



SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village, GUDLAVALLERU-521 356, Krishna District, A.P., India

(Approved by AICTE, New Delhi and Permitted by A.P. State Government)

Accredited by NAAC

Phone Nos. 08674-273737, 273888, Mobile: +91 9848779121 Fax No. 08674-273957

E-mail: principal@gecgudlavalleru.ac.in, office@gecgudlavalleru.ac.in, Web: www.gecgudlavalleru.ac.in

List of full-time teachers received seed money for research

A.Y. 2021-22

S. No.	Name of the Faculty	Name of the Department	Title of the Project	Duration	Amount in Lakhs	Status
1	Ch. Naga Bharath (PI)	Civil Engineering	An Experimental Investigation on Load-Settlement of Treated and untreated Clayey Soil usable for Pavement Sub grade	1 Year	0.45	Ongoing
2	Sri. Phani Kumar (Co-PI)					
3	Dr. Prabhakara Rao Ganji (PI)	Mechanical Engineering	Design and optimization of bio-diesel/diesel-hydrogen/natural gas dual fuel engine through simulation studies.	2 Years	0.40	Ongoing
4	Dr M R Ch Sastry (Co-PI)					
5	Mr. T Naga Raju (PI)	Mechanical Engineering	Effect of Organic-Ash Based Particulate Reinforcement on Fatigue Behaviour of Aluminium Based Metal Matrix Composite	1 Year	0.30	Completed
6	Dr P Ravindra Babu (Co-PI)					
7	Mr. A Rajesh (PI)	Mechanical Engineering	Investigation of Mechanical and Metallurgical properties of Agro waste reinforced Aluminium Metal matrix Composites	1 Year	0.30	Ongoing
8	Dr P Ravindra Babu (Co-PI)					
9	Sri.Y.K. Viswanadham (PI)	Information Technology	“IOT Based Automated Waste Segregator”	1 Year	0.275	Completed
10	Mr. M. Nagaraju (Co-PI)					
11	Dr. Ch. Kavitha (PI)	Information Technology	“Intelligent Traffic Congestion Detection and Alert System(ITCDAS) using Video on Surveillance”	1 Year	0.33	Completed
12	Dr. DNVSLS Indira (Co-PI)					
13	Dr. Ch. Kavitha (PI)	Information Technology	“Coconut Tree Bot Using AI and IOT”	1 Year	0.38	ongoing
14	Dr.MVLN Rajarao (PI)					
15	Sri.Y.K. Viswanadham (Co-PI)					
Total					2.44	


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Department of Civil Engineering

Research Project Report

Title of the Project : An Experimental Investigation on Load-Settlement of Treated and Untreated Clayey Soil usable for Pavement Subgrade

Name of the Principal Investigator : Mr. Ch Naga Barath

Objectives of the Project : 1. To determine the optimum percentage of the admixture used for the treatment of clayey soil
2. To study the load-settlement nature of the untreated and treated clayey soil

Budget Sanctioned Under seed money for In house R&D : Rs. 45000/-

Status of the Project : Ongoing


(Name of the principal investigator)

GUDLAVALLERU ENGINEERING COLLEGE
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Seshadri Rao Knowledge Village, Gudlavalleru

Department of Mechanical Engineering

Date : 01/04/2023

Research Project Report

Title of the Project : **Design and optimization of bio-diesel/diesel-hydrogen/natural gas dual fuel engine through simulation studies.**

Name of the Principal Investigator : **Dr. Prabhakara Rao Ganji**

Objectives of the Project : Analyzing the combustion characteristics of dual-fuels and their blends(Diesel/biodiesel-hydrogen/natural gas) used in dual fuel CI engines at different engine speeds and loads

Budget Sanctioned Under seed money for In house R&D : **Rs 40,000**

Utilization : **Rs 35004/-**

Status of the Project : ongoing

Project Outcome : Finding the optimal dual-fuels (biodiesel/diesel-natural gas/Hydrogen) and their blends for the use in dual fuel CI engines.

Dr. Prabhakara Rao Ganji

(Name of the principal investigator)

GUDLAVALLERU ENGINEERING COLLEGE
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SeshadriRao Knowledge Village, Gudlavalleru

Department of Mechanical Engineering

Date : 06/08/2023.

Research Project Report

Title of the Project : **Effect of Organic-Ash Based Particulate Reinforcement on Fatigue Behaviour of Aluminium Based Metal Matrix Composite**

Name of the Principal Investigator : **Mr. T Naga Raju**

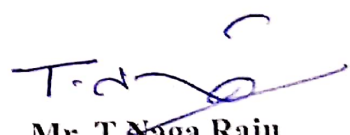
Objectives of the Project : Aimed at assessing the suitability of developing low cost high performance Al-Mg-Si Metal Matrix composite

Budget Sanctioned Under seed money for In house R&D : Rs. **30,000/-**
Rs. 29,984/-

Utilization :

Status of the Project : Completed

Project Outcome : The Material can be used to produce automobile components.


Mr. T Naga Raju
(Name of the principal investigator)

SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE
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Seshadri Rao Knowledge Village, Gudlavalleru

Department of Mechanical Engineering

A.Y : 2022-23

Date : 29.03.2023

Research Project Report

Title of the Project : “Investigation of mechanical and metallurgical properties of Agro waste reinforced Aluminium Metal matrix composites”

Name of the Principal Investigator : A.Rajesh


Objectives of the Project : This research work is aimed at assessing the suitability of developing low cost-high performance Al-Mg-Si metal matrix composite reinforced with organic (agro-waste) nanoparticles.

Budget Sanctioned Under seed money for In house R&D : Rs. 30,000/-

Utilization : ongoing

Status of the Project : ongoing

Project Outcome : Finding the optimal percentage of reinforcement which would give high strength to the AMCs.



(Angirekula Rajesh)

SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE
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Seshadri Rao Knowledge Village, Gudlavalleru

Department of Information Technology

Date 30.07.2022

Research Project Report

Title of the Project : IOT Based Automated Waste Segregator

Name of the Principal Investigator : Sri.Y.K. Viswanadham

Objectives of the Project :

1. Detects and segregates the waste as dry, wet, and metallic waste at the household level and also aids in real-time monitoring of garbage level in dustbins.
2. The system detects the arrival of debris using an ultrasonic sensor and after that checks for any metal content in the waste by using the metallic sensor.


Budget Sanctioned Under seed money for In house R&D : 27,500

Utilization : 27,289

Status of the Project : Completed

Project Outcome :

Experimental results depict that the isolation of waste into metallic and non-metallic waste and further into wet and dry waste has been successfully implemented using the proposed system.


Signature of the Principal Investigator

SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE
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Department of Information Technology

Date 06.08.2022

Research Project Report

Title of the Project : Intelligent Traffic Congestion Detection and Alert System(ITCDAS) using Videon Surveillance

Name of the Principal Investigator : Dr. Ch. Kavitha

Objectives of the Project :
To improve traffic flow, reduce travel time, enhance road safety, and provide real-time information to drivers about traffic conditions, road closures, and other important information

Budget Sanctioned Under seed money for In house R&D :33,000

Utilization : 32,795

Status of the Project : Completed

Project Outcome :
Reduces traffic jams and accidents on the streets. Ensuring immediate clearance for emergency vehicles. Facilitating safer and shorter commute times. Reducing congestion & energy consumption at intersections.



Signature of the Principal Investigator

SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE
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Department of Information Technology

Date 21.12.2022

Research Project Report

Title of the Project : Coconut Tree Bot Using AI and IOT

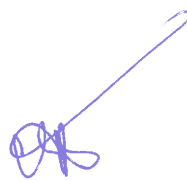
Name of the Principal Investigator : Dr. Ch. Kavitha

Objectives of the Project :

- 1.To position and track the tasks for the Robotic arm using the laser range method to find the distance from the camera to the target.
- 2.To implement the 'Adding intelligence to the agricultural coconut tree climbing robot,' robot used for coconut harvesting can be totally automated.

Budget Sanctioned Under seed money for In house R&D : 38,000

Status of the Project : Ongoing



Signature of the Principal Investigator

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Seshadri Rao Knowledge Village, Gudlavalleru – 521356, Krishna District (A.P.)
Department of Information Technology

Dt 31st March, 2022

To
The Principal,
Seshadri Rao Gudlavalleru Engineering College,
Sheshadri rao Knowledge Village,
GUDLAVALLERU.

(Through Proper Channel)

UTILIZATION LETTER

Sub: Expenditure towards Seed money for In-house R&D Project-Reg.

Respected Sir,

We have taken an advance amount of Rs.27,500/- for doing Seed money for In-House R&D project title “ IOT Based Automated Waste Segregator”. We have completed the Initial purchase work and submitting bills to principal through HoD, Department of Information Technology.

Here I am submitting the expenditure statement for the above work.

Expenditure Details:

S.NO	NAME OF THE COMPONENT	QUANTITY	COST
1	Orange OT5330M 7.4V 35.5kg.cm 180° Metal Gear Digital Servo Motor	1	1,799.00
2	Orange OS90MG 6V 2.2kg.cm Metal Brush Digital Servo Motor	1	749.00
3	Orange 15mm NPN Inductive Proximity Sensor	1	669.00
4	420 chain for 29T sprocket	1	199.00
5	420 Sprocket 29T	1	361.00
6	Servo Bracket L-Shape	1	474.00
7	N20-12V-400 Rpm Micro Metal Gear Motor	1	269.00
8	N20-6V-60 RPM Micro Metal Gear- box DC Motor	1	269.00
9	420 Pinion - 14T	1	290.00
10	Pulley Wheel 10cm Dia. x 2cm Width	1	138.00
11	MINI 3PI car N20 Caster Robot Ball Wheel	1	180.00
12	Ball caster wheel Small	1	69.00
13	Radial Ball Bearing	1	190.00

14	EasyMech Set of M3 X 8MM Socket Head Cap	1	149.00
15	28BYJ-48 Stepper Motor and ULN2003 Stepper Motor Driver	1	278.00
16	28BYJ-48 5V 4-Phase Stepper Step Motor	1	198.00
17	1 12V DC 1/2" Electric Solenoid Water Air Valve Switch	1	319.00
18	DC 12V Cabinet Door Lock Electric Lock Assembly Solenoid	1	389.00
19	DC 12V KK-P20/15 3KG Lifting Solenoid Electromagnet	1	185.00
20	DC 12V KK-P40/25 35KG Lifting Solenoid	1	519.00
21	DC12V 4010 Oil Containing Cooling Fan	1	75.00
22	DC12V 5015 Hydraulic Centrifugal Fan	1	109.00
23	DC 3-6 V Mini Micro Submersible Water Pump	1	69.00
24	Flat 1034 Mobile Phone Vibrator Motor	1	82.00
25	Safe Connect Flat 15CM 22AWG Servo Lead Extension	1	59.00
26	CNC Aluminum Steering Servo Horn Arm	1	198.00
27	Aluminum Servo Horn/Arm 25T Round type	1	180.00
28	High Quality Ultra Flexible 30AWG Silicone Wire 5M	1	59.00
29	High Quality Ultra Flexible 26AWG Silicone Wire 3m	1	49.00
30	Wire Stripper Flat Nose Cable Cutter	1	59.00
31	Digital LDR Module	1	49.00
32	Color Sensor Module	1	619.00
33	MQ303A Semiconductor Type Alcohol Sensor	1	149.00
34	US-100 Ultrasonic Sensor Distance Measuring Module	1	419.00
35	DSM501A PM2.5 Dust Sensor Module for Arduino	1	749.00
36	Metal detector non-contact metal induction detection module	1	462.00
37	Raindrops Detection Sensor Module	1	198.00
38	Raindrops Detection Sensor Module with 12V Relay Module	1	249.00
39	Soil Moisture Meter, Soil Humidity Sensor, Water Sensor, Soil Hygrometer for Arduino	1	138.00
40	2 Channel Tilt Sensor Module	1	249.00
41	3 Channel RF Wireless ON/OFF Smart	1	549.00

	Switch with RF Remote Control		
42	BC547 NPN DIP Transistor (Pack of 20)	1	39.00
43	Continuous Sound Electronic Active Buzzer	1	49.00
44	Piezo Electronic Buzzer Beep Alarm Bell Continuous Sound 3v-24v Buzzer Electromagnetic	1	31.00
45	Piezo buzzer 20mm (Pack of 3)	1	49.00
46	Atmega16U2 Mega 2560 R3 Improved Version 85013000 CH340G+Cable for Arduino Mega 2560+transparent acrylic case for Arduino Mega 2560	1	2561.00
47	Arducam 8 MP Sony IMX219 camera module	1	4599.00
48	Raspberry Pi 4 Model B with 2 GB RAM	1	4399.00
49	Dustbin Housing Assembly -Making charges	1	3100.00
Total Amount			Rs 27,289.00

Received Amount:

Rs. 27,500/-

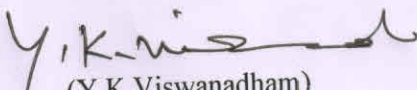
Total Expenditure:

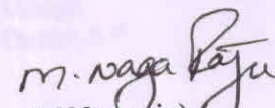
Rs. 27,289 /-


Balance Amount Return to Office:


Rs. 211/-

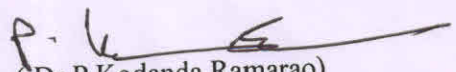
Hence, I request you to approve the above said expenditure.


(Y.K. Viswanadham)
Principal Investigator



(M. Nagaraju)
Co- Investigator


(Dr. Ch. Kavitha)
Coordinator , Professor &HOD


(Dr. M.R. Ch. Sastry)
Vice Principal, Academics


(Dr. P. Kodanda Ramarao)
Vice Principal, Administration

Head of the Department
Information Technology
Seshadri Rao
Gudlavaluru Engineering College
Seshadri Rao Knowledge Village
Gudlavaluru - 521 356, Krishna District. A.P.


(Dr. GVSNRV Prasad)
Principal
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Gudlavaluru - 521 356, Krishna District. A.P.

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GUDLAVALLERU ENGINEERING COLLEGE
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Seshadri Rao Knowledge Village, Gudlavalleru – 521 356
* * *

UTILIZATION CERTIFICATE

It is certified that the grant of Rs 27,500/-(Rupees Twenty Seven Thousand Five Hundred only) received from the Seshadri Rao Gudlavalleru Engineering college under the scheme of Seed Money for In-house R&D Budget "IOT Based Automated Waste Segregation" vide letter no: SRGEC/R&D/2021-22/01 Dated 25-03-2022 has been utilized (Rs 27,289/-)

For the purpose for which it was sanctioned.

1) Y. K. N. S. Reddy
2) M. Naga Raju
Signature of the
principal investigators


HOD
(Seal)


Principal
PRINCIPAL
Seshadri Rao
(Seal)
Gudlavalleru Engineering College
Seshadri Rao Knowledge Village
Gudlavalleru - 521 356, Krishna District. A.P.

Head of the Department
Information Technology
Seshadri Rao
Gudlavalleru Engineering College
Seshadri Rao Knowledge Village
Gudlavalleru - 521 356, Krishna District. A.P.



Dt.13th April, 2022

To
The Principal,
Seshadri Rao Gudlavaluru Engineering College,
Sheshadri rao Knowledge Village,
GUDLAVALLERU.

(Through Proper Channel)

UTILIZATION LETTER

Sub: Expenditure towards Seed Money for In-House R&D Project-Reg.

Respected Sir,

We have taken an advance amount of Rs.33,000/- for doing Seed Money for In-House R&D project title “ **Intelligent Traffic Congestion Detection and Alert System (iTCDas) using Video Surveillance**”. We have completed the work and submitting the detailed report to principal through HoD, Department of Information Technology.

Here I am submitting the expenditure statement for the above work.

Expenditure Details:

S.NO	NAME OF THE COMPONENT	QUANTITY	COST
1	Arduino Mega	1	3000
2	Wi-Fi Module	1	1500
3	GSM Module	1	2500
4	FM Transmitter Circuit	1	4500
5	LCD Display Boards	5*800	4000
6	Bread Board	1	500
7	Resisters Packet	1	500
8	Jumper Wires Packet	1	500
9	Batteries se	1	200
10	Smart Tags	50*100	5000
11	HIKVISION 1MP Doom Camera	3*2500	7500
12	Remote Control Car for Proto type	1	2000
13	Night Vision Camera	1	1095
		Total	32,795

Received Amount:

Rs. 33,000-00/-

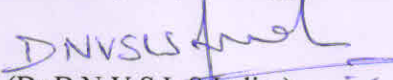
Total Expenditure:

Rs. 32,795.00 /-

Balance Amount Return to Office:

Rs. 205.00/-

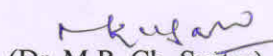
Hence. I request you to approve the above said expenditure.


(Dr.D.N.V.S.L.Indira)

Co-Principle Investigator


(Dr.Ch.Kavitha)

Principle Investigator, Professor & HoD


(Dr. M.R. Ch. Sastry)

Vice Principal, Academics


(Dr.P.Kodanda Ramarao)

Vice Principal, Administration


(Dr.GVSNRV Prasad)

Principal
PRINCIPAL
Seshadri Rao

Gudlavaluru Engineering College
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Gudlavaluru - 521 356, Krishna District. A.P.



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* * *

UTILIZATION CERTIFICATE

It is certified that the grant of Rs 33,000/- (Rupees Thirty Three Thousand only) received from the Seshadri Rao Gudlavalleru Engineering college under the scheme of Seed Money for In-house R&D Budget "Intelligent Traffic Congestion Detection and Alert System (ITCDAS) using Video Surveillance" vide letter no: SRGEC/R&D/2021-22/02 Dated 25-03-2022 has been utilized (Rs 32,795/-)

For the purpose for which it was sanctioned.

1. 
2. 
Signature of the
principal investigators


HOD

(Seal)



Head of the Department
Information Technology
Seshadri Rao
Gudlavalleru Engineering College
Seshadri Rao Knowledge Village
Gudlavalleru - 521 356, Krishna District. A.P.


Principal
PRINCIPAL
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Seshadri Rao Knowledge Village, GUDLAVALLERU-521 356, Krishna District, A.P., India

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Accredited by NAAC

Phone Nos. 08674-273737, 273888, Mobile: +91 9848779121 Fax No. 08674-273957

E-mail: principal@gecgudlavalleru.ac.in, office@gecgudlavalleru.ac.in, Web: www.gecgudlavalleru.ac.in

List of full-time teachers received seed money for research

A.Y. 2020-21

S. No	Name of the Faculty	Name of the Department	Title of the Project	Duration	Amount in Lakhs	Status
1	Sri. A. H. L. Swaroop (PI)	Civil Engineering	Diagnosis of Structural health Condition of GEC Main Building by using Advanced Non-Destructive Techniques	1 Year	0.50	Completed
2	Sri. Phani Kumar V. (PI)	Civil Engineering	Use of Bi-Enzyme for Stabilization of Soil and Concrete Structures	1 Year	0.94	Completed
3	Dr. Sophia M (Co-PI)					
4	Dr. B. Dasu (PI)	Electrical and Electronics Engineering	"Automatic Water Tank Level Controlling System"	3 Months	0.20	Completed
5	Dr. K. Kalyan Raj (Co-PI)					
6	Dr. B. Dasu (PI)	Electrical and Electronics Engineering	"Automatic Class Room Switches controlling System"	3 Months	0.11	Completed
7	Dr. B. Madhu Kiran (Co-PI)					
8	Dr. B. Dasu (PI)	Electrical and Electronics Engineering	"Automatic Water Dispenser system"	3 Months	0.11	Completed
9	Dr. G.V.S.N.R.V. Prasad (PI)	Computer Science and Engineering	IoT based crop growth analysis in various soil conditions using machine learning	6 Months	0.50	Completed
10	K. Ashok Reddy (Co-PI)					
11	Dr. M. Babu Rao (PI)	Computer Science and Engineering	ECG data acquisition and heart disease detection using deep neural nets	1 Year	0.25	Ongoing
12	Dr. A. Jagadeeswarao (Co-PI)					
13	Dr. Y. Adilakshmi (PI)	Computer Science and Engineering	Water Quality Analysis for Efficient and Maximum of Shrimp Using IOT	6 Months	0.26	Completed
14	N. Rajeswari (Co-PI)					
15	J.N.V.R. Swarup Kumar (PI)	Computer Science and Engineering	Design and Implementation of Smart Gardening System Using IoT	1 Year	0.18	Completed
Total					3.05	


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(Sponsored by A.A.N.M. & V.V.R.S.R. Educational Society, Gudlavalluru)
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SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE
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Department of Civil Engineering

Research Project Report

Title of the Project : Diagnosis of Structural Health Conditions of G.E.C Main building by using Advanced Non-Destructive Techniques

Name of the Principal Investigator : Sri. A.H.L.Swaroop


Objectives of the Project : 1. To find the best and user friendly NDT & ANDT technique for diagnosis of the structure.
2. To evolve the strength, crack width, cover, durability and quality of concrete parameters of the existing structure.

Budget Sanctioned Under seed money for In house R&D : Rs. 50000/-

Utilization : Rs. 49400/-

Status of the Project : Completed

Project Outcome : 1. Strength of the existing structure was determined
2. Quality of concrete was diagnosed
3. Suitable remedial measure was suggested


(Name of the principal investigator)

SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE
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Seshadri Rao Knowledge Village, Gudlavalluru

Department of Civil Engineering

Research Project Report

Title of the Project : Use of Bio-Enzyme for Stabilization of Soil and Concrete Structures

Name of the Principal Investigator : Sri. Phani kumar V

Objectives of the Project : 1. To improve the soil packing density, soil framework and concrete durability
2. To quantify the terrazyme content and optimize it.
3. To study the bio-enzyme effect in different soil contents
4. To arrive with the cost benefit analysis of bio-enzyme addition
5. To arrive with the tolerance level of bio-enzyme in harsh environment to guarantee the remediation effect

Budget Sanctioned Under seed money for In house R&D : Rs. 94725/-

Utilization : Rs. 94373/-

Status of the Project : Completed

Project Outcome structures are provided : Sustainable methods of stabilizing soil and concrete

Phani Kumar. V.
(Name of the principal investigator)

GUDLAVALLERU ENGINEERING COLLEGE
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village, Gudlavalleru

Department of Electrical and Electronics Engineering

Research Project Report

Dt:30-03-2021

A:Y 2020-21

Title of the Project	:Automatic classroom switches controlling system
Name of the Principal Investigator	:Dr.B.Dasu
Objectives of the Project	:Reduce the wastage of power due to unnecessary turn on of fans and lights in the class rooms Reducing the power wasted in the classrooms there by reducing the power bill
Budget Sanctioned Under seed money for In house R&D	:Rs.11,000/-
Utilization	:Rs.10,092/-
Status of the Project	:Completed
Project Outcome	:The automation devices are successfully installed The working hours of the lights and fans in the classrooms is reduced The lights and fans in the class rooms are turned on only when the students are present in the class

(Signature  of the principal investigator)

GUDLAVALLERU ENGINEERING COLLEGE
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Seshadri Rao Knowledge Village, Gudlavalluru

Department of Electrical and Electronics Engineering

Research Project Report

Dt:30-03-2021

A:Y 2020-21

Title of the Project	: Automatic water tank level controlling system
Name of the Principal Investigator	: Dr.B.Dasu
Objectives of the Project	: Reduce the unnecessary running time of the pump motor Reduce the wastage of the water Reduce the power consumed by the pump motor
Budget Sanctioned Under seed money for In house R&D	: Rs.20,000/-
Utilization	: Rs.16,194/-
Status of the Project	: Completed
Project Outcome	: The motor turn on only when the water level in the tank goes below minimum point The motor turn off whenever the water level reaches the maximum point The wastage of the water and power is reduced

(Signature of the principal investigator)

GUDLAVALLERU ENGINEERING COLLEGE
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Seshadri Rao Knowledge Village, Gudlavalluru

Department of Electrical and Electronics Engineering

Research Project Report

Dt:31-03-2021

A:Y 2020-21

Title of the Project : Automatic Water Dispenser System

Name of the Principal Investigator : Dr.B.Dasu


Objectives of the Project : To reduce the cooler working time .
To reduce the power consumed by the cooler.
To reduce the wastage of water.

Budget Sanctioned Under seed money for In house R&D :Rs.11,000/-

Utilization : Rs.10,453/-

Status of the Project : Completed

Project Outcome : The pump will deliver the water only when it detects the human.
The on time of the cooler is reduced.
Power Consumed by the cooler is reduced there by conserving energy and water.


(Signature of the principal investigator)

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Seshadri Rao Knowledge Village, Gudlavalleru

Department of Computer Science and Engineering

Research Project Report

Date: 15.04.2022

Title of the Project : IoT based Crop Growth Analysis in Various Soil Conditions using Machine Learning

Name of the Principal Investigator : Dr.G.V.S.N.R.V.Prasad

Objectives of the Project :

1. Monitoring the crop growth using sensors.
2. To acquire data from sensors and apply machine learning techniques.
3. To identify the growth of crops in different soils.
4. To analyze the growth of same crop using compost and fertilizers.

Budget Sanctioned Under seed money for In house R&D : 50,000

Utilization : 42,600

Status of the Project : Completed

Project Outcome : Proposed an innovative approach for crop growth analysis using two emerging technologies: The Internet of Things and Machine Learning. The use of both live and historical data helps to increase the accuracy of the result. Also comparing multiple Machine Learning Algorithms enhances the accuracy of the system. Thus, the system will increase the quantity and quality of work done by the farmers.



Signature of the principal investigator

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GUDLAVALLERU ENGINEERING COLLEGE
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Department of Computer Science and Engineering

Date: 04.05.2022

Research Project Report

Title of the Project : ECG Data Acquisition and Heart -
Beat Detection

Name of the Principal Investigator : Dr.M.Babu Rao

Objectives of the Project : An electrocardiogram (ECG) is often used to
diagnose arrhythmias. Lab view based ECG signal acquisition and analysis is meant
to acquire ECG signals from the patient and analyze it to detect and classify its anomalies and
abnormalities.

**Budget Sanctioned Under seed
money for In house R&D** : 25,000

Utilization : ----

Status of the Project : Ongoing


Signature of the principal investigator

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Department of Computer Science and Engineering

Research Project Report

Date: 02.05.2022

Title of the Project : Water Quality Analysis for Efficient and Maximum Growth of Shrimp Using IoT

Name of the Principal Investigator : Dr.Y.Adilakshmi

Objectives of the Project :


- 1.The broad objective is to design and development an IoT based water quality analysis for efficient and maximum growth of shrimp.
- 2.Facilitating research and collaboration in the field of Aqua Culture with Sensors.
- 3.Monitoring the conditions for growth of Shrimps using sensors.
- 4.Suggest the measures to be taken for improvement of conditions for good yield.

Budget Sanctioned Under seed money for In house R&D : 26,000

Utilization : 22,900

Status of the Project : Completed

Project Outcome : Proposed an innovative approach for analyze the conditions for the growth of shrimps. The sensors are used to gather data and suggest the farmers to analyze the conditions and improve them as required for the growth of Shrimps in a profitable manner. Thus,the system will increase the quantity and quality of work done.


Signature of the principal investigator

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Seshadri Rao Knowledge Village, Gudlavalleru

Department of Computer Science and Engineering

Date: 29.09.2021

Research Project Report

Title of the Project : Design and Implementation of Smart Gardening System Using IoT

Name of the Principal Investigator : J.N.V.R.Swarup Kumar

Objectives of the Project :

- 1.Simplify the irrigation system by installing and designing the whole irrigation system.
- 2.Save energy, which allows the application of smart irrigation system used more other application.
- 3.Optimize water consumption.
- 4.Automated system fully.
- 5..Make system easy to use by farmers.

Budget Sanctioned Under seed money for In house R&D : 18,000

Utilization : 15,200

Status of the Project : Completed

Project Outcome : Many advanced techniques has been introduced in agriculture automation to flourish and produce its full potential. This system designed by using Arduino micro controller to overcome limitations of agriculture farming about supplying of water to plants by drip system with the available water tables. In our system we use Arduino micro controller, motor pump, soil moisture sensor. The dielectric permittivity of the surrounding medium is measured using the capacitance of the soil moisture sensor. The dielectric permittivity is the purpose of the water content in the soil. It is proportional to the voltage created by the sensor and also to the water content of the soil. The sensor averages the water content.

The Soil Moisture detector is employed to live the loss of moisture over time because of evaporation and plant uptake, observe optimal amount of soil moisture contents for various

species of plants, examine soil moisture content to limit irrigation in this experiment. The working of the temperature sensor is about the environment climatic changes. The sensors works by the voltage read across the diode. There will be a voltage drop across the transistor terminals of base and emitter, if the voltage is high and temperature rises, then it is recorded by the sensor. An analog signal is generated by the device when there is difference in the voltage is amplified and it is proportional to the temperature. It is measured by Arduino micro controller in real time.

J. n. v. g. s. d

Signature of the principal investigator

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Seshadri Rao Knowledge Village, Gudlavalleru

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Statement of Expenditure Under seed Money for In house R&D Project

1. Name of Principal Investigator : Mr A.H.L.Swaroop
2. Department of PI : Civil Engineering
3. Internal R&D Letter No. and Date : GEC/R&D/2020-21/04
4. Title of the Research Project : "Diagnosis of Structural Health conditions of
G.E.C. Main building by using Advanced Non-Destructive Techniques",
5. Effective date of starting the project : 05/01/2021
6. a) Period of Expenditure : From 05/01/2021 to 06/09/2021
- b) Details of Expenditure

Sl. No.	Item	Amount Approved (Rs.)	Expenditure Incurred (Rs.)
i.	Books & Journals		
ii.	Equipment	40000	39400/-
iii.	Contingency including special needs	10000	10000/-
iv.	Field Work / Travel (Give details in the proforma)		
v.	Hiring Services		
vi.	Chemicals & Glassware		
	Total	50,000	49,400/-

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UTILIZATION CERTIFICATE

It is certified that the grant of Rs49400/- (Rupees Forty Nine thousand Four hundred.only) received from the Gudlavalleru Engineering College under the scheme of seed money for In house R&D "Diagnosis of Structural Health conditions of G.E.C. Main building by using Advanced Non-Destructive Techniques" vide letter No GEC/R&D/2020-21/04 Dated 30/12/2021 has been utilized for the purpose for which it was sanctioned.


**SIGNATURE OF THE
PRINCIPAL INVESTIGATOR**

HOD

(Seal)


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UTILIZATION CERTIFICATE

It is certified that the grant of Rs 94725/- (Rupees Ninety Four Thousand Seven Hundred and Twenty Five only) received from the Gudlavalleru Engineering College under the scheme of seed money for In-house R&D "Use of Bio-Enzyme for Stabilization of Soil and Concrete Structures" vide letter No. SRGEC/R&D/2020-21 Dated 27/02/2021 has been utilized for the purpose for which it was sanctioned.


SIGNATURE OF THE
PRINCIPAL INVESTIGATOR


HOD
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Statement of Expenditure Under Seed money for In house R&D Project

1. Name of Principal Investigator : Dr.B.Dasu
2. Department of PI : Electrical and Electronics Engineering
3. Internal R&D Letter No. and Date : 470/21-12-2020
4. Title of the Research Project : Automatic Water Tank Level Controlling System
5. Effective date of starting the project : 08-01-2021
6. a) Period of Expenditure : From 08-01-2021 to 15-02-2021
- b) Details of Expenditure : An Amount of Rs.16,194 /- was utilized
Which was spent per the list given below.

Sl. No.	Item	Amount Approved (Rs.)	Expenditure Incurred (Rs.)
i.	Books & Journals	--	--
ii.	Equipment	20,000/-	16,194/-
iii.	Contingency including special needs	--	--
iv.	Field Work / Travel (Give details in the proforma)	--	--
v.	Hiring Services	--	--
vi.	Chemicals & Glassware	--	--

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UTILIZATION CERTIFICATE

It is certified that the grant of Rs 16,194/- (Sixteen thousand one hundred and ninety four only) received from the Gudlavalleru Engineering College under the scheme of seed money for In house R&D “Automatic Water Tank Level Controlling System “vide letter No.470 Dated 21-12-2020 has been utilized for the (Rs.16,194) purpose for which it was sanctioned.


SIGNATURE OF THE
PRINCIPAL INVESTIGATOR


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Seshadri Rao Knowledge Village
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Statement of Expenditure Under Seed money for In house R&D Project

1. Name of Principal Investigator : Dr.B.Dasu
2. Department of PI : Electrical and Electronics Engineering
3. Internal R&D Letter No. and Date : 471/21-12-2020
4. Title of the Research Project : Automatic Class room Switches Controlling Systems
5. Effective date of starting the project : 08-01-2021
6. a) Period of Expenditure : From 08-01-2021 to 15-02-2021
- b) Details of Expenditure : An Amount of Rs.10,092 /- was utilized
Which was spent per the list given below.

Sl. No.	Item	Amount Approved (Rs.)	Expenditure Incurred (Rs.)
i.	Books & Journals	--	--
ii.	Equipment	11,000/-	10,092/-
iii.	Contingency including special needs	--	--
iv.	Field Work / Travel (Give details in the proforma)	--	--
v.	Hiring Services	--	--
vi.	Chemicals & Glassware	--	--

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UTILIZATION CERTIFICATE

It is certified that the grant of Rs 10,092/- (Ten Thousand and ninety two Rupees only) received from the Gudlavalleru Engineering College under the scheme of seed money for In house R&D “Automatic Class room Switches Controlling Systems” vide letter No.471 dated 21-12-2020 has been utilized(Rs.10,092) for the purpose for which it was sanctioned.


**SIGNATURE OF THE
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Statement of Expenditure Under Seed money for In house R&D Project

1. Name of Principal Investigator : Dr.B.Dasu
2. Department of PI : Electrical and Electronics Engineering
3. Internal R&D Letter No. and Date : 15-03-2021
4. Title of the Research Project : Automatic Water Dispenser System
5. Effective date of starting the project : 15-03-2021
6. a) Period of Expenditure : From 15-03-2021 to 27-03-2021
b) Details of Expenditure : An Amount of Rs.10,453 /- was utilized
Which was spent per the list given below.

Sl. No.	Item	Amount Approved (Rs.)	Expenditure Incurred (Rs.)
i.	Books & Journals	--	--
ii.	Equipment	11,000/-	10,453/-
iii.	Contingency including special needs	--	--
iv.	Field Work / Travel (Give details in the proforma)	--	--
v.	Hiring Services	--	--
vi.	Chemicals & Glassware	--	--

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UTILIZATION CERTIFICATE

It is certified that the grant of Rs 10,453/- (Ten Thousand and Four Hundred and Fifty Rupees only) received from the Gudlavalleru Engineering College under the scheme of seed money for In house R&D "Automatic Water Dispenser System" vide letter dated 15-03-2021 has been utilized (Rs.10,453) for the purpose for which it was sanctioned.


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UTILIZATION CERTIFICATE

It is certified that the grant of Rs 50,000/- (Fifty Thousand Rupees only) received from the Gudlavaluru Engineering College under the scheme of seed money for In house R&D "IOT Based Crop Growth Analysis In Various Soil Conditions Using Machine Learning" vide letter dated 16-04-2021 has been utilized Rs.42,600/-(Forty two thousand Six Hundred only) for the purpose for which it was sanctioned.



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UTILIZATION CERTIFICATE

It is certified that the grant of Rs 26,000/- (Twenty Six Thousand Rupees only) received from the Gudlavalleru Engineering College under the scheme of seed money for In house R&D “Water Quality Analysis for Efficient and Maximum of Shrimp Using IOT” vide letter dated 16-04-2021 has been utilized Rs.22,900/- (Twenty two thousand Nine Hundred only) for the purpose for which it was sanctioned.


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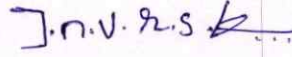

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* * *

UTILIZATION CERTIFICATE

It is certified that the grant of Rs 18,000/- (Eighteen Thousand Rupees only) received from the Gudlavalleru Engineering College under the scheme of seed money for In house R&D “Design and Implementation of Smart Gardening System Using IoT” vide letter dated 20-04-2021 has been utilized Rs.15,200/-(Fifteen Thousand two hundred only) for the purpose for which it was sanctioned.


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Seshadri Rao Knowledge Village, GUDLAVALLERU-521 356, Krishna District, A.P., India

(Approved by AICTE, New Delhi and Permitted by A.P. State Government)

Accredited by NAAC

Phone Nos. 08674-273737, 273888, Mobile: +91 9848779121 Fax No. 08674-273957

E-mail: principal@gecgudlavaluru.ac.in, office@gecgudlavaluru.ac.in, Web: www.gecgudlavaluru.ac.in

List of full-time teachers received seed money for research

A.Y. 2019-20

S. No.	Name of the Faculty	Name of the Department	Title of the Project	Duration	Amount in Lakhs	Status
1	Sri. G. T. N. Veerendra (PI)	Civil Engineering	Generation of large-Scale Spatial database of Amaravathi (APCRDA) Andhra Pradesh, India using RS&GIS and Conventional Technologies	2 Years	0.95	Completed
2	Sri. N. Hari Pavan (Co-PI)					
3	Mr. N Premdasu (PI)	Mechanical Engineering	Catalytic Pyrolysis of Waste Plastic	2 Years	1.10	Completed
4	Dr M R Ch Sastry (Co-PI)					
5	Dr. Y. Rama Krishna (PI)	Electronics and Communication Engineering	Basic Research on Microwave treatment of Paddy	1 Year	0.08	Completed
6	Mr.J.N.V.R.Swarup Kumar(PI)	Computer Science and Engineering	Unmanned Aquaculture Monitoring System for better yield and Profit	6 Months	0.05	Completed
Total					2.13	


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Department of Civil Engineering

Research Project Report

Title of the Project : Generation of Large Scale Spatial Data Base of
Amaravathi (APCRDA), Andhra Pradesh, India Using
RS&GIS and Conventional Technologies

Name of the Principal Investigator : Sri. G.T.N Veerendra

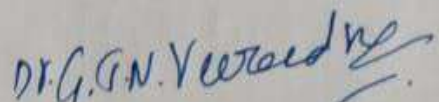
Objectives of the Project : To develop Large Scale Spatial Data Base of
Amaravathi (APCRDA), Andhra Pradesh, India Using
RS&GIS and Conventional Technologies

Budget Sanctioned Under seed
money for In house R&D : Rs. 95000/-

Utilization : RS. 49704/-

Status of the Project : Completed

Project Outcome : Generated resourse maps such as geological aspects, soil
types, slope features, transport network, geomorphological
features, land use and land cover, rainfall, surface and
ground water resources of the study area.


(Name of the principal investigator)

GUDLAVALLERU ENGINEERING COLLEGE
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SeshadriRao Knowledge Village, Gudlavalleru

Department of Mechanical Engineering

Date: 29.03.2022.

Research Project Report

Title of the Project : **Catalytic Pyrolysis of Waste Plastic**

Name of the Principal Investigator : **Mr. N. Premdasu**

Objectives of the Project : The present study aims at converting waste plastic into liquid fuel through Catalytic pyrolysis by utilizing inexpensive catalysts such as Fly ash and Red mud.

- To fabricate the experimental set up for pyrolysis.
- To extract oil from HDPE and LDPE plastics.

Budget Sanctioned Under seed money for In house R&D : **Rs. 1,50,000/-**

Utilization : **Rs. 1,12,660/-**

Status of the Project : **Completed**

Project Outcome : **Fabricated Pyrolysis oil unit can be utilized for conversion of variety of plastic waste into liquid hydrocarbon fuel.**



Mr. N. Premdasu
(Name of the principal investigator)

PROJECT COMPLETION REPORT

Name of the project

Basic experiments on Microwave Treatment of Paddy

Objective

To obtain the basic knowledge on microwave treatment of paddy to design an Advanced Microwave Wave System for Treatment of paddy with high moisture content.

Introduction

According to the rainy season and canal irrigation facilities of this region, the harvesting of the paddy happens to be during November – December every year. However, unseasonal rains during this period become more frequent in these years due to cyclones in Bay of Bengal and these rains causing lot of damage to paddy which still needs to be dried after harvesting. Farmers are neither having sufficient space in the godowns nor space in their houses to store their humid crop and hence they have to lose it or sell at lower prices than expected.

A microwave treatment of such harvested rice directly from the field can decrease the time of drying and amount of loss. This proposal was aimed to do certain basic experiments based on microwave treatment of paddy to analyze moisture content at different timings where the results of this experiment further help us in making a prototype for machinery.

Experiments conducted

New and fresh paddy samples are obtained from Seshadri Rice Mill, Gudlavalleru for testing purpose. The following tests are conducted on fresh paddy samples.

1. 92 gm of paddy with moisture percent of 17.5 % is taken as one sample and treated with microwave power at 600 and 800 units of microwave power for different time durations (40, 50, 60, 70 and 80 seconds)
2. 184 gm of paddy with moisture percent of 17.5 % is taken as one sample and treated with microwave power at 600 and 800 units of microwave power for different time durations (40, 50, 60, 70 and 80 seconds)
3. 92 gm of paddy with moisture percent of 17.2 % is taken as one sample and treated with microwave power at 600 and 800 units of microwave power for different time durations (40, 50, 60, 70 and 80 seconds)
4. 92 gm of paddy with moisture percent of 20.2 % is taken as one sample and treated with microwave power at 600 and 800 units of microwave power for different time durations (40, 50, 60, 70 and 80 seconds)

The microwave treated paddy is tested with moisture testing machine available in Seshadri Rice Mill.

Results Obtained

The following results are obtained when the moisture content is re measured after microwave treatment.

Table 1. Moisture percentage after microwave treatment

Sample Details	Moisture % before MW Treatment	Duration of microwave treatment				
		40 s	50 s	60 s	70 s	80 s
92gm/600 MW Power	17.5	15.30	14.30	14.30	13.80	13.60
184gm/600 MW Power	17.5	--	--	15.30	14.90	14.40
92gm/ 800 MW Power	17.5	14.80	14.00	13.60	13.20	12.50
184gm/ 800 MW Power	17.5	--	--	14.70	14.10	13.80
		20 s	40 s	50 s	60 s	
92gm/600 MW Power	17.2	16.6	14.9	14.7	14.6	
92gm/ 800 MW Power	17.2	15.5	14.7	13.9	13.6	
92gm/600 MW Power	20.2	16.5	15.6	15.2	15.0	
92gm/ 800 MW Power	20.2	16.6	15.2	14.9	14.1	

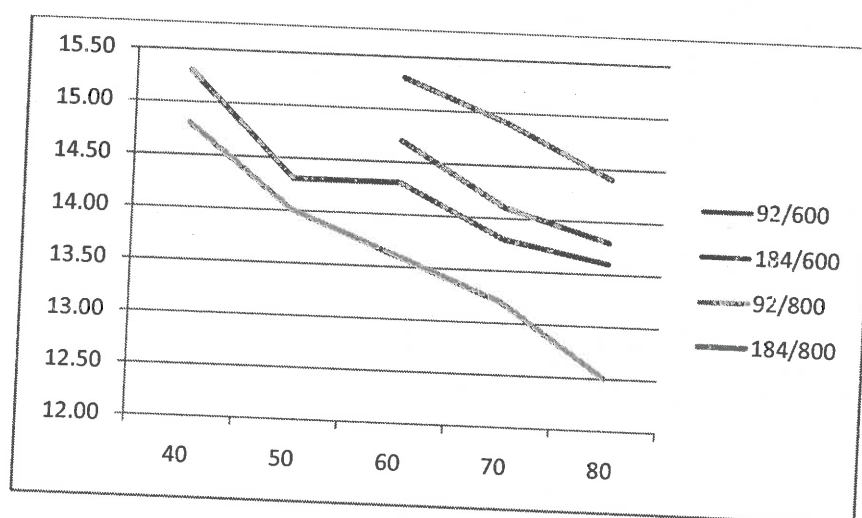



Fig. 1. Variation of moisture % with MW treatment (Before MW treatment MC is 17.5 %)

Conclusions

It is observed that relative amount of time is required to treat the paddy based on the input moisture percentage. To reduce the moisture content from a higher value to a lower value, it requires relative amount of power and also time. Similarly, based on the quantity of the paddy to be treated, the time or input power varies. The observations are recorded in table 1 and are shown graphically in figure 1.

From the values obtained out the experiments conducted, it gives a ground to develop a prototype for Microwave Treatment of Paddy to reduce the moisture content.


 (Dr. Y. Ramakrishna)

GUDLAVALLERU ENGINEERING COLLEGE
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Seshadri Rao Knowledge Village, Gudlavalleru

Department of Computer Science and Engineering

Research Project Report

Date: 25.04.2020

Title of the Project : Unmanned Aquaculture Monitoring
System for better yield and Profit

Name of the Principal Investigator : Mr.J.N.V.R.Swarup Kumar

Objectives of the Project :

- 1.The main objective of proposed system is to develop a system, which would continuously monitor the water quality parameters such as dissolved oxygen level, pH, temperature, water level and take preventive measures by itself with the help of the sensor information.
- 2.To adapt to new needs and challenges, differentiating its offer from simple 8-bit boards to products for IoT applications, wearable, 3D printing, and embedded environments helps performance it the industry of internet of things.
- 3.To meet user's continuous demands for efficient power usage, compact design and reliable.

Budget Sanctioned Under seed money for In house R&D : 5,000

Utilization : 4,300

Status of the Project : Completed

Project Outcome : Small-scale farmers could not afford to hire workers to maintain daily operations. Those people get benefited by using our proposed system since this is one time investment with minimum amount. Here the biggest obstacles mainly investment and operating costs, in the process of monitoring fish pond are eliminated. Secondly, based on historical data of field tests, our automatic system reduces the need for aeration by 4 hours per night. Hence power consumption is reduced. Simply, the farmers who are not able to pay charges to labor will be more beneficial, with this integration system, farmers need not hire workers at their site.


Signature of the principal investigator

GUDLAVLLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village, Gudlavalluru

Statement of Expenditure Under Seed money for In House R&D Project

1.	Name of the Principal Investigator	: Mr. G.T.N.Veerendra
2.	Department of PI	: Civil Engineering
3.	Internal R&D letter No. Date	: 14/08/2019
4.	Title of the Research Project	: Generation of Large-Scale Spatial Database of Amaravathi (APCRDA) Andhra Pradesh, India using RS & GIS and Conventional Technologies
5.	Effective date of starting the project	:26-08-2019
6.	a) Period of Expenditure	: from 26-08-2019 to 30-04-2022
	b) Details of Expenditure	: An Amount of Rs. 49,704/- was utilised which was spent per the list given below

S.No	Item	Amount Approved (Rs)	Expenditure Incurred (Rs.)
i	Books & journals	-	-
ii	Maps /equipment	95,000/-	49,704/-
iii	Contingency including special needs	-	-
iv	Field work/Travel	-	-
v	Hiring Services	-	-
vi.	Chemicals &Glassware	-	-

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Seshadri Rao Knowledge Village, Gudlavalleru

UTILIZATION CERTIFICATE

It is certified that the grant of Rs. 49,704/- (Forty nine thousand seven hundred and four rupees) received from the Gudlavalleru Engineering College under the Scheme of seed money for the In-house R&D project "Generation of Large-Scale Spatial Database of Amaravathi (APCRDA) Andhra Pradesh, India using RS & GIS and Conventional Technologies" vide letter No. 470 dated 26-08-2019 has been utilized for the (Rs. 49,704) purpose for which it was sanctioned.



SIGNATURE OF THE
PRINCIPAL INVESTIGATOR



HOD



PRINCIPAL
PRINCIPAL
Seshadri Rao
Gudlavalleru Engineering College
Seshadri Rao Knowledge Village
Gudlavalleru - 521 356, Krishna District, A.P.

GUDLAVALLERU ENGINEERING COLLEGE

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Seshadri Rao Knowledge Village, Gudlavalleru

* * *

Statement of Expenditure In Respect of Internal R&D Project

1. Name of Principal Investigator :N. PREM DASU.....
2. Department of PI : Mechanical Engineering
3. Internal R&D Letter No. and Date :12/11/2019.....
4. Title of the Research Project :catalytic pyrolysis of waste plastic.....
5. Effective date of starting the project :12-12-2020.....
6. a) Period of Expenditure : From 12-12-2020... to 14-02-2021
- b) Details of Expenditure :12-12-2020 waste plastic to oil unit.....

Sl. No.	Item	Amount Approved (Rs.)	Expenditure Incurred (Rs.)
i.	Books & Journals		
ii.	Equipment	1,50,000.00	1,12,660.00
iii.	Contingency including special needs		
iv.	Field Work / Travel (Give details in the proforma)		
v.	Hiring Services		
vi.	Chemicals & Glassware		

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* * *

UTILIZATION CERTIFICATE

It is certified that the grant of Rs. 1,12,660 (Rupees one lakh twelve thousand six hundred & sixty only) received from the Gudlavalleru Engineering College under the scheme of Internal R&D "catalytic pyrolysis of waste plastic" vide letter No. Dated has been utilized (.....) for the purpose for which it was sanctioned.



SIGNATURE OF THE
PRINCIPAL INVESTIGATOR



HOD
Department of Mechanical Engineering
Gudlavalleru Engineering College
Seshadri Rao Knowledge Village
(Seal)
GUDLAVALLERU - 521 356



PRINCIPAL
Gudlavalleru Engineering College
(Seal)
GUDLAVALLERU - 521 356

Seed Money for In-House R&D Project Expenditure Statement

1. Name of Principal Investigator : Dr.Y.RamaKrishna, Professor
2. Department of PI : Electronics and Communication Engineering
3. Internal R&D Letter No. and Date : GEC/ECE/Seed Money for In-House R&D/2019-20
Dt.04-05-2019
4. Title of the Research Project : Basic Research on Microwave Treatment of Paddy
5. Effective date of starting the project : 06-07-2019
6. a) Period of Expenditure : From 06-07-2019 to 06-07-2020
- b) Details of Expenditure : Enclosed

Sl. No.	Item	Amount Approved (Rs.)	Expenditure incurred (Rs.)
i.	Books & Journals	-	-
ii.	Equipment	6000/-	5699/-
iii.	Contingency including special needs	1500/-	1128/-
iv.	Field Work / Travel (Give details in the performa)	500/-	100/-
v.	Hiring Services	-	-
vi.	Chemicals & Glassware	-	-
Total:		8,000.00	6,927.00



Signature of the Candidate

UTILIZATION LETTER

To
The Principal,
Gudlavalleru Engineering College
GUDLAVALLERU- 521356

//Through Vice –Principal Academics//

Sir,

Sub: Submission of bills regarding Seed Money for In-House R&D projects - Reg.

Ref: Project proposals submitted to your office Dt.04.05.2019.

We have received Rs 8,000/- as an advance amount towards In house R&D project "**Basic Research on Microwave Treatment of Paddy**" during the academic year 2019-2020. Here I am submitting the bills regarding the In House R&D Projects.

S.NO	NAME OF THE COMPONENT	QUANTITY	COST
1	Microwave oven	1	5,699/-
2	Contingency		1,128/-
3	Travel	2	100/-
TOTAL AMOUNT			6,927/-

Thanking you,



(Dr.Y.RamaKrishna)

Professor, ECE Department

UTILIZATION CERTIFICATE

It is certified that the grant of Rs **8,000/-** (Rupees **Eight Thousand** only) received from the Gudlavalleru Engineering college under the scheme of Seed Money for In-house R&D "**Basic Research on Microwave Treatment of Paddy**" vide letter no: GEC/ECE/In-house R&D/2019-20 Dated 06-07-2019 has been utilized (Rs **6,927/-**)

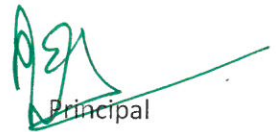
For the purpose for which it was sanctioned.



Signature of the principal investigator



HOD



Principal

Gudlalleru Engineering College
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Seshadri Rao Knowledge Village, Gudlalleru
* * *

UTILIZATION CERTIFICATE

It is certified that the grant of Rs 5,000/- (Five Thousand Rupees only) received from the Gudlalleru Engineering College under the scheme of seed money for In house R&D “Unmanned Aquaculture Monitoring System for better yield and Profit” vide letter dated 20-08-2019 has been utilized Rs.4,300/-(Four Thousand three hundred only) for the purpose for which it was sanctioned.

J.n.v.r.s.

**SIGNATURE OF THE
PRINCIPAL INVESTIGATOR**

[Signature]
HOD

(Seal)

Head of the Department
Computer Science and Engineering
Gudlalleru Engineering College
Seshadri Rao Knowledge Village
GUDLALLERU - 521 356

[Signature]
PRINCIPAL
PRINCIPAL

Gudlalleru Engineering College
GUDLALLERU - 521 356
(Seal)



SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village, GUDLAVALLERU-521 356, Krishna District, A.P., India

(Approved by AICTE, New Delhi and Permitted by A.P. State Government)

Accredited by NAAC

Phone Nos. 08674-273737, 273888, Mobile: +91 9848779121 Fax No. 08674-273957

E-mail: principal@gecgudlavalleru.ac.in, office@gecgudlavalleru.ac.in, Web: www.gecgudlavalleru.ac.in

List of full-time teachers received seed money for research

A.Y. 2018-19

1	Mr. B V S Raghu Vamsi (PI)	Mechanical Engineering	Jet Impingement Heat Transfer on a Flat Surface	2 Years	2.40	Completed
2	Dr M R Ch Sastry(Co-PI)					
3	Mr. Dittakavi Tarun (PI)	Mechanical Engineering	Selection of Natural Fiber Reinforced composite material for the application of wind Turbine Blade	1 Year	1.10	Completed
4	Dr K Syam Sundar(Co-PI)					
5	Dr D.Prabhakar (PI)	Electronics and Communication Engineering	Design and Development of Flexible Microstrip Antennas for Wireless Body Area Networks	2 Years	0.80	Completed
6	Dr. M.Kamaraju,(PI)	Electronics and Communication Engineering	Design and development of Intelligence Traffic control System and traffic guidance system using IoT	2 Years	0.70	Completed
7	Mr.N.SambaMurty, (Co-PI)					
8	Mr. B.VamsiKrishna (Co-PI)					
9	Dr.V.V.K.D.V.Prasad (PI)	Electronics and Communication Engineering	ECG Information Processing System Modelling	1 Year	0.35	Completed
10	Sri M.V. Srikanth, (Co-PI)					
11	Smt. B. Naga Sirisha (Co-PI)					
12	Mrs.G.Venkatalatha, (PI)	Electronics and Communication Engineering	Design and Development of Wearable Medical Sensors based Health Monitoring System	1 Year	0.25	Completed
13	Dr.Y.Syamala (Co-PI)					
14	Ms.P.Ramya,(PI)	Electronics and Communication Engineering	IoT based e-healthcare System	1 Year	0.18	Completed
15	Mrs.L.Padmalatha (Co-PI)					
16	Dr. M. Babu Rao (PI)	Computer Science and Engineering	Surveillance of Cash Crops-Ailment Identification-Immune Detection using UAV/Drones	1 Year	0.71	Completed
17	Mr.J.N.V.R.Swarup Kumar (Co-PI)					

18	Dr.S.Narayana (PI)	Computer Science and Engineering	Smart Projectors using Raspberry Pi	6 Months	0.50	Completed
19	Mr.J.N.V.R.Swarup Kumar (Co-PI)					
20	Dr. G.V.S.N.R.V. Prasad (PI)	Computer Science and Engineering	An IoT Based Radiation Monitoring System	6 Months	0.10	Completed
21	Dr.Ch.Suresh Babu (Co-PI)					
22	Dr.D.N.V.L.S.Indira (PI)	Computer Science and Engineering	An IoT Based Fire Accident Detection and Deforestation Monitoring System Using Drone	6 Months	0.50	Completed
23	Mrs.Y.Adilakshmi (Co-PI)					
24	Dr.MVLNRajarao (PI)	Information Technology	“Automatic detection and notification of patholes and humps on roads”	1 Year	0.40	Completed
25	Sri.Y.K. Viswanadham (Co-PI)					
26	Dr. Ch. Kavitha (PI)	Information Technology	“Smart bus tracking system using IOT”	1 Year	0.25	Completed
27	Sri B. Srinivaskumar(Co-PI)					
28	Sri. T.K.K. Praneeth (PI)	Information Technology	“Atomization of lab equipment and Furniture verification system”	1 Year	0.20	Completed
29	Sri P.S.S. Sreedhar (Co-PI)					
30	Sri I. Lakshmi Narayana (PI)	Information Technology	“Efficient Electricity Utilization and Management System Using IOT”	1 Year	0.20	Completed
31	Mr. K. Srikanth (Co-PI)					
32	Dr P Haritha (PI)	Basic Sciences and Humanities	Pharmacognostical Standardisation and Biological activities of “Ipomoeamarginata”	2 Years	0.30	Completed
Total					8.94	


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Principal
PRINCIPAL
Seshadri Rao
Gudlavalleru Engineering College
Seshadri Rao Knowledge Village
Gudlavalleru - 521 358, Krishna District. A.P.

GUDLAVALLERU ENGINEERING COLLEGE
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Seshadri Rao Knowledge Village, Gudlavalleru

Department of Mechanical Engineering

Research Project Report

A.Y.: 2020-21

Dt: 08-01-2021

Title of the Project : **Jet Impingement Heat Transfer on a Flat Surface**

Name of the Principal Investigator : **Mr. BVS Raghu Vamsi**

Objectives of the Project : To Analyze Heat Transfer characteristics of multiple jet Impingement

Budget Sanctioned Under seed money for In house R&D : **Rs 2,40,000**

Utilization : **Rs 2,23,000/-**

Status of the Project : Completed

Project Outcome : Temperature distributions, flow velocities, friction Coefficients, shear stress, and Nusselt number in stagnation and turbulent wall jet regions are determined.



(Name of the principal investigator)

GUDLAVALLERU ENGINEERING COLLEGE
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Department of Mechanical Engineering

Research Project Report

Date: 07-12-20

Title of the Project : **Selection of Natural Fiber Reinforced composite material for the application of wind Turbine Blade**

Name of the Principal Investigator : **Mr. Tarun D**

Objectives of the Project : strength and stiffness of a wind turbine blade can be increased

Budget Sanctioned Under seed money for In house R&D : **Rs1,10,000/-**

Utilization : **Rs 99,989**

Status of the Project : **Completed**

Project Outcome : Can be used to produce turbine blades and similar products.



(Name of the principal investigator)

(D. Tarun)

GUDLAVALLERU ENGINEERING COLLEGE
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Seshadri Rao Knowledge Village, Gudlavalluru

Department of Electronics and Communication Engineering

Research Project Report

Title of the Project : Design and Development of Flexible Microstrip Antennas
for Wireless Body Area Networks

Name of the Principal Investigator : Dr.D.Prabhakar

Objectives of the Project :

- To design and develop Flexible antennas for bio-medical applications, with low SAR and without harmful interference with other users
- To design and develop wearable antenna MIMO system with good isolation to reduce mutual coupling effect between the elements.
- Compared to the existing designs the peak gain of the antenna is improved using optimization techniques with minimum size to maintain a quality of medical service.

Budget Sanctioned Under seed money for In house R&D : 8th January ,2019

Utilization : Rs.46,546 proofs attached

Status of the Project : Completed

Project Outcome :

Microwaves at low frequencies (below 4 GHz) feature good penetration ability into all human tissues including the bones, in which ultrasound has difficulty to penetrate.

A high resolution for microwave medical imaging can be achieved by using wideband microwave signals.

Furthermore, microwaves within the same frequency range allow a combination of diagnosis and wireless data transmission, which is not possible using any other technologies for medical applications.

A design of experiments is prepared with different phantoms of different malignancies intensities spread over the head, breast and bone.

The objective of this project is to estimate the effect of various health related problems in human body using SDR to turn microwave imaging into a mass screening diagnostic tool by replacing VNA with a low cost portable unit.

Wideband antenna is placed in front of different body areas (brain, breast and bone) immersed in a coupling medium are used to monitor a suspected tumor area. Various imaging algorithms can be used to focus the tumor to obtain a quantitative permittivity image of a tumor.


(Name of the principal investigator)
Dr.D.Prabhakar

GUDLAVALLERU ENGINEERING COLLEGE
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Seshadri Rao Knowledge Village, Gudlavalleru

Department of Electronics and Communication Engineering

Research Project Report

Title of the Project : Design of wireless Intelligence Traffic Guidance System

Name of the Principal Investigator : Dr.M.kamaraju

Objectives of the Project :

- ❖ To improve overall traffic flow by providing real-time information to drivers, helping them make informed decisions to avoid congested routes.
- ❖ To Minimize traffic congestion and bottlenecks by guiding vehicles through less congested routes based on real-time traffic data.
- ❖ To enhance road safety by providing instant alerts about accidents, road closures, and hazardous conditions, enabling drivers to take appropriate precautions.


Budget Sanctioned Under seed money for In house R&D : 8th January ,2019

Utilization : Rs.37,052 proofs attached

Status of the Project : Completed

Project Outcome :

- ❖ The system is expected to significantly reduce traffic congestion, leading to smoother traffic flow, reduced travel times, and minimized frustration among commuters.
- ❖ By alerting drivers to potential dangers and suggesting safer routes.
- ❖ With optimized traffic flow and reduced fuel consumption, the system is likely to have a positive impact on the environment.


(Name of the principal investigator)
Dr.M.Kamaraju

SUBMISSION OF INTERNAL R&D PROJECT REPORT

SECTION – A (GENERAL INFORMATION)

1. Project Title : Modelling of ECG Processing System.
2. Sub Area : Signal Processing
3. Total cost : Nil
4. Commencement of Project : A.Y.2018-19
5. Completion of Project : A.Y. 2019-2020
6. Date of report submission : 8/03/2020
7. Principal Investigator : Dr. V.V.K.D.V. Prasad
Designation : Professor & Head of the Department
Department : ECE, Gudlavalleru Engineering College
Telephone : 9347007680
E-mail : varaprasadvvkd@gmail.com
8. Co-Investigator 1 : M.V. Srikanth
Designation : Asst. Professor
Department : ECE
Institute Name : Gudlavalleru Engineering College
Address : ECE department
Telephone : 6302807852
E-mail : sree.02476@gmail.com
9. Co-Investigator 2 : B. Nagasirisha
Designation : Asst. Professor
Department : ECE
Institute Name : Gudlavalleru Engineering College
Telephone : 9866865691
E-mail : nagasirishab@gmail.com
Date of Birth : 19/07/1983

SECTION – B

(Project Report)

1. Project Title : ECG Information Processing System Modelling.

2. Project summary:

i. Origin of the work:

The most recent empirical research finding the area of signal processing is in biomedical applications. From the decades onwards the continuous research and improvement observed in biomedical signal processing techniques. Biomedical signal processing aims at extracting significant information from biomedical signals. With the aid of biomedical signal processing, biologists can discover new biology and physicians can monitor distinct illnesses. Advanced techniques in image processing and signal processing have led to many innovations supporting the medical field, especially in the area of disease diagnosis, and monitoring the patient condition. Thus, biomedical signal processing plays a crucial role in better diagnosis and monitoring of the patients' conditions. Biomedical signal processing is especially useful in the critical care setting, where patient data must be analyzed in real-time. The better diagnosis implies the better treatment for the corresponding diseases.

ii. Definition of the problem:

Biomedical signaling has significant outreach in its clinical application domain. Bio-medical signal processing allows real-time monitoring which can lead to better management of chronic diseases, earlier detection of adverse events such as heart attacks and strokes and earlier diagnosis of disease. The ECG signal extracted from patient contains noises which is a limiting factor in performance of medical devices for constant health monitoring and diagnosis in clinical applications.

iii. Objective:

The aim of this work is to develop the model of the ECG signal processing system for clinical applications. The basic steps involved in this work are ECG acquisition, preprocessing, and feature extraction. The objectives of this work is

- To Design a real time ECG acquisition system.
- To Develop real time ECG database.
- Implementation of Filter for artifact removal in raw ECG signal.
- Detection and estimation of events in ECG signal.
- Evaluation of system performance parameters..

iv. Methodology :

In this project the entire work has been carried in 4 stages. In the first stage, the raw ECG signals are acquired using 3 lead ECG electrodes. It was contaminated by various noises like baseline noise, power line interference noise, and electronic noises etc., hence in the second stage these noisy ECG signals are filtered out using adaptive filters. In the third stage, determine the events of a normal ECG to suggest the diagnosis of cardiac diseases over the original ECG. In the next stage, performance parameters are evaluated for the signal obtained from event detection. The block diagram of general ECG monitoring system given figure 1.

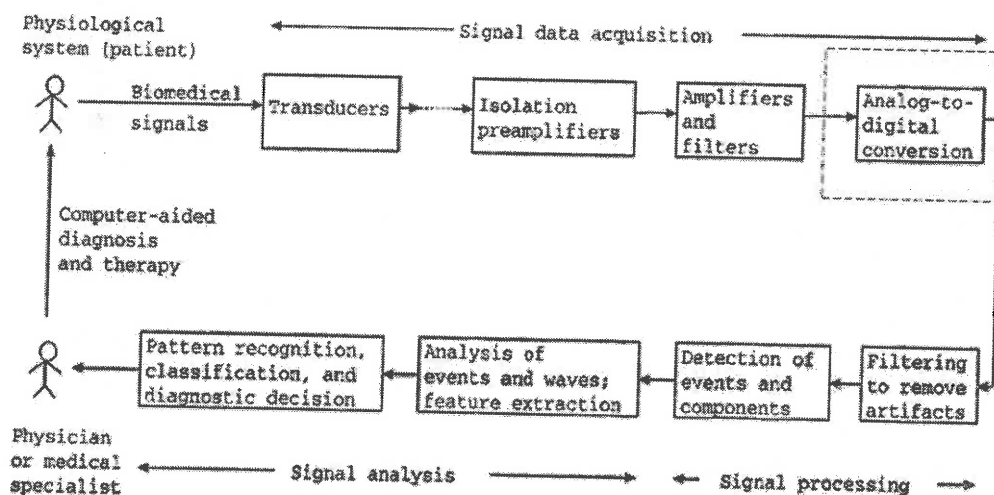


Fig 1. General Structure of Bio medical signal Processing.

v. **Proposed System implementation:**

ECG signals are produced by contractions in the heart walls which drive electrical currents and create different potentials throughout the body. The generated electrical current is thus diffused around the surface of the body and develops a voltage drop, which is a normally 0.0001V to 0.003V and the signals are within the frequency range of 0.05 to 100 Hz. ECG signals are always affected by noise, such as low frequency noise, muscle noise and electromagnetic noise. The general acquisition of ECG signal is done using a sensor module where use of electrodes over different position on the surface of human body. In general, the electrodes are placed over surface of right arm, left arm and right leg. The signal obtained using this module is transmitted over wirelessly, in order to do that the obtained analog signal is converted into digital signal. Analog to Digital Conversion at proper resolution and transmission of data at proper rate is desired in order to eliminate any kind of distortion in the received data. The raw ECG signals collected from human body using AD8232 sensor consist of noise, which needs to get processed. Artifact removal can be done using physical filters or using software for artifact removal. In most of the cases the artifact removal can be a complex thing because of many types of noises present like baseline wander, powerline interference, electrode motion artifact noise.

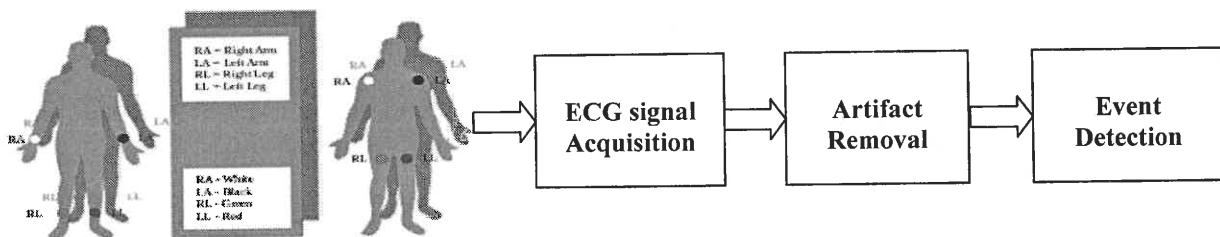


Fig 2. Implementation of Real - Time ECG Monitoring System

ARDUINO UNO module is used as interfacing between AD8232 module and system for pre-processing of raw ECG signal. The AD8232 module and ARDUINO UNO are connected on a bread board. And through an USB cable the raw signal is sent to system for filtering. Using MATLAB software artifact removal or noise suppression is done in order to obtain the actual ECG signal of a human being. There are many algorithms in order to remove noise from ECG signal, in this project we use LMS and RLS algorithms which are basically the

with LMS algorithm used here to eliminate the noise in raw ECG signal. That raw ECG signal and it's filtered output signal shown below.

The ECG signals are collected from the different persons and are to be filtered by using the adaptive filter. The filter performance parameters are SNR, cross correlation, root mean square value, mean value, mean square error are calculated and mentioned in the below table.

Table 1: Evaluation of metrics from collected ECG signals

SIGNAL NAME	Output SNR (dB)	CC	RMS	MA	MSE
ECG SIGNAL_1	6.54	0.920734	0.003566	0.003115	0.000684
ECG SIGNAL_2	5.5	0.774529	0.001397	0.000185	0.003106
ECG SIGNAL_3	4.9	0.583392	0.001731	0.000009	0.003459
ECGBSIGNAL_4	4.6	0.251774	0.006581	0.002749	0.005803

Based on these values we can analyze the denoised signal and filter performance characteristics.

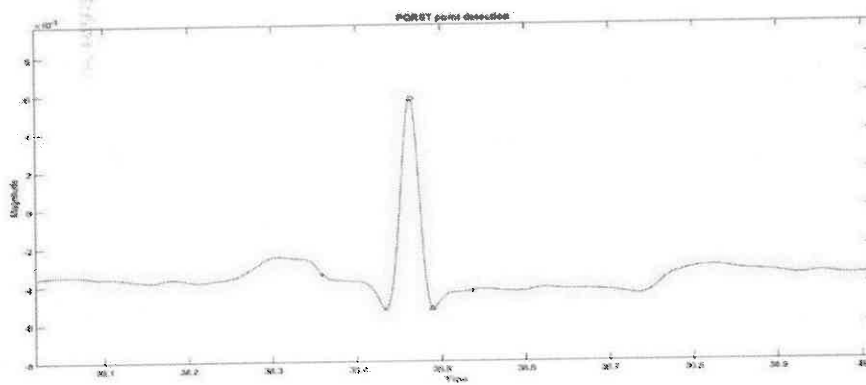


Fig 5. ECG PQRST wave detection

simplest algorithms that can be used for filtering. Finally from the filtered ECG signal determine the basic events (P,Q,R,S,T wave amplitudes and time period) of ECG signal.

vi. RESULTS

The electrodes are placed on patient body like as a shown in below figure. And the electrodes are connected to the ECG sensor via the cable. Which combines the 3 electrodes into a common wire and then the ECG sensor sends the data to the Arduino. It is already programmed for collecting the ECG from the ECG sensor. **NOTE:** The project required hardware taken from the ECE R&D Centre.

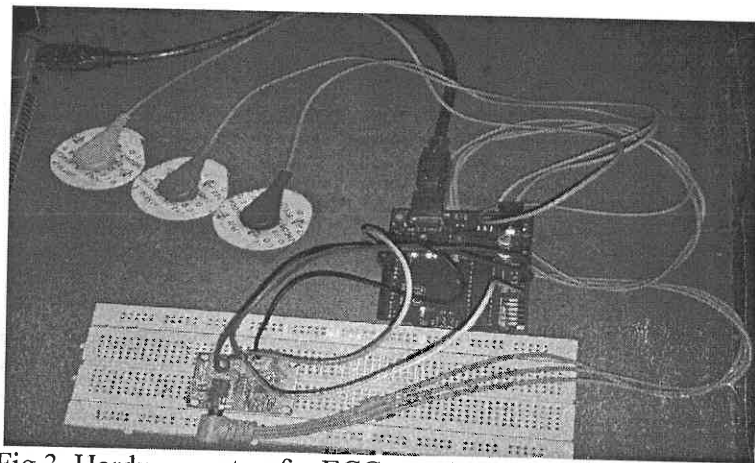


Fig 3. Hardware setup for ECG acquisition System

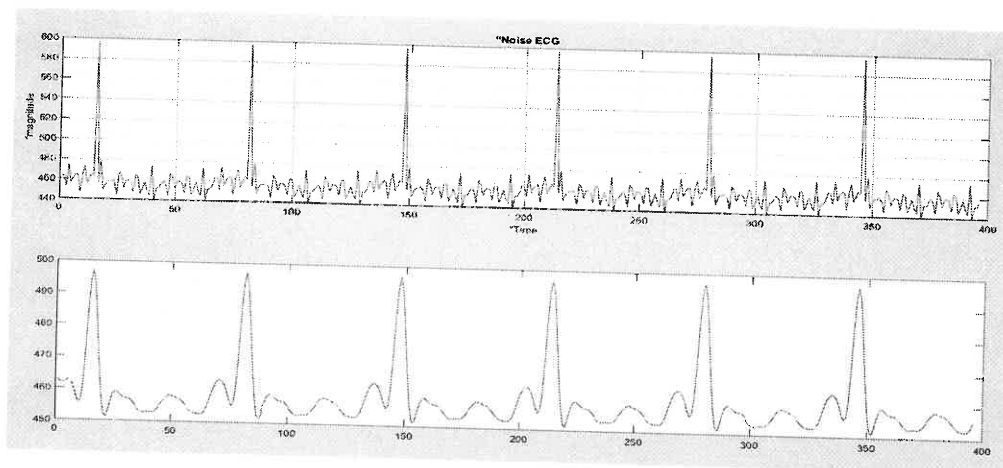


Fig 4. Noisy ECG signal and adaptive Filter output

The Fig4. shows the noisy ECG signal collected by the electrodes and it was interfaced with MATLAB environment using AURDINO. The adaptive filter

In the above ECG signal, we preferred to detect R peak first as it helps in the detection of Q, S successively to the R peak and then it will be easy for the detection of P and T wave detection.

Table 2: Feature extraction from collected ECG signals

ECG signal Features	Sample 1	Sample 2
Beats per Minute (BPM)	72.727 bpm	67.927bpm
PR interval	0.21389 s	0.2667 s
QT interval	0.4361 s	0.4111 s
ST interval	0.3889 s	0.35 s
RR interval	0.825 s	0.74025 s
QRS peak	0.06118 s	0.0611 s

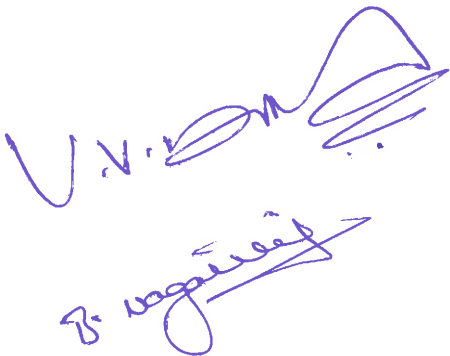
vii. CONCLUSIONS

The system is capable of acquiring, storing and displaying patient's ECG signal and its spectrum in real-time on the computer. Individual inside and outside hospital can use it for basic monitoring of heart signal. Hopefully this project can open up a new dimension to whom that is healthy. To improve the accuracy, we need to increase the number of parameters in the decision-making process. That will help us to improve the accuracy maintaining the simplicity. The results obtained from our project cannot be immediately applied to the population. Future research heading in this direction is necessary with a larger sample size in order to accurately pinpoint the various heart defects individually.

References

1. Rahul Kher, Signal Processing Techniques for Removing Noise from ECG Signals, published in Journal of Biomedical Engineering and Research, on March 12, 2019.
2. Stalin Subbiah, Dr. Rajkumar Patro, Dr. K. Rajendran, Reduction of Noises in ECG Signal by Various Filters, International Journal of Engineering Research & Technology, Vol. 3 Issue 1, January – 2014.
3. Aniket Kumar, R. P. Agarwal, Adaptive Signal processing: A comparative Approach, published in the year 2019 by International Journal of Contemporary Research in Engineering and Technology, vol.9., 2019.

4. Nagesh Mantravadi, S.V.A.V. Prasad, Md Zia Ur Rahman, Artifact Removal in ECG Signals Using Modified Data Normalization Based Signal Enhancement Units for Health Care Monitoring Systems, Journal of Theoretical and Applied Information Technology, Published on 30th November 2016.
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11. Mr. Hrishikesh Limaye, Mrs. V.V. Deshmukh, ECG Noise Sources and Various Noise Removal Techniques, International Journal of Application or Innovation in Engineering & Management (IJAIEEM), Volume 5, Issue 2, February 2016.



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Seshadri Rao Knowledge Village, Gudlavalleru

Department of Electronics and Communication Engineering

Completion Project Report on Seed Money for In-house R &D

- Title of the Project : Design and Development of Wearable Medical Sensors based Health Monitoring System
- Name of the Principal Investigator : Smt. G.Venkatalatha
- Name of the Co-Principal Investigator : Dr.Y.Syamala
- Objectives of the Project : 1.To monitor the patients health efficiently and accurately.
2. To monitor the health parameters like temperature, Heartbeat, blood pressure, and saline level indicator.
- Status of the Project : Completed
- Project Outcome : 1. In medical field for monitoring the patient health continuously and intimate to the respective person whenever any abnormalities occur.
2. Health parameters like temperature, heartbeat are monitored. Saline level monitoring is also possible along with air quality detection.


(Signature of the Co-Principal investigator)

IoT based e-Healthcare System

An Internal R&D project report

Submitted by

Ms.Ramya Palli (Assistant Professor)

Mrs.L.Padmalatha (Assistant Professor)

INTRODUCTION

The sedentary lifestyle and current food habits increases the chronic diseases such as Cardio Vascular disease (CVD), hypertension, stroke and diabetes. According to World Health Organization (WHO), 31 percent of global deaths are due to cardio vascular diseases (estimated 17.7 million people in 2015). People with diabetes have been rapidly increasing from 108 million in 1980 to 422 million in 2014. The rising cost of healthcare services has increased the pressure for providing effective and efficient healthcare to the patients in most of the developing countries.

Internet of Things (IoT) is an emerging technology which lets humans and things to interconnect anywhere and anytime. The scope of IoT is not only constrained to connect things, it allows devices to interact and exchange their data associated with users. Experts forecasts that 50 billion devices or things will be linked to the Internet by the year 2020. IoT merges telecommunication and information technology for providing better medical services. By means of IoT, medical information can be exchanged from one location to another to diagnose the diseases and arrange for proper medications to improve the patient's health conditions even at rural locations. This technology enables to deliver healthcare services over a long distance and also minimizes the cost of healthcare services by managing the chronic diseases with less hospital stays, less travel time and shared clinicians and professionals.

A wireless body area network (WBAN) is a wireless network of sensors connected through wearable computing devices. WBAN devices may be located inside or outside of the human body. Through WPAN gateway devices, it connects the wearable devices on human body with the internet. This way, patient data can be accessed online using the internet even at remote locations. If there is any predictable disease identified, then pass on the information to the caretaker, and if the situation is emergency, then the data can be forwarded to the Doctor for further treatment.

Motivation

Existing methodologies in patient monitoring system focus on providing better healthcare facilities to number of patients with limited medicinal resources. These monitoring systems limit the patients to the bed and enable them to move around only a particular range from the bed side. Out of this range there is no possibility to collect the data from patients. The decisions or suggestions given by the system are not highly accurate. The traditional forecasting techniques do not provide timely and accurate results. This increases the risk of error in providing appropriate clinical services. Remote patient monitoring system eliminates the hurdles such as distance and improves the access of medical services. Patient monitoring through android mobile phone enables the clinicians to monitor the patient from multiple locations.

Objectives

- Easy to use
- Better patient experience
- Provide an accurate detection
- Alert doctors and relatives
- Giving a quality life for old aged people
- Shows the outcome of the treatment
- Non expensive
- Bridging the gap between doctor and patient

PROPOSED WORK

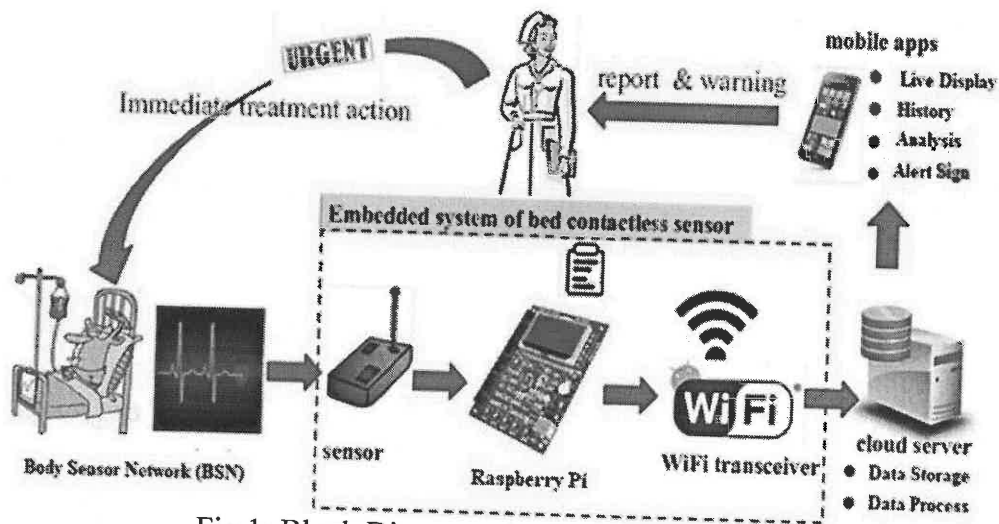


Fig 1: Block Diagram of e-Healthcare System

As smart phone and Internet became daily needs and the advantage of Internet of Things is considered to develop the project. The project is divided into two stages.

- Stage 1 includes hardware platform, here Raspberry Pi is considered and wearable sensors like temperature, blood pressure, heart beat, ultrasonic sensor, buzzer and GSM modules are used. Raspberry Pi is chosen as it is a powerful single board computer and is faster than Arduino and its flexibility to support various operating systems. The sensors are connected to the patient using Raspberry Pi which collects sensor data. Fig. 2 depicts the hardware connections. Values aggregated from the Raspberry Pi are uploaded into firebase cloud server via Python shell.

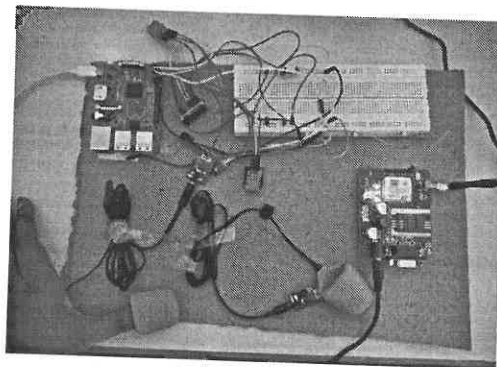


Fig. 2. Hardware connections

RESULTS

The patients, doctors and caretakers details are maintained in the Firebase cloud. The database has the details of multiple patients, doctors and their respective care takers. In the project we considered four different patients with their details uploaded in the cloud and updated frequently. Fig. 4 depicts the temperature details of all the patients. Similarly various sensors data is collected and updated

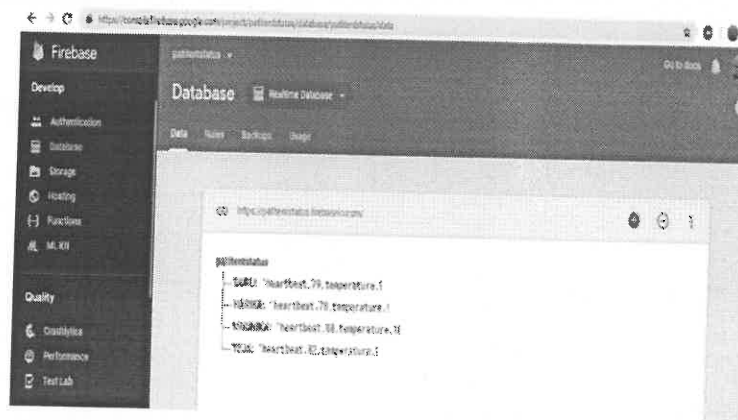


Fig. 4. Data upload in Firebase cloud server

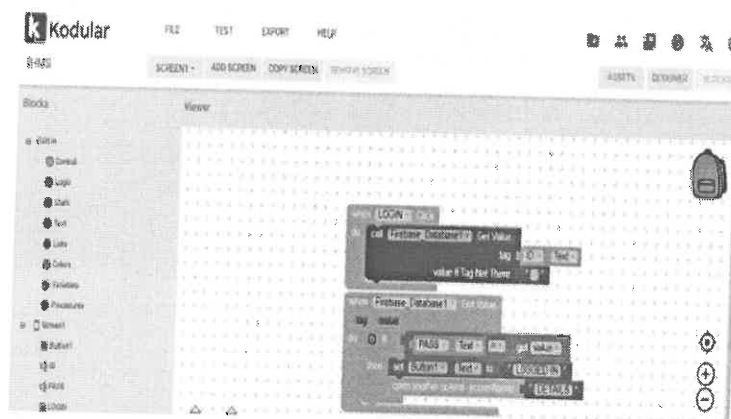


Fig.5. Android app design using Kodular

Fig. 5 shows the design of android app without using any coding techniques. Kodular becomes very handy to design these apps by simply using the blocks and components. As per the design an app is constructed and it provides communication in both ways that is both doctor and caretaker and vice versa. Using this the development time is also reduced without much effort for learning any scripting languages for building an android app. The app

- Stage 2 is Android application is developed and is used as a bridge to communicate between doctor and patient care taker. A chat window is designed in such a way that there is two way communication. Whenever the sensor value crosses threshold, alert messages are sent to the doctor as well the care taker. Doctor can check the messages and send the prescribed medication. This will be helpful if doctor is away and when immediate medication is required. e-Healthcare System is developed using Kodular which is used to develop simple android application without the need for any scripting languages. In Kodular, the app can be built as combination of components which are the basic building elements. Components can be used to design user interface, communication with Firebase database. Once the design is completed APK is built and can be downloaded or exported and installed on the mobile. Fig.3 is the flowchart that describes the working of e-Healthcare System

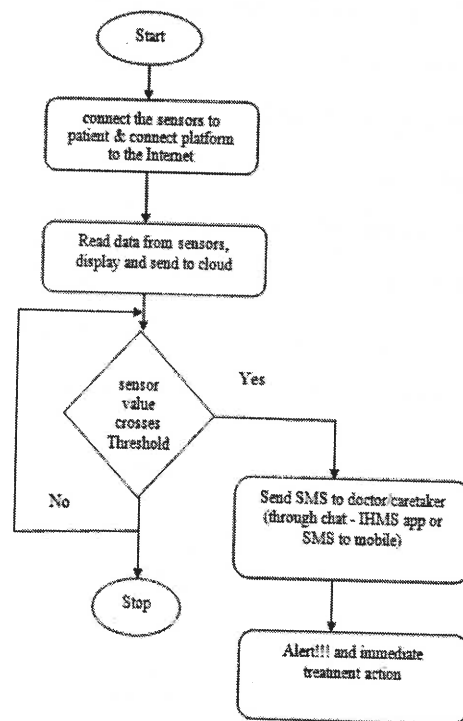


Fig.3. Working of e-Healthcare System

In this system, the absence or unavailability of Internet is also considered. When the sensor values cross the threshold alert is not only sent using IoT based e-Healthcare System but also an SMS is sent to the doctor's mobile. In hilly areas as 4G services may not be available this scenario is also considered. For this purpose a GSM module is also used. For user flexibility many network operators are providing SMS services in regional languages also. A voice message can also be considered.

contains a login page followed by the details after successful login and a chat window for communication. Fig. 6 shows the details and chat option.

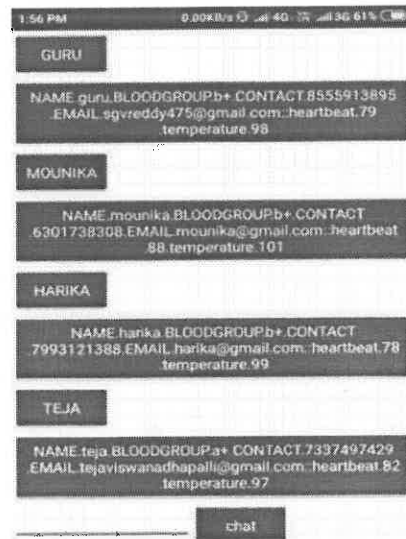


Fig. 6. Different Patient details and status when Doctor login

To ensure security the app is also tested for invalid credentials. Obviously the login fails if the user enters wrong credentials.

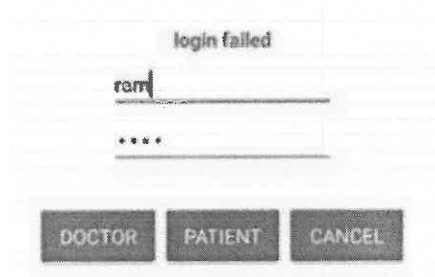


Fig.7. Authentication session invalidation

Conclusion

To ensure reliability the system is tested in real time and is found to be very useful. This work can be extensively used in remote areas to improve patient's health and it remarks the digital assistance of healthcare. Number of sensors and services can be extended to provide quality healthcare.

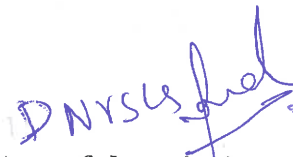
Acknowledgment

We would like to express our gratitude to the Department of ECE, Gudlavalleru Engineering College for funding this project. Also we are thankful to the students who contributed to this project.

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The system keeps sending the notification to the online server cloud. The sensors embedded over the drone communicate with the micro controller which process the data and transmits over the internet. This helps the authorities to monitor instances of fire in the forest and take action against it. The drones help the authorities to keep on a continuous surveillance and take measures to control the issue.



Signature of the principal investigator

GUDLAVALLERU ENGINEERING COLLEGE
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village, Gudlavalleru

Department of Computer Science Engineering

Date : 25.06.2019

Research Project Report

Title of the Project : Surveillance of Cash Crops-Ailment
Identification-Immune Detection using UAV/Drones

Name of the Principal Investigator : Dr. M. Babu Rao,

Objectives of the Project :

1. Facilitating research and collaboration in the field of Agriculture with UAV / Drones and Image processing.
2. To design effective low-cost crop monitoring system.
3. GPS-guided harvesters reap the crops with equal accuracy.
4. To analyze the diseases of crops by monitoring continuously through UAV / Drones.
5. To identify diseases and suggest necessary actions (pesticides) to the farmers through reports generated by UA V/Drones.

Budget Sanctioned Under seed

money for In house R&D : 71,000

Utilization : 35,530

Status of the Project : Completed

Project Outcome : The farmer can easily know the disease of the crop and can take immediate actions to prevent the crop damage, which indeed improves the crop production.

It increases the quality of life of the farmer as the crop production increases, increasing his income.

It also increases the GDP of the country.


Signature of the principal investigator

GUDLAVALLERU ENGINEERING COLLEGE
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Seshadri Rao Knowledge Village, Gudlavalleru

Department of Computer Science and Engineering

Research Project Report

Date: 24.07.2019

Title of the Project : Smart Projectors using Raspberry Pi

Name of the Principal Investigator : Dr.S.Narayana

Objectives of the Project :

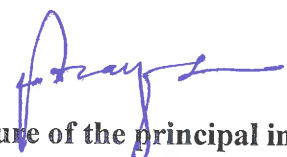
- 1.The main objective is to minimize the usage of laptop/PC in order to project documents in class rooms.
- 2.To use Raspberry Pi and its web interface to store files that have been sent from remote sources and view these files on the projector. Once Raspberry Pi has been set up and is ready to be used like a normal computer, applications can be installed thereby enabling to view all the Portable Document Files and power-point presentations etc.,
- 3.The Raspberry Pi has a HDMI port and an Ethernet slot along with Wi-Fi. This facilitates uploading files and presentations from local as well as remote destinations to the Raspberry Pi.

Budget Sanctioned Under seed money for In house R&D : 50,000

Utilization : 45,600

Status of the Project : Completed

Project Outcome : The project proposes replacement of laptop/PC with a low-cost as well as low-power consuming storage device, which can be designed using Raspberry Pi. A user interface can be designed in this device for remote access, thus adding to teachers convenience. Moreover, this device can also be controlled by using smart mobiles for easy navigation. This device can be used for presentations in seminars. educational purposes in schools, colleges and entertainment purposes Also, this device can be used for storing data which has been sent from remote locations. All in all, this device offers all the features that a laptop/PC offers in presentation purposes, with a price of one fourth of the laptop/PC.


Signature of the principal investigator

GUDLAVALLERU ENGINEERING COLLEGE
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village, Gudlavalleru

Department of Computer Science and Engineering

Date : 19.06.2019

Research Project Report

Title of the Project : An IoT Based Radiation Monitoring System

Name of the Principal Investigator : Dr. G.V.S.N.R.V. Prasad

Objectives of the Project :

- 1.The broad objective is to Monitor the Radiation range and tweet accordingly.
- 2.Facilitating research and collaboration with IOT Sensors.
- 3.To model device with lower-cost management
- 4.To Design a Detector with GPS to Track the Location.
- 5.To analyze the range of the Radiation and alert user.

Budget Sanctioned Under seed money for In house R&D : 10,000

Utilization : 8,500

Status of the Project : Completed

Project Outcome :

- 1.Track exposure over time and provide reports.
- 2.Control access to hazardous radiological areas.
- 3.Locate sources and take readings of activity.
- 4.Monitor areas for increases in levels of radiation via internet.



Signature of the principal investigator

GUDLAVALLERU ENGINEERING COLLEGE
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Seshadri Rao Knowledge Village, Gudlavalleru

Department of Computer Science and Engineering

Date : 13.08.2019

Research Project Report

Title of the Project : An IoT Based Fire Accident Detection and Deforestation Monitoring System using Drone

Name of the Principal Investigator : Dr.D.N.V.L.S.Indira

Objectives of the Project : Forest fire watch-towers are constructed in a pyramidal shape to provide stability, with a cabin at the top, where an observer is located to spot fires. The towers are usually 10-20 m high and constructed on flat-topped hills. Some equipment is provided in the cabin to facilitate detection, recording of information and communication.

When observers detect a fire, they guide the pointer of the azimuth angle and report to a forest division or forest enterprise office by telephone or radio transmitter, an observer detects a fire and notes the azimuth angle of the direction of the fire, then a warning message is sent to the forest division or the forest enterprise office by telephone or radio transmitter the office determines the place of fire by using the forest map. Deforestation can be measured either by using satellite images or by manually.

Budget Sanctioned Under seed money for In house R&D : 50,000

Utilization : 32,100

Status of the Project : Completed

Project Outcome : The conventional system has sensors fixed at several places in the forest to detect the hazard but sometimes it even fails and expensive as well so we detect the hazard using Drones which help to cover the huge amount of forest area through the air view. When such damage or smoke is detected the Forest Managers and Fire Department are alerted. The drone uses smoke sensor to detect the fire harmful gases and ultrasonic sensors to detect Deforestation.

GUDLAVALLERU ENGINEERING COLLEGE
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village, Gudlavalleru

Department of Information Technology

Date 17.04.2019

Research Project Report

Title of the Project : Automatic detection and notification of
potholes and humps on roads.

Name of the Principal Investigator : Dr.MVLNRajarao

Objectives of the Project :

- 1.Used to identify potholes and humps to measure their depth and height respectively.
- 2.Hump detection system that can be integrated with the vehicle and provide timely information to maintenance authorities so that necessary steps can be taken for safety of drivers.

Budget Sanctioned Under seed money for In house R&D : 40,000

Utilization : 25,082

Status of the Project : Completed

Project Outcome :

- 1.Automatic detection of potholes and humps and alerting vehicle drivers to evade potential accidents.
- 2.The proposed approach is an economic solution for detection of dreadful potholes & uneven humps, as it uses low cost ultrasonic sensors.
- 3.Solution provided in this work can save many lives and ailing patients who suffer from tragic accidents.



Signature of the Principal Investigator

GUDLAVALLERU ENGINEERING COLLEGE
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village, Gudlavalleru

Department of Information Technology

Date 16.04.2019

Research Project Report

Title of the Project : Smart bus tracking system using IOT.

Name of the Principal Investigator : Dr. Ch. Kavitha

Objectives of the Project :

1. Provides information of emergencies such as accidents, break down, fire accidents, defilement by immediately sharing the location and images of the inside environment of the bus to the concerned authorities by Email alert.
2. Provides information about location and images of the inside environment of the bus to the concerned authorities by Email alert. The images are captured by using Pi camera and location by GPS module.

Budget Sanctioned Under seed money for In house R&D : 25,000

Utilization : 16,490

Status of the Project : Completed

Project Outcome : This work presents the design and the implementation of a smart bus monitoring system which is advancement in commercial bus transportation system. On board video surveillance system in bus transportation eliminates even minor glitches. The software is equipped with components that make the bus journey safer, convenient and accountable. Live video in the bus alerts the owner of the remote location in case of panic situations through an e-mail alert. By live video, reports can be analyzed like over speed, harsh breaking, vehicle ideal time, halt time, ignition on/off to closely monitor the security compliance and driver's behavior. Live Tracking helps to identify the current location of the bus. Today, the use of GPS enabled bus tracking system reduces the crime rates. By using GPS, improves the efficiency, profitability and safety of most commercial bus transportation systems.


Signature of the Principal Investigator

GUDLAVALLERU ENGINEERING COLLEGE
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village, Gudlavalleru

Department of Information Technology

Date : 11.04.2019

Research Project Report

Title of the Project : Automation of lab equipment and Furniture verification system

Name of the Principal Investigator : Sri. T.K.K. Praneeth

Objectives of the Project :

1. Toprovide improved hardware and software solutions to optimize laboratory efficiency
2. Integration effort for complex laboratory workflows can be significantly reduced for strictly structured automation solutions.


Budget Sanctioned Under seed money for In house R&D : 20,000

Utilization : 17,180

Status of the Project :Completed

Project Outcome :

- 1.Reduced Error. One of the top benefits of laboratory automation is error reduction. ...
- 2.Increased Productivity. ...
- 3.Cost and Space Savings. ...
- 4.Safer Working Conditions. ...
- 5.Customizable Laboratory Automation.


Signature of the Principal Investigator

GUDLAVALLERU ENGINEERING COLLEGE
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Seshadri Rao Knowledge Village, Gudlavalleru

Department of Information Technology

Date : 22.04.2019

Research Project Report

Title of the Project : Efficient Electricity Utilization and
Management System Using IOT.

Name of the Principal Investigator : Sri I. Lakshmi Narayana

Objectives of the Project :
IoT-based energy management systems use real-time power consumption data to help optimize the use of electricity, dynamically switch towards more cost and resource-efficient regimes, and work out effective and sustainable energy consumption strategy based on usage patterns

Budget Sanctioned Under seed money for In house R&D :20,000

Utilization : 15,890

Status of the Project : Completed

Project Outcome : Reducing the overuse of energy, minimizing carbon emissions, predicting energy consumption, and others are some crucial perks of the smart energy management system. IoT changed the energy sector's landscape by offering sustainability, advanced analytics, data management, and much more



Signature of the Principal Investigator

GUDLAVALLERU ENGINEERING COLLEGE

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Seshadri Rao Knowledge Village, Gudlavalleru

Department of Basic Sciences and Humanities

Research Project Report

Title of the Project : **Pharmacognostical Standardisation and Biological activities of *Ipomoea marginata***

Name of the Principal Investigator : **Dr. P. HARITHA**

Objectives of the Project : **Pharmacognostic Studies:** This study is important and laid down the parameters for standardisation and authentication of medicinal plants with the help of which adulteration and substitution can be prevented.
All the parameters to be evaluated in pharmacognostic study such as organoleptic characters, microscopic study, powder study, physico-chemical analysis (moisture content, loss on drying, ash values, extractive values), phytochemical analysis and fluorescence analysis.
Biological activities - Analgesic and Anti-inflammatory activities

Budget Sanctioned Under seed money for In house R&D : **Rs 30,000/-**

Utilization : **Rs 29164/-**

Status of the Project : **Completed**

Project Outcome : Pharmacognostic and Physicochemical Evaluation of *Ipomoea marginata* Leaf.
Anti - nociceptive assessment of *Ipomoea marginata* (Desr.) by *In silico* and *In vivo* strategies.
Antipyretic and Anti-inflammatory potential of Tamarixetin from *Ipomoea marginata* (Desr.) Verdcourt as a Potent and Safe Antipyretic agent by Yeast Induced Pyrexia Model and Computational Studies.

Paper presentation and publication:

1. Presented paper entitled "Pharmacognostic and Physicochemical Evaluation of *Ipomoea Marginata* Leaf " in the First Online International Conference on "*Continuity, Consistency and Innovation in Applied Sciences and Humanities*" (ICCIASH-2020) organized by Department of Science and Humanities, St. Martin's Engineering College, Dhulapally, Secunderabad, T.S, India on 13th & 14th August 2020.
2. In vivo Antinociceptive Effect of Methanolic Extract of *Ipomoea marginata* Desr. in Rodents as well as In silico Molecular Docking of Some Phytoconstituents from the Plant, Indian Journal of Pharmaceutical Sciences, ISSN:0250-474X, Volume 83(04); July-August 2021; pages: 732-741. DOI: [10.36468/pharmaceutical-sciences.824](https://doi.org/10.36468/pharmaceutical-sciences.824)


(Dr. P. HARITHA)

GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village, Gudlavalleru

* * *

UTILIZATION CERTIFICATE

It is certified that the grant of Rs. ~~2.40 lakhs~~ ^{two lakhs forty thousand only} (Rupees. ~~2.40 lakhs~~ ^{two lakhs twenty three thousand only}) utilized received from the Gudlavalleru Engineering College under the scheme of Internal R&D "Near Wall Measurements in Turbulent Circular Jet Impingement on Flat surface (Plate)" vide letter No. Dated. 01/4/2019 has been utilized (Rs. 2.23 lakhs only) for the purpose for which it was sanctioned.

N. Rajan

SIGNATURE OF THE
PRINCIPAL INVESTIGATOR

A. J. ...

HOD

Head of Mechanical Engineering
Gudlavalleru Engineering College
Seshadri Rao Knowledge Village
(Seal)
GUDLAVALLERU - 521 356

[Signature]

PRINCIPAL

PRINCIPAL
Gudlavalleru Engineering College
GUDLAVALLERU - 521 356
(Seal)

GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village, Gudlavalleru

* * *

Statement of Expenditure In Respect of Internal R&D Project

1. Name of Principal Investigator : D. Tarun

2. Department of PI : Mechanical Engineering

3. Internal R&D Letter No. and Date : March, 2019

4. Title of the Research Project : Selection of Natural Fiber Reinforced Composite Material for the application of wind turbine blade

5. Effective date of starting the project : 05.03.2019

6. a) Period of Expenditure : From 05.03.2019 to 21.07.2020

b) Details of Expenditure : _____

Sl. No.	Item	Amount Approved (Rs.)	Expenditure Incurred (Rs.)
i.	Books & Journals	—	—
ii.	Equipment	90,000.00	35,400.00
iii.	Contingency including special needs	20,000.00	64,589.00
iv.	Field Work / Travel (Give details in the proforma)	—	—
v.	Hiring Services	—	—
vi.	Chemicals & Glassware	—	—

GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village, Gudlavalleru

* * *

UTILIZATION CERTIFICATE

It is certified that the grant of Rs. 99,989.00 (Rupees NINETY NINE THOUSAND NINE HUNDRED EIGHTY NINE only) received from the Gudlavalleru Engineering College under the scheme of Internal R&D "SELECTION OF NATURAL FIBER REINFORCED COMPOSITE MATERIAL FOR THE APPLICATION OF WIND TURBINE BLADE" vide letter No. Dated 05.03.2019 has been utilized (.....) for the purpose for which it was sanctioned.


SIGNATURE OF THE
PRINCIPAL INVESTIGATOR


HOD
Head of Mechanical Engineering
Gudlavalleru Engineering College
Seshadri Rao Knowledge Village
(Seal)
GUDLAVALLERU - 521 356


PRINCIPAL
PRINCIPAL
Gudlavalleru Engineering College
GUDLAVALLERU - 521356
(Seal)

UTILIZATION LETTER

To
The Principal,
Gudlavaluru Engineering College
GUDLAVALLERU- 521356

//Through Vice –Principal Academics//

Sir,

Sub: Submission of bills regarding Seed Money for In-House R&D projects - Reg.

Ref: Project proposals submitted to your office Dt.22.11.2018.

We have received Rs 80,000/- as an advance amount towards In house R&D project "**Design and Development of Flexible Microstrip Antennas for Wireless Body Area Networks**" during the academic year 2018-2019 and 2019-2020. Here I am submitting the bills regarding the In House R&D Projects.

S.NO	NAME OF THE COMPONENT	QUANTITY	COST
1	Single side copper tape	1	3044
2	SMA connector	100	4799
3	Fabric cloth	1 meter	135
4	Printouts and spiral binding	100 journals	720
5	SNP (silver nano particle)	250 mg	30473
6	Screen printing	10 antennas	7375
TOTAL AMOUNT			46,546

Thanking you,


(Dr.D.Prabhakar)

Assoc. Professor, ECE Dept.

UTILIZATION CERTIFICATE

It is certified that the grant of Rs **80,000/-** (Rupees **Eighty Thousand** only) received from the Gudlavalleru Engineering college under the scheme of Seed Money for In-house R&D "**Design and Development of Flexible Microstrip Antennas for Wireless Body Area Networks**" vide letter no: GEC/ECE/In-house R&D/2018-19/01 Dated 08-10-2019 has been utilized (Rs 46546/-)

For the purpose for which it was sanctioned.



Signature of the principal investigators



HOD



Principal

UTILIZATION LETTER

To
The Principal,
Gudlavalleru Engineering College
GUDLAVALLERU- 521356

//Through Vice –Principal Academics//

Sir,


Sub: Submission of bills regarding Seed Money for In-House R&D projects - Reg.

Ref: Project proposals submitted to your office Dt.22.08.2019.


We have received Rs 37052/- as an advance amount towards In house R&D project “Design & Development of intelligence traffic control system and traffic guidance system using IOT” during the academic year 2018-2019. Here I am submitting the bills regarding the In House R&D Projects.

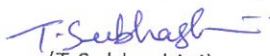
S.NO	NAME OF THE COMPONENT	QUANTITY	COST
1	Zync FPGA Board	1	37052/-
TOTAL AMOUNT			37052/-

Thanking you,


(Dr.M.Kamaraju)
Professor, ECE Dept.


(B.Vamsy Krishna)
Asst. Professor, ECE Dept

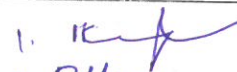

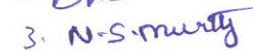


(N.Sambamurthy)
Asst. Professor, ECE Dept.


(T.Subhashini)
Asst. Professor, ECE Dept.

Seed Money for In-House R&D Project Expenditure Statement

1. Name of Principal Investigator : Dr.M.Kamaraju, Professor & Mentor (AS&A)
Mr.B.Vamsi Krishna, Assistant Professor
Mr.N.samba Murthy, Assistant Professor
Mrs.T.Subhashini, Assistant Professor
- 2 .Department of PI : Electronics & Communication Engineering
3. Internal R&D Letter No. and Date : GEC/ECE/Seed Money for In-House R&D/2018-19/04
Dt.22-11-2018
- 4.Title of the Research Project : Design & Development of intelligence traffic control
system and traffic guidance system using IOT
5. Effective date of starting the project : 06-01-2019
6. a) Period of Expenditure : From 28-02-2019 to 26-03-2019
- b) Details of Expenditure : Enclosed

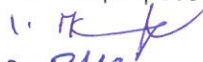



Sl. No.	Item	Amount Approved (Rs.)	Expenditure Incurred (Rs.)
i.	Books & Journals	-	-
ii.	Equipment	37052/-	37052/-
iii.	Contingency including special needs	-	-
iv.	Field Work / Travel (Give details in the performa)	-	-
v.	Hiring Services	-	-
vi.	Chemicals & Glassware	-	-

1. 
2. 
3. 
4. 
Signature of the Candidate(s)

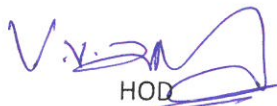
UTILIZATION CERTIFICATE

It is certified that the grant of Rs 37052/-(Rupees **Thirty Seven Thousand and Fifty Two** only)received from the Gudlavalleru Engineering college under the scheme of Seed Money for In-house R&D "Design & Development of intelligence traffic control system and traffic guidance system using IOT" vide letter no: GEC/ECE/In-house R&D/2018-19/04 Dated 22-11-2018 has been utilized (**Rs 37052/-**)

For the purpose for which it was sanctioned.

1. 
2. 
3. 
4. 

Signature of the principal investigators


HOD


Principal

To

The Principal,
Gudlavalleru Engineering College,
Sheshadri Rao Knowledge Village,
Gudlavalleru.

(Through Proper Channel)

UTILIZATION LETTER

SUB: Expenditure towards Seed Money for In-House R&D Project-Reg.

Respected Sir,

As per the letter Dt.22.11.2018, Rs.20,000/- was granted and taken an advance amount of Rs.20,000/- for doing Seed Money for In-House R&D. We have completed the work and submitted the detail report to HoD ,Department of Electronics and Communication Engineering and Principal.

Here I am submitting the expenditure for the above work.

S.NO	NAME OF THE COMPONENT	QUANTITY	COST
1	Zync FPGA Board	1	37052/-
TOTAL AMOUNT			37052/-


RECEIVED AMOUNT: 37052-00


BALANCE AMOUNT : 00-00


Here I request you to approve the above said expenditure.


(Dr.M.Kamaraju)
Project Coordinator


(Sri B.Vamsy Krishhna)
Project Coordinator


(Sri N.Sambamurthy)
Project Coordinator


(Smt.T.Subhashini)
Project Coordinator


(Dr.V.V.K.D.V.Prasad)
HoD,ECE


(Dr. P.Ravindra Babu)
Principal

08/03/2020

To

The Principal,
Gudlavaluru Engineering College,
Seshadri Rao Knowledge Village,
Gudlavaluru.

(Through Proper Channel)

UTILIZATION LETTER

SUB:Expenditure towards Seed Money for In-House R&D Project-Reg.

Respected Sir,

As per the letter Dt.08.01.2018, Rs.35,000/- was granted for our in house R&D project titled "ECG Information Processing System Modelling ".Since we have utilized the open source software tools for our project we have not taken any amount from the college. We have completed the project and submitted the detailed report to HoD, Department of Electronics and Communication Engineering and Principal.We are very much thankful to the college for the support extended in this regard.

(Dr.V.V.K.D.V.Prasad)

HoD,ECE

(Dr.P.RavindraBabu)

Principal

To

The Principal,
Gudlavalleru Engineering College,
Sheshadri Rao Knowledge Village,
Gudlavalleru.

(Through Proper Channel)
UTILIZATION LETTER

SUB: Expenditure towards Seed Money for In-House R&D Project-Reg.

Respected Sir,

As per the letter Dt.08.01.2019, Rs.25,000/- was granted as Seed Money for In-House R&D. We have completed the work and submitted the detail report to HOD, Department of Electronics and Communication Engineering and Principal.

Here I am submitting the expenditure for the above work.

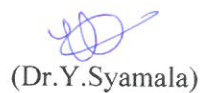
S.NO	NAME OF THE COMPONENT	QUANTITY	COST
1	997	1	2993/-
2	QNEZ-28531	1	260/-
3	756	1	513/-
4	FAAFT819000007421	1	464/-
TOTAL AMOUNT			4230

RECEIVED AMOUNT: 4230-00

Here I request you to approve the above said expenditure.


(G. Venkata Latha)

Project Coordinator


(Dr. Y. Syamala)

Project Coordinator


(Dr. V. V. K. D. V. Prasad)

HoD, ECE


(Dr. P. Ravindra Babu)

Principal

UTILIZATION CERTIFICATE

It is certified that the grant of Rs **25,000/-** (Rupees **Twenty Five Thousand** only) received from the Gudlavalleru Engineering college under the scheme of Seed Money for In-house R&D "**DESIGN AND DEVELOPMENT OF WEARABLE MEDICAL SENSORS FOR HEALTH MONITORING SYSTEM**" vide letter no: GEC/ECE/In-house R&D/2018-19/04 Dated 08-01-2019 has been utilized (**Rs 4230/-**)

For the purpose for which it was sanctioned.


Signature of the principal investigators


HOD


Principal

Seed Money for In-House R&D Project Expenditure Statement

1. Name of Principal Investigator : G, Venkata Latha, Assistant Professor
Y. Syamala, Assistant Professor
2. Department of PI : Electronics and Communication Engineering
3. Internal R&D Letter No. and Date : GEC/ECE/Seed Money for In-House R&D/2018-19/04
Dt.08-01-2019
4. Title of the Research Project : Design and Development of Wearable Medical Sensors
for Health Monitoring System
5. Effective date of starting the project : 12-03-2019
6. a) Period of Expenditure : From 11-02-2019 to 12-03-2019
b) Details of Expenditure : Enclosed

Sl. No.	Item	Amount Approved (Rs.)	Expenditure Incurred (Rs.)
i.	Books & Journals	-	-
ii.	Equipment	25000/-	4230/-
iii.	Contingency including special needs	-	-
iv.	Field Work / Travel (Give details in the performa)	-	-
v.	Hiring Services	-	-
vi.	Chemicals & Glassware	-	-


Signature of the Candidate(s)

UTILIZATION LETTER

To
The Principal,
Gudlavalleru Engineering College
GUDLAVALLERU- 521356

//Through Vice –Principal Academics//

Sir,

Sub: Submission of bills regarding Seed Money for In-House R&D projects - Reg.

Ref: Project proposals submitted to your office Dt.08.01.2019.


We have granted Rs 25,000/- as amount towards In house R&D project “ **DESIGN AND DEVELOPMENT OF WEARABLE MEDICAL SENSORS FOR HEALTH MONITORING SYSTEM**” during the academic year 2018-2019. Here I am submitting the bills regarding the In House R&D Projects.

S.NO	NAME OF THE COMPONENT	QUANTITY	COST
1	997	1	2993/-
2	QNEZ-28531	1	260/-
3	756	1	513/-
4	FAAFT819000007421	1	464/-
TOTAL AMOUNT			4230/-

Thanking you,


(G. Venkata Latha)

Asst. Professor, ECE Dept.


(Dr. Y. Syamala)

Asst. Professor, ECE Dept.

UTILIZATION LETTER

Gudlavaluru,

10th March, 2022.

To
The Principal,
Seshadri Rao Gudlavaluru Engineering College,
Seshadri Rao Knowledge Village,
GUDLAVALLERU.

(Through Proper Channel)

Sub: Expenditure towards Seed Money for In-House R&D Project-Reg.

Sir,

We have spent an amount of Rs.8862/- for In-House R&D project title “ IoT based e-Healthcare system”. We have completed the work and submitted the detailed report to principal through HoD, Department of Electronics and Communication Engineering.


Here I am submitting the expenditure statement and bills for the project.


S. No	Name of the component	Cost
1	Raspberry Pi	3500
2	Temperature Sensor (2No.)	450
3	Heartbeat Sensor	1500
4	GSM Module	1000
5	ADC	250
6	Bread Board	90
7	Power cable	50
8	USB cable	70
9	Connecting wires	100
10	SD card	590
	SGST + CGST	1262

Total Expenditure: Rs. 8862/-

Hence, I request you to reimburse the above said expenditure. Hope you will accept the request.

Thanking You.


(Dr. V.V.K.D.V. Prasad)
Professor & HOD


(Dr. G.V.S.N.R.V. Prasad)
Vice Principal, Academics


(Dr. P. Ravindra Babu)
Principal

UTILIZATION CERTIFICATE

It is certified that the grant of Rs. 18000/- (Rupees Eighteen thousand only) is sanctioned by Gudlavalleru Engineering College under the scheme of seed money for In-house R&D "IoT based e-healthcare system" vide letter no: GEC/ECE/In-houseR&D/2018-19 dated 8-01-2019 for which Rs.8862/- has been utilized for the project.

Signature of principal investigators

HoD

Principal

Gudlavalleru Engineering College
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village, Gudlavalleru
* * *

UTILIZATION CERTIFICATE

It is certified that the grant of Rs 71,000/- (Seventy One Thousand Rupees only) received from the Gudlavalleru Engineering College under the scheme of seed money for In house R&D “Surveillance of Cash Crops-Ailment Identification-Immune Detection using UAV/Drones” vide letter dated 11-03-2019 has been utilized Rs.35,530/-(Thirty Five thousand Five Hundred Thirty only) for the purpose for which it was sanctioned.


**SIGNATURE OF THE
PRINCIPAL INVESTIGATOR**

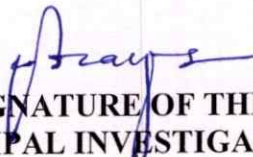

HOD
(Seal)
Head of the Department
Computer Science and Engineering
Gudlavalleru Engineering College
Seshadri Rao Knowledge Village
GUDLAVALLERU - 521 306

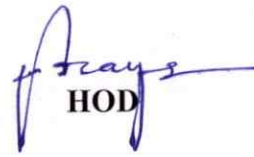

PRINCIPAL
PRINCIPAL
Gudlavalleru Engineering College
(Seal)
GUDLAVALLERU-521356


Gudlavalleru Engineering College
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village, Gudlavalleru
* * *

UTILIZATION CERTIFICATE

It is certified that the grant of Rs 50,000/- (Fifty Thousand Rupees only) received from the Gudlavalleru Engineering College under the scheme of seed money for In house R&D "Smart Projectors using Raspberry Pi" vide letter dated 16-03-2019 has been utilized Rs.45,600/-(Forty Five thousand Six Hundred only) for the purpose for which it was sanctioned.


**SIGNATURE OF THE
PRINCIPAL INVESTIGATOR**


HOD
(Seal)
Head of the Department
Computer Science and Engineering
Gudlavalleru Engineering College
Seshadri Rao Knowledge Village
GUDLAVALLERU - 521356



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PRINCIPAL
Gudlavalleru Engineering College
GUDLAVALLERU-521356


Gudlalleru Engineering College
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village, Gudlalleru
* * *

UTILIZATION CERTIFICATE

It is certified that the grant of Rs 10,000/- (Ten Thousand Rupees only) received from the Gudlalleru Engineering College under the scheme of seed money for In house R&D “An IoT Based Radiation Monitoring System” vide letter dated 16-03-2019 has been utilized Rs.8,500/-(Eight Thousand Five hundred only) for the purpose for which it was sanctioned.


**SIGNATURE OF THE
PRINCIPAL INVESTIGATOR**

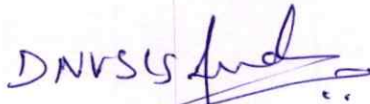

HOD
(Seal)
Head of the Department
Computer Science and Engineering
Gudlalleru Engineering College
Seshadri Rao Knowledge Village
Gudlalleru - 521356


PRINCIPAL
PRINCIPAL
Gudlalleru Engineering College
(Seal)
GUDLALLERU-521356

Gudlavalleru Engineering College
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village, Gudlavalleru
* * *

UTILIZATION CERTIFICATE

It is certified that the grant of Rs 50,000/- (Fifty Thousand Rupees only) received from the Gudlavalleru Engineering College under the scheme of seed money for In house R&D “An IoT Based Fire Accident Detection and Deforestation Monitoring System Using Drone ” vide letter dated 16-03-2019 has been utilized Rs.32,100/-(Thirty Two Thousand One hundred only) for the purpose for which it was sanctioned.



**SIGNATURE OF THE
PRINCIPAL INVESTIGATOR**



HOD

(Seal)
Head of the Department
Computer Science and Engineering
Gudlavalleru Engineering College
Seshadri Rao Knowledge Village
GUDLAVALLERU - 521 356



PRINCIPAL

PRINCIPAL
Gudlavalleru Engineering College
GUDLAVALLERU-521356
(Seal)

Dt. 26th March, 2019

To
The Principal,
Gudlavaluru Engineering College,
Sheshadri Rao Knowledge Village,
GUDLAVALLERU.

(Through Proper Channel)
UTILIZATION LETTER

Sub: Expenditure towards Seed Money for In-house R&D Project –Reg.
Respected Sir,

As per the letter Dt.22.11.2018, Rs.25,000/- was granted and taken an advance amount of Rs.25,000/- for doing Seed Money for In-House R&D. We have completed the work and submitted the detailed report to HOD, Department of Information Technology and Principal.

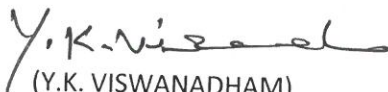
Here I am submitting the expenditure statement for the above work.

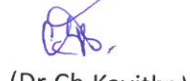
Expenditure Details:

S.NO	ITEM DESCRIPTION	PRICE(RS)
1	PIC DEVELOPMENT BOARD	610
2	AURDIUMO MEGA 2560	885
3	SIM900 GSM MODULE	1390
4	RASPBERRY PI MODEL 3 B+	3125
5	MALE TO FEMALE CONNECTORS	180
6	60 WATTS STANDARD HOT MELTING GLUE GUN	498
7	NEO-M8N GPS MODULE	1389
8	RASPBERRY IR CAMERA MODULE	1190
9	2.0 INCH TFT SCREEN	590
10	SOLDERING IRON	179
11	SOLDERING PAST	49
12	SOLDERING STAND	94
13	SOLDERING LEAD TUBE	120
14	DISTANCE MEASURING SENSOR	1360
15	PIXY CAM 1.0	7290
16	DC WATER PUMP	304
17	SHIPPING CHARGES	49
18	16 GB SD CARD	600
19	DIGITAL MULTIMETER	284
20	SERVO MOTORS	354
21	POWER ADAPTER	590
22	RASPBERRY PI ENCLOSURE	295
23	16 * 2 LCD MONITOR	354
24	ESP 8266 WIFI MODULE	354
25	PIXY CAMPAN AND TILT BASE	2949
	TOTAL AMOUNT	Rs 25,082

RECEIVED AMOUNT: 25,000-00
BALANCE AMOUNT : 82-00

Hence I request you to approve the above said expenditure.


(Y.K. VISWANADHAM)
Principal Investigator


(Dr.Ch.Kavitha)
HOD, IT


(Dr. P. Ravindra Babu)
Principal
Gudlavaluru Engineering College
GUDLAVALLERU-521356

GUDLAVALLERU ENGINEERING COLLEGE
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village, Gudlavalleru – 521 356
* * *

UTILIZATION CERTIFICATE

It is certified that the grant of Rs 40,000/- (Rupees forty Thousand only) received from the Gudlavalleru Engineering college under the scheme of Seed Money for In-house R&D “**Automatic Detection and Notification about Potholes and Humps on Road**” vide letter no: GEC/IT/Seed Money for In-house R&D/2018-19/01 Dated 22-11-2018 has been utilized (Rs 25,082/-)

For the purpose for which it was sanctioned.



Signature of the
principal investigators



HOD

(Seal)

Dr. CH. KAVITHA
Professor & Head,
Dept. of Information Technology,
Gudlavalleru Engineering College,
Seshadri Rao Knowledge Village,
GUDLAVALLERU - 521 356.



Principal

(Seal)

PRINCIPAL
Gudlavalleru Engineering College
GUDLAVALLERU-521356



Dt. 28th March 2019

The Principal,
Gudlavalleru Engineering College,
Seshadri Rao Knowledge Village,
GUDLAVALLERU.

(Through Proper Channel)

UTILIZATION LETTER

Sub: Expenditure toward Seed Money for In-house R&D Project –Reg.

Respected Sir,

As per the letter Dt.22.11.2018, Rs.20,000/- was granted and taken an advance amount of Rs.20,000/- for doing Seed Money for In-House R&D. We have completed the work and submitted the detailed report to HOD, Department of Information Technology and Principal.

Here I am submitting the expenditure statement for the above work.


Expenditure Details:


S.NO	NAME OF THE COMPONENT	QUANTITY	COST
1	Adafruit Ultimate GPS Breakout – 66 channel w/10 Hz updates –Version 3	01	6451.00
2	Assembled Adafruit Feather HUZZAH with ESP8266 with ESP WiFi With Headers	01	3346.00
3	Riviera 2A Speed Charger with data cable	02	430.00
4	JioFi 4G Hotspot M2s 150 Mbps Jio 4G Portable Wi-Fi data device(black)	02	1998.00
5	Jumper wires male to male, male to female, female to female 120 pieces	1 set	178.00
6	Node MCU ESP8266 wifi development-Amica-Breadboard friendly	01	317.00
7	LE products GPS receiver SIM28M SIM28M Module with serial RS232 and TTL UART output with antenna	01	1179.00
8	Riviera white data transfer & charging data cable	02	284.00
9	GPS/GLONASS GNSS ANTENA	01	279.00
10	1000mAh power bank	02	1798.00
11	Sun robotics SMA female two UFL connector	01	230.00
Total			16490.00

RECEIVED AMOUNT : 20,000-00

BALANCE AMOUNT : 3,510-00

Hence I request you to approve the above said expenditure.


(B.SRINIVASU KUMAR)
Project Coordinator


(Dr.Ch.Kavitha)
HOD, IT


(Dr.P.Ravindra Babu)
Principal

Dt. 28th March 2019

The Principal,
Gudlavalleru Engineering College,
Suresh Reddy Rao Knowledge Village,
GUDLAVALLERU.

(Through Proper Channel)

UTILIZATION LETTER

Sub: Expenditure toward Seed Money for In-house R&D Project –Reg.

Respected Sir,

As per the letter Dt.22.11.2018, Rs.20,000/- was granted and taken an advance amount of Rs.20,000/- for doing Seed Money for In-House R&D. We have completed the work and submitted the detailed report to HOD, Department of Information Technology and Principal.

Here I am submitting the expenditure statement for the above work.

Expenditure Details:

S.NO	NAME OF THE COMPONENT	QUANTITY	COST
1	Adafruit Ultimate GPS Breakout – 66 channel w/10 Hz updates –Version 3	01	6451.00
2	Assembled Adafruit Feather HUZZAH with ESP8266 with ESP WiFi With Headers	01	3346.00
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11	Sun robotics SMA female two UFL connector	01	230.00
Total			16490.00

RECEIVED AMOUNT : 20,000-00

BALANCE AMOUNT : 3,510-00

Hence I request you to approve the above said expenditure.


(B. SRINIVASU KUMAR)
Project Coordinator


(Dr. Ch. Kavitha)
HOD, IT


(Dr. P. Ravindra Babu)
Principal

GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village, Gudlavalleru-521356

Statement of Expenditure In Respect of Seed Money for In-House R&D Project

1. Name of Principal Investigator : Dr.Ch.Kavitha, Professor & HoD
B.SRINUVASUKUMAR, Associate Professor
2. Department of PI : Information Technology
3. Internal R&D Letter No. and Date : GEC/IT/ Seed Money for In-House R&D/2018-19/02
4. Title of the Research Project : Smart Bus Tracking System Using IOT
5. Effective date of starting the project : 22-Nov-2018
6. a) Period of Expenditure : From 2018-19 to 2019-20
- b) Details of Expenditure : Enclosed

Sl. No.	Item	Amount Approved (Rs.)	Expenditure Incurred (Rs.)
i.	Books & Journals	-	-
ii.	Equipment	17000	16490
iii.	Contingency including special needs	-	-
iv.	Field Work / Travel (Give details in the performa)	-	-
v.	Hiring Services	3000	0
vi.	Chemicals & Glassware	-	-

GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village, Gudlavalleru-521356

UTILIZATION CERTIFICATE

It is certified that the grant of Rs **20,000/-** (Rupees **Twenty Five Thousand** only) received from the Gudlavalleru Engineering college under the scheme of Seed Money for In-house R&D "Smart Bus Tracking System using IOT" vide letter no: GEC/IT/ Seed money for In-house R&D/2018-19/02 Dated 22-11-2018 has been utilized (Rs 16490/-) for the purpose for which it was sanctioned.

Signature of the principal investigator

HOD

Principal

Head of the Department
Information Technology
Seshadri Rao

PRINCIPAL
Seshadri Rao

Gudlavalleru Engineering College
Seshadri Rao Knowledge Village
Gudlavalleru - 521 356, Krishna District. A.P.



GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village, Gudlavalleru-521356

Statement of Expenditure In Respect of Seed Money for In-House R&D Project

1. Name of Principal Investigator : Sri T.K.K.Praneeth
2. Department of PI : Information Technology
3. Internal R&D Letter No. and Date : GEC/IT/ Seed Money for In-House R&D/2018-19/03 and 22.11.2018
4. Title of the Research Project : Automation of Lab Equipment and Furniture Verification System
5. Effective date of starting the project : 18.12.2018
6. a) Period of Expenditure : From 18.12.2018 to 26.03.2019
- b) Details of Expenditure :

Sl. No.	Item	Amount Approved (Rs.)	Expenditure Incurred (Rs.)
i.	Books & Journals	-	-
ii.	Equipment	20000/-	17180/-
iii.	Contingency including special needs	-	-
iv.	Field Work / Travel (Give details in the proforma)	-	-
v.	Hiring Services	-	-
vi.	Chemicals & Glassware	-	-

Dt. 26th March, 2019

To
The Principal,
Gudlavalleru Engineering College,
Sheshadri rao Knowledge Village,
Gudlavalleru-521356

// Through Proper Channel //
UTILIZATION LETTER

SUB: Expenditure towards Seed Money for In-House R&D Project-Reg.

Respected Sir,

As per the letter Dt.22.11.2018, Rs.20,00/- was granted and taken an advance amount of Rs.20,00/- for doing Seed Money for In-House R&D. We have completed the work and submitted the detail report to HOD, Department of Information Technology and Principal.

Here I am submitting the expenditure for the above work.


S.NO	ITEM DESCRIPITON	PRICE*(Rs.)
1	Barcode Printer TVS LP46	13,600.00
2	Barcode Scanner TVS C STAT	2400.00
3	LABLES 78 X 38(1000)	708.00
4	RIBBON 11 X 300 meters	472.00
TOATAL AMOUNT		17,180.00

RECEIVED AMOUNT : 20,000-00
BALANCE AMOUNT : 2,820-00

Hence I request you to approve the above said expenditure.

T.K.K.Praneeth
(T.K.K.Praneeth)
Project Coordinator

P.S.S.Sreedhar
(P.S.S.Sreedhar)
Project Coordinator


(Dr.Ch.Kavitha)
HoD,IT


(Dr.P.Ravindra Babu)
Principal

GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
Seshadri Rao Knowledge Village, Gudlavalleru-521356

UTILIZATION CERTIFICATE

It is certified that the grant of Rs 20,000/-(Rupees Twenty Thousand only) received from the Gudlavalleru Engineering college under the scheme of Seed Money for In-house R&D "Automation of Lab Equipment and Furniture Verification System" vide letter no: GEC/IT/Seed Money for In-house R&D/2018-19/03 Dated 22-11-2018 has been utilized (Rs 17180/-) for the purpose for which it was sanctioned.

T.k.k. Praneeth
Signature of the
Principal investigator

HOD

Dr. CH. KAVITHA
Professor & Head,
Dept. of Information Technology,
Gudlavalleru Engineering College,
Seshadri Rao Knowledge Village,
GUDLAVALLERU - 521 356.

Principal

PRINCIPAL
Gudlavalleru Engineering College,
GUDLAVALLERU-521356



Dt. 26th March, 2019

To

The Principal,
Gudlavalleru Engineering College,
Sheshadri Rao Knowledge Village,
Gudlavalleru.

(Through Proper Channel)
UTILIZATION LETTER

SUB: Expenditure towards Seed Money for In-House R&D Project-Reg.

Respected Sir,

As per the letter Dt.22.11.2018, Rs.20,000/- was granted and taken an advance amount of Rs.20,000/- for doing Seed Money for In-House R&D. We have completed the work and submitted the detail report to HOD, Department of Information Technology and Principal.

Here I am submitting the expenditure for the above work.

S.NO	NAME OF THE COMPONENT	QUANTITY	COST
1	Mbed NXP LPC1768	2	14164/-
2	Zyxel NBG-418N wireless	1	1330/-
3	Generic 5V 10A 2 channel relay	2	396/-
TOTAL AMOUNT			15890


RECEIVED AMOUNT: 20,000-00

BALANCE AMOUNT : 4,110-00

Here I request you to approve the above said expenditure.



(I.Lakshmi Narayana)
Project Coordinator



(K.Srikanth)
Project Coordinator



(Dr.Ch.Kavitha)
HoD,IT



(Dr.P.Ravindra Babu)
Principal

GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village, Gudlavalleru-521356

UTILIZATION CERTIFICATE

It is certified that the grant of Rs **20,000/-** (Rupees **Twenty Thousand** only) received from the Gudlavalleru Engineering college under the scheme of Seed Money for In-house R&D “**Efficient electricity utilization and management using IoT**” vide letter no: GEC/IT/Seed Money for In-house R&D/2018-19/04 Dated 22-11-2018 has been utilized (**Rs 15890/-**) for the purpose for which it was sanctioned.

Lakshmi Narayana P

Signature of the Principal investigator

[Signature]
HOD

[Signature]
Principal

PRINCIPAL
Gudlavalleru Engineering College
GUDLAVALLERU-521356



19.08.2020

To

The Principal,
Gudlavaluru Engineering College,
SheshadriRao Knowledge Village,
Gudlavaluru.

(Through Proper Channel)
UTILIZATION LETTER

Sub:Expenditure incurred towards Seed Money for In-House R&D Project-Reg.

Sir,

As per the letter Dt.14.11.2018, Rs.30,000/- was granted and an advance amount of Rs.30,000/- was received towards Seed Money for In-House R&D. I completed the work and hereby, submit the detailed report to HoD, Department of BS&H and the Principal.

The expenditure incurred for the proposed work,

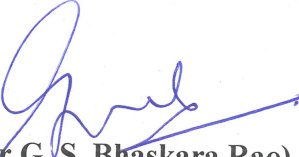
S.NO	NAME OF THE COMPONENT	QUANTITY	COST
1.	Purchase of plant	1	4500/-
2.	Chemicals	3	5664/-
3.	Total Pharmacological activity Study	6	19000/-
TOTAL AMOUNT			29164/-


RECEIVED AMOUNT: 30,000-00

BALANCE AMOUNT:836-00

I request you to approve the above incurred expenditure.


(Dr. P. HARITHA)
Project Coordinator


(Dr. G. S. Bhaskara Rao)
HoD, BS&H


(Dr. P. Ravindra Babu)
Principal
PRINCIPAL
GUDLAVALLERU ENGINEERING COLLEGE
GUDLAVALLERU - 521 388

UTILIZATION LETTER

To
The Principal,
Gudlavalleru Engineering College
GUDLAVALLERU- 521356

Sir,

Sub: Submission of bills - Seed Money for In-House R&D project - Reg.

Ref: Project proposals submitted to your office Dt.14.11.2018.

I received Rs 30,000/- as an advance towards Seed money for In-House R&D project “Pharmacognostical Standardisation and Biological activities of *Ipomoea marginata*” during the academic year 2018-2019. Hereby, I submit the details of the expenditure incurred for the In-House R&D Project.

S.NO	NAME OF THE COMPONENT	QUANTITY	COST
1.	Purchase of plant	1	4500/-
2.	Chemicals	3	5664/-
3.	Total Pharmacological activity Study	6	19000/-
TOTAL AMOUNT			29164/-

Thanking you,

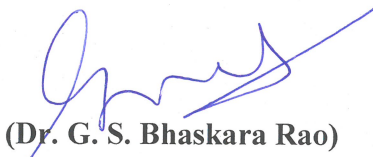

(Dr. P. HARITHA)

Asst. Professor of Chemistry, BS&H Dept.

UTILIZATION CERTIFICATE

It is certified that the grant of Rs **30,000/-**(Rupees **Thirty Thousand** only)received from Gudlavalleru Engineering college under the scheme of Seed Money for In-house R&D “**Pharmacognostical Standardisation and Biological activities of *Ipomoea marginata***” vide letter no:GEC/BSH/In-house R&D/2018-20/01dated 14-11-2018 has been utilized (**Rs 29164/-**)for the purpose for which it was sanctioned.


(Dr. P. HARITHA)
Project Coordinator


(Dr. G. S. Bhaskara Rao)
HoD, BS&H


(Dr. P. Ravindra Babu)
Principal
PRINCIPAL
GUDLAVALLERU ENGINEERING COLLEGE
GUDLAVALLERU - 521 386



SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village, GUDLAVALLERU-521 356, Krishna District, A.P., India

(Approved by AICTE, New Delhi and Permitted by A.P. State Government)

Accredited by NAAC

Phone Nos. 08674-273737, 273888, Mobile: +91 9848779121 Fax No. 08674-273957

E-mail: principal@gecgudlavalleru.ac.in, office@gecgudlavalleru.ac.in, Web: www.gecgudlavalleru.ac.in

List of full-time teachers received seed money for research

A.Y.2017-18

A.1.2017-18						
S. No	Name of the faculty	Name of the Department	Title of the project	Duration	Amount in Lakhs	Status
1	Mr. Mohan Krishna D (PI)	Mechanical Engineering	Effect of Temperature gradient on segregation of impurities during directional solidification of Al-Cu, Al-Mn and Al-zn Alloy systems	1 Year	0.73	Completed
2	Dr B Karuna Kumar (Co-PI)					
3	Mr. PNS Srinivas (PI)	Mechanical Engineering	“Development and Characterization of Nano reinforced functionally graded aluminium metal matrix composites	1 Year	4.20	Completed
4	Dr. P Ravindra Babu (Co-PI)					
Total					4.93	


IQAC
IQAC


Principal
PRINCIPAL
Seshadri Rao
Gudlavalleru Engineering College
Seshadri Rao Knowledge Village
Gudlavalleru - 521 356, Krishna District, A.P.

GUDLAVALLERU ENGINEERING COLLEGE
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
SeshadriRao Knowledge Village, Gudlavalleru

Department of Mechanical Engineering

Date: 12/10/2019

Research Project Report

Title of the Project : **Effect of Temperature gradient on segregation of impurities during directional solidification of Al-Cu, Al-Mn and Al-zn Alloy systems**

Name of the Principal Investigator : **Mr. Mohan Krishna D**

Objectives of the Project : Mechanical properties of different alloying elements are Compared

Budget Sanctioned Under seed money for In house R&D : **Rs73,000**

Utilization : **Rs 72,885/-**

Status of the Project : **Completed**

Project Outcome : **The Material can be used to produce agricultural products.**



Mr. Mohan Krishna
(Name of the principal investigator)

GUDLAVALLERU ENGINEERING COLLEGE
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
SeshadriRao Knowledge Village, Gudlavalleru

Department of Mechanical Engineering

Date :

Research Project Report

Title of the Project : **Development and Characterization of Nano reinforced functionally graded aluminium metal matrix composites**

Name of the Principal Investigator : **Mr. P.N.S. Srinivas**

Objectives of the Project :


- To increase strength to weight ratio of the composite.
- To eliminate the brittleness, sharp interfaces, thermal Stress concentrations, catastrophic failures and creep

Budget Sanctioned Under seed money for In house R&D : **Rs. 4,20,000/-**

Utilization : **Rs. 4,00,000/-**

Status of the Project : **Completed**


Project Outcome : **Can be used to produce thermal power applications Products.**



Mr. P.N.S Srinivas
(Name of the principal investigator)

Gudlavalleru Engineering College
(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
SeshadriRao Knowledge Village, Gudlavalleru
* * *

UTILIZATION CERTIFICATE

It is certified that the grant of Rs73000/- (Seventy Three Thousand Rupees only) received from the Gudlavalleru Engineering College under the scheme of seed money for In house R&D "Effect of Temperature gradient on segregation of impurities during directional solidification of Al-Cu, Al-Mn and Al-zn Alloy systems" vide letter dated 02-02-2018 has been utilized Rs.72,885/- (Seventy two Thousand eight hundred eighty five only) for the purpose for which it was sanctioned.


Mr. Mohan Krishna D
SIGNATURE OF THE
PRINCIPAL INVESTIGATOR


HOD 12/10/19

(Seal)


PRINCIPAL

(Seal)

GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village, Gudlavalleru

* * *

Statement of Expenditure In Respect of Internal R&D Project

1. Name of Principal Investigator : P. N. S. SRINIVAS
2. Department of PI : Mechanical Engineering
3. Internal R&D Letter No. and Date : 23/11/2017
4. Title of the Research Project : Development of characterization of Nano reinforced functionally graded Al-MMC
5. Effective date of starting the project : 18/11/2017
6. a) Period of Expenditure : From 18/11/2017 to 24/03/2018
- b) Details of Expenditure : purchase of pin on disc Tester with data acquisition software

Sl. No.	Item	Amount Approved (Rs.)	Expenditure Incurred (Rs.)
i.	Books & Journals		
ii.	Equipment	4,20,000.00	4,00,000.00
iii.	Contingency including special needs		
iv.	Field Work / Travel (Give details in the proforma)		
v.	Hiring Services		
vi.	Chemicals & Glassware		

GUDLAVALLERU ENGINEERING COLLEGE

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Seshadri Rao Knowledge Village, Gudlavalleru

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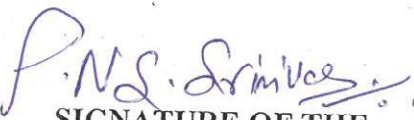
UTILIZATION CERTIFICATE

It is certified that the grant of Rs. 4,00,000/- (Rupees FOUR LAKHS only)

received from the Gudlavalleru Engineering College under the scheme of Internal R&D

"Development & characterization of Nano reinforced functionally graded Aluminium MMCs" vide letter No. Dated 23/11/18 has been

utilized (.....) for the purpose for which it was sanctioned.


SIGNATURE OF THE
PRINCIPAL INVESTIGATOR


HOD
Head of Mechanical Engineering
Gudlavalleru Engineering College
Seshadri Rao Knowledge Village
(Seal)
GUDLAVALLERU - 521 356


PRINCIPAL
PRINCIPAL
Gudlavalleru Engineering College
GUDLAVALLERU - 521356
(Seal)