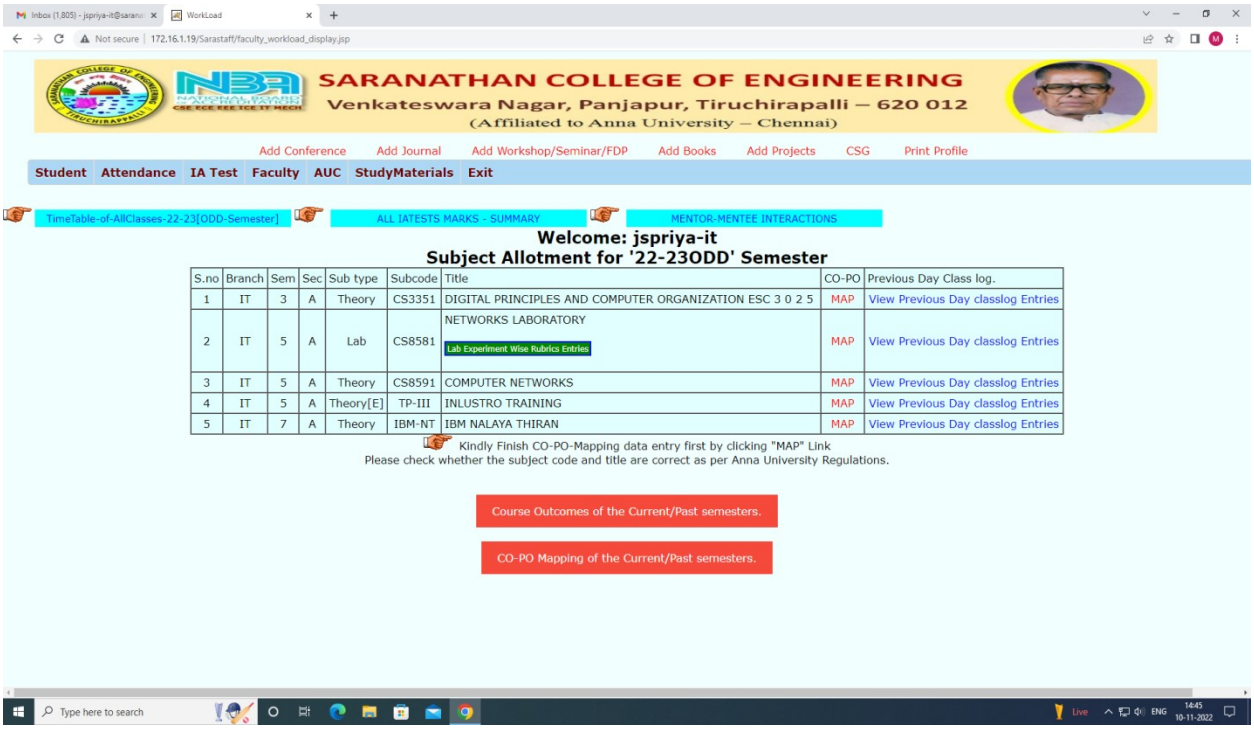
Criterion 7	Institutional Values and Best Practices	100

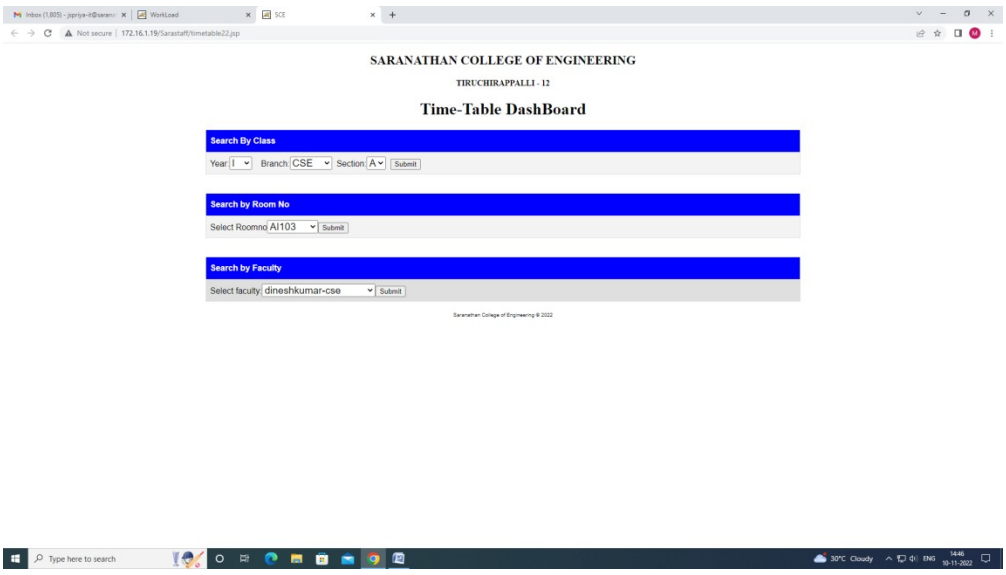
Index Criteria 7.2 Best Practices

Implementation of ERP (Sara Portal)

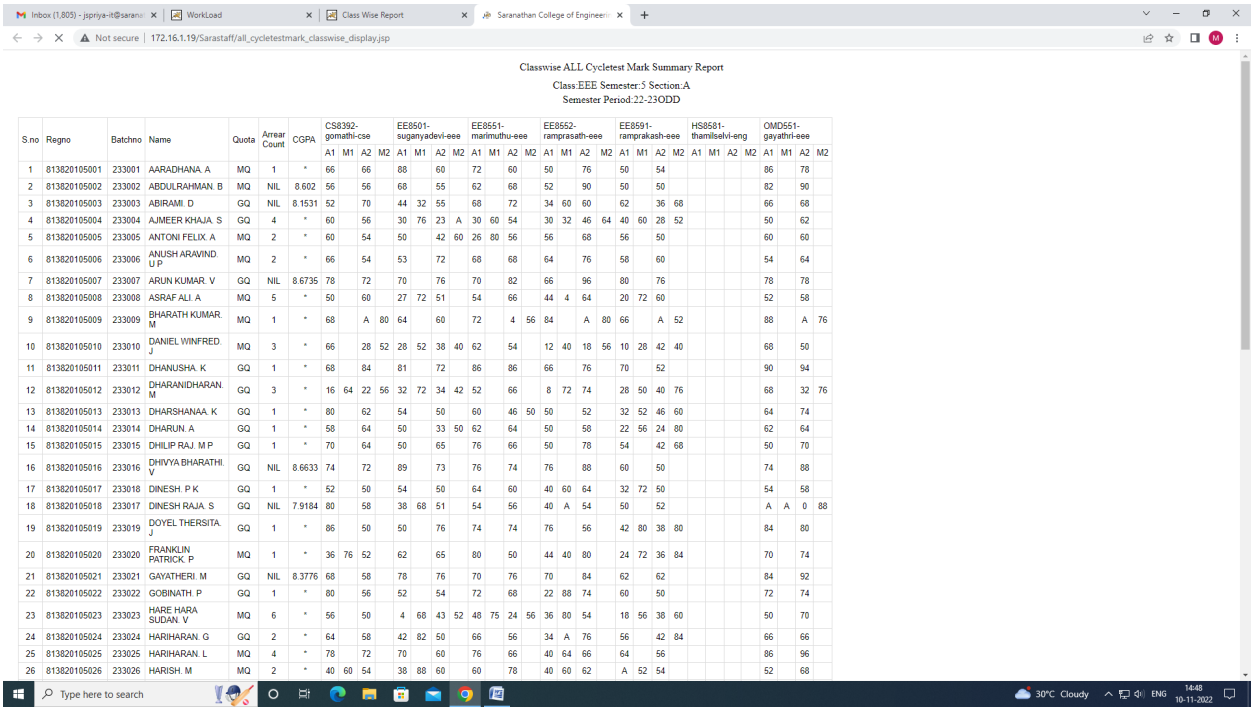
Sarastaff Homepage



Timetable Dasshboard



Iatest Summary



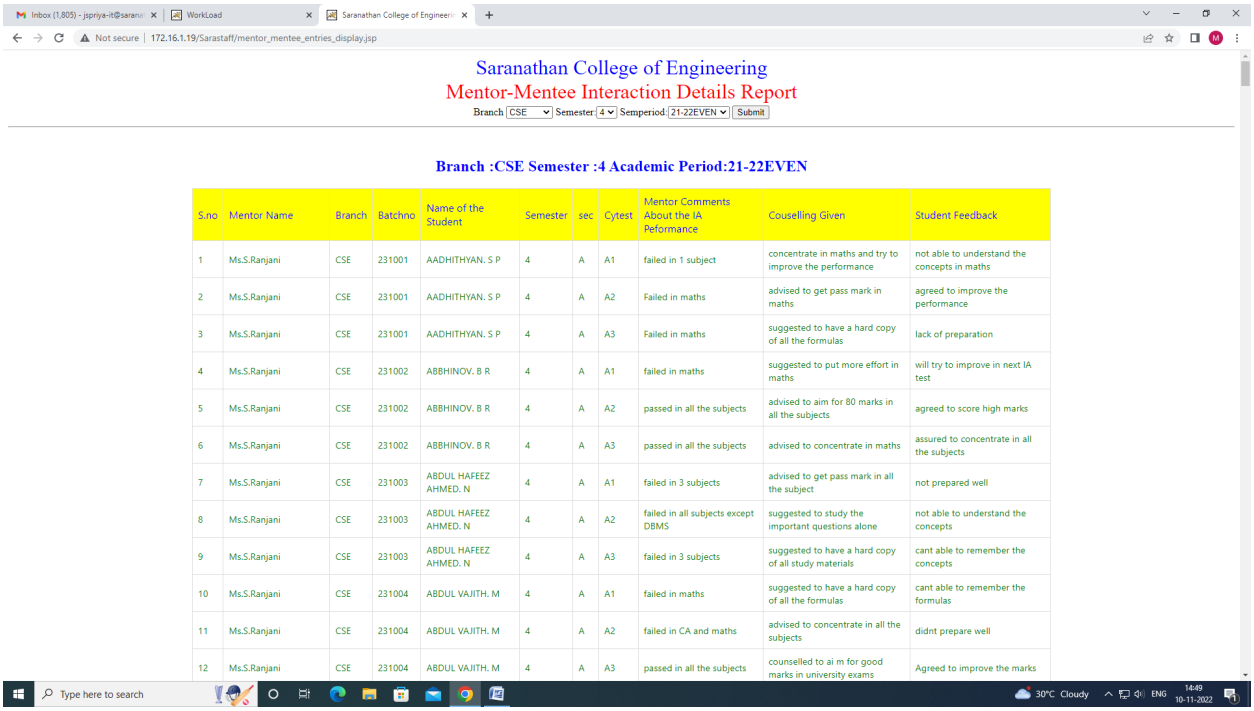
Classwise ALL Cycletest Mark Summary Report

