

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

		<u>Fina</u>	ncial Support Request Letter
1.	Name	e of the Staff Member	: Dr./Mr./Ms. K. Saty anaray ana
2.	Desig	gnation	: Asst. Prof
3.	Depar	rtment	:EEE
4.	Confe	erence / Publication / M trial Visit / Tours With	embership Fee / Workshop / FDP / Seminar / Training / details:
5.	Date d	& Duration of the Progr	am: Jan -April 2019
6.	Asso	ciating Professional Bo	dy/Agency: NPTEL
7.	Financ	cial support particulars	
	i. ii. iii. iv.	Registration Charges Travelling Allowance Membership Fee Others (if any)	-(00
Da	ate: 30	<b>3</b> ·19	K. Cetyourayal., Signature of the Staff Member
		nmendations of the HC	/IAT/ // A //
			PRINCIPAL

SRK INSTITUTE OF TECHNOLOGY ENIKEPADU, VIJAYAWADA

Account Department

Accountant: Local

Date: 02=04-2019

No.

#### **VOUCHER**

Date 0.2-04-2019

15-19

#### SRK INSTITUTE OF TECHNOLOGY

ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 0866 - 2843839

Name of A/cFaculty	development mograme	
Paid to K. Satyanana	yana (IEEE) Cash/Cheque400.1	<del></del>
	hundred Jupees o	
TowardsF	Dp	
		Audited by
Prepared by	Approved by	Audited by

₹ 4001-

K. Petyonnyone, Receiver Signature



TO SATYANARAYANA KANULIA S.R.K.INSTITUTE OF TEHNOLOGY VIJAYAWADA



No. of weeks of NPTEL Courses	Equivalence of NPTEL course with regular FDP
4	$\frac{1}{2}$ FDP of one week
8	Full FDP of one week
12	1 1 FDP

**Duration of NPTEL course: 12 Weeks** 



#### NPTEL-AICTE Faculty Development Programme

(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to

#### SATYANARAYANA KANULLA

for successfully completing the course

**Control Engineering** 

with a consolidated score of 48 %

(Jan-Apr 2019)

Technology

ENIPPor Difeep N. Malkhedo A-521 108. Advisor-I (Research, Institute & Faculty Development) All India Council for Technical Education

Prof. Andrew Thangaraj NPTEL Coordinator IIT Madras

Roll No. NPTEL19EE30S42260224

To validate and check scores: http://nptel.ac.in/noc

The candidate has studied the above course through MOOCs mode, has submitted online assignments and passed proctored exams.

This certificate is therefore acceptable for promotions under CAS as per AICTE notifications dated 24th July 2018, similar to other refresher / orientation courses.

F.No. AICTE / RIFD / FDP through MOOCs / 2017-18



Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

1.	Name of the Staff Member	: Dr./Mr./Ms B. Ludraja	
2.	Designation	: Ast prof	
3.	Department	:EEE	
4.	. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:		
	transmi ssio	n insulators	
5.	Date & Duration of the Progr	ram: Aug - Sep 2018	
6.	Associating Professional Bo	dy/Agency: WPTEL	
7.	Financial support particulars		

**Financial Support Request Letter** 

Date: 29 - 9-2018

Signature of the Staff Member

1. Recommendations of the HOD: ---

2. Recommendations of the Principal: --

Registration Charges: 400/-

Travelling Allowances:

Membership Fee

Others (if any)

\*Sanctioned / Not Sanctioned

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

Account Department

i. ii.

iii.

iv.

Accountant: Accountant:

Date: 1-10-2018

# VOUCHER SRK INSTITUTE OF TECHNOLOGY ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839 Name of A/c. Faculty development programe: Paid to B. Indraja (FEE) Cash/Cheque 400/ the Sum of Rupees. Four hundred rupeu only. Towards. Work slop. Approved by Approved by Approved by Approved by Timb



To

S.R.K.INSTITUTE OF TEHNOLOGY VIJAYAWADA



Score Type of Certificate >=90 Elite + Gold Medal 60-89 Elite Successfully Completed 40-59 the course <40 No Certificate

No. of credits recommended by NPTEL:1



## NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

#### **BODEM INDRAJA**

for successfully completing the course

#### **Recent Advances in Transmission Insulators**

with a consolidated score of 56 %

SRK Institute of Technology

Online Assignments | 12.50/25 | Proctored Exam

43.5/75

ADU, VIJAYAWADA-521 108.

Prof. G. L. Sivakumar Babu

Chairman, Center for Continuing Education

**IISc Bangalore** 

Total number of candidates certified in this course: 390

Aug-Sep 2018 (4 week course) Prof. L. Umanand **NPTEL Coordinator IISc Bangalore** 



Indian Institute of Science Bangalore



To validate and check scores: http://nptel.ac.in/noc

UTE OF TECI U, VIJAYAWADA - 521 108. Ph. : 2	
U, VIJATAWADA - 521 100. PIL 2	042020
	.043039
development progr	ane:
a Rao (MBA) Cash/Cheque	1500  -
thousand tive h	undred hypees.
	lo.A
	development progrand Rao (MRP) Cash/Cheque -thousand five h Conference.

#### An Empirical Analysis of Members Perception on Empowerment after Joining in SHGs

B.V.S.S. Subba Rao\*1, G. Kiran\*2

\* Department of Business Administration, SRK Institute of Technology, Enikepadu, Vijayawada, A.P., India

bvsss\_rao@yahoo.co.in
kiran\_garimella@rediffmail.com

Abstract — Micro Finance is emerging as a powerful tool for poverty alleviation in the economy. In India, micro finance scene is dominated by SHG-Bank linkage Programme as a cost effective mechanism for providing financial services to the 'unreached poor'. Self-help groups (SHGs) have emerged as an effective mechanism of empowerment as well as being an efficient mode of technology dissemination. Micro finance programme has a positive impact both on economic and social empowerment of women members along with reduction in poverty. The relevance of SHGs as powerful instruments of social, political and economic empowerment of women has also been unanimously accepted in many studies. There are many studies have been conducted on empowerment of women in self help groups across the country from time to time. This paper sheds a light on Members perception on empowerment after joining in SHG's in Eluru.

Keywords — Micro Finance, Self Confidence, Decision Making Skills, Economic improvement.

46

PRINCIPAL SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.



Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	<u>Fina</u>	ncial Support Request Lette	<u>er</u>
1.	Name of the Staff Member	: Dr./Mr./Ms G. Li	rous
2.	Designation	: Aedr. May	<u>/</u>
3.	Department	: MRA	<del></del>
4.	Conference / Publication / M Industrial Visit / Tours With	details :	
	(TRINCO) 3rd	International Re	reach Conference
5.	Date & Duration of the Programme Associating Professional Bo		
6.	Associating Professional Bo	dy/Agency: TRANC	20 - 2018.
7.	Financial support particulars	٨	
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowance</li></ul>	13001	
	<ul><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>	:	
			10/12-
Da	ate: 14/12/18.		ture of the Staff Member
	Recommendations of the HC Recommendations of the Pri		*Sanctioned / Not Sanctioned

PRINCIPAL SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108,

Account Department

Accountant:

Date: 17/12/18.

VOUCHER

SRK INSTITUTE OF TECHNOLOGY

ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/C. Faculty development programe

Paid to. G. Ciran CMBA) Cash/Cheque 1500 
the Sum of Rupees. One thousand five hundred rup & Daly.

Towards. Confession.

Prepared by

Approved by

13M7. Approved by

13M7.

15001-

Receiver Signature



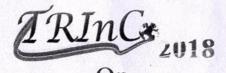
Eastern Provincial Council



**UN Volunteers** 







Glocalization:

Unleashing Potential, Harnessing Opportunities and Embracing Change

This is to certify that Rev./Prof./Dr./Mr./Ms. G.Kiran has presented a paper titled

"An Empirical Analysis of Members Perception on Empowerment after joining in SHGs"

in the 3<sup>rd</sup> International Research Conference on 'Glocalization: Unleashing Potential, Harnessing, Opportunities and Embracing Change' organized by Trincomalee Campus, Eastern University, Sri Lanka in partnership with The Eastern Provincial Council and UN Volunteers Sri Lanka on 16<sup>th</sup> & 17<sup>th</sup> of August 2018.

Dr. J. S. Rohan Savarimuttu

Secretary, TRInCo 2018

3rd International Research Conference

Trincomalee Campus,

Eastern University, Sri Lanka

Mulwy (1)

Dr. V. Kanagasingam Rector,

Trincomalee Campus, Eastern University, Sri Lanka

SRK Institute of Teenhords, ENIKEPADU, VIJAYAWADA-521 108.





Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	E:		
		icial Support Request Let	
1. Na	ame of the Staff Member	:Dr./Mr./Ms. B VSS	Subba Rad
2. De	esignation	: Asst. Profe	<u> १</u>
3. De	epartment	:MBA	
4. Co	dustrial Visit / Tours With	details:	/ FDP / Seminar / Training /
	Different 1)pg	roaches of Co	rporate Bestructuri
5. Da	ate & Duration of the Progr	ram: 2018 August	<del>,</del>
6. A	ssociating Professional Bo	dy/Agency: IJRP	τ
7. Fin	nancial support particulars	:	
i. ii.	Registration Charges Travelling Allowance		
iii. iv.			
Date:	16/7/2018		ature of the Staff Member
1. Re	ecommendations of the HC ecommendations of the Prince	D. Myrim	*Sanctioned / Not Sanctioned
		PRINCIPAL SPK Institute of Technic	
		SRK Institute of Techr ENIKEPABU, VIJAYAWADA-	0.
Count D	Janartment	THE REST TO A LAND A.	UA 1 100

Account Department
Accountant:

Date: 18/7/2018.

No.

VOUCHER

Date 187 2018

SRK INSTITUTE OF TECHNOLOGY

ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c.

Faculty development programe:

Paid to BY & Subbaland (MBA) Cash/Cheque 1500

the Sum of Rupees Die Flourand five hundred rupers trily:

Towards.

Paper Publicalism.

Prepared by

1500 F.

Approved by

Audited by

Receiver Signature

#### Different Approaches of Corporate Restructuring

Dr. M. Veerabhadra Rao<sup>1</sup>, B.V.S.S. SUBBARAO<sup>2</sup>

<sup>1</sup>Professor, MBA DEPARTMENT, SRK INSTITUTE OFTECHNOLOGY, VIJAYAWADA, <sup>2</sup>Research Scholar, Krishna University, Machilipatnam

Abstract: The 1980's bore witness to a decade of aggressive mergers, acquisitions and takeovers. The mergers and acquisitions scenario is hotting up in India. The corporate are being concerned at cocktail parties by people who are eager to explain their system for making creamy profits by investing in common stock. Fortunately, these bores go into temporary hibernation whenever the market goes down. Corporate restructuring, out of all emerging concepts of findings ways to serve shareholders better, has been a very successful concept abroad and its been followed all the more in high context cultures like India. This paper majorly focuses on various approaches are available for corporate restructuring in the context of Indian business environment. Keywords: Globalisation, Liberalisation, Restructuring, Mergers.

#### Introduction:

There are a number of factors depicting the significance of this study. All innovations and inventions in terms of corporate and principles happen abroad, and then are being carried to Indian environment. Corporate restructuring, out of all emerging concepts of findings ways to serve shareholders better, has been a very successful concept abroad and its been followed all the more in high context cultures like India. The rapidity with corporate finance due to external factors like increased price volatility, a general globalisation of the markets, tax asymmetric, development in technology, regulatory change, liberalisation, increased competition and reduction in information and transaction costs and also intrafirm factors like liquidity needs of business, capital costs and growth perspective have lead to practice of corporate restructuring as a strategic move to maximise the shareholder's value. The "Corporate restructuring" is an umbrella term that includes mergers and consolidations, divestitures liquidations and various types of battles for corporate control. The essence of corporate restructuring lies in achieving the

long run goal of wealth maximisation. This study is an attempt to highlight the impact of corporate restructuring on the shareholders value in the Indian context. Thus, it helps us to know, if restructuring generates value gains for shareholders (both those who own the firm before the restructuring and those who own the firm after the restructuring), how these value gains have be created and achieved or failed. Further, it will also focus on issues involving ownership and controls. This leads logically to the subject of leveraged buyouts. It was during 1980s that many of the new tools which made leveraged buyouts possible, including high yield or junk bonds, found favour. Last year, M&A activities were largely restricted to IT and telecom sectors. They have now spread across the economy. As Business world recently reported, this is the fourth wave of corporate deal-making in India. The first happened in the 1980s, led by corporate raiders such as Swaraj Paul, Manu Chhabria and R P Goenka, in the very early days of reforms. In view of the license raj prevailing then, buying a company was one of the best ways to generate growth, for ambitious corporates. In the early 1990s, in the liberalised economy, Indian business houses began to feel the heat of competition. Conglomerates that had lost focus were forced to sell non-core businesses that could not withstand competitive pressures. The Tatas, for instance, sold TOMCO to Hindustan Lever. Corporate restructuring, largely drove this second wave of M&As. The third wave started about five years ago, driven consolidation in key sectors like cement telecommunications. Companies like Bharti Tele-Ventures and Hutch bought smaller competitors to establish a national presence. What makes the most recent wave of M&As different from the three previous ones is the involvement of global players. Foreign private equity is coming into Indian companies, like Newbridge's recent investment in Shriram Holdings. Multinational corporations are also entering India. Swiss cement major Holcim's investment in ACC and Oracle's

Muller

All rights reserved by www.ijrdt.org



Date:

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

<u> </u>	inancial Support Request Lett	er
1. Name of the Staff Memb	per : Dr./Mr./Ms D. V. V. 1	Brahmachar, (recA)
2. Designation	: Ant proper	
3. Department	: <u>NCA</u>	
Industrial Visit / Tours W	/ Membership Fee / Workshop / Vith details:	
<u>N</u>	MEL - Inhoduka	to machine Learning
5. Date & Duration of the P	rogram: Aug-oct 2018	
6. Associating Professional	Body / Agency: NRTEL	
<ul> <li>Financial support particular</li> <li>Registration Chartii. Travelling Allowatiii. Membership Feetiv. Others (if any)</li> </ul>	ges: 500 (-	
Date: 21/62/2018	Signa	ature of the Staff Member
<ol> <li>Recommendations of the</li> <li>Recommendations of the</li> </ol>		*Sanctioned / Not Sanctioned
count Department	PRINCIPAL SRK Institute of Technolo ENIKEPADU, VIJAYAWADA-521 1	<b>gy</b> 08.

	The second secon	
No.	VOUCHER	Date 02/08/2018
	CITUTE OF TECH KEPADU, VIJAYAWADA - 521 108. Ph. : 284	
Name of A/cFoxcu	rita Dengobweut Brochon	<i>z</i> v
Paid to D.V.V. Sicoban	cachas (McA) Cash/Cheque	500 -
the Sum of Rupees	Esno Horagney subser outh	)
TowardsFD	SE.	
		Dfw
Prepared by	Approved by	Audited by

₹ 500



Roll No:NPTEL18CS40S12160331

To S.R.K.INSTITUTE OF TEHNOLOGY VIJAYAWADA



No. of weeks of NPTEL Courses	Equivalence of NPTEL course with regular FDP	
4	$\frac{1}{2}$ FDP of one week	
8	Full FDP of one week	
12	$1\frac{1}{2}$ FDP	

**Duration of NPTEL course: 8 Weeks** 



## NPTEL-AICTE Faculty Development Programme



(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to

#### DAKOJI VENKATA VISWA BRAHMACHARI

for successfully completing the course

**Introduction to Machine Learning** 

with a consolidated score of 60 %

Prof. Andrew Thangaraj NPTEL Coordinator IIT Madras

(Aug-Oct 2018)

Prof. Dileep N. Malkhede Advisor-I (Research, Institute & Faculty Development) All India Council for Technical Education

Roll No: NPTEL18CS40S12160331

Culled

To validate and check scores: http://nptel.ac.in/noc

The candidate has studied the above course through MOOCs mode, has submitted online assignments and passed proctored exams.

This certificate is therefore acceptable for promotions under CAS as per FIGTE notifications dated 24\* July 2018, similar to other refresher / orientation courses.

F.No. AICTE / RIFD / FDP through MCOCs / 2017-18.



Date:

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	<u>Fina</u>	ncial Support Request Lette	e <u>r</u>
1. N	ame of the Staff Member	: Dr./Mr./Ms	motha.
2. D	esignation	: Aut. Professe	1
3. D	epartment	:MCA	
4. C	onference / Publication / Madustrial Visit / Tours With	Iembership Fee / Workshop / details:	FDP / Seminar / Training /
5. D	ate & Duration of the Prog	ram: July 2018 to	October 2018 (4 M)
6. A	Associating Professional Bo	ody/Agency: NPTEL	_
7. Fi i. ii. iii iv	i. Membership Fee	: 500/-	
Date	: 30.6.2018	Signa	ature of the Staff Member
	Recommendations of the HORecommendations of the Pri	incipal:	*Sanctioned / Not Sanctioned
count l	Department	SRK Institute of Techn ENIKEPADU, VIJAYAWADA-	1010 <b>9</b> 7 521 108

O. VOUCHER

SRK INSTITUTE OF TECHNOLOGY

ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c. Facelly development program.

Paid to. M. Anithan (MCA) Cash/Cheque 5.00

the Sum of Rupees. Five humaned ruples only

Towards. FD.P.

Approved by Audited by 13mm.

### 500 | #### Audited by Receiver Signature



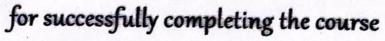
## WPTEL-AICTS Faculty Development Programme



(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to

M.ANITHA



**Software Engineering** 

with a consolidated score of 56 %

Prof. Andrew Thangaraj **NPTEL Coordinator IIT Madras** 

(Jul-Oct 2018)

Prof. Dileep N. Malkhede Stitute of Technology India Council for Technical Education Advisor-I (Research, Institute & Faculty Develope

2011 NO. 14 P. 15 1 8 (1523 157 2) 40 Y DE

1 4 8 12-

o validate and check scores. He

The candidate has studied the above course through MOOCs mode, has submitted online assignments and passed proctored exams This certificate is therefore acceptable for promotions under CAS as per AICTE notifications dated 24th July 2018, similar to other refresher / orientations F.No. AICTE / RIFD / FDP through MOOCs / 2017-18



Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	Financial Support Request Letter
1.	Name of the Staff Member : Dr./Mr./Ms. D. VIVIBrah ma Char'
2.	Designation : - AX7 'Prof
3.	Department :
4.	Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details :
5.	Date & Duration of the Program: Jan 2019 - March 2019 (3 Months
6.	Associating Professional Body / Agency: NPTEL
7.	Financial support particulars:
	<ul> <li>i. Registration Charges: 500/</li> <li>ii. Travelling Allowances:</li> <li>iii. Membership Fee :</li> </ul>

Date: 26 12 18

Signature of the Staff Member

1. Recommendations of the HOD:

Others (if any)

2. Recommendations of the Principal:-

SRK Institute of Technology 108 ENIKEPADU, VIJAYAWADA-521 108.

Account Department

iv.

Accountant:

Date:

<b>1</b> 0.	<b>YOUCHER</b>	Date0.8/18
	TUTE OF TECH PADU, VIJAYAWADA - 521 108. Ph. : 2	
Name of A/cFace	MCA) Cash/Cheque 5	nau
the Sum of Rupees	e hundred rupees on	ly
Towards	<i>F V</i>	
		lal.o

ENIKEPADU, VIJAYAWADA-521 108 SRK Institute of Technology

Roll No:NPTEL19CS13S11960493

TO DAKOJI VENKATA VISWA BRAHMACHARI S.R.K.INSTITUTE OF TEHNOLOGY VIJAYAWADA



**Equivalence of NPTEL** No. of weeks of course with regular FDP **NPTEL Courses** 1 FDP of one week Full FDP of one week 1 TP FDP

**Duration of NPTEL course: 8 Weeks** 



## **NPTEL-AICTE**Faculty Development Programme



(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to

#### DAKOJI VENKATA VISWA BRAHMACHARI

for successfully completing the course

**Data Science for Engineers** 

with a consolidated score of 44 %

Prof. Andrew Thangara NPTEL Coordinator

(Jan-Mar 2019)

Advisor-I (Research, Institute & Faculty Development)

Roll No: NPTEL19CS13S11960493

To validate and check scores: http://nptel.ac.in/noc

The candidate has studied the above course through MOOCs mode, has submitted online assignments and passed proctored exams.

This certificate is therefore acceptable for promotions under CAS as per AICTE notifications dated 24° July 2018, similar to other refresher / orientation courses. F.No. AICTE / RIFD / FDP through MOOCs / 2017-18





18-19 51



Accountant: (Accountant:

Date:

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	<u>Fina</u>	ncial Support Request Lette	<u>r</u>
1.	Name of the Staff Member	: Dr./Mr./Ms	ranesh Cumar
2.	Designation	: Ass. professor	9
3.	Department	:MCA	
4.	Conference / Publication / M Industrial Visit / Tours With	Membership Fee / Workshop /	FDP / Seminar / Training /
	Cyslo N	rebusking Aladem	y Gujerence - India
5.	Date & Duration of the Prog	gram: 11 Feb 2019	-12. Feb 2019
6.	Associating Professional Bo	ody/Agency: CISCO	
7.	Financial support particulars	3:	
	i. Registration Charges	s: <b>2</b> 00	
	ii. Travelling Allowand	es:	
	iii. Membership Fee	:	
	iv. Others (if any)		
			P .
			(Kreskera)
Da	ate: 5.2.19	Signa	ture of the Staff Member
		O to	1
	Recommendations of the H		
2.	Recommendations of the Pr		*Sanctioned / Not Sanctioned
		SRK Institute of Technol	
oui	nt Department	ENIKEPADU, VIJAYAWADA-521	100
0.00000000			

		10-17
No.	VOUCHER	Date 07/02/19
VIII	TUTE OF TECH PADU, VIJAYAWADA - 521 108. Ph. : 28	
Name of A/cFacult	y Development Prop	<u> 1900 </u>
Paid to T- Gonesh k	omas (McA) Cash/Cheque	9001-
the Sum of Rupees	so Hundred Duposs	odz
Towards	Canference	0
		Io N
Prepared by	Approved by	Audited by

200

Receiver Signature



## 2019 Cisco Networking Academy Conference-India

# Certificate of Recognition

awarded to

Ganesh Kumar T

from

**SRK Institute of Technology** 

for your participation in the 2019 Cisco Networking Academy Conference-India

Murugan Vasudevan Regional Manager South Asia - Corporate Affairs Cisco Systems, Inc.

Manager - Corporate Affairs

Cisco Systems, Ingrk Institute of Technology ENIKEPADU, VIJAYAWADA-521 108

Event occurred on 11th & 12th February, 2019 in Bangalore, India



#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

Financial Support Rec	uest Letter
-----------------------	-------------

	- 12501 Ectici
1. Name of the Staff Member	: Dr. Mr. Ms. N. Syidevi
2. Designation	:- Aut prof
3. Department	: S & H
	embership Fee / Workshop / FDP / Seminar / Training / details:  Lness and Higher goals in Edu
5. Date & Duration of the Progra	am: 4-6-2018. to 8-6-2018.
<ol><li>Associating Professional Bod</li></ol>	ly/Agency: IIT Madras
7. Financial support particulars:	
<ul> <li>i. Registration Charges:</li> <li>ii. Travelling Allowances</li> <li>iii. Membership Fee</li> <li>iv. Others (if any)</li> </ul>	400/-
	N. Luidui
Date: 1-6-2018	Signature of the Staff Member
<ol> <li>Recommendations of the HOD</li> <li>Recommendations of the Principle</li> </ol>	· Sidman
7 CN	PRINCIPAL RK Institute of Technology IKEPADU, VIJAYAWADA-521 108
Accountant: A	
Date: 01-06-2018	•

#### 



# Teaching Learning Centre Indian Institute of Technology Madras

This is to certify that

#### Dr. N Sridevi

SRK Institute of Technology, Vijayawada, Andhra Pradesh

has participated successfully in the short-term course

"Self-Awareness and Higher Goals in Education"

organized by the Departments of Civil Engineering and Mechanical Engineering

04 June - 08 June, 2018

(Dr. Parag Ravindran)

Coordinator
Mechanical Engineering

(Prof. Devdas Menon)

Denon

Coordinator Civil Engineering (Prof. Edamana Prasad)

Head Teaching Learning Centre

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.



Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	Financial Support Request Letter			
1.	Name of the Staff Member	: Dr./Mr./Ms. S. Kclpanh		
2.	Designation	: Asst-protessor		
3.	Department	:s&H		
4.	4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:			
<ul><li>5.</li><li>6.</li></ul>	5. Date & Duration of the Program: Aug /2018. 6. Associating Professional Body / Agency: Mathematical Archive			
7.	7. Financial support particulars :			
	i. Registration Charges: 2000/-			
	ii. Travelling Allowance	s:		
	iii. Membership Fee	:		
	iv. Others (if any)			
Da	ite: 18-8-2018	Signature of the Staff Member		
	Recommendations of the HC Recommendations of the Prin	1100000		

Account Department

PRINCIPAL SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

Accountant: 40 Date: 20/8/20/8

No.	VOUCHER	Date 20 8 18:
SRK INS	STITUTE OF TEC	
	ENÎKEPADU, VIJAYAWADA - 521 108. Ph.	: 2843839
Name of A/c	Pace by development px	ograme.
	ana (3 a H) Cash/Cheque	
	Two thousand supers or	
	Reper Publication.	
		1040

Prepared by

2000 |-

Approved by

Audited by

Receiver Signature

#### International Journal of Mathematical Archive-9(10), 2018, 1-14 MAAvailable online through www.ijma.info ISSN 2229 - 5046

#### MHD FREE CONVECTIVE FLOW PAST AN IMPULSIVELY STARTED ISOTHERMAL VERTICAL PLATE UNDER THE INFLUENCE OF RADIATION AND MASS TRANSFER

#### 1S. KALPANA AND 2CH. V. RAMANA MURTHY\*

Research Scholar, Department of Mathematics, Krishna University, Machilipatnam - 521001 (AP), India.

<sup>2</sup>Department of Applied Mathematics, Sri Vasavi Institute of Engineering and Technology, Nandamuru, Pedana - 521369 (AP), India.

(Received On: 20-08-18; Accepted On: 12-10-18)

#### ABSTRACT

 $\pmb{T}$  he effect of the frequency of excitation on the concentration profiles for different values of Sc have been obtained. In each of these illustrations, it is noticed that, as the frequency of excitation increases the concentration of the fluid decreases. In both these illustrations it is observed that as the Schmidt number increases the concentration decreases. When the Schmidt number Sc is held constant and as frequency of excitation  $\omega$  is increased the velocity increases. The velocity profiles are found to be more parabolic for smaller values of Sc. As Schmidt number Sc increases the parabolic nature diminishes. The velocity profiles are more dispersed as Solutal Grashof number Gm increases. Further, it is seen that as Schmidt number Sc increases the velocity increases. It is also noted that for smaller values of Solutal Grashof number Gm, the velocity profiles are perfectly linear, while the situation is not so far higher values of Solutal Grashof number Gm. It is observed that as Solutal Grashof number Gm increases the velocity decreases. As the frequency of excitation increases the nature of velocity profiles is changed. Also as the magnetic intensity increases the velocity increases. It is noticed that as Solutal Grashof number Gm increases the velocity decreases. Further the profiles are parabolic in nature. It is seen that as the magnetic intensity increases the velocity decreases. Further it is seen that increases in the magnetic field suppresses the velocity profiles. In both the cases it is notice that the profiles are parabolic in nature. It is seen that as Solutal Grashof number increases the skin friction also increases. It is observed that as Solutal Grashof number increases the skin friction is found to be increasing. Further, as frequency of excitation increases the skin friction is noted to be decreasing. It is seen that, as Schmidt number increases the skin friction reduces drastically. Further it is also noticed that for a constant value of Schmidt number as frequency of excitation increases the skin friction decreases. In general, it is seen that as Solutal Grashof number increases the skin Vion on the bounding surface also increases. Further for a constant value of Schmidt number and as magnetic imensity increases, the skin friction decreases. Initially, it is seen that as Schmidt number increases the skin friction increases up to 20% of the boundary layer and there after a reverse trend is noted. Subsequently it is seen that as Schmidt number increases, the skin friction decreases. It is seen that as frequency of excitation increases the skin friction reduces gradually. Further, as we move away from the boundary the skin friction appears to be very minimal.

