**INSTRUMENTATION ENGINEERING**

The Instrumentation Engineering Department of CIT Kokrajhar was established in the year 2007, initially started with Diploma programme in Control and Instrumentation with an annual intake of 30 students. The Degree programme was introduced in the year 2009 with an annual intake of 66 students (45 Direct entry +15 Vertical entry + 06 Lateral entry).

The Department incorporates all the modern facilities, well established laboratories and sophisticated instruments to provide latest technological know-hows to the future technocrats. The faculties and the staffs are involved in dedicated learning, teaching, and research and in pursuit of excellence following the current trend in the industry and research. The Department is committed to the overall development of the institute. The objective of the Department is to produce quality individuals who can fulfil the ever increasing demand of skilled professionals in the area of Instrumentation and Control Engineering.

**SCOPE**:

Instrumentation Engineers are required in Process industry, manufacturing, EPC industries and research organizations for the design, development, engineering, procurement, installation and commissioning, maintenance, calibration, operation and troubleshooting of all kind of instruments. Instrumentation Engineers also play the role of Control and Automation Engineer in industries or manufacturing units to control and monitor the industrial processes or operations in real time by using STATE OF THE ART TECHNOLOGY using automated systems like PLC, SCADA and DCS. Instrumentation Engineers are mostly employed in industries such as Refinery, Oil and Gas,Petrochemicals, Power plant, Steel, Cement,Fertilizers, Chemical, Medical, Aerospace, Pharmaceuticals, Pulp and Paper, Glass, Defence etc. There are well known industries to name a few reputed PSUs ie. BHEL, NPCIL, HZL, HCL, ONGC, NTPC, IOCL, OIL India Ltd, SAIL,GAIL, BCPL, EIL, Reliance Petrochemicals, ESSAR , BPCL, HPCL, HINDUSTAN PAPER MILLS, State Public Sector Industries, Central PSUs, etc. Instrumentation engineers are also recruited in telecommunication sectors like BSNL, Reliance Jio, Vodafone etc. and software industries like TCS, CTS, Infosys, WIPRO etc. As a Biomedical Engineer, instrumentation engineers find employment in industries like GE, Philips, Siemens, Schneider etc. Instrumentation Engineers find employment as a Technical Officer in various Government research and Educational establishments. Instrument engineers find suitable employment with the manufacturers of instrumentation products eg. SIEMENS, EMERSON, YOKOGAWA, ENDRESS & HAUSER, ABB, INSTRUMENTATION LTD, PALAKKAD, INVENSYS, METSO, GE, HITACHI, TOSHIBA, SCHNEIDER ELECTRIC, ALLEN BRADLEY/ROCKWELL, FUJI ELECTRIC, HONEYWELL, MIL, KSB. There are numerous industries in MSME sector situated in India and abroad who are manufacturers of small scale instrumentation products, hires Instrumentation Engineers and technicians. Instrumentation Engineers also find employment in leading Consulting and EPC organizations like MECON, EIL, TCE, L&T, PDIL, DESEIN, FLOUR DANIEL, SCHLUMBERGER, HYUNDAI, SNAMPROGETTI etc.

**INFRASTRUCTURE**

The Department is equipped with 11 labs, one departmental computer centre, a departmental library, classrooms equipped with modern teaching aids and staff rooms. The laboratories include the Transducers Lab, Measurements lab, Process Control Lab, Bio Medical Instrumentation Lab, Advanced Instrumentation Lab, Electronics Devices and Digital Lab , Computer Center, Microprocessor Laboratory,Virtual Instrumentation Lab and Embedded systems Lab. Apart from this the students are also trained in the Basic Electronics Lab, Digital & Integrated Circuits Labs, Communication skills Lab, DSP Lab and Microprocessor Lab.

**LAB FACILITIES**

The laboratories of Instrumentation Engineering Department are well equipped with modern facilities which includes sophisticated equipments, laboratory trainers, software tools etc. All labs are dedicated to provide every possible assistance to undergraduate and diploma students to learn Instrumentation Engineering from the basic level. The Department is upgrading the present laboratory infrastructure to provide best possible opportunity to perform research works in the areas of Process Control, Robotics, Biomedical Instrumentation, Sensor Fabrication, Electronics Design and Energy.