Class:EEE Semester:5 Section:A

Semester Period:22-23ODD

S.no	Regno	Batchno	Name	Quota	Arrear Count	CGPA	CS8392-gomathi-cse				EE8501-suganyadevi-eee				EE8651-marimuthu-eee				EE8552-ramprasath-eee				EE8591-ramprakash-eee				HS8581-thamilselvi-eng				OMD551-gayathri-eee			
							A1	M1	A2	M2	A1	M1	A2	M2	A1	M1	A2	M2	A1	M1	A2	M2	A1	M1	A2	M2	A1	M1	A2	M2	A1	M1	A2	M2
1	813820105001	233001	AARADHANA. A	MQ	1	*	66		66		88		60		72		60		50		76		50		54						86		78	
2	813820105002	233002	ABDULRAHMAN. B	MQ	NIL	8.602	56		56		68		55		62		68		52		90		50		50						82		90	
3	813820105003	233003	ABIRAMI. D	GQ	NIL	8.1531	52		70		44	32	55		68		72		34	60	60		62		36	68					66		68	
4	813820105004	233004	AJMEER KHAJA. S	GQ	4	*	60		56		30	76	23	A	30	60	54		30	32	46	64	40	60	28	52					50		62	
5	813820105005	233005	ANTONI FELIX. A	MQ	2	*	60		54		50		42	60	26	80	56		56		68		56		50						60		60	
6	813820105006	233006	ANUSH ARAVIND. U P	MQ	2	*	66		54		53		72		68		68		64		76		58		60						54		64	
7	813820105007	233007	ARUN KUMAR. V	GQ	NIL	8.6735	78		72		70		76		70		82		66		96		80		76						78		78	
8	813820105008	233008	ASRAF ALI. A	MQ	5	*	50		60		27	72	51		54		66		44	4	64		20	72	60						52		58	
9	813820105009	233009	BHARATH KUMAR. M	MQ	1	*	68		A	80	64		60		72		4	56	84		A	80	66		A	52					88		A	76
10	813820105010	233010	DANIEL WINFRED. J	MQ	3	*	66		28	52	28	52	38	40	62		54		12	40	18	56	10	28	42	40					68		50	
11	813820105011	233011	DHANUSHA. K	GQ	1	*	68		84		81		72		86		86		66		76		70		52						90		94	
12	813820105012	233012	DHARANIDHARAN. M	GQ	3	*	16	64	22	56	32	72	34	42	52		66		8	72	74		28	50	40	76					68		32	76
13	813820105013	233013	DHARSHANAA. K	GQ	1	*	80		62		54		50		60		46	50	50		52		32	52	46	60					64		74	
14	813820105014	233014	DHARUN. A	GQ	1	*	58		64		50		33	50	62		64		50		58		22	56	24	80					62		64	
15	813820105015	233015	DHILIP RAJ. M P	GQ	1	*	70		64		50		65		76		66		50		78		54		42	68					50		70	
16	813820105016	233016	DHIVYA BHARATHI. V	GQ	NIL	8.6633	74		72		89		73		76		74		76		88		60		50						74		88	
17	813820105017	233018	DINESH. P K	GQ	1	*	52		50		54		50		64		60		40	60	64		32	72	50						54		58	
18	813820105018	233017	DINESH RAJA. S	GQ	NIL	7.9184	80		58		38	68	51		54		56		40	A	54		50		52						A	A	0	88
19	813820105019	233019	DOYEL THERSITA. J	GQ	1	*	86		50		50		76		74		74		76		56		42	80	38	80					84		80	
20	813820105020	233020	FRANKLIN PATRICK. P	MQ	1	*	36	76	52		62		65		80		50		44	40	80		24	72	36	84					70		74	
21	813820105021	233021	GAYATHERI. M	GQ	NIL	8.3776	68		58		78		76		70		76		70		84		62		62						84		92	
22	813820105022	233022	GOBINATH. P	GQ	1	*	80		56		52		54		72		68		22	88	74		60		50						72		74	
23	813820105023	233023	HARE HARA SUDAN. V	MQ	6	*	56		50		4	68	43	52	48	75	24	56	36	80	54		18	56	38	60					50		70	
24	813820105024	233024	HARIHARAN. G	GQ	2	*	64		58		42	82	50		66		56		34	A	76		56		42	84					66		66	
25	813820105025	233025	HARIHARAN. L	MQ	4	*	78		72		70		60		76		66		40	64	66		64		56						86		96	
26	813820105026	233026	HARISH. M	MQ	2	*	40	60	54		38	88	60		60		78		40	60	62		A	52	54						52		68	

Mentor Mentee interaction



Saranathan College of Engineering

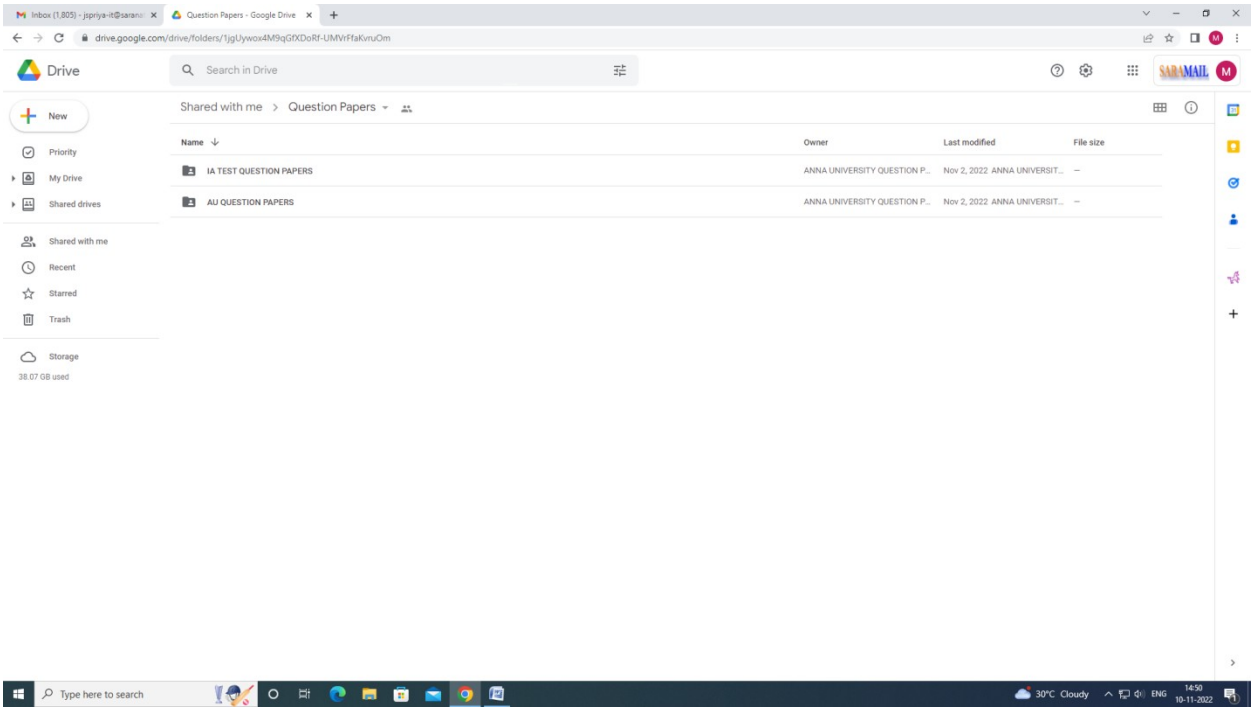
Mentor-Mentee Interaction Details Report

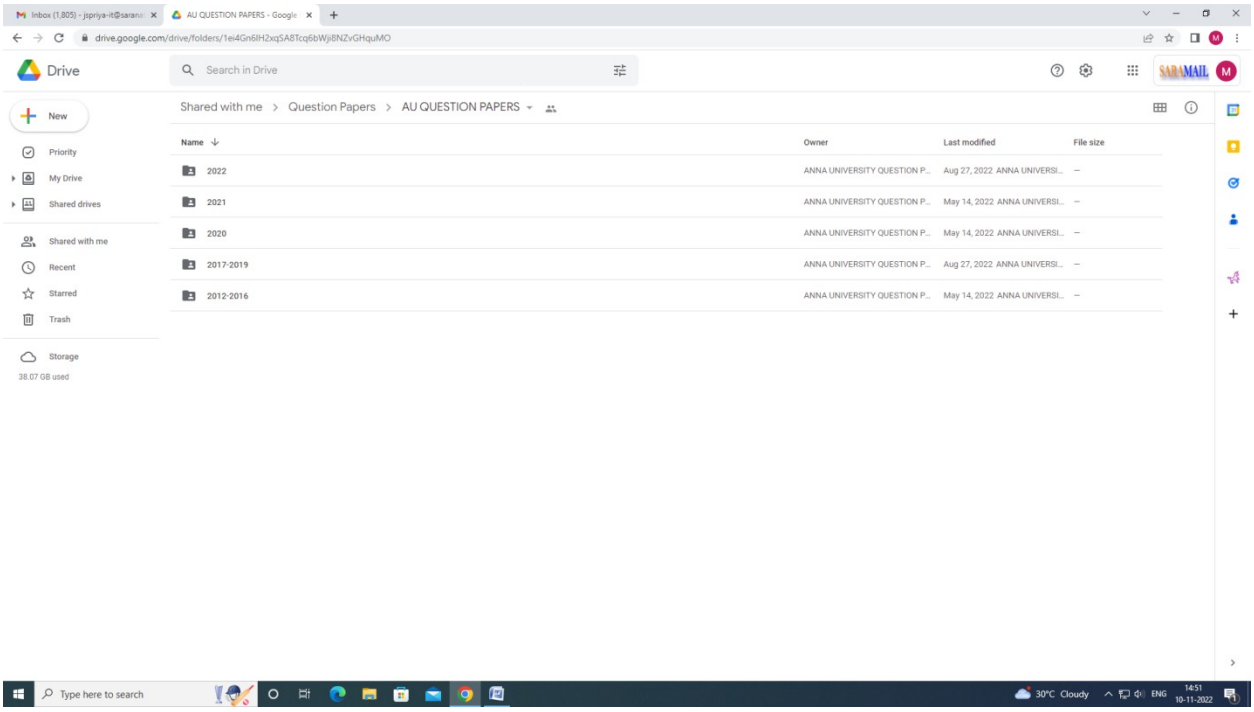
Branch CSE Semester 4 Semperiod 21-22EVEN Submit

