to a microcontroller that generates the desired display on a 16x2 LCD.	12899	10199	7799	MC 8051			Y					
265	PIC 116	**Pre Stampede Monitoring And Alarm System Using Pic Microcontroller:** A large number of pressure actuated switches interfaced to a microcontroller is used to achieve pre-stampede alarm system. A buzzer sound is generated once the large crowd concentrates at place exceeding the safe number.	12799	9899	7799	MC PIC								
266	397	**Real Time Clock Based LED Street Light Automation Using RTC and I2C Protocol:** The project uses 2 separate units each one with one microcontroller. Multiple time operated relay circuit takes over the manual task of switch on/off as per programmed time with an inbuilt real time clock (RTC) to keep track of the time. It uses one mains operated LED board as street light load.	12899	10199	7799	MC 8051	Y		Y					
267	173	**Auto Selection Of Any Available Phase, In 3 Phase Supply System:** The project is designed to provide uninterrupted AC mains supply i.e., 230 volt to the single phase load. This is achieved by automatic change over of the load from the missingg phase to the next available phase in a 3 phase system.	12799	10199	7899		Y							
268	23	**Secret Code Enabled Secure Communication Using Rf Technology:** The project helps sending secured message transmitted through RF communication by using microcontroller and received by another microcontroller where the message is retrieved against a secret code used by the transmitter. LCD display units at trasnmitter and receiver is userd to display the message.	12799	9999	7999	MC 8051					RF			

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269	312	**XBEE Based Remote Monitoring Of 3 Parameters On Transformer / Generator Health:** 3 parameters such as voltage, current, temperature of a transformer or any other live equipment is monitored remotely over XBEE communication to remote terminal with relay control board at the receiver end in the event of abnormal parameters encountered.	11899	9499	7999	MC 8051	Y				XBEE			
270	330	**Remote Alignment Of 3d Dish Positioning By Android Applicatio**n: The main application of using a dish antenna to position it to the exact angle by remotely operated commands to it by touch screen based user friendly GUI from any smart phone with Android applications.	11699	9399	7999	MC 8051		Y			Blue Toot h			
271	341	**Remotely Controlled Android Based Electronic Notice Board:** The microcontroller receives the message for LCD display through remotely operated commands to it by touch screen based user friendly GUI from any smart phone with Android applications truly making it a wireless notice board.	11599	9099	7999	MC 8051		Y			Blue Toot h			
272	419	**Arduino Managed High Sensitive LDR based Power Saver for Street Light Control System:** White Light Emitting Diodes (LED) replaces HID lamps in street lighting system to include dimming feature for dimming together with LDR sensing for daylight inhibit. An ARDUINO is used to control the intensity by developing pulse width modulated signals that drives a MOSFET to switch the LEDs according to achieve desired operation.	11899	9499	7999	MC ATM EGA	Y		Y					
273	432	**Automatic Irrigation System on Sensing Soil Moisture using PIC Microcontroller.:** The project is designed to operate a pump for automatic irrigation. It comprises of moisture sensing arrangement interfaced to an op-amp configured as a comparator. So whenever moisture in the soil reduces, it turns the water pump on. Whenever it results in appropriate moisture content it switches off the motor. The above operations are monitored by a PIC microcontroller.	12899	10299	7999	MC PIC			Y			soil		
274	328	**Home Automation By Android Application Based Remote Control:** The project is designed to operate electrical loads using triacs interfaced to a microcontroller through remotely operated commands to it by touch screen based user friendly GUI on any smart phone with Android applications for loads home or office automation for optimum use of energy.	11899	9499	8299	MC 8051		Y			Blue Toot h			

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275	342	**Remote Operated Domestic Appliances Control By Android Application:** The project is designed to operate electrical loads using relays interfaced to a microcontroller through remotely operated commands to it by touch screen based user friendly GUI on any smart phone with Android applications.	11899	9499	8299	MC 8051		Y			Blue Toot h			
276	21	**Security System Using Smart Card Technology:** The project is a security system developed to avoid unauthorised acess to any connected device. The system uses smart card technology to identify the authorized personnel, possessing a valid card with him/her, to acess any secure area or deivce.	12299	9899	8399	MC 8051					Smar t card			
277	158	**RFID Security Access Control System:** RFID system is used to authorise the tag holder to enter a secure area. The RFID reader reads the data present on the RFID tag. This data is compared in microcontroller to match the built in data for status display and authorizing the entry which is indicated with a lamp coupled with an LCD display.	11899	9599	8399	MC 8051					RFID			
278	325	**Remote Ac Power Control By Android Application With Lcd Display:** Based on the principle of firing angle control of two thyristors connected in anti parallel is fed for the output from an embedded microcontroller circuit having LCD display . The firing angle is remotely controlled to get reduced load power in steps by touch screen based user friendly GUI on any smart phone with Android applications.	11999	9599	8399	MC 8051		Y		Y	Blue Toot h			
279	340	**Remote Password Operated Security Control By Android Applications:** The microcontroller based lock indication is an access control system that allows authorized persons knowing the password only. Password is stored in another dedicated EEPROM that can be changed at any time unlike a fixed one burnt permanently on to the microcontroller through remotely operated commands to it by touch screen based user friendly GUI on any smart phone with Android applications.	12299	9799	8499	MC 8051		Y			Blue Toot h			
280	353	**ATMEGA Based Garrage Door Openning:** An Anroid OS based cell phone is used to remotely control a garage door motor through Bluetooth system connected to a programed Atmega microcontroller so that the data received with accepted password is used to operate the relay driving the motor.Wrong password entry develops a buzzer alarm.	12499	9899	8499	MC ATM EGA		Y			Bluet ooth			