**Various Laboratories included as a subject in the Department are:**

* Basic Electrical Circuits Lab.
* Electronics circuit and Devices Lab.
* Network Theory Lab.
* Electronics Instrumentation Lab.
* Measurement and Instrumentation Lab.
* Principle of Instrumentation Lab.
* Transducer and Signal Conditions Lab.
* Instrumentation and Process control Lab.
* Control Systems Lab.
* Biomedical Instrumentation Lab.
* Microprocessor & Microcontrollers Lab.
* Power Electronics Lab.
* Circuit Simulation Lab.

**Process under taken to set up new laboratories:**

* Robotic Lab.
* Embedded System Lab.
* Sensor Fabrication Lab.
* Biomedical Instrumentation Lab.

**The major equipment included under Department of instrumentation Engineering are :**

* Digital Storage Oscilloscope,DX-1102 60MHz, 1GSa/s
* MSO6012A, 100 MHz, 2Ga/s
* Multiple Power Supply, 30 V, ±15 V, 5 A in Max.
* DX-4050 Function Generator
* 3,3/4 Digital Multimeter
* 8,1/2 Digital Multimeter
* LCR meter
* PCB Engraver
* Anderson, Maxwell, and Schering Bridges
* LVDT Trainers
* RTD, Thermistor and Thermocouple trainers
* Piezo Electric Transducer trainers
* Transducer and Instrumentation trainers
* PLC Training systems
* Pressure Control Trainer
* Temperature Control Trainer
* Flow Control Trainer
* Multi-process Trainer
* PID Controller Trainer
* Recorders-Strip Chart and X-Y
* ECG,EEG,EMG Simulators
* Filters trainers
* Blood Pressure Monitoring
* Biomedical Trainers
* Microprocessor Trainer, Dyna-8085L(LCD)
* Microcontroller Trainer, 8081 Dynalog
* ARM Development tools
* Power Electronics Trainer Kit(SCR,DIAC,MOSFET,UJT)
* LAB VIEW
* Matlab 13
* Multisim 10.0

**DEPARTMENTAL EVENTS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S.No. | Extension services/activities societal engagements continuing education programmers | Duration | Resource Persons | Target audience |
| 1. | A workshop on “Advances in Process Control( APC-2014)” | 13th and 14th November 2014 | 1.Prof M. Chidambaram (IIT Madras)  2. Prof. T.K Radhakrishnan (NIT Trichy)  3. Prof. P.K Saha.  ( IIT Guwahati)  4. Prof. S. Chattopadhyay (NITTTR Kolkata) | 50 plus which includes faculties from different institutes, faculty members and students of CIT Kokrajhar |
| 2. | A short term “Induction Training Programme” in collaboration with NITTTR Kolkata | 3rd to 7th August 2015 | 1. Prof. S. Chattopadhyay (NITTTR Kolkata).  2. Prof. S. Mahanta (Govt. B Ed. College Kokrajhar) | All total 50 faculty members of CIT Kokrajhar had participated. |
| 3. | An invited talk on “robotics and the working of robotics society of India” | 19th May 2015. | Dr Nayan M Kakoty (Tezpur University) | 100 plus students and faculty members of CIT Kokrajhar |
| 4. | Celebration of Engineers Day | 15th September 2015 | Chief Guest: Mrs C. Brahma, Registrar, CIT Kokrajhar  Speakers:  1., Dr. S. Bhunia, Associate Professor, ECE Department, CIT Kokrajhar 2. Dr. P.Brahmachary, Associate Professor, Humanities and Social Sciences Department, CIT Kokrajhar | 250 Plus including faculty memebrs and students of CIT Kokrajhar |

**LIST OF EMINENT PERSONS VISITED THE DEPARTMENT**

|  |  |  |
| --- | --- | --- |
| Name of the eminent academician | Purpose of Visit | Date |
| Prof. M. Chidambaram , Professor, IIT Madras | To attend a national level workshop on “ Advances in Process Control” as a resource person | November 13th and 14th 2014 |
| Prof T.K Radhakrishnan , Professor, NIT Trichy | To attend a national level workshop on “ Advances in Process Control” as a resource person | November 13th and 14th 2014 |
| Prof S Chattopadhyay , Professor, NITTTR Kolkata | To attend a national level workshop on “ Advances in Process Control” as a resource person | November 13th and 14th 2014 |
| Prof P.K. Saha, Professor ,IIT Guwahati | To attend a national level workshop on “ Advances in Process Control” as a resource person | November 13th and 14th 2014 |
| Prof S Chattopadhyay , Professor, NITTTR Kolkata | As a resource person in the short term induction training program conducted in collaboration with NITTTR | August 3rd to 7th 2015 |
| Prof D. Hazarika, Professor, Assam Engineering College | To deliver a invited talk on the title” Smart Grid” |  |
| Dr. N. M Kakoty, Associate Professor, Tezpur University | To deliver a invited talk on the title” Robotics and the working of Robotics Society of India” | 19th May 2015 |
| Prof. M. Chidambaram , Professor, IIT Madras | To deliver a invited talk on the title “Trends in Process Control” | 13th February 2016 |
| Prof. T K Dan, Associate Professor,  NIT Rourkela | Invited as a Visiting Faculty | 6th February 2017 to 10th February 2017 |

**PUBLICATION OF FACULTY IN PEER REVIEWED(NATIONAL/INTERNATIONAL) JOURNALS**

**Kaushik Chandra Deva Sarma.**

2010

1. K C Deva Sarma, A Mallik, A Bhatnagar "Microcontroller Based Optical power meter for Lab Applications" Journal of Instrument Society of India,Vol 40, June,2010.

2013

1. Kaushik Chandra Deva Sarma, Amlandeep Borah, Lalan Kumar Mishra “ Design and Synthesis of 32 bit ALU using XILINX ise V9.1i” International Journal of Engineering Research and Technology,Vol 2, Issue 5, May 2013. Impact Factor-1.76
2. Kaushik Chandra Deva Sarma, Janmoni Borah, Dhruba kr. Mandal, Ajay chetry, Sanjeeb Kumar Deb Roy, Bhaskar Hazarika “Comparative Study of Nanoscale and Picoscale MOSFET” International Journal of Computational Engineering Research,Vol 03,Issue 5. Impact Factor-1.145
3. Rajib Chetia, Kaushik Chandra Deva Sarma, Gaurab Baruah "Behavioral Design and Synthesis of 64 BIT ALU using Xilinx ISE",IOSR Journal of Electronics and Communication Engineering (IOSR-JECE),Volume 7, Issue 4 (Sep. - Oct. 2013), PP 37-41. Impact Factor-1.398

2014

1. Kaushik Chandra Deva Sarma , Dharmeswar Boro, Pinosh Kr. Hajoary and Mungshar Boro, “Behavioral Design and Synthesis of 32-bit Sine and Cosine Wave Generator using Xilinx ISE 9.1i” International Journal of Multidisciplinary Educational Research, Volume 3, Issue 3, March 2014. Impact Factor-3.318
2. Namita Das, Kaushik Chandra Deva Sarma and Apurba Kumar Raibaruah, "A Comparative Study of Super Luminescent Diode (SLED) and Vertical-Cavity Surface-Emitting Laser(VCSEL) as a source for fiber optic gyroscope", International Journal of Multidisciplinary Educational Research, Volume 3, Issue 4, April 2014. Impact Factor-3.318

2015

1. .Kaushik Chandra Deva Sarma, Santanu Sharma, " Scale Length Determination of Gate All Around (Regular Hexagonal Cross Section) Junctionless Transistor", International Journal of Applied Engineering Research (IJAER) , Vol. 10 No. 2, 2015.
2. .Kaushik Chandra Deva Sarma, Santanu Sharma, " An Approach for Complete 2-D Analytical Potential Modelling of Fully Depleted Symmetric Double Gate Junction Less Transistor",Journal of Computational Electronics, Springer, Vol. 14 No.3, 2015. Impact Factor- 1.520.

**Ganesh Roy.**

1. Subrata Chattopadhyay, Ganesh Roy and Mrutyunjaya Panda “Simple Design of a PID Controller and Tuning of Its Parameters Using LabVIEW Software”, Sensors & Transducers Journal, Vol. 129, Issue 6, June 2011, pp. 69-85.

Impact Factor: 0.705

Citation index: 3

1. Awadhesh Kumar Singh, Mrigen Das, Dipak Basumatary, Ganesh Roy “A Review note on Compensator Design for Control Education and Engineering”, IJERT, Vol. Issue 2, February - 2014.

Impact Factor: 1.76

**Borat Basumatary.**

1. Biplob Mondal, Borat Basumatari, Jayoti Das, Chirosree Roychaudhury, Hiranmay Saha, Nillohit Mukherjee”ZnO-SnO2 based composite type gas sensor for selective hydrogen sensing”. Sensors and Actuators B 194 (2014) 389-396 .Impact Factor of journal: 4.097 (International,SCIJournal)

**Dipen Deka.**

1. D. Deka, K. K. Sarma, Propagation Effects on Linear Modulation Schemes in Tropospheric Communication. IJCA, 7, (2013)15, Impact Factor of journal: 0.751(International)

**Jeet Dutta.**

1. B. Mondal, J. Dutta, C. Roychaudhury, D. Mohanta, H. Saha"Zinc Oxide Nano-Platelets for Effective Methane Gas-Sensing Applications" Chinese Journal of Physics, vol 51, Issue 5, (2013) 994-1005. DOI：10.6122/CJP.51.994

**Susmitha Wils K.**

1. Wils K, Susmitha, et al. “Factors influencing forces during laparoscopic pinching: Towards the design of virtual simulator.” International Journal of Surgery 18(2015): 211-215. Impact Factor: 1.531,SJR: 0.470,SNIP: 0.889
2. Wils K, Susmitha, et al. "A Comparison of Pinch Force between Finger and Palm Grasp techniques in Laparoscopic Grasping". Engineering 4.10B (2012): 46-49.

**Rajesh Kondareddy.**

1. Rajesh Kondareddy, Kalyanjee Barman, et al.” Modeling and control design of quadruple conical tank process with minimum and non minimum phase behavior: International Journal of Current Research 6 (2014): 9188—9197.
2. Rimpy Chetia1, Himadri Deori2 , Labanya Baruah3,Rajesh Kondareddy4. “Comparative analysis of quadruple conical tank and cylindrical tank system: International Journal of Scientific & Engineering Research 5 (2014): 1608-1618.
3. Rajesh Kondareddy. “Simulation and Analysis of Cascaded PID Controller Design for Boiler Pressure Control: International Journal of Informative & Futuristic Research 1 (2014): 117-126.

**DETAILS OF PROJECT ACTIVITIES IN THE DEPARTMENT OF INSTRUMENTATION ENGINEERING**

**LIST OF PROJECTS DONE BY DIPLOMA 2010 PASSOUTS**

|  |  |
| --- | --- |
| SN | TITLE |
| 1 | AUTOMATIC NIGHT LAMP WITH MORNING ALARM |
| 2 | HEARING AID |
| 3 | HOUSE SECURITY SYSTEM |

**LIST OF PROJECTS DONE BY DIPLOMA 2011 PASSOUTS**

|  |  |
| --- | --- |
| SN | TITLE |
| 1 | WATER LEVEL INDICATOR USING 7-SEGMENT DISPLAY |
| 2 | AUTOMATIC TRAFFIC LIGHT CONTROLLER |
| 3 | LIGHTS SENSITIVE ALARM |
| 4 | AUTOMATIC NIGHT LAMP WITH MORNING ALARM |
| 5 | INTERLLIGENT EMERGENCY LIGHT |
| 6 | FIRE ALARM USING THERMISTOR |
| 7 | MULTIPATTERN RUNNING LIGHTS |
| 8 | WATER LEVEL INDICATOR WITH ALARM |