Branch :CSE Semester :4 Academic Period:21-22EVEN

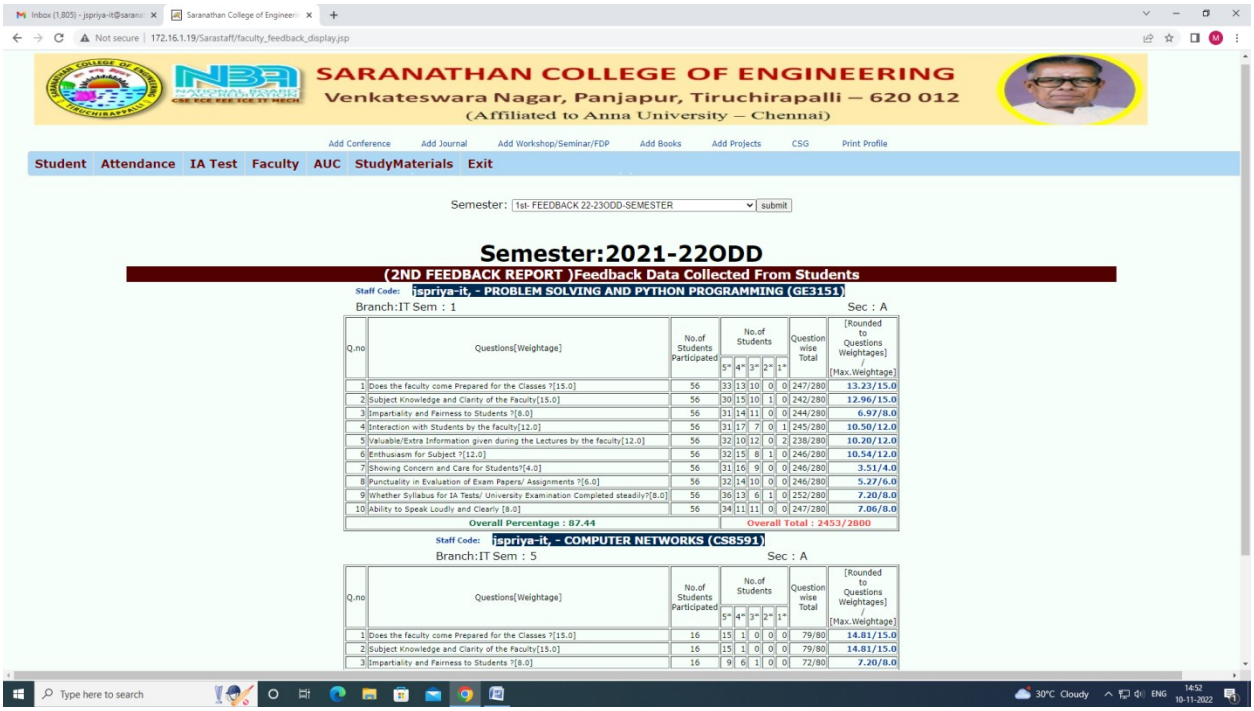
S.no	Mentor Name	Branch	Batchno	Name of the Student	Semester	sec	Cytest	Mentor Comments About the IA Peformance	Couselling Given	Student Feedback
1	Ms.S.Ranjani	CSE	231001	AADHITHYAN. S P	4	A	A1	failed in 1 subject	concentrate in maths and try to improve the performance	not able to understand the concepts in maths
2	Ms.S.Ranjani	CSE	231001	AADHITHYAN. S P	4	A	A2	Failed in maths	advised to get pass mark in maths	agreed to improve the performance
3	Ms.S.Ranjani	CSE	231001	AADHITHYAN. S P	4	A	A3	Failed in maths	suggested to have a hard copy of all the formulas	lack of preparation
4	Ms.S.Ranjani	CSE	231002	ABBHINOV. B R	4	A	A1	failed in maths	suggested to put more effort in maths	will try to improve in next IA test
5	Ms.S.Ranjani	CSE	231002	ABBHINOV. B R	4	A	A2	passed in all the subjects	advised to aim for 80 marks in all the subjects	agreed to score high marks
6	Ms.S.Ranjani	CSE	231002	ABBHINOV. B R	4	A	A3	passed in all the subjects	advised to concentrate in maths	assured to concentrate in all the subjects
7	Ms.S.Ranjani	CSE	231003	ABDUL HAFEEZ AHMED. N	4	A	A1	failed in 3 subjects	advised to get pass mark in all the subject	not prepared well
8	Ms.S.Ranjani	CSE	231003	ABDUL HAFEEZ AHMED. N	4	A	A2	failed in all subjects except DBMS	suggested to study the important questions alone	not able to understand the concepts
9	Ms.S.Ranjani	CSE	231003	ABDUL HAFEEZ AHMED. N	4	A	A3	failed in 3 subjects	suggested to have a hard copy of all study materials	cant able to remember the concepts
10	Ms.S.Ranjani	CSE	231004	ABDUL VAJITH. M	4	A	A1	failed in maths	suggested to have a hard copy of all the formulas	cant able to remember the formulas
11	Ms.S.Ranjani	CSE	231004	ABDUL VAJITH. M	4	A	A2	failed in CA and maths	advised to concentrate in all the subjects	didnt prepare well
12	Ms.S.Ranjani	CSE	231004	ABDUL VAJITH. M	4	A	A3	passed in all the subjects	counselled to ai m for good marks in university exams	Agreed to improve the marks

Internal Assesment and Anna university question papers





Student Feedback analysis:



SARANATHAN COLLEGE OF ENGINEERING
Venkateswara Nagar, Panjapur, Tiruchirapalli – 620 012
(Affiliated to Anna University – Chennai)

Add Conference | Add Journal | Add Workshop/Seminar/FDP | Add Books | Add Projects | CSG | Print Profile

Student | Attendance | IA Test | Faculty | AUC | StudyMaterials | Exit

Semester: 1st- FEEDBACK 22-23ODD-SEMESTER submit

Semester:2021-22ODD

(2ND FEEDBACK REPORT)Feedback Data Collected From Students

Staff Code: jspriya-it, - PROBLEM SOLVING AND PYTHON PROGRAMMING (GE3151)

Branch:IT Sem : 1 Sec : A

Q.no	Questions[Weightage]	No.of Students Participated	No.of Students 5*	4*	3*	2*	1*	Question wise Total	[Rounded to Questions Weightages] / [Max.Weightage]
1	Does the faculty come Prepared for the Classes ?[15.0]	56	33	13	10	0	0	247/280	13.23/15.0
2	Subject Knowledge and Clarity of the Faculty[15.0]	56	30	15	10	1	0	242/280	12.96/15.0
3	Impartiality and Fairness to Students ?[8.0]	56	31	14	11	0	0	244/280	6.97/8.0
4	Interaction with Students by the faculty[12.0]	56	31	17	7	0	1	245/280	10.50/12.0
5	Valuable/Extra Information given during the Lectures by the faculty[12.0]	56	32	10	12	0	2	238/280	10.20/12.0
6	Enthusiasm for Subject ?[12.0]	56	32	15	8	1	0	246/280	10.54/12.0
7	Showing Concern and Care for Students?[4.0]	56	31	16	9	0	0	246/280	3.51/4.0
8	Punctuality in Evaluation of Exam Papers/ Assignments ?[6.0]	56	32	14	10	0	0	246/280	5.27/6.0
9	Whether Syllabus for IA Tests/ University Examination Completed steadily?[8.0]	56	36	13	6	1	0	252/280	7.20/8.0
10	Ability to Speak Loudly and Clearly [8.0]	56	34	11	11	0	0	247/280	7.06/8.0
	Overall Percentage : 87.44							Overall Total : 2453/2800	

Staff Code: jspriya-it, - COMPUTER NETWORKS (CS8591)

Branch:IT Sem : 5 Sec : A

Q.no	Questions[Weightage]	No.of Students Participated	No.of Students 5*	4*	3*	2*	1*	Question wise Total	[Rounded to Questions Weightages] / [Max.Weightage]
1	Does the faculty come Prepared for the Classes ?[15.0]	16	15	1	0	0	0	79/80	14.81/15.0
2	Subject Knowledge and Clarity of the Faculty[15.0]	16	15	1	0	0	0	79/80	14.81/15.0
3	Impartiality and Fairness to Students ?[8.0]	16	9	6	1	0	0	72/80	7.20/8.0

University results Report

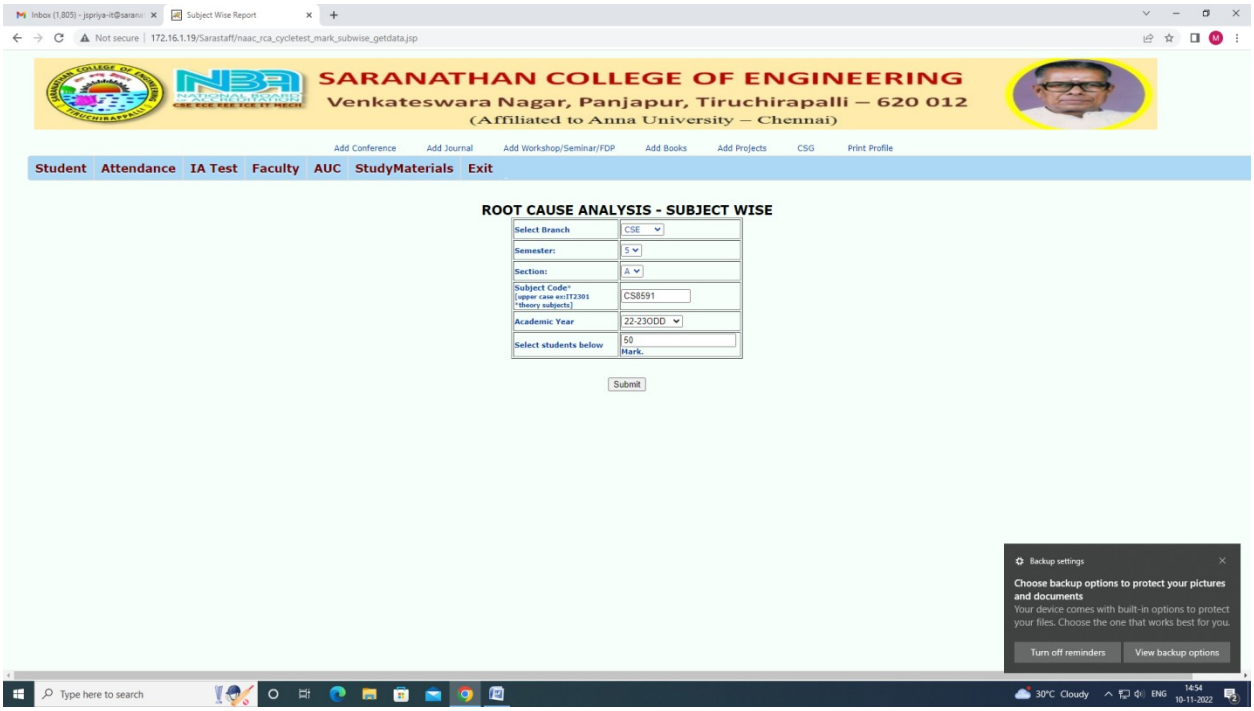
SARANATHAN COLLEGE OF ENGINEERING
Venkateswara Nagar, Panjapur, Tiruchirapalli – 620 012
(Affiliated to Anna University – Chennai)

Add Conference | Add Journal | Add Workshop/Seminar/FDP | Add Books | Add Projects | CSG | Print Profile

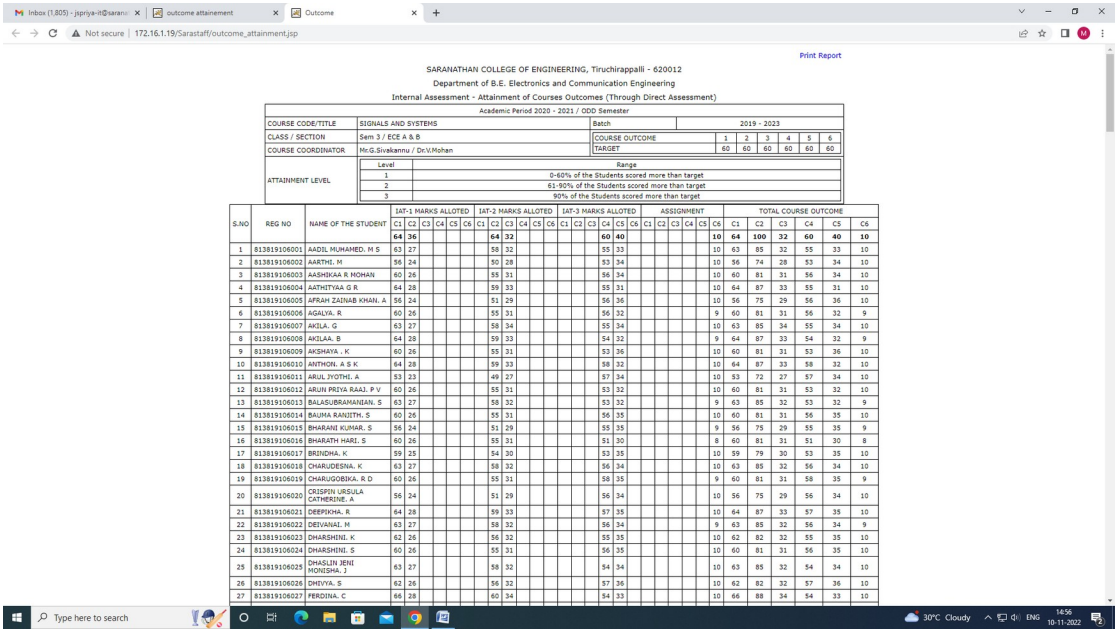
Student | Attendance | IA Test | Faculty | AUC | StudyMaterials | Exit

1.Anna University Results Summary	2.Cumulative Mark Statement
3.Branch/Batch Wise - Ranking based on CGPA	4.Branch/Batch Wise - Semester wise - CGPA Details
5.Branch/Batch Wise - Arrear Details	6.Branch/Batch Wise - Semester Wise Rank Details
7.Branch/Batch Wise - Internal Marks	8.Branch/Batch Wise - Arrear History - Semester Wise
9.PMSS Mark Statement	10.Subject Wise Arrear List
11.Subject Wise Grades of All students.	

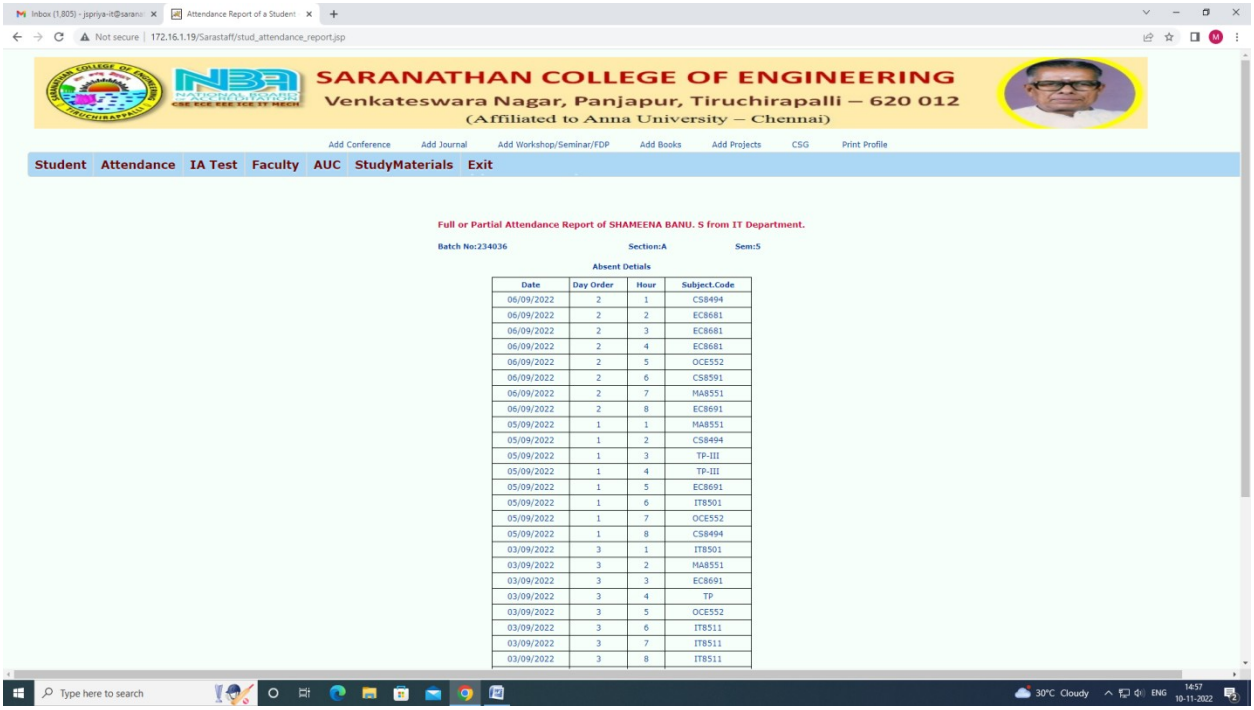
Root Cause Analysis



Course Outcome Attainment



Attendance report of the student



SARANATHAN COLLEGE OF ENGINEERING
Venkateswara Nagar, Panjapur, Tiruchirapalli – 620 012
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Student | Attendance | IA Test | Faculty | AUC | StudyMaterials | Exit

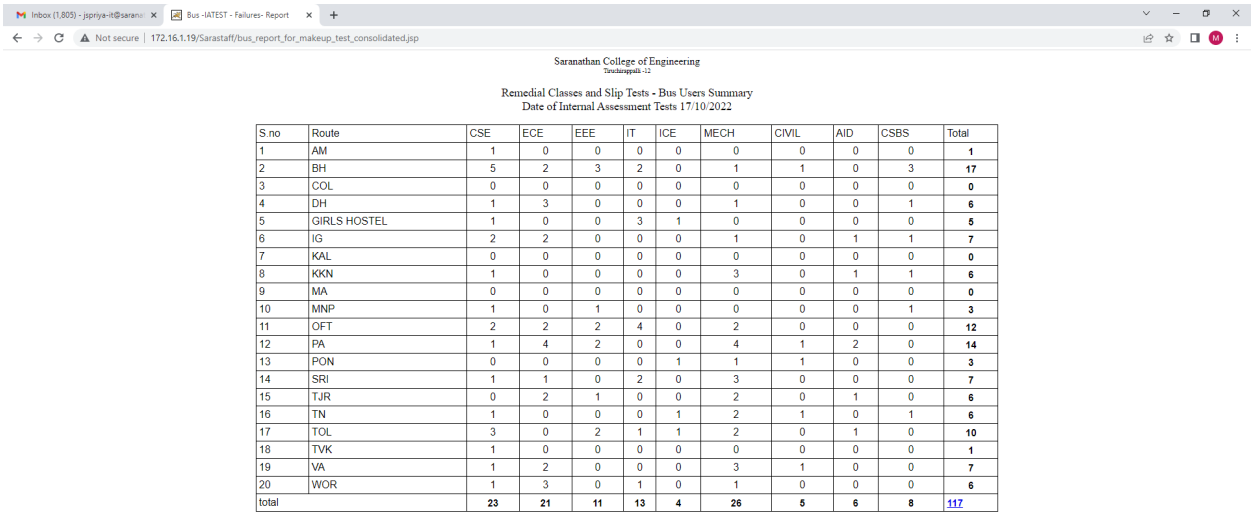
Full or Partial Attendance Report of SHAMEENA BANU. S from IT Department.

Batch No:234036 **Section:A** **Sem:5**

Absent Detials

Date	Day Order	Hour	Subject.Code
06/09/2022	2	1	CS8494
06/09/2022	2	2	EC8681
06/09/2022	2	3	EC8681
06/09/2022	2	4	EC8681
06/09/2022	2	5	OCE552
06/09/2022	2	6	CS8591
06/09/2022	2	7	MA8551
06/09/2022	2	8	EC8691
05/09/2022	1	1	MA8551
05/09/2022	1	2	CS8494
05/09/2022	1	3	TP-III
05/09/2022	1	4	TP-III
05/09/2022	1	5	EC8691
05/09/2022	1	6	IT8501
05/09/2022	1	7	OCE552
05/09/2022	1	8	CS8494
03/09/2022	3	1	IT8501
03/09/2022	3	2	MA8551
03/09/2022	3	3	EC8691
03/09/2022	3	4	TP
03/09/2022	3	5	OCE552
03/09/2022	3	6	IT8511
03/09/2022	3	7	IT8511
03/09/2022	3	8	IT8511

Bus facility Availing details

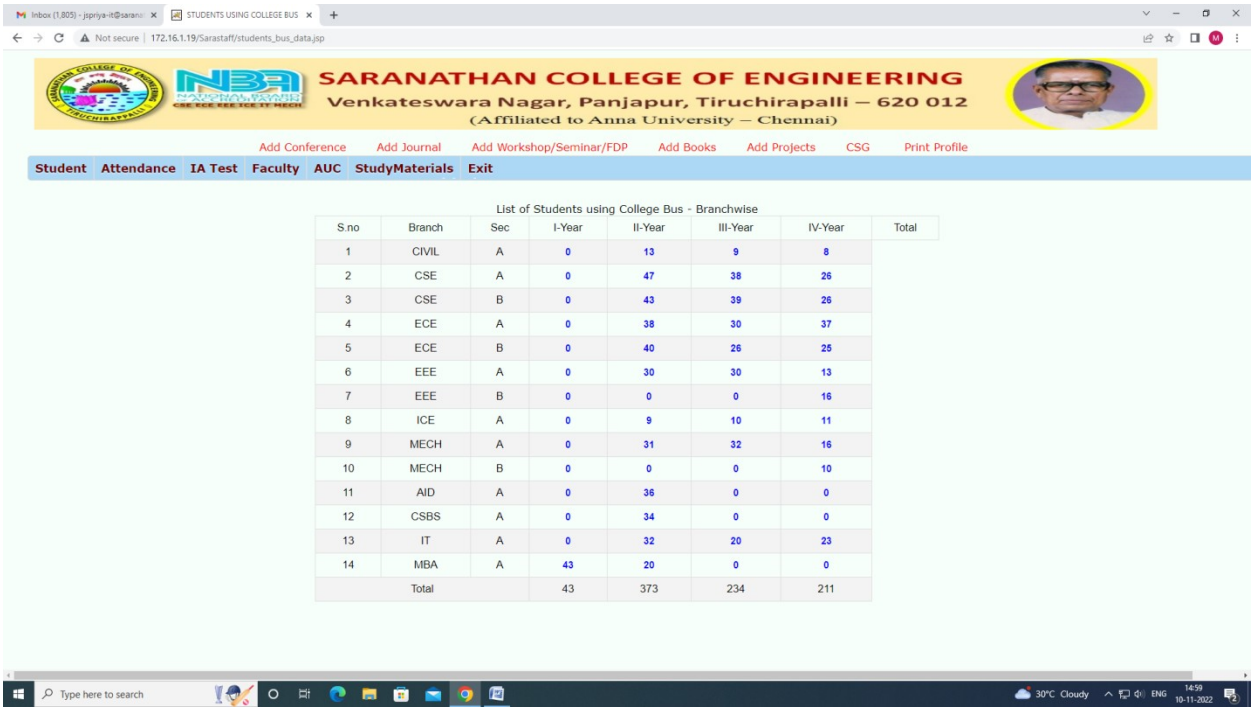


Saranathan College of Engineering
Tiruchirappalli -12

Remedial Classes and Slip Tests - Bus Users Summary
Date of Internal Assessment Tests 17/10/2022

S.no	Route	CSE	ECE	EEE	IT	ICE	MECH	CIVIL	AID	CSBS	Total
1	AM	1	0	0	0	0	0	0	0	0	**1**
2	BH	5	2	3	2	0	1	1	0	3	**17**
3	COL	0	0	0	0	0	0	0	0	0	**0**
4	DH	1	3	0	0	0	1	0	0	1	**6**
5	GIRLS HOSTEL	1	0	0	3	1	0	0	0	0	**5**
6	IG	2	2	0	0	0	1	0	1	1	**7**
7	KAL	0	0	0	0	0	0	0	0	0	**0**
8	KKN	1	0	0	0	0	3	0	1	1	**6**
9	MA	0	0	0	0	0	0	0	0	0	**0**
10	MNP	1	0	1	0	0	0	0	0	1	**3**
11	OFT	2	2	2	4	0	2	0	0	0	**12**
12	PA	1	4	2	0	0	4	1	2	0	**14**
13	PON	0	0	0	0	1	1	1	0	0	**3**
14	SRI	1	1	0	2	0	3	0	0	0	**7**
15	TJR	0	2	1	0	0	2	0	1	0	**6**
16	TN	1	0	0	0	1	2	1	0	1	**6**
17	TOL	3	0	2	1	1	2	0	1	0	**10**
18	TVK	1	0	0	0	0	0	0	0	0	**1**
19	VA	1	2	0	0	0	3	1	0	0	**7**
20	WOR	1	3	0	1	0	1	0	0	0	**6**
total		**23**	**21**	**11**	**13**	**4**	**26**	**5**	**6**	**8**	117

Note: This list contains only failures who come to college by College Bus. Do not use this list for Overall Failures.



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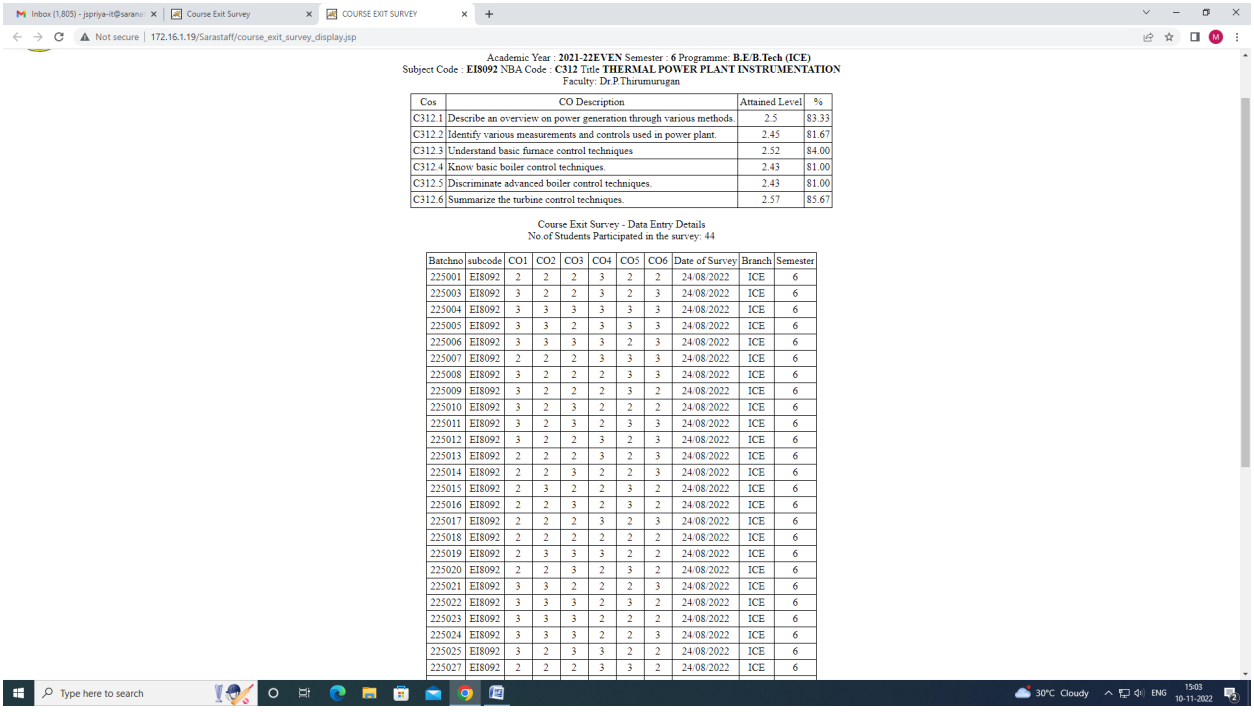
Student | Attendance | IA Test | Faculty | AUC | StudyMaterials | Exit

List of Students using College Bus - Branchwise

S.no	Branch	Sec	I-Year	II-Year	III-Year	IV-Year	Total
1	CIVIL	A	0	13	9	8	
2	CSE	A	0	47	38	26	
3	CSE	B	0	43	39	26	
4	ECE	A	0	38	30	37	
5	ECE	B	0	40	26	25	
6	EEE	A	0	30	30	13	
7	EEE	B	0	0	0	16	
8	ICE	A	0	9	10	11	
9	MECH	A	0	31	32	16	
10	MECH	B	0	0	0	10	
11	AID	A	0	36	0	0	
12	CSBS	A	0	34	0	0	
13	IT	A	0	32	20	23	
14	MBA	A	43	20	0	0	
	Total		43	373	234	211	

Course Exit Survey



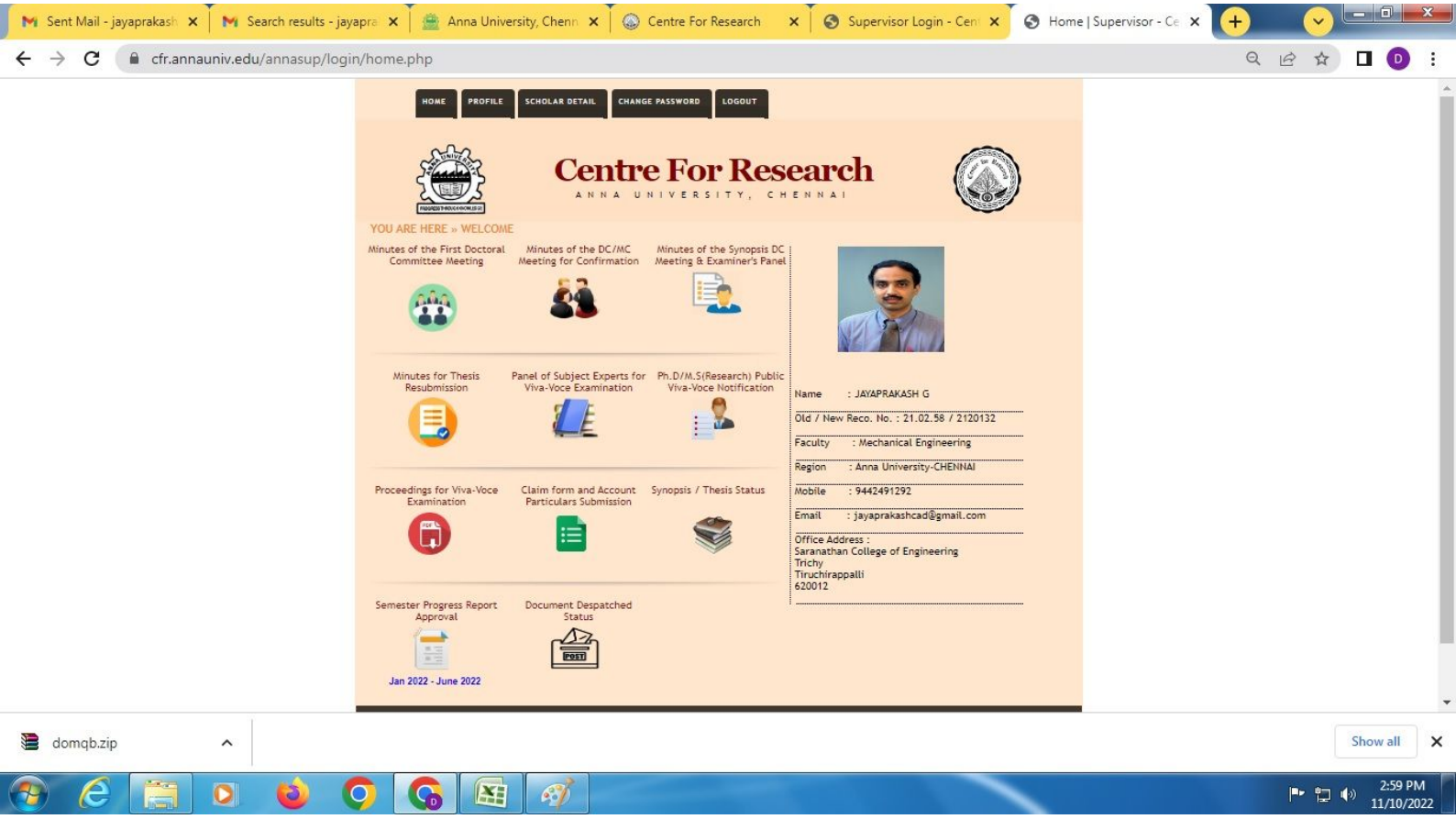
Academic Year : **2021-22EVEN** Semester : **6** Programme: **B.E/B.Tech (ICE)**
Subject Code : **EI8092** NBA Code : **C312** Title **THERMAL POWER PLANT INSTRUMENTATION**
Faculty: Dr.P.Thirumurugan

Cos	CO Description	Attained Level	%
C312.1	Describe an overview on power generation through various methods.	2.5	83.33
C312.2	Identify various measurements and controls used in power plant.	2.45	81.67
C312.3	Understand basic furnace control techniques	2.52	84.00
C312.4	Know basic boiler control techniques.	2.43	81.00
C312.5	Discriminate advanced boiler control techniques.	2.43	81.00
C312.6	Summarize the turbine control techniques.	2.57	85.67

Course Exit Survey - Data Entry Details
No.of Students Participated in the survey: 44

Batchno	subcode	CO1	CO2	CO3	CO4	CO5	CO6	Date of Survey	Branch	Semester
225001	EI8092	2	2	2	3	2	2	24/08/2022	ICE	6
225003	EI8092	3	2	2	3	2	3	24/08/2022	ICE	6
225004	EI8092	3	3	3	3	3	3	24/08/2022	ICE	6
225005	EI8092	3	3	2	3	3	3	24/08/2022	ICE	6
225006	EI8092	3	3	3	3	2	3	24/08/2022	ICE	6
225007	EI8092	2	2	2	3	3	3	24/08/2022	ICE	6
225008	EI8092	3	2	2	2	3	3	24/08/2022	ICE	6
225009	EI8092	3	2	2	2	3	2	24/08/2022	ICE	6
225010	EI8092	3	2	3	2	2	2	24/08/2022	ICE	6
225011	EI8092	3	2	3	2	3	3	24/08/2022	ICE	6
225012	EI8092	3	2	2	3	2	3	24/08/2022	ICE	6
225013	EI8092	2	2	2	3	2	3	24/08/2022	ICE	6
225014	EI8092	2	2	3	2	2	3	24/08/2022	ICE	6
225015	EI8092	2	3	2	2	3	2	24/08/2022	ICE	6
225016	EI8092	2	2	3	2	3	2	24/08/2022	ICE	6
225017	EI8092	2	2	2	3	2	3	24/08/2022	ICE	6
225018	EI8092	2	2	2	2	2	2	24/08/2022	ICE	6
225019	EI8092	2	3	3	3	2	2	24/08/2022	ICE	6
225020	EI8092	2	2	3	2	3	2	24/08/2022	ICE	6
225021	EI8092	3	3	2	2	2	3	24/08/2022	ICE	6
225022	EI8092	3	3	3	2	3	2	24/08/2022	ICE	6
225023	EI8092	3	3	3	2	2	2	24/08/2022	ICE	6
225024	EI8092	3	3	3	2	2	3	24/08/2022	ICE	6
225025	EI8092	3	2	3	3	2	2	24/08/2022	ICE	6
225027	EI8092	2	2	2	3	3	2	24/08/2022	ICE	6

Research Culture Initiatives



Centre For Research

ANNA UNIVERSITY, CHENNAI

NOTE :

SCHOLAR DETAILS

S.NO	REGNO	NAME	DEGREE	FACULTY	REG YEAR	REG SESS	SUPERVISOR	STATUS
1	16142597304	Sriram D	Ph.D.	Mech	2016	JUL	Supervisor	Thesis Submitted
2	1614259166	Senthilkumar N	Ph.D.	Mech	2016	JAN	Supervisor	Confirmation completed
3	20132591169	Nagadeepan A	Ph.D.	Mech	2020	JAN	Supervisor	Course Work

Centre For Research

ANNA UNIVERSITY, CHENNAI

YOU ARE HERE » WELCOME

Minutes of the First Doctoral Committee Meeting

Minutes of the DC/MC Meeting for Confirmation

Minutes of the Synopsis DC Meeting & Examiner's Panel

Minutes for Thesis Resubmission

Panel of Subject Experts for Viva-Voce Examination

Ph.D/M.S(Research) Public Viva-Voce Notification

Proceedings for Viva-Voce Examination

Claim form and Account Particulars Submission

Synopsis / Thesis Status

Semester Progress Report Approval

Jan 2022 - June 2022

Document Despatched Status

Name : BASKAR N

Old / New Reco. No. : 18.279.01 / 1820047

Faculty : Mechanical Engineering

Region : Anna University-CHENNAI

Mobile : 9443192729

Email : baskarnaresh@yahoo.co.in

Office Address :
Saranathan College of Engineering
Tiruchirappalli
Tiruchirappalli
620 012

Centre For Research

ANNA UNIVERSITY, CHENNAI

NOTE :

SCHOLAR DETAILS

S.NO	REGNO	NAME	DEGREE	FACULTY	REG YEAR	REG SESS	SUPERVISOR	STATUS
1	17132591273	Karthikeyan S	Ph.D.	Mech	2017	JAN	Supervisor	Synopsis Submitted
2	17132597267	Sathis Kumar P	Ph.D.	Mech	2017	JUL	Supervisor	Confirmation completed
3	17142591284	Maria Jackson A	Ph.D.	Mech	2017	JAN	Supervisor	Confirmation completed
4	21142597253	Vinoth Kumar S	Ph.D.	Mech	2021	JUL	Supervisor	
5	21152597249	Rajesh P V	Ph.D.	Mech	2021	JUL	Supervisor	
6	22141591172	Anand Raj A	Ph.D.	Civil	2022	JAN	Supervisor	

Annamalai University

(A STATE UNIVERSITY ACCREDITED WITH 'A' GRADE BY NAAC)

ANNAMALAINAGAR - 608 002

Ph.D. Degree Programme

ADMISSION MEMO

(2018-2019)

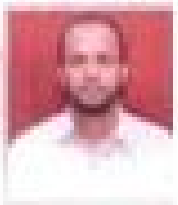
App. No. : 8219TF

Date : 20-11-2018

Programme Code : 3697

For Office Use - Roll Number

1	8								



Mr./Ms. CHANDRASEKARAN K S is informed that he/she has been provisionally selected for admission to **Ph.D. Degree Programme** in Computer Science & Engineering under External registration, subject to fulfil the eligibility conditions

The Candidate is registered under the guidance of

Name of the Guide	Name of the Co-Guide
Dr. V. MAHALAKSHMI ASSISTANT PROFESSOR COMPUTER SCIENCE & ENGINEERING	DR. ANANTHAPADMANABAN M R ASSOCIATE PROFESSOR, SARANATHAN ENGG COLLEGE TRICHY

He / She has to produce all the required original certificates at the time of admission

1. 10th, 11th, 12th, UG, PG and M.Phil Mark Lists
2. Degree Certificate - P.G. & M.Phil Programmes
3. Transfer or Migration Certificate
4. Research VISA & Passport, if Foreign National
5. Recent Passport Size Photographs (2 Numbers)

He / She has to report to the office of **the Director, Centre for Academic Research (CARE)** on 10/12/2018 at 10.00 A.M.

His / Her admission will be confirmed, after verification of original certificates and on payment of Tuition Fee of Rs.7910.00. He / She should submit joining report along with copy of remittance challan through proper channel.

Note: 1. He/ She should publish two research articles either in SCOPUS or WEB OF SCIENCE indexed journals before submission of synopsis.

2. Other conditions viz., Submission of title, Course Work Examinations, Extension of time, Change of guide/status, Submission of thesis, etc., remain as prescribed in the prospectus.

REGISTRAR

To

Mr./Ms. CHANDRASEKARAN K S

Copy To :

The Head, Department of Computer Science & Engineering

The Guide : Dr. V. MAHALAKSHMI, ASSISTANT PROFESSOR, COMPUTER SCIENCE & ENGINEERING

The Co - Guide : DR. ANANTHAPADMANABAN M R, ASSOCIATE PROFESSOR, SARANATHAN ENGG COLLEGE TRICHY

Note : Date of Payment of Fee will be considered as Date of Joining

SARANATHAN COLLEGE OF ENGINEERING

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

PROOF FOR FULL TIME TEACHERS WITH PH.D 2021-2022

Administration

பாரதிதாசன் பல்கலைக்கழகம்
BHARATHIDASAN UNIVERSITY
(Established by the Government of Tamil Nadu in 1982; Recognized by UGC under 2f and 12B of UGC Act; Member, Association of Indian Universities and Association of Commonwealth Universities; Accredited by NAAC with 'A' Grade)

Code No. 001D4 :SNo. 413066

பொறியியல் - தொழில்நுட்பவியல் புலம்
FACULTY OF ENGINEERING AND TECHNOLOGY

பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு டிசம்பர் 2007 எல்பதாம் ஆம் ஆண்டு தா. வளவன் இயந்திரப் பொறியியல் பிரிவில் முனைவர் என்னும் பட்டத்திற்குத் தகுதி பெற்றவர் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி முனைவர் என்னும் பட்டதை அவருக்குப் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the BHARATHIDASAN UNIVERSITY hereby makes known that D. VALAVAN has been admitted to the Degree of DOCTOR OF PHILOSOPHY, in the subject MECHANICAL ENGINEERING, having been certified by duly appointed Examiners to be qualified to receive the same in DECEMBER 2007.

Thesis Title

"INVESTIGATIONS ON THE PERFORMANCE AND EMISSIONS OF A DIRECT INJECTION C I ENGINE FUELLED WITH DIESEL - VEGETABLE OIL BLENDS"

Given under the seal of the University.

திருச்சிராப்பள்ளி
Tiruchirappalli
நாள் :
Dated : 29th November 2008

பதிவாளர் Registrar

துணைவேந்தர் Vice-Chancellor

C 019699 ISSUED ON: 2 9 NOV 2008

பாரதிதாசன் பல்கலைக்கழகம்

அறிவியல் புலம்

பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு 1996 ஆம் ஆண்டு இரா. நடராசன் என்பவர் வேதியியல் பிரிவில் முனைவர் என்னும் பட்டத்திற்குத் தகுதி பெற்றவர் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி முனைவர் என்னும் பட்டத்தை அவருக்குப் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

BHARATHIDASAN UNIVERSITY

FACULTY OF SCIENCE

The Syndicate of the BHARATHIDASAN UNIVERSITY hereby makes known that R. NATARAJAN *has been admitted to the Degree of DOCTOR OF PHILOSOPHY, in the Subject* CHEMISTRY *having been certified by duly appointed Examiners to be qualified to receive the same in* December 1996

THESIS TITLE :

SYNTHESIS OF CUPFERRON-DERIVATIVES AS MINERAL COLLECTORS FOR ORE-BENEFICIATION.

Given under the Seal of the University.

திருச்சிராப்பள்ளி
Tiruchirappalli
நாள் :
Dated : 26 FEB 1998

பதிவாளர் Registrar

துணைவேந்தர் Vice-Chancellor

பாரதிதாசன் பல்கலைக்கழகம்
BHARATHIDASAN UNIVERSITY

பொறியியல் - தொழில்நுட்பவியல் புலம்
FACULTY OF ENGINEERING AND TECHNOLOGY

பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு ஆகஸ்டு 2009

கணிப்பொறியியலும் தொழில்நுட்பமும்

The Syndicate of the BHARATHIDASAN UNIVERSITY hereby makes known that S.A. SAHAAYA ARUL MARY has been admitted to the Degree of DOCTOR OF PHILOSOPHY, in the subject COMPUTER SCIENCE AND ENGINEERING, having been certified by duly appointed Examiners to be qualified to receive the same in AUGUST 2009.

Thesis Title

'DESIGN OF FACTOR ORIENTED REQUIREMENT-COVERAGE BASED REGRESSION SYSTEM TEST CASE PRIORITIZATION TECHNIQUES AND THEIR METRICS'

Given under the seal of the University.

திருச்சிராப்பள்ளி
Tiruchirappalli

Dated : 27th November 2009

பதிவாளர் Registrar

துணைவேந்தர் Vice-Chancellor

E 33223 ISSUED ON : 2 DEC 2009

REG. NO. : RA1613003011008

SRM

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY UNDER SECTION 3 OF THE UGC ACT, 1956)

Faculty of Engineering and Technology

The Board of Management of the SRM Institute of Science and Technology hereby makes known that

LAKSHMI KANTHAN N

has been admitted to the Degree of **Doctor of Philosophy**

having been certified by duly appointed examiners to be qualified to receive the same in JANUARY - 2020

Title of the Thesis: IoT-FOG BASED WATER DISTRIBUTION MANAGEMENT AND UNDERGROUND PIPELINE HEALTH MONITORING USING INTELLIGENT AGENTS [COMPUTER SCIENCE AND ENGINEERING].

Given under the seal of the University

DATED : 26 DEC 2020

SRM NAGAR, KATTANKULATHUR - 603 203
KANCHEEPURAM (DIST.), TAMILNADU, INDIA.

REGISTRAR

VICE-CHANCELLOR

DEPARTMENT OF CHEMISTRY

AB13

Code No. 000E7 S.No. 479284

பாரதிதாசன் பல்கலைக்கழகம்
BHARATHIDASAN UNIVERSITY

(Established by the Government of Tamil Nadu in 1982; Recognized by UGC under 2f and 12B of UGC Act; Member, Association of Indian Universities and Association of Commonwealth Universities; Accredited by NAAC with 'A' Grade)

அறிவியல் புலம்
FACULTY OF SCIENCE

பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு ஆகஸ்டு 2009 ஆம் ஆண்டு லோ. முருகானந்தம் என்பவர் வேதியியல் பிரிவில் முனைவர் என்னும் பட்டத்திற்குத் தகுதி பெற்றவர் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி முனைவர் என்னும் பட்டத்தை அவருக்குப் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the **BHARATHIDASAN UNIVERSITY** *hereby makes known that* **L. MURUGANANDAM** *has been admitted to the Degree of* **DOCTOR OF PHILOSOPHY**, *in the subject* **CHEMISTRY**, *having been certified by duly appointed Examiners to be qualified to receive the same in* **AUGUST 2009**.

Thesis Title

"SYNTHESIS, CHARACTERIZATION AND ANTIMICROBIAL STUDIES OF NEW MANNICH BASES OF ACETAMIDE, ACRYLAMIDE AND BENZAMIDE AND THEIR METAL COMPLEXES"

Given under the seal of the University.

திருச்சிராப்பள்ளி
Tiruchirappalli

நாள் : 27th November 2009
Dated :

பதிவாளர் Registrar

துணைவேந்தர் Vice-Chancellor

Code No. 12927 S.No. 989065

பாரதிதாசன் பல்கலைக்கழகம்
BHARATHIDASAN UNIVERSITY

Re-accredited with 'A' Grade by NAAC

(Established by the Government of Tamil Nadu in 1982; Recognized by UGC under 2(f) and 12(B) of UGC Act; Member, Association of Indian Universities and Association of Commonwealth Universities)

அறிவியல் புலம்
FACULTY OF SCIENCE

பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு அக்டோபர் 2016 ஆம் ஆண்டு வ. பாலமுருகன் என்பவர் வேதியியல் பிரிவில் முனைவர் என்னும் பட்டத்திற்குத் தகுதி பெற்றவர் என்று தக்க தேர்வாளர்கள் சான்றளித்தமை முனைவர் என்னும் பட்டத்தை அவருக்குப் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the **BHARATHIDASAN UNIVERSITY** hereby makes known that **V. BALAMURUGAN** has been admitted to the Degree of **DOCTOR OF PHILOSOPHY**, in the subject **CHEMISTRY**, having been certified by duly appointed Examiners to be qualified to receive the same in **OCTOBER 2016**.

Thesis Title

"SYNTHESIS, CHARACTERISATION AND BIOLOGICAL STUDIES OF SOME NEW TRANSITION METAL COMPLEXES OF THE SCHIF BASES DERIVED FROM 2-HYDROXY-1,2-DI(PHENYL) ETHANONE"

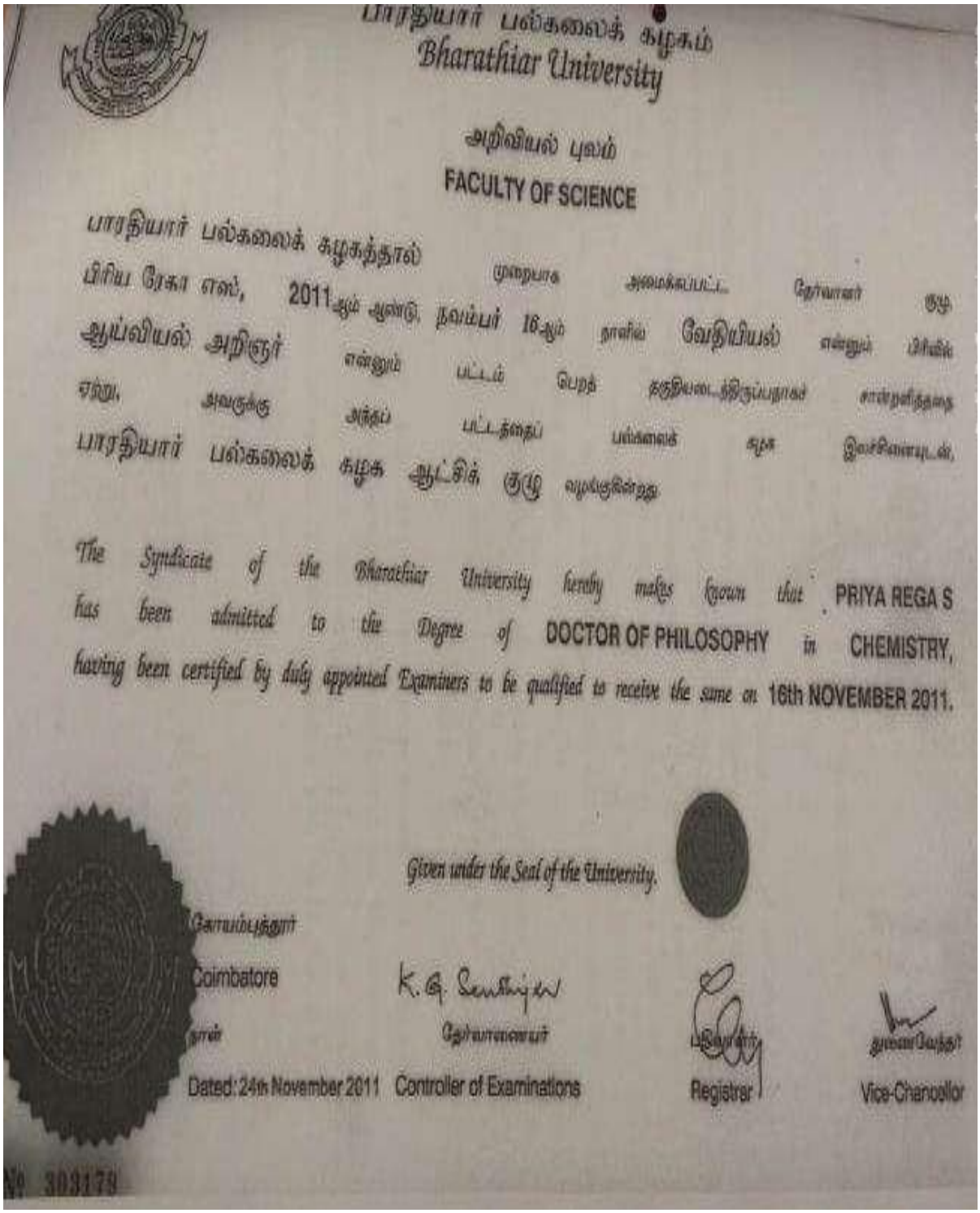
Given under the seal of the University.

Registrar

Vice-Chancellor

K 057297

14th October 2016



பாரதியார் பல்கலைக் கழகம்
Bharathiar University

அறிவியல் புலம்
FACULTY OF SCIENCE

பாரதியார் பல்கலைக் கழகத்தால் முறையாக அமைக்கப்பட்ட தேர்வாணர் குழு பிரிய ரேகா எஸ், 2011-ஆம் ஆண்டு நவம்பர் 16-ஆம் நாளில் வேதியியல் என்னும் பிரிவில் ஆய்வியல் அறிஞர் என்னும் பட்டம் பெறத் தகுதியடைந்திருப்பதாகச் சான்றளித்ததை ஏற்று, அவருக்கு அந்தப் பட்டத்தைப் பல்கலைக் கழக இலச்சினையுடன், பாரதியார் பல்கலைக் கழக ஆட்சிக் குழு வழங்குகின்றது

The Syndicate of the Bharathiar University hereby makes known that PRIYA REGA S has been admitted to the Degree of DOCTOR OF PHILOSOPHY in CHEMISTRY, having been certified by duly appointed Examiners to be qualified to receive the same on 16th NOVEMBER 2011.

Given under the Seal of the University.

கோயம்புத்தூர்
Coimbatore
நாள்
Dated: 24th November 2011

Controller of Examinations

Registrar

Vice-Chancellor

No 303179

भारतीय विश्वविद्यालय संघ
ASSOCIATION OF INDIAN UNIVERSITIES
AIU HOUSE, 16, Comrade Indrajit Gupta Marg, New Delhi-110 002
EPABX : 91-011 23230059 (6 lines) / FAX : 91-011- 23232131
http://www.aiu.ac.in E-mail : cvaluation@aiu.ac.in

E.C. No 021385

Date 28.08.2017

EQUIVALENCE CERTIFICATE

NAME: Mr./Ms.	SUNDAR RAJALINGAM
DEGREE/DIPLOMA	Doctor of Sciences
AWARDING UNIVERSITY / INSTITUTION	University of Namur, (Universite De Namur) Namur, Belgium
STATUS of the awarding Institution	University of Namur, Namur is an accredited University in Belgium listed on Page 235 of 'International Handbook of Universities' - 2017.
SCORE / GRADE	As shown on the Academic Transcript

EVALUATION OF EDUCATIONAL CREDENTIALS

SUNDAR RAJALINGAM has obtained Doctor of Sciences Degree - "Self Assembly of Organothiols on Metals (Cu, CuNi, Ni and Au)" from an accredited University of Namur, Namur an accredited university in Belgium - this qualification is EQUATED with Doctor of Philosophy (Sciences) Degree in the corresponding field of an Indian University.

(THE ORIGINAL CERTIFICATES AND SUBJECTWISE ELIGIBILITY WILL BE VERIFIED BY THE ADMISSION GIVING UNIVERSITY/INSTITUTE)

Section Officer (Evaluation)
Association of Indian Universities
AIU House, 16, Comrade Indrajit Gupta Marg,
New Delhi-110002
E-mail : evaluational@aiuweb.org

Consultant
Association of Indian Universities
AIU House, 16, Comrade Indrajit Gupta Marg,
New Delhi-110002

AUTHORITY: Ministry of Human Resource Development, Government of India, New Delhi, Gazette Notification No.F15-17/94-TS-IV dt 13 March 1995.

Bharathidasan University

(Accredited with A+ Grade by NAAC in the Third Cycle)

Tiruchirappalli

FOLIO NO: 6086

PROVISIONAL CERTIFICATE

This to certify that THULASI G

has qualified for the Degree of DOCTOR OF PHILOSOPHY IN CHEMISTRY

he/she having been declared eligible for the same from 6th DECEMBER 2021 onwards

HIGHLY COMMENDED

CONTROLLER OF EXAMINATIONS ★ BHARATHIDASAN UNIVERSITY ★

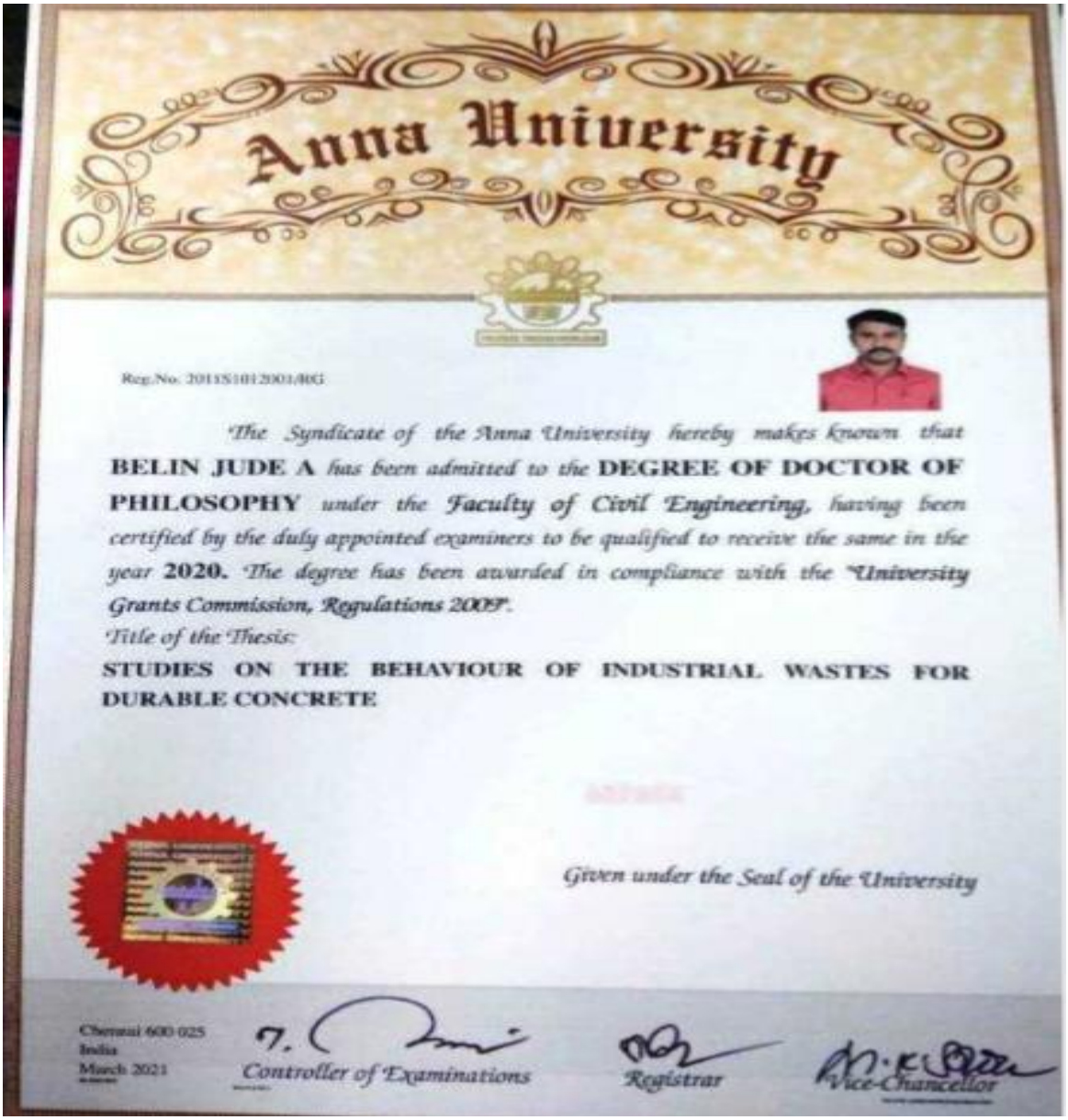
0 4 JAN 2022

Seal with Date

M. Senthil

Section Head

Controller of Examinations



Anna University

Reg.No. 20115101200 1/805

The Syndicate of the Anna University hereby makes known that **BELIN JUDE A** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Civil Engineering****, having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2020.** *The degree has been awarded in compliance with the* ***"University Grants Commission, Regulations 2007".***

Title of the Thesis:

STUDIES ON THE BEHAVIOUR OF INDUSTRIAL WASTES FOR DURABLE CONCRETE

Given under the Seal of the University

Chennai 600 025
India
March 2021

Controller of Examinations *Registrar* *Vice-Chancellor*

Sl.No.: 2020/01651 406912052

National Institute of Technology Tiruchirappalli

hereby confers the degree of

Doctor of Philosophy

of the institute

on

V PUNITHA

for successfully completing the prescribed programme of study and presenting the thesis entitled

A Study on Network Traffic Classification at Server Cluster using Soft Computing Techniques

Given this day the Seventh of November 2020
Under the seal of the Institute

TIRUCHIRAPPALLI - 620 015, INDIA

Registrar *Director* *Chairperson Board of Governors*

Anna University

Reg.No.11110632023/RG

The Syndicate of the Anna University hereby makes known that **RAJARAJESWARI PL** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Information and Communication Engineering****, having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2017**. *The degree has been awarded in compliance with the* ***"University Grants Commission, Regulations 2009"***.

Title of the Thesis:

CERTAIN INVESTIGATIONS ON ENERGY EFFICIENT SCHEMES IN WIRELESS SENSOR NETWORKS

Given under the seal of the University

Chennai 600025
India
June 2018

Controller of Examinations *Registrar* *Vice-Chancellor*

Anna University

Reg.No.20114022011/RG

The Syndicate of the Anna University hereby makes known that **MOHANA S** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* **Faculty of Information and Communication Engineering**, *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2017**. *The degree has been awarded in compliance with the* ***"University Grants Commission, Regulations 2009"***.

Title of the Thesis:

A NOVEL FEATURE SELECTION TECHNIQUE FOR PRIVACY PRESERVATION IN DATA MINING USING MEMETIC APPROACH

Given under the seal of the University

Chennai 600025
India
June 2018

Controller of Examinations *Registrar* *Vice-Chancellor*

Anna University

Reg.No. 1424169775RG

The Syndicate of the Anna University hereby makes known that **SENTHAMIL SELVI R** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the Faculty of Information and Communication Engineering, having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2020.** *The degree has been awarded in compliance with the "University Grants Commission, Regulations 2009".*

Title of the Thesis:

FIREFLY BASED FEATURE SELECTION ALGORITHMS FOR BIG DATA CLASSIFICATION

Given under the Seal of the University

Chennai 600 025
India
March 2021

Controller of Examinations *Registrar* *Vice-Chancellor*

Anna University

PROGRESS THROUGH KNOWLEDGE

Reg.No. 1523459117/RG

The Syndicate of the Anna University hereby makes known that **VIDIVELLI S** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Information and Communication Engineering,*** *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2022.** *The degree has been awarded in compliance with the "University Grants Commission, Regulations 2009".*

Title of the Thesis:

DESIGN OF AN INTEGRATED FULLY AUTOMATIC COMPUTER AIDED DIAGNOSIS (CAD) SYSTEM FOR BREAST CANCER CLASSIFICATION WITH MAMMOGRAM IMAGE

Given under the Seal of the University

Chennai 600 025
India
July 2022
SAR014690

Controller of Examinations

Registrar

Vice-Chancellor

VIDIVELLI S

ANNA UNIVERSITY
CHENNAI - 600 025
PROVISIONAL CERTIFICATE

Folio No.: **SAR014082**

This is to certify that the candidate has qualified for the award of ***Degree of Doctor of Philosophy*** in compliance of the UGC Regulations 2016 as detailed below :

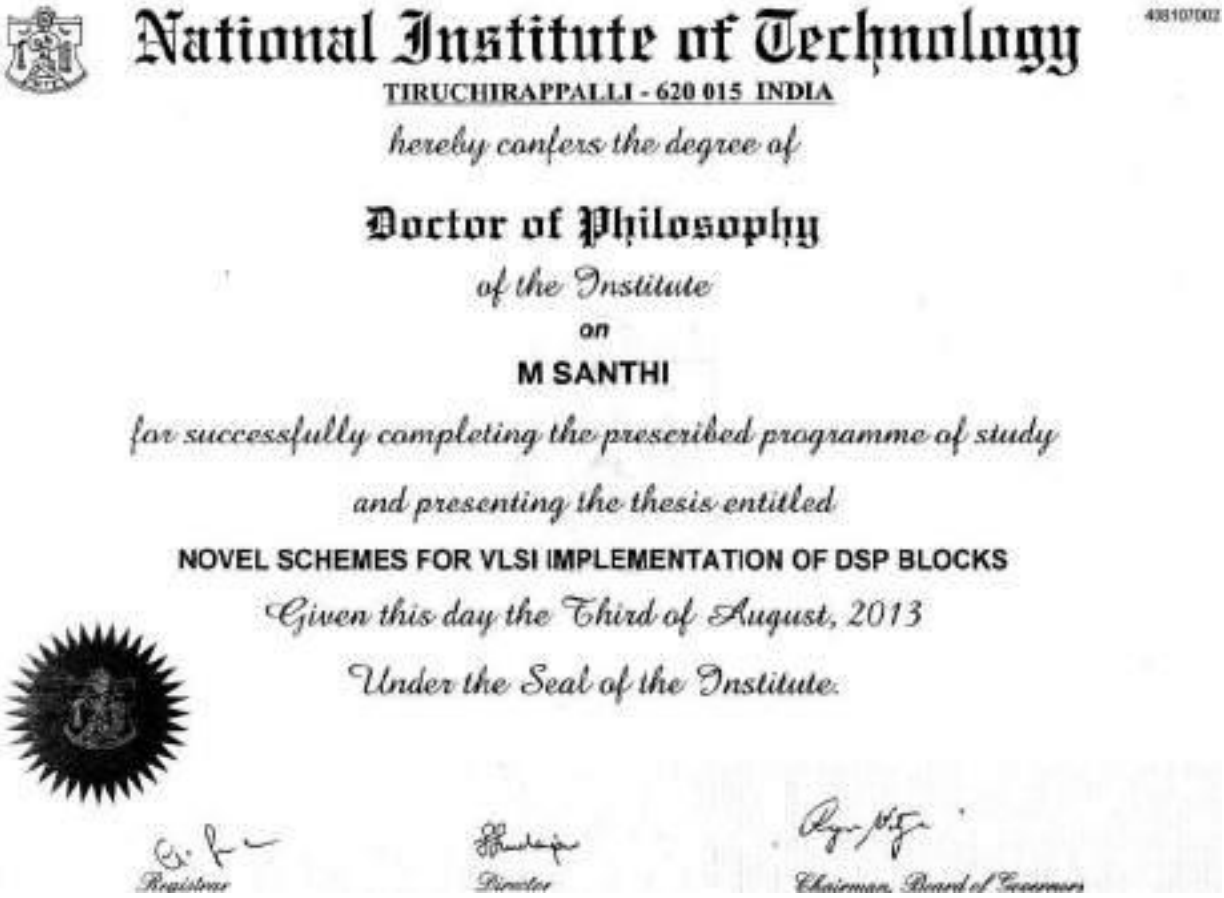
Name	:	**SATHIS KUMAR T**
Registration Number	:	**17144591133**
Degree	:	**Ph.D.**
Department / Centre / Subject	:	**COMPUTER SCIENCE AND ENGINEERING**
Faculty	:	**INFORMATION AND COMMUNICATION ENGINEERING**
Date, Month & Year of Viva-Voce Examination held	:	**30.04.2021**
Title of the Thesis	:	**MIDDLEWARE INTEROPERABILITY PERFORMANCE USING SOA FOR ENTERPRISE BUSINESS APPLICATION**

Controller of Examinations ★ Chennai-600 025. ★ Anna University

Chennai - 600 025

Date: **24-JUN-2021**

Controller of Examinations



National Institute of Technology

TIRUCHIRAPPALLI - 620 015 INDIA

hereby confers the degree of

Doctor of Philosophy

of the Institute

on

M SANTHI

for successfully completing the prescribed programme of study

and presenting the thesis entitled

NOVEL SCHEMES FOR VLSI IMPLEMENTATION OF DSP BLOCKS

Given this day the Third of August, 2013

Under the Seal of the Institute.

Registrar Director Chairman, Board of Governors

National Institute of Technology

TIRUCHIRAPPALLI - 620 015 INDIA

hereby confers the degree of

Doctor of Philosophy

of the Institute

on

C VENNILA

for successfully completing the prescribed programme of study

and presenting the thesis entitled

DESIGN AND ANALYSIS OF RECONFIGURABLE ARCHITECTURES FOR WIRELESS SYSTEM BACK END MODULES

Given this day the Third of August, 2013

Under the Seal of the Institute.

Registrar *Director* *Chairman, Board of Governors*

Anna University

Reg.No. 20084012006/RG

The Syndicate of the Anna University hereby makes known that **PADMAA M** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Information and Communication Engineering,*** *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2015.** *The degree has been awarded in compliance with the "University Grants Commission, Regulