TEEGALA KRISHNA REDDY ENGINEERING COLLEGE

(UGC-Autonomous)

(Sponsored by TKR Educational Society, Approved by AICTE, Affiliated to JNTUH
Accredited by NAAC with 'A' Grade, Accredited by NBA

Medbowli, Meerpet, Balapur(M), Hyderabad, Telangana- 500097
Mob: 8498085218. Email: info@tkrec.ac.in, www.tkrec.ac.in

College Code: R9

3.2.1 Research funding received by the institution and its faculties through Government and non-government sources such as industry, corporate houses, international bodies for research project, endowment research chairs during the last five years

3.2.2 Number of research projects per teacher funded by government, non-government , industry, corporate houses, international bodies during the last five years

Name of of the PI/ Co-PI/Name of the person holding the Chair	Title of the research project, endowments, Research Chairs	Name of the funding agency	Duration	Year of award or sanction	Amount in INR.
Dr.C.Anna Palagan	Implementation of Multi step process for accurate and precise Brain tumor detection using Image processing techniques controlled by a Decision Matrix and Machine Learning node	TEQIP-III,JNTUH	1 YEAR	2020	2,80,000/-
S.Nagi Reddy	Electric and Solar Scooty	ANALOG DEVICES COMPANY	1 YEAR	2020	50,000/-
Dr. M.Suresh Babu	Seminar Grant	ICSSR Indian council for social science Research	2 days	2023	2,50,000/-
Dr. M.Suresh Babu	Design and Development of Embedded System Based Soil Organic Carbon Analyzer	ICSSR Indian council for social science Research	36 Months	2023	12,00,000/-

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Date:20/11/2019

Funds Granted for the Projects for the Academic Year 2019-2020

S.NO	Name of the Department	Amount
1	CIVIL	55,000/-
2	EEE	5,66,000/-
3	ECE	1,47,000/-
4	CSE	1,27,955/-
5	IT	26,800/-
TOTAL		9,22,755/-

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Date:19/11/2018

Funds Granted for the Projects for the Academic Year 2018-2019

S.NO	Name of the Department	Amount
1	CIVIL	42,000/-
2	EEE	4,02,000/-
3	ECE	1,57,000/-
4	CSE	1,19,750/-
5	IT	42,100/-
TOTAL		7,62,850/-

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Date:15/11/2021

Funds Granted for the Projects for the Academic Year 2021-2022

S.NO	Name of the Department	Amount
1	CIVIL	62,000/-
2	EEE	5,63,000/-
3	ECE	1,47,000/-
4	CSE	2,14,000/-
5	IT	54,150/-
TOTAL		10,40,150/-

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Date:17/11/2022

Funds Granted for the Projects for the Academic Year 2022-2023

S.NO	Name of the Department	Amount
1	CIVIL	58,000/-
2	EEE	1,81,000/-
3	ECE	1,56,500
4	CSE	2,12,940/-
5	IT	48,850/-
TOTAL		6,57,290/-

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Date:16/12/2020

Funds Granted for the Projects for the Academic Year 2020-2021

S.NO	Name of the Department	Amount
1	CIVIL	82,000/-
2	EEE	6,10,000/-
3	ECE	2,21,000/-
4	CSE	1,22,820/-
5	IT	37,300/-
TOTAL		10,73,120/-

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3.2.2 Number of research projects per teacher funded by government, non-government , industry, corporate houses, international bodies during the last five years

2018-2019

Name of of the PI/ Co-PI/Name of the person holding the Chair	Title of the research project, endowments, Research Chairs	Name of the funding agency	Duration	Year of award or sanction	Amount in INR.
Dr J B V Subrahmanyam	Solar Powered Smart Agriculture System	TKRES	SIX MONTHS	2018-2019	15000
Dr C Thulasiyammal	Wireless Power Transfer by Incorporation of Solar Energy	TKRES	SIX MONTHS	2018-2019	15000
Mr C Sreenivasulu	Automatic Control of Power Transformer by Using Technical Methods	TKRES	SIX MONTHS	2018-2019	10000
Mr C Sreenivasulu	Google voice assistance based smart home with security system.	TKRES	SIX MONTHS	2018-2019	12000
Mr B Vidya Sagar	Solar Powered Smart Agriculture System	TKRES	SIX MONTHS	2018-2019	15000
Mrs A Manjula	Hybrid (Wind – Solar) Power Generation for Rural Electrification and Monitoring over IOT	TKRES	SIX MONTHS	2018-2019	12000

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Mr K.Santhosh	Vector control of single phase induction motor.	TKRES	SIX MONTHS	2018-2019	12000
Mr K.Santhosh	GSM Based Energy Meter Reading System with Instant Billing and Tampering Alert	TKRES	SIX MONTHS	2018-2019	12000
Mr T.Madhu Babu	Design of solar inverter for home appliances	TKRES	SIX MONTHS	2018-2019	20000
Mrs M Harika Reddy	Auto metro train to shuttle between stations.	TKRES	SIX MONTHS	2018-2019	15000
Mrs M Harika Reddy	Design and Construction of 750 Watts Inverter	TKRES	SIX MONTHS	2018-2019	15000
Mr A. Naga Sridhar	Design and Implementation of Home Inverter Using UPS	TKRES	SIX MONTHS	2018-2019	15000
Mr N Ramesh Babu	Controlling of Street Lightning Through A Modified Transformer.	TKRES	SIX MONTHS	2018-2019	12000
Mr Shabbier Ahmed Sydu	Design and Modeling of an Photovoltaic Based Solar Inverter	TKRES	SIX MONTHS	2018-2019	20000
Mr Shabbier Ahmed Sydu	Applications of renewable energy source for domestic appliances.	TKRES	SIX MONTHS	2018-2019	12000
Mrs Waseem Sultana	Study of 9MW wind farm with STATCOM using MATLAB/SIMULINK.	TKRES	SIX MONTHS	2018-2019	5000
Mr G Eswaraiah	Reducing Penalty of an Industrial Power Consumption by Using APFC Unit.	TKRES	SIX MONTHS	2018-2019	12000

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Mr S Shekar	Three-phase infinite level inverter fed induction motor drive.	TKRES	SIX MONTHS	2018-2019	12000
Mr B Rama Rao	The modeling and performance analysis of NI-MH battery during charge and discharge process.	TKRES	SIX MONTHS	2018-2019	12000
Mr B Ramesh	Uninterrupted Power Supply Using Different Sources.	TKRES	SIX MONTHS	2018-2019	12000
Mr B Ramesh	IOT based smart street light monitoring with auto power saving using light sensor.	TKRES	SIX MONTHS	2018-2019	15000
Mr K Chenchi Reddy	Cascade H-bridge seven level inverter for renewable energy source using MATLAB/SIMULINK	TKRES	SIX MONTHS	2018-2019	5000
Mr V Kranthi Kumar	Solar Powered With Ultrasonic Sensor.	TKRES	SIX MONTHS	2018-2019	15000
Mr Dhasharatha G	GSM Based Home Security System.	TKRES	SIX MONTHS	2018-2019	12000
Mr Dhasharatha G	Power grid device monitoring and controlling system using GSM with and fencing alerts.	TKRES	SIX MONTHS	2018-2019	12000
Mr V Kumar	The model and simulation of switched reluctance motor drive.	TKRES	SIX MONTHS	2018-2019	12000
Mr J Lingappa	Dynamic DC voltage regulation of split-capacitor DSTATCOM for power quality improvement	TKRES	SIX MONTHS	2018-2019	12000
Mr M Rosaiah	Hybrid (wind-solar) power generation for rural electrification and monitoring over IOT (Internet of things).	TKRES	SIX MONTHS	2018-2019	15000

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Mr M Rosaiah	Motion Detecting Camera Security System Using RASPBERRY PI.	TKRES	SIX MONTHS	2018-2019	12000
Mrs S Lavanya	Touch screen based industrial automation system using WSN	TKRES	SIX MONTHS	2018-2019	12000
Mrs S Lavanya	Design and Fabrication of Inverter for Photovoltaic Cells	TKRES	SIX MONTHS	2018-2019	15000
Dr C Annapalagan	Establishing communication link between electric vehicle and nearby charging station.	TKRES	SIX MONTHS	2018-2019	12000
Dr.S.Nagireddy	Driver drowsiness and alcohol detecting system with alert and vehicle auto braking system.	TKRES	SIX MONTHS	2018-2019	11000
Mrs.D.Ramadevi	Menu Ordering System using IOT	TKRES	SIX MONTHS	2018-2019	11000
Mr.K.Kumaraswamy	Internet of Things Based Prison Break Monitoring and Alert System.	TKRES	SIX MONTHS	2018-2019	11000
Mr.N.Aravind	Smart Sophisticated Power Meter Using Iot And Controlling Of Loads.	TKRES	SIX MONTHS	2018-2019	12000
Mr.K.Ramesh	Theft Vehicle detection system using IoT.	TKRES	SIX MONTHS	2018-2019	11000
Mrs.V.Lavanya	Road Accidents Severity Prediction — A Comparative Analysis of Machine Algorithms.	TKRES	SIX MONTHS	2018-2019	10000
Mrs.S.Prathyusha	Telegram chatbot based spy camera to get instant pictures using ESP32 CAM module.	TKRES	SIX MONTHS	2018-2019	13000

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Mrs.Y.Pratyusha	Traceability System Using IoT and Forecasting Model for Food Supply Chain.	TKRES	SIX MONTHS	2018-2019	11000
Mrs.B.Jamuna	Iot-Based Domestic & Commercial Appliance Control Along With IR Remote And Motion Detection Lighting.	TKRES	SIX MONTHS	2018-2019	10000
Mrs.V.Amulya	Office cab tracking system using Raspberry Pi Pico.	TKRES	SIX MONTHS	2018-2019	11000
Mrs.B.Nireesha	Predicting Water Quality Using Machine Learning.	TKRES	SIX MONTHS	2018-2019	10000
Dr.M.Renubabu	ATM Theft Detection, Auto Arresting and Intimation System.	TKRES	SIX MONTHS	2018-2019	12000
Mr.M.V.V.Satya	Car pre collision alert system using distance sensors.	TKRES	SIX MONTHS	2018-2019	12000
Mr Mohammad Muneeruddin Khan	BEHAVIOUR OF DIFFERENT SHAPES OF BUILDING IN SEISMIC RESISTANCE ANALYSIS.	TKRES	SIX MONTHS	2018-2019	11000
Mrs. D. Lavanya Kumari	Use of crumb rubber in flexible Pavement and comparison in strength and quality	TKRES	SIX MONTHS	2018-2019	10000
Mr. U. Veda vyas	EXPERIMENTAL INVESTIGATION OF GLASS POWDER PARTIALY REPLACED IN CEMENT IN MECHANICAL ASPECTS	TKRES	SIX MONTHS	2018-2019	11000

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Mr. P. Satish	Improvement of bearing capacity of sandy soil by grouting	TKRES	SIX MONTHS	2018-2019	10000
M.RAMU	on the security of data access control for multiauthority cloud storage system	TKRES	SIX MONTHS	2018-2019	3000
Y.SURESH BABU	frequent item set mining with differential privacy over large scale data	TKRES	SIX MONTHS	2018-2019	3200
K LAXMI	handwritten digit recognition	TKRES	SIX MONTHS	2018-2019	2800
S.PAVANI	enabling semantic search based on conceptual graphs and encrypted over out souteed.	TKRES	SIX MONTHS	2018-2019	2900
E.ARUNA	cross tenent access control(CTAC)model	TKRES	SIX MONTHS	2018-2019	3100
P.NAGA RANI	division and replication of data in cloud for optimal performance	TKRES	SIX MONTHS	2018-2019	3200
S.PAVANI	analysis and detecting money laundering in social network	TKRES	SIX MONTHS	2018-2019	3500
J.PRAVEEN KUMAR	defect detection in networks using mavhine learning languages	TKRES	SIX MONTHS	2018-2019	3800
O.NAGA KUMARI	automated attendance system using face recognisation	TKRES	SIX MONTHS	2018-2019	3600

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P.KALPANA	brain tumor segmentation using CNN	TKRES	SIX MONTHS	2018-2019	3100
G.ARCHANA	identity based private matching scheme	TKRES	SIX MONTHS	2018-2019	3200
E.ARUNA	privacy protection & intrusion avoidance for cloudlet based medical data sharing	TKRES	SIX MONTHS	2018-2019	3400
J.PRAVEEN KUMAR	topic re-hotting prediction in social networks	TKRES	SIX MONTHS	2018-2019	3300
Dr.K.Satish Kumar	On road vehicle break down assistance finder	TKRES	SIX MONTHS	2018-2019	8,500
Dr. N. VENKATADRI	FAIR RESOURCES ALLOCATION WITH COMPLETE INFORMATION SHARING	TKRES	SIX MONTHS	2018-2019	9,350
Dr. N. VENKATADRI	ONLINE MODELLING OF PROACTIVE SYSTEM FOR AUCTION FRAUD DETECTION	TKRES	SIX MONTHS	2018-2019	11,300
Dr. N. VENKATADRI	DATA SECURITY USING CRYPTOGRAPHY AND STEGANOGRAPHY	TKRES	SIX MONTHS	2018-2019	8,500
Dr. N. VENKATADRI	DIGITAL SIGNATURE GENERATION	TKRES	SIX MONTHS	2018-2019	10,400
Dr.K.Satish Kumar	Prisoner face detection system	TKRES	SIX MONTHS	2018-2019	12,500

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Dr.K.Satish Kumar	Visual Representation of real estate trade off's	TKRES	SIX MONTHS	2018-2019	8.500
Dr. N. VENKATADRI	AUDIT FREE CLOUD STORAGE VIA DENIABLE ATTRIBUTE BASED ENCRYPTION	TKRES	SIX MONTHS	2018-2019	11,350
N RACHANA	AUTOMATIC ENGINE LOCKING SYSTEM THROUGH ALCHOL DETECTION FOR DRUKEN DRIVERS	TKRES	SIX MONTHS	2018-2019	10,400
DR. VADIVELAN NATARAJAN	DYNAMIC HASH TABLE BASED PUBLIC AUDITING FOR SEURE CLOUD STORAGE	TKRES	SIX MONTHS	2018-2019	9,850
DR. VADIVELAN NATARAJAN	GALLOP: GLOBAL FEATURE LOCATION PREDICTION FOR DIFFERENT CHECK IN SCENARIO	TKRES	SIX MONTHS	2018-2019	8.500
DR. VADIVELAN NATARAJAN	KEYWORD SEARCH WITH ACCESS CONTROL OVER ENCRYPTED CLOUD DATA	TKRES	SIX MONTHS	2018-2019	10,600
Total					**762850**

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2019-2020

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Dr C Thulasiyammal	HEALTH MONITORING SYSTEM THROUGH IOT	TKRES	SIX MONTHS	2019-2020	25000
Dr C Thulasiyammal	IOT BASED SMART ENERGY METER FOR SMART CITIES	TKRES	SIX MONTHS	2019-2020	20000
Dr N Rajasekhar Varma	MINIMIZING PENALITY IN DOMESTIC POWER CONSUMPTION BY USING APFC UNIT	TKRES	SIX MONTHS	2019-2020	25000
Dr N Rajasekhar Varma	IOT BASED HOME AUTOMATION USING ARDUINO	TKRES	SIX MONTHS	2019-2020	15000
Mr C Sreenivasulu	AUTOMATIC BREAK SYSTEM FOR AUTOMOBILES	TKRES	SIX MONTHS	2019-2020	20000
Dr B Vidya Sagar	CONTROL OF SOLAR LED STREET LIGHTING SYSTEM BASED ON CLIMATIC CONDITIONS	TKRES	SIX MONTHS	2019-2020	25000

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Mrs A Manjula	IMPPLEMENTATION OF PSO BASED MPPT	TKRES	SIX MONTHS	2019-2020	20000
Mr K.Santhosh	PATROLLING ROBOT IN NIGHT FOR WOMEN SAFTEY	TKRES	SIX MONTHS	2019-2020	25000
Mr T.Madhu Babu	SOLAR BICYCLE	TKRES	SIX MONTHS	2019-2020	25000
Mr T.Madhu Babu	SMART WAGON USING ACCELEROMETER	TKRES	SIX MONTHS	2019-2020	22000
Mrs M Harika Reddy	MOBILE STATOR FOR PUMPS AND MOTORS FOR AGRICULTURE PURPOSE	TKRES	SIX MONTHS	2019-2020	24000
Mr A. Naga Sridhar	SOLAR ENERGY BASED THERMAL REFRIGERATOR WITHOUT USING COMPRESSOR	TKRES	SIX MONTHS	2019-2020	20000
Mr N Ramesh Babu	IOT BASED ACCIDENT AVOIDING AND PROTECTION SYSTEM	TKRES	SIX MONTHS	2019-2020	18000
Mr Shabbier Ahmed Sydu	MODELLING OF STANDALONE WIND TURBINE GENERATING SYSTEM	TKRES	SIX MONTHS	2019-2020	22000
Mrs Waseem Sultana	HYBRID POWER GENERATION USING IOT	TKRES	SIX MONTHS	2019-2020	20000
Mr S Shekar	GRID CONNETED OF SUBSEA POWER CABLE EMMULATOR	TKRES	SIX MONTHS	2019-2020	15000
Mr B Rama Rao	AN ADVANCED DVR SUPPORTING SUPERCONDUCTING MAGNETIC ENERGY STORAGE SYSTEM	TKRES	SIX MONTHS	2019-2020	18000
Mr [illegible]	DESIGN AND IMPLEMENTATION OF FUEL CELL STACK USING TURBINE GENERATING	TKRES	SIX MONTHS	2019-2020	20000