Key words: MHD flow, velocity profiles, skin friction, Solutal Grashof number, Schmidt number.

#### NOMENCLATURE

: velocity component in x - directions,

velocity component in y - directions,

: constant velocity

: time

: concentration

: acceleration due to gravity

: volumetric coefficient of thermal expansion

: volumetric coefficient of expansion with concentration

temperature of the fluid in the boundary layer

Corresponding Author: 2Ch. V. Ramana Murthy\* <sup>2</sup>Department of Applied Mathematics, Sri Vasavi Institute of Engineering and Technology, Nandamuru, Pedana - 521369 (AP), India.

ENIKEPADU, VIJAYAWADA-521 108.

International Journal of Mathematical Archive- 9(10), Oct.-2018



Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

Financial Support Request Letter				
1.	Name of the Staff Member	: Dr./Mr./Ms. V. Ravi Kuna).		
2.	Designation	: Asst prof		
3.	Department	:S2H		
4.	Conference / Publication / M	Membership Fee / Workshop / FDP / Seminar / Training /		
	Industrial Visit / Tours With	details:		
	C	vience Livert		
		WINE TO SEE		
5.	Date & Duration of the Prog	gram: Sep 2018		
6.	Associating Professional Bo	ody/Agency: ELSEVIER		
7.	7. Financial support particulars:			
		1		
	i. Registration Charges	s: 1200/		
	ii. Travelling Allowand	es:		
	iii. Membership Fee			
	iv. Others (if any)			
		0		
D	Pate: 18-8-2018	Signature of the Staff Member		
1		NOD: *Sanctioned / Not Sanctioned		
		PRINCIPAL		
SRK Institute of Technology				

Account Department

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

Accountant:

Date: 20/8/2018

No.

SRK INSTITUTE OF TECHNOLOGY
ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c.

Facully. development programe

Paid to Dr. V. Pani Kumas (SMH) Cash/Cheque 1200 —

the Sum of Rupees Our thoursand too hundred nepers only.

Towards.

Paper Rubii cahan.

Prepared by

Approved by

Audited by

Receiver Signature

12001



Available online at www.sciencedirect.com

#### ScienceDirect

Materials Today: Proceedings 5 (2018) 26372-26379



www materialstoday com/proceedings

#### PCNCM2017

#### Spectroscopic properties of Dy3+ ions in PbO-Sb2O3 glasses mixed with MgO/CaO/SrO

Valluri Ravi Kumarab.\*, G. Nagarajub, M. Vidya Elizabetha and D. Udaya Keerthia

Department of Physics, SRK Institute of Technology, Entkepadu, Vijayawada 512 108, A.P., India Department of Physics, Acharva Nagarjuna University, Nagarjuna Nagar, 522 510, A.P., India

#### Abstract

PbO-Sb2O-MgO CaO SrO: Dy3- glasses were synthasized by using the melt quenching Technique. The influence of modifier oxide on the optical and luminescence characteristics of Dy3+ ions has been investigated. Using the intensities of various absorption bands of Dy<sup>3-</sup> ions, the Judd-Ofelt parameters  $\Omega_2$ ,  $\Omega_4$  and  $\Omega_6$  have been evaluated. The luminescence spectra ( $\lambda_{exc}$ = 348 nm) exhibited three principal emission bands in the visible region corresponding  ${}^4F_{9/2} \rightarrow {}^6H_{15/2}$ ,  ${}^6H_{13/2}$ ,  ${}^6H_{11/2}$  various radiative properties like transition probability A, branching ratio  $\beta_r$  and the radiative life time  $\tau_r$  for various emission levels of Dy3- ions have been evaluated. The values of these parameters were found to be influenced by modifier oxides. Among the three modifier oxides, the glasses mixed with CaO glasses have low non-radiative losses among the three mixed glasses are found to be reson, CaO mixed glasses exhibited the highest luminescence efficiency.

© 2018 Elsevier Ltd. All rights reserved.

Peer-review under responsibility of the scientific committee of the Proceedings of National Seminar on Physics and Chemistry of Non-Crystalline Materials

Keywords: Dy3- glasses: Modifier oxides; Luminescence quenching; Y/B ratio

#### 1. Introduction

Dy5- ion is an important rare-earth ion that plays a major role in the production of white light luminescent materials. This ion is also well known due to its IR emission at 3.02  $\mu$ m ( $^6H_{13/2} \rightarrow ^6H_{15/2}$ ) and 1.34  $\mu$ m ( $^6H_{11/2} \rightarrow$ <sup>6</sup>H<sub>132</sub>), which are considered as potential transitions for fiber amplifiers [1-3]. Dysprosium ion exhibits two

\* Corresponding author. Tel.: +91-900039738. E-mail address: ravikumar\_valluri@rediffmail.com

Peer-review under responsibility of the scientific committee of the Proceedings of National Seminar on Physics and Chemistry of Non-Crystalline Materials.

> SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

62 18-19



2018/2018

Date:

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

#### **Financial Support Request Letter**

1.	Name of the Staff Member	: Dr./Mr./Ms. — <u>H.V.</u>	Elizabelt
2.	Designation	: Asst Professol	<u>/</u>
3.	Department	:S&H.	
4.	Conference / Publication / M Industrial Visit / Tours With		p / FDP / Seminar / Training /
	Science	direct	
5.	Date & Duration of the Prog	gram: Sep 201	8
6.	Associating Professional Bo	ody/Agency: ELSE	VIER
7.	Financial support particulars	ı:	
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowanc</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>	~ '	
Ī	Date: 18-8-2018	Si	H.V. Elizabeth gnature of the Staff Member
<ol> <li>Recommendations of the HOD : *Sanctioned / Not Sanctioned</li> </ol>			
	unt Department	PRINCIPAL SRK Institute of Tecl ENIKEPADU, VIJAYAWADA	nnology A-521 108,
Acco	untant:		

		VOUCHER	\S	Date 20 8 18.
SRK I		TE OF T	<b>ECHNO</b>	
		development		
Paid to M. Vid	lya Elizabeth	(SAH) Cash/Cheque	2000/-	
the Sum of Rupees	s Two thou	sand Rupees	only.	
Towards	Papel	publication:		
Prepared by		Approved by		Audited by

2000 |-

Approved by

Receiver Signature



Available online at www.sciencedirect.com

# ScienceDirect

Materials Today: Proceedings 5 (2018) 26372-26379



www materialstoday com/proceedings

### PCNCM2017

# Spectroscopic properties of Dy3+ ions in PbO-Sb2O3 glasses mixed with MgO/CaO/SrO

Valluri Ravi Kumarab, G. Nagarajub, M. Vidya Elizabetha and D. Udaya Keerthia

Department of Physics, SRK Institute of Technology, Entkepadu, Vijayawada 512 108, A.P., India Department of Physics, Acharya Nagarjuna University, Nagarjuna Nagar, 522 510, A.P., India

### Abstract

PbO-Sb2O3-MgO CaO SrO: Dy3- glasses were synthasized by using the melt quenching Technique. The influence of modifier oxide on the optical and luminescence characteristics of Dy3- ions has been investigated. Using the intensities of various absorption bands of  $Dv^{3-}$  ions, the Judd-Ofelt parameters  $\Omega_2$ ,  $\Omega_4$  and  $\Omega_6$  have been evaluated. The luminescence spectra ( $\lambda_{exc}$ = 348 nm) exhibited three principal emission bands in the visible region corresponding  ${}^4F_{9/2} \rightarrow {}^6H_{15/2}$ ,  ${}^6H_{13/2}$ ,  ${}^6H_{11/2}$  various radiative properties like transition probability A, branching ratio  $\beta_r$  and the radiative life time  $\tau_r$  for various emission levels of Dy3- ions have been evaluated. The values of these parameters were found to be influenced by modifier oxides. Among the three modifier oxides, the glasses mixed with CaO glasses have low non-radiative losses among the three mixed glasses are found to be reson, CaO mixed glasses exhibited the highest luminescence efficiency.

© 2018 Elsevier Ltd All rights reserved.

Peer-review under responsibility of the scientific committee of the Proceedings of National Seminar on Physics and Chemistry of Non-Crystalline Materials.

Keywords: Dy3- glasses; Modifier oxides; Luminescence quenching; Y/B ratio.

### 1. Introduction

Dy3- ion is an important rare-earth ion that plays a major role in the production of white light luminescent materials. This ion is also well known due to its IR emission at 3.02  $\mu$ m ( $^6H_{13/2} \rightarrow ^6H_{15/2}$ ) and 1.34  $\mu$ m ( $^6H_{11/2} \rightarrow$ <sup>6</sup>H<sub>132</sub>), which are considered as potential transitions for fiber amplifiers [1-3]. Dysprosium ion exhibits two

 Corresponding author Tel.: +91-900039738. E-mail address: ravikumar\_valluri@rediffmail.com

Peer-review under responsibility of the scientific committee of the Proceedings of National Seminar on Physics and Chemistry of Non-Crystalline Materials.

> **BRK Institute of Technology** ENIKEPADU, VIJAYAWADA-521 108.



Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

Financial Support Request Letter				
1.	Name of the Staff Member	: Dr./Mr./Ms. D. Udaya Certhi.		
2.	Designation	: Aest. Pol-		
3.	Department	:S&H		
4.	4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details :			
		cience direct.		
<ul><li>5.</li><li>6.</li></ul>	<ul> <li>5. Date &amp; Duration of the Program: SeP 2018</li> <li>6. Associating Professional Body / Agency: ELSEVIER</li> </ul>			
7.	7. Financial support particulars :			
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowanc</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>	1000		
D	ate: 12-9-2018	Signature of the Staff Member		
1. 2.				

Account Department

Accountant:

Date: 13/9/2018

PRINCIPAL SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108. No.

SRK INSTITUTE OF TECHNOLOGY

ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c.

Faculty Deve to proceed Programme:

Paid to D. Starp Resetutively Cash/Cheque 12.00/

the Sum of Rupees One thousand two hundred Rupeer only:

Towards. Paper Publication:

Approved by

Approved by

Approved by

Approved by

Approved by

Receiver Signature



Available online at www.sciencedirect.com

# ScienceDirect

Materials Today: Proceedings 5 (2018) 26372-26379



www materialstoday com/proceedings

### PCNCM2017

# Spectroscopic properties of Dy<sup>3+</sup> ions in PbO-Sb<sub>2</sub>O<sub>3</sub> glasses mixed with MgO/CaO/SrO

Valluri Ravi Kumarab, G. Nagarajub, M. Vidya Elizabetha and D. Udaya Keerthia

Department of Physics, SRK Institute of Technology, Entkepadu, Vijayawada 512 108, A.P., India Department of Physics, Acharya Nagarjuna University, Nagarjuna Nagar, 522 510, A.P., India

### Abstract

PbO-Sb<sub>2</sub>O<sub>3</sub>-MgO CaO/SrO: Dy<sup>3-</sup> glasses were synthasized by using the melt quenching Technique. The influence of modifier oxide on the optical and luminescence characteristics of Dy<sup>3+</sup> ions has been investigated. Using the intensities of various absorption bands of Dy<sup>3-</sup> ions, the Judd-Ofelt parameters  $\Omega_2$ ,  $\Omega_4$  and  $\Omega_6$  have been evaluated. The luminescence spectra ( $\lambda_{exc}$ = 348 nm) exhibited three principal emission bands in the visible region corresponding  ${}^4F_{9/2} \rightarrow {}^6H_{15/2}$ ,  ${}^6H_{13/2}$ ,  ${}^6H_{11/2}$  various radiative properties like transition probability A, branching ratio  $\beta_r$  and the radiative life time  $\tau_r$  for various emission levels of Dy<sup>3-</sup> ions have been evaluated. The values of these parameters were found to be influenced by modifier oxides. Among the three modifier oxides, the glasses mixed with CaO glasses have low non-radiative losses among the three mixed glasses are found to be reson, CaO mixed glasses exhibited the highest luminescence efficiency.

© 2018 Elsevier Ltd. All rights reserved.

Peer-review under responsibility of the scientific committee of the Proceedings of National Seminar on Physics and Chemistry of Non-Crystalline Materials.

Keywords: Dy3- glasses, Modifier oxides; Luminescence quenching; Y/B ratio.

### 1. Introduction

 $Dy^{3-}$  ion is an important rare-earth ion that plays a major role in the production of white light luminescent materials. This ion is also well known due to its IR emission at 3.02  $\mu$ m ( $^6H_{13/2} \rightarrow ^6H_{15/2}$ ) and 1.34  $\mu$ m ( $^6H_{11/2} \rightarrow ^6H_{13/2}$ ), which are considered as potential transitions for fiber amplifiers [1-3]. Dysprosium ion exhibits two

Corresponding author Tel: +91-900039738.
 E-mail address: ravikumar\_valluri@rediffmail.com

2214-7853 © 2018 Elsevier Ltd. All rights reserved.

Peer-review under responsibility of the scientific committee of the Proceedings of National Seminar on Physics and Chemistry of Non-Crystalline Materials.

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108



Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

Financial Support Request Letter			
1.	Name of the Staff Member	: Dr./Mr./Ms D. Anand	
2.	Designation	:- Asst. Professos.	
3.	Department	:S& H	
4.	Conference / Publication / M Industrial Visit / Tours With	details:	
	English in Rudi	phoenetics & phonology ram: 7th Sep 2018.	
5.	Date & Duration of the Progr	ram: 7th Sep 2018.	
6.		dy/Agency: Center for engineering language Studies.	
	<ul> <li>i. Registration Charges</li> <li>ii. Travelling Allowance</li> <li>iii. Membership Fee</li> <li>iv. Others (if any)</li> </ul>	: 400	
Da	nte: 1-09-2018	Signature of the Staff Member	
1. 2.	Recommendations of the HC Recommendations of the Pri	DD: *Sanctioned / Not Sanctioned	
	PRINCIPAL SRK Institute of Toolandary		

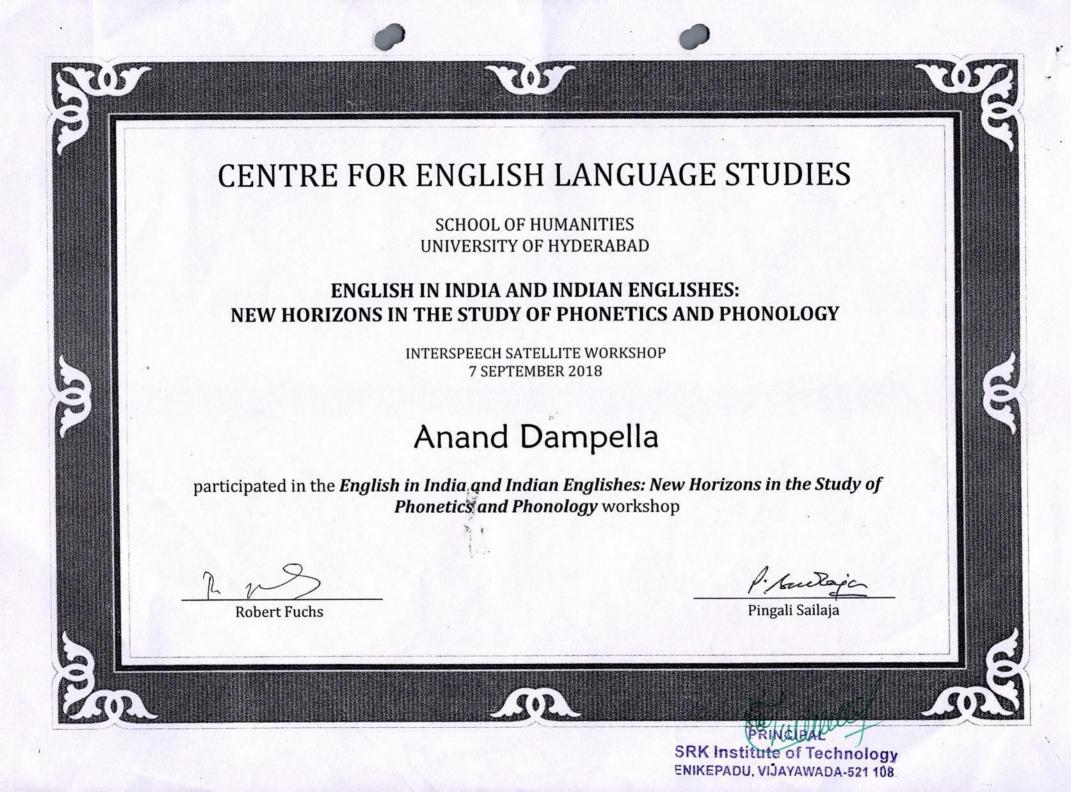
Account Department

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

Accountant: Wal

Date: 4/9/2018

# 





Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	Financial Support Request Letter			
1.	Name of the Staff Member	: Dr./Mr./Ms Dr. V. Rowi Kumar		
2.	Designation	: Assaid. Profenos		
3.	Department	:SAH		
	Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:  — Recent trendl in Chemistry & Physics of Materials			
5.	Date & Duration of the Progr	ram: 15-16 Sep 2017, twodays.		
6.	Associating Professional Bo	am: 15-16 Sep 2017, twodays. dy/Agency: S.R.R & C.V.R Degree Colle		
7.	7. Financial support particulars :			
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowance</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>			
Da	ite: 05-9-2018	Signature of the Staff Member		
1. 2.	Recommendations of the HC Recommendations of the Prin	D: *Sanctioned / Not Sanctioned		
	SR	K Institute of Technology		

ENIKEPADU, VIJAYAWADA-521 108.

Account Department

Accountant: 400 Date: 07/09/2018 No.

SRK INSTITUTE OF TECHNOLOGY
ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c. Faculty Development Programme

Paid to Dr. V. Ravi Lumar (Settlash/Cheque 400

the Sum of Rupees. Four hundred Supeel only.

Towards. Wallshop

Prepared by

Approved by

Approved by

Addited by

Receiver Signature







S.R.R. & C.V.R. GOVT. DEGREE COLLEGE (AUTONOMOUS), VIJAYAWADA. A.P. UGC SPONSORED TWO DAY NATIONAL SEMINAR

# RECENT TRENDS IN AND PHYSICS OF MA

CHEMISTRY AND PHYSICS OF MATERIALS (RTCPM - 2017)

15th & 16th September, 2017

# **CERTIFICATE**

This is to certify that Dr. /Mr./Mrs./Ms. Dr. V. RAVI KUMAR.
Prof. /Associate Prof. / Asst. Prof. / Lecutrer in / Student of Dept. of Physics SRK Toetstute of
Fartherpated / Chaired a session / Delivered Invited Talk / Prosented a Paner antis (
properties of lead antimon. Photobate above
in the UGC sponsored Two Day National Seminar on "Recent Trends in Chemistry and Physics of Materials" organized by Department of Chemistry, S.R.R. & C.V.R. Govt. Degree College (A), Vijayawada on 15th & 16th September, 2017.

Dr. G. Nagarjuna

Convener

K. Srinivas

Co-Ordinator

PRINCIPAL

SRK Institute of Technology

Dr. Velaga Joshi

Chairman



Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	<u>Fina</u>	ncial Support Request Letter
1.	Name of the Staff Member	: Dr./Mr./Ms. B. Sowjanya.
	Designation	: Act. Profer.
3.	Department	:S& H
4.	Industrial Visit / Tours With	
	Recent tran	als in chemistry & physics of Malei
5.		ram: 15-16 Sep 2017, twodays.
6.	Associating Professional Bo	ody/Agency: S.RR & C.V.R Degree Col
7.	Financial support particulars	
	i. Registration Charges	: 400
	ii. Travelling Allowance	es:
	iii. Membership Fee	
	iv. Others (if any)	
		13. Sowiany
Da	te: 05-04-2018	Signature of the Staff Member
	Recommendations of the HC Recommendations of the Prin	DD: DO OFTIC
		PRINCIPAL

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

Account Department

HAD Accountant:

Date: 7/9/2018

# Name of A/C. faculty development programe Paid to B. Sowjanya ESAH) cash/cheque 400 the Sum of Rupees from hundred rupees only. Towards. Work Shop. Prepared by Approved by Approved by Audited by

400 -

B. Sowjange Receiver Signature







# S.R.R. & C.V.R. GOVT. DEGREE COLLEGE (AUTONOMOUS), VIJAYAWADA. A.P. UGC SPONSORED TWO DAY NATIONAL SEMINAR

# RECENT TRENDS

# CHEMISTRY AND PHYSICS OF MATERIALS

(RTCPM - 2017)

15th & 16th September, 2017

# CERTIFICATE

This is to certify that Dr. /Mr./Mrs	Ms. B. SOWJANYA	
Prof. /Associate Prof. / Asst. Prof. /	Lecutrer in / Student of Chanistry SR	K. Institute of technology
Enikapaduhas Part	ticipated / Chaired a session / Delivered Invited I	Talk / Presented a Paper entitled
in the DCC snonsored Tayo Do	y National Seminar on "Recent Trends in Chemistry a	
by Department of Chemistry, S.R.R.	L.C.V.R. Govt. Degree College (A), Vijayawada on	na Physics of Materials" organized 15 <sup>th</sup> L 16 <sup>th</sup> September, 2017,
21.	SW - W	
Dr. G. Nagarjuna)  Convener	K. Srimivas Co-Ordinator	Dr. Velaga Joshi



Date: 07/09/2018

# SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

Financial Support Request Letter
1. Name of the Staff Member : Dr./Mr./Ms. M.V. Elizabeth.
2. Designation : Asst. Drofuso.
3. Department :
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:
Recent trends in chemistry & physics of Malend
5. Date & Duration of the Program: 15-16 Set 2017.
6. Associating Professional Body/Agency: S.R.R and C.V.R govt
7. Financial support particulars:
i. Registration Charges: 400 ii. Travelling Allowances: Membership Fee : iv. Others (if any) :
Date: 05-04-2018 Signature of the Staff Member
<ol> <li>Recommendations of the HOD:</li> <li>Recommendations of the Principal:</li> </ol> *Sanctioned / Not Sanctioned
Account Department SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108, Accountant:

No.

SRK INSTITUTE OF TECHNOLOGY

ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c. For culty Develop ment Programme

Paid to M.V. Ehzabelte User Cash/Cheque 400

the Sum of Rupees. Four hundred Rupels'

Towards. Walshop'

Approved by Audited by 13m -

₹ 4001-

H.V. Thizabeth Receiver Signature







S.R.R. & C.V.R. GOVT. DEGREE COLLEGE (AUTONOMOUS), VIJAYAWADA. A.P. UGC SPONSORED TWO DAY NATIONAL SEMINAR

# RECENT TRENDS IN CHEMISTRY AND PHYSICS OF MATERIALS

(RTCPM - 2017)

15th & 16th September, 2017

# **CERTIFICATE**

This is to certify that Dr. /Mr./Mrs./Ms. M. VIDYA ELIZABETH
Prof. /Associate Prof. / Asst. Prof. / Lecutrer in / Student of Physics S.R.k Institute of Technologe Enikapadu
Turvella Turvella de Turvella de Session y Benverea Turvella de Tu

Dr. G. Naga/juna

Convener

K. Srinivas

Co-Ordinator

WILLIAM STANKER

Dr. Velaga Joshi Chairman

RK Institute of Technology



Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	Financial Support Request Letter			
1.	Name of the Staff Member	: Dr./Mr./Ms. D. Waya teerth;		
2.	Designation	: Att. profer		
3.	Department	:		
4.	Industrial Visit / Tours With			
	Recent trends in physics & chemistry of Materials			
5.	Date & Duration of the Progr	ram: 15-16 Sel 2017, twadays.		
6.	and a sup De ore allest			
7.				
	i. Registration Charges: 400 ii. Travelling Allowances: iii. Membership Fee: iv. Others (if any):			
Da	ite: 05-9-2018	Signature of the Staff Member		
	Recommendations of the HC Recommendations of the Prin			
	r RINCHAL .			

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

Account Department

Accountant: 420 Date: 07/09/2018

No.

SRK INSTITUTE OF TECHNOLOGY

ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c. Faculty Develop neut Programme

Paid to D. Udaya Reestri (St. 4) cash/cheque 'LfDD'

the Sum of Rupees Four hundred supres only

Towards. Wellshop,

Approved by

Approved by

Addited by

400

12m1-

Receiver Signature







# S.R.R. & C.V.R. GOVT. DEGREE COLLEGE (AUTONOMOUS), VIJAYAWADA. A.P. UGC SPONSORED TWO DAY NATIONAL SEMINAR

# RECENT TRENDS

# CHEMISTRY AND PHYSICS OF MATERIALS

(RTCPM - 2017)

15th & 16th September, 2017

# CERTIFICATE

This is to certify that Dr. / Mr. / Mrs. /Ms. D. UDAYA KEERTH1
Prof. /Associate Prof. / Asst. Prof. / Lecutrer in / Student of SRK Institute of technology Dept of physic
Enikepodu
Effect of Sm3+ ions on Spectroscopic proporties of lead antimony Phosphate glasses.
in the UGC sponsored Two Day National Seminar on "Recent Trends in Chemistry and Physics of Materials" organized
by Department of Chemistry, S.R.R. I.C.V.R. Govt. Degree College (A), Vijayawada on 15th I. 16th September, 2017.

Dr. G. Nagarjuha

Convener

K Srinivas

Co-Ordinator

any lestitute of Technologue. Velaga Joshi

RK Institute of AWADA-521 108,

Chairman



Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	<u>Fina</u>	ncial Support Request Letter
1.	Name of the Staff Member	: Dr./Mr./Ms. V. prashanti
2.	Designation	: Asst. Propins
3.	Department	:
4.	Industrial Visit / Tours With	details:  Legurar A Aralysis
5.	Date & Duration of the Prog	ram: 27-28 Dec2018, Twodays
6.	Associating Professional Bo	dy/Agency: P.B. Siddhartha College o Arts & Science
7.	Financial support particulars	
	i. Registration Charges	: 400
	ii. Travelling Allowance	es:
	iii. Membership Fee	
	iv. Others (if any)	
Da	ate: 22-12-2018	Signature of the Staff Member
1. 2.	Recommendations of the HC Recommendations of the Pri	
		PRINCIPAL
		THE DECEMBERS OF STATE OF THE PARTY OF THE P

ENTREPERDO, UNIVAVAMADA 528210808

Account Department

Accountant:

Date: 24/12/2018

# SRK INSTITUTE OF TECHNOLOGY ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839 Name of A/c. Faculty development programe: Paid to V. Prasanthi (Sath) cash/cheque 4001— the Sum of Rupees. Four hundred rupees only— Towards. Work Shop. Approved by Audited by 12m -

ver Signature

400

PARVAIHANENI DRAHIVIAT YA SIDUHARTHA COLLEGE OF ARTS & SCIENCE

Vijayawada - 520 010. Andhra Pradesh, India.



College with Potential for Excellence (Recognised by UGC) College of Excellence (Recognised by the Govt. of Andhra Pradesh)

Reaccredited at 'A' level by NAAC

TWO DAY WORKSHOP ON

PARTIAL DIFFERENTIAL EQUATIONS AND ANALYSIS

27 - 28, DECEMBER 2018

Organized by

DEPARTMENT OF MATHEMATICS

Certificate

This is to certify that Dr/Mr/Ms V. Phasanthi & Asst. Pon	Hesson.
of SRKIT g. Enikepadue	participated in the Two Da

workshop on "PARTIAL DIFFERENTIAL EQUATIONS AND ANALYSIS" during 27 - 28 December, 2018.

Prof. V. Lakshmi Prasannam

Head Dept of Mathematics

Prof. Rajesh C Jampala

Deon

SRK Institute of Technology ENIKEPADU. VIJAYAWADA-521 108.

M. Mamesn

Principo



Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	Financial Support Request Letter				
1.	Name of the Staff Member	: Dr./Mr./Ms. B.V. Rama Evishna Pab			
2.	Designation	: Alt. Jegur			
3.	Department	:S4H			
4.	4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:  ———————————————————————————————————				
5.		ram: 27-28 Dec 2018.			
6.	Associating Professional Bo	dy/Agency: P.B. Siddharther College			
	Financial support particulars				
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowance</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>				
Da	te: 22-12-2018	Signature of the Staff Member			
	Recommendations of the HO Recommendations of the Prin				

PRINCIPAL SRK Institute of Technology

ENIKEPADU, VIJAYAWADA-521 108.

Account Department

Accountant:

Date: 24/12/2018

	VOUCHER TUTE OF TECH PADU, VIJAYAWADA - 521 108. Ph. : 28	
Name of A/cFC	iculty development	programe.
Paid to B. V. Rama kri	shnakao (SOLH) Cash/Cheque 400	1-
the Sum of RupeesFou	hundred rupees on	<u>ly.</u>
Torvards	workshop	6
Drawayad bu	Approved by	Audited by
Prepared by		

# PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS & SCIENCE



Vijayawada - 520 010. Andhra Pradesh, India.

College with Potential for Excellence (Recognised by UGC) College of Excellence (Recognised by the Govt. of Andhra Pradesh)

Reaccredited at 'A' level by NAAC

TWO DAY WORKSHOP ON

# PARTIAL DIFFERENTIAL EQUATIONS AND ANALYSIS

27 - 28, DECEMBER 2018

Organized by

# **DEPARTMENT OF MATHEMATICS**

Certificate

This is to certify that $\Phi$ r/Mr/Ms	BViRama Krish	na Rao, Sr. Asst. Professor
of SRKIT, E		participated in the Two Day
	NTIAL EQUATIONS AND ANALYSIS	" during 27 - 28 December, 2018.

V. Lakshmi Prasannam Prof. V. Lakshmi Prasannam

Head, Dept.of Mathematics

Prof. Rajesh C Jampala PRINCIPAL

ean SRK Institute of Technology

ENIKEPADU, VIJAYAWADA-521 108.

Dr. M. Ramesh

Principal



Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	Financial Support Request Letter				
1.	Name of the Staff Member	: Dr./Mr./Ms S. Kalpona.			
2.	Designation	:- Acet. Profer			
3.	Department	:SAH			
4.	Industrial Visit / Tours With	details:  Leuntal Equations & Analysis			
5.	Date & Duration of the Progr	ram: 27-28 Dec 2018, twodays.			
<ul><li>6.</li><li>7.</li></ul>	Associating Professional Bo Financial support particulars	dy/Agency: P.B. Siddhartha Collège o Arts & Sciences			
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowance</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>				
Da	te: 22-12-2018	S. Kalpare Signature of the Staff Member			
1.	Recommendations of the HC Recommendations of the Pri	DE Descripte			
	C.	PRINCIPAL PRINCIPAL			

SRK institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

Account Department

Accountant: 12/2018

Date: 24/12/2018

•		15 10
No.	VOUCHER	Date 24 12 18
	TUTE OF TEC	
Name of A/c Facu	thy development prog	ra me.
Paid to S. Kalpana	(SOLH) Cash/Cheque 40	20  -
	ius hundred repers or	
Towards	ooxle shop.	
		1040
Prepared by	Approved by	Audited by

Receiver Signature

4001

# PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS & SCIENCE



Vijayawada - 520 010. Andhra Pradesh, India.

College with Potential for Excellence (Recognised by UGC) College of Excellence (Recognised by the Govt. of Andhra Pradesh) Reaccredited at 'A' level by NAAC

TWO DAY WORKSHOP

# PARTIAL DIFFERENTIAL EQUATIONS AND ANALYSIS

27 - 28, DECEMBER 2018

Organized by

# DEPARTMENT OF MATHEMATICS

This is to certify that Dr/Mr/Ms S. Kalpa	na , Assistant Professor
1 March 1 Ma	[2] 보고 있는데 그렇게 하면 하면 하는데 하는데 되었다면 하는데
of SRKIT, Enikepadin	participated in the Two Day
workshop on "PARTIAL DIFFERENTIAL EQUATIONS	S AND ANALYSIS" during 27 - 28 December 2018

V-Caled - R Prof. V. Lakshmi Prasannam

Head, Dept.of Mathematics

Prof. Rajesh C Jampala RINGE

Dean SRK Institute of Technology **ENIKEPADU, VIJAYAWADA-521 108** 

Principal



Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

<b>Financial</b>	Support	Reques	t Letter

1. Name of the Sta	ff Member: Dr./Mr./Ms. G. Kofes Wasa mans.
2. Designation	:- Ant. professol
3. Department	:S& H
Industrial Visit /	blication / Membership Fee / Workshop / FDP / Seminar / Training / Tours With details:  Tours With details:  The seminar / Training /  Tours With details:  The seminar / Training /  Tours With details:
5. Date & Duration	of the Program: 27-28 Dec 2018.
<ul><li>6. Associating Pro</li><li>7. Financial support</li></ul>	fessional Body/Agency: P.B. Siddhartha Collegeos arts & Sciences.
<ul><li>i. Registrat</li><li>ii. Travellin</li><li>iii. Members</li><li>iv. Others (if</li></ul>	[20] - 10 [10]
Date: 22-12-	Signature of the Staff Member
	ns of the HOD:
	PRINCIPAL

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108,

Accountant:

Account Department

Date: 24/12/2018

# SRK INSTITUTE OF TECHNOLOGY ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839 Name of A/c. Faculty development programe Paid to. G. Koteswaramma (Satt) cash/Cheque 400 the Sum of Rupees faul bundred rupes only: Towards. World Shop Prepared by Approved by Approved by Addited by

₹ 400|-

Approved by

G. Koteswaram

# THANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS & SCIENCE



Vijayawada - 520 010. Andhra Pradesh, India.

College with Potential for Excellence (Recognised by UGC) College of Excellence (Recognised by the Govt. of Andhra Pradesh) Reaccredited at 'A' level by NAAC

TWO DAY WORKSHOP

# PARTIAL DIFFERENTIAL EQUATIONS AND ANALYSIS

27 - 28, DECEMBER 2018

Organized by

DEPARTMENT OF MATHEMATICS

Certificate

This is to certify that Dr/Mr/Ms. G. Koteswaramma, Assistant Professor. of SRKIT, Enikepadu participated in the Two Day

workshop on "PARTIAL DIFFERENTIAL EQUATIONS AND ANALYSIS" during 27 - 28 December, 2018.

Head, Dept. of Mathematics

Prof. Rajesh C Jampala

Dean

SRK Institute

Principal

ENIKEPADU, VIJAYA



Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

<b>Financial</b>	Support	Request	Letter

1.	Name of the Staff Member	: Dr./Mr./Ms	S. Suman.
2.	Designation	:AFH.	Profess.
3.	Department	:	SKH
4.	Industrial Visit / Tours With	details :	Workshop / FDP / Seminar / Training /
	Partial D	Herentra!	Equation & Avalysis
5.	Date & Duration of the Progr	ram: 27-28	Dec 2018, Two days.
6.	Associating Professional Bo	dy / Agency : ρ-	.B. Siddhartha college o Arts and Sciences
7.	Financial support particulars		
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowance</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>		
Da	ate: 22-12-2018		S. Sumf. Signature of the Staff Member
	Recommendations of the HC Recommendations of the Pri		*Sanctioned / Not Sanctioned
		PRINCIP	AL

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

Account Department

Accountant: We

Date: 24/12/2018

•				16 - 11
No.	Y	OUCHER		Date 24/12/18:
SRK IN	STITUTI ENIKEPADU, VIJAY	No. of the control of		DLOGY
	aculty develop			
Paid to S. Su	man (SaH)	Cash/Cheque	4005-	
the Sum of Rupees	Four hundre	ed rupees	only-	
Towards	work.	shop.		
				64.
Prepared by		Approved by		Audited by
		17001		00

₹ 4001-

S. Sund. Receiver Signature

# PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS & SCIENCE



Vijayawada - 520 010. Andhra Pradesh, India.

College with Potential for Excellence (Recognised by UGC) College of Excellence (Recognised by the Govt. of Andhra Pradesh) Reaccredited at 'A' level by NAAC

TWO DAY WORKSHOP

# PARTIAL DIFFERENTIAL EQUATIONS AND ANALYSIS

27 - 28, DECEMBER 2018

Organized by

# **DEPARTMENT OF MATHEMATICS**

This is to certify that D+/Mr/Ms	S. Suman	Assistant	Professor
of: 5.R.K-1.T, &			
		U	participated in the Two Day

workshop on "PARTIAL DIFFERENTIAL EQUATIONS AND ANALYSIS" during 27 - 28 December, 2018.

Prof. V. Lakshmi Prasannam

Head, Dept.of Mathematics

SRK Institute of Technology Principal

ENIKEPADU, VIJAYAWADA-521 108





Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

Financial Support Request Letter
1. Name of the Staff Member : Dr./Mr./Ms. Stalpana
2. Designation : Asit profesior.
3. Department : SELH.
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details :
Mathematical Archievee
5. Date & Duration of the Program: APR 2019
6. Associating Professional Body / Agency : MA ·
7. Financial support particulars :
i. Registration Charges: 2200 +
ii. Travelling Allowances: iii. Membership Fee:
iv. Others (if any) :
Date: 12-3-2019 Signature of the Staff Member
<ol> <li>Recommendations of the HOD :</li> <li>Recommendations of the Principal :</li></ol>
Account Department ENIKEPADU, VIJAYAWADA-521 108.
Accountant: Lette
Date: 1413/2019

		7-13-16
No.	VOUCHER	Date 14 13/19.
	TITUTE OF TECH NIKEPADU, VIJAYAWADA - 521 108. Ph. : 284	
	iculty development progr	
	Two thousand two hundre	
	er Publication.	
		[0.40
Prepared by	Approved by	Audited by
₹ 2200]-		Receiver Signature

# International Journal of Mathematical Archive-10(4), 2019, 32-39 MA Available online through www.ijma.info ISSN 2229 - 5046

MIXED CONVECTIVE FLOW OF A NEWTONIAN FLUID WITH PERMEABLE WALLS
BY CONSIDERING THE INFLUENCE OF ACCELERATION DUE TO GRAVITY

### S. KALPANA¹ AND CH. V. RAMANAMURTHY\*2

<sup>1</sup>Research Scholar, Department of Mathematics, Krishna University, Machilipatnam - 521001, (A.P.), India.

<sup>2</sup>Department of Applied Mathematics, Sri Vasavi Institute of Engineering and Technology, Pedana – 521361, (A.P.), India.

(Received On: 04-10-18; Revised & Accepted On: 07-04-19)

#### ABSTRACT

In this paper, the situation of Mixed Convective Flow of A Non-Newtonian Fluid with permeable walls by considering the influence of acceleration due to gravity has been examined in detail. It is noticed that, as Prandtl number increases the temperature also increases. Not much of significant change is observed when the radiation parameter (R) is slightly decreased. However, a drastic change is seen when the Prandtl number changes considerably along with the radiation parameter (R). Further, it is noticed that, as the radiation parameter (R) incress the temparature in the fluid also increases. However, not much of significant change is noticed for a small change in the Prandtl number. But, there is a significant change in the profiles for larger values of Prandtl number (Pr). It is seen that, as we move far away from the lower boundary then the temperature is found to be decreasing. Further, it is observed that, as the radiation parameter (R) increases the temperature of the fluid decreases.

Key words: Newtonian fluid. Reynolds Number, Prandtl Number, Radiation Parameter.

#### INTRODUCTION

During the last several years fluid mechanics had made significant process in several areas of engineering, science and technology. An attempt has been made in this paper to explain the possibility of supporting thermal transfer in several areas of engineering, science and technology. Generally engineering systems are more complicated and experimentally confusing. It is characterized by complex systems where the fluid stream currents have a sudden change with reference to the geometry of the systems, which is not uncommon, but needs to be examined in detail.

For the last many years, extraction of geothermal energy from the deep part of the earth, oil extraction, heat removal from the nuclear debris, flow of liquids through ion exchange beds, drug permeation through human skin and glands are few such wide applications. In view of several applications in physics, chemistry and chemical technology, the problem has gained more importance, where the transfer of liquid from one container to another container is involved, the rate at which such transfer takes place at the thin film adhering to the surface of the containers needs to be taken into account. Generally in the chemical processing industry the walls of the reactor are subjected to the corrosion due to the reaction with in the vessels. Such a phenomena causes loss of production and then consuming more reaction time for the next cycle of chemical processing.

The porous medium can be considered as an ordered flow in a disordered geometry. The porous medium may be either an aggregate of large number of particles such as sand or a solid containing more capillaries such as a porous rock. When the fluid percolates through a porous material, because of the complexity of microscopic flow in the pores, the actual part of an individual fluid particle cannot be analytically analysed. However, the process can be defined in terms of equilibrium forces.

Corresponding Author: Ch. V. Ramanamurthy\*2 <sup>2</sup>Department of Applied Mathematics, Sri Vasavi Institute of Engineering and Technology, Pedana – 521361 (A.P.), India.

International Journal of Mathematical Archive- 10(4), April-2019

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.



### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

### **Financial Support Request Letter**

I manetal Support Request Letter
1. Name of the Staff Member : Dr./Mr./Ms G. Praveen
2. Designation : Asst. Pro-
3. Department : SAH
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:
ELTA
5. Date & Duration of the Program: Nov-2018 - Oct - 2019
6. Associating Professional Body / Agency: English Language Teachers' Ass
7. Financial support particulars :
<ul> <li>i. Registration Charges:</li> <li>ii. Travelling Allowances:</li> <li>iii. Membership Fee : 400/ −</li> <li>iv. Others (if any) :</li> </ul>
Date: 22/11/2018 Signature of the Staff Member
<ol> <li>Recommendations of the HOD : *Sanctioned / Not Sanctioned</li> </ol>
PRINCIPAL
Account Department SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108
Accountant:
Date: 26/11/2018

No.

VOUCHER

Date 26/11/2018

SRK INSTITUTE OF TECHNOLOGY

ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c. English Language Teacher's Association of Phia

Paid to G. Praveen Cash/Cheque 400/

the Sum of Rupees Four hundred supecs only

Towards Membership fees

Approved by

Audited by

₹ 400/-

Receiver Signature

# English Language Teachers' Association of India REGTD. S. No. 169/74

D-54, Anandam Apartments, Sidco Nagar Main Road, Villivakkam, Chennai - 49

### RECEIPT

4683

Date: 27:11:2018.

30016379

Membership ID : 30016379

R.No

Received with thanks from Mr. Golla Praveers

Gargum, Krishna Dist - 521139(tp)
the sum of Rupees Forn Hundred only

only being the Delegate fee / Donor / Short term / Annual membership fee of our Association for the Year Nov. 2018 - Oct. 2019

Rs. 400/\_

Secretary

PRINCIPAL
SRK Institute of Technology
ENIKEPADU, VIJAYAWADA-521 108.



Date: 02/8/18

### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

### **Financial Support Request Letter**

1.	Name of the Staff Member	: Dr./Mr./Ms. P. Ro	ani
2.	Designation	Assistant	
3.	Department	: Information	on Tachnology
4.	Conference / Publication / N Industrial Visit / Tours With		shop / FDP / Seminar / Training /
	Database	Manageme	ent Systems
5.	Date & Duration of the Prog	gram: Aug-Sep 2	2018
6.	Associating Professional Bo	ody / Agency :	
7.	Financial support particulars	3:	
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowanc</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>		
Da	nte02/8/18		Signature of the Staff Member
1. 2.	Recommendations of the H Recommendations of the Pr	meipai	*Sanctioned / Not Sanctioned
		PRINCIPAL RK Institute of Techi KEPADU, VIJAYAWADA.	mology
Accoun	nt Department		-VEC 108.
Accoun	ntant:		

Prat :

No.

SRK INSTITUTE OF TECHNOLOGY
ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c. Faculty Development grapham

Paid to. P. Rami Cash/Cheque Coult

the Sum of Rupees one thousand Rupers only

Towards. DRTEL

Prepared by

1,000

Approved by

Audited by

Receiver Signature



S.R.K.INSTITUTE OF TEHNOLOGY VIJAYAWADA



Score	Type of Certificate
>=90	Elite + Gold Medal
60-89	Elite
40-59	Successfully Completed the course
<40	No Certificate

No. of credits recommended by NPTEL:2



### Elite

# NPTEL Online Certification (Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

#### PIRAMPALLY RANI

for successfully completing the course

### **Data Base Management Systems**

with a consolidated score of 80 %

Online Assignments 21.04/25 Proctored Exam

Total number of candidates certified in this course: 3734

A. Goshami Prof. Adrijit Goswami Dean Continuing Education, IIT Kharagpur

Prof. Anupam Basu NPTEL Coordinator IIT Kharagpur

Aug-Sep 2018 (8 week course)



Indian Institute of Technology Kharagpur

Roll No: NPTEL18CS36S21930236

To validate and check scores: http://nptel.ac.in/noc

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108



# SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

### Financial Support Request Letter

	<del></del>	and Support Request Lett	<u>CI</u>
1.	Name of the Staff Member	: Dr./Mr./Ms. G. SnL	akshmi
2.	Designation	: Assistant pro	ofellor
3.	Department	:- II	
4.	Conference / Publication / M. Industrial Visit / Tours With	fembership Fee / Workshop details:	/ FDP / Seminar / Training /
			Learning
5.	Date & Duration of the Prog	ram: Aug-oct 201	8
6.	Associating Professional Bo	dy / Agency :	
7.	Financial support particulars	:	
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowance</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>	: 400[— ::	
Da	ite: 02/8/18	Sign	ature of the Staff Member
1. 2.	Recommendations of the HC Recommendations of the Pri	DD:	*Sanctioned / Not Sanctioned

PRINCIPAL SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

Account Department

Accountant: Leve

Date: 03/8/18

No.	VOUCHER	Date3
	TITUTE OF TECH ENIKEPADU, VIJAYAWADA - 521 108. Ph. : 284	
Name of ale Folia	The development programe	
	KShmi (17) Cash/Cheque 40!	
	Four hundred rupees only	
Towards	work shop	
		1040
Prepared by	Approved by	Audited by
	- 12m	



Roll No: NPTEL18CS40S22140403

TO SRILAKSHMI GANTA D.NO:6-64,SOCIETY ROAD THOTHAKURA VARI VEDI NIDAMANURU/VIJAYAWAD KRISHNA ANDHRA PRADESH 521104 PH. NO:9885655688



No. of weeks of NPTEL Courses	Equivalence of NPTEL course with regular FDP
4	$\frac{1}{2}$ FDP of one week
8	Full FDP of one week
12	$1\frac{1}{2}$ FDP

**Duration of NPTEL course: 8 Weeks** 



# NPTEL-AICTE Faculty Development Programme



(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to

**SRILAKSHMI GANTA** 

for successfully completing the course

Introduction to Machine Learning

with a consolidated score of 66 %

Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras

(Aug-Oct 2018)

Prof. Dileep N. Malkhede
Advisor-I (Research, Institute & Faculty Development)
All India Council for Technical Education

stitute of Tochnology

To validate and check scores: http://nptel.ac.in/noc

Roll No: NPTEL18CS40S221404@RK Institute of Technology



### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

Financial Support Request Letter
1. Name of the Staff Member : Dr./Mr./Ms. 101. Sweeth Jabu
2. Designation : Ryoteyos
3. Department : T-T
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:
5. Date & Duration of the Program: 327-2018 (2-week)  6. Associating Professional Body / Agency: CZSCO
7. Financial support particulars:
<ul> <li>i. Registration Charges:</li> <li>ii. Travelling Allowances: 1,000</li> <li>iii. Membership Fee</li> <li>iv. Others (if any)</li> </ul>
Date: 16-08-2018. Signature of the Staff Member
Recommendations of the HOD:  Recommendations of the Principal:  *Sanctioned / Not Sanctioned
PRINCIPAL

SRK Institute of Technology

Account Department ENIKEPADU, VIJAYAWADA-521 108.

Accountant: 4040

Date: 17 -08 -2018

No.	VOUCHER	Date17-08-201
	TTUTE OF TECH	
Name of A/c. Facul	thy pevelopment P80	gram
Paid to My . M.S.	elesh balin Cash/Cheque	ash
the Sum of Rupees	,000/-	
Towards	thousand Rupe	sonly
	CISCO Traing CCYL	02997)
Prepared by	Approved by	Audited by

₹1,000/\_\_\_

Receiver Signature



Certificate of Course Completion

### **CCNA Cybersecurity Operations**

The learner has successfully achieved instructor level credential for completing CCNA Cybersecurity Operations course administered by the undersigned instructor trainer. The learner was able to proficiently:

- · Explain the role of the Cybersecurity Operations Analyst in the enterprise.
- Explain the Windows Operating System and Linux Operating System features and characteristics needed to support cybersecurity analyses.
- · Explain the operation of network infrastructures.
- Analyze the operation of network protocols and services.
- · Classify the various types of network attacks.
- Use network monitoring tools to identify attacks against network protocols and services.

- · Use various methods to prevent malicious access to computer networks hosts, and data.
- Explain the impacts of cryptography on network security monitoring.
- · Explain how to investigate endpoint vulnerabilities and attacks.
- · Evaluate network security alerts.
- · Analyze network intrusion data to identify vulnerabilities and compromised hosts.
- Explain how security incidents are handled by CSIRTs.

#### **MACHANURU SURESH BABU**

Learner

Trident Academy of Creative Technology (ITC)

Instructor Training Center

India

Location

Laura Zuintana

VP & General Manager, Cisco Networking Academy

1 Sep 2018

Date



Accountant: - AC

Date: 30/0/18

# SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	<u>Fina</u>	ncial Support Request Le	tter
1. Nam	e of the Staff Member	: Dr./Mr./Ms M . 6	2ambhupol
2. Desi	gnation	:	>04_
3. Depa	artment	3.4	
4. Con	ference / Publication / M strial Visit / Tours With	Iembership Fee / Workshop details: Cloud	o/FDP/Seminar/Training/ antaltoucture
	d Se	avica	
6. Asso	ociating Professional Bo	dy/Agency: PICT	1 week. Academy
7. Finar	icial support particulars		)
i.	Registration Charges	: 400/_	
ii.	Travening Anowance	es:	
iii. iv.	Membership Fee	:	
IV.	Others (if any)		
			hau
Date:	10/2018	Sign	nature of the Staff Member
		A	4
	mmendations of the HC mmendations of the Prin		*Sanctioned / Not Sanctioned
	SR ENII	K Institute of Technolo KEPADU, VIJAYAWADA-521	ogy 108.

VOUCHER	Date 30 10 80 1
TUTE OF TECH PADU, VIJAYAWADA - 521 108. Ph. : 2	
ty Development 9x	squ
A preprint rue	you only
	1stra
Approved by	Audited by
	TUTE OF TECT PADU, VIJAYAWADA - 521 108. Ph.: 2  Ly De velo ment 9 %  Ougal Cash/Cheque Co

ver Signature

₹ 4,00 |-

# Andhra Loyola Institute of Engineering & Technology

Recognised by Govt of AP, Approved by AICTE, Affiliated to JNTU Kakinada),

An ISO 9001:2008 Certified Institution ,Vijayawada-520008.

This certificate is awarded to

Mr/Mrs/Ms

M. RamBhupal

during the Faculty Development Program
(Cloud Infrastructure&services)
31 Oct-5 Nov 2018, from the
Department of IT & CSE

RESOURCE PERSON

HOD OF IT

PRINCIPAL

A DECADE OF AUGMENTING





SRK Institute of Technology ENIMEPADU, VIJAYAWADA-521 108



Date: 30/18

### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

### **Financial Support Request Letter**

1.	Name of the Staff Member	: Dr./Mr./Ms	-Sure In )	when
2.	Designation	: AXL. Prot	sersor_	
3.	Department	7-7		
4.	Conference / Publication / M Industrial Visit / Tours With			
	cloud Into	astructure s	-service	<b>}</b>
5.	Date & Duration of the Prog	ram: 31-00	to 05-	NOV-2018
6.	Associating Professional Bo	ody / Agency :		
7.	Financial support particulars	1:		
	<ul> <li>i. Registration Charges</li> <li>ii. Travelling Allowanc</li> <li>iii. Membership Fee</li> <li>iv. Others (if any)</li> </ul>	: 400/_ es:		
Da	ate: 29/10/18		Signature lo	f the Staff Member
1. 2.	Recommendations of the He Recommendations of the Pr	OD:	wy *Sa	nctioned / Not Sanctioned
		PRINCIPAL Institute of Techn PADU, VIJAYAWADA-		

No.	VOUCHER	Date 30 10 00 1
	CITUTE OF TECT KEPADU, VIJAYAWADA - 521 108. Ph. : 2	
	by perologment Pr	
Paid to Sul	A lalu Cash/Cheque CC	uh
the Sum of Rupees	1001-	
Towards FDF	>	
		1 \ _
Prepared by	Approved by	Audited by
	18M2.	MI

₹4,00|-

# Andhra Loyola Institute of Engineering & Technology

Recognised by Govt of AP, Approved by AICTE, Affiliated to JNTU Kakinada),

An ISO 9001:2008 Certified Institution , Vijayawada-520008.

This certificate is awarded to

Mr/Mrs/Ms M. Sweeth Babu

during the Faculty Development Program (Cloud Infrastructure&services) 31 Oct-5 Nov 2018, from the Department of IT & CSE

RESOURCE PERSON

HOD OF IT

PRINCIPAL

SRK Institute of Technology SNIKERADU. VIJAYAWADA-521 108



Accountant: CAO

Date: 31/10/18

### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	Financial Support Request Letter	20
1. Nar	ume of the Staff Member : Dr./Mr./Ms G.D. Kighol	
2. Des	esignation : Asst-Professo	
3. Dep	epartment :	
	onference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / dustrial Visit / Tours With details:	 es
<ol> <li>Dat</li> <li>As</li> </ol>	ssociating Professional Body/Agency: Cloud infrastructur &	Se
	nancial support particulars: 400 (	
i. ii. iii. iv.	Registration Charges: Travelling Allowances: Membership Fee : Others (if any) :	
Date:	31 10 18 Signature of the Staff Member	
	ecommendations of the HOD:**Sanctioned / Not Sanction	ed
count De	PRINCIPAL  SRK Institute of Technology  Department  ENIKEPADU, VIJAYAWADA-521 108.	

1	£		
	-	N	0
h	h	'	0
P	F		

# **VOUCHER**

Date 5 10 18.

# SRK INSTITUTE OF TECHNOLOGY ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c. Pacul	hy developmen	t programe	·
Paid to G. D.K. Kish			
the Sum of Rupees	us hundred r	upers.	
Towards	workshop.		
			[- \ -
Prenared by	Appr	roved by	Audited by

400/-

13mm

Receiver Signature

# Andhra Loyola Institute of Engineering & Technology

Recognised by Govt of AP, Approved by AICTE, Affiliated to JNTU Kakinada),

An ISO 9001:2008 Certified Institution ,Vijayawada-520008.

This certificate is awarded to

Mr/Mrs/Ms

G.D.K Kishore

during the Faculty Development Program (Cloud Infrastructure&services) 31 Oct-5 Nov 2018, from the Department of IT & CSE

RESOURCE PERSON

HOD OF IT

PRINCIPAL

ICT ACADEMY

A DECADE OF AUGMENTING HARTSON BUILDING YEARS





### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2008 Certified Institution)

### **Financial Support Request Letter**

1.	Name of the Staff Member : Dr./Mr./Ms Gn.D.k. Kishore
2.	Designation : Aust 980 tessar
3.	Department : T.T
4.	Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details :
	Big Image Data Processing Using Machine Learing Algorithmy
5.	Date & Duration of the Program: 27th 31st way - 2019.
6.	Associating Professional Body / Agency :
7.	Financial support particulars:
	i. Registration Charges: †500/ ii. Travelling Allowances: iii. Membership Fee : iv. Others (if any) :
Da	ate: 23/05/2019  Signature of the Staff Member
	Recommendations of the HOD:
	SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

Account Department

Accountant: Ato

No.	VOUCHER	Dat	e 24/05/2019
	TTUTE OF 'KEPADU, VIJAYAWADA - 521		LOGY
Name of A/cFac.	ulty Developme	nt program	
Paid to G. D.K. K	Ishar cashich	eque carh	
the Sum of Rupees	re showand	Firehundrad	- only
Towards	FDP		
Prepared by	Approve	d by	Audited by

Receiver Signature

₹ 1500/.

A Five-Day Continuing Education Programme on



# BIG IMAGE DATA PROCESSING USING MACHINE LEARNING ALGORITHMS

NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL

Under the scheme of Continuing Education Programmes on Self Financing Basis



# Certificate

This is to certify that Dr./Mr./Ms.	G.D.K. Kishore
from SRK Institute of	Technology, Vijayawada
participated in a Five-Day Continuing Educ	ation programme on "Big Image Data Processing Using Machine
Learning Algorithms" organized by the Dep	partment of Computer Science & Engineering in association with
Continuing Education Programmes, Nation	al Institute of Technology Warangal, during 27th_31st May, 2019.

Dr.U.S.N.Raju
Coordinator

Dr. K.V. Kadambari
Coordinator

Prof.R.B.V.Subramaanyam

Head, CSE

SRX Institute of Technology ENIKEPADU, VIJAYAWADA 521 108 Prof.K Anand Kishore

Professor In-charge, CEPs

Prof.N.V.Ramana Rao

Director, NIT Warangal



2015/19

Date:

### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	cial Support Request Letter
1. Name of the Staff Member	: Dr./Mr./Ms. J. Poorro Chandra Rac
2. Designation	: Asst Prof
3. Department	:
	embership Fee / Workshop / FDP / Seminar / Training / details :
5. Date & Duration of the Progr	am: 2020
6. Associating Professional Boo	dy/Agency: IJRTE
7. Financial support particulars	
<ul><li>i. Registration Charges</li><li>ii. Travelling Allowance</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>	209
	Acro
Date: 18/5/19	Signature of the Staff Member
<ol> <li>Recommendations of the HO</li> <li>Recommendations of the Pri</li> </ol>	DD: 1 Sanctioned / Not Sanctioned
SRM	PRINCIPAL (Institute of Technology EPADU, VIJAYAWADA-521 108.
Account Department	AVADA-521 108
Accountant: Later	

	VOUCHER	Date 20 5 19.
	FITUTE OF TECHT IKEPADU, VIJAYAWADA - 521 108. Ph. : 2843	
	Paculty development	
raid to J. Purna Chan	dra Rao (civil) cash/Cheque 121	00
he Sum of Rupees	One thousand two hundred	I rupees only.
	Paper publication.	
		Audited by
Prepared by	Approved by	Audited by

Solid State Technology Volume: 63 Issue: 6 Publication Year: 2020

# Assessment Of Ground Water Quality By Using Water Quality Index Around Ajithsingh Nagar Dump Yard In Vijayawada, Andhra Pradesh, India

Dr. Neelam Sridevi<sup>1</sup>, N. Karanthi Rekha<sup>2</sup>, Dr. Srilakshmi Chennupati<sup>3</sup>, J. Purna Chandra Rao<sup>4</sup>

<sup>1</sup>Assistant Professor in Environmental Sciences, SRK Institute of Technology, Vijayawada, Andhra Pradesh, India.

<sup>2</sup>Assistant Professor, Department of civil engineering, SRK Institute of Technology, Vijayawada, Andhra Pradesh, India.

<sup>3</sup>Associate Professor in Environmental Sciences, Dhanekula Institute of Engineering & Technology, Vijayawada, Andhra Pradesh, India.

<sup>4</sup>Assistant Professor, Department of civil engineering, SRK Institute of Technology, Vijayawada, Andhra Pradesh, India

Abstract—Water is an essential natural resource for sustaining life and environment but over the last few decades the water quality is deteriorating due to its over exploitation. Water quality is essential parameter to be studied when the overall focus is sustainable development keeping mankind at focal point. Groundwater is the major source of drinking water in rural as well as in urban areas and over 94% of the drinking water demand is met by groundwater. The study was carried out to assess the ground water quality and its suitability for drinking purpose around the Ajithsingh nagar dump yard of Vijayawada, Krishna district, Andhra Pradesh, India. For this purpose, water samples were collected in Ajithsingh nagar, Nunna, Payakapuram, Kandrika, Rajivnagar areas around dump yard. And we analyzed the samples for different physio-chemical parameters such as pH, turbidity, total hardness, chloride, total dissolved solids, total alkalinity, fluoride, sulphates, nitrate, and iron. We assessed ground water quality in terms of WQI of those ar by using weighted arithmetic water quality index formula. It shows that WQI of ajithsingh nagar, hardna, payakapuram, kandrika, rajivnagar areas have poor ground water quality and undesirable for drinking purpose

Keywords- Groundwater quality, Physio-chemical parameters, Statistical Parameters, WQI

#### I. INTRODUCTION

Water is one of the abundantly available substances in nature. Water plays a vital role in the wealth of a nation, particularly like India, Which is predominantly an agriculture default economy. The importance of water for the existence of life need not be over emphasized [6]. Ground water is the major source for drinking & domestic purposes in both rural & urban areas. The above situation is changing very rapidly & at a very alarming rate due to pollutants from various sources. Although water can be polluted naturally, due to high degree of minerals present in the soils rocks, the quality of ground water may vary from place to place. In addition to above, rapid population growth, increasing living standards, untreated municipal and industrial waste –waters, fertilizers, application of pesticides, sewers and landfill areas are the potential sources of ground water pollution [8].

PRINCIPAL

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108

-0181-18



### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

Financial Support Request Letter
1. Name of the Staff Member : Dr./Mr./Ms V. Karlhik
2. Designation : Assoc. Professol
Department Civil Engg
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details: Durability behavior of Self Compare
Concrete made with recycled concrete aggregate
5. Date & Duration of the Program: 2018.
6. Associating Professional Body / Agency: IJET
7. Financial support particulars:
<ul> <li>i. Registration Charges: LSOV/-</li> <li>ii. Travelling Allowances:</li> <li>iii. Membership Fee</li> <li>iv. Others (if any)</li> </ul>
Date: 4-4-2018  Signature of the Staff Member
1. Recommendations of the HOD: 1. Recommendations of the Principal: *Sanctioned / Not Sanctioned

PRINCIPAL

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

Account Department

Accountant:

Date: 5-4-2018

No.	VOUCHER	Date 5 -4 -201
	TUTE OF TECH	
ENIKE	PADU, VIJAYAWADA - 521 108. Ph. : 2	843839
Name of A/c. Facul-	ty Development Progra	2 M
Paid to Dr. V. Karth	ik (CE) cash/Cheque 15	00/-
	thousand five hundred	
	olication	
	A	Audited by
Prepared by	Approved by	Addited by

# INVESTIGATION ON STRENGTH PROPERTIES OF FLYASH BASED GEOPOLYMER CONCRETE AND PARTIAL REPLACEMENT OF FINE AGGREGATE WITH M-SAND

<sup>1</sup>G. Siva Chidambaram, <sup>1</sup>M. Natarajan, <sup>2</sup>V. Karthik, <sup>3</sup>K. Vivek

<sup>1</sup>Karpagam Academy of Higher Education, Coimbatore, Tamilnadu, India. <sup>2</sup>SRK Institute of Technology, Vijayawada, India. <sup>3</sup>Paavai Engineering College, Namakkal, India. E.mail: mail2gsc@gmail.com, pmnatarajan.in@gmail.com

Article received 18.10.208, Revised 2.12.2018, Accepted 10.12.2018

#### **ABSTRACT**

Concrete is one of the most vital building materials subsequent to the water. Day by day demand of concrete is escalating with rising demand on infrastructural development, but due to the emission of a considerable quantity of CO2 throughout the course of the production of cement is the principal issue concern with environmental pollution. The output of ordinary Portland cement adds about 5 to 7% of total greenhouse gas emission. As a result, it is essential to discover a substitute for cement. Fly ash is a waste material which is comprised of a great volume of silica and alumina. Fly ash is also a by-product of coal received from the thermal power station. In this research work, fly ash is employed to produce geopolymer concrete. Geopolymer is a cement-free concrete which is produced when silica and alumina react chemically with the alkaline solution. In geopolymer, fly ash function as a binder and alkaline solution function as an activator. The natural river sand has a huge demand in the developing countries to meet the active infrastructure growth. In this circumstance, emerging country like India facing a deficit in the sound quality natural sand. To minimize these difficulties, recently Manufactured sand is employed as a partial replacement with natural river sand. Fly ash and alkaline chemical activator undergo geopolymerization process to make aluminosilicate gel. In this study, fly ash based geopolymer concrete is developed with partial replacement of river sand with M-sand at various percentage replacements from 0 to 100%. An alkaline solution with 2:5 ratio of sodium silicate and sodium hydroxide was used in this research work. The strength behaviors of the geopolymer concrete enhance with rising the percentage replacement of M-Sand.

Keywords: M-Sand, Alkaline Liquids, Geopolymer, Fly Ash

#### INTRODUCTION

Production of cement releases about one ton of carbon dioxide in the course of the production of one ton of cement. Alongside, coal-burning power production plants deliver a tremendous volume of fly ash. Most of the fly ash is perceived as waste and discarded as landfills (Amnon and Hadassa 2006). The growth of fly ash based geopolymer concrete is in response to the need for greener concrete. The overflowing availability of fly ash worldwide designate a chance to employ this byproduct of burnt coal as a replacement for Portland cement. (Abdul Aleem and Arumairaj 2012)

In developing nations, the necessity of natural sand is very high. Specifically, in India, natural sand sediments are getting depleted and causing a severe threat to the society. Increasing extraction of natural sand from river beds generating many environmental issues (Jaarsveld, 2003). Nowada y's sand is becoming an extremely scarce material, in this scenario research began for affordable and readily obtainable alternative material (Wallah and Rangan 2006). Manufactured sand tenders a sustainable substitute to river sand, and it is developed by crushing, screening and washing process. (Hardjito and Wallah 2004, Abdul Aleem and Arumairaj 2012, Hardjito et al., 2002, Monita and Nikraz 2011, Wallah and Rangan 2006).

#### POLYMERISATION PROCESS

The development of geopolymer process in concrete can be shown as

ISSN Print: 1812-1837

ISSN Online: 2312-7791

#### **MATERIALS USED**

The material utilised in this present study was fly ash as source material, alkaline liquids, course & fine aggregates & water. M30 grade concrete was deemed in this study.

a) Fly ash: Table 1 shows the chemical composition of the flyash used.

Table 1: Chemical Compositions of Flyash

Component	% Composition	
SiO <sub>2</sub>	57.3	
Al <sub>2</sub> O <sub>3</sub>	27.13	
Fe <sub>2</sub> O <sub>3</sub>	8.06	
MgO	2.13	
SO <sub>3</sub>	1.06	
Na <sub>2</sub> O	0.73	
CaO	0.03	
LOI	1.60	

PRINCIPAL

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108



### SRK INSTITUTE OF TECHNOLOGY

2016-12 - Gousi - No

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	Financial Support Request Letter				
1.	Name of the Staff Member	: Dr./Mr./Ms. N. Karanthi Rekha			
2.	Designation	: Asst. Protesser			
3.	Department	: Civil Engineering			
4.	I. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details :				
		ste Management for a Smoot city			
5.	5. Date & Duration of the Program: July-oct 2018				
6.	Associating Professional Boo	dy/Agency: NPTEL			
7.	7. Financial support particulars :				
i. Registration Charges: 400/- ii. Travelling Allowances: iii. Membership Fee: iv. Others (if any):					
Date: 10 10 - 2018					
Date: $\mu$ -10-2018 Signature of the Staff Member					
	Recommendations of the HO Recommendations of the Prin				

PRINCIPAL

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

\*Sanctioned / Not Sanctioned

Account Department

Accountant:

Date: 5-10-2018

### **VOUCHER**

Date -10-2018

# SRK INSTITUTE OF TECHNOLOGY

ENIKEPADU, VIJAYAWADA - 521 108. Ph. : 2843839

Name of AC - faculty development program
Paid to N. Karanthi Rekha (CE cash/Cheque 4001-
the Sum of Rupees four headred Rupees only
Towards paper publication.
Hota

Prepared by

₹ 400/-

Approved by

Audited by

Receiver Signature



O S.R.K.INSTITUTE OF TEHNOLOGY VIJAYAWADA



Score	Type of Certificate	
>=90	Elite + Gold Medal	
60-89	Elite	
40-59	Successfully Completed the course	
<40	No Certificate	

No. of credits recommended by NPTEL:3



# NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

### NUNNA KARANTHI REKHA

for successfully completing the course

# **Integrated Waste Management for a Smart City**

with a consolidated score of 48 %

Online Assignments 20.56/25 Proctored Exam 27.75/75

Total number of candidates certified in this course: 710

Prof. Anupam Basu NPTEL Coordinator IIT Kharagpur

Jul-Oct 2018 (12 week course) PRINCIPAL

Prof. Adrijit Goswami Dean

A. GOSHAMU

Continuing Education, IIT Kharagpur

Indian Institute of Technology Kharagpur

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 106



### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

**Financial Support Request Letter** 

1. Name of the Staff Member	: Dr./Mr./Ms. N. Kovanthi Rekha				
2. Designation	: ASSt-Professor				
3. Department	:CàVàl				
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:					
5. Date & Duration of the Program: JULY - OUF (2018) (12 WEEK COURS					
6. Associating Professional Body / Agency: NPTEL					
7. Financial support particulars :					
<ul><li>i. Registration Charges</li><li>ii. Travelling Allowanc</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>	어떻게 하다면 그렇게 하게 되면 하다 하는 아이들이 하는 그들은 그리고 하다면 하는데 하는데 하는데 하는데 그는데 하는데 하는데 하는데 하는데 하는데 하는데 하는데 하는데 하는데 그렇게 하는데 그렇다는데 그렇다면 그렇다면 그렇다면 그렇다면 그렇다면 그렇다면 그렇다면 그렇다면				
Date: 03-10-2018	Signature of the Staff Member				
<ol> <li>Recommendations of the He</li> <li>Recommendations of the Pr</li> </ol>					
PRINCIPAL SRK Institute of Technology					

ENIKEPADU. VIJAYAWADA-521 108.

Account Department

Accountant: Date:  $\mu - 10 - 2018$ 

No.	VOUCHER	Date. 4-10-18
	ITUTE OF TECH	
	lty development mag	
Paid to N: Kranth	Rokha (CE) Cash/Cheque 101	0.0/
the Sum of RupeesON	thousand rupees on	ly1-
	shop (certificate pro	
		<del>101</del> 0
Prepared by	Approved by	Audited by

₹ 1000 /-

N. L. Receiver Signature



S.R.K.INSTITUTE OF TEHNOLOGY VIJAYAWADA



Score	Type of Certificate
>=90	Elite + Gold Medal
60-89	Elite
40-59	Successfully Completed the course
<40	No Certificate

No. of credits recommended by NPTEL:3



### Elite

### **NPTEL Online Certification**

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

### **NUNNA KARANTHI REKHA**

for successfully completing the course

### **Wastewater Treatment and Recycling**

with a consolidated score of 61 %

Online Assignments 21.91/25 Proctored Exam 39/75

Ampor Bank

Total number of candidates certified in this course: 592

Prof. Anupam Basu NPTEL Coordinator IIT Kharagpur

Jul-Oct 2018 (12 week course)

PRINTIPAL PRINTIPAL

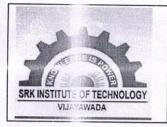
A. Gosuamu Prof. Adrijit Goswami

Continuing Education, IIT Kharagpur



SRK Institute of Technology Indian Institute of Technology Kharagpul NIKEPADU, VIJAYAWADA-521 108.





### SRK INSTITUTE OF TECHNOLOGY

Financial Support Request L	etter
-----------------------------	-------

1.	Name of the Staff Member	Dr./Mr./Ms S. Sor	Gowai
2.	Designation	: Profeser	
3.	Department	:- ECE	
4.	Conference / Publication / M Industrial Visit / Tours With	embership Fee / Workshop / details :	FDP / Seminar / Training /
	IUCEE Le	adership Summ	it 2018
5.	Date & Duration of the Progr	ram: 19-7-2018	to 21-7-2018
6.	Associating Professional Bo	dy / Agency:	CEE
7.	Financial support particulars		
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowance</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>		
Da	te: 12-7-2018	Signā	S-Syl Gown ature of the Staff Member
1. 2.	Recommendations of the HC Recommendations of the Pri	DD: forwarded & Sincipal:	*Sanctioned / Not Sanctioned
Accoun		PRINCIPAL K Institute of Technolog KEPADU, VIJAYAWADA-521 10	
Accoun			
Date:	12/7/18		

No.

SRK INSTITUTE OF TECHNOLOGY

ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c. Faculty development program

Paid to Dr. S. Sri Gowri (F.C.E.) cash/cheque ISOD (
the Sum of Rupees One thousand five hundred rupes Dnly.

Towards. Confedence:

Approved by Receiver Signature

FISOD (

S. Sri Gowri Receiver Signature)



# Indo Universal Collaboration for Engineering Education



### **IUCEE Leadership Summit 2018**

19<sup>th</sup> - 21<sup>st</sup> July 2018 Hotel Goan Heritage - Goa

## Certificate of Participation

of	SRK INSTITUTE OF TECHNOLOGY	

L Co-Sponsored by VIT-Amaravati

Dr. Krishna Vedula
Executive Director
IUCEE

PRINCIPAL

SRK Institute of Technology
ENIKEPADU, VIJAYAWADA-521 108

97.40



Accountant: Date: 18/6/18

### SRK INSTITUTE OF TECHNOLOGY

	<u>Fina</u>	ncial Support Request Letter
1.	Name of the Staff Member	: Dr./Mr./Ms. Md. Shabeena Begun
2.	Designation	: Asst Prof
3.	Department	:ECE
	Industrial Visit / Tours With	details: An Introduction to
	Programming -	the Internet of Things (IDT)
5.	Date & Duration of the Progr	the Internet of Things (IOT)
6.	Associating Professional Bo	ody/Agency: Louvery
7.	Financial support particulars	
	i. Registration Charges	: 400
	ii. Travelling Allowance	
	iii. Membership Fee	
	iv. Others (if any)	
Da	ate: 18-6-2019	Signature of the Staff Member
1.	Recommendations of the Ho	OD: May be granted *Sanctioned / Not Sanctioned
-		PRINCIPAL
cou	nt Department EN	RK Institute of Technology IKEPADU, VIJAYAWABA-521 108,

# SRK INSTITUTE OF TECHNOLOGY ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839 Name of A/c. Paculty development programe. Paid to Md. Shabeena Begum (ECE) ash/Cheque 400 the Sum of Rupees. Pour hundred rupers Towards. Work shop. Prepared by Approved by Audited by

4001

Md. Shabeena Receiver Signature



Introduction to the Internet of Things and Embedded Systems

The Arduino Platform and C Programming

Interfacing with the Arduino

The Raspberry Pi Platform and Python Programming for the Raspberry Pi

Interfacing with the Raspberry Pi

Programming for the Internet of Things Project



06/18/2018

### Shabeena Mohammad

has successfully completed the online, non-credit Specialization

## An Introduction to Programming the Internet of Things (IOT)

Design, create, and deploy a fun IoT device using Arduino and Raspberry Pi platforms. In this Specialization covers embedded systems, the Raspberry Pi Platform, and the Arduino environment for building devices that can control the physical world. In the final Capstone Project, you'll apply the skills you learned by designing, building, and testing a microcontroller-based embedded system, producing a unique final project suitable for showcasing to future employers.

for Ham

Professor

Department of

Computer Science

PRINCIPAL
SRK Institute of Technology
ENIKEPADU, VÜAYAWADA-521 108.

Verify this certificate at: coursera.org/verify/specialization/3QPNZT5A6DMS



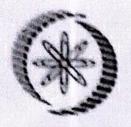
Date: 5-7-18

### SRK INSTITUTE OF TECHNOLOGY

	<u>Fina</u>	ncial Support Request Letter
1.	Name of the Staff Member	: Dr./Mr./Ms. A. V. P Sarvari
2.	Designation	: Asst. Prof
3.	Department	:ECE
4.	Industrial Visit / Tours With	Membership Fee / Workshop / FDP / Seminar / Training / a details: Digital Lmage
5.	Date & Duration of the Prog	A010
6.	Associating Professional Bo	ody/Agency: MPTEL
7.	Financial support particulars	1:
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowanc</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>	
D	ate: 5.7.18	Signature of the Staff Member
	Recommendations of the H Recommendations of the Pr	Med 1 (///// NZ
Accou		PRINCIPAL RK Institute of Technology NIKEPADU, VIJAYAWABA-521 108.
Accou	ntant: Hec	

# Name of A/c. Paculty development programe. Paid to A.V. P. Sarvari (ECE) Cash/Cheque (400) the Sum of Rupees. Four hundred rupees Duly. Towards. Worle Shop. Approved by Approved by Cash Audited by Cash.

4001



## NPTEL-AICTE Faculty Development Programme



(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to

### VENKATA PRASANNA SARVARI A

for successfully completing the course

### **Digital Image Processing**

with a consolidated score of 63 %

Prof. Andrew Thangaraj **NPTEL Coordinator** IIT Madras

(Jul-Oct 2018)

Prof. Dileep N. Malkhede Advisor-I (Research, Institute & Faculty Development)

All India Council for Technical Education

Roll No: NPTEL18EE40S22140173

To validate and check scores: http://nptel.ac.in/noc

The candidate has studied the above course through MOOCs mode, has submitted online assignments and passed proctored exams, This certificate is therefore acceptable for promotions under CAS as per AICTE notifications dated 24th July 2018, similar to other refresher / orientation courses. F.No. AICTE / RIFD / FDP through MOOCs / 2017-18





### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	Fina	ncial Support Request Letter
1.	Name of the Staff Member	: Dr./Mr./Ms. K. Ven Kates wara Rao
	Designation	: Asst. Prof
3.	Department	: <u>Ec E</u>
4.	Conference / Publication / M Industrial Visit / Tours With	details: AISIC   FP & A De Sign
	and its	Applications
5.	Date & Duration of the Prog	-11-2019 lo 27-4-2019
6.	Associating Professional Bo	dy/Agency: LRPCE
7.	Financial support particulars	
	<ol> <li>Registration Charges</li> </ol>	604
	ii. Travelling Allowance	[10.1] [10.7] [10.1] [10.1] [10.1] [10.1] [10.1] [10.1] [10.1] [10.1] [10.1] [10.1] [10.1] [10.1] [10.1] [10.1]
	iii. Membership Fee	
	iv. Others (if any)	
		102
Da	te: 20.4.19.	Signature of the Staff Member
	Recommendations of the HO Recommendations of the Pr	
		PRINCIPAL
coun	st Department EN	K Institute of Technology KEPADU, VIJAYAWADA-521 108.

Ac

Accountant: Date: 20/4/19

# Name of A/c. Faculty development programe. Paid to K. Venkates wara Rao (ECE) cash/cheque 400 the Sum of Rupees Sous hundred rupeer Only. Towards. Legal & Shop.

Approved by

Prepared by

4001-

Audited by

## LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(Autonomous)

Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi Accredited by NBA, Certified by ISO 9001:2015

L B Reddy Nagar, Mylavaram-521 230, Krishna District, Andhra Pradesh.

### DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

One-Week Faculty Development Progamme

on

ASIC / FPGA Design & Its Applications

### CERTIFICATE OF PARTICIPATION







This is to certify that K. Ven Kateswara Rao, Assistant professor from E.C.E department of SRK. Institute of technology

has participated in one-week Faculty Development Programme on "ASIC/TPGA Design & Its Applications"

organized by the Department of Electronics & Communication Engineering, LBRCE from 22nd to 27th - April - 2019.

Dr. P. Lachi Reddy

Coordinator Convener & HOD, ECE

Dr Y Amar Babu

Dr. Y. Amar Babu

Dr. K. Appa Rao

Principal



### SRK INSTITUTE OF TECHNOLOGY

Financial Support Request Letter
1. Name of the Staff Member: Dr./Mr./Ms. V. Sekhar Babu
2. Designation : Asst. Prof
3. Department : ECE
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details: Improving Leaching Skills
in the Subject Random Variables and Stochastic
in the Subject Random Variables and Stochastic Processes  5. Date & Duration of the Program: 2-5-2019 to 7-5-2019
6. Associating Professional Body / Agency:
7. Financial support particulars :
i. Registration Charges: UOO ii. Travelling Allowances: iii. Membership Fee: iv. Others (if any):
Date: 1.5.19 Signature of the Staff Member
1. Recommendations of the HOD: May be granted *Sanctioned / Not Sanctioned
Account Department SRK Institute of Technology
Accountant: He
Date: 1-5-19

# Name of A/c. Faculty development programe: Paid to V. Sekhara Babu (ECE) cash/cheque. 400/ the Sum of Rupees. Four hundred rupees only. Towards. Worle Shop. Approved by Approved by Audited by

4001-

13mm



## JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

Kakinada - 533 003, Andhra Pradesh, India

Directorate of the Faculty Development Centre

A Two Week Summer Faculty Development Programme

On

### IMPORTANT ENGINERING SUBJECTS

# Participation Certificate

This is to Certify that Ms. / Mr. / Smt	SEKHARA BABU	VELPULA
S/o. D/o. Smt. / Sri	181 - 181	
Faculty of SRK Institute	of Technology.	
has Participated in the Programme on "II	mproving Teaching Skills in	the Subject Random Variables
and Stochastic Processes "h	eld during 02 <sup>nd</sup> - 07 <sup>th</sup> May, 201	9, as a part of Two week summer
Faculty Development Programme orga	anized by the Directorate of the	Faculty Development Centre, JNTUK
Kakinada, Andhra Pradesh, India.	A LERS	
P	A AMINADES	· · · · · · · · · · · · · · · · · · ·
B.T. Kendurg	A m pouled	Tay lian
HEAD OF THE DEPARTMENT	CHIEF COOPDINATOR PRINCIP	REGISTRAR &  Technology DIRECTOR, FDC i/c



### SRK INSTITUTE OF TECHNOLOGY

Financial Support Request Letter
1. Name of the Staff Member : Dr./Mr./Ms. V. Sri Jakshm;
2. Designation : Asst. Prof
3. Department :
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:
Control lab
5. Date & Duration of the Program: 5-8-2019 to 12-8-2019 6. Associating Professional Body / Agency: Gramom Coultry for Advanced Eng.
6. Associating Professional Body / Agency: Gramam Coultry for Advanded Cong
7. Financial support particulars:
i. Registration Charges: リロフ ii. Travelling Allowances:
ii. Travelling Allowances: iii. Membership Fee:
iv. Others (if any) :
A
Date: 020'08') Signature of the Staff Member
1. Recommendations of the HOD:
SRK Institute of Technology
Account Department ENIKEPADU, VIJAYAWADA-521 108.
Accountant: LANC
Date: 2-8-19

### SRK INST

lame of Alc. faculty t			
aid to. Y. Sri Lakshw	i (ECE) cash/Cheque	400/-	
e Sum of Rupees	oundred rispect	anles	
e Sum of Kupees			
rwardsU.O.	rle shop.		
wards	rle shop.		
wards	rle shop.	In A	
owards		Left	)
Prepared by	Approved by	Left	) dited b



Conducted by: German Center for Advanced Engineering and Management Studies UG and APS GmbH - European Centre for Mechatronics

Mechatronics and Manufacturing" by European Centre for Mechatronics, Aachen / Germany and Andhra Pradesh State Skill Development Corporation, and successfully executed the assigned industry project tasks and related software implementation at VIT-AP, Amaravati, India.

Mr. Vangapandu Venkatanagaraju

Founder/President

Dr.Ing. Christoph Greb

**Managing Director** 

PRINCIPAL

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108



### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

Financial Support Red	quest Letter
-----------------------	--------------

1. Name of the Staff Member : Dr./Mr./Ms B. Pavi	
2. Designation : Act prod	
3. Department : — <u>FE CF</u>	
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:	
microclip academy PTC Enstrudos Training	
5. Date & Duration of the Program: 15-4-2019 to 16-4-2019	
6. Associating Professional Body / Agency: Microchip	
7. Financial support particulars :	
<ul> <li>i. Registration Charges: 400/-</li> <li>ii. Travelling Allowances:</li> </ul>	
iii. Membership Fee : iv. Others (if any) :	
Date: 12-4-19 Signature of the Staff Member	stant.
Recommendations of the HOD:  Recommendations of the Principal:  *Sanctioned / Not Sanction	ned
SRK Institute of Technology count Department ENIKEPADU, VIJAYAWADA-521 108.	
countant:	

Ac

Ac

Date:

13-4-19

No.

### **VOUCHER**

Date. 13-4-19

# SRK INSTITUTE OF TECHNOLOGY ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c	FDP	
Paid to B. Raul	Cash/Cheque 400 J-	_
	Four hundred forgees only	
Towards	1 0 1	
	Approved by	LOAQ Audited by

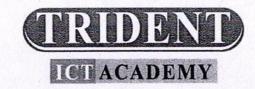
Prepared by

400/-

13mm

Receiver Signature







## Microchip Academy RTC Instructor Training

Certificate of Participation

Awarded to

Mr. BHUKYA RAVI

of

**SRK Institute of Technology** 

for participating in Basic Level Instructor Training Program held on 15th & 16th Apr 2019 at SRK Institute of Technology, Vijayawada.

Mr. Jagan Jothivel

Microchip University Program Manager Microchip Technology (I) Pvt. Ltd.

Mr. Satya Ranjan Biswal

Head, Microchip Academy RTGtute of Technologief Executive Officer Director, Trident ICT Academy, VIJAYAWADA-521 108 Eduvance



Accountant: HAZQ

Date: 20/12/19

### SRK INSTITUTE OF TECHNOLOGY

	<u>Fina</u>	ncial Support Request Letter	[
1. Nan	ne of the Staff Member	: Dr./Mr./Ms. Ch. Sira	Rejesh
2. Des	gnation	: Act. Profess	
3. Dep	artment	:ECE	
	ference / Publication / Mastrial Visit / Tours With	Membership Fee / Workshop / I	FDP / Seminar / Training /
	Google Android	Faculty Semelopu	6 28-12-2019
5. Date	& Duration of the Prog	ram: 23-12-2019 to	b 26-12-2019
6. Ass	ociating Professional Bo	ody / Agency : — APSS DC	
7. Fina	ncial support particulars	•	
i.	Registration Charges	: 400	
ii.	Travelling Allowance	es:	
iii.	Membership Fee		
iv.	Others (if any)	·	
			949
	21-12-19	Signat	ture of the Staff Member
		DD: May be granted	1
1. Rec	ommendations of the Ho	OD: COMMON	
2. Rec	ommendations of the Pr	incipal: (4)	*Sanctioned / Not Sanctioned
ount De		PRINCIPAL Institute of Technology PADU, VIJAYAWADA-521 108.	

# Name of A/c. Faculty development programe. Paid to. Ch. Siva Rajesh (ECE) cash/Cheque. 400 the Sum of Rupees. Four hundred rupees Duly. Towards. Work shop. Prepared by Approved by Approved by Audited by

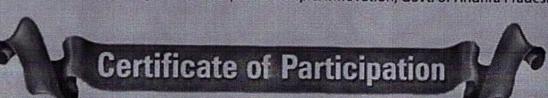
4001

Receiver Signature



### Andhra Pradesh State Skill Development Corporation (APSSDC)

(Department of Skill Development, Enterprenureship & Innovation, Govt. of Andhra Pradesh)



### This is to certify that,

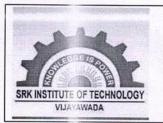
Mr./Ms./Mrs.	Siva Rajesh Chiluveru	
nf .	SRK Institute Of Technology	

### has successfully participated in Faculty Improvement Program on

Google Android Faculty Development Workshop held from 28-12-2019 23-12-2019 to

MD & CEO- APSSDC (Dr. Srikanth Arja, IRTS)

ENIKEPADU, VIJAYAWADA-521 108



### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

### **Financial Support Request Letter**

1. Name of the Staff Member	: Dr./Mr./Ms S. Neemaja
2. Designation	: Aist: Profesor
3. Department	ECE
4. Conference / Publication / N Industrial Visit / Tours With	Membership Fee / Workshop / FDP / Seminar / Training / details :
An Introduct	ion to programming the IoT
5. Date & Duration of the Prog	ram: \$-6-2018
6. Associating Professional Bo	ody/Agency: _Courses
7. Financial support particulars	
<ul><li>i. Registration Charges</li><li>ii. Travelling Allowanc</li><li>iii. Membership Fee</li></ul>	
iv. Others (if any)	
Date: 8/06/2016	Signature of the Staff Member
<ol> <li>Recommendations of the HO</li> <li>Recommendations of the Pr</li> </ol>	oD: - Forwarded & *Sanctioned / Not Sanctioned
	PRINCIPAL RK Institute of Technology

Account Department

Accountant:

Date:

8/6/18

# SRK INSTITUTE OF TECHNOLOGY ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839 Name of A/c. Faculty olevelopment programe. Paid to S. Neeraja (FCE) Cash/Cheque 4001— the Sum of Rupees Four hundred rupeu on ly. Towards. Work Shop. Prepared by Approved by Audited by

4001-



Introduction to the Internet of Things and Embedded Systems

The Arduino Platform and C Programming

Interfacing with the Arduino

The Raspberry Pi Platform and Python Programming for the Raspberry Pi

Interfacing with the Raspberry
Pi

Programming for the Internet of Things Project



06/08/2018

### SINGANABOYINA NEERAJA

has successfully completed the online, non-credit Specialization

# An Introduction to Programming the Internet of Things (IOT)

Design, create, and deploy a fun IoT device using Arduino and Raspberry Pi platforms. In this Specialization covers embedded systems, the Raspberry Pi Platform, and the Arduino environment for building devices that can control the physical world. In the final Capstone Project, you'll apply the skills you learned by designing, building, and testing a microcontroller-based embedded system, producing a unique final project suitable for showcasing to future employers.

fa Ham

Professor
Department of
Computer Science

PRINCIPAL
SRK Institute of Technology
ENIKEPADU, VIJAYAWADA-521 108.



### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

### Financial Support Request Letter

Support Request Ecter
1. Name of the Staff Member : Dr./Mr./Ms
2. Designation : Asst. Profesor
3. Department :ECE
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:
An Introduction to programming the IoT
5. Date & Duration of the Program: $7-6-2018$
6. Associating Professional Body / Agency: Courses
7. Financial support particulars :
i. Registration Charges: 400 ii. Travelling Allowances: iii. Membership Fee
iv. Others (if any)
Date: 18-6-2018 Signature of the Staff Member
1. Recommendations of the HOD: <u>forwarded 5</u> 2. Recommendations of the Principal: *Sanctioned / Not Sanctioned
PRINCIPAL SRK Institute of Technology count Department ENIKEPADU VIJAYAWABA-521 108

Ac Accountant: Ethe

Date: 18/6/18

# SRK INSTITUTE OF TECHNOLOGY ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839 Name of A/c. Faculty development programe Paid to. B. 8. S. Tejesh (ECE) cash/cheque 400 the Sum of Rupees. From hundred rupees only. Towards. World shop: Approved by Approved by Approved by Audited by

4001-



Introduction to the Internet of Things and Embedded Systems

The Arduino Platform and C Programming

Interfacing with the Arduino

The Raspberry Pi Platform and Python Programming for the Raspberry Pi

Interfacing with the Raspberry Pi

Programming for the Internet of Things Project

UCI

06/07/2018

### **BARANALA TEJESH**

has successfully completed the online, non-credit Specialization

### An Introduction to Programming the Internet of Things (IOT)

Design, create, and deploy a fun IoT device using Arduino and Raspberry Pi platforms. In this Specialization covers embedded systems, the Raspberry Pi Platform, and the Arduino environment for building devices that can control the physical world. In the final Capstone Project, you'll apply the skills you learned by designing, building, and testing a microcontroller-based embedded system, producing a unique final project suitable for showcasing to future employers.

for Hami

Professor
Department of
Computer Science

Verify this certificate at: coursera.org/verify/specialization/ZBGK56P32F32

PRINCIPAL

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.



1/8/18

Date:

### SRK INSTITUTE OF TECHNOLOGY

	<u>Fina</u>	ncial Support Request Lett	<u>er</u>
1.	Name of the Staff Member	: Dr./Mr./Ms	K. Maha Lakehuri
2.	Designation	: Asst. Professor	
3.	Department	:	
4.		details:	
5.	Date & Duration of the Prog	gram: Aug-SEP 21	018
6.	Associating Professional Bo	ody/Agency: —NPTEL	
7.	Financial support particulars	ı:	
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowanc</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>		
Da	nte: 1-8-2018	Sign	Marll ature of the Staff Mémber
1. 2.	Recommendations of the He Recommendations of the Pr	OD: Reconveded	*Sanctioned / Not Sanctioned
	nt Department	PRINCIPAL RK Institute of Technol NIKEPABU, VIJAYAWADA-521	0 <b>g</b> y 108.

A		_	
r	W	U	١.

### **VOUCHER**

Date 01 08 18

## SRK INSTITUTE OF TECHNOLOGY ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c					
Paid to	jaina	MRShm LEC	Gash/Cheque.	300\	
the Sum of Rupees	Five	hundred	nipees	only.	
Towards		F.D.P.		J	
					1-1

Prepared by

500 |-

Approved by

- Was Audited by

Receiver Signature



# NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

**N.V.K MAHALAKSHMI** 

for successfully completing the course **Analysis and Design Principles of Microwave Antennas** with a consolidated score of 42 %

Online Assignments 11.54/25 Proctored Exam

30/75



Prof. Anupam Basu **NPTEL Coordinator** IIT Kharagpur

Total number of candidates certified in this course: 58

Aug-Sep 2018 (8 week course) A. GOSHAMU

Prof. Adrijit Goswami Continuing Education, IIT Kharagpur



Indian Institute of Technology Kharagpur

SRK Institute of Technology





### SRK INSTITUTE OF TECHNOLOGY

Financial Support Request Letter
1. Name of the Staff Member : Dr./Mr./Ms. Ch. Siva Rajesh.
2. Designation : Mest. Professol.
3. Department :
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details :
Programming in Java.
5. Date & Duration of the Program: JAN-APR 2018
6. Associating Professional Body / Agency:
7. Financial support particulars :
<ul> <li>i. Registration Charges: 500</li> <li>ii. Travelling Allowances:</li> <li>iii. Membership Fee:</li> <li>iv. Others (if any):</li> </ul>
Cue Come
Date: 10 -3-2019 Signature of the Staff Member
<ol> <li>Recommendations of the HOD:</li></ol>
SRK Institute of Technology SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 188,
Accountant: Ato
Accountant: Accountant: Date: 10/3/19



To S.R.K.INSTITUTE OF TEHNOLOGY VIJAYAWADA



Score	Type of Certificate
>=90	Elite+Gold
75-89	Elite+Silver
>=60	Elite
40-59	Successfully completed the course
<40	No Certificate

No. of credits recommended by NPTEL:3



#### Elite

# PTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

#### **CHILUVERU SIVA RAJESH**

for successfully completing the course



#### **Programming in Java**

with a consolidated score of

Online Assignments 21.97/25 Proctored Exam

67.5/75

Total number of candidates certified in this course: 8377

Jan-Apr 2019

(12 week course)

A. Goshami

Prof. Adrijit Goswami Dean, Continuing Education & NPTEL Coordinator IIT Kharagpur

Indian Institute of Technology Kharagpur

Roll No: NPTEL19CS07S62260253

To validate and check scores: http://nptel.ac.in/noc

SRK Institute of Technology

https://mail.google.com/mail/u/0/#inhox/FMfcqxwChmWCRGwpdHZQVm.lnMlhZxViz?projector=1&messagePart阿和XEPADU, VIJAYAWADA-52/4 108.

18-19



#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	Financial Support Request Letter
1.	Name of the Staff Member : Dr./Mr./Ms A. V. P. Savvari
	Designation : Asst. Profess
3.	Department :
4.	Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:
	Principles of Signals & Systems
5.	Date & Duration of the Program: $IAN - APR - 2019$
6.	Associating Professional Body / Agency :NPTEL
7.	Financial support particulars:
	i. Registration Charges: 500
	ii. Travelling Allowances:
	iii. Membership Fee :
	iv. Others (if any) :
	Chil.
D	ate: 02-01-17 Signature of the Staff Member
1. 2.	Recommendations of the HOD: Travel & *Sanctioned / Not Sanctioned
	SRK Institute of Technology

ENIKEPADU, VIJAYAWADA-521 108,

Account Department

Accountant: Atte

02/1/18 Date:

#### **VOUCHER**

Date 04 10-1/18

## SRK INSTITUTE OF TECHNOLOGY

ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c	Faculty	develop	ment	program	<i>(</i>
Paid to A. V.P. S	J	4.		,	
	`		•		
the Sum of Rupees				s only.	
Towards	F-	D.P.			
					feeto

Prepared by

500 |-

Approved by

Audited by

Receiver Signature



# NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

#### VENKATA PRASANNA SARVARI A

for successfully completing the course

## **Principles of Signals and Systems**

with a consolidated score of

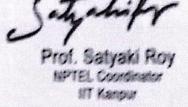
Online Assignments 16.13/25 Proctored Exam 36/75

Total number of candidates certified in this course: 2134

IV Prabhah

Prof. T. V. Prabhakar Chairman Centre for Continuing Education, IITK

(an-Apr 2019 (12 week course)





Indian Institute of Technology Kanpur



Roll No: NPTEL19EE07562260670

To validate and check scores: http://nptel.ac.in/noc

IKEPADU, VIJAYAWADA-521 108.

Scanned with CamScanner



10/1/18

Date:

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

Financial Support Request Letter						
1. Name of the Staff Member	: Dr./Mr./Ms. N.V.k. Mahalakshmi					
2. Designation	: Asst. Prof					
3. Department	:ECE					
Industrial Visit / Tours With	4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:  Springer Nature Singupore Pte. Ital					
5. Date & Duration of the Prog	gram: 2018					
6. Associating Professional B	ody/Agency: Springn					
7. Financial support particular	s:					
<ul><li>i. Registration Charges</li><li>ii. Travelling Allowand</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>	200()					
	Na.00					
Date: 10-1-18	Signature of the Staff Member					
1. Recommendations of the HOD: May be given \$ 2. Recommendations of the Principal: - Full *Sanctioned / Not Sanctioned						
PRINCIPAL SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.						
Accountant:						

SRK INSTIT	VOUCHER TUTE OF TECH	Date 10 1 18
	DU, VIJAYAWADA - 521 108. Ph. : 284	
Name of A/c Faculty	development progra	me:
	hmi (ECE) Cash/Cheque 20	
the Sum of Rupees	thousand rupees only	<i>(.</i> :
	iper Publication	
	1	
D	Approved by	Audited by
Prepared by  ₹ 2000 -	Approved by	Mehrel

#### Conformal Antennas—A Short Survey

N. V. K. Maha Lakshmi, P. V. Subbaiah and A. M. Prasad

Abstract Conformal antennas (CA) have wide applications in several civil, commercial, and defence systems. They are the need hour and most essential in aircrafts and ships. Patch antennas are often considered as the better candidate for such CA. In this paper, a consolidated report on several conformal antenna types is presented. General study on the CA with mircrostrips is presented. The singly curved and doubly curved surfaces are considered for discussion.

**Keywords** Conformal antenna • Singly curved • Doubly curved Microstrip patch antenna

#### 1 Introduction

As per the International Electrotechnical Commission (IEC), CA are a radiating system, whose shape is not determined by its electromagnetic features but by the surface of the system where it has to be intake with the advancement in technology; novel techniques and approaches to the system design are must. A typical radiating system refers to a system which acts as interface between the transmitter and receiver in free space. It is possible to modify the characteristics in order to improve the overall system performance. This technique is often responsible for reducing several aspects that affect the image metrics severely and give a better accuracy along with excellent aerodynamics as well as less in volume. This leads to a challenging task for

N. V. K. Maha Lakshmi (☑)

Department of ECE, SRK Institute of Technology, Vijayawada, AP, India e-mail: mahalakshminvk.nvk@gmail.com

P. V. Subbaiah

Department of ECE, VR Siddhartha College of Engineering, Vijayawada, AP, India e-mail: drpvsubbaiah99@gmail.com

A. M. Prasad

Department of ECE, University College of Engineering JNTU, Kakinada, AP, India e-mail: a\_malli65@yahoo.com

© Springer Nature Singapore Pte Ltd. 2018

J. Anguera et al. (eds.), Microelectronics, Electromagnetics and Telecommunications, Lecture Notes in Electrical Engineering 471, https://doi.org/10.1007/978-981-10-7329-8\_91

881

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108



#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

Financial Support Request Letter
1. Name of the Staff Member : Dr./Mr./Ms. S. Sri Gowrj
2. Designation : Professor
3. Department :————————————————————————————————————
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details :
JETIA (Jexnal of Emerging Technologies and Innovative
5. Date & Duration of the Program: JETIR (APR 2019)
6. Associating Professional Body / Agency: ゴビリア
7. Financial support particulars :
<ul> <li>i. Registration Charges: 2000</li> <li>ii. Travelling Allowances:</li> <li>iii. Membership Fee :</li> <li>iv. Others (if any) :</li> </ul>
Date: 20-4-19 Signature of the Staff Member
<ol> <li>Recommendations of the HOD: *Sanctioned / Not Sanctioned</li> </ol>
Account Department  Accountant: SRK Institute of Technology  Accountant: SRK Institute of Technology
Date: 2duli9

	)	No	)
ı			

#### **VOUCHER**

Date 20 4 19.

# SRK INSTITUTE OF TECHNOLOGY ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c	Faculty	develo	ment	prograu	ne	
Paid to Dr. S. Sri	Gowsi (ECE)	Cash	Chaque	2000  -		
the Sum of Rupees						
Towards	Paper	Publica	ation.	······································		
	,					
					1940	

Prepared by

2000 |-

Approved by 1301Audited by

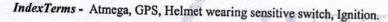
Receiver Signature

### SMART HELMET SYSTEM

<sup>1</sup>Dr. T. Haritha, <sup>2</sup>Dr. S. Sri Gowri, <sup>1</sup>Associate Professor, <sup>2</sup>Professor & Head Department of ECE Department of ECE, PVP Siddhartha Institute of Technology, Vijayawada, India <sup>2</sup>SRK Institute of Technology, Enikepadu Vijayawada, India

#### Abstract :

A low power intelligent helmet system is designed using Atmega 328p processor which ensures the safety of a twowheeler rider. The primary concept behind the working of the system is that the ignition of a two-wheeler will be enabled only if the rider is wearing a helmet and not under the influence of alcohol throughout the ride. An alcohol sensor and helmet wearing sensitive switches are installed inside a helmet, which is connected wirelessly and communicates with the vehicle unit to switch off the ignition system of the bike if any violations occurred. The helmet is powered by a lithium-ion battery, integrated outside the helmet. Vehicle and helmet units check and intimate information about helmet status, alcohol consumption and accident through geometric coordinates via SMS. By using geometric coordinates, the location of the rider can be traced using a simple GPS tracking application.



#### I. INTRODUCTION

In today's era, especially in the young generation, the craze to ride bike is rapidly increasing .The middle class families prefer to buy two-wheeler over four-wheeler because of their low price. As the number of two-wheeler on the road are increasing, road mishaps are also increasing day by day. In the event of an accident, lack of timely medical attention to the injured person may lead to death. Thus, there is a need for a system which ensures safety of rider by enforcing rider to wear helmet as per government guidelines and also assist in providing the rider for a medical assistance in the event of an accident.

#### II. MOTIVATION

The road accident is one of the major problems all over the world. The recent report says that the annual average road accident is estimated to be about 7, 00,000 of which 10 percentage occur in India which has overtaken China. The annual statistics revealed by the World Health Organization (WHO) in its Global status report on road safety says that around 80,000 people are killed on Indian roads due to rush driving, drunken driving and less usage of helmets. Also, most of the countries are forcing the motor riders to wear the helmet and not to use the vehicles when the person is in drunken condition. To overcome problem, a system called Accident Detection, Theft and Drive Protection using intelligent Wireless Safety Helmet is introduced.

#### III. OBJECTIVE OF THE PROJECT

The objective of project is to design intelligent helmet system which ensures wearing of helmet and prevent switching ON bike if rider is under influence of alcohol throughout the ride. The system detects accident and intimate relatives through geometric location of rider via SMS.

#### IV. BLOCK DIAGRAM

The system mainly consists of two major units as shown in Figure 1 and Figure 2. They are:

- Helmet Unit
- Vehicle Unit.

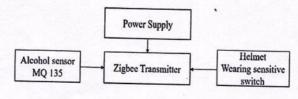


Figure 1: Helmet Unit

PRINCIPAL SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

Date 2 1 2 201 **VOUCHER** No. UTE OF TECHNOLOGY ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839 Name of A/c Pullication Paid to Ch. Siva Rajerly Cash/Cheque 1600/ the Sum of Rupees Sixteen hundred supres only Towards Publication Audited by Prepared by Receiver Signature

1600

# Implementation of Low Power Wallace Tree Multiplier using Carry Select Adder with BEC

Ponnuru Koteswara Rao <sup>#1</sup>, P Raveendra <sup>#2</sup>, Ch. Siva Rajesh <sup>#3</sup>, N. Mayuri <sup>#4</sup>

<sup>#1,2,3,4</sup>Assistant Professor,

SRK Institute of Technology,

Enikepadu, Vijayawada

Abstract: Multipliers are major blocks in the most of the digital and high performance systems such as Microprocessors, Signal processing Circuits, FIR filters etc. In the present scenario, Fast multipliers with less power consumption are leading with their performance. Wallace tree multiplier with carry select adder (CSLA) is one of the fastest multiplier but utilizes more area. To improve the performance of the multiplier, CSLA is replaced by binary excess-1 counter (BEC) which not only reduces the area at gate level but also reduces power consumption. Wallace tree iplier using CSLA with BEC is occupying less area, memory and consuming less power when compared to Wallace tree multiplier using CSLA and Wallace tree multiplier using CSLA with BEC are giving good results compared to regular Wallace tree multiplier.

Keywords: Wallace tree multiplier, carry select adder, BEC.

#### I. INTRODUCTION

Now-days the back end users are very interested in portability, durability, flexibility and remote control. To meet these requirements Integrated Chip (IC) technology has improved a lot. As there are many technologies, the present trend is Very Large Scale Integration (VLSI) technology, as in this technology many millions of transistors in the form of logic circuits can be integrated on a single chip. As the physical existing signals are analog signals, these are harder to process hence Digital Signal Processors (DSP) are introduced, in which the analog signal is converted into digital form processed ording to the program inside it, again converted in to analog signal if required. As there are many modules in the DSP processor to implement the each function we have to program it, in this programming there are many operators used here. The mainly used and complicated block is multiply and Accumulate (MAC) unit, multiply and Add (MAD) units, these are large in area and more processing time required to execute this process.

Our main concept is to reduce these complications with this unit, so we use fusion techniques to have optimized design and many more optimized circuits with circuit minimization techniques are used have an optimized Sparse Parallel Prefix Adders operator design.

#### II.DESIGN OF PROPOSED ARCHITECTURE

2.1 Wallace tree multiplier for 4-bit

Step by step procedure for multiplying two four bit integers according to Wallace multiplier. Wallace multiplier consists of three steps.

- Multiply each bit of one arguments with each bit of another argument, which results in n<sup>2</sup> products.
- Consider the first three rows of the multiplied products and reduce them into two rows by using full adders and half adders as per the requirements. Repeat this process until two rows of multiplied products are obtained.
- 3. Normally in the case of four bit additions of two integers a sum of four bits and carry one bit is formed. So, in the last step of layer we first have two rows of products half adder to add last two bits and the carry of the half adder is connected to the next layer. By following the same procedure add all the bits of two rows. At last the sum of four bits can be obtained Coming to the solution of 4\*4 Wallace tree multiplier; In first stage we obtain four rows of the multiplied products as shown in the Fig. 2.1.

a3 a2 a1 a0
b3 b2 b1 b0
a3b0 a2b0 a1b0 a0b0
a3b1 a2b1 a1b1 a0b1
a3b2 a2b2 a1b2 a0b2
a3b3 a2b3 a1b3 a0b3

Fig: 2.1.Partial Products Generation

Now in the second stage choose the first three rows and reduce them into two rows by using half adders and full adders. As per the requirement it is needed two half adders and two full adders, sum and carry are generated as a0b0, s(0)c(0), s(1)c(1), s(2)c(2), s(3)c(3), a3b2 as in the Fig.2.2.

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

# SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

#### **Financial Support Request Letter**

1.	Name of the Staff Member : Dr./Mr./Ms. P. Cofeswaras
	Designation : ACSA . Pro A
2.	Designation :
3.	Department : ECE
4.	Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:
	IJERT (Derign & implementation of In Environment Monitoring and Contr
5.	Date & Duration of the Program: March 2019
6.	Associating Professional Body / Agency: 17687
7.	Financial support particulars:
	<ul> <li>i. Registration Charges: 1200 / —</li> <li>ii. Travelling Allowances:</li> <li>iii. Membership Fee</li> </ul>
	iv. Others (if any) :
	260
D	ate: 26-3-2019 Signature of the Staff Member
1.	Recommendations of the HOD: Covered & Sanctioned / Not Sanctioned
	PRINCIPAL  SRK Institute of Technology  Int Department  ENIKEPADU, VIJAYAWABA-521 108.
COL	intant: 400

Ac

Date: 26/3/19

No.	VOUCHER	Date 26-3-19
	FITUTE OF TEC	
	ublication	
Paid to P. Kote	suara Paro Cash/Cheque !!	200/-
the Sum of Rupees	velu hundred reper	s. only
Towards	son Publication	
		18 Al
Prepared by	Approved by	Audited by

1200/-

Receiver Signature

# Design and Implementation of Indoor Environment Monitoring and Control System

Koteswara Rao Ponnuru<sup>1</sup>, Sekhara Babu Velpula<sup>2</sup>, Raveendra Pilli<sup>3</sup>, Ravi Bhukya<sup>4</sup>
Assistant Professor<sup>1,2,3,4</sup>,
SRK Institute of Technology,
Enikepadu, Vijayawada

Abstract: After more than 20 years of development, Internet of things has a lot of applications in the actual scene, which greatly facilitates people's work and life. As people paying more and more attention to environmental quality, the application of Internet of Things in indoor environment monitoring and control has become an important branch. In this paper we present a set of lightweight intelligent solutions for the management of rooms after studying the key technologies of IoT. The system uses sensors to obtain environmental information, through the process of arduino, such as temperature sensing and gas leakage detection. The controllers will make adaptive response, such as turn on the air conditioner, water sprinkle. The experiments demonstrates the system can be a good solution to the backwardness of current room management, especially house rooms, college rooms, and provides a new application for IoT.

#### **I.INTRODUCTION**

The current advances in the fields of technology and economy are having a significant impact over the Environment, and have led to serious concerns regarding pollution and climate change. Internet of Things (IoT) is a concept and a paradigm that considers pervasive presence in the environment of a variety of things/objects that through wireless and wired connections and unique addressing schemes are able to interact with each other and cooperate with other things/objects to create new applications, services and reach common goals. Environmental monitoring applications of the IoT normally exploit sensors to aid in environmental protection by monitoring parameters like temperature, gas detection and atmospheric conditions.

This paper designs a prototype of wireless environmental monitoring system to upload information from array of sensors to the database. This application allows us to observe or measuring the environmental conditions from remote location from anywhere in real time. This system consist of main three modules namely sensor nodes, the wireless communication and the web server. The sensor nodes in remote location collect the information from surrounding environmental conditions and send data wirelessly using Node MCU to the server.. Our concentration is to allowing simple data connections with little programming required and moreover easy of use.

Environment monitoring and device control allows new level of comfort in homes and it can also manage the energy consumption efficiently which in turns promotes the saving. In the twenty first century, there is revolution of the sensor networks which have also come up with various applications like surveillance, traffic control, environmental and wildlife monitoring, agricultural application, home automation and industrial process control.

The Internet of things (IoT) is the network of physical devices, vehicles, home appliances and other items embedded with electronics, software, sensors, actuators, and connectivity which enables these objects to connect and exchange data. [1][2][3]Each thing is uniquely identifiable through its embedded computing system but is able to interoperate within the existing Internet infrastructure.

The IoT allows objects to be sensed or controlled remotely across existing network infrastructure, [7] creating opportunities for more direct integration of the physical world into computer-based systems, and resulting in improved efficiency, accuracy and economic benefit in addition to reduced human intervention. [8][9][10][11] When IoT is augmented with sensors and actuators, the technology becomes an instance of the more general class of cyber-physical systems, which also encompasses technologies such as smart grids, virtual power plants, smart homes, intelligent transportation and smart cities.

#### II.BLOCK DIAGRAM

The Block diagram consists of a Microcontroller, a LCD display, sensors, Node MCU and power supply. In this system mainly we have microcontroller, power supply, LCD. The Micro controller is the heart of this project. The total controlling action will be done through this micro controller.

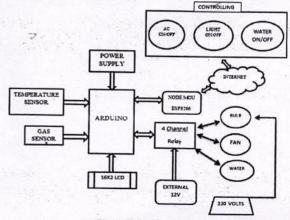


Figure 2.1: Block Diagram

IJERTV81S030108

www.ijert.org

(This work is licensed under a Creative Commons Attribution 4.0 International License.)

16

SRK Institute of Technology ENIKEPADU. VIJAYAWADA-521 108



#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	Financial Support Request Letter					
1.	Name of the Staff Member	: Dr./Mr./Ms. V. Sekho	ox Babu			
2.	Designation	: Asst. Prof				
3.	Department	: GCE				
4.	Industrial Visit / Tours With					
	I J ERT (DU	ngn & implementation of	Indoor Environment Mou			
5.	Date & Duration of the Prog	ram: March 2019				
6.	Associating Professional Bo	ody/Agency: IJERT				
7.	Financial support particulars	:				
	i. Registration Charges					
	<ul><li>ii. Travelling Allowance</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>	es : :				
	ate: 16-3-19		ture of the Staff Member			
1.	Recommendations of the He	OD: - Joy warded incipal: - Millely	*Sanctioned / Not Sanctioned			
	PRINCIPAL					

SRK Institute of Technology

ENIKEPADU, VIJAYAWADA-521 108.

Account Department Accountant: Date: (6/3/19

# SRK INSTITUTE OF TECHNOLOGY ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839 Name of A/c. Faully development programe. Paid to N. Scklas Babu (ECE) cash/cheque 2000/the Sum of Rupees Two thous and rypees only. Towards. Paper Rublication. Approved by Audited by 1321-Total Lubing Approved by 1321--

Receiver Signature

2000

## Design and Implementation of Indoor Environment Monitoring and Control System

Koteswara Rao Ponnuru<sup>1</sup>, Sekhara Babu Velpula<sup>2</sup>, Raveendra Pilli<sup>3</sup>, Ravi Bhukya<sup>4</sup>
Assistant Professor<sup>1,2,3,4</sup>,
SRK Institute of Technology,
Enikepadu, Vijayawada

Abstract: After more than 20 years of development, Internet of things has a lot of applications in the actual scene, which greatly facilitates people's work and life. As people paying more and more attention to environmental quality, the application of Internet of Things in indoor environment monitoring and control has become an important branch. In this paper we present a set of lightweight intelligent solutions for the management of rooms after studying the key technologies of IoT. The system uses sensors to obtain environmental information, through the process of arduino, such as temperature sensing and gas leakage detection. The controllers will make adaptive response, such as turn on the air conditioner, water sprinkle. The experiments demonstrates the system can be a good solution to the backwardness of current room management, especially house rooms, college rooms, and provides a new application for IoT.

#### **I.INTRODUCTION**

The current advances in the fields of technology and economy are having a significant impact over the Environment, and have led to serious concerns regarding pollution and climate change. Internet of Things (IoT) is a concept and a paradigm that considers pervasive presence in the environment of a variety of things/objects that through wireless and wired connections and unique addressing schemes are able to interact with each other and cooperate with other things/objects to create new applications, services and reach common goals. Environmental monitoring applications of the IoT normally exploit sensors to aid in environmental protection by monitoring parameters like temperature, gas detection and atmospheric conditions.

This paper designs a prototype of wireless environmental monitoring system to upload information from array of sensors to the database. This application allows us to observe or measuring the environmental conditions from remote location from anywhere in real time. This system consist of main three modules namely sensor nodes, the wireless communication and the web server. The sensor nodes in remote location collect the information from surrounding environmental conditions and send data wirelessly using Node MCU to the server.. Our concentration is to allowing simple data connections with little programming required and moreover easy of use.

Environment monitoring and device control allows new level of comfort in homes and it can also manage the energy consumption efficiently which in turns promotes the saving. In the twenty first century, there is revolution of the sensor networks which have also come up with various applications like surveillance, traffic control, environmental and wildlife monitoring, agricultural application, home automation and industrial process control.

The Internet of things (IoT) is the network of physical devices, vehicles, home appliances and other items embedded with electronics, software, sensors, actuators, and connectivity which enables these objects to connect and exchange data. [1][2][3]Each thing is uniquely identifiable through its embedded computing system but is able to interoperate within the existing Internet infrastructure.

The IoT allows objects to be sensed or controlled remotely across existing network infrastructure, [7] creating opportunities for more direct integration of the physical world into computer-based systems, and resulting in improved efficiency, accuracy and economic benefit in addition to reduced human intervention. [8][9][10][11] When IoT is augmented with sensors and actuators, the technology becomes an instance of the more general class of cyberphysical systems, which also encompasses technologies such as smart grids, virtual power plants, smart homes, intelligent transportation and smart cities.

#### II.BLOCK DIAGRAM

The Block diagram consists of a Microcontroller, a LCD display, sensors, Node MCU and power supply. In this system mainly we have microcontroller, power supply, LCD. The Micro controller is the heart of this project. The total controlling action will be done through this micro controller.

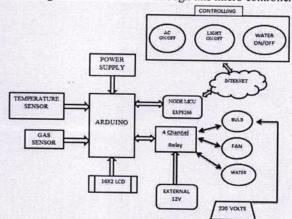


Figure 2.1: Block Diagram



#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

#### Financial Support Request Letter

	1.	Name of the Staff Member : I	r./Mr./Ms.	P Rai	undra	
	2.	Designation :-	Au	t. Profe	Mo/	
	3.	Department :-	<u>ec</u>	<u>e</u>		
	4.	Conference / Publication / Mem Industrial Visit / Tours With det	ership Fee ils:De-	/ Workshop / I	DP / Seminar /	Training /
		Indoor Environme	Mon	storing as	ad Combral	System
	5.	Date & Duration of the Program	Mai	ch 2019		
	6.	Associating Professional Body	Agency:	IJERT		
	7.	Financial support particulars:				
		<ul> <li>i. Registration Charges:</li> <li>ii. Travelling Allowances:</li> <li>iii. Membership Fee:</li> <li>iv. Others (if any):</li> </ul>	1200/			SDAM***
			*		8	1
	Da	Pate: 18-3-2019		Control of the contro	ure of the Staff	Member
	1. 2.	. Recommendations of the HOD . Recommendations of the Princi	al :	whete	*Sanctioned /	Not Sanctioned
		ENIK	PRING nstitute PADU, VIJA	of Technology YAWABA-521 1	3 <b>Y</b> 38.	
Ac	cou	ant Department				
Ac	cou	untant: De C				
Dat	te:					

No. SPKIN	VOUCHER  STITUTE OF TECH	
J SINIX III	ENIKEPADU, VIJAYAWADA - 521 108. Ph. : 28	
Name of A/c	Publicahing	
Paid to	cuts dra Cash/Cheque 13	-oot
the Sum of Rupees	turlue Mindred rupers	brily
Towards	Ruldication	
Prepared by	Approved by	Audited
₹ 1200/-	13mo	Receiver Signat

Vol. 8 Issue 03, March-2019

# Design and Implementation of Indoor **Environment Monitoring and Control System**

Koteswara Rao Ponnuru<sup>1</sup>, Sekhara Babu Velpula<sup>2</sup>, Raveendra Pilli<sup>3</sup>, Ravi Bhukya<sup>4</sup> Assistant Professor<sup>1,2,3,4</sup> SRK Institute of Technology, Enikepadu, Vijayawada

Abstract: After more than 20 years of development, Internet of things has a lot of applications in the actual scene, which greatly facilitates people's work and life. As people paying more and more attention to environmental quality, the application of Internet of Things in indoor environment monitoring and control has become an important branch. In this paper we present a set of lightweight intelligent solutions for the management of rooms after studying the key technologies of IoT. The system uses sensors to obtain environmental information, through the process of arduino, such as temperature sensing and gas leakage detection. The controllers will make adaptive response, such as turn on the air conditioner, water sprinkle. The experiments demonstrates the system can be a good solution to the backwardness of current room management, especially house rooms, college rooms, and provides a new application for IoT.

#### **I.INTRODUCTION**

The current advances in the fields of technology and economy are having a significant impact over the Environment, and have led to serious concerns regarding pollution and climate change. Internet of Things (IoT) is a concept and a paradigm that considers pervasive presence in the environment of a variety of things/objects that through wireless and wired connections and unique addressing schemes are able to interact with each other and cooperate with other things/objects to create new applications, services and reach common goals. Environmental monitoring applications of the IoT normally exploit sensors to aid in environmental protection by monitoring parameters like temperature, gas detection and atmospheric conditions.

This paper designs a prototype of wireless environmental monitoring system to upload information from array of sensors to the database. This application allows us to observe or measuring the environmental conditions from remote location from anywhere in real time. This system consist of main three modules namely sensor nodes, the wireless communication and the web server. The sensor nodes in remote location collect the information from surrounding environmental conditions and send data wirelessly using Node MCU to the server.. Our concentration is to allowing simple data connections with little programming required and moreover easy of use.

Environment monitoring and device control allows new level of comfort in homes and it can also manage the energy consumption efficiently which in turns promotes the

saving. In the twenty first century, there is revolution of the sensor networks which have also come up with various applications like surveillance, traffic control, environmental and wildlife monitoring, agricultural application, home automation and industrial process control.

The Internet of things (IoT) is the network of physical devices, vehicles, home appliances and other items embedded with electronics, software, sensors, actuators, and connectivity which enables these objects to connect and exchange data.[1][2][3]Each thing is uniquely identifiable through its embedded computing system but is able to interoperate within the existing Internet infrastructure.

The IoT allows objects to be sensed or controlled remotely across existing network infrastructure, [7] creating opportunities for more direct integration of the physical world into computer-based systems, and resulting in improved efficiency, accuracy and economic benefit in addition to reduced human intervention. [8][9][10][11] When IoT is augmented with sensors and actuators, the technology becomes an instance of the more general class of cyberphysical systems, which also encompasses technologies such as smart grids, virtual power plants, smart homes, intelligent transportation and smart cities.

#### II.BLOCK DIAGRAM

The Block diagram consists of a Microcontroller, a LCD display, sensors, Node MCU and power supply. In this system mainly we have microcontroller, power supply, LCD. The Micro controller is the heart of this project. The total controlling action will be done through this micro controller.

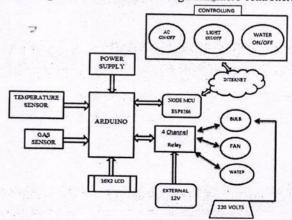


Figure 2.1: Block Diagram

IJERTV8IS030108

www.ijert.org

(This work is licensed under a Creative Commons Attribution 4.0 International License.)

ENIKEPADU, VIJAYAWADA-521 108.

# VIJAYAWADA

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

#### Financial Support Request Letter

D Parts	
1. Name of the Staff Member : Dr./Mr./Ms B: Rowi	
2. Designation : Asst. Pof	
3. Department :	
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details: — Dingn and Implementation of	_
IJERT (Indoor Environment Monitorday &	(on holay)
5. Date & Duration of the Program: March 2019	
6. Associating Professional Body / Agency: 「プモRT	
7. Financial support particulars :	
<ul> <li>i. Registration Charges: 1200 /-</li> <li>ii. Travelling Allowances:</li> <li>iii. Membership Fee:</li> <li>iv. Others (if any):</li> </ul>	
۸ ۸	
Date: 16-3-19 Signature of the Staff Member	
1. Recommendations of the HOD: Savo de de second se	ed
PRINCIPAL	
Account Department SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.	
Accountant: 440	
Date: 16/3/19	

DY 2002 YOU	339
DV0.9080.W0	
	90
	ryseer only.
ublication	J J
	10.0
	Audited by
Approved by	
1	hppiotou bj

ISSN: 2278-0181

Vol. 8 Issue 03, March-2019

# Design and Implementation of Indoor Environment Monitoring and Control System

Koteswara Rao Ponnuru<sup>1</sup>, Sekhara Babu Velpula<sup>2</sup>, Raveendra Pilli<sup>3</sup>, Ravi Bhukya<sup>4</sup>
Assistant Professor<sup>1,2,3,4</sup>,
SRK Institute of Technology,
Enikepadu, Vijayawada

Abstract: After more than 20 years of development, Internet of things has a lot of applications in the actual scene, which greatly facilitates people's work and life. As people paying more and more attention to environmental quality, the application of Internet of Things in indoor environment monitoring and control has become an important branch. In this paper we present a set of lightweight intelligent solutions for the management of rooms after studying the key technologies of oT. The system uses sensors to obtain environmental information, through the process of arduino, such as temperature sensing and gas leakage detection. The controllers will make adaptive response, such as turn on the air conditioner, water sprinkle. The experiments demonstrates the system can be a good solution to the backwardness of current room management, especially house rooms, college rooms, and provides a new application for IoT.

#### **I.INTRODUCTION**

The current advances in the fields of technology and economy are having a significant impact over the Environment, and have led to serious concerns regarding pollution and climate change. Internet of Things (IoT) is a concept and a paradigm that considers pervasive presence in the environment of a variety of things/objects that through wireless and wired connections and unique addressing schemes are able to interact with each other and cooperate with other things/objects to create new applications, services and reach common goals. Environmental monitoring applications of the IoT normally exploit sensors to aid in environmental protection by monitoring parameters like temperature, gas detection and atmospheric conditions.

This paper designs a prototype of wireless environmental monitoring system to upload information from array of sensors to the database. This application allows us to observe or measuring the environmental conditions from remote location from anywhere in real time. This system consist of main three modules namely sensor nodes, the wireless communication and the web server. The sensor nodes in remote location collect the information from surrounding environmental conditions and send data wirelessly using Node MCU to the server.. Our concentration is to allowing simple data connections with little programming required and moreover easy of use.

Environment monitoring and device control allows new level of comfort in homes and it can also manage the energy consumption efficiently which in turns promotes the saving. In the twenty first century, there is revolution of the sensor networks which have also come up with various applications like surveillance, traffic control, environmental and wildlife monitoring, agricultural application, home automation and industrial process control.

The Internet of things (IoT) is the network of physical devices, vehicles, home appliances and other items embedded with electronics, software, sensors, actuators, and connectivity which enables these objects to connect and exchange data. [1][2][3] Each thing is uniquely identifiable through its embedded computing system but is able to interoperate within the existing Internet infrastructure.

The IoT allows objects to be sensed or controlled remotely across existing network infrastructure, [7] creating opportunities for more direct integration of the physical world into computer-based systems, and resulting in improved efficiency, accuracy and economic benefit in addition to reduced human intervention. [8][9][10][11] When IoT is augmented with sensors and actuators, the technology becomes an instance of the more general class of cyberphysical systems, which also encompasses technologies such as smart grids, virtual power plants, smart homes, intelligent transportation and smart cities.

#### II.BLOCK DIAGRAM

The Block diagram consists of a Microcontroller, a LCD display, sensors, Node MCU and power supply. In this system mainly we have microcontroller, power supply, LCD. The Micro controller is the heart of this project. The total controlling action will be done through this micro controller.

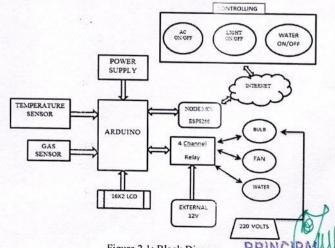


Figure 2.1: Block Diagram

SRK Institute of Technology

165

# SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

#### **Financial Support Request Letter**

1. Name of the Staff Member : Dr./Mr./Ms C. J.S. Tejesh.
2. Designation : Ast Prof
3. Department :— ECF
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details: Patient Health Monitoria Put
IJRTI uring Open Seance Technology
5. Date & Duration of the Program: 2018
6. Associating Professional Body / Agency: 1 プ ア て ア
7. Financial support particulars :
<ul> <li>i. Registration Charges: 1200/_</li> <li>ii. Travelling Allowances:</li> <li>iii. Membership Fee:</li> <li>iv. Others (if any):</li> </ul>
Date: 12-10-19 Signature of the Staff Member
1. Recommendations of the HOD: Council & *Sanctioned / Not Sanctioned
Account Department SRK Institute of Technology ENIKEPABU, VIJAYAWADA-521 108
Accountant: Sto
Date: 12holis

No.	VOUCHER	Date12 10 [18
SRK INSTIT	TUTE OF TECH ADU, VIJAYAWADA - 521 108. Ph. : 25	
Name of A/c	culty development	programe.
Paid to B. S. S. Teje	sh (ECE) cash/Cheque thousand two true	1200/- dred niper only
Towards	Ropes Publication.	<b>,</b>
		- Letus
Prepared by  ₹ 1200 \_	Approved by	Audited by  Receiver Signature

# PATIENT HEALTH MONITORING SYSTEM USING OPEN SOURCE TECHNOLOGY

<sup>1</sup>S.NEERAJA, <sup>2</sup>B.S.S.TEJESH, <sup>3</sup>N.MAYURI, <sup>4</sup>SK.SHABEENA

1,2,3,4 Assistant Professor Department of ECE, SRK Institute of Technology, Vijayawada, India

Abstract: IoT is an emerging technology, which permits devices and people correlated in an organized manner. In the medical area the applications like real time monitoring, patient information management and healthcare management are presently receiving a good scope in the market. Many patients are dying because of the unavailability of the doctor in correct time. Internet of things serves as a catalyst for the healthcare and plays prominent role in wide range of healthcare applications. In this project the Arduino Mega 2560 is used as a gateway to communicate to the various sensors such as temperature sensor, heartbeat, fault detection sensor and Blood Pressure module. The Arduino Mega 2560 picks up the sensor data and sends it to the network through Wi-Fi module ESP8266 and hence provides real time monitoring of the health care parameters for doctors. The controller is also connected with buzzer to alert the care taker about variation in sensor output. But the major issue in remote patient monitoring system is that the data as to be securely transmitted to the estination end and provision is made to allow only authorized user to access the data. At the time of extremity situation alert message is sent to the doctor through the developed Android application. Hence quick provisional medication can be easily done by this system. This system is efficient with low power consumption capability, easy setup, high performance and time to time response.

IndexTerms: IoT, Open Source Technology, Patient Health Monitoring System, Wi-Fi, Sensors.

#### I. INTRODUCTION (HEADING 1)

The second research to proper the property of the second s

The urge for the patient's health care management system is it can eliminate two dominant obstructions. First obstruction is that the doctor has to be on the site of the hospital for a long time. Second obstruction is that the patients are remained admitted in the hospitals for small health problems and may feel uncomfortable to stay in the hospital. Thus the implementation of this system more no of patients can be supervised and better services can be contributed. The wearable tiny sensors are easily integrated with the human body in the patient health monitoring system and so that it can sense the physical parameters of the patient's body[1]. The temperature sensor, BP sensor, Heartbeat sensor is low cost and are having predominant circumstances in the patient health care management system. The BP, heartbeat, the temperature sensor is familiar and frequently used because every patient's health will primarily depend on these parameters. In general, every doctor is confined to support only one patient in real time, but by this system one doctor can monitor real time details of many people. In comparison with the traditional approach to health care, the modern patient health management system will offer better health services 24x7 in any efficient manner[2]. In this developed patient health care nanagement system, frequent visit of doctor by the patient's is completely eliminated[3].

Enhancements are ongoing for the implementations of the patient's health care management system. The data privacy is the onsidered to be the dominant aspect. The data of the patient must be secured and must enable them from outside network attacks. Data integrity is another issue because the patient's parameters are continuously transmitted to the central server there may be chances where data may be lost due to poor communication. With the employment of IoT in health care systems, the devices are connected to patient, collect real time data by a central The patient's health care management system has many challenging goals in the area of security. Many server and perform analytics on the data and provide the data to the real world in a user friendly manner.

Traditional remote health care system operates in the low speed processor and they are not efficient and cannot provide

computations. As it operates on low memory, sufficient amount of data cannot be held by the IoT device [4].

In any system the power saving is the utmost challenge because the wearable sensors must not consume more power. A Certain power saving option must be enabled so as to reduce the power consumption. Employment of variable wired and wireless communication technologies like ZigBee, GSM, Wi-Fi, Ethernet, and Bluetooth can be integrated into the Patient health care management system. The Wearable sensors are limited by number because of the unavailability of interfacing ports in the central server Raspberry Pi 3. Appropriate technology is chosen for the efficient utilization of the patient's health care management system. In real world applications the Wearable sensors are mobile and must be easily integrated with the services provided by the IoT.

#### II. LITERATURE SURVEY

In the 21st century, IoT has become the most persuasive technology. In the modern world every device became part of the internet due to their computation and communication capabilities with the advancements made in IoT. In the era of IoT, more devices can be accessed and they get connected anytime based upon the network and will extend their services to real time applications. In future, IoT can uniquely create a trend on the devices which are having computation abilities. The generated data from the IoT devices is further analyzed and decisions are made. Many advancements and new methodologies go up day by day on the basis of Internet of Things. IoT has numerous enhancements in the domains like healthcare, Smart environment, Smart Home, Smart industries [5]

SRK Institute of pc[1]

ENIKEPADU, VIJAYAWADA-521 10

# SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	<u>Fina</u>	ncial Support Request Lett	er ,
1.	Name of the Staff Member	: Dr./Mr./Ms Md.	Shaboera begun
2.	Designation	: ALV- · Ono	<u> </u>
3.	Department	:ECE	
4.	Conference / Publication / M Industrial Visit / Tours With		/ FDP / Seminar / Training /
		PTI (Patient )	realth Monitoring System
5.	Date & Duration of the Prog	ram: 20/8	
6.	Associating Professional Bo	ody/Agency: \JZTI	
7.	Financial support particulars		
	<ol> <li>Registration Charges</li> </ol>	: 1200/-	
	ii. Travelling Allowance		
	iii. Membership Fee		
	iv. Others (if any)	:	
Da	te: 16-3-18	Sign	ature of the Staff Member
1.	Recommendations of the Ho	op: Sorwarded	2 /
2.	Recommendations of the Pr	incipal:	*Sanctioned / Not Sanctioned
oun	t Department	PRINCIPAL SRK Institute of Technol NIKEPADU, VIJAYAWADA-521	ogy 108.
oun	101		

Accountant:

10/3/18 Date:

**VOUCHER** 

Date 16/3/18.

# SRK INSTITUTE OF TECHNOLOGY ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c Paid to Md · Sha			, ,	
the Sum of Rupees	One thou	usand two	bundred	ripeis:
Prepared by ₹ (2001—		Approved 13w		Audited by  M. Shabewe Receiver Signature

# PATIENT HEALTH MONITORING SYSTEM USING OPEN SOURCE TECHNOLOGY

<sup>1</sup>S.NEERAJA, <sup>2</sup>B.S.S.TEJESH, <sup>3</sup>N.MAYURI, <sup>4</sup>SK.SHABEENA

1,2,3,4 Assistant Professor Department of ECE, SRK Institute of Technology, Vijayawada, India

Abstract: IoT is an emerging technology, which permits devices and people correlated in an organized manner. In the medical area the applications like real time monitoring, patient information management and healthcare management are presently receiving a good scope in the market. Many patients are dying because of the unavailability of the doctor in correct time. Internet of things serves as a catalyst for the healthcare and plays prominent role in wide range of healthcare applications. In this project the Arduino Mega 2560 is used as a gateway to communicate to the various sensors such as temperature sensor, heartbeat, fault detection sensor and Blood Pressure module. The Arduino Mega 2560 picks up the sensor data and sends it to the network through Wi-Fi module ESP8266 and hence provides real time monitoring of the health care parameters for doctors. The controller is also connected with buzzer to alert the care taker about variation in sensor output. But the major issue in remote patient monitoring system is that the data as to be securely transmitted to the estination end and provision is made to allow only authorized user to access the data. At the time of extremity situation alert message is sent to the doctor through the developed Android application. Hence quick provisional medication can be ly done by this system. This system is efficient with low power consumption capability, easy setup, high performance and time to time response.

IndexTerms: IoT, Open Source Technology, Patient Health Monitoring System, Wi-Fi, Sensors

#### I. INTRODUCTION (HEADING 1)

Trible III sould be adopted (1476) \$850. -

The urge for the patient's health care management system is it can eliminate two dominant obstructions. First obstruction is that the doctor has to be on the site of the hospital for a long time. Second obstruction is that the patients are remained admitted in the hospitals for small health problems and may feel uncomfortable to stay in the hospital. Thus the implementation of this system more no of patients can be supervised and better services can be contributed. The wearable tiny sensors are easily integrated with the human body in the patient health monitoring system and so that it can sense the physical parameters of the patient's body[1]. The temperature sensor, BP sensor, Heartbeat sensor is low cost and are having predominant circumstances in the patient health care management system. The BP, heartbeat, the temperature sensor is familiar and frequently used because every patient's health will primarily depend on these parameters. In general, every doctor is confined to support only one patient in real time, but by this system one doctor can monitor real time details of many people. In comparison with the traditional approach to health care, the modern patient health management system will offer better health services 24x7 in any efficient manner [2]. In this developed patient health care management system, frequent visit of doctor by the patient's is completely eliminated [3]

Enhancements are ongoing for the implementations of the patient's health care management system. The data privacy is the idered to be the dominant aspect. The data of the patient must be secured and must enable them from outside network attacks. Data integrity is another issue because the patient's parameters are continuously transmitted to the central server there may be chances where data may be lost due to poor communication. With the employment of IoT in health care systems, the devices are connected to patient, collect real time data by a central The patient shealth care management system has many challenging goals in the area of security. Many server and perform analytics on the data and provide the data to the real world in a user friendly manner.

Traditional remote health care system operates in the low speed processor and they are not efficient and cannot provide

computations. As it operates on low memory, sufficient amount of data cannot be held by the IoT device [4].

In any system the power saving is the utmost challenge because the wearable sensors must not consume more power. A Certain power saving option must be enabled so as to reduce the power consumption. Employment of variable wired and wireless communication technologies like ZigBee, GSM, Wi-Fi, Ethernet, and Bluetooth can be integrated into the Patient health care management system. The Wearable sensors are limited by number because of the unavailability of interfacing ports in the central server Raspberry Pi 3. Appropriate technology is chosen for the efficient utilization of the patient's health care management system. In real world applications the Wearable sensors are mobile and must be easily integrated with the services provided by the IoT.

#### II. LITERATURE SURVEY

In the 21st century, IoT has become the most persuasive technology. In the modern world every device became part of the internet due to their computation and communication capabilities with the advancements made in IoT. In the era of IoT, more devices can be accessed and they get connected anytime based upon the network and will extend their services to real time applications. In future, IoT can uniquely create a trend on the devices which are having computation abilities. The generated data from the IoT devices is further analyzed and decisions are made. Many advancements and new methodologies go up day by day on the basis of Internet of Things. IoT has numerous enhancements in the domains like healthcare, Smart environment, Smart Home, Smart industries IS SRX Institute of a Cloud ENIKEPADU. VIJAY - ADA-52110



#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

#### **Financial Support Request Letter**

1. Name of the Staff Member : Dr./Mr./Ms P Ratner Charles
2. Designation : Aut Professor
3. Department :————————————————————————————————————
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details: — A Debailed Scruby and
Reasoning on VISI alway Addres Circuits and Architation
5. Date & Duration of the Program: May 2019
6. Associating Professional Body / Agency: 171766
7. Financial support particulars:
i. Registration Charges: 1200   — ii. Travelling Allowances:
iii. Membership Fee : iv. Others (if any) :
iv. Others (if any) :
Date: 91-5-2019 Signature of the Staff Member
1. Recommendations of the HOD:  2. Recommendations of the Principal:  *Sanctioned / Not Sanctioned
Account Department ENIKEPADU, VIJAYAWADA-521 108.
Accountant: 4000

Date: 21/5/2019

No.	VOUCHER	Date. 21 5 19
	TUTE OF TECH PADU, VIJAYAWADA - 521 108. Ph. : 28	
Name of A/c Facult	y development progr	ame.
	as (ECE) Cash/Cheque	
the Sum of RupeesONO	thousand two hund	red rupees.
Towards	Esper publication.	
		Bedrie
Prepared by	Approved by	Audited by
₹ 1200  -	170.1	Receiver Signature

# A Detailed Scrutiny and Reasoning on VLSI Binary Adder Circuits and Architectures

K Mariya Priyadarshini, R. S. Ernest Ravindran, P. Ratna Bhaskar

Abstract: In this document a survey on recent developments in the design of binary adders is done. Adders are the core cells of any arithmetic unit which define the speed of any processor. The motivation of this paper is to focus on different kinds of architectures of higher order binary adders that provide high speed, less power to increase the level of integration on any integrated circuits (IC). Though there are many algorithms proposed for improving the speed of an

adder the challenges still remain in designing fast and accurate adders. At the schematic level we scrutiny six different adders for high speed and low power applications.

Key words: carry propagation delay, fast adder principles, carry selection, carry skip, prefix adders.

#### I. INTRODUCTION

In communications and portable multimedia applications emerge, there is always a need for more prominent designs with low voltage, very thin size and high frequency of operation. Adders are the leaf cells in any DSP systems. Hence design of fast adders has become crucial as it affects the execution time of a digital system in variables of voltage and latency.

Every binary adder takes full adder as a basic cell which adds three single bits and its expressions of sum and carry

#### SUM= A XOR B XOR C and COUT= A.B + A.C+ B.C

The basic multi bit binary adder is the Ripple Carry Adder (RCA). RCA utilizes full adders for multi bit addition. The carry out after each full adder addition is sent to next satge. If for an n-bit RCA Cout need to be evaluated it has to wait until full adder addition for n-1 stages is performed. Accordingly, the last sum and carry bits will be legitimate after a significant deferral [1]. To overcome the problem of carry propagation adders ike carry look ahead adder, carry increment adder, carry select adder, carry look ahead adders and parallel prefix adders are presented in this paper[2] .A carry-look ahead adder (CLA) generates the sum bit irrespective of carry input it receives from previous stages. Carry is generated and propagated using look-ahead logic. The following figure 1.1 shows a basic 4-bit CLA [3]. From the figure we can see a look-ahead structure logic is used for generating carry. Due to this more number of MOS transistors are required to implement the circuit which increases area of the chip [3, 4]. Carry Look-ahead Adder (CLA) is a kind of optimized adder when compared with conventional RCA.

Revised Manuscript Received on May 07, 2019.

K Mariya Priyadarshini, PhD in Koneru Lakshmaiah Educational Foundation, Deemed to be University, Andhra Pradesh, India.

Dr. R.S. Ernest Ravindran PhD in 2016 from Anna University, Chennai, India.

P. Ratna Bhaskar, PhD in Koneru Lakshmaiah Educational Foundation, Deemed to be University, Andhra Pradesh, India.

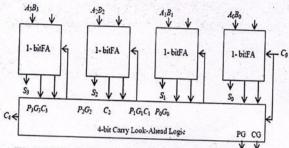


Fig 1.1 Block diagram of Carry Look Ahead Adder

Among the fast adders Carry Skip Adder (CSKA) is one option with reduced carry propagation delay. CSKA doesn't need any separate logic for generating and carry bits which reduces critical path length, but increases area and power dissipation same as RCA. Energy efficient product is very much low when compared to RCA and CLA [6, 7]. Layout for CSKA can be easily implemented with less wire lengths and regular structures. The slow compilation time of this adder structure to generate and propagate carry bits, limits its use in high frequency applications. However CSKA adder's performance degrades for higher order bits and in few combinations of bits, computational complexity equals RCA [8].

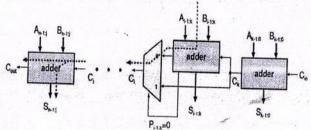


Fig 1.2 General architecture of Carry Skip Adder(CSKA)

P<sub>i-1:k</sub>=0(not all propagate signals from bit i-1 to bit k are 1), the result of the carry is generated within this block.

Prix=1, the carry of the previous block is propagated.

Carry Increment Adder (CIA) is one more efficient adder. By using clock phase techniques CIA increases the speed of carry propagation and sum generation. It also has smaller chip area compared with RCA, CLA and CSKA

adder topologies but if the bit width is increased speed will be decreased and chip area.[9].



Published By: 887 Blue Eyes Intelligence Engineering & Sciences Publication



#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

#### Financial Support Request Letter

1.	Name of the Staff Member	: Dr./Mr./Ms D. Raul Tej
2.	Designation	: Asst Professor
3.	Department	:ECE
4.	Conference / Publication / M Industrial Visit / Tours With	Membership Fee / Workshop / FDP / Seminar / Training / details :
	Sound Source Le	calization Using 3D Microphone Amo
5.	Date & Duration of the Prog	ram: March 2020
6.	Associating Professional Bo	ody/Agency: 17STRV
7.	Financial support particulars	
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowanc</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>	
Da	ate: 18-3-20W	Signature of the Staff Member
	Recommendations of the He Recommendations of the Pr	
	nt Department	PRINCIPAL  RK Institute of Technology  NIKEPADU, VIJAYAWADA-521 108.
~UU	man. IX IT	

Ac

Ac

16/3/2000 Date:

SRK INSTI	TUTE OF TECH	INOLOGY
	PADU, VIJAYAWADA - 521 108. Ph. : 28	
Name of A/c	Paper publication	
	Cash/Cheque. 12c	00/-
the Sum of Rupees	e mousant The hunter	es hopeway
	aper Publication	
		, ,
***************************************		1040

Receiver Signature

₹ 12001-

## Sound Source Localization Using 3D Microphone Array

Dr.D.Bhavana, Dr.K.Kishore Kumar, Y.Vijay Kumar, N.Naga Bhanu Maitreyee, R. Naga Jyothirmayi, D.RaviTej

Abstract: Source localization and tracking with the microphone arrays had become a major interest in room acoustics, teleconference systems and tracking of sound producing objects. The current methods to estimate the source localization depend on conventional time-delay estimation techniques between microphone pairs, however, ignoring the ambient noise, reflections from surrounding and reverberation in the closed space. There are three basic and important methods for finding the direction of arrival (DOA) in a far field environment for sound sources. The first two approaches are based on Beamforming techniques: Delay and Sum Beamformer and Minimum Variance Distortion-less Response Beam former (MVDR). The third approach is a subspace method that uses the well-known algorithm, Multiple Signal Classification (MUSIC). The main goal is to prices-lylocate the direction of a sound source (azimuth, elevation) using recordings from an microphone array. This task is quite-demanding because of a high volume of acoustic noise produced by the UAV, causing negative signal-to-noise ratios (SNR). The resulted or obtained noise consists of harmonics components which are related to the speed of propellers and structural noise and also sometimes atmospheric noise due to the UAV's movements and propellers rotations. Another problem comes from the reality that a UAV is moving constantly, sometimes with quickshiftsindirections, resulting in very complex and comparable source trajectories in the microphone array's which is used as a frame for reference.

#### INTRODUCTION

RECENT advancements in acoustics source localization tracking, using microphone arrays, numerousapplications in room acoustics measurements. teleconference systems, automotive industry and tracking of sound producing objects for surveillance systems. The main aim of any localizer is to preciselylocate or estimate the direction of arrival (DOA) of a single or more active sound sources simultaneously, in order to point out the listening stream of sound field. A sound localizer is a core part of any capture system that uses microphone arrays of different configurations and beam-steering. The accuracy of sound source localization critically depends on the ambience and reverberation of indoor environments, such as small rooms, offices and auditorium. Traditionally, the localization methods are based on two ways to estimate the sound arrival direction.

Dr. D. Bhavana, Associate professor , Department of Electronics communication, koneru Lakshmaiah Education foundation, vaddeswaram, Guntur, A.P, india

Dr. K. Kishore Kumar, Associate professor, Department of Mechanical Engineering, koneru Lakshmaiah foundation, vaddeswaram, Guntur, A.P., india

Y.Vijay Kumar, N.Naga Bhanu Maitreyee, R. Naga Jyothirmavi Graduating students Department of Electronics communication koneru Lakshmaiah foundation, vaddeswaram, Guntur, A.P., india.

D.Ravi Tej, Assistant Professor, SRK institute of technology, Enikepadu, Vijayawada, 521108.

Dr. D. Bhavana, Associate professor , Department of Electronics communication, koneru Lakshmaiah Education foundation, vaddeswaram, Guntur, A.P., india

Dr. K. Kishore Kumar, Associate professor, Department of Mechanical Engineering, koneru Lakshmaiah Education foundation, vaddeswaram, Guntur, A.P., india

Y.Vijay Kumar, N.Naga Bhanu Maitreyee, R. Naga Jyothirmayi Graduating students Department of Electronics communication koneru Lakshmaiah foundation, vaddeswaram, Guntur, A.P., india.

D.Ravi Tej, Assistant Professor, SRK institute of technology, Enikepadu, Vijayawada, 521108.

The first approach is based on time difference of arrival (TDOA) using paired combinations of microphone pairs. whereas, the second maximizes the source steered power response (SPR) at thedelay output and sum beamformer. Both approaches use single frame of captured sound for estimation, producing poor results in precision and also require additional post-processing algorithms to track multiple sources in real time applications. Recent developments in simultaneous multiple source localization, such as, MUSIC and ESPRIT resolve this problem up to satisfactory extent, however, these techniques are only applicable for narrowband sources In past few decades, microphone array based processing has been investigated for sound localization and tracking in order to emulate the existing techniques for multi-channel processing. microphone array configurations have been studied and proposed for estimation process, such as, direction of arrival (DOA) estimation and localizing the sources, using correlation among the two pairs of microphones. In our study, we investigated both methods, i.e. TDOA and SPR. In time delay estimation techniques, we have employed generalized cross correlation (GCC) method in frequency domain using several combinations of microphone pairs of the array with weighting functions. The array used for this purpose consists of six microphones with spherical geometric configurations in evenly distributed manners at its imaginary surface. Some of the weighting functions like, 'phase transform (PHAT)', 'smoother coherence transform (SCOT)' and the 'maximum-likelihood (ML)' for GCC algorithm are evaluated in reverberant and noisy environment. A comparative study and evaluation of these weighting functions is performed and presented; therefore, 'PHAT' weighting function is purposed for optimum detection of source in the presence of reverberant environment, especially for multiple sources. For SPR, minimum variance distortion less response weighting is evaluated and purposed for accurate source tracking application at getting high SNR of the steered signal in reverberation conditions. In addition, a practical ASLT

IJSTR@2020 www.ijstr.org

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108. 6234

## SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

#### Financial Support Request Letter

1. Name of the Staff Member	: Dr./Mr./Ms. Dr S Sri Crocer
2. Designation	:- Professor, Hap
3. Department	:ECE
Industrial Visit / Tours With	details: - Linear Cost Combination
cooperative spectru	m cenning in Cognitive Radio a ktruerke
5. Date & Duration of the Prog	
6. Associating Professional Bo	dy/Agency: 13 A RLT
7. Financial support particulars	
i. Registration Charges	
<ul><li>ii. Travelling Allowance</li><li>iii. Membership Fee</li></ul>	es:
iv. Others (if any)	
Date: 18-5-2019	Signature of the Staff Member
<ol> <li>Recommendations of the HO</li> <li>Recommendations of the Pri</li> <li>Recommendations of the IQ</li> </ol>	ncipal:
	SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108

Account Department

Accountant: 18-5-2019

o.	VOUCHER OF THE	Datei. & S 20
	TUTE OF TEC ADU, VIJAYAWADA - 521 108. Ph.	
alama of ala Pobes K	Publication	
	Dwn Cash/Cheque	
	flowend Rupers	
	Publication,	

Prepared by

2000/-

Approved by
13m-1-

Audited by

S-SriGow Receiver Signature



## INTERNATIONAL JOURNAL OF ADVANCE RESEARCH AND LATEST TRENDS

ISSN 3011-3030 Vol. 11, Issue.03, May 2019, Pages: 2593-2598

# LINEAR SOFT COMBINATION FOR COOPERATIVE SPECTRUM SENSING IN COGNITIVE RADIO NETWORKS OVER NAKAGAMI-M FADING CHANNELS

Nalluri Kalavathi<sup>1</sup>, Dr.S.Sri Gowri<sup>2</sup>

<sup>1</sup>PG Scholar, Dept of ECE, SRK Institute Of Technology, Vijayawada, AP, India 520010, kalavathinalluri6@gmail.com <sup>2</sup>HOD, Dept of ECE, SRK Institute Of Technology, Vijayawada, AP, India 520010,

#### Abstract-

In this paper we propose soft combining methods for cooperative spectrum sensing over fading channels in cognitive radio networks. Cognitive radio technology has been proposed to improve spectrum efficiency by having the cognitive radios act as secondary users to opportunistically access under-utilized frequency bands. Spectrum sensing, as a key enabling functionality in cognitive radio networks, needs to reliably detect signals from licensed primary radios to avoid harmful interference. However, due to the effects of channel fading/shadowing, individual cognitive radios may not be able to reliably detect the existence of a primary radio. So, we proposed Linear combination rule which is used to minimize the probability of missed detection subjected to an upper limit on the probability of false alarm based on Neyman-Pearson criterion. The detection performance of the proposed combination rule is verified in three typical fading scenarios: the Rayleigh fading, the Rician fading and the Nakagami fading. The Simulation results shows that the detection probability curves of soft combining schemes under independently and identically distributed (i.i.d.), Variables of Rayleigh, Rician and Nakagami fading channels.

Index Terms- soft combining methods, cognitive radio, Neyman-pearson criterion, cooperative spectrum sensing.

#### I. INTRODUCTION

TCognitive Radio (CR) is an adaptive, intelligent radio and network technology that can automatically detect available channels in a wireless spectrum and change transmission parameters enabling more communications to run concurrently and also improve radio operating behaviour. In which a transceiver can intelligently detect which communication channels are in use and which are not, and instantly move into vacant channels while avoiding occupied ones. This optimizes the use of available radio-frequency (RF) spectrum while minimizing interference to other users.

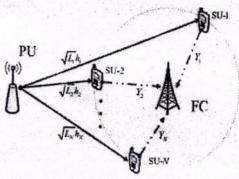


Figure 1: Cooperative sensing model with one PU, N SUs and one FC.

There are two main types of cognitive radio, full cognitive radio and spectrum-sensing cognitive radio. Full cognitive radio takes into account all parameters that a wireless node or network can be aware of. Spectrum-sensing cognitive radio is used to detect channels in the radio frequency spectrum.

Spectrum sensing is a critical technique in cognitive radio (CR), network for secondary user (SU) to identify the spectrum holes and to avoid harmful interference to primary user (PU). For example, by the European Telecommunications Standards Institute recommendation, the listen before- talk mz

. However, the sensing performance of an individual ED may deteriorate due to noise uncertainty or hidden node problem. To enhance the accuracy of spectrum sensing, cooperative sensing (CS) is proposed by exploiting the spatial diversity among the SUs. As shown in Fig.1, N SUs independently observe the band of interest, and forward the local test statistics  $\{x_i\}$  to a fusion center (FC)

According to the Neyman-Pearson criterion, the optimal fusion rule is the log -likelihood ratio (LLR) test

SRK Institute of Jechnology



### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

#### **Financial Support Request Letter**

1. Name of the Staff Member : Dr./Mr./Ms. — Professor  2. Designation : Aut · Professor
2. Designation : Aut · Profusor
3. Department : ECE
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:
anay for mon have Raday application
5. Date & Duration of the Program: TAN 2019
6. Associating Professional Body / Agency: TCTN
7. Financial support particulars :
i. Registration Charges: 1500/- ii. Travelling Allowances: iii. Membership Fee: iv. Others (if any):
Date: 10 - 1 - 19  Signature of the Staff Member
1. Recommendations of the HOD:
PRINCIPAL SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.
Accountant: - Late  Date: 21-1-2019
Date: 21-1-2019

lo.	VOUCHER	Date 21-1-2019
	ITUTE OF TEC	
ENIK	EPADU, VIJAYAWADA - 521 108. Ph. :	2843839
Name of A/c	n Publication	
Paid to D. Raui T	Cash/Cheque	1500/-
	teen hindred rupee	
	icaldos,	
		-640
Prepared by	Approved by	Audited by

1500/-

Receiver Signature

Computational and Theoretical Nanoscience

### Design of 21 GHz 1 x 16 Linear Array for mm-WaveRadar Applications

D. Ravi Tej\*, K. Ch. Sri Kavya, and Sarat K. Kotamraju

Department of Electronics and Communication Engineering, Koneru Lakshmaiah Education Foundation, 522502, Andhra Pradesh, India

In this paper, the design and simulation of 21 GHz K-band frequency phased array antenna is proposed for reducing side lobe level in mm-wave radar applications. The array is of size  $1\times16$  microstrip patch elements and the amplitude of array elements are distributed linearly according to tschebyshev polynomials. The design and simulated results are presented. A computer simulation technology (CST-2016) tool is used to simulate and validate the design approach. The simulated results below presented are valid over 21 GHz band and the simulation parameters contains gain, angular beamwidth, return loss and surface current distribution.

Keywords: Phased Array Antenna, Radar, CST Tool, Gain, Angular Beamwidth, Return Loss.

#### 1. INTRODUCTION

Antenna systems are often required to have large apertures with significant radiated power levels, sensitive receive capability, and rapid beam scanning [1]. While reflector antenna systems with single or multiple feeds can meet many requirements, phased array antenna systems with number of individual radiating antenna elements provide increased beam agility and graceful degradation. Phased array aperture produces a narrow-beam (pencil beam) gain radiation pattern  $G(\theta, \phi)$  that can be electronically scanned. In general, the phased array aperture can be composed of radiating and/or receiving antenna elements that are located on linear, planar or conformal surface [2]. Electronic scanning of the array antenna main beam is effected by means of phase shifters and time delays connected to individual array elements.

#### 1.1. Linear Phased Array

In a linear array surface, an RF source has its signal divided into a number of channels by means of a power divider network. Each output path from the power divider is connected to a phase shifting device that applies a progressive (usually linear) phase shift from element to element such that the main beam of the array is scanned to a desired angle [3–4]. In this phased array architecture example, prior to the divided and phase-shifted signal reaching each of the antenna radiating elements, amplification is affected such that a desired power level is reached.

The phase-steered and amplified RF signal from each element is coherent and additive in the direction of the signal path [5–6]. However, a percentage of the signal from each array element is electromagnetically coupled into the surrounding array elements, and the coupled signal generally becomes weaker as the distance to the coupled element increases, which is shown in the Figure 1. This coupled signal is referred to as array mutual coupling.

As depicted in Figure 2, usually a phased array antenna is required to generate a radiation main beam at an angle  $\theta_s$  that can be scanned over a certain angular sector. The challenge is to design the array so that the beam scanning can be accomplished in an efficient manner with desired radiation characteristics.

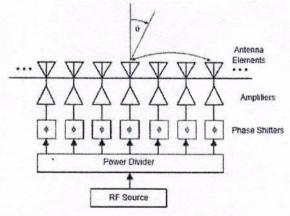


Fig. 1. Block diagram for a transmitting phased array antenna.

\*Author to whom correspondence should be addressed.

RESEARCH ARTICLE

PRINCIPAL

SRK Institute of Technology
ENIKEPADU, VIJAYAWADA-521 108.

J. Comput. Theor. Nanosci. 2019, Vol. 16, No. xx

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	<u>Fina</u>	ncial Support Request Letter
1.	Name of the Staff Member	: Dr./Mr./Ms. P. Jayasri
2.	Designation	: Asst Prof
3.	Department	:CSE
4.		details: Totroduction to
	Programming	in C
5.	Date & Duration of the Prog	ram: Aug 2018 - Oct 2018
6.	Associating Professional Bo	dy / Agency :
7.	Financial support particulars	
	i. Registration Charges	: 400
	ii. Travelling Allowance	es:
	iii. Membership Fee	
	iv. Others (if any)	
Da	ate: 3 .8.18	Signature of the Staff Member
1. 2.	Recommendations of the HO Recommendations of the Pr	DD:*Sanctioned / Not Sanctioned

Account Department

Accountant:

Date: 3 -8-18

**VOUCHER** 

Date 3/8/18.

Receiver Signature

# SRK INSTITUTE OF TECHNOLOGY ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c. Faculty	development progr	ame
		400/-
the Sum of Rupees. Fow.		
Prepared by	Approved by	Audited by

4001-



S.R.K.INSTITUTE OF TEHNOLOGY VIJAYAWADA



Score	Type of Certificate
>=90	Elite + Gold Medal
60-89	Elite
40-59	Successfully Completed the course
<40	No Certificate

No. of credits recommended by NPTEL:2



## NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

#### **PARUCHURI JAYASRI**

for successfully completing the course

### Introduction to Programming in C

with a consolidated score of 73 %

Online Assignments 25/25 Proctored Exam 48/75

TV Prablack

Chairman Center for Continuing Education, IITK

Prof. T. V. Prabhakar

Aug-Oct 2018 (8 week course)

Total number of candidates certified in this course: 3925 Prof. Satyaki Roy NPTEL Coordinator IIT Kanpur

SRK Institute of Technology.

ENIKEPADU, VIJAYAWADA-521 108.

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108,

Process !

# SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

\*Sanctioned / Not Sanctioned

	Financial Support Request Letter
1.	Name of the Staff Member : Dr./Mr./Ms M. RIHVIK
	Designation : Asst-Prof
3.	Department : CS &
4.	Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details : ———————————————————————————————————
<ul><li>5.</li><li>6.</li></ul>	Date & Duration of the Program: 20.8.18 - 1.9.18 (10 Dough Associating Professional Body / Agency: CISCO
7.	Financial support particulars:
	i. Registration Charges: ii. Travelling Allowances: iii. Membership Fee : UOD iv. Others (if any) :
Da	Recommendations of the HOD: Decetie

Account Department

Accountant: LAw

2. Recommendations of the Principal: -

Date: 20.8.18

No.

SRK INSTITUTE OF TECHNOLOGY

ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/C. Faculty dovelopment programe.

Paid to M. Rithvik (CSE) Cash/Cheque 4D0 
the Sum of Rupees four handred repense only.

Towards. Worle Shop.

Prepared by Approved by Approved by

4001-

CISCO Academy



## Cisco Networking Academy Instructor Training

Certificate of Participation

Awarded to

Mr. MADUGULA RITHVIK

of

SRK Institute of Technology, Vijayawada

for participating in Cisco CCNA Cyber Ops Instructor Training Program held from 20<sup>th</sup> Aug to 1<sup>st</sup> Sep 2018 at Vidya Jyothi Institute of Technology, Hyderabad.

Sman

Mr. Shubhajit Jagadev
Head, Cisco Academy Support Center & ITC
Networking Academy Advisory Board Member
Cisco Academy Instructor Trainer (India)

PRINCIPAL SRK Institute of Technology ENIKEPADU, VIJAYAWADA:521 108.

PRINCIPAL

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

# SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA

### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

#### Financial Support Request Letter

1	Nome of the Co. CC. A.	M. D	udh . I k		
1.	1. Name of the Staff Member : Dr./Mr./Ms M. Rithuik				
2.	Designation : Asst-Prof				
3.	Department	: CSE			
4.	4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details :				
		INEYCE	) N ·		
5.	Date & Duration of the Progr	ram: 29.9.18.			
6.	Associating Professional Bo	dy / Agency :			
7.	Financial support particulars				
	i. Registration Charges				
	<ul><li>ii. Travelling Allowance</li><li>iii. Membership Fee</li></ul>	S:			
	v. Others (if any)				
Date		Signa	MoltLuk ture of the Staff Member		
1. ]	Recommendations of the HOR	D: Duate M	*Sanctioned / Not Sanctioned		
ount	Department				

Acc

Accountant: (Accountant: Date: 28.9.18 Date:

No.	VOUCHER	Date 78 9. 18
	CITUTE OF TECH KEPADU, VIJAYAWADA - 521 108. Ph. : 284	
Name of A/c	illy Development	Program
Paid to M.R. th	vik Cash/Cheque Cos	h 500
	five Hundred 1	
Towards F.D.	P	
		4
Prepared by	Approved by	Audited by

5001-

## NDIAN CYBER CONGRESS

An Initiative by





# Certificate of Participation

has participated in the Indian Cyber Congress (INCYCON) held on 29th Sept, 2018 at Sree Vidyanikethan Engineering College (SVEC), Tirupati.



www.ncdrc.res.in

Issued by: NATIONAL CYBER SAFETY AND SECURITY STANDARNIKEPADU, VIJAYAWADA-521 108

E.Khalieraai Addl. Director - General National Cyber Safety and Security Standards

SRK INSTITUTE OF TECHNOLOGY
VIJAYAWADA

#### SRK INSTITUTE OF TECHNOLOGY

10

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

#### Financial Support Request Letter

Financial Support Request Letter		
1. Name of the Staff Member : Dr./Mr./Ms O 'Haritha		
2. Designation : Professor		
3. Department : CSE		
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:		
Graid		
5. Date & Duration of the Program: NOJ 2017 - Dec 2017		
6. Associating Professional Body / Agency:		
7. Financial support particulars :		
i. Registration Charges: LOD ii. Travelling Allowances: iii. Membership Fee: iv. Others (if any):		
Date: 2016 18 Signature of the Staff Member		
<ol> <li>Recommendations of the HOD : *Sanctioned / Not Sanction</li> </ol>	ed	

Account Department

Accountant:

Steel

Date: 29.10.18.

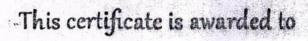
	TUTE OF TECH	
ENIKER	ADU, VIJAYAWADA - 521 108. Ph. : 2	843839
Name of A/c. Facu	The development pro	grame.
	a (CSE) Cash/Cheque	
	hundred rupees o	
Towards	ork Shop.	
		(0)
Prepared by	Approved by	Audited by
	12ms.	Quat
₹ 400 -		Receiver Signature



# NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)





### DASARI HARITHA

for successfully completing the course

### Introduction to Smart Grid

with a consolidated score of 71 %

Online Assignments 22.50/25 Proctored Exam 48/75

Total number of candidates certified in this course: 771

Prof. B. K. Gandhi
Continuing Education Center
NPTEL Coordinator, IIT Roorkee

Mengen

Aug-Sep 2018 (8 week course)

Indian Institute of Technology Roorkee

PRINCIPAL T SRK Institute of Technology



# SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

\*Sanctioned / Not Sanctioned

	<u>Fina</u>	ncial Support Reque	est Letter	
1.	Name of the Staff Member	: Dr./Mr./Ms 5.5	ouresh Babu	
2.	Designation	:- Asst 1	Prof	
3.	Department	: ISE		
4.				
<ul><li>5.</li><li>6.</li></ul>	5. Date & Duration of the Program: 31.10-18 - 5.11.18  6. Associating Professional Body / Agency:			
7.	7. Financial support particulars:			
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowance</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>		Liberat Baken	
Da	ite: 001018		Signature of the Staff Member	
1.	Recommendations of the HO	n. Duath	e A	

Account Department

Accountant:

Date: 30.10.18

2. Recommendations of the Principal:

No.	<b>VOUCHER</b>	Date
~	ITUTE OF TECT	
Name of A/c	excelly development	fouogram
Dice Colorado ha	hy (CSE) cachichagua	500
the Sum of Rupees  Towards	Aue hundred sureus	acly
		10 A00
Prepared by	Approved by	Audited by
₹ 500L	1201-3	Receiver Signature

₹ 500/-

## Andhra Loyola Institute of Engineering & Technology

Recognised by Govt of AP, Approved by AICTE, Affiliated to JNTU Kakinada),

An ISO 9001:2008 Certified Institution ,Vijayawada-520008.

This certificate is awarded to

Mr/Mrs/Ms

during the Faculty Development Program
(Cloud Infrastructure&services)
31 Oct-5 Nov 2018, from the
Department of IT & CSE

RESOURCE PERSON

HOD OF IT

PRINCIPAL

TEN TRIDEM

A DECADE OF ALGMENTING ALGMENTING YEARS

PRINCIPAL

RIK Institute of Technology
ENTREPADU, VIJAYAWADA-521 108.

PRINCIPAL
SRK Institute of Technology
ENIKEPADU, VIJAYAWADA-521 108

# SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

Financial Support Request Letter				
1.	Name of the Staff Member	: Dr./Mr./Ms. P. Bhagya Raju		
2.	Designation	: Att Profess		
3.	Department	:RSE		
4.	Industrial Visit / Tours With	details:		
5. Date & Duration of the Program: 31.10.18 - 5.11.18				
6.	Associating Professional Bo	dy / Agency :		
7.	7. Financial support particulars :			
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowance</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>			
Da	ite: 30·10·18	Signature of the Staff Member		
	Recommendations of the HC Recommendations of the Pri	WOM (No. No.		

Account Department

Accountant: Lature

Date: 30.10.18

		18.19
	VOUCHER	Date 20/10/18
	TUTE OF TECH EPADU, VIJAYAWADA - 521 108. Ph. : 284	
Same of A/c	oculty development in (CSE) cash/Cheque 50 no hundred surpres an	ряожам
raid to P. Rhapun Row	iu (CSE) cash/Cheave 5	20
in to the same of	us hundred surees an	ly.
	The state of the s	
owards	FOF	
owards		

## Andhra Loyola Institute of Engineering & Technology

Recognised by Govt of AP, Approved by AICTE, Affiliated to JNTU Kakinada),

An ISO 9001:2008 Certified Institution ,Vijayawada-520008.

This certificate is awarded to

Mr/Mrs/Ms P. Bhagua Raya

during the Faculty Development Program
(Cloud Infrastructure&services)
31 Oct-5 Nov 2018, from the
Department of IT & CSE

RESOURCE PERSON

HOD OF IT

PRINCIPAL

IGUACADEMY

ADICADIO TO

DELLEMO

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

PRINCIPAL
SRK Institute of Technology
ENIKEPADU, VIJAYAWADA-521 108.

# VIJAYAWADA

### SRK INSTITUTE OF TECHNOLOGY

18-10

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

Financial Support Request Letter				
1.	Name of the Staff Member	: Dr./Mr./Ms. CH. PRANEETH		
2.	Designation	: Asst. Prof		
3.	Department	:CSE		
4.	Conference / Publication / M. Industrial Visit / Tours With	details: MACHINE LE ARNING USNO.		
	PYTHON			
	5. Date & Duration of the Program: NOV 2018 - Dec 2013.			
6.	Associating Professional Bo	dy / Agency :		
7.	Financial support particulars			
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowance</li><li>iii. Membership Fee</li></ul>	es:		
	iv. Others (if any)			
		ch		
Da	te: 3010-18	Signature of the Staff Member		
1. 2.	Recommendations of the HC Recommendations of the Pri			

Account Department

Accountant:

Date:

31.10.18

No.

#### **VOUCHER**

Date. 3.1..10-18...

### TE OF TECHNOLOGY

Name of A/c Faculty Development Program Paid to Ch. Pranecth cash/Cheque 400 the Sum of Rupees Four Hundred Rupees Audited by Approved by Prepared by

400

Receiver Signature



#### IUCEE AP Chapter



## Certificate of Completion

This is to certify that Praneeth Cheraku

SRK Institute of Technology, Krishna

has Completed

**IUCEE APSSDC Machine Learning Course** 

Conducted by: Dr.Rao Vemuri, University of California, Davis November 2018 - December 2018

Dr. Kritika Shukla, IAS MD & CEO, Andhra Pradesh State Skill Development Corporation

Kollely

Dr.Krishna Vedula

Executive Director, Indo-Universal Collaboration for Engineering Education

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

# SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

Financial Support Request Letter			
1.	Name of the Staff Member	: Dr./Mr./Ms. N. Sudhakar Reddy	
2.	Designation	: Asst Prof	
3.	Department	:CS E	
4.	Conference / Publication / M Industrial Visit / Tours With	Tembership Fee / Workshop / FDP / Seminar / Training / details: Machine Learning Course	
5. Date & Duration of the Program: Nov 2013 - Dec 2013  6. Associating Professional Body / Agency:			
7.	Financial support particulars		
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowance</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>	es:	
Da	ite: 30° 10° 1 8	Signature of the Staff Member	
1. 2.	Recommendations of the HC Recommendations of the Pri	DD: *Sanctioned / Not Sanctioned	

Account Department

Accountant: LAGO

Date: 31.10.18

No.

SRK INSTITUTE OF TECHNOLOGY

ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c. Faculty development programe

Paid to. N. Sudhakar Reddy (CSE) Cash/Cheque. (400)—

the Sum of Rupees. Four hundred rupeer only.

Towards. Work shop:

Approved by

Approved by

Approved by

Audited by

400 -



#### IUCEE AP Chapter



## Certificate of Completion

This is to certify that Sudhakar Reddy Narala

SRK Institute of Technology, Krishna

has Completed

**IUCEE APSSDC Machine Learning Course** 

Conducted by: Dr.Rao Vemuri, University of California, Davis November 2018 - December 2018

Dr. Kritika Shukla, IAS MD & CEO, Andhra Pradesh State Skill Development Corporation

kallely

Dr.Krishna Vedula
Executive Director, Indo-Universal Collaboration for Engineering Education

SRK Institute of Technology ENIKEPADU, VIJAYAWADA 521 108

SRK Institute of Technology ENIKEPADU, VIJAYAWADA-521 108.

# SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA

### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	<u>Fina</u>	ncial Support Request Letter	
1.	Name of the Staff Member	: Dr./Mr./Ms. N-Sudhakar. Reddy.	
2.	Designation	: Asst Prof	
3.	Department	: CSE	
4.	Conference / Publication / M Industrial Visit / Tours With	dembership Fee / Workshop / FDP / Seminar / Training / details:	
Fac	e Recognition	based Attendance System Using	
5. Date & Duration of the Program: Jan 2019 Mochine lear			
6.	Associating Professional Bo	dy/Agency: JJEDR	
7.	Financial support particulars		
	i. Registration Charges	: 1200	
	ii. Travelling Allowance	s:	
	iii. Membership Fee		
	iv. Others (if any)		
		The state of the s	
Da	ate: 2.1.19.	Signature of the Staff Member	
	Recommendations of the HC Recommendations of the Pri	DD: Duatre	

Account Department

Accountant:

6/46

Date:

3.1.19

0.	VOUCHER OF THE CO	Date03/0///9
	TUTE OF TEC PADU, VIJAYAWADA - 521 108. Ph. :	
D 11	1 1	23.0
Name of A/cFacult	y development pro	gram:
	28 Reddy (CSE) Cash/Cheque	
	thousand two hund	
TowardsP	apes Publication	
		QM01

₹ 1200 |-

## Face Recognition based Attendance System using Machine Learning

'Amritha, 2Sudhakar Student, 2Assistant Professor SRK Institute of Technology, Vijayawada

Abstract - Attendance is an important part of daily classroom ascertainment for the teacher for his or her smooth running of class. At the beginning and ending of the class, usually teacher check the attendance, but the manual attendance system may leads to appear that a teacher may miss someone or some students may answer multiple times. Now a days, Machine Learning has been highly explored for computer vision applications. So, we use the concept of machine learning in Face - recognition for automatic attendance systems. In this project, we perform the face recognition and face detection algorithms, to provide the computer systems the ability of finding and recognizing human faces fast and precisely in images or videos so that the systems can used in giving attendance.

keywords - Machine Learning, face recognition, assessment, face detection algorithm, LBPH, HAAR

#### I. INTRODUCTION

Generally, in the classroom the attendance was taken by the teachers manually at the beginning and ending of the class. The problem with this approach is that it requires some time to take and also the manual process will have chances to make mistakes in most of the cases. To overcome that problem, RFID (Radio Frequency Identification) was introduced in the past years. But those are also having the fail proof of attendance system. So, we are introducing the concept of Face Recognition Based Attendance system, the main objective the proposed system is to allot attendance to the students using face recognition-based algorithms to achieve fail proof attendance system.

Face detection is used for many applications for the identification of human faces in digital images or video. It is defined as specific case of object-class detection; where it is used to find the locations and sizes of all objects in an image that belong to a given class. The technology is can be able to predict frontal or near-frontal faces in a photo, regardless of orientation, lighting conditions or skin color.

Face Recognition is a form of biometric software that maps an individual's facial features mathematically and stores the data as a faceprint. The software consists of Deep Learning algorithms to compare a live capture or digital image to the stored face print in order to verify an individual's identity.

#### Face Recognition using Python

Faces are made of thousands of fine lines and features that must be matched. The face recognition using Python is used to break the task of identifying the face into thousands of smaller, bite-sized tasks, each of which is easy to face Recognition Python is the latest technology in Machine Learning techniques. OpenCV utilizes Machine Learning algorithms to search for faces within a picture.

#### Facial Recognition using Python Libraries

An easy way to detect faces using Python is by using the OpenCV package which is written in C/C++, OpenCV now provides bindings for Python. It uses machine learning algorithms to search for faces within a picture. Faces are very complicated, made of thousands of small patterns and features that must be matched. The face recognition algorithms break the task of identifying the face into thousands of smaller, bite-sized tasks, each of which is easy to solve, known as classifiers.

A face may have 5000 or more classifiers, all of which must match for a face to be detected. Since there are at least 5,000 or more tests per block, you might have millions of calculations to do, which makes it a difficult process. To solve this, OpenCV uses cascades. The OpenCV cascade segments the problem of detecting faces into multiple stages. It performs a detailed test for each block. The algorithm can be performed on around 30 to 50 of these stages or cascades, and it will only detect a face if all stages pass. The cascades are a bunch of XML files that contain OpenCV data used to detect objects.

#### II. LITERATURE REVIEW

Traditionally attendance was taken manually which is very time consuming and often leads to human error. Additionally, there are many uncertainties towards the sources of the attendance records which in fact, most of the attendance records are not retrieved from the actual situation. The old method that uses paper sheets for taking student's attendance can no longer be used. Based on the research, there are many solutions that are available to solve this issue. According to research journal "Attendance System Using NFC Technology with Embedded Camera on Mobile Device" (Bhise, Khichi, Korde, Lokare, 2015). The attendance system is improved by using Near Field. Communication (NFC) technology and mobile application. According to the research paper, each student is given a NFC tag that has a unique ID during their enrolment into the college. Attendance of

# SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA

#### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

#### Financial Support Request Letter

Financial Support Request Letter			
1.	Name of the Staff Member	: Dr./Mr./Ms Dr. D. Haritha	
	Designation	: Professor	
3.	Department	: CSE	
4.	Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details :		
<ul><li>5.</li><li>6.</li></ul>	Date & Duration of the Prog		
7.	i. Registration Charges ii. Travelling Allowance iii. Membership Fee iv. Others (if any)	: 900	
D 1. 2.		OD: Duartie	

Account Department

Accountant: 18 Date: 29.9.18

No.

VOUCHER

Date 29.9.18

SRK INSTITUTE OF TECHNOLOGY

ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c.

Memberhip

Paid to. Dn. D. Hanitha.

Cash/Cheque in D.O.f.

the Sum of Rupees. Mine Hundred mapees only

Towards.

Prepared by

Approved by

Audited by

Receiver Signature



Computer Society of India
Education Directorate, National Headquarters
CIT Campus, IV Cross Road, Taramani. Chennai 600 113. Tel: 044-2254 1102 3

Name : Dr.D.Haritha Memb. No : F8002448

SRK Institute of Technology

Krishna District, Vijayawada ≈521108

> AMONAX Hon Secretary

Valid till: 30th September 2019

PRINCIPAL

# SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA

29.9.18

Date:

### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

### Financial Support Request Letter

1. Name of the Staff Member : Dr./Mr./Ms 61. Appa Roco
2. Designation : Asst Professor
3. Department : <u>CSE</u>
4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details:
5. Date & Duration of the Program:  September 2018  6. Associating Professional Body / Agency:
7. Financial support particulars :
i. Registration Charges: ii. Travelling Allowances: iii. Membership Fee : iv. Others (if any) :
Date: September 2018 Signature of the Staff Member
<ol> <li>Recommendations of the HOD:</li></ol>
Account Department  Accountant:

SPK INST	TTUTE OF TEC	HNOLOGY
The same area and the same area.	EPADU, VIJAYAWADA - 521 108. Ph. :	
	ership	
Paid to G. Appa	Rao (CSB) Cash/Cheque Rs	700/-
the Sum of Rupees	Hundred rupees	mly
Towards		
200010011111111111111111111111111111111		
		04.
		Offer

₹900|-



Computer Society of India Education Directorate, National Headquarters
CIT Campus, IV Cross Road, Taramani. Chennai 600 113. Tel: 044-2254 1102/3

### NOMINEE MEMBER

Name: Mr.G.Appa Rao Memb. No: F8002447

SRK Institute of Technology Krishna District,

Vijayawada - 521108

Hon. Secretary

Valid till: 30th September 2019

PRINCIPAL

### SRK INSTITUTE OF TECHNOLOGY

10.19

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

	Fina	ncial Support Request Letter
1.	Name of the Staff Member	: Dr./Mr./Ms. D. Haritha
2.	Designation	: Professor
3.	Department	: <u>CSE</u>
4.		Iembership Fee / Workshop / FDP / Seminar / Training / details :
	TTITE	E
<ul><li>5.</li><li>6.</li></ul>	Date & Duration of the Prog	ram: May 2019,
7.	Financial support particulars	
	<ul><li>i. Registration Charges</li><li>ii. Travelling Allowance</li><li>iii. Membership Fee</li><li>iv. Others (if any)</li></ul>	es:
D	ate: 24.4.19	Signature of the Staff Member
1. 2.	Recommendations of the He	

Account Department

Accountant:

Date: 25.4.19

		The state of the s
No.	VOUCHER	Date 25 4.19
	TUTE OF TEC PADU, VIJAYAWADA - 521 108. Ph. :	
Name of Avc. Faculty	y Development	Program
Paid to Dr D. Mari	Hho Cash/Cheque	Gsh
the Sum of Rupees	so Thousand	Rupees
Towards. Pa		
20		
		tetee
Prepared by	Approved by	Audited by

Receiver Signature

₹ 2000 [-

# An Effective Utilization of Bastion Host Services in Cloud Environment

G. Vijayababu, D. Haritha, R. Satya Prasad

Abstract: Now a days the cloud computing offers huge benefits, security issues are major concerns that setback from enjoying the full range of advantages it offers. Bastion Host is specifically designed for network security that is placed on the network perimeter which provides protection in the form of patches, authentication, encryption, and eliminates unnecessary software and services and is a well-known concept. This paper discusses Bastion Host services, types and bastion host in a cloud environment AWS. The Priority Queue method for effective utilization of services is proposed and the results are promising in terms of improving throughput and resource utilization.

Index Terms: AWS, Bastion Host, DMZ, VPC

### I. INTRODUCTION

Bastion Hosts are designed for secure information flow between the public network and a private network. Bastion hosts sit on the network perimeter. It can play multiple roles such as router, DNS, FTP, SMTP, News, and/or Web servers. The responsibility of the network administrator is to identify \*the services needed on Bastion host to resist the possible attacks. The Hardening of Bastion hosts allow them to resist attacks from external sources thus protecting the internal network. Hardening involves securing the machine, configuring the required services, installing the necessary patches, controlling the services and protocols, locking the user accounts via modifying the Access Control Lists (ACLs), disabling all unnecessary TCP and UDP ports and running the security audit to establish a baseline. The task of the administrator is to do thorough testing of ACLs and unblocking or blocking the networking application without losing the required features. The usage of limited services reduces the resource utilization and throughput. In the existing systems the overhead of the network administrator is to identify the required services, check their healthiness, installations of required services and uninstallations of rest of the services. The various ways of identifying the required services and their installation, controlling and grouping the services without compromising the resource utilization and throughput are to be explored. Here the focus is on proposing the effective utilization of services using priority queue for the services which are needed. This method helps to reduce the overhead of the administrators, fastens the services and helps to increase the resource utilization and throughput.

### Necessity of Bastion Hosts on AWS

Bastion host responsible for allowing access from an external network (Internet for instance) to a private network.

Revised Manuscript Received on May 06, 2019
G Vijayababu, CSE Deparment, JNTUK, Kakinada, India.
Dr.D.Hariha, CSE Deparment, SRKIT, Vijayawada, India.
Dr.R.SatyaPrasad, CSE Deparment, Acharya Nagarjuna University, Guntur, India.

As it's placed in a demilitarized zone, it should reduce the chances of infiltration. For instance, when there are Linux instances launched in a subnet of Amazon VPC, bastion host can be used in this environment to lessen the risk of letting in the SSH connections from an external network.

Basically, bastion hosts instances are placed in the public subnet that are invoked using either RDP or SSH. It acts as a jump box or jump server, after the establishment of the remote connection to the bastion host, and then permits to use SSH or RDP to log in to other instances (of the private subnets) in Virtual Private Cloud. Fundamentally Bastion host acts as a bridge between the private and public networks via the internet once configuration is done well with the help of Network ACLs and the security groups. Outside the corporate firewall or the DMZ are the areas where the bastion host is generally hosted. It has the high probability of being accessed by the untrusted computers or internet. However, in some circumstances, it can play a different role such as Email Server, Web server, FTP Server, Proxy Server, DNS Server, Honey pots etc.[1]

## II. CHOOSING THE BASTION HOST OFFERED SERVICES

All types of services that a site required to access the Internet or offer to the Internet, services that are not secured providing directly via packet filtering, are provided by Bastion host.

The services which are not meant to access the Internet, should not be installed on a bastion host. For example, if the booting services are provided to the internal hosts, then it leads to compromising the bastion host and corresponding services will be available to the public network.

Services that are provided by the Bastion Host can be classified into four types:

### A. Secured Services:

Packet filtering can be used for secured services and if a pure-proxy firewall is used, then the most conventional way of doing so is to use only the bastion host or shouldn't be provided by any means.

## B. Insecure services as normally provided but be able to secure

Bastion host can be availed to host such kind of services.

## C. Insecure services as normally provided but will not be possible to secure

If, in case, these types of services are certainly needed, only then such services should be provided that too on a

victim host (as already discussed) and also should be disabled.

ang Security Security Production of Security Sec

R Institute of Technicology

PADU, VIJAYAWA Book Publication

# SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA

### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

\*Sanctioned / Not Sanctioned

**Financial Support Request Letter** : Dr./Mr./Ms. CH. Pranceth 1. Name of the Staff Member . Asst Prof 2. Designation . -CSE 3. Department 4. Conference / Publication / Membership Fee / Workshop / FDP / Seminar / Training / Industrial Visit / Tours With details: ---Mochine learning Using Python, 5. Date & Duration of the Program: 25 . 6.18 - 30.6.18 Associating Professional Body / Agency : [ & ICT 7. Financial support particulars: i. 400 Registration Charges: ii. Travelling Allowances: iii. Membership Fee Others (if any) iv. Date: 2006 - 2018 Signature of the Staff Member 1. Recommendations of the HOD: --

Account Department

2. Recommendations of the Principal:

Accountant:

Date: 23.6-18

# Name of A/C. Faculty development programs. Paid to. Ch. Praneoth (CSE) Cash/Cheque (100)— the Sum of Rupees. Four hundred rupees Duly. Towards. Work Shop: Approved by Approved by Approved by Approved by

400 1-



# KITS





Ref No: EICT-128/2018-19/FDP/

**Electronics & ICT Academy** 

Supported by Ministry of Electronics and Information Technology (MeitY), Govt. of India Indian Institute of Technology Guwahati

# Certificate of Participation

This is to certify that

Mr./Ms. Eh. Praneeth	
of S.B.K. Institute of	Technology
of Only	

has participated in the one-week Faculty Development Programme on "MACHINE LEARNING USING PYTHON PROGRAMMING" jointly organized by E&ICT Academy IIT Guwahati & NIT Warangal held from 25 - 30 June, 2018 in association with KKR & KSR Institute of Technology & Sciences, Guntur and with support from Finland Labs.

Ralmanil blallicher .

Prof. Ratnajit Bhattacharjee PI, E&ICT Academy Indian Institute of Technology Guwahati. Assam Dr. P. Babu

Coordinator & Principal

KKR & KSR Institute of Technology & Services

Guntur, Andhra Pradesh ( Westwert

Dven fornagafile Prof. D. V. L. N. Somayajulu

Chair, Electronics & ICT Academy National Institute of Technology

BRINGIPAL Warangal, Telangana

Mr. Shivendra Kumar Niranjan

\*\*\*\*\*\*

Director Finland Labs New Delhi

# SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA

### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

### Financial Support Request Letter

	Tilla	ncial Support Request Lette	
1.	Name of the Staff Member	: Dr./Mr./Ms A · Ra	dhi Ka
2.	Designation	: Sr. Asst. Pro	<u>F</u>
3.	Department	:CSE	
4.	Industrial Visit / Tours With		FDP/Seminar/Training/ Networks and
	Internet Pro	tocols	
<ul><li>5.</li><li>6.</li></ul>	Date & Duration of the Prog Associating Professional Bo	ram: JUI 2018 -	Oct 2018
7.	Financial support particulars	:	
	i. Registration Charges	: 400	
	ii. Travelling Allowance		
	iii. Membership Fee		
	iv. Others (if any)	:	,
_	10'		Radhka
Da	ate: 2.7.18'	Signa	ture of the Staff Member
1. 2.	Recommendations of the HC Recommendations of the Pr	NO AMON	*Sanctioned / Not Sanctioned
110			

Account Department

Accountant: (

Date: 2 - 7 13

SRK INSTI	TUTE OF TE	CHNOLOGY
Name of A/c Faculty	e development p	rograme,
	(CSE) Cash/Cheque	
the Sum of Rupees. Four	hundred nupees of	only.
	workshop.	
		1. 10
Prepared by	Approved by	Audited t

₹ 400|-



S.R.K.INSTITUTE OF TEHNOLOGY VIJAYAWADA



Score	Type of Certificate
>=90	Elite + Gold Medal
60-89	Elite
40-59	Successfully Completed the course
<40	No Certificate

No. of credits recommended by NPTEL:3



# NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

### **ANKALA RADHIKA**

for successfully completing the course

## **Computer Networks and Internet Protocol**

with a consolidated score of 51 %

Online Assignments | 18.06/25 | Proctored Exam

Jul-Oct 2018

(12 week course)

Prof. Anupam Basu

**NPTEL Coordinator** 

IIT Kharagpur

Total number of candidates certified in this course: 686

A. GOSHAMV

Prof. Adrijit Goswami

Continuing Education, IIT Kharagpur

SRK Institute of Technology Technology ENIKEPADU, VIJAYAWADA-521 108.



# SRK INSTITUTE OF TECHNOLOGY VIJAYAWADA

### SRK INSTITUTE OF TECHNOLOGY

Enikepadu, Vijayawada 521108 Approved by AICTE, Affiliated to JNTUK, Kakinada (ISO 9001:2015 Certified Institution)

\*Sanctioned / Not Sanctioned

**Financial Support Request Letter** : Dr./Mr./Ms. P. Bhagya Raju 1. Name of the Staff Member . Asst. Prof 2. Designation .\_\_\_csŧ 3. Department Jul 2018 - Oct 2012 5. Date & Duration of the Program: Associating Professional Body / Agency: NPTEL. 7. Financial support particulars: Registration Charges: 400 i. ii. Travelling Allowances: Membership Fee iii. iv. Others (if any) Date: 3.7.18 1. Recommendations of the HOD:

Account Department

Accountant:

Soft

2. Recommendations of the Principal:

Date: 3. 7.18

No.

SRK INSTITUTE OF TECHNOLOGY

ENIKEPADU, VIJAYAWADA - 521 108. Ph.: 2843839

Name of A/c. Faculty oberelopment programe

Paid to. P. Bhagya Raju (CSE) Cash/Cheque 400/
the Sum of Rupees. Four hundred ruper puly.

Towards. Work Shop.

Prepared by

Approved by

Approved by

4001-

Roll No:NPTEL18CS46S22140355

S.R.K.INSTITUTE OF TEHNOLOGY VIJAYAWADA



Score	Type of Certificate
>=90	Elite + Gold Medal
60-89	Elite
40-59	Successfully Completed the course
<40	No Certificate

No. of credits recommended by NPTEL:3



(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

### PIDATHALA BHAGYA RAJU

for successfully completing the course

## Introduction to Internet of Things

with a consolidated score of 78 %

Online Assignments 25.00/25 Proctored Exam 52.5/75

Jul-Oct 2018

(12 week course)

Prof. Anupam Basu NPTEL Coordinator IIT Kharagpur

Total number of candidates certified in this course: 3617

A. GOSHAMU

Prof. Adrijit Goswami Dean Continuing Education, IIT Kharagpur

Indian Institute of Technology Kharagpur

Rall No: NPTEL18CS46S22140355

tal al (IIII -o vailda 4 el it cheth ac iras: http://nptel.ac.in/noc ENIKEPADU, VIJAYAWADA-521