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281	34	**Object Detection By Ultrasonic Means:** This ultrasonic proximity detector is particularly useful for detecting objects ahead within a certain distance such as surveillance security areas, wild life photography. The detector is interfaced to a microcontroller of 8051 family. The controller takes appropriate action after receiving the signal from the transducer. In this project we are using a magnetic gun as an output from the microcontroller.	12299	9899	8599	MC 8051						Ultra sonic		
282	336	**Four Quadrant Operation Of Dc Motor Remotely Controlled By Android Applications:** The project has been designed to develop a speed control system for DC motor in all the four-quadrant. Using four-quadrant chopper it is possible to demonstrate forward, instant forward brake, reverse, instant reverse brake control of a DC motor using a microcontroller through remotely operated commands to it by touch screen based user friendly GUI on any smart phone with Android applications.	12399	9899	8599	MC 8051		Y			Blue Toot h			
283	351	**Arduino Based Underground Cable Fault Detection:** A fixed set of resistors are used representing the distance of the underground cable in kilometers. A DC voltage is fed over the line in mutiplexing mode in combination with the built-in ADC of an Arduino board to detect the fault current and show the distance on a LCD display based on varying voltage drop principle.	12299	9899	8599	MC ATM EGA			Y					
284	410	**Arduino based 4 Quadrant DC Motor Control:** The project has been designed to develop a speed control system for DC motor in all four-quadrant. Using four-quadrant chopper it is possible to demonstrate forward, instant forward brake, reverse, instant reverse brake control of a DC motor It uses an Arduino board along with a motor driver IC to drive the motor	12799	10399	8599	MC ATM EGA	Y		Y					
285	PIC 104	**RFID based device control and authentication(using pic microcontroller):** RFID system is used to authorise the tag holder to enter a secure area. The RFID reader reads the data present on the RFID tag. This data is compared in microcontroller to match the built in data for status display and authorizing the entry which is indicated with a lamp coupled with an LCD display.	12499	9999	8599	MC PIC					GSM			

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286	40	**Tampered Energy Meter Monitoring Conveyed To Control Room By Gsm With User Programable Number Features:** The main scope of this project is to send message from any tampered energy meter to be received by the control room by means of GSM modem by user programable number upon a mis-call . A message is sent to the same number stored in microcontroller to alert the tampering of the meter.	12299	10099	8799	MC 8051					GSM	IR		
287	157	**Flash Flood Intimation Over Gsm With User Programable Number Features To The Station Master:** High water level detector interfaced to micro controller that outputs a signal to a GSM modem for sending an SMS to the station master through GSM by user programable number upon a mis-call to direct the train driver to stop the train.	12299	10099	8799	MC 8051					GSM			
288	190	**Railway Track Security By Gsm With User Programable Number Features:** The system detects for breakage /crack in railway tracks using line loop current break to sense the same to send interrupt to the controller to send an SMS to the station master through GSM by user programable number upon a mis-call.	12299	10099	8799	MC 8051					GSM			
289	201	**Wireless Electronic Notice Board By Gsm With User Programable Number Features :** The microcontroller receives the message from transmitter through GSM by user programable number upon a mis-call interface, to be displayed on the LCD at user end interfaced to the microcontroller.	12299	9899	8799	MC 8051					GSM			
290	331	**Password Based Remote Controlled Door Opening By Android Application:** The project is designed to operate a motor operated door interfaced to a microcontroller through remotely operated commands to it by touch screen based user friendly GUI on any smart phone with Android applications.	12799	10199	8799	MC 8051		Y			Blue Toot h			
291	350	**Arduino Based Solar Street Light:** LED based street lights with auto intensity control using solar power from photovoltaic cells duly interfaced to an Arduino board. The project stores solar energy in a battery during day time and automatically operates street light in evening with varying intensity control to minimize waste of energy.	12299	10099	8799	MC ATM EGA			Y					Y

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292	388	**Android Phone Speech Recognition Sensed Voice Command based Notice Board Display:** Remote Notice board with voice message input from an Android cell phone with speech recognition application using Bluetooth mode of communication is converted to text data through the receiving Bluetooth module, forming as input to a 8051 microcontroller that converts the message read to a text display.	16699	10399	8799	MC 8051					GSM, GPS			
293	554	**Remote monitoring of patient body temperature over internet:** Body temperature of a patient is sent over the internet upon a dedicated webpage to anywhere in the world live either for private or public view in user selected chart format, an IOT based project	13699	10999	8799	MC 8051			Y		WiFi	Temp		
294	327	**Remote Speed Control Of Dc Motor By Android Applications:** Speed control of DC motor by varying the duty cycle of the pulse applied to it (popularly known as PWM control) through remotely operated commands to the microcontroller in steps by touch screen based user friendly GUI on any smart phone with Android applications.	12799	10199	8899	MC 8051		Y			Blue Toot h			
295	337	**Railway Level Crossing Gate Operation Remotely By Android:** Railway level crossing gate motor ,controlled by the the engine driver from a smart phone to a microcontroller through remotely operated commands to its by touch screen based user friendly GUI with Android applications for deriving an output to dive a relay for the gate motor operation.	12799	10199	8899	MC 8051		Y			Blue Toot h			
296	390	**Arduino based Automatic Temperature Controlled Fan Speed Regulator:** Using an analog temperature LM35 interfaced to the built in ADC of a programmed Arduino to develop varying duty cycle of PWM output for a driver IC to run a DC motor automatically according to the sensed temperature at different speed based on the temperature sensed.	13199	10599	8999	MC ATM EGA			y					
297	17	**Automatic Wireless Health Monitoring System In Hospitals For Patients:** Monitoring patient health remotely in hospitals over wireless from the patient bed to the doctor's chamber by RF with LCD display at both ends and optionally an alarm on critical situation.	14599	11799	9099	MC 8051					RF	Temp eratu re		