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	SYSTEM				
Mr B Ramesh	AUTOMATIC IRRIGATION WITH MOISTURE SENSOR AND SPRINKLER CONTROLLER	TKRES	SIX MONTHS	2019-2020	22000
Mr B Ramesh	ARDUINO BASED SMART PARKING SYSTEM	TKRES	SIX MONTHS	2019-2020	18000
Mr K Chenchi Reddy	CASCADED H-BRIDGE MULTILEVEL INVERTER	TKRES	SIX MONTHS	2019-2020	15000
Mrs K R Sree Jyothi	POWER QUALITY IMPROVEMENT IN POWER DISTRIBUTION SYSTEMS	TKRES	SIX MONTHS	2019-2020	20000
Mr Dhasharatha G	FEEDERS PROTECTION FROM OVERLOAD CONDITION	TKRES	SIX MONTHS	2019-2020	19000
Mr Dhasharatha G	MULTI RENEWABLE ENERGY RESOURCE BASED INVERTER WITH IOT APPLICATION	TKRES	SIX MONTHS	2019-2020	25000
Mr V Kumar	SLIDING MODE CONTROL FOR SEPIC CONVERTER USING MATLAB/SIMULINK	TKRES	SIX MONTHS	2019-2020	8000
Mr J Lingappa	DOUBLY FED INDUCTION GENERATOR FOR WIND ENERGY CONVERSION SYSTEM WITH INTEGRATED ACTIVE FILTER CAPABILITIES	TKRES	SIX MONTHS	2019-2020	20000
Mr M Rosaiah	CONTROLLING OF WHEEL CHAIR BY USING SPEECH SYNTHESIZER	TKRES	SIX MONTHS	2019-2020	25000
Mrs S Lavanya	VERTICAL AXIS WIND TURBINE WITH INVERTER	TKRES	SIX MONTHS	2019-2020	15000

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Dr.D.Vemana Chary	Smart street light with weather adaptive lighting	TKRES	SIX MONTHS	2019-2020	15000
G.C.K Reddy	**Heart beat and body temperature monitoring over iot**	TKRES	SIX MONTHS	2019-2020	11000
K.Bhargavi	**Manhole monitoring with fault detection and reporting system using iot**	TKRES	SIX MONTHS	2019-2020	12000
B.Rekha	**Implementation of effective code converters using reversible logic gates**	TKRES	SIX MONTHS	2019-2020	10000
SK.Umar Faruk	**Automatic fish fedder over iot**	TKRES	SIX MONTHS	2019-2020	14000
G.Sirisha	**Face recoginization door locking system**	TKRES	SIX MONTHS	2019-2020	10000
Sd.Reshma	**Implementation of movable road divider for vehicular traffic control**	TKRES	SIX MONTHS	2019-2020	12000
Ch.Shekar	**Machine over heat detection and alerting system using arduino**	TKRES	SIX MONTHS	2019-2020	9000
V.Sravani	**Automatic intruder detection and alerting system via mail**	TKRES	SIX MONTHS	2019-2020	9000
P.Satishchandra	**A glove that translates sign language into text and speech**	TKRES	SIX MONTHS	2019-2020	10000
Dr.E.Radhamma	**Smart wheel chair with remote patient health monitoring system**	TKRES	SIX MONTHS	2019-2020	15000

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Dr.P.Padmaja	**Coin based quantity dispensery system**	TKRES	SIX MONTHS	2019-2020	11000
Y.Prathyusha	**Auditorium room light controller system with visitor counter**	TKRES	SIX MONTHS	2019-2020	9000
Mr.Ch.Krishna Reddy	COMPRATIVE STUDY ON SOIL STABLIZATION OF BLACK COTTON SOIL BY COIR FIBRE AND SODIUM CHLORIDE	TKRES	SIX MONTHS	2019-2020	10,000
Ms. Durga Sharma	WATER SCARCITY ANALYSIS IN MAJOR INDIAN CITIES USING GRACE TOTAL WATER STORAGE DATA	TKRES	SIX MONTHS	2019-2020	12,000
Dr.R.Senthamilselvi	EXPERIMENTAL INVESTIGATION OF BACTERIA IN CONCRETE	TKRES	SIX MONTHS	2019-2020	10,000
Mr.P.Jayaraj	Experimental investigations of ceramic insulator in concrete	TKRES	SIX MONTHS	2019-2020	11,000
Dr.R.Hemaanitha	Experimental investigation of RCA in concrete (tiles)	TKRES	SIX MONTHS	2019-2020	12,000
Mrs. G. ARCHANA	Vehicle Detection, Counting and Classification Using Deep Learning	TKRES	SIX MONTHS	2019-2020	3100
Mrs. E. ARUNA	Online OPD Appointment and Hospital Management Information System	TKRES	SIX MONTHS	2019-2020	2900
Dr. J. PRAVEEN KUMAR	A framework to estimate food nutritional value in real time using Deep Learning Techniques	TKRES	SIX MONTHS	2019-2020	2600
Mrs. S. PAVANI	Plant disease detection using Machine Learning	TKRES	SIX MONTHS	2019-2020	2400

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Ms. B. SWARNALATHA	Machine Learning using video surveillance for fall Detection	TKRES	SIX MONTHS	2019-2020	3200
Mrs. M. PRIYANKA	NGO's maintained App	TKRES	SIX MONTHS	2019-2020	3300
Mr.Y.SURESH BABU	Student Grievence Support System	TKRES	SIX MONTHS	2019-2020	3100
Dr. RAMU MOODU	Human Activity Recognition Using Deep Learning	TKRES	SIX MONTHS	2019-2020	3000
Ms. K. LAXMI	A mobile based Inventory management system using QR code application	TKRES	SIX MONTHS	2019-2020	3200
K.Swathi Reddy	Crime Prediction and Analysis	TKRES	SIX MONTHS	2019-2020	12,500
G.Vamshi Krishna	User-centric Machine Learning framework for Cyber center Operation Center	TKRES	SIX MONTHS	2019-2020	9,350
V.Radhika	Eckovation of Connecting Hospitals	TKRES	SIX MONTHS	2019-2020	11,250
T.Rakesh Kumar	Securing Data Using BlockChain and Ai	TKRES	SIX MONTHS	2019-2020	8,600
M.Sabitha	Twitter Sentiment Analysis based on Ordinal Regression	TKRES	SIX MONTHS	2019-2020	9,655
[illegible]	Google Assistant Controlled Home Automation and IoT based Home Security	TKRES	SIX MONTHS	2019-2020	12,300

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P.Ashwini Reddy	Music Recommendation System with Collaborative and Content based Filtering	TKRES	SIX MONTHS	2019-2020	10,400
S.Sanjeeva Rao	Image Stiching	TKRES	SIX MONTHS	2019-2020	9,400
N.Shiva Prasad	Generating Code from A Graphical User Interface Screenshot	TKRES	SIX MONTHS	2019-2020	12,500
Dr.J.Raja Ram	Effective use of Cyber space and Cyber Technology to Prevent Violence and Trafficing against Women and Children	TKRES	SIX MONTHS	2019-2020	8,550
K.Rajya Lakshmi	Image Retrieval based on Feature Extraction	TKRES	SIX MONTHS	2019-2020	11,450
K.Tejaswi	An Attribute based Controlled Collaborative access Controle Scheme for Public Cloud Storage	TKRES	SIX MONTHS	2019-2020	12,000
				TOTAL	9,22,755

Principal

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3.2.1 Research funding received by the institution and its faculties through Government and non-government sources such as industry, corporate houses, international bodies for research project, endowment research chairs during the last five years

3.2.2 Number of research projects per teacher funded by government, non-government , industry, corporate houses, international bodies during the last five years

2020-2021					
Name of of the PI/ Co-PI/Name of the person holding the Chair	**Title of the research project, endowments, Research Chairs**	**Name of the funding agency**	**Duration**	**Year of award or sanction**	**Amount in INR.**
Dr N Rajasekhar Varma	RF BASED SUBSTATION CONTROL PANEL	TKRES	SIX MONTHS	2020-2021	20000
Dr N Rajasekhar Varma	Vehicle Security at Parking Areas Along With Child Presence Detection In Vehicles Over IOT	TKRES	SIX MONTHS	2020-2021	18000
Mr C Sreenivasulu	Solar powered smart e vechicles with road safety using eyeblink and alcohol over IOT	TKRES	SIX MONTHS	2020-2021	22000
Mr C Sreenivasulu	Auto Power Supply From Four Different Sources Monitoring And Control over IOT	TKRES	SIX MONTHS	2020-2021	20000
Dr B Vidya Sagar	Hand gesture control intelligent wheelchair	TKRES	SIX MONTHS	2020-2021	21000
Dr B Vidya Sagar	Drowsy driver deteection using eye blinking pattern	TKRES	SIX MONTHS	2020-2021	20000

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Dr K Dheeraj	Solar based Charging station for Electric vehicles	TKRES	SIX MONTHS	2020-2021	21000
Dr K Dheeraj	IOT-Based UPS Monitoring System Using MQTT Protocols	TKRES	SIX MONTHS	2020-2021	19000
Mrs A Manjula	Dual GSM modems based irrigation water pump controller for farmers	TKRES	SIX MONTHS	2020-2021	20000
Mrs A Manjula	Auto Metro Train to Shuttle between Stations	TKRES	SIX MONTHS	2020-2021	22000
Mr K.Santhosh	Rural electrification through solar and wind hybrid system	TKRES	SIX MONTHS	2020-2021	20000
Mr T.Madhu Babu	DESIGN AND IMPLEMENTATION OF INTELLIGENT ENERGY DISTRIBUTION MANAGEMENT WITH PHOTOVOLTAIC SYSTEM	TKRES	SIX MONTHS	2020-2021	21000
Mr T.Madhu Babu	Control of power quality in Electric Distribution system	TKRES	SIX MONTHS	2020-2021	18000
Mr T.Madhu Babu	MICROCONTROLLER BASED POWER TRANSFORMER PROTECTION SYSTEM	TKRES	SIX MONTHS	2020-2021	19000
Mr A. Naga Sridhar	IOT BASED SMART POWER MANAGEMENT IN PUBLIC AREAS ALONG WITH ADVANCED PUBLIC TRAFFIC MONITORING	TKRES	SIX MONTHS	2020-2021	20000
Mr A. Naga Sridhar	Intelligent Border security intrusion detection And Auto destroy system using IOT	TKRES	SIX MONTHS	2020-2021	25000

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Mob: 8498085218. Email: info@tkrec.ac.in, www.tkrec.ac.in

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Mr N Ramesh Babu	A mobile surveillance monitoring line follower robot with obstacle detection and SMS alert System	TKRES	SIX MONTHS	2020-2021	22000
Mr Shabbier Ahmed Sydu	Enhanced Vertical Windmill System	TKRES	SIX MONTHS	2020-2021	19000
Mr Shabbier Ahmed Sydu	Implementation of solar inverter for home,garden and street light applications	TKRES	SIX MONTHS	2020-2021	20000
Mr B Ramesh	ACCIDENT PREVENTION BY USING EYE BLINK SENSOR	TKRES	SIX MONTHS	2020-2021	18000
Mr B Ramesh	Automatic speed control of solar car at specified locations	TKRES	SIX MONTHS	2020-2021	22000
Mr K Chenchi Reddy	DEVELOPMENT OF BRUSH LESS DC MOTOR DRIVE USING SIMULATION	TKRES	SIX MONTHS	2020-2021	10000
Mr K Chenchi Reddy	Design of battery controller using simulink	TKRES	SIX MONTHS	2020-2021	10000
Mrs K R Sree Jyothi	A STATCOM CONTROL SCHEME FOR GRID CONNECTED WIND ENERGY SYSTEM FOR POWER QUALILTY IMPROVEMENT	TKRES	SIX MONTHS	2020-2021	20000
Mr Dhasharatha G	Wireless 3-phase motor starter using RF technology with	TKRES	SIX MONTHS	2020-2021	22000
Mr V Kumar	Comparative Analysis of Distributed Grid of single phase With and Without DSTATCOM	TKRES	SIX MONTHS	2020-2021	18000
Mr J Lingappa	Power Quality Enhancement Using DSTATCOM in Distributed Power Generation	TKRES	SIX MONTHS	2020-2021	19000

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	System				
Mr M Rosaiah	Construction of Central Control Unit (CCU) for Multiple Irrigation Motors Control Through Wireless Remote IOT and RFID	TKRES	SIX MONTHS	2020-2021	16000
Mrs S Lavanya	Analysis of Wind Turbine Driven Doubly Fed Induction Generator	TKRES	SIX MONTHS	2020-2021	18000
S.Vijay	Underground Cable Fault Detection and Auto Alert to IOT Server Along with Distance	TKRES	SIX MONTHS	2020-2021	15000
S.Vijay	FEEDER PROTECTION FROM OVERLOAD AND EARTH FAULT RELAY	TKRES	SIX MONTHS	2020-2021	20000
A.Srilatha	Iot based three phase power failure monitoring and auto message alert system	TKRES	SIX MONTHS	2020-2021	15000
Dr.Sk.Umar Faruk	Design and implementation of 17 DOF humanoid robot to perform various human movements	TKRES	SIX MONTHS	2020-2021	48987
Mrs.V.Lavanya	IOT Based warehouse stock management and moving robot using RFID Tags	TKRES	SIX MONTHS	2020-2021	8342
Mrs.S.Prathyusha	IOT Based automatic accident detection and Rescue management system	TKRES	SIX MONTHS	2020-2021	11562
Dr.S.Nagireddy	Advanced Traffic violation control and penality system using IOT and Image Processing Technique	TKRES	SIX MONTHS	2020-2021	14876
Mr.N.Aravind	Fingerprint based vehicle anti-theft security system and vehicle ignition with location training	TKRES	SIX MONTHS	2020-2021	16098

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Mrs.Sd.Reshma	Intelligent Traffic Control System	TKRES	SIX MONTHS	2020-2021	12342
Mrs.B.Nireesha	Railway Emergency Detection and ResponseSystem Using IoT	TKRES	SIX MONTHS	2020-2021	11098
Mrs.D.Ramadevi	Woman safety night patrolling robot with motion detector	TKRES	SIX MONTHS	2020-2021	17498
Mrs.V.Deepa	Monitoring of Smart Roads Intelligent Highways Using IoT	TKRES	SIX MONTHS	2020-2021	12091
Mrs.V.Amulya	Smart Village Monitoring & Control	TKRES	SIX MONTHS	2020-2021	11043
Mrs.M.Rajeshwari	Implementation of Vedic Multiplier Using Carry Tree Adders	TKRES	SIX MONTHS	2020-2021	10986
Dr.R.Shankar	Fire Fighting Robot	TKRES	SIX MONTHS	2020-2021	32987
Dr.D.Vemana Chary	An extensive study on Currency Recognition System using Image Processing	TKRES	SIX MONTHS	2020-2021	13090
Dr. Hema Anitha	Experimental Investigation on Mechanical Propertiese of Mechanical Propertiese of Sugar Cane Bagass Ashes Based on Geopolymer Concrete	TKRES	SIX MONTHS	2020-2021	20,000
Dr. R. Senthamil Selvi	Self Compacting Concrete By Redmud & Waste Foundry Sand	TKRES	SIX MONTHS	2020-2021	15,000

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Mrs. Durga Sharma	Experimental Study on Use of Plastic Waste in Flexible Pavements	TKRES	SIX MONTHS	2020-2021	12,000
Mr Mohammad Muneeruddin Khan	Experimental Investigation on Effect of Coal Bottom Ash Broiler Slag on Propertiese of Concrete	TKRES	SIX MONTHS	2020-2021	15,000
Mr. Ch. Krishna Reddy	Increasing Compessive Strength of Concrete By Using Fibres	TKRES	SIX MONTHS	2020-2021	10,000
Mrs. D. Lavanya Kumari	Experimental Investigation on Bamboo as Reinforced Material in Concrete beams	TKRES	SIX MONTHS	2020-2021	10,000
Dr. M.RAMU	Deep Learning Approach to implement the Plagiarism Checkers.	TKRES	SIX MONTHS	2020-2021	3,000
Mrs.A.JYOSHNA	Crop Guidance and Farmers Friend.	TKRES	SIX MONTHS	2020-2021	3,100
Mrs.G.ARCHANA	Person Detection for Social Distancing using Deep Learning.	TKRES	SIX MONTHS	2020-2021	3,200
Mr.J.SUDHEER KUMAR	Efficient Data Access Control With Fine-Grained Data Protection in Cloud - Assisted IIoT.	TKRES	SIX MONTHS	2020-2021	3,000
Mrs E.ARUNA	Automatic Vehicle License Plate Recognition Using Optimal K-Means With Convolutional Neural Network for Intelligent Transportation Systems	TKRES	SIX MONTHS	2020-2021	3,000
Mrs.N.PRIYANKA	Weather Detection from images using Deep Learning techniques .	TKRES	SIX MONTHS	2020-2021	3,100

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Mrs.S.PAVANI	Lightwhight Cloud Storage Auditing with De-duplication Supporting Strong Privacy Protection.	TKRES	SIX MONTHS	2020-2021	3,200
Mrs.O.NAGA KUMARI	A Three layer Privacy Preserving Cloud Storage Scheme Based On Computational Intelligence in Fog Computing.	TKRES	SIX MONTHS	2020-2021	3,000
Mrs.A.VIJETHA	A Deep Learning based Assistive System to Classify COVID-19 face mask for human safety with YOLOv3.	TKRES	SIX MONTHS	2020-2021	3,200
Mrs.S.PAVANI	A Secured Enhanced Key Policy Attribute-Based Temporary Keyword Search Scheme in the Cloud.	TKRES	SIX MONTHS	2020-2021	3,000
Dr.J.PRAVEEN KUMAR	Video Object Forgery Detection.	TKRES	SIX MONTHS	2020-2021	3,500
Mrs E.ARUNA	Brain Tumor Identification and Classification of MRI Images using Deep Learning Techniques.	TKRES	SIX MONTHS	2020-2021	3,000
P.MAHESH KUMAR	Data mining techniques to predict student performance to support decision making in university admission system	TKRES	SIX MONTHS	2020-2021	9,800
Dr.SARANGAM KODATI	Single window monitoring of rural development welfare schemes	TKRES	SIX MONTHS	2020-2021	12,600
Dr.P.PADMAJA	Block chain based certificate validation	TKRES	SIX MONTHS	2020-2021	8,450
CH. RAMESH	DYNAMIC PROPAGATION MODEL OF MALWARE FOR CLOUD COMPUTING	TKRES	SIX MONTHS	2020-2021	10,600

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	SECURITY				
PV.RAMA GOPAL RAO	Higher education student drop out prediction &analysis through educational data mining	TKRES	SIX MONTHS	2020-2021	7,560
K.RAJYALAXMI	Collision avoidance on roads by animal detection	TKRES	SIX MONTHS	2020-2021	9,450
A.SIREESHA	PRIDICTING PERSONALITY FROM SOCIAL MEDIA	TKRES	SIX MONTHS	2020-2021	12,500
Dr.J.RAJARAM	Content based image retrieval using CNN	TKRES	SIX MONTHS	2020-2021	9,850
Dr.K.BHARGAVI	Crime analysis and prediction using k-means algorithm	TKRES	SIX MONTHS	2020-2021	8,540
G.VAMSHI KRISHNA	Detection of non helmet riders and exraction of license plate number using YOLO V2 and ORC	TKRES	SIX MONTHS	2020-2021	9,670
Dr.VADIVELAN NATARAJAN	A corona recognition method based on visible light color and machine learning	TKRES	SIX MONTHS	2020-2021	11,500
J.RACHANA	AI & Covid 19 Deeplearning approaches for diagnosis & treatment	TKRES	SIX MONTHS	2020-2021	12,300
	TOTAL				**10,73,120**

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3.2.2 Number of research projects per teacher funded by government, non-government , industry, corporate houses, international bodies during the last five years

2021-2022					
Name of of the PI/ Co-PI/Name of the person holding the Chair	**Title of the research project, endowments, Research Chairs**	**Name of the funding agency**	**Duration**	**Year of award or sanction**	**Amount in INR.**
Dr N Rajasekhar Varma	Self Rechargeable Electric Folding Bicycle	TKRES	SIX MONTHS	2021-2022	25000
Dr N Rajasekhar Varma	Fire Fighting Robot	TKRES	SIX MONTHS	2021-2022	22000
Dr B Vidya Sagar	Design and simulation of active power factor controller using boost converter	TKRES	SIX MONTHS	2021-2022	10000
Dr B Vidya Sagar	Wireless Power Theft Monitoring System	TKRES	SIX MONTHS	2021-2022	15000
Mrs A Manjula	Reduction of Harmonic Distortion And Switching Losses of Inverter by Space- Vector Base PWM Techniques	TKRES	SIX MONTHS	2021-2022	15000
Mrs A Manjula	Harmonic Reduction in Cascaded H-Bridge Multilevel Inverter using PS-PWM	TKRES	SIX MONTHS	2021-2022	18000

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Mr K.Santhosh	Accident Detection of Prevention & Rescue System Using GPS & GSM	TKRES	SIX MONTHS	2021-2022	20000
Mr K.Santhosh	Advanced Substation Monitoring & Control System	TKRES	SIX MONTHS	2021-2022	21000
Mr T.Madhu Babu	Power Quality Enhancement for a grid connected Wind turbine Energy system	TKRES	SIX MONTHS	2021-2022	18000
Mr T.Madhu Babu	Smart Parking system using IOT	TKRES	SIX MONTHS	2021-2022	20000
Mr A. Naga Sridhar	Solar based Agriculture Robot	TKRES	SIX MONTHS	2021-2022	25000
Mr A. Naga Sridhar	Power Quality Imorovement in Hybrid power System using Artificial Intelligence	TKRES	SIX MONTHS	2021-2022	15000
Mr N Ramesh Babu	Vehicle Security at Parking Areas along With Children Presence of Ditection in Vehicles Over IOT	TKRES	SIX MONTHS	2021-2022	20000
Mr N Ramesh Babu	Energy Tapping Identifier Through Wireless Data Aquasition System	TKRES	SIX MONTHS	2021-2022	22000
Mr B Ramesh	Monitoring and Controlling Electric power station using GSM	TKRES	SIX MONTHS	2021-2022	19000
Mr B Ramesh	Android Military Spying & Bomb Disposal Robot	TKRES	SIX MONTHS	2021-2022	20000
Mr K Chenchi Reddy	Performance Verification of Full Bridge dc-dc Converter for Electrical Vehicle Charging Station	TKRES	SIX MONTHS	2021-2022	10000
Mrs K R Sree Jyothi	Design of Flying Capacitor Multilevel Inverters for Solar Renewable Energy Source	TKRES	SIX MONTHS	2021-2022	15000

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Mr Dhasharatha G	Security (Pass word) Based Circuit Breaker Operation Including GSM Model	TKRES	SIX MONTHS	2021-2022	15000
Mr Dhasharatha G	Vehicle to Grid Technology in a Micro Grid using DC Fast Charging Architecture	TKRES	SIX MONTHS	2021-2022	20000
Mr V Kumar	Power Quality Enhancement in 3-Phase 4-wire Distribution system using Custom power devices	TKRES	SIX MONTHS	2021-2022	18000
Mr J Lingappa	Conventional Control Based Voltage - Source Converter for Power Quality Impruvement in Distributed Generation	TKRES	SIX MONTHS	2021-2022	15000
Mr M Rosaiah	A novel Constant Current fuzzy logic controller for grid connected electric vehicle applications	TKRES	SIX MONTHS	2021-2022	20000
Mr M Rosaiah	Simulation of Four Quadrantoperation & control of 3-phase BLDC Motor for Electrical Vehicle	TKRES	SIX MONTHS	2021-2022	25000
Mrs S Lavanya	A novel T Type topology of inverter to improve the performance of Induction Motor	TKRES	SIX MONTHS	2021-2022	21000
Mrs S Lavanya	Underground Cable Fault Distance Identification with GSM & IOT	TKRES	SIX MONTHS	2021-2022	22000
S.Vijay	Simulation for work place charge for Electric Vehicle using Solar Energy	TKRES	SIX MONTHS	2021-2022	24000
A.Srilatha	Design of Shunt Hybrid power Filter Mitigation of Harmonics using Hysterisis & PI Controller	TKRES	SIX MONTHS	2021-2022	20000
Srilatha	Dynamic Evolution Control For Fuel Cell Based DC-DC Converter	TKRES	SIX MONTHS	2021-2022	18000

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Mr Ch Sai Deepak	Solar Fencing to Prevent Crop Damage From Animals	TKRES	SIX MONTHS	2021-2022	15000
K. Ramesh	Med Robot: Medicine Delivering and Patient parameter Monitoring Robot	TKRES	SIX MONTHS	2021-2022	13000
B. Rekha	IOT based Wireless Sensor Network for air and sound pollution monitoring system	TKRES	SIX MONTHS	2021-2022	11000
K. Kumara Swamy	IOT based Agri-BOT for seeding and watering	TKRES	SIX MONTHS	2021-2022	9000
Mr.M.Renu Babu	Oil skimmer boat with ocean Monitoring System	TKRES	SIX MONTHS	2021-2022	11000
Dr. G.C.K Reddy	ATM Security system	TKRES	SIX MONTHS	2021-2022	13000
Dr. P. Padmaja	IOT based Hydroponic Vertical farming system	TKRES	SIX MONTHS	2021-2022	15000
K. Bhargavi	SPY Robot with wireless night vision camera using Android application	TKRES	SIX MONTHS	2021-2022	14000
K. Sravani	Child saver Machine and wireless Monitoring system using Wireless Sensor Networks	TKRES	SIX MONTHS	2021-2022	13000
Dr. G.Sirisha	LOBOT-Low Cost,Self Contained localization of small sized ground robotic Vehicle	TKRES	SIX MONTHS	2021-2022	14000
B. Padmini	Face Recognition based Door lock system using Machine Learning and Image Processing	TKRES	SIX MONTHS	2021-2022	11000
V.Deepa	Smoke and Fire Accident System using GSM	TKRES	SIX MONTHS	2021-2022	11000
M.V.[illegible]	Voice Based Assistance for Blind People using Machine Learning.	TKRES	SIX MONTHS	2021-2022	12000

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Dr. Hema Anitha	Comparative Study on mechanical properties of recycled aggregate concrete and Normal Aggregate Concrete	TKRES	SIX MONTHS	2021-2022	15,000
Dr. R. Senthamil Selvi	Combined benefit of high volume flyash and recycled aggregate concrete	TKRES	SIX MONTHS	2021-2022	15,000
Mr Mohammad Muneeruddin Khan	Soil Stabilization using copper Slag	TKRES	SIX MONTHS	2021-2022	10,000
Mr. V. Srujith Kumar	Strength properties of Recycled aggregate concrete	TKRES	SIX MONTHS	2021-2022	12,000
Mr.R.Shiva Rama Krishna	Strength Characteristics of Concrete by using foundry Sand	TKRES	SIX MONTHS	2021-2022	10,000
S.PAVANI	Diabetes mellitus and risk production using machine learning	TKRES	SIX MONTHS	2021-2022	3100
J.SUDEER KUMAR	Predicting crime hotspots	TKRES	SIX MONTHS	2021-2022	3200
J.PRAVEEN KUMAR	Detection of fake twitter accounts	TKRES	SIX MONTHS	2021-2022	2800
M.RAMU	web based framework for liver disease diagnosis using combined machine learning models	TKRES	SIX MONTHS	2021-2022	2650
J.PRAVEEN KUMAR	SMART street _ An Artificial Intelligence (AI) powered street garbage detection and Alert system	TKRES	SIX MONTHS	2021-2022	3100
E.ARUNA	A framework for a cloud based electronic health records syatem for developing countries.	TKRES	SIX MONTHS	2021-2022	3000

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S.SRAVAN	Alzheimers dicease prediction using Deep learning	TKRES	SIX MONTHS	2021-2022	3250
A.JYOSHNA	Enhanced object detection with deep convilutional neural networks for Advanced driving assistance.	TKRES	SIX MONTHS	2021-2022	3100
G.ARCHANA	missing child identification using deep learning.	TKRES	SIX MONTHS	2021-2022	2850
E.ARUNA	LEVER: secure duplicated cloud storage using encrypted two-party interactions in cyber-physical systems.	TKRES	SIX MONTHS	2021-2022	2900
N.PRIYANKA	An ensemble approach to predict weather forecast using machine learning.	TKRES	SIX MONTHS	2021-2022	2750
S.PAVANI	Health workers to monitor nutrition among women and children	TKRES	SIX MONTHS	2021-2022	2700
S.SRAVAN	Automatic vehicle vacant parking places management using multi-camera vehicle detection.	TKRES	SIX MONTHS	2021-2022	2800
G.ARCHANA	A comparitive study on CNV based low light image enhancement.	TKRES	SIX MONTHS	2021-2022	3200
G.LAVANYA	Analysis and Prediction of earthquake damage using machine learning.	TKRES	SIX MONTHS	2021-2022	3350
K.NAVEENA	Phishing website classification and detection	TKRES	SIX MONTHS	2021-2022	3100
G.RAJKUMAR	Digital smart system for restaurent using wireless technology	TKRES	SIX MONTHS	2021-2022	3200
[illegible]OSHNA	An effective Heart Disease prediction model for a clinical decision support system.	TKRES	SIX MONTHS	2021-2022	3100

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Dr.VADIVELAN NATARAJAN	Energy Efficient Node Co-operation in Under water data collection Network	TKRES	SIX MONTHS	2021-2022	8,560
B.Triveni	An Authorised access point detection using Machine Learning Algorithms for Information Protection	TKRES	SIX MONTHS	2021-2022	12,400
Dr K BHARGAVI	Cyber threat Detection based on Artificial Neural Networks using Event Profiles	TKRES	SIX MONTHS	2021-2022	9,560
B.Narasingam	Crop guidance using Machine Learning	TKRES	SIX MONTHS	2021-2022	11,450
G.Rani	Key Management Scheme for Secure Channel Estaublishment in FOG Computing	TKRES	SIX MONTHS	2021-2022	9,300
Dr.Anto.A.Micheal	Home Automation and Security System with Node MCU using Internet of Things	TKRES	SIX MONTHS	2021-2022	8,540
Dr K BHARGAVI	Authenticaion of Product and Counter fix elimination using BlockChain	TKRES	SIX MONTHS	2021-2022	12,600
Sangeetha Jawar	Training and Olacement Cell Android Application	TKRES	SIX MONTHS	2021-2022	11,350
T.Laya Raj	Sliding Window BlockChain Architecture for IoT	TKRES	SIX MONTHS	2021-2022	9,580
G.Swathi	Decentralized Web hosting using BlockChain	TKRES	SIX MONTHS	2021-2022	12,560
A.Roja Ramani	Malaria Detection Using Deep Learning	TKRES	SIX MONTHS	2021-2022	9,560
Dr.K.Sarangam	Detection of Fire using Deep Learning and Image Processing	TKRES	SIX MONTHS	2021-2022	11,600
N.Sowjanya	Object Single Frame using Yolo Model	TKRES	SIX MONTHS	2021-2022	9,450

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Dr.J.Raja Ram	The Impact of the Security Protocols on Performance of SNMP	TKRES	SIX MONTHS	2021-2022	12,500
M.Srimathi	Stateless Restful Server	TKRES	SIX MONTHS	2021-2022	9,860
A.Lakshman	Question Answering System Using NLP	TKRES	SIX MONTHS	2021-2022	12,600
Ch.Sukanya	Predictive Analystic for Crued Oil Price using RNN-LSTM Neural Networks	TKRES	SIX MONTHS	2021-2022	11,450
Dr.J.Raja Ram	Extraction of Pdu Using SNMP in Network Grid	TKRES	SIX MONTHS	2021-2022	10,580
Dr.CH.V. PHANI KRISHNA	Deep Fake Detection using LSTM and RESNEXT	TKRES	SIX MONTHS	2021-2022	8,940
J.Rachana	Web Mining to Detect Online Spread of Terrerism	TKRES	SIX MONTHS	2021-2022	11,560
TOTAL					**1040150**

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3.2.1 Research funding received by the institution and its faculties through Government and non-government sources such as industry, corporate houses, international bodies for research project, endowment research chairs during the last five years

3.2.2 Number of research projects per teacher funded by government, non-government , industry, corporate houses, international bodies during the last five years

2022-2023					
Name of of the PI/ Co-PI/Name of the person holding the Chair	**Title of the research project, endowments, Research Chairs**	**Name of the funding agency**	**Duration**	**Year of award or sanction**	**Amount in INR.**
Dr N Rajasekhar Varma	Output Voltage and Power Factor Improvement for Non-Conventional Energy Generation	TKRES	SIX MONTHS	2022-2023	5000
Dr N Rajasekhar Varma	15 Level Inverter for Stand-Alone Applications	TKRES	SIX MONTHS	2022-2023	7000
Dr B Vidya Sagar	Different Types of Faults Detection and Identification in Synchronous Generator Using MFO-based FL Techniques	TKRES	SIX MONTHS	2022-2023	8000
Dr B Vidya Sagar	AUTOMATIC FIRE CONTROL SYSTEM IN RAILWAYS	TKRES	SIX MONTHS	2022-2023	6000
Mrs A Manjula	Renewable Energy Source Fed Multilevel Inverter	TKRES	SIX MONTHS	2022-2023	5000
Mrs A Manjula	POWER QUALITY IMPROVEMENT USING UPQC	TKRES	SIX MONTHS	2022-2023	7000

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Mr K.Santhosh	Time-Domain Control Algorithms of DSTATCOM in a 3-Phase, 3-Wire Distribution System	TKRES	SIX MONTHS	2022-2023	6000
Mr K.Santhosh	BI-DIRECTIONAL AC-DC CONVERTER FOR ELECTRIC VEHICLE CHARGING STATION	TKRES	SIX MONTHS	2022-2023	7000
Mr T.Madhu Babu	Reduction of Harmonics to Improve Power Quality in Distribution Lines using a Series Active Power Filter	TKRES	SIX MONTHS	2022-2023	8000
Mr T.Madhu Babu	High Voltage DC-DC Converter with Standalone Application	TKRES	SIX MONTHS	2022-2023	7000
Mr A. Naga Sridhar	Power Generation of Wind-PV-Battery based Hybrid Energy System for Standalone AC Microgrid Applications	TKRES	SIX MONTHS	2022-2023	6000
Mr A. Naga Sridhar	HARMONIC REDUCTION IN VSG USING FUZZY LOGIC CONSIDERING NONLINEAR LOADS AND DISTORTED GRID	TKRES	SIX MONTHS	2022-2023	8000
Mr N Ramesh Babu	Case study on Ni-MH Battery & 1559-1564	TKRES	SIX MONTHS	2022-2023	6000
Mr N Ramesh Babu	Closed Loop Control of InductionMotorUsingHall Effect SpeedSensors	TKRES	SIX MONTHS	2022-2023	5000
Mr B Ramesh	CLOSED-LOOP CONTROL OF BLDC MOTOR USING HALL EFFECT SENSORS	TKRES	SIX MONTHS	2022-2023	6000
Mr B Ramesh	MODELLING AND SIMULATION OF GRID INTERCONNECTION OF	TKRES	SIX MONTHS	2022-2023	5000

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	VARIABLE SPEED WIND TURBINE ENERGY SYSTEM				
Mr K Chenchi Reddy	Grid-Connected 3L-NPC Inverter with PI Controller Based on Space Vector Modulation	TKRES	SIX MONTHS	2022-2023	8000
Mr K Chenchi Reddy	3-Phase 7-Level Diode Clamped Inverter for Standalone Application	TKRES	SIX MONTHS	2022-2023	7000
Mrs K R Sree Jyothi	Fuel Cell based Grid Connected Two-Level Inverter	TKRES	SIX MONTHS	2022-2023	6000
Mrs K R Sree Jyothi	Reduction of THD and Power Quality Improvement by using 48-pulse GTO-based UPFC in the Transmission Systems	TKRES	SIX MONTHS	2022-2023	5000
Mr Dhasharatha G	Design and Implementation of Three-phase Three Level NPC Inverter	TKRES	SIX MONTHS	2022-2023	4000
Mr Dhasharatha G	Z-source inverter for standalone application	TKRES	SIX MONTHS	2022-2023	6000
Mr V Kumar	Grid-Connected Inverter Fed from PV Array	TKRES	SIX MONTHS	2022-2023	5000
Mr V Kumar	Distribution System Power Quality Improvement using IRP Theory	TKRES	SIX MONTHS	2022-2023	4000
Mr M Rosaiah	Induction Motor Speed Control Through Vector Control Approach	TKRES	SIX MONTHS	2022-2023	6000
Mr M Rosaiah	Wind - Battery Controller Based Standalone Alternating Current Microgrid Applications	TKRES	SIX MONTHS	2022-2023	5000
Mrs S Lavanya	PERFORMANCE IMPROVEMENT OF GRID INTERFACED HYBRID SYSTEM USING DISTRIBUTED POWER FLOW CONTROLLER	TKRES	SIX MONTHS	2022-2023	4000

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Mr Ch Sai Deepak	Performance Improvement of Photo Voltaic fed Series Active Power Filters for Distributed Generation	TKRES	SIX MONTHS	2022-2023	6000
Mr G Satheesh kumar	Reduced Device Count 9-Level Inverter for Standalone Applications	TKRES	SIX MONTHS	2022-2023	7000
Mrs Ch Prasanna	Power Optimization Scheme On Induction Motor Using Artificial Neural Network For Electrical Vehicle	TKRES	SIX MONTHS	2022-2023	6000
Mrs.Bhulaxmi	Lora based Wireless Weathor Station with Web Server	TKRES	SIX MONTHS	2022-2023	11000
V.Lavanya	Safety Child Vehicle Parking System	TKRES	SIX MONTHS	2022-2023	10000
S.Prathyusha	Gesture Controlled Robotic Vehicle for Gas Leakage Detection	TKRES	SIX MONTHS	2022-2023	12500
S.Nagireddy	Solar Powered Paddy Field Environment	TKRES	SIX MONTHS	2022-2023	10000
N.Aravind	Army Secured Data encryption and decryption	TKRES	SIX MONTHS	2022-2023	9000
Sd.Reshma	Impementation of Gesture Based Human Computer Interface	TKRES	SIX MONTHS	2022-2023	10000
B.Nireesha	Credit Card Detection with Machine Learning	TKRES	SIX MONTHS	2022-2023	9000
D.Ramadevi	self Confidence estimation Using Machine Learning Algorithm	TKRES	SIX MONTHS	2022-2023	10000
V.Saritha	Advanced Railway Security System for Track Fault detection	TKRES	SIX MONTHS	2022-2023	11000

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V.Amulya	Breast Cancer Detection using Image Processing	TKRES	SIX MONTHS	2022-2023	12000
B.Jamuna	Smart Baby Health Monitoring System using IOT	TKRES	SIX MONTHS	2022-2023	11000
M.Hari Krishna	AutomatieTraffie Light with Vehicle Density and Green Signal for Emergency Vehicle	TKRES	SIX MONTHS	2022-2023	11000
Dr.R.Shankar	Anti Theft Detection & Protection of Vehicle with Image Capturing	TKRES	SIX MONTHS	2022-2023	10000
M.Aishwarya	Industry safety and pollution monitoring System	TKRES	SIX MONTHS	2022-2023	10000
K.Ramesh	Flood and Air Quality Monitoring using IOT	TKRES	SIX MONTHS	2022-2023	10000
Mrs. D. Sai Priyanka	Mechanical Properties of High Strength Concrete by using Copper Slag	TKRES	SIX MONTHS	2022-2023	8000
Mr. T. Pavan Kumar	Experimental Study on Recron Fibre Concrete and Conventional Concrete	TKRES	SIX MONTHS	2022-2023	10000
Mr. P. Chaitanya	Reinforcement with Composite rebar Polymer pultraded rebars	TKRES	SIX MONTHS	2022-2023	10000
Mr. V. Ramu	Experimental study on Mechanical Properties of Concrete using Marble, Granite and Glass powder as partial replacement for fine aggregate	TKRES	SIX MONTHS	2022-2023	15000
Mr Mohammad Muneeruddin Khan	Strength and Durability Characteristics of Concrete by Using Nanosilica- Nanovanadium Mixture	TKRES	SIX MONTHS	2022-2023	15000
G.ARCHANA	ensity based smart trafic control system	TKRES	SIX MONTHS	2022-2023	3300

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J.SUDEER KUMAR	Object recognition android application for visually impaired	TKRES	SIX MONTHS	2022-2023	2800
E.ARUNA	Employing blockchain in agriculture	TKRES	SIX MONTHS	2022-2023	3600
M.RAMU	Identification of Red soil using AI technoques	TKRES	SIX MONTHS	2022-2023	2700
N.PRIYANKA	Virtual mouse using Hand gesture recognition	TKRES	SIX MONTHS	2022-2023	3100
J.PRAVEEN KUMAR	Block chain for secure EHRS sharing of mobile cloud based E-health systems	TKRES	SIX MONTHS	2022-2023	3200
S.SUSHMITHA	application of detection of weapons in surveiliance videos using deep learning	TKRES	SIX MONTHS	2022-2023	2850
K.HYMAVATHI	A deep learning facial expression recognition based scoring system for restaurents	TKRES	SIX MONTHS	2022-2023	2900
A.VIJETHA	Disease prediction using ML algorithms	TKRES	SIX MONTHS	2022-2023	3100
G.RAJKUMAR	Estimate height weight and BMI from the face using machine learning	TKRES	SIX MONTHS	2022-2023	3100
Dr V.SIDDA REDDY	An adaptive genetic algorithm for personalised itinerary planning	TKRES	SIX MONTHS	2022-2023	2900
S.PAVANI	Flower identification and classification by applying CNN and deep learning methodologies	TKRES	SIX MONTHS	2022-2023	3150
E.ARUNA	Personalised diabetic diagnosis using Machine Learning	TKRES	SIX MONTHS	2022-2023	3200
S.SRAVAN	[illegible] yield prediction using machine learning	TKRES	SIX MONTHS	2022-2023	2800

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S.PAVANI	Medical cost regression using machine learning	TKRES	SIX MONTHS	2022-2023	3100
A.JYOSHNA	Enhancing flood prediction using Machine Learning	TKRES	SIX MONTHS	2022-2023	3050
T.RAKESH KUMAR	Identifying Injection Attacks in dbms	TKRES	SIX MONTHS	2022-2023	11,450
Dr.K.BHARGAVI	Electronic Component Identification from Voice	TKRES	SIX MONTHS	2022-2023	9,840
K.PRATHYUSHA	Police complaint management system using blockchain	TKRES	SIX MONTHS	2022-2023	12,500
B.RAJANI	Early Pest detection from crop using image processing and computational intelligence	TKRES	SIX MONTHS	2022-2023	8,450
M.CHINNA BABU	Water pump control and monitoring the moisture using IOT	TKRES	SIX MONTHS	2022-2023	12,500
B.TRIVENI	ANTI-THEFT Protection Of Vehicle Using GPS and GSM	TKRES	SIX MONTHS	2022-2023	11,360
T.SAI LALITH PRASAD	QR Code Based Attendance System	TKRES	SIX MONTHS	2022-2023	8,950
C.ARCHANA	Smart shopping trolley using RFID and IOT	TKRES	SIX MONTHS	2022-2023	12,500
K.DEVADAS	An Efficient and Fine-grained Big Data Access Scheme With Privacy-Preserving Policy	TKRES	SIX MONTHS	2022-2023	9,780
Dr.M.SURESH BABU	Secure crypto biometric system for cloud computing	TKRES	SIX MONTHS	2022-2023	10,500
K.KOTESHWARA CHARI	Detection of Possible illicit messages using Natural Language processing and computer	TKRES	SIX MONTHS	2022-2023	8,740

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	vision on linked websites				
N.ANJAMMA	Iris Recognition Using Daugman Algorithm and ANN	TKRES	SIX MONTHS	2022-2023	12,560
G TEJASWINI	AUTOMATING E-GOVERNMENT SERVICES USING AI	TKRES	SIX MONTHS	2022-2023	8,970
D.SRAVANI	Coding assessment portal	TKRES	SIX MONTHS	2022-2023	11,640
K.RAGHAVENDER	EYE BALL CURSOR MOVEMENT USING OPEN CV	TKRES	SIX MONTHS	2022-2023	10,340
G.SWETHA	Steganography Techniques For Hiding Secret Information	TKRES	SIX MONTHS	2022-2023	9,720
A.DIVYA SREE	WHEEL CHAIR-PERSON FALL DETECTION WITH IOT	TKRES	SIX MONTHS	2022-2023	9,500
Dr.CH.V.PHANI KRISHNA	Content Verification System	TKRES	SIX MONTHS	2022-2023	11,650
PV.RAMA GOPAL RAO	MPOX DETECTION USING MODIFIED VGG16 AND CUSTOM CNN MODEL	TKRES	SIX MONTHS	2022-2023	9,460
T.PRIYANKA	Attendance capture system using Face Recognition	TKRES	SIX MONTHS	2022-2023	12,530
	Total				**657290**

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3.2.1: Total Grants research funding received by the institution and its faculties through Government and non-government sources such as industry, corporate houses, international bodies for research project, endowment research chairs during the last five years (INR in Lakhs)

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Technical Activities

S. No	Name of the student	Achievement
1.	a) Akula lahari b) Mohammad Raheemuddin c) Gunreddy Manasa d) Masthan valli	Designed a product named "ELECTRIC AND SOLAR SCOOTY" which mainly focuses on reduction of the air pollution, as a part of "ANVESHAN 2020 FELLOWSHIP" in March 2020.
2.	S. Santhosh Kumar	Designed an aerial vehicle named " Agriculture Sprayer Drone " which mainly focuses on the welfare of the farmer. Participated in Innovators Challenge 2019 held on 07/04/2019 and achieved 1st place and also won 1,00,000 INR
3.	Final year ECE students of 2016 batch	Participated in SEED BALL DROPPING using Drone in an agricultural farm along with Finance Minister, Mr.T.Harish Rao, Telangana and Minister for Excise and Prohibition,

Electric and Solar Scooty

Details

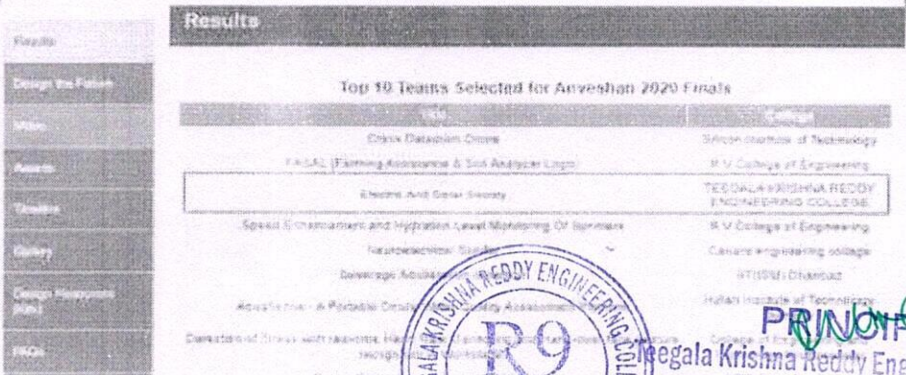
- ECE students designed the product named Electric and Solar Scooty for travelling that will reduce the air pollution.
- This Scooty is cheaper, simpler in construction & can be widely used for short distance travelling especially by college students, of ℓe goers, villagers, postman etc.

Outcome

- Students got an opportunity to innovate and design product that can uplift the standard of living of the society.
- An innovative R&D Outcome by Faculty and students.
- Received Excellence award from Analog devices Company.

Electric and Solar Scooty

Under the guidance of Mrs.V.Roopa Reddy, Dept. of ECE, II year students, 1. Akula lahari, 2. Mohammad Raheemuddin, 3.Gunreddy Manasa, 4. Masthan valli received funding from ANALOG DEVICES COMPANY as a part of ANVESHAN 2020 FELLOWSHIP for designing a product named ELECTRIC AND SOLAR SCOOTY which mainly focus on reduction of the air pollution.



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Under the guidance of Mrs.V.Roopa Reddy. Dept. of ECE, II year students, 1. Akula lahari, 2. Mohammad Raheemuddin, 3.Gunreddy Manasa, 4. Masthan valli received funding from ANALOG DEVICES COMPANY as a part of ANVESHAN 2020 FELLOWSHIP for designing a product named ELECTRIC AND SOLAR SCOOTY which mainly focus on reduction of the air pollution.

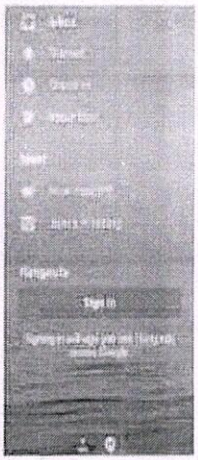
Results

Top 30 Teams Selected for Anveshan 2020 Finals

Idea	College
Crack Detection Drone	Sridevi Institute of Technology
AI-IoT Farming Assistance & Soil Analyzer System	R.V College of Engineering
Electric And Solar Scooty	TEEGALA KRISHNA REDDY ENGINEERING COLLEGE
Smart Environment and Hydration Level Monitoring Of Swimmers	R.V College of Engineering
Nanoelectrical Sundial	Canara engineering college
Sewerage Asphyxiation reduction	IIT (ISM) Dhanbad
AquaSense - A Portable On-site Water Quality Assessment Platform	Indian Institute of Technology Bombay
Detection of Drivers with Real-time Heart Rate Monitoring and Hand-over Task gesture recognition in Vehicles	College of Engineering and Technology Bhubaneswar
Parker Rehabilitation through EMG & VR	BITS Pilani Rajasthan
Low-cost wearable electronics solution for the diagnosis of Obstructive Sleep Apnea utilizing respiratory and cardiac signals (WAKE-UP ASSURED)	Bec Power Telangana

Electric and Solar Scooty

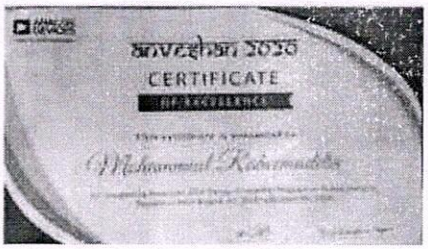
II year students, received a fund of Rs. 50,000/- from ANALOG DEVICES COMPANY as a part of ANVESHAN 2020 FELLOWSHIP for designing a product named
ELECTRIC AND SOLAR SCOOTY which mainly focus on reduction of the air pollution.



Breakup	
1st Round Funding	20,000
2nd Round Funding	18,000
Total Monetary Funding	38,000
TDS @10%*	3,800

Breakup	
Total Monetary Funding	38,000
ADI Kits	12,000
Total Funding	50,000

Students Achievement



Our ECE students received a cash prize of Rs.50,000/- & Excellence certif bate from ANALOG DEVICES COMPANY as a part of ANVESHAN 2020 FELLOWSHIP for designing a product named Electric and Solar scooty.

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www.icssr.org

F.No. NIS/IS/08/IC/2023-24

Dated: 16.6.2023

The Principal
Teegala Krishna Reddy Engineering College
Medbowli, Meerpet,
Hyderabad-500097, Telengana

Sanction Order

Subject: Sanction for organizing an International seminar on **"Privacy and Security issues in online Social Networks"**

Dear Sir,

Sanction of the Council is hereby accorded for the grant-in-aid of **Rs.2.50,000/-** (Rupees Two Lakh Fifty Thousand only) to organize the above mentioned International seminar under the Convenership of Dr. M. Suresh Babu, Professor to be held from 1-2 September 2023.

The sanctioned amount will be released in two instalment as follows:

First instalment	**Rs. 1,87,500/-**
Second instalment	**Rs. 62,500/-**
Grand Total	**Rs.2,50,000/-**

The first instalment of Rs.1,87,500/- will be released on receipt of the ***grant-in-aid bill*** & ***PFMS Form*** (copy enclosed) duly signed and stamped by the Competent Authority of the Institution/University/College.

The second instalment of Rs.62,500/- will be released on receipt of the following documents that may please be submitted within two months after holding the seminar:

I. Two complete sets of Reports (hard bound copies) of the seminar/Conference that should necessarily constitute of the following:

- The List of the Actual Participants of the seminar.
- The exact titles & presenters of each of the session.
- 2-3 paragraphs write-up on seminar topic.
- Full Proceedings as presented in the Seminar along with the abstracts.
- A note on the contribution of the seminar to the existing body of research.
- The Convener shall acknowledge support of ICSSR in all publications resulting from the seminar outcome (Books, Articles, Reports etc.) and should submit a copy of the same to the ICSSR after the completion

II. The audited head-wise statement of accounts and utilization certificate in GFR (form 12A) (copy enclosed) for the entire expenditure incurred from the sanctioned amount. Both these needs to be duly certified by the Convener, Registrar/Principal, and the Finance Officer in case of the Central University or the Chartered Accountant in case of other institutions.

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Indian Council of Social Science Research
Ministry of Education
Aruna Asaf Ali Marg, New Delhi 110067

Date : 30-06-2023

F. No: ICSSR/VB/2023/06-125

Dear Dr.M.S.Babu,

This is with reference to your application seeking financial assistance under Vikasit Bharath @2047 "Design and Development of Embedded System Based Soil Organic Carbon Analyzer ". Your request has been considered by the Expert Committee on Vikasith Bharath - 2047 Scheme and I am pleased to inform you that the Committee has recommended an amount of Rs.12, 00, 000/- for the project.

You are therefore requested to kindly submit the exact timelines of the project. Please ensure that once the Project is confirmed, it should not be changed in any case. A formal sanction letter will be sent after the confirmation of the Detailed Project Report. Clearly state the motivation behind your research project and Outline the primary objectives of your proposed work. Compare and position your work in relation to the current state-of-the-art in this field.

Highlight the technical innovations and unique aspects of your project and describe the methodology you intend to use in your research and also List the expected outcomes and deliverables of your project.

Best regards,

M.P. Madhukar
Deputy Director
Incharge, International Collaboration Programme
ICSSR, New Delhi

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Design and Development of Brushless DC Motor Drive for Electrical Vehicle Application

V. Kumar, Kalagotla Chenchireddy, Khammampati R Sreejyothi, and G. Sujatha

Abstract Nowadays, the usage of conventional vehicles' importance is decreased due to increase in fuel cost and very high levels of air pollution, and also decreased the greatest negatives to human beings in petroleum resources: to produce safe, clean, and high-efficiency transportation implemented. Future driving technology will include electric, hybrid electric, and fuel cell-driven vehicles. This paper presents an overview of electric vehicle technology and implemented Speed Control of a Brushless DC motor for Electrical Vehicle applications. The performance of the BLDC motor is investigated under steady, dynamic state speed, and torque conditions. In the above two conditions, the actual value reached the reference value. The test results are verified in MATLAB/SIMULINK.

Keywords BLDC motor · Electric vehicle · Speed · Torque

1 Introduction

Field programmable gate array (FPGA) is implemented for BLDC motor having a digital controller. The BLDC system had two levels of operation: low duty level (DL) and high duty level (DH). The implemented controller utilizing the PID control reduced the cost of the system and also provided ease of operation that is capable of regulating the speeds without an observer. Regenerative braking improved the efficiency and extended the driving distance of electric vehicles [1]. Because of its great torque and efficiency, the BLDC motor is commonly utilized in electric vehicles. A dynamic load system cannot be controlled by the traditional PID controller found in BLDC motors. A PID-fuzzy controller was used to solve this flaw. In a variable speed and dynamic load situations, the PID-fuzzy controller maintained the steady-state

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N. Marati et al. (eds.), *AI Enabled IoT for Electrification and Connected Transportation*, Transactions on Computer Systems and Networks.
https://doi.org/10.1007/978-981-19-2184-1_10

condition of the BLDC motor speed. As a result, the BLDC motor's performance has improved [2].

In BLDC, the flux-weakening control and energy regeneration braking control were investigated. The controller described has high efficiency and improved the system's dynamic performance under load-changing settings. In the system, the proportional–integral–differential control approach was presented. The problem of correctly regulating the speed over a vast range is solved with an arithmetic variable velocity [3]. This research [4] showed a BLDC braking system with an elec braking system motor-based electrical vehicle using single, two, and three swit topologies as well as plugging as braking methods. The maximum voltage co sion, the boost ratio, and the braking torque ratios were employed for each br method. The applied technique considers stopping the vehicle at any speed recharging its batteries. Surface Brushless DC Motor (BLDC) and Mounded P nent Magnet Synchronous Motor (SPMSM) were compared. In designing po view, implemented an identical design of criteria such as the outermost dia of the core, current density, and magnetic flux density. The results are compa BLDC, the output power density of SPMSM is increased by 12.8% due to redu

Three-Leg Voltage Source Converter-Based D-STATCOM for Power Quality Improvement in Electrical Vehicle Charging Station

Kalagotla Chenchireddy and V. Jegathesan

Abstract The usage of a huge amount of automobiles in the world may cause serious problems for the climate and human existence. Lately, the innovative and improvement activities associated with transportation have emphasized the growth of the high good organization, hygienic, and safe transportation. Electric vehicles had normally planned to restore conventional vehicles soon. This Paper presents grid to vehicle (G2V) technology for the battery charging station. This paper presents two topologies three-phase diode-bridge rectifier and bidirectional DC-DC converters. The diode-bridge rectifier circuit converter converts three-phase AC supply to DC supply and is controlled by synchronous reference frame, and DC/DC converter uses for battery charging and also controlled by PI controller. The most important intention of this paper is to vary the performance characteristics of the battery in charging and discharging mode. This proposed technology is simulated in MATLAB/SIMULINK model. The battery charging and discharging results are verified.

Keywords Lithium-ion battery · Electric vehicle · Power quality · On-board charging station · P-Q control theory

1 Introduction

To decrease air contamination and get better energy efficiency, several countries and cities (e.g., Singapore) are headed to presenting electric vehicles (EVs) to restore the vehicles allocation in the current interchange scheme. The powerful location of charging stations is fundamental for the fast improvement of EVs since it is essential for giving accommodation to EVs and guaranteeing the proficiency of the traffic organization. Be that as it may, existing works for the most part focus on the mileage tension from EV clients yet overlook their key and serious charging

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N. Marati et al. (eds.), *AI Enabled IoT for Electrification and Connected Transportation*, Transactions on Computer Systems and Networks.
https://doi.org/10.1007/978-981-19-2184-1_12

practices. To catch the cutthroat and vital charging practices of the EV client think about that as an EV client's charging price, which is reliant on supplem EV clients' decisions, comprises of the movement cost to get to the charging loc and the lining price in charging station. To begin with, we figure the charging loc situation difficulty as a bi-level advancement issue. The general intention is minimize the entirety charging price of EV drivers (name public price), an drivers are unspecified to reduce their accusing expense of key charging perfor [1].

When the increasing load in EV charging station result is greater than b

Zero Voltage Switching (ZVS)-Based DC–DC Converter for Battery Input Application

Khammampati R Sreejyothi, V. Kumar, Kalagotla Chenchireddy, and P. Tejaswi

Abstract This paper presents a phase shift H-bridge DC–DC converter for electrical vehicle battery charger application. There are many conventional DC–DC converter topologies. Those are buck converter, boost converter, buck-boost, and Cuk converter. The main drawbacks of this converter are single input and single output, and these converters are not suitable for converting high DC supply to low DC supply. This paper presented a phase shift H-bridge DC–DC converter, and this converter is mainly used in step-down high DC voltage to low DC voltage, and it also provides isolation between input and output. The major applications are server power supply, telecom rectifier, battery charging system, and renewable energy system. The presented topology operated in mainly two modes of operation one is discontinuous conduction mode (DCM) and the second one is continuous conduction mode (CCM). When the battery is charged fully the mode circuit is operated in DCM mode. When the charging across the SOC is very low the circuit will operate in CCM. The simulation results are verified in CCM mode. The closed-loop PI controller is used for controlling battery voltage, current, and SOC.

Keywords Electric vehicle · Zero voltage switching · DC/DC converters · Charge controller · PI controller

1 Introduction

At the present day, the importance of rechargeable batteries is rising due to electrical vehicle application. An electrical vehicle is four times better than a petrol vehicle. The size of the battery bank is 10–12 higher than the petrol tank and volume also higher than the petrol tank. Niu presented a full-bridge phase-shifted ZVZCS converter for

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N. Marati et al. (eds.), *AI Enabled IoT for Electrification and Connected Transportation*, Transactions on Computer Systems and Networks,
https://doi.org/10.1007/978-981-19-2184-1_11

the electric vehicle battery charger. The presented topology reduced switches l
using soft-switching devices and improved the overall efficiency of the syster
Author Kim introduced an energy-recovery snubber circuit for a full-bridge
DC converter. The snubber circuit protected the load side [2]. Author Zelj
introduced a single-phase reconfigurable full-bridge chopper for electrical and h
vehicle applications [3]. Chen reduced switching loss, switching loss by sing isc

Twelve Pulse-Based Battery Charger with PV Power Integration

| Chapter | First Online: 05 June 2022

| pp 191–200 | Cite this chapter

AI Enabled IoT for Electrification and Connected Transportation

D. Suresh, V. Kumar & Mote Mahesh

Part of the book series: Transactions on Computer Systems and Networks ((TCSN))

Abstract

elimination, and photo-voltaic power generated from cell injected into the utility grid.

Juni Khyat
(UGC Care Group I Listed Journal)
ISSN: 2278-4632
Vol-12 Issue-01 No.01: 2022

SECURITY (PASSWORD) BASED CIRCUIT BREAKER OPERATION INCLUDING GSM MODULE

[#1]Mr. G. Dhasharatha, *Assistant Professor*, [#2]Dr. N. Rajashekhar Varma, *Professor*
[#3]Mr. A. Naga Sridhar, *Assistant Professor*, [#4]B. AJAY, *B.Tech Student*,
[#5]K.SUDHAKSHINA, *B.Tech Student*,
[#6]CH. NIKHIL, *B.Tech Student*, [#7]D. SAI KUMAR, *B.Tech Student*,
Department of ELECTRICAL AND ELECTRONICS ENGINEERING,
TEEGALA KRISHNA REDDY ENGINEERING COLLEGE, MEERPET, HYDERABAD, TELANGANA.

ABSTRACT: This paper presents Internet of Thing (I.O.T) based monitoring & control of circuit breaker. Circuit breaker is an important component of Industrial Electrical System. It is used for protection & switching. Hence, reliable operation of circuit breaker is essential. Circuit breaker ages over time & number of operations. This raises a concern regarding reliability of circuit breaker operation. In order to ascertain reliability of circuit breaker, it is general practice to carry out preventive maintenance at fixed time intervals. The main disadvantage of this maintenance approach is unnecessary downtime & offline usage of separate diagnostics equipment although the circuit breaker is healthy. This increases the maintenance cost of circuit breakers. Moreover, in present practice, the control of circuit breaker is realized through hardwired control logic which increases the size of control & metering cabinet of the circuit breaker & prevents integration of Internet of Things. This put a limitation on decision making process as circuit breakers data are not accessible on the fly. Presently monitoring of circuit breaker is being carried out through proprietary solutions like Remote Terminal Units & SCADA. Proprietary solution raises a concern regarding reliability & security of the safety/safety related/strategic application as the backend implementation of proprietary solution is not accessible by the user. In this paper, an attempt was made to develop monitoring & control scheme of a typical circuit breaker using Arduino Mega 2560 embedded microcontroller along with Ethernet Shield for integration of Internet of Things. Circuit breaker parameters like load current, trip coil current, close coil current, spring charging motor current, number of closing operations, number of tripping operations etc. are monitored. The monitored data are uploaded to Internet of Things platform "Thing Speaks" in order to make circuit breaker data available on the fly for effective decision making. Monitored circuit breaker parameters are used to determine health of the circuit breaker in order to ascertain its reliable operation & to determine its maintenance/replacement needs. This paper is an effort to develop automated circuit breaker monitoring & control systems that diagnose the electrical and mechanical health of circuit breaker in real time. This is a shift in the maintenance paradigm from time-based maintenance to as needed maintenance. This shift comes with the benefit of maintaining adequate circuit breaker performance while reducing overall maintenance costs & unnecessary downtime. Moreover, open-source platform is used which eliminates the concern regarding reliability & security of the safety/safety related/strategic application as complete source code implementation is open & fully accessible by the user.

Indexed Terms: *Internet of Thing, Circuit Breaker, Thing Speak, Arduino.*

1. INTRODUCTION

Electricity transmitted through power lines destined for commercial, industrial and residential use can involve hundreds of thousands of volts and high currents. Inevitably, there is an element of danger in measuring the voltage on a transmission line because of the need to make contact with the line. Indeed, even the proximity

Power Quality Enhancement In 3-Phase 4-Wire Distribution System Using Custom Power Devices

Publisher: IEEE

V Kumar ; Kalagotla Chenchireddy ; M Raghuvardhan Reddy ; B Prasad ; Budagam Preethi ; D Sadhvik Raj All Authors

Abstract: The main cause of power quality troubles are failure supply & load unbalances. The power quality problems related to voltage point of common coupling and voltage deformat... View more

▸ Metadata

Abstract:
The main cause of power quality troubles are failure supply & load unbalances. The power quality problems related to voltage point of common coupling and voltage deformation, voltage flicker, voltage unbalance, voltage sag and voltage expansion. Power quality problems in 3-phase 4-wire power distribution systems are failure of capacitor banks, noise, vibrations, and induction motors. This article describes how to use DSTATCOM to improve power quality in 3-phase 4-wire power distribution systems. An instantaneous reactive power theory-based PI controller is implemented in this manuscript for power quality enhancement. The main objectives of this paper are to maintain IEEE 519 standard, eliminate voltage-related power quality problems and reduce harmonics in the three-phase distribution supply.

Published in: 2022 8th International Conference on Advanced Computing and Communication Systems (ICACCS)

Date of Conference: 25-28 March 2022

DOI: 10.1109/ICACCS54159.2022.9785339

Date Added to IEEE *Xplore*: 07 June 2022

Publisher: IEEE

▸ **ISBN Information:**

Conference Location: Coimbatore, India

▸ **ISSN Information:**

Performance Verification of Full-Bridge DC To DC Converter Used for Electric Vehicle Charging Stations

Publisher: IEEE

Kalagotla Chenchireddy ; B Srinath Goud ; Ch. Madhu Sudhan Mudhiraj ; N. Rajitha ; B Sravan Kumar ; Vadthya Jagan All Authors

Abstract: Electric vehicle (EV) usage increased in the world. The main cause of increasing EV importance decreasing fuel sources. The main advantages of EV are no pollution, less m... **View more**

▸ **Metadata**

Abstract:

Electric vehicle (EV) usage increased in the world. The main cause of increasing EV importance decreasing fuel sources. The main advantages of EV are no pollution, less maintenance cost, high efficiency. However, some drawbacks are high charging time, fewer charging stations, and less distance transportation. This paper presents a full-bridge (FB) DC-DC Converter for charging the electric vehicle. The main configuration of this FB converter stored energy in the battery at the EV charging station. Compare with the other DC-DC converter full-bridge converter is additionally appropriate for a power system where maximum voltage and maximum power are convoluted. The corresponding representations for charging mode and strategy with phase shift control technique are presented. The PI controller was implemented for controlling the FB DC-DC converter. The recommended topology will be implemented in MATLAB/ Simulink software. A detailed model by testing the present topology in terms of charging time, effective functioning of unidirectional power flow, hence, the life of battery and vehicle will be improved.

Published in: 2022 8th International Conference on Advanced Computing and Communication Systems (ICACCS)

Date of Conference: 25-26 March 2022

DOI: 10.1109/ICACCS54159.2022.9785288

Date Added to IEEE *Xplore*: 07 June 2022

Publisher: IEEE

▸ **ISBN Information:**

Conference Location: Coimbatore, India

▸ **ISSN Information:**

Conference Paper PDF Available

Energy Management System Control in Speed and Torque Coupling Parallel Hybrid Electric Vehicle

March 2022
DOI:10.1109/ICACCS54159.2022.9785105
Conference: 2022 8th International Conference on Advanced Computing and Communication Systems (ICACCS)

Authors:


Kalagotla Chenchireddy
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Khammampati R Sreejyothi
Karunya University

V Kumar

Level-Shifted PWM Techniques Applied to Flying Capacitor Multilevel Inverter

Publisher: IEEE

Khammampati R Sreejyothi ; Kalagotla Chenchireddy ; N. Lavanya ; R Maheshwar Reddy ; K Y Giri Prasad ; R Revanth All Authors

Abstract: This paper presents the level-shift PWM technique applied to the flying capacitor three-phase five-level inverter. The advantages of the proposed inverter compared to oth... **View more**

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Abstract:
This paper presents the level-shift PWM technique applied to the flying capacitor three-phase five-level inverter. The advantages of the proposed inverter compared to other MLIs, single DC source required, not required more number clamping diodes like diode clamped MLI, less Total Harmonic Distortion value, low power loss, suitable high power applications. The main disadvantage of proposed topology more number of capaciotrs. The proposed topology 22 capacitors are used, each phase 6 capacitors connected across the switches. This paper simulation results verified phase voltage, line voltage, output voltage THD.

Published in: 2022 International Conference on Electronics and Renewable Systems (ICEARS)

Date of Conference: 16-18 March 2022

DOI: 10.1109/ICEARS53579.2022.9752074

Date Added to IEEE *Xplore*: 13 April 2022

Publisher: IEEE

▸ **ISBN Information:**

Conference Location: Tuticorin, India

Contents

Multi-Carrier PWM Techniques Applied to Cascaded H-Bridge Inverter

Publisher: IEEE

Kalagotla Chenchireddy ; V Jegathesan All Authors

Abstract: This manuscript presents a three-phase fivelevel cascaded H-bridge inverter. The Multi-carrier PWM technique is classified into phase as well as level-shifted PWM techniq... **View more**

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Abstract:

This manuscript presents a three-phase fivelevel cascaded H-bridge inverter. The Multi-carrier PWM technique is classified into phase as well as level-shifted PWM techniques. Again level-shifted PWM technique is classified into PD, POD, and APOD. In literature, many researchers used PD, POD, and APOD techniques for controlling three-phase five-level inverter. This paper applied the phase-shift PWM technique to a three-phase five-level inverter. The presented technique has many advantages compared to conventional SPWM, single pulse PWM, multiple pulse PWM, third harmonic injecting method. The advantages are low THD value, low switching losses, and better yield voltage along with current waveforms. The anticipated topology result is established in MATLAB Simulink.

Published in: 2022 International Conference on Electronics and Renewable Systems (ICEARS)

Date of Conference: 16-18 March 2022

DOI: 10.1109/ICEARS53579.2022.9752442

Date Added to IEEE *Xplore*: 13 April 2022

Publisher: IEEE

▸ **ISBN Information:**

Conference Location: Tuticorin, India

Contents

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Issue	E3S Web Conf. **Volume** 309, 2021 3rd International Conference on Design and Manufacturing Aspects for Sustainable Energy (ICMED-ICMPC 2021)
Article Number	01119
Number of page(s)	11
DOI	https://doi.org/10.1051/e3sconf/202130901119
Published online	07 October 2021

E3S Web of Conferences **309**, 01119 (2021)

A Review of Different Configurations and Control Techniques for DSTATCOM in the Distribution system

Khammampati R Sree Jyothi[1*], P. Venkatesh Kumar (Dr.)[2] and J. JayaKumar (Dr.)[3]

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[2] Assistant Professor, EEE Department, Karunya Institute of Technology and Sciences, Coimbatore, India

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ELECTRIC FOLDABLE BICYCLE

Authors

Dr. N. Rajasekhar Varma[1], N. Shiv Charan Varma[2], B. Sowmya[3], B. Dilip[4], B. Chandrababu[5]

[1] Professor in Department EEE, Teegala Krishna Reddy Engineering College, Hyderabad, Telangana, India.

[2][3][4][5] Students in Bachelor of Technology in EEE, Teegala Krishna Reddy Engineering College, Hyderabad, Telangana, India.

Abstract

Sustainable and flexible modes of transportation are gaining popularity these days, primarily due to their economic and environmental benefits. It has changed the prime focus of automakers towards electric vehicles. Today, cycling has become a common mode of short-distance travel, mainly due to its health benefits and flexibility. But they are not easy to carry around. Thus, incorporating a folding mechanism to the current design can improve its portability. Also, the integration of an electrical motor further enhances the cycling experience in a rugged environment. This Project describes the process of design, development, and fabrication of a foldable electric bicycle from an ordinary bicycle. The process of designing and fabrication involves the design and manufacture of folding and locking mechanisms. The fabricated model is tested under various terrains and loads. Similarly, the PMDC motor is tested under different conditions, recording motor characteristics. It was found that bicycle conversion is much more feasible than fabricating the whole cycle.

1. INTRODUCTION

Electric Foldable Bicycle features a frame and components that fold, rotate, or remove to improve portability and storing potential. They are popular with people who travel in Recreational Vehicle's, live in small apartments, or use public transportation. Despite their often-small size, they are not always as light weight due to additional frame reinforcement and similar motor and battery technology as full sized non-folding e-bikes. Folding electric bicycle, belongs to a classification of e-bicycles. By folding the frame and folding the front and rear wheels together, the length can be reduced by about 45 percent. After folding, the whole folding e-

JES
Journal of Engineering Sciences
Vol 13, Issue 06, MAY/2022
ISSN NO:0377-9254

FIRE FIGHTING ROBOT

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[1]Professor, [2]B.Tech students
Dept of EEE, TEEGALA KRISHNA REDDY ENGINEERING COLLEGE

ABSTRACT

According to National Crime Records Bureau (NCRB), it is estimated that more than 1.2 lakh deaths have been caused because of fire accidents in India from 2010-2014. Even though there are a lot of precautions taken for Fire accidents, these natural/man-made disasters do occur now and then. In the event of a fire breakout, to rescue people and to put out the fire we are forced to use human resources which are not safe. With the advancement of technology especially in Robotics it is very much possible to replace humans with robots for fighting the fire. This would improve the efficiency of firefighters and would also prevent them from risking human lives. Today we are going to build a Fire Fighting Robot using Arduino, which will automatically sense the fire and start the water pump A fire outbreak is a hazardous act that leads to numerous consequences. Detecting a fire at an early stage and extinguishing it can aid in prevention of various accidents. Till now we rely on human resource. This often leads to risking the life of that person. Therefore, fire security becomes an important aspect to save human lives. In this paper a fire extinguishing robot has been proposed and designed which detects the fire location and extinguish fire by using sprinklers on triggering the pump. This robot uses three flame sensors for accurate fire detection. This proposed model of Fire Extinguishing Robot using Arduino used to detect presence of fire and extinguishing it automatically without any human interference. It contains gear motors and motor driver to control the movement of robot when it detects any presence of fire and will automatically start the water pump to extinguish that fire breakout. This model robot has a water ejector which is capable of ejecting water at the fire breakout place. The water ejector pipe can be move towards the required direction using servo motor. The whole operation is controlled by an Arduino UNO micro-controller.

INTRODUCTION

The project aims in designing a robot which is capable of detecting a Fire and it can pump water towards fire by using DC water pump. The robot moves autonomously and upon detection of fire it moves in that direction pumps that water to extinguish the fire. It uses servo motor to move the water jet to maximize the water spreading area. The fire detection mechanism is done by a Fire sensor that makes uses finding the sire to the nearer area .The Robot is made up of DC motors. The predetermined

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Journal of Engineering Sciences
Vol 13, Issue 06, June/2022
ISSN NO:0377-9254

WIRELESS POWER THEFT MONITERING SYSTEM

Dr B. VIDYA SAGAR[1], CH. THARUN KUMAR[2], P. SANTHOSH KUMAR[3], B. SONIYA[4], G. ARJUN[5].
[1] Professor, [2345] B.Tech student, Dept of EEE, Teegala Krishna Reddy Engineering College.

ABSTRACT

Science and technology with all its miraculous advancements has fascinated human life to a great extent that imagining a world without these innovations is hardly possible. While technology is on the raising slope, we should also note the increasing immoral activities. With a technical view, "Power Theft" is a non-ignorable crime that is highly prevalent, and at the same time it directly affects the economy of a nation. Detecting and eradicating such crimes with the assistance of the developing scientific field is the "Need of the Hour". This paper of ours is aimed to reduce the heavy power loss and revenue loss that occur due to power theft by the consumers. The proposed system will be hidden in such meters and as soon as an attempt is made for the theft, it will send a sms using GSM modem, by displaying the respective consumer meter number to control unit of electricity board. Thus by the above mentioned design we can successfully and effectively address the problems related to power theft.

INTRODUCTION

Electricity Theft is a very common problem in countries like India, where population is very high and the users of electricity are ultimately tremendous. In India, every year there is a very increasing no of electricity thefts across domestic electricity connections as well as industrial electricity supply, which results in loss of electricity companies energy and because of which we are facing the frequent problems of load shading in urban as well as rural area so as to overcome the need of electricity for whole state.

Also the ways using which theft can be done are also innumerable so we can never keep track of how a theft has occurred, and this issue is needed to be solved as early as possible. In this abstract, we propose an electricity theft detection system to detect the theft which is made by the most common way of doing the theft and that is bypassing the meter using a piece of wire, people simply bypasses the electricity meter which is counting the current units by placing a wire before and after the meter reading unit. The proposed system will be hidden in such meters and as soon as an attempt is made for the theft, it will send an SMS to control unit of electricity board. In this paper input and output current of a particular poleis compared by using current transformer. If there is any negative value means it is indicated that the particular pole has drawn more current as theft. Here one current transformer is placed in input side of the post line. Other current transformers are placed at the distribution points of the house lines.

The output of current transformer values is given as input to PIC microcontroller. PIC microcontroller converts these analog inputs into digital using inbuilt ADC converter. Then PIC compares the input current and the sum of output currents. If compared result has any negative value then this particular post is detected as theft point. This compared value is transmitted to electricity board through RF transmitter. RF receiver is placed in electricity board office. This RF receiver receives this value and given as input to PIC. PIC displays this

JES
Journal of Engineering Sciences

Vol 13, Issue 06, June/2022

ISSN NO:0377-9254

DESIGN AND SIMULATION OF ACTIVE POWER FACTOR CONTROLLER USING BOOST CONVERTER

Dr. B VIDYASAGAR[1], K. MANIKANTA[2], G. VINEETH[3], G. SHARATH REDDY[4], P. PRUTHVI[5]
[1]Professor, [2345]B.Tech students,
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ABSTRACT

Currently extensive use of power electronic devices has made power management smart, flexible and efficient. But the increase in number of power electronic devices has also led to increase in distortion and power pollution in the distribution networks. This is due to injection of current and voltage harmonics into the networks which leads to reduction of power factor and negative impact on electrical equipment. So, the need of power factor improvement along with the reduction in Total Harmonic Distortion (THD) has now gained prime importance. This paper discusses an approach for the power factor improvement using an Active Power Factor Correction (APFC) technique. It uses multiplier logic to obtain current wave shaping which allows source current to follow sinusoidal voltage. It improves power factor (PF), reduces harmonics distortion noticeably and automatically corrects the distorted line current in the presence of nonlinear load. The work includes THD reduction and improvement of power factor at input side in the presence of nonlinearities produced by rectifier, UPS, telecom supplies, electronic ballast etc. It is an effort to explain design and simulation of boost converter operating in continuous conduction mode (CCM) as a power factor correction controller. Comprehensive study of boost power factor controller is carried out. Simulation model of the system is developed in MATLAB to analyse variations in THD and power factor.

INTRODUCTION

Current waveform is distorted at the source side in the presence of nonlinear devices such as diode rectifier as shown in the Figure 1.This can be alleviated by using power factor correction techniques, either by using controlled power electronics in single-phase or multi-phase (e.g three-phase) topologies or passive solutions. The aim of performing power factor correction is to align input current and voltage waveforms in an AC-system and also reduce the amount of harmonics in the system. Distortion in the current waveform occurs due to the capacitor across the rectifier or if the load is continuously switching or if any transients are generated. Thus, the need of power factor improvement within the system has now gained prime importance. Electronic devices primarily require D.C power supply and normally switching devices such as diodes, thyristors, power MOSFET's, etc. are used to convert A.C to D.C. Due to the nonlinear behaviour of these switching devices they tend to draw highly distorted input current in short bursts or spikes relative to the line voltage. This results into high Total Harmonic Distortion (THD), low Power Factor (PF) and increased interference with other electrical equipment. Low power factor also results in poor output voltage regulation. To mitigate the problems associated with poor power factor, power factor correction (PFC) circuits are being increasingly used. These PFC circuits are categorized into two, namely active and passive PFC. Passive PFC circuits provides reactive power compensation but lack in dynamic response for continuously variable nonlinear load conditions whereas Active PFC circuits can dynamically respond to nonlinear load in dc circuit and provide improved power factor at the input side .It improves power factor using wave shaping of current waveform by making the

Power Quality Enhancement for a Grid Connected Wind Turbine Energy System

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Abstract—A fuzzy based control of a wind turbine system connected to an industrial plant is discussed in this paper where an algorithm has been developed allowing a control structure that utilizes a four-leg inverter connected to the grid side, to inject the available energy, as well as to work as an active power filter, mitigating load current disturbances and enhancing power quality. A four-wire system is considered with three phase and single-phase linear and nonlinear loads. During the connection of the wind turbine, the utility side controller is designed to compensate the disturbances caused in presence of reactive, non-linear and/or unbalanced single- and intra-phase loads, in addition to providing active and reactive power as required. When there is no wind power available, the controller is intended to improve the power

SMART PARKING SYSTEM USING IOT

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Abstract

The project aims at designing an advanced smart parking system using IoT technology. The IoT provides a wireless access to the system and the user can keep a track of the availability of the parking area. This project enables simplified parking system with display smart phone as display. In this system we use IR obstacle sensors as vehicle presence detection and these sensors are connected to Microcontroller. Microcontroller sends the status of all IR sensors to esp8266 IoT Wireless Fidelity (Wi-Fi) module. We can connect this to web server using IP address from any other Wi-Fi enabled smart phone or laptop. Browser displays the status of parking slots in real-time. Considering the advantages of Wi-Fi an advanced automation system was developed to monitor the status of parking slots. The hunger for automation brought many revolutions in the existing technologies.

This project helps in data monitoring, better time management, automation and control, saving money, speedy operation. When a driver knows exactly where they need to go; it reduces idling and unnecessary driving, therefore optimizes traffic flows in built-up areas. Drivers are directed straight to an available parking spot. Therefore they waste fewer kilometers driving around in circles looking for vacant parking space.

1. INTRODUCTION

Efficient and smart way to automate the management of the parking system that allocates an efficient parking space using internet of things technology.. This project used IR sensors for detection of vehicle at parking place and this information is given to

Harmonic Reduction in Cascaded H-Bridge Multilevel Inverter using PS-PWM

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Abstract – This manuscript presents the achieved efforts on 1-ϕ 9-level cascaded H-bridge multilevel inverter. To cheer the quality of 9-level CHBMLI output parameters primarily THD and switching losses, multicarrier level shifted technique is consider for controlling the gate pulse of 9-level CHBMLI and the complete analysis of THD for 9-level is done. This work is performed and results are validated using MATLAB/SIMULINK. Keywords: Multilevel Inverter (MLI), Cascaded H-Bridge (CHBMLI), Multicarrier pulse width modulation technique (MCPWM).

1. Introduction

Multilevel inverter (MLI) is playing a important role in the field of medium and high voltage industries. The design of MLI is mainly depends on number of DC supplies, number of switches, voltage levels, DC link capacitors and output power quality. Most of the MLI are subdivided into three main categories flying capacitor (FC), neutral point clamped (NPC) and the cascaded H bridge (CHB). CHB MLI is very commonly used in industrial application and has a reliable structure when compare to others. CHB MLI is very beneficial with low dv/dt stress, less total harmonic distortion (THD) and less electromagnetic interference (EMI) among all of them CHB MLI is very suitable for PV array application because each panel of CHB MLI operates with separate DC voltage sources there are very large number of techniques to control the various operations MLI such as space vector pulse width modulation (SVPWM) and sinusoidal pulse with modulation (SPWM) etc and to control the output voltage of multilevel inverter; carrier based PWM is one of them. It is a so called sine triangle PWM; as a reference is sine wave and carrier is triangular wave. Level shifted method is a type of sine PWM technique and it has three types, namely: In this paper simulation of 9-level CHBMLI is done using level shifted PWM technique for single phase, and there THD is analyzed.

International Journal of Advanced Technology in Engineering and Science
Vol. No. 10, Issue No. 06, June 2022
www.ijates.com
ijates
ISSN 2348 - 7550

REDUCTION OF HARMONIC DISTORTION AND SWITCHING LOSSES OF INVERETR BY SINUSOIDAL PULSE WIDTH MODULATION

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ABSTRACT

The new switching sequence can be used for space vector-based pulse width modulation (PWM) of voltage source inverter. Evaluate and compare different switching sequences interns of inverter switching losses. A hybrid PWM technique named minimumswitching loss PWM is proposed, which reduces the inverter switching loss compared to conventional space vector PWM (CSVPWM) and discontinuous PWM techniques at a given average switching frequency. Compared with CSPWM, four space vector-based hybrid pulse width modulation techniques are helped to reduce line current distortion and switching losses in motor drives.

INTRODUCTION

a modulation technique used to encode a message into a pulsing signal. Although this modulation technique can be used to encode information for transmission, its main use is to allow the control of the power supplied to electrical devices, especially to inertial loads such as motors. In addition, PWM is one of the two principal algorithms used in photovoltaic solar battery chargers, the other being MPPT.

The average value of voltage (and current) fed to the load is controlled by turning the switch between supply and load on and off at a fast rate. The longer the switch is on compared to the off periods, the higher the total power supplied to the load. The PWM switching frequency has to be much higher than what would affect the load (the device that uses the power), which is to say that the resultant waveform perceived by the load must be as smooth as possible. Typically switching has to be done several times a minute in an electric stove, 120 Hz in a lamp dimmer, from few kilohertz (kHz) to tens of kHz for a motor drive and well into the tens or hundreds of kHz in audio amplifiers and computer power supplies.

The term duty cycle describes the proportion of 'on' time to the regular interval or 'period' of time; a low duty cycle corresponds to low power, because the power is off for most of the time. Duty cycle is expressed in percent, 100% being fully on. The main advantage of PWM is that power loss in the switching devices is very low. When a switch is off there is practically no current, and when it is on and power is being transferred to the load, there is almost no voltage drop across the switch. Power loss, being the product of voltage and current, is thus in both cases close to zero. PWM

JES
Journal of Engineering Sciences
Vol 13, Issue 06, June/2022
ISSN NO:0377-9254

ADVANCED SUBSTATION AND MONITORING AND CONTROL SYSTEM

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ABSTRACT

Monitoring means acquiring significant parameters from the assets of interest. The acquired data is feasible to be used for analyses and diagnose the condition of the assets which is of great use for maintenance scheduling, failure management and controlling system and this method minimizes time contact between human and high voltage device. As it is known, most substation devices have high voltage and generate electromagnetic that can harm human health. This proposed system is specially designed for monitoring the condition of substation transformers which are deployed at dispersed locations There are many parameters to be quantified and monitored periodically.

INTRODUCTION

Electricity is an extremely handy and useful form of energy. It plays an ever-growing role in our modern industrialized society. The electrical power systems are highly non-linear, extremely huge and complex networks. Such electric power systems are unified for economic benefits, increased reliability and operational advantages. They are one of the most significant elements of both national and global infrastructure, and when these systems collapse it leads to major direct and indirect impacts on the economy and national security. A power system consists of components such as generators, lines, transformers, loads, switches and compensators. However, a widely dispersed power sources and loads are the general configuration of modern power systems. Today electricity still suffers from power outages and blackouts due to the lack of automated analysis and poor visibility of the utility over the grid. WSN will give the utility provide the needed view by collecting information from the different sub-systems of the grid. A sensor node will decide information or to slightly delay this notification (whether to immediately notify the sink about thisinformation.). As complexity of distribution network has grown, automation of substation has become a need of every utility company to increase its efficiency and to improve quality of power being delivered.

The purpose of this project is to acquire the remote electrical parameters like voltage, current and frequency and send these real time values over network using IoT module along with temperature at power station. This project is also designed to protect the electrical circuitry by operating an SPDT relay. This relay gets activated whenever the electrical parameters exceed the predefined values. The relay can be used to switch off the main electrical supply. User can send commands to the microcontroller to read the remote electrical parameters. This system also can automatically send the real time electrical parameters periodically (based on time settings). This system can be designed to send alerts whenever the relay trips or whenever the voltage or current exceeds the predefined limits. This project makes use of a microcontroller, in this prototype for demonstration purpose we have used Arduino Uno. The controller can efficiently communicate with the different sensors being used. The controller is provided with some internal memory to hold the code. This memory is used to dump some set of assembly instructions into the controller.

As complexity of distribution network has grown, automation of substation has become a need of every utility company to increase its efficiency and to improve quality of power being delivered. Today electricity still suffers from power outages and blackouts due to the lack of automated analysis and poor visibility of the utility over the grid. WSN will give the utility provide the needed view by collecting information from the different sub-systems of the grid.

ACCIDENT IDENTIFICATION AND ALERTING SYSTEM

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Abstract

The main aim of this project is to identify the spot of the accident and report to the nearest transmitter about the incident and GPS location of the where the accident took place without any delay protecting the individuals life. When an individual riding his/her bike, meets with an accident, there is a chance that the individual may suffer from a serious injury or expire instantaneously and there is no one around to help him. Well this system is a solution to the problem. The system acts as an accident identification system that gathers and sends this vehicle information that met with an accident, and conveys it to the nearest control room. For this the user vehicle is fixed with an RF transmitter circuit that has a vibration sensor along with microcontroller, RF encoder and also fitted with an RF transmitter. Each and every control room must have an RF receiver fitted to receive the transmission. Whenever a user vehicle meets with any accident, the vibration sensor detects and gives its output. This output is then detected by the microcontroller. Now the microcontroller sends this change detection signal to an RF transmitter. The RF transmitter now intern begins transmitting this accident data. The nearest RF transmitter reads the signal and then shows it on an LCD screen. The person monitoring the LCD screen may react to it, reach the accident location and help the needful.

1. INTRODUCTION

Vehicle tracking system main aim is to give Security to all vehicles. Accident alert system main aim is to rescuing people in

International Journal of Engineering Innovations in Advanced Technology
ISSN: 2582-1431 (Online), Volume-4 Issue-2, June 2022

SOLAR BASED AGRICULTURE ROBOT

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Abstract: **In excess of 40 percent of the population on the planet picks agribusiness as the essential occupation. Lately, expanded interest has been developed for the development of the self-ruling vehicles like robots in the agribusiness. In traditional strategy for farming works, the types of equipment used to perform various activities are costly and badly designed to deal with. In this way, farmers need advanced equipment to perform farming procedures. The proposed work aimsto build up the robot which can perform activities like ploughing, seed sowing, grass cutting and water sprinkling. The proposed robot gets power supply from solar photovoltaic (pv) panels, so itneedn't bother with any outer power supply. The entire framework is constrained by android application utilizing Bluetooth interfacing with PIC18F4520 which imparts the signs to the robotfor required operations. The ploughing of firm and sowing of seeds is consequently done by utilizing dc motors. Steady separation is kept up for planting of seed. Sprinkler with rotating nozzles is utilized to sprinkle the water on crop. The grass cutting instrument comprises of rotating blades having a sharpened knife edge on both sides to cut the waste grass effectively. This mechanical vehicle will limit the work cost, speed up and increase the exactness of the work. It incorporates various tasks, so it is financially savvy. Vitality required for this machine isless as contrasted to tractors or other farming instruments like electric pumps.**

I INTRODUCTION

In India there are 70 percentage of population chooses agriculture as a primary occupation. In the current generation we do not have sufficient skilled man power specifically in agricultural sector. A manual farming consumes more time & leads to more pollution. The main purpose for developing Automation in Agricultural field is decreasing labor and decreasing time required to perform the processes on crops so that human efforts will get reduce up to 90 percent. Automation is required for safety and health of workers especially when worker have to perform harmful duties.

Manuscript received May 29, 2022; Revised June 05, 2022; Accepted June 15, 2022

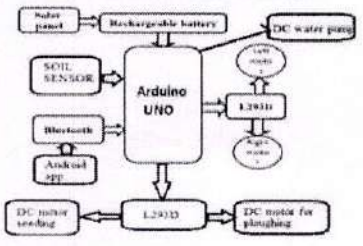
Some of the previously developed robotics applications are Crop Seeding it involves autonomousprecision seeding combines robotics with geomapping. Crop Monitoring and Analysis is provided by drone companies like Precision Hawk offers farmer combined packages which include robotic hardware and analysis software.

system uses basic components like Solar panel, DC motor, Battery, Relay, Motor driver, Relaydriver, Bluetooth Module and PIC18F4520 controller. The whole process is controlled by microcontroller. The solar panel is used to charge the battery. This battery used to power vehicle movement as well as to the motor that is used for grass cutting. The ploughing of field and plantation of seed is done by using DC motor. Distance between the two seeds are controlled and varied by using microcontroller. When the robot reaches the end of the field, we can change the direction with the help of Bluetooth command.

The advantage of this solar powered multi-function Agri-robot is that it does not require any fuelor petrol to work, as it works on the solar energy. The circuit model is less complex and compact due the use of nodemcu controller.

However, slabs have a number of drawbacks. Because it causes an increase in the size of all the other structural components, such as beams, columns, and footings, the high weight-to-strength ratio is the most critical concern.

II OBJECTIVE OF THE PROJECT



International Journal of Early Childhood Special Education (INT-JECSE)
DOI: 10.9756/INT-JECSE/V14I2.212 ISSN: 1308-5581 Vol 14, Issue 02, 2022

POWER QUALITY IMPROVEMENT IN HYBRID POWER SYSTEM USINGARTIFICIAL INTELLIGENCE

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ABSTRACT

Distribution power system has poor power quality and dynamic performance due to insufficientreactive power support during disturbances. Distribution Static Compensator (DSTATCOM) canimprove the power quality and dynamic performance of distribution power system. Proportional andIntegral (PI) controllers are often used to control the operation of the DSTATCOM for thedistribution power system. However, since the power system is highly nonlinear and subject tovarious disturbances, the PI controlled DSTATCOM cannot provide optimal performance fordifferent operating points. More robust controllers such as the one based on fuzzy logic approach arerequired for the DSTATCOM to provide adequate dynamic voltage control and to improve powerquality and stability of the distribution power system. This paper presents the design of a fuzzy logicbased controller of a 3MVA DSTATCOM for improving the power quality and stability of adistribution power system. Grey Wolf Optimization (GWO) algorithm has been used to tune thescaling factors of the fuzzy logic controllers. Comparison study of PI controlled and fuzzy logiccontrolled DSTATCOM for improving the power quality and dynamic performance of a distributionpower system is simulated using SimPowerSystem in MATLAB/Simulink environment. Theperformances of the DSTATCOM controllers are evaluated during grid side voltage sag and loadvariation. The simulation results in MATLAB/SimPowerSystems show that the fuzzy logiccontrolled DSTATCOM controller provides better system dynamic response and hence improvespower quality and stability for the distribution power system.

INTRODUCTION

The widespread use of non-linear loads is leading to a variety of undesirable phenomena in the operation of power systems. The harmonic components in current and voltage waveforms are the most important among these. Conventionally, passive filters have been used to eliminate line current harmonics. However, they introduce resonance in the power system and tend to be bulky. So, active power line conditioners have become more popular than passive filters as it compensates the harmonics and reactive power simultaneously.

The Static Synchronous Compensator (STATCOM) is a shunt device of the Flexible AC Transmission Systems (FACTS) family using power electronics to control power flow and improve transient stability on power grids [1]. The STATCOM regulates voltage at its terminal by controlling the amount of reactive power injected into or absorbed from the power system. When system voltage is low, the STATCOM generates reactive power (STATCOM capacitive). When system voltage is high, it absorbs reactive power (STATCOM inductive).

The variation of reactive power is performed by means of a Voltage-Sourced Converter (VSC) connected on the secondary side of a coupling transformer. The VSC uses forced-commutated power electronic devices (GTOs, IGBTs or IGCTs) to synthesize a voltage V2 from a DC voltage source. The principle of operation of the STATCOM is explained on the figure below showing the active and reactive power transfer between a source V1 and a source V2. In this figure, V1 represents the system voltage to be controlled and V2 is the voltage generated by the VSC.

Power rating and speed of response required in compensated system.

System parameters to be compensated (e.g. current harmonics, power factor and voltage harmonics)

IJRAR.ORG E-ISSN: 2348-1269, P-ISSN: 2349-5138

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ANDROID MILITARY SPYING AND BOMB DISPOSAL ROBOT

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ABSTRACT:

This innovative system is made for operations which involve high risk for human to enter, especially for some criminal case and may prove very beneficial for military area for spying purposes. This system makes use of robotic arm as well as robotic vehicle which helps not only to enter an area involving high risk but also to pick whatever object it wants to. The system also includes night vision camera which will not only allow viewing whatever will be recorded in day time but also during night the whole system is controlled vis android application. The system sends commands to the receiving circuit mounted on the vehicle through android device application. The receiving circuit involves 8051 micro controller and a Bluetooth device which receives commands sent by the Android app. The android application involves buttons A, B, C, D, E, and F so as to control the robotic arm. The user can press the forward, backward, right or left direction but order to control the movement of vehicle. Thus this application involves both Robotic arm and Robotic vehicle so that the system can not only be used to enter a high risk area but also to pick, move and place which ever objects it wants to. Each and every movement of the vehicle will be recorded and can be view Edina PC wirelessly.

KEYWORDS: android, DC motor, robotic, microcontroller

CHAPTER1: INTRODUCTION

1.1 Introduction:

The project aims in designing a Military Robot which is capable of controlling from Android or any Wi-Fi enabled web browser. The robot can be controlled in all four directions along with gripper control for bomb disposal. We can monitor the from the same controlling web interface while operating robot movement.

The Robot is made up of DC motors. It will move either in forward, backward or Left, Right. The gripper can be opened or closed depending on requirement. The predetermined instructions are already loaded in to the Microcontroller by Using Embedded C Programming. All the above processes are controlled by the Microcontroller. The Microcontrollers used in the project are programmed using Embedded C language.

We are using ESP32 CAM module to for surveillance and web interface for Robot control.ESP32 has inbuilt Wi-Fi which acts as Wi-Fi router with SSID and password. We need to connect toESP32CAM using our smart phone to control the robot.

The driver used for DC Motors is L293D. The Device is a monolithic integrated high voltage, high current four channel driver designed to accept standard DTL or TTL logic levels and drive inductive loads (such as relays solenoids, DC and stepping motors) and switching power transistors. This project makes use of a micro controller, which is programmed, with the help of embedded C instructions. This Microcontroller is capable of communicating with input and output modules. The controller is interfaced with dc motors, which are fixed to the Robot to control the direction of the Robot.

1.2 Project Overview:

An embedded system is a combination of software and hardware to perform a dedicated task. Some of the main devices used in embedded products are Microprocessors and Microcontrollers.

Microprocessors are commonly referred to as general purpose processors as they simply accept the inputs, process it and give the output. In contrast, a microcontroller not only accepts the data as inputs but also manipulates it, interfaces the data with various devices, controls the data and thus finally gives the result.

The robot with by using 16F877A Microcontroller is an exclusive project that can move the robot according to the instructions given by the above said microcontroller.

IJRAR.ORG E-ISSN: 2348-1269, P-ISSN: 2349-5138

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Monitoring And Controlling Electric Power Station Using GSM

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ABSTRACT: At present, the recent technologies developed strongly and the popularity for the electric vehicles is increasing and so the energy consumption is increasing day by day. The Energy represents the vital need of the humans being where the energy demand is much greater than the actual energy generated in almost all countries. The Energy considered as one of the basic infrastructures for the growth of any economy and a key factor in assessing the progress of any country. In the last two decades, many studies have been conducted to design and implement different types of electrical power management systems based on the use of modern telecommunication system, for the system management and electric energy saving. Thus, large quantity of energy exchanges through long distances has been transformed by the lack of electrical power; a great deal of energy is lost during the transmission of generated energy, resulting in a reduction in the amount of energy received at substations. For this purpose, the usage of GSM module is used in this whenever the values of voltage, current or temperature exceeds the predefined value that is shown in the form of temperature sensors this information is sent to the person in the form of SMS so that he can alert and avoid the damage to the electric equipment's. We can access the present status of the electrical equipment at regular intervals of time by setting alarm or in the command form. In this a microcontroller is used that receives the values of the parameters and saves in the form of codes and this analogy information is converted to digital by converter. By this the equipment damage is eradicated so that money and energy is saved.

KEYWORDS: power management systems, energy demand, GSM, microcontroller

I. Introduction

The purpose of this project is to acquire the remote electrical parameters like Voltage, Current and Frequency and send these real time values over GSM Technology using GSM Modem along with temperature at power station. This project is also designed to protect the electrical circuitry by operating an Electromagnetic Relay. This Relay gets activated whenever the electrical parameters exceed the predefined values. The Relay can be used to operate a Circuit Breaker to switch off the main electrical supply.

This system automatically send the real time electrical parameters periodically (based on time settings) into predefined website. User can monitor these parameters on [1]the internet. This system can be designed to send SMS alerts whenever the Circuit Breaker trips or whenever the Voltage or Current exceeds the predefined limits.

This project makes use of an onboard computer which is commonly termed as microcontroller. This onboard computer can efficiently communicate with the different sensors being used. The controller is provided with some internal memory to hold the code. This memory is used to dump[2]some set of assembly instructions into the controller. And the functioning of the controller is dependent on these assembly instructions. The controller is programmed using Embedded C language.

The objectives of the project include:

1. Sensing different electrical parameters (voltage, current, temperature).
2. Forwarding the electrical parameters over GSM network.
3. Monitoring of parameters on predefined website.
4. Automatic circuit breaking operation.

Project Overview:

An embedded system is a combination of software and hardware to perform a dedicated task. Some of the main devices used in embedded products are Microprocessors and Microcontrollers.

Microprocessors are commonly referred to as general purpose processors as they simply accept the inputs, process it and give the output. In contrast, a microcontroller not only accepts the data as inputs but also manipulates it, interfaces the data with various devices, controls[3] the data and thus finally gives the result.

Investigation of Performance Vector Control Single-Phase Induction Motor

Kalagotla Chenchireddy ; V Kumar ; Khammampati R Sreejyothi All Authors

Abstract:AC induction motors offer advantageous operational qualities like heartiness, dependability and simplicity of control. They are widely utilized in different applications ... **View more**

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Abstract:
AC induction motors offer advantageous operational qualities like heartiness, dependability and simplicity of control They are widely utilized in different applications going from modern movement control frameworks to home apparatuses. Be that as it may, the utilization of induction motorsat its most elevated productivity is a difficult undertaking on account of their complex numerical model and non-straight trademark during immersion. These components make the control of induction motortroublesome and call for utilization of an elite control calculations, for example, vector control. A solitary stage acceptance engine is taken care of by a current-controlled PWM inverter which is constructed utilizing a Universal Bridge block. The speed control circle utilizes a corresponding vital subsidiary controller to deliver the quadrature-pivot current reference iq* which controls the engine force.

Published in: 2021 7th International Conference on Advanced Computing and Communication Systems (ICACCS)

Date of Conference: 19-20 March 2021

DOI: 10.1109/ICACCS51430.2021.9441773

Date Added to IEEE *Xplore*: 03 June 2021

Publisher: IEEE

▸ **ISBN Information:**

Conference Location: Coimbatore, India

▸ **ISSN Information:**

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A New Closed Loop High Step Up DC-DC Converter for Photo Voltaic Application

Kalagotla Chenchireddy, Khammampati R Sreejyothi, V Kumar

Abstract

Renewable Energy Resources (RES) are being increasingly connected in distribution systems utilizing power electronic converters. The renewable energy sources such as PV modules, fuel cells or energy storage devices such as super capacitors or batteries deliver output voltage at the range of around 15 to 40 VDC. A boost converter is used to clamp the voltage stresses of all the switches in the interleaved converters, caused by the leakage inductances present in the practical coupled inductors, to a low voltage level. This paper proposes a converter that employs a floating active switch to isolate energy from the PV panel when the ac module is OFF; this particular design protects installers and users from electrical hazards. The proposed converter employs a Zeta converter and a coupled inductor, without the extreme duty ratios and high turn's ratios generally needed for the coupled inductor to achieve high step-up voltage conversion; the leakage-inductor energy of the coupled inductor is efficiently recycled to the load. These features improve the energy-conversion efficiency. Overall performance of the renewable energy system is then affected by the efficiency of step-up DC/DC converters, which are the key parts in the system power chain. This paper presents a dc-dc power converter integrated in such a way to obtain, in a single conversion stage, the maximum energy extraction from photovoltaic panels, battery charging and discharging dynamic control, and high voltage step-up, also operating with soft-switching capability. This review is mainly focused on high efficiency step-up DC/DC converters with high voltage gain. The results are obtained through Matlab/Simulink software package.

Keywords

DC-DC Converter, Photo Voltaic Cell, Renewable Energy Sources.

Full Text:

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Open Access

Issue	E3S Web Conf. **Volume** 309, 2021 3rd International Conference on Design and Manufacturing Aspects for Sustainable Energy (ICMED-ICMPC 2021)
Article Number	01045
Number of page(s)	5
DOI	https://doi.org/10.1051/e3sconf/202130901045
Published online	07 October 2021

E3S Web of Conferences **309**, 01045 (2021)

Comparative investigation of single-phase Distributed Grid-connected with and without D-STATCOM

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Conference Paper PDF Available

A SURVEY ON DIFFERENT ENERGY STORAGE SYSTEM IN CONVENTIONAL AND ELECTRICAL VEHICLES

October 2021
Conference: INTERNATIONAL CONFERENCE ON ADVANCED INFORMATION SCIENCE AND COMPUTING SYSTEMS (ICAISCS) · Volume: 1

Authors:

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Karunya University

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Karunya University

Abstract

Electric vehicles have reached a mature technology today because they are superior to internal combustion engines (ICE) in efficiency, endurance, durability, acceleration capability and simplicity. Besides; they can recover some energy during regenerative braking and they are also friendly with the environment. However, the energy storage capability is one of their big drawbacks. Autonomous vehicles must carry all the energy they need for a given distance and speed. It means an energy storage system with high specific energy (Wh/kg) and high specific power (W/kg), which allows rapid charge to reduce the long charging time required today. This presentation shows some of the options under study to increase the energy storage capability and to reduce the charging time. A comparative study of different storage alternatives, such as chemical battery systems, ultra capacitors, flywheels and fuel cells are evaluated, showing the advantages and disadvantages of each one of them.
Keywords: Battery, electrical vehicle, energy storage system, 188 1.
INTRODUCTION Energy storage is the capture of energy produced at one time for use at a later time [1] to reduce imbalances between energy demand and energy production. A device that stores energy is generally called an accumulator or battery. Energy comes in multiple forms including radiation, chemical, gravitational potential, electrical potential, electricity, elevated temperature, latent heat and kinetic. Energy storage involves converting energy from forms that are difficult to store to more conveniently or economically storable forms. Some technologies provide short-term energy storage, while others can endure for much longer. Bulk energy storage is currently dominated by hydroelectric dams, both conventional as well as pumped. Grid energy storage is a collection of methods used for energy storage on a large scale within an electrical power grid. Common examples of energy storage are the rechargeable battery, which stores chemical energy readily convertible to electricity to operate a mobile phone; the hydroelectric dam, which stores energy in a reservoir as gravitational potential energy; and ice storage tanks, which store ice frozen by cheaper energy at night to meet peak daytime demand for cooling. Fossil fuels such as coal and gasoline store ancient energy derived from sunlight by organisms that later died, became buried and over time were then converted into these fuels. Food (which is made by the same process as fossil fuels) is a form of energy stored in chemical form. [2]

Public Full-text (1)

Open Access

Issue	E3S Web Conf. Volume 309, 2021 3rd International Conference on Design and Manufacturing Aspects for Sustainable Energy (ICMED-ICMPC 2021)
Article Number	01119
Number of page(s)	11
DOI	https://doi.org/10.1051/e3sconf/202130901119
Published online	07 October 2021

E3S Web of Conferences **309**, 01119 (2021)

A Review of Different Configurations and Control Techniques for DSTATCOM in the Distribution system

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Fast Energy Storage with Bi-Directional Converter Controlled Super Capacitor based UPQC

Khammampati R Sree Jyothi, P. Venkatesh Kumar

Abstract

Modern power grids must be highly reliable and provide power with a high quality. Power quality issues like voltage sags or current harmonics must be minimized, in order to achieve high levels of reliability in the system. One possible way to overcome such problems is through the utilization of active power filters like a Unified Power Quality Conditioner (UPQC). On the other hand, Superconducting Magnetic Energy Storage (SMES) are one of the most promising superconducting devices, considering its possible applications in power systems. This concept contains a combination of a SMES with a UPQC for power quality improvement in an electric grid. Through the utilization of a SMES unit, it is possible to increase the stored energy in the DC link of the UPQC, thus improving the system capacity to overcome power quality issues. Voltage sags and current harmonics are simulated and the system behavior is demonstrated.

Keywords

UPQC, SMES, Power Quality

Full Text:

PDF

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Conference Paper

SRF Theory-Based PI Controller Applied to Micro Grid Interfaced with hybrid sources for Power Quality Improvement

March 2022

DOI:10.1109/ICACCS54159.2022.9785173

Conference: 2022 8th International Conference on Advanced Computing and Communication Systems (ICACCS)

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DESIGN AND ANALYSIS OF V2G AND G2V TECHNOLOGY IN ELECTRIC VEHICLES.

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Publication date 2022/7/1

Journal International Journal of Early Childhood Special Education

Volume 14

Issue 5

Description Electric Vehicle (EV) batteries can be utilized as potential energy storage devices in micro-grids. They can help in micro-grid energy management by storing energy when there is surplus (Grid-To-Vehicle, G2V) and supplying energy back to the grid (Vehicle-To-Grid, V2G) when there is demand for it. Proper infrastructure and control systems have to be developed in order to realize this concept. Architecture for implementing a V2G-G2V system in a micro-grid using level-3 fast charging of EVs is presented in this paper. A micro-grid test system is modelled which has a dc fast charging station for interfacing the EVs. Simulation studies are carried out to demonstrate V2G-G2V power transfer. Test results show active power regulation in the micro-grid by EV batteries through G2V-V2G modes of operation. The charging station design ensures minimal harmonic distortion of grid injected current and the controller gives ...

A Novel CCC for Grid Connected DC Electric Vehicle Applications

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Abstract— The increase in demand for clean sources of energy is getting more attention in recent time. Electric vehicle (EV) is an important area to fulfil this demand. However, one of the major obstacles in the growth of EV is the longer charging time. Therefore, there is a definite need for the reduction of charging time in EVs. Constant current charging of EV can help to solve this problem. That's why, the

International Journal of Early Childhood Special Education (INT-JECSE)
DOI: 10.9756/INT-JECSE/V14I2.784 ISSN: 1308-5581 Vol 14, Issue 02 2022

Simulation of Four Quadrant Operation and Control of Three Phase BLDC Motor for Electric Vehicles

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ABSTRACT

The paper presents the control of Brushless direct current (BLDC) motor in all four quadrants (forward/reverse motoring/braking) with the help of the bidirectional DC-DC converter. The output of the DC-DC converter is fed to the three-phase voltage source inverter (VSI) to drive the motor. During the motoring mode buck operation through the bi-directional converter of the battery takes place and during regenerative mode, the mechanical energy is converted into electrical energy and is stored in the same chargeable battery through the boost operation. As the electric vehicle operates with frequent start/stop, the scheme proposes recovery of energy for every stopping operation through regenerative braking. Proposed system Comparisonwith PI and PID controller is proposed in this paper Also when the electric vehicle (EV) is going on a downhill, the controlled speed on downhill provides energy return to the battery. MATLAB/Simulink software is used to verify the above operations.

INTRODUCTION

Brushless DC motors are gaining a lot of popularity whether it is aerospace, military, household or traction applications. Due to the constraint of fuel resources, the world requires highly efficient electric vehicle drives for transportation needs. The BLDC motor has a longer lifespan, higher efficiency, and compact size making it the most sought after motor in electric vehicle drive applications. The continuous attempt to reduce environmental pollution has given an impetus to the market of electric vehicles (EVs) [1]–[3]. As the fuel resources are depleting, the energy efficient electric drives are likely to replace vehicles running with fossil fuels. Being different from the ICE (internal combustion engine), EVs are the least burden to the environment. Any motor drive system which can be recharged from any external electricity source is known as a plug-in electric vehicle (EV). The complete electric vehicle drive model is described in [14], [16]. There are still some disadvantages of EV drives like overall lower efficiency, huge dimension, and the cost of storage devices etc. The technique of performing the four quadrant operation is proposed in [4] where its battery is charged during the regenerative braking but the system here has two energy sources, one is driving the motor and other is storing the energy using the rectifier during braking. It is proposed in this paper that only one battery is enough to drive the motor and at the same time to recover the kinetic energy of the motor using regenerative mode. This proposal reduces the cost of an extra rectifier and an additional battery. In [5] the four quadrant operation is performed without utilizing the kinetic energy of the motor. During braking, the motor kinetic energy is wasted in resistive losses this makes the system highly inefficient. In the world where there is fuel constraint, this system is not helping in that cause. In [12] four quadrant sensorless control of the electronically commutated motor is done without utilizing the motor kinetic energy in regenerative braking. The battery capacity puts a limitation to the EVs in the form of mileage or distance covered. Regenerative braking is just one of the ways to increase the efficiency of the drive. During regenerative mode, the energy of the drive system which is in the form of kinetic energy can be used to charge the battery during deceleration and downhill run to slow down the vehicle

PROPOSED SYSTEM CONFIGURATION

This paper proposes a simple method of four quadrant operation in which the energy of the motor is utilized to charge the battery during braking. This method of efficient utilization of power can be done through bidirectional DC-DC converter and VSI. There is just one energy source and it is efficiently utilizing the motor kinetic energy by charging the battery using the VSI. The VSI operates as a rectifier during the braking mode and the rectified voltage is boosted to charge the battery.

JES
Journal of Engineering Sciences

Vol 13, Issue 06, MAY/2022

ISSN NO:0377-9254

UNDERGROUND CABLE FAULT DISTANCE IDENTIFICATION WITH GSM AND IOT

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ABSTRACT

The main aim of the project is to design an underground cable fault detection with distance using microcontroller. Earth fault or leakage of current is a very common problem in underground cable circuits. This leads to unnecessary power loss. The purpose of this project is to develop a system that senses the earth fault in the cables and alerts the user about it with distance with message notification. The line-to-line fault and the open circuit faults are identified based on the voltage drops occurred at the lines. The system also calculates the distance of the fault. After identification of fault, it operates a Relay. The microcontroller-based control system continuously monitors the amount of voltage passing through the power supply circuit. In case of fault, the amount of voltage will be dropped in the circuit. In such situations the microcontroller-based system alerts the user about this in the form of text message displayed on LCD along with the distance by using GSM. The system also alerts through buzzer alarm. The microcontroller is programmed using embedded C language.

INTRODUCTION

The main aim of the project is to design an underground cable fault detection and location identification with distance using microcontroller. The most common fault occurred in the underground cables is Line to Earth fault.

Earth fault or leakage of current is a very common problem in underground cable circuits. This leads to unnecessary power loss. The purpose of this project is to develop a system that senses the earth fault in the cables and alerts the user about it with distance.

The microcontroller-based control system continuously monitors the amount of voltage passing through both phase and neutral lines of the power supply circuit. In ideal conditions the amount of voltage passing through the phase and neutral should be same. In case of fault, the amount of voltage will be dropped in the circuit. In such situations the microcontroller-based system alerts the user about this in the form of text message displayed on LCD along with the distance. The microcontroller is programmed using embedded c language.

Features:

1. Instantaneous earth fault identification.
2. Visual status display on LCD.
3. Fault Information is sent to remote officials over SMS.
4. IoT based communication alerts for multiple users.
5. Reduce production downtime. Decrease maintenance costs. Quick location of faults.

An embedded system is a combination of software and hardware to perform a dedicated task. Some of the main devices used in embedded products are Microprocessors and Microcontrollers.

Microprocessors are commonly referred to as general purpose processors as they simply accept the inputs, process it and give the output. In contrast, a microcontroller not

JES
Journal of Engineering Sciences

Vol 13, Issue 06, June/2022
ISSN NO:0377-9254

Improving of Performance Characteristics of Induction Motor Using Inverter Topologies

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ABSTRACT

This paper presents the simulation and implementation of multilevel inverter fed induction motor drive. The output harmonic content is reduced by using multilevel inverter. In symmetrical circuit, the voltage and power increase with the increase in the number of levels of inverter. The switching angle for the pulse is selected in such way to reduce the harmonic distortion. This drive system has advantages like reduced total harmonic distortion and higher torque. The model of the multilevel inverter system is developed with PWM strategy to control the induction motor. The rate of change of voltage with respect to time i.e. dv/dt is very high at these edges, of the order of 500–5000 V/μs.The two-level inverter topology has attracted attention in low power low voltage drive applications where as Three-Level inverter topology has attracted attention in high power High performances voltage drive applications. Single-phase VSI cover low-range power applications and three-phase VSI cover the medium- to high-power applications. The Main purpose of these three level inverter topologies is to provide a three-phase voltage source, where the amplitude, phase, and frequency of the voltages should always be controllable. Although most of the applications require sinusoidal voltage waveforms Key words :Medium-voltage ac drives, multilevel converter topologies.

INTRODUCTION

Multilevel converters are considered for high-power medium-voltage drive applications, because the power structure can be realized with devices of lower voltage ratings [1]– [10]. A five-level inverter structure by cascading conventional two-level and three-level inverters is proposed in Part I of this paper [20]. An open-loop control scheme is presented in Part I to maintain dc-link capacitor voltage balancing and common-mode voltage (CMV) elimination in a dual five-level inverter-fed open-end winding induction motor (IM) drive, which effectively uses only the available redundant switching states of the inverter. It is pointed out that the proposed open loop controller is unable to take any corrective action to reduce the unbalance in the capacitor voltages that may arise.Every individual inverter is capable of generating three different voltage output +Vdc ,0, -Vdc by connecting the dc source to the ac output side by different combinations of the four switches S1 , S2 , S3 and S4 [1]. The synthesize ac output voltage waveform of the sum of all the individual inverter's outputs. The number of output phase voltage level of cascade multilevel inverter is 2s+1 where S is the number of dc sources. This outstandingly increases the level number of the output wave form and thereby dramatically reduced to the low order harmonics and total harmonic distortion. One of the foremost motives for developing the multilevel inverter is to reduce costSimilar voltage profiles can also be obtained by using higher order neutral-point-clamped (NPC) multilevel inverters or by cascading a number of two-level inverters. However, the multilevel NPC inverters suffer from dc-bus imbalance, device underutilization problems and unequal ratings of the clamped diodes, etc., which are not very serious problems for inverters with three levels or lower. The capacitor voltage imbalance for a five-level one is presented in which suggest the need of extra hardware in the form of dc choppers or a back-to-back connection of multilevel converters. The cascaded H-bridge topology suffers from the drawbacks of the usage of huge dc-bus capacitors and complex input transformers for isolated dc bus for each module. These drawbacks are addressed in the proposed topology. Furthermore, the power circuit is modular in

JES
Journal of Engineering Sciences

Vol 13, Issue 06, June/2022
ISSN NO:0377-9254

SOLAR FENCING TO PREVENT CROP DAMAGE BY ANIMALS

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ABSTRACT

Agriculture meets food requirements of the people and produces several raw materials for industries. But because of animal interference in agricultural lands, there will be huge loss of crops. Crops are vulnerable to wild animals. Therefore, it is very important to monitor the nearby presence of animals. Then the actuation of various devices should follow to repel the hazardous animals. we propose a method to protect farms from wild animals' Operational amplifier circuits are utilized mainly for the detection of animal intrusion from the outside of farms. The proposed monitoring scheme is to provide an early warning about possible intrusion and damage by wild animals. The Solar Electric Fence system is a modern-day alternative to conventional methods of fencing to protect your crops & property. Electric Fence is an effective way to reducing losses caused by animals

INTRODUCTION

In the world, the economy of many countries is dependent upon agriculture. In spite of economic development agriculture is the backbone of the economy. Agriculture is the main stay of economy. It contributes to the gross domestic product. Agriculture meets food requirements of the people and produces several raw materials for industries. But because of animal interference in agricultural lands, there will be huge loss of crops. Crop will be totally getting destroyed. There will be large amount of loss of farmer. To avoid these financial losses it is very important to protect agricultural field or farms from animal. To overcome this problem, in our proposed work we shall design a system to prevent the entry of animals into the farm. The main purpose of project is to develop prohibitive fencing to the farm, to avoid losses due to animals. These prohibitive fencing protect the crop from damaging that indirectly increase yield of the crop. The develop system will not harmful and injurious to animal as well as human beings. Theme of project is to design a intelligent security system for farm protection by using Embedded system. Crops are vulnerable to animals. Therefore, it is very important to monitor the nearby presence of animals. Then the actuation of various devices should follow to repel the hazardous animals. In this project, we propose a method to protect farms from wild animals via ubiquitous wired network devices, which is applied to farm along with traditional methods to improve the protection performance.

Operational amplifier circuits are utilized mainly for the detection of animal intrusion from the outside of farms. The proposed monitoring scheme is to provide an early warning about possible intrusion and damage by wild animals.The Solar Electric Fence system is a modern day alternative to conventional methods of fencing to protect your crops & property.