**LIST OF PROJECTS DONE BY DIPLOMA 2012 PASSOUTS**

|  |  |
| --- | --- |
| SN | TITLE |
| 1 | ELECTRONIC COLLEGE ALARM |
| 2 | A COMPARATIVE STUDY OF THE INTEX PROPERTIES OF SOIL IN KOKRAJHAR |
| 3 | CASH BOX GUARD |
| 4 | INVISIBLE INTRUDER ALARM |
| 5 | SOLAR PANEL BASED CHARGER AND ITS APPLICATION |
| 6 | FUNCTION GENERATOR |

**LIST OF PROJECTS DONE BY DIPLOMA 2013 PASSOUTS**

|  |  |
| --- | --- |
| SN | TITLE |
| 1 | HOME APPLICATION CONTROL USING IR BASED REMOTE |
| 2 | LOAD CELL BASED MONITORING SYSTEM WITH DIGITAL COUNTER |
| 3 | SOLAR TRACKING SYSTEM |
| 4 | PASSIVE INFRARED RADIAL (PIR)SENSOR BASED HOME SECURITY SYSTEM WITH VIDEO SURVEILLANCE |
| 5 | SHADOW ALARM |
| 6 | MOTION SENSING LIGHT |
| 7 | FM TRANSMITTER AND RECEIVER |

**LIST OF PROJECTS DONE BY DIPLOMA 2014 PASSOUTS**

|  |  |
| --- | --- |
| SN | TITLE |
| 1 | REMOTE CONTROL FOR TOY CAR |
| 2 | AUTOMATIC WATER LEVEL CONTROLLER |
| 3 | NIGHT LAMP WITH MORNING ALARM |
| 4 | LDR BASED SECURITY ALARM |
| 5 | LINE FOLLOWER ROBOT |
| 6 | SMOKE DETECTOR |

**PROJECT WORK PERFORMED BY DIPLOMA FINAL YEAR STUDENT IN YEAR 2015-16:**

|  |  |
| --- | --- |
| SN | TITLE |
| 1 | SOLAR INVERTER |
| 2 | WIND POWERED BATTERY CHARGER |
| 3 | DEVELOPMENT OF LOW COST SPIROMETER |
| 4 | MINI OFFLINE UPS |
| 5 | SMART SHOE USING PIEZOELECTRIC TRANSDUCER |

**LISTS OF PROJECTS DONE BY B.TECH 2013 PASSOUTS**

|  |  |
| --- | --- |
| SN | TITLE |
| 1 | DESIGN OF FUZZY LOGIC CONTRORLLER IN MATLAB/SIMULINK |
| 2 | DESIGN OF PID CONTROLLER AND TURNING USING ZEIGLER-NICHOLS MRTHOD |
| 3 | CELL PHONE BASE HOME APPIANCE REMOTE CONTROL SYSTEM USING DTMF |
| 4 | LPG AND DETECTOR SYSTEM |
| 5 | LINE FOLLOWING ROBOT |
| 6 | MICROCONTROLLER BASE SOLAR CHAGER AND VOLTAGE MONITORING |
| 7 | AUTOMATIC TEMPERATURE CONTROLLER FAN |
| 8 | AUTOMATION OF CSTR USING MICROCONTROLLER |
| 9 | TEMPERATURE MONITORING USING MICROCONTROLLER |
| 10 | SHADOW ALARM |
| 11 | AUTOMATIC RAILWAY GATE CONTROL SYSTEM |
| 12 | DTMF BASED CONTROL SYSTEM |
| 13 | WATER LEVEL CUM TEMPERATURE MONITORING AND CONTROLLING USING 89C52 |
| 14 | MUTILEVEL INDUSTRIAL SECURITY SYSTEM WITH DIGITAL ACCESS CONTROL |
| 15 | RADIO FREQUENCY BASED WIRELESS CONTROL FOR INDUTRIAL INSTRUMENTS AND HOME APPLIANCES |
| 16 | DTMF CONTROL TOY CAR |
| 17 | LAND BASED DEVICE CONTROLLING WITH DATA ACQUISITION SYSTEM |
| 18 | AUTOMATICE DOOR OPENING SYSTEM |
| 19 | AUTOMATIC TEMPERATURE CONTROLLED BATH AND MONITORING |
| 20 | MICROCONTROLLER BASED WATER DISTRIBUTION SYSTEM |
| 21 | PRESSURE MEASURMENT SYSTEM USING OPTICAL FIBER |
| 22 | MICROCONTROLLER BASED ELEVATOR SYSTEM |
| 23 | WIRELESS AUDIO/VIDEO TRANSMISSION WITH REMOTE CONTROL CAMERA POSITIONING |
| 24 | HEART RATE MEASUREMENT USING MICROCONTROLLER |
| 25 | AUTOMATIC BOTTLE FILLING SYSTEM |
| 26 | STEPPER MOTOR CONTROL USING MICROCONTROLLER |

**LISTS OF PROJECTS DONE BY B.TECH 2014 PASSOUTS**

|  |  |
| --- | --- |
| SN | TITLE |
| 1 | SOLAR MICRO INVERTER |
| 2 | TEMPERRATURE MONITORNG SYSTEM USING PC |
| 5 | FAN SPEED CONTROL BASED ON MICROCONTROLLER |
| 6 | WIRELESS SCROLLING NOTICE BOARD USING ZIGBEE PROTOCOL |
| 8 | MICROCONTROLLER BASED DOOR LOCKING SYSTEM |
| 9 | COIN BASED SOLAR CELL PHONE CHARGER |
| 10 | DESIGN NAD DEVELOPMENT OF STAIR CLIMBING WHEELED ROBOT |
| 11 | DISTANCE MEASUREMENT USING IR RADIATION |
| 12 | SIMPLE DESIGN OF PID CONTROLLER USING LABVIEW AND STUDY OF ITS APPLICATION ON TEMPERATURE PROCESS CONTROL |
| 13 | WIRELESS PATIENT HEART BEAT MONITORING |
| 14 | MICROCONTROLLER BASED AUTOMATED IRRIGATOIN SYSTEM |
| 15 | PERFORMANCE INVESTICATION &UTILIZATION OF MAXIMUM POWER POINT TRACKING (MPPT)MECHANISM IN SOLAR PV SYSTEM |
| 16 | MICROCONTROLLER BASED SPEEDY VEHICLE IMAGE RECORDER |
| 17 | RADIO FREQUENCY BASED WHEEL CHAIR CONTROLLER USING MEMS ACCESLEROMETER |
| 18 | WIRELESS SMART SENSOR |
| 19 | SPEED CONTROL OF DC MOTOR |
| 20 | COMPENSTOR DESIGN AND STUDY OF ITS FOR CONTROL EDUCATION AND ENGINEERING |
| 21 | ANDROID BASED HOME AUTOMATION AND DC DEVICE CONTROL |
| 22 | PIEZOELECTRIC SURVEILLANCE SYSTEM |
| 23 | RPM BASED AUTOMATIC GEAR SHIFTING SYSTEM |
| 24 | FINGERPRINT BASED DOOR LOCKING SYSTEM |
| 25 | INTELLIGENT WITHERING SYSTEM USING PI CONTROLLER |
| 26 | MATLAB BASED IRIS RECORGNITON SYSTEM AND COTROL OF ELECTRICAL APPLIANCES |
| 27 | PROPORTIONAL CONTROLLER BASED ELECTRIC OVEN |
| 28 | ANDROID BASED HOME AUTOMATION AND DC DEVICE CONTROL |
| 29 | PIEZOELECTRIC SURVEILLANCE SYSTEM |
| 30 | RPM BASED AUTOMATIC GEAR SHIFTING SYSTEM |
| 31 | FINGERPRINT BASED DOOR LOCKING SYSTEM |
| 32 | INTELLIGENT WITHERING SYSTEM USING PI CONTROLLER |
| 33 | MATLAB BASED IRIS RECORGNITON SYSTEM AND COTROL OF ELECTRICAL APPLIANCES |
| 34 | PROPORTIONAL CONTROLLER BASED ELECTRIC OVER |
| 35 | SPEED CONTROL OF A DC MOTOR USING PID CONTROLLER |
| 36 | DESIGN AND TURNING OF ELECTRONIC PID CONTROLLER FOR AN INTERACTING PRESSURE CONTROL SYSTEM |
| 37 | PC BASED ECG MONITORING SYSTEM |
| 38 | SMOKE DETECTOR |
| 39 | FACE DETECTION AND TRACKING USING OPEN CV |
| 40 | FLOAT OPERATED WATER LEVEL CONTROL USING MICROCONTROLLER |
| 41 | FBG TEMPERATURE SENSOR |
| 42 | RF BASED FAN SPEED CONTROL USING MICROCONTROLLER |

**LISTS OF PROJECTS DONE BY B.TECH 2015 PASSOUTS**

|  |  |
| --- | --- |
| SN | TITLE |
| 1 | GPS MODULE INTERFACING WITH GOOGLE MAP |
| 2 | ELECTROOCULOGRAOHY BASED CONTROLLING OF WHEEL CHAIR |
| 3 | AUTOMATIC CAR-TOLL BASED RFID PARKING SYSTEM |
| 4 | COMPARATIVE ANALYSIS OF QUADRUPLE CONICAL TANK AND CYLINDRICAL TANK SYSTEM |
| 5 | SOLAR POWER INVERTER |
| 6 | ARDUINO BASED SPEECH RECOGNITION SYSTEM FOR HOME AUTOMATION |
| 7 | VIBRATION MONITORING SYSTEM USING LABVIEW |
| 8 | HARVESTING LIGHTENING ENERGY |
| 9 | A SIMPLE DATA ACQUISITION SYSTEM FOR MONITORING PROCESS VARIABLE |
| 10 | SMART INVERTER |
| 11 | FUZZY BASED ROOM AUTOMATION SYSTEM |
| 12 | VIBRATION SIGNAL ANALYSIS FOR BEARING FAULT DIAGNOSIS USING LABVIEW |
| 13 | VOICE COMMAND BASED HOME AUTOMATION SYSTEM |
| 14 | PID CONTROLLER FOR ELECTRIC OVER USING LABVIEW CRIO MODUE, |
| 15 | RFID BASED SMART SHOPPING |

**PROJECT WORK PERFORMED BY B. TECH. FINAL YEAR STUDENT IN YEAR 2015-16:**

|  |  |
| --- | --- |
| SN | TITLE |
| 1 | IMPLEMENTATION OF MOISTURE REMOVAL MONITORING SYSTEM, TEMPERATURE CONTROLLING AND REDUNDANT DRYING SYSTEM IN SOLAR CABINET DRYER WITH QUALITY ANALYSIS OF CHILLI DRIED IN THE DRYER |
| 2 | ELECTROMYOGRAPHY BASED CONTROLLING OF ROBOTIC ARM |
| 3 | A MODIFIED APPROACH TO THE MEASUREMENT OF TEMPERATURE USING RTD BY AN AC BRIDGE NETWORK AND STUDY OF ITS APPLICATION |
| 4 | FABRICATION AND STUDY OF GLUCOSE SENSING PROPERTIES OF METAL OXIDE SEMICONDUCTOR SENSOR (ZINC-OXIDE NANOPARTICLES) |
| 5 | HAND GRIP FORCE MEASUREMENT USING CUSTOM MADE LOAD CELLS |
| 6 | HAND GRIP FORCE MEASUREMENT USING CUSTOM MADE FORCE SENSING RESISTORS |
| 7 | EXPERIMENTAL ANALYSIS FOR ELECTROMAGNETIC FLOW-METER |
| 8 | ROBOTIC FLOOR CLEANER |
| 9 | DESIGN OF LOW COST DRINKING WATER PURIFIER |
| 10 | DESIGN AND SIMULATION OF JUNCTIONLESS TRANSISTOR AS POWER DEVICE |
| 11 | BOOK DETECTION UNIT BASED ON RFID TECHNOLOGY |
| 12 | LABVIEW BASED REAL TIME ACQUISITION OF ECG SIGNALS |
| 13 | LIBRARY SHELF MANAGEMENT SYSTEM USING RFID |
| 14 | PID BASED QUADRUPLE TANK SYSTEM LEVEL CONTROL |
| 15 | PI CONTROLLER DESIGN FOR TANK LEVEL MONITORING AND CONTROLLING SYSTEM USING LABVIEW AND MRIO MODULE |
| 16 | PULSE OXIMETER USING MICROCONTROLLER |