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298	326	**Android Application Controlled Remote Robot Operation:** The project is designed to control a robotic vehicle using motors interfaced to a microcontroller through remotely operated commands to it by touch screen based user friendly GUI on any smart phone with Android applications.	11999	9899	9099	MC 8051		Y			Blue Toot h		Y	
299	408	**Arduino based DC Motor Speed Control:** The speed of a DC motor is directly proportional to the voltage applied across its terminals. This project uses the above principle to control the speed of the motor by varying the duty cycle of the pulse applied to it (popularly known as PWM control). An Arduino board is used to deliver the PWM pulses to the motor through a motor driver IC.	13599	10999	9099	MC ATM EGA				Y				
300	556	**Remote monitoring of transformer / generator health over internet:** Real time parameters of any functioning transformer, generator, domestic / industrial load, displayed over internet upon a dedicated webpage either for private or public view in user selected chart format such as line type, bar type, pie chart, gauge type etc, an IOT based project	13899	11299	9099	MC 8051	Y				WiFi	Temp		
301	154	**Theft Intimation Of The Vehicle Over Gsm By Sms With User Programable Number Features To Owner Who Can Stop The Engine Remotely:** Theft intimation of the vehicle over sms using GSM modem by user programable number upon a mis-call , to the owner while unauthorized door entry is made. Owner can send command through his mobile to stop the engine by activating the relay interfaced to a microcontroller along with the GSM modem used for the purpose.	12699	10399	9199	MC 8051					GSM	Temp eratu re		
302	332	**Metal Detector Robotic Vehicle Operated By Android Application:** The project is designed to control a robotic vehicle using motors interfaced to a microcontroller through remotely operated commands to it by touch screen based user friendly GUI on any smart phone with Android applications. It also consists of a metal detector circuit interfaced to the control unit that alarms the user behind it about a suspected land mine ahead.	12699	10399	9299	MC 8051		Y			Blue Toot h		Y	

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303	409	**Arduino Based Line Following Robot:** The project is designed to develop a robotic vehicle that follows a specific path. This project uses an Arduino board for its operation. A pair of photo sensors comprising IR transmitter and photodiode is interfaced to the Arduino to detect the specified path for sending signal to the Arduino that delivers desired control signal to a motor driver IC for the motors to follow the movement Note: As per government security norms, batteries would not be included in the kit.	13099	10799	9299	MC ATM EGA						IR, Phot o	Y	
304	224	**Sine Pulse Width Modulation (SPWM):** Aadaptive sine-weighted pulse width modulated output is generated by a programed microcontroller of 8051 family for developing a 50Hz sine wave three phase AC from single phase AC. Please note that a three phase induction motor can be procured at an extra cost over the kit cost.	15199	12299	9399	MC 8051				Y				
305	240	**SVPWM Space Vector Pulse Width Modulation:** Project is designed to generate 3 phase supply from single phase supply using 6 no's MOSFETs. It comprises of a 3 phase bridge inverter driven from a programable microcontroller (8051 family) through bridge drivers and opto-isolators. Single phase source is converted to DC which is used for the inverter. Please note that a three phase induction motor can be procured at an extra cost over the kit cost.	15199	12299	9399	MC 8051				Y				
306	364	**BI Directional Rotation Of Single Phase Induction Motor Without Run Capacitor:** Developing 2 phase ac by 90 degrees phase difference to each other by converting ac to dc and again dc to ac by high frequency switching with help of MOSFETs driven from a microcontroller for any single phase induction motor to run in either direction without use of run capacitor.	15199	12299	9399	MC 8051				Y				
307	384	**Wireless Home Appliance like Fan Speed Control using RF Communication:** The project is designed to control AC power based on the principle of firing angle control by two thyristors connected in antiparallel or a TRIAC used in series with the fan which is an induction motor for speed control. Wireless mode of communication through a pair of RF transmitter receiver module is interfaced to the microcontrollers at either side for responding to the commands.	15099	12299	9399	MC 8051	Y				RF			

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308	PIC 113	**Speed Synchronisation Of Multiple Motors In Industries Using Pic Microcontroller:** Multiple motors used in industries like textile mill, steel plant, papaer mill etc using conveyor belts needs the motors used to be synchronized. This is achieved by independent microcontrollers interfaced to each motor with speed sensing arrangement and keypad to enter speed. The project uses 3 motors for demonstration purpose.	15299	12399	9499	MC PIC					RF	IR		
309	372	**Voice Controlled Robot by Cell Phone with Android App**:Using Bluetooth mode of communication from any smart cell phone with Android app, voice commands are converted to logic data by a receiving Bluetooth module, forming as input to a 8051 microcontroller that enables 2 DC motors operation for the robot in desired direction through motor driver IC.	13499	11199	9499	MC 8051		Y			Blue Toot h		Y	
310	373	**Voice Controlled Home Appliances:** Using Bluetooth mode of communication from any smart cell phone with Android app, voice commands are converted to logic data by the receiving Bluetooth module, forming as input to 8051 microcontroller that enables AC household mains loads through TRIACs interfaced through opto-isolators.	14099	11199	9499	MC 8051	Y	Y			Blue Toot h			
311	415	**The Temperature Humidity Monitoring System of Soil Based on Wireless Sensor Networks using Arduino:** The project is designed to operate a pump for automatic irrigation. It comprises of moisture sensing arrangement interfaced to an op-amp configured as a comparator. So whenever moisture in the soil reduces, it turns the water pump ON. This results in increase of the moisture	14299	11699	9599	MC ATM EGA			Y			SOIL		
312	PIC 106	**Vehicle Theft Intimation To The Owner On His Cell Phone By Gsm With User Programable Number Features (Using Pic Microcontroller):** Theft intimation of the vehicle over SMS using GSM modem by user programable number upon a mis-call to the owner while unauthorized door entry is made. Owner can send command through mobile to stop the engine whose ignition is disabled through a relay fed from the microcontroller which gets command from the GSM modem.	13399	10999	9599	MC PIC					GSM			

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313	233	**Unique Office Communication System Using RF:** Extremely useful PC based RF communication system in an office from the boss to the subordinates having small LCD display terminals. This is interfaced to independent microcontrollers which receives message on selective or common to all basis with a receive tone alert.	14799	11999	9699	MC 8051					RF,PC			
314	354	**Arm Cortex (Stm32) Based Auto Intensity Control:** White Light Emitting Diodes (LED) replacing HID lamps in street lighting system with light dimming feature is interfaced to an ARM cortex (STM32) board used to develop pulse width modulated signals that drives a MOSFET to switch a number of LEDs for controling the intensity.	12599	10399	9699	STM32								
315	416	**Arduino based Industrial Appliances Control System by Decoding Dual Tone Multi-Frequency Signals via GSM Network:** The project works on the principle of DTMF (dual tone multi frequency) tone command so received from any cell phone to remotely switch any electrical load such as agricultural pump, domestic and industrial loads etc. This device uses an ARDUINO board interfaced to DTMF decoder for receiving tone commands to actuate loads from the output of the Arduino as per the program	14499	11899	9699	MC ATMEGA	Y		Y		DTMF			
316	378	**Solar Water Pump Control with Four Different Time Slots for Power Saving Applications:** .The project is designed to develop an automatic switching system for pump operation for multiple preset-time operation with an inbuilt real time clock (RTC) to keep tracking the time and switch on/off a relay whose contacts are used in series with another relay operated from a solar charge controller circuit with battery incorporating all protections such as overload / under voltage/ overcharging and deep discharging trip.	14599	11899	9699	MC 8051	Y	Y	Y					Y
317	147	**GSM Based Monthly Electricity Energy Meter Billing With SMS Upon GSM With User Programable Number Features Togather With Onsite Display To The User:** Domestic electricity consumed is displayed in rupee terms on daily and monthly basics to the user and billing details sent over GSM by user programable number upon a mis-call form the user to the department for generating the printed bill.	13399	10999	9799	MC 8051	Y				GSM			

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318	355	**Arm Cortex (Stm32) Based Motor Speed Control:**The speed of a DC motor is directly proportional to the voltage applied across its terminals. This project uses the above principle to control the speed of the motor by varying the duty cycle of the pulse applied to it (popularly known as PWM control). An ARM cortex (STM32) board is used to deliver the PWM pulses to the motor.	12999	10799	9799	STM32								
319	146	**Railway Level Crossing Gate Control Through Gsm By Sms With User Programable Number Features By The Station Master Or The Driver:** Railway level crossing gate motor ,controlled by the station master or the engine driver through GSM modem by user programable number upon a mis-call interfaced to microcontroller for deriving an output to dive a relay for the gate motor operation.	13899	11399	9899	MC 8051					GSM			
320	394	**Arduino based Electrical Appliances Control using IR:** Project uses a standard TV remote for electrical load control using an Arduino board. An IR receiver is interfaced to the Arduino board to read the coded data from the remote to activate the corresponding relay for the load to switch on or off. Lamps are provided as load for demonstration purpose.	14799	12099	9899	MC ATMEGA	Y				IR			
PRICE RANGE FOR PROJECT KIT: LESS THAN Rs.15000/- (all inclusive)														
321	159	**Integrated Energy Management System Based On Gsm With User Programable Number Features And Acknowledgement Features:** An SMS sent through the cell phone to a distant location GSM modem by user programable number upon a mis-call for any load interfaced from a micro controller through relay and relay driver to switch ON and switch OFF the same with acknowledgement sent back to the sender on SMS upon the action taken and the status of the load.	14099	11599	10099	MC 8051	Y				GSM			
322	389	**Smart Card Based Electronic Passport System:** The system uses smart card technology to identify the authorized personnel and then process all the passport details pertaining to him/her, for necessary verification by authorities concerned.	14999	12299	10099	MC 8051			y	y	Smart card			
323	557	**Energy Meter Reading over Internet:** Energy meter reading on units consumed and cost thereof conveyed over internet upon a dedicated webpage for display on graphical format under IOT (Internet of things) project category.	15799	12599	10099	MC 8051	Y		Y		GSM	LDR		

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324	387	**Wireless power transfer by High frequency resonating coils:** Wireless power transfer by two high frequency resonating air cored coils operating at 40 KHz and spaced at distance of 20 CM lights up a 10 watt lamp with full brightness	14599	11999	10099		Y			Y				
325	223	**PRE-PROGRAMMED DIGITAL SCROLLING MESSAGE SYSTEM:** The project is uses alphanumeric LED displays for scrolling message over it. This project can be used for advertisement purposes.	16399	13399	10199				Y					
326	352	**AURDINO BASED HOME AUTOMATION:** Using Bluetooth module interfaced an Arduino board is designed for controlling several loads in home or office for optimum use of energy.	13899	11499	10199	MC ATM EGA		Y	Y		Bluet ooth			
327	382	**Wireless DC Motor Speed and Direction Control for Robotic Applications:** The speed of a DC motor is directly proportional to the voltage applied across its terminals. This project uses the above principle to control the speed of the motor by varying the duty cycle of the pulse applied to it (popularly known as PWM control) through RF interface using a microcontroller to deliver the PWM data to the transmitter for the receiver to operate the motor wirelessly.	17099	13899	10699	MC 8051	Y		Y		RF			
328	235	**Touch Screen Based Industrial Load Switching:** Touch screen panel managed industrial switching system(or home) for industrial load control in corrosive / inflammable environment that prohibits use of conventional switches.	14299	11999	10799	MC 8051						Touc h scree n		
329	346	**Wireless SCADA:** Supervisor sitting on the PC terminal to control plant parameters wirelessly while monitoring the data acquired through several sensors. The project uses a front end for the control and a backend with microcontroller interfaced to an ADC from temperature sensors for data collection and control.	14799	12299	10899	MC 8051					USB 2.4G Hz	Temp eratu re		
330	368	**GSM based Electricity Energy Meter Billing with Onsite Display:** Domestic electricity consumed is displayed in per unit terms to the user and billing details are sent over GSM to the department for generating the printed bill. Unique feature of the project is that upon a missed call by the user to the GSM modem the number gets stored for subsequent communication.	15399	12899	10899	MC 8051	Y				GSM	LDR		

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331	180	**Energy Meter Billing With Load Control Over Gsm With User Programable Number Features:** The project is to develop a wireless energy meter reading and load control. The reading of the energy meter is also sent by to any cell phone by a message through GSM modem by user programable number upon a mis-call which also receives commands from the cell phone to control the electrical loads.	15199	12599	10999	MC 8051	Y				GSM			
332	231	**Speed Synchronisation Of Multiple Motors In Industries:** Multiple motors used in industries like textile mill, steel plant, papaer mill etc using conveyor belts needs the motors used to be synchronized. This is achieved by independent microcontrollers interfaced to each motor with speed sensing arrangement and keypad to enter speed. The project uses 3 motors for demonstration purpose.	17599	14499	10999	MC 8051					RF	IR		
333	553	**Home automation under Wi-Fi through Android apps from any smart phone:** Domestic / industrial loads controlled over Wi-Fi network through any smart phone having Android OS an IOT based project	15399	12599	10999	MC 8051	Y	Y	Y		WiFi			
334	386	**Automated Irrigation System using a GSM modem:** The project is designed to operate a pump for automatic irrigation. It comprises of moisture sensing arrangement interfaced to an op-amp configured as a comparator, the output of which is sent to a controller such that whenever moisture in the soil reduces, it turns the water pump on. Whenever it results in appropriate moisture content it switches off the motor. The above operations are monitored by 8051 family microcontroller.	12699	13199	11199	MC 8051			Y		GSM	Soil		
335	253	**Auto Metro Train To Shuttle Between Stations:** A robotic vehicle considered as train is connected with sensors for shuttling between two stations automatically. It has provision for limiting the number of passengers entering the train by auto door management system. Auto start and stop feature from origin to the destination and back is also available.	16799	13899	11499	MC 8051						IR	Y	

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336	425	**Underground Cable Fault Distance Conveyed over GSM:** A fixed set of resistors are used representing equivalent resistance pertaining to distance of an underground cable(in lieu of actual cable) in kilometers. A DC voltage is fed over the cable line in multiplexing mode in combination with an ADC to detect the fault current and show the distance on a LCD display based on voltage drop principle. The same information is transmitted to the authority over GSM interfaced to the microcontroller.	17099	14199	11699	MC 8051	Y				GSM			
337	558	**Display of Underground Cable Fault Distance over Internet:** Underground cable fault distance displayed over internet to any computer upon a dedicated webpage. The project is one of the IOT category using GSM modem and microcontroller.	17099	14199	11699	MC 8051	Y		Y		GSM			
338	370	**Solar Inverter:**MOSFET based Inverter 50Hz, 220 Volt AC powered by 12 Volt storage battery having charging features from solar photovoltaic cells optionally.	15899	13199	11699		Y			Y				
339	377	**Implementation of Solar Inverter for Home, Garden, Street Light Applications:** MOSFET based Inverter 50Hz, 220 Volt AC powered by 12 Volt storage battery having charging features from solar photovoltaic cells optionally incorporating all protections such as overload / under voltage/ overcharging and deep discharging trip.	15899	13199	11699		Y			Y				
340	356	**Arm Cortex (Stm32) Based Solar Street Light:** LED based street lights with auto intensity control using solar power from photovoltaic cells duly interfaced to an ARM cortex (STM32) board. The project stores solar energy in a battery during day time and automatically operates street light in evening with varying intensity control to minimize waste of energy.	15599	13099	11899	STM32								Y
341	PIC114	**Energy Meter Billing With Load Control Over Gsm With User Programable Number Features (By Pic Microcontroller):** The project is to develop a wireless energy meter reading and load control. The reading of the energy meter is also sent by to any cell phone by a message through GSM modem by user programable number upon a mis-call which also receives commands from the cell phone to control the electrical loads.	16499	13799	11899	MC PIC	Y				GSM			

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342	322	**Xbee Based Remote Monitoring Of 3 Parameters On Transformer / Generator Health With Voice Announcement And Wireless Pc Interface:** 3 parameters such as voltage, current, temperature of a transformer or any other live equipment is monitored remotely over XBEE communication to remote terminal with relay control board at the receiver end in the event of abnormal parameters encountered with recorded voice announcement and with wireless computer interface for display.	17099	14199	11999	MC 8051			Y		Xbee			
343	414	**RFID based Electronic Passport System for Easy Governance using Arduino:** RFID tag with details of the person keep tracking their passport details while swiped on the RFID reader interfaced to an Arduino board with LCD display for indication.	16999	14099	11999	MC ATM EGA			Y		RFID			
344	367	**Prepaid Energy Meter with GSM Interface:** The main scope of this project is to send message through GSM modem to the control room from an energy meter having prepaid arrangement initiated by the user upon a set of switches (for demo purposes) in lieu of a prepaid card for the desired amount. The power gets disconnected automatically on zero balance. Unique feature of the project is that upon a missed call by the user to the GSM modem the number gets stored for subsequent communication.	17499	14499	11999	MC 8051	Y				GSM	LDR		
345	250	**Solar powered auto irrigation system:** The project uses a solar powered pump operated automatically for irrigation purpose,on sensing the soil condition.By using solar power system, dependence on erratic commercial power is not required. A microcontroller of 8051 family is used to control the whole system. A motor is provided as load for demonstration purpose.	18099	14999	12299	MC 8051	Y							Y
346	411	**Arduino based RFID Sensed Device Access:** RFID system is used to authorize the tag holder to enter a secure area. The RFID reader reads the data present on the RFID tag. This data is compared in an Arduino board to match the built in data for status display and authorizing the entry which is indicated with a lamp coupled with an LCD display.	17499	14599	12299	MC ATM EGA			Y		RFID			

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347	366	**Detecting Power Theft prior to feeding energy Meter and Intimating to Control Room by GSM:** The main scope of this project is to send message from any energy meter facing power theft, to be received by the control room by means of GSM modem. Unique feature of the project is that upon a missed call by the user to the GSM modem the number gets stored for subsequent communication.	18999	15899	12999	MC 8051	Y				GSM			
348	310	**Vehicle Tracking By Gps - Gsm:** Location tracking of any vehicle with latitude and longitude details communicated to the owner over SMS at periodical intervals by a tracking microcontroller duly interfaced to a GPS module and a GSM modem installed in the vehicle.	16699	14099	13099	MC 8051					GSM, GPS			
349	347	**Wireless Rash Driving Detection:** The time difference between 2 consecutive spots on a highway is sensed & fed to a programmed microcontroller to convert the same to the speed of a vehicle with display & warning upon exceeding specified speed limit and transmitting the same wirelessly to the control room.	18999	15899	13099	MC 8051					RF	IR		
350	238	**Touch Screen Based Home Automation System:** A touch screen based transmitting unit is used to operate home appliances with zero voltage switching, remotely using RF communication to avoid complicated wiring in existing system and to improve life of the appliance under use.	18699	15799	13699	MC 8051					RF	Touch screen		
351	365	**Wireless Power Driven Car or Train:**The project is designed to transfer power wirelessly to 2 DC motors for electric car, train without any fuel or battery or electrical connection, to run in a specified path by inductive resonance coupling at ground level fixed coil developing 40KHz power from 50 Hz mains AC source. This project can also be used for high power charging of batteries in conventional electric cars wirelessly while even running on the road.	20299	16899	13699		Y			Y		IR	Y	
352	392	**Zigbee based Automatic Meter Reading System:** Domestic electricity consumed is locally displayed on LCD in terms of Rupees and units to the user and is also sent over wireless communication to a nearby PC using a pair of 2.4GHz transceivers.	19699	16399	13899	MC 8051	Y		Y		XBEE			

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353	407	**Arduino Operated Obstacle Avoidance Robot:** Ultrasonic sensor based robotic vehicle that avoids any obstacle and changes its direction as required. An ARDUINO board with input from the sensor is used to feed a motor driver IC for the motors to achieve the desired function. Note: As per government security norms, batteries would not be included in the kit.	21099	17599	14299	MC ATMEGA						ULTRA SONIC	Y	
354	422	**Solar Energy Measurement System Conveyed over RF using a PIC microcontroller:** Solar photo-voltaic data such as voltage, current, temperature, light intensity for calculating solar insolation etc. are monitored by a PIC microcontroller having built in multi-channel ADC and displayed on a local LCD screen. Same information is also transmitted over RF transmission to another receiver having provision of watching the parameters on interfaced PC.	20699	17499	14599	MC PIC	Y				Xbee			Y
PRICE RANGE FOR PROJECT KIT: LESS THAN Rs.20000/- (all inclusive)														
355	433	**Patient health monitoring system with location details by GPS over GSM:** Monitoring patient health remotely in hospitals over wireless from the patient bed to the doctor's chamber by RF with LCD display at both ends and optionally an alarm on critical situation.	22199	18899	16199	MC 8051					GSM, GPS			
356	362	**Vehicle Theft Location Intimation By Gps/Gsm To The Owner:** Location tracking of any stolen vehicle with latitude and longitude details communicated to the owner over SMS at periodical intervals by a tracking microcontroller duly interfaced to a GPS module and a GSM modem installed in the vehicle.	21399	18399	16499	MC 8051					Y			
357	333	**Pick N Place Robotic Arm And Movement Controlled By Android Wirelessly:** The project is designed to develop a pick n place robotic vehicle with a soft catching gripper. For example, it can safely handle a bomb very carefully to avoid explosion while catching. The robotic vehicle 4 motors are interfaced to a microcontroller through remotely operated commands to it by touch screen based user friendly GUI on any smart phone with Android applications.	22299	19099	16799	MC 8051		Y			Blue Tooth		Y	
358	152	**Fire Fighting Robotic Vehicle:** The project is designed to develop a fire fighting robot using RF technology for remote operation. The robotic vehicle is loaded with water tanker and a pump which is controlled over wireless communication to throw water. An 8051 series of microcontroller is used for the desired operation.	24699	20899	17199	MC 8051					RF		Y	

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359	379	**Farmer Friendly Solar Based Electric Fence for Deterring Cattles:** MOSFET based Inverter 50Hz, 220 Volt AC powered by 12 Volt storage battery having charging features from solar photovoltaic cells is used along with a voltage multiplier developing 2KV feeding the fence around the farmer field to inject mild shock to encroaching cattle for protecting the crop from damage.	24799	21099	17399		Y			Y			
360	153	**War Field Spying Robot With Night Vision Wireless Camera:** The project is designed to develop a robotic vehicle using RF technology for remote operation attached with wireless camera for monitoring purpose. The robot along with camera can wirelessly transmit real time video with night vision capabilities. This is kind of robot can be used for spying purpose in war fields. An 8051 series of microcontroller is used for the desired operation.	23999	20499	17599	MC 8051					RF		Y	
361	357	**Raspberrypi Based Auto Intensity Control:** White Light Emitting Diodes (LED) replacing HID lamps in street lighting system with light dimming feature is interfaced to aRaspberry Pi board used to develop pulse width modulated signals that drives a MOSFET to switch a number of LEDs for controling the intensity.	22499	19499	18099	Processor Based								
362	334	**Fire Fighting Robot Remotely Operated By Android Applications:** The project is designed to develop a fire fighting robotic vehicle using motors those are interfaced to a microcontroller through remotely operated commands to it by touch screen based user friendly GUI on any smart phone with Android applications. The robotic vehicle is loaded with water tanker and a pump which is also controlled remotely too pump the water on the fire.	24799	21199	18199	MC 8051		Y			Blue Tooth		Y	
363	335	**War Field Spying Robot With Night Vision Wireless Camera By Android Applications:** The project is designed to develop a robotic vehicle using motors those are interfaced to a microcontroller through remotely operated commands to it by touch screen based user friendly GUI on any smart phone with Android applications and with wireless camera for monitoring purpose. The robot along with camera can wirelessly transmit real time video with night vision capabilities. This is kind of robot can be used for spying purpose in war fields.	24599	21199	18899	MC 8051		Y			Blue Tooth		Y	

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364	151	**Pick N Place With Soft Catching Gripper:** The project is designed to develop a pick n place robotic vehicle with a soft catching gripper. For example, it can safely handle a bomb very carefully to avoid explosion while catching. The robotic vehicle is RF controlled for remote operation. An 8051 series of microcontroller is used for the desired operation.	26899	22899	18999	MC 8051					RF		Y	
365	358	**Raspberrypi Based Motor Speed Control:** The speed of a DC motor is directly proportional to the voltage applied across its terminals. This project uses the above principle to control the speed of the motor by varying the duty cycle of the pulse applied to it (popularly known as PWM control). A Raspberry Pi board is used to deliver the PWM pulses to the motor.	23999	20799	19099	Processor Based								
366	359	**Raspberrypi Based Programmable Sequential Switching:** The project is based on RaspberryPI board for programmable logic control of industrial loads by the user. A keyboard is interfaced to the Raspberry PI module which can be used to program the system in set mode, auto mode or manual mode. Loads are driven sequentially or individually in programmable time intervals from the output of the Raspberry PI module based on the mode selected.	24399	21199	19399	Processor Based								
PRICE RANGE FOR PROJECT KIT: LESS THAN Rs.30000/- (all inclusive)														
367	360	**Raspberrypi Based Solar Street Light:** LED based street lights with auto intensity control using solar power from photovoltaic cells duly interfaced to a Raspberry Pi board. The project stores solar energy in a battery during day time and automatically operates street light in evening with varying intensity control to minimize waste of energy.	25499	22199	20499	Processor Based								Y
368	317	**GSM Based Remote Monitoring Of 8 Parameters Of Transformer:** GSM based remote monitoring of 8 parameters of transformer / generator health- 8 parameters such as 3 P voltage, 3p current, temperature, oil chamber moisture / oil level /vibration(any one of three) etc of distribution transformer / generator / other.	29199	25199	21099	MC 8051					XBEE			

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369	255	**Touch Screen Based Remote Controlled Robotic Vehicle For Stores Management:** The project is designed to control a robotic vehicle with a touch screen display unit for remote operation. The touch screen remote control is used at the transmitting side to transmit RF control signals. At the receiving end, a pick n place robotic vehicle is used to respond to those signals and perform the task. An 8051 series of microcontroller is used for the desired operation.	29499	25299	21599	MC 8051						Touch screen	Y	
370	324	**Voice Controlled Robotic Vehicle With Long Distance Speech Recognition:** A robotic vehicle that responds to voice commands with RF mode communication for long distance speech recognition features for movement in any direction with manual override by switches at the transmitter end.	34299	30399	28799	MC 8051					Voice Module,RF		Y	
371	725	**Humanoid Robot:** A simple humanoid robot actuated by 4 servo motors having 2 degree of freedom per leg operated from a computer software through an AVR based controller board to enable it walk forward, backward , take turns and even do dancing.	NA	7999	NA	MC AVR			Y				Y	
372	726	**Remote Controlled Drone with Built in Camera:** Project Drone is a small 4 propeller based highly manageable flying machine with an on board video camera and SD card storage facilities of the image / videos which can be used for spying purposes.	NA	7999	NA				Y				Y	
5- in - 1 SOLDERLESS PROJECTS														
373	601	**Night sensing light: Light sensing in darkness to trigger buzzer alarm for burglar using any touch**	499	999	499				Y					
374	602	**Overhead water tank level indicator: Three level LED indication of water level in overhead water tank**	499	999	499				Y					
375	603	**Discotheque flashing light: High speed flashing stroboscopic light with LEDs for discotheque**	499	999	499				Y					
376	604	**Fire alarm system: Thermister based temperature sensing with LED indication**	499	999	499				Y					
377	605	**Buzzer based Thermometer for Body Temperature: IC based body temperature limt cross warning for patients**	499	999	499				Y					
378	606	**Touch point based calling bell: Very sensitive touch plate controlled buzzer sound based calling bell**	499	999	499				Y					

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379	607	**Automatic toilet delay lighting: Once the light is wsitched on by a push button it automatically switches off after pre set time**	499	999	499				Y					
380	608	**Police siren: Electronics way of generating police siren with adjustable dual 555 timers**	499	999	499				Y					
381	609	**Kitchen timer: Agjustable Count down timer with LED indication for kitchen use**	499	999	499				Y					
382	610	**LED dimmer: Dimming the intensity of LEDs by PWM switching**	499	999	499				Y					
383	611	**Police lights : 2 sets of different flashing LEDs mimiking police lights mounted on their vehicles**	499	999	499				Y					
384	612	**Smart fan: A small dc fan operates s long as any person sits on the chair fitted with IR sensors**	499	999	499				Y					
385	621	**Smart security reminder: Digital NAND gate based time elapsed alarm system to catch thieves**	499	999	499				Y					
386	622	**Consumer visit audit: Counting visitors to limit entry beyond capacity**	499	999	499				Y					
387	623	**Dengu prevention: Generating irratating noise to deter dengu mosquitos**	499	999	499				Y					
388	624	**Cell charger cum emmergency light: Automatic operation of emergency light using cell phone charger**	499	999	499				Y					
389	625	**Lucky number game: Electronic dice for lucky number game**	499	999	499				Y					
390	626	**Fastest finger fast test: 4 player fastest reaction in quiz competition**	499	999	499				Y					
391	627	**Voltage doubler: Using low voltage batteries to operate high voltage gadgets**	499	999	499				Y					
392	628	**Window glass break alarm: Protecting window glass break burglary attempt**	499	999	499				Y					
393	629	**Toy motor speed control : Adding an accletorToy car motor**	499	999	499				Y					
394	630	**Smart Cash box guard : Electronic eye guarding cash boxes**	499	999	499				Y					
395	631	**Foot step activated Door bell: A door bell that works on approaching foot steps**	499	999	499				Y					
396	632	**TV Remote Battery low detector: Detecting dischargeed battery in TV remotes**	499	999	499				Y					
397	613	**Set of 2, 5-in-1 Solderless Projects**	949	1899	949				Y					

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398	614	**Set of 4, 5-in-1 Solderless Projects**	1899	3799	1899				Y					
399	615	**Set of 6, 5-in-1 Solderless Projects**	2849	5699	2489				Y					
400	618	**Set of 8, 5-in-1 Solderless Projects**	3799	7199	3799				Y					
401	600	**Set of 12, 5-in-1 Solderless Projects**	5689	10789	5989				Y					
402	637	**Set of 24, 5-in-1 Solderless Projects**	11999	23999	11999				Y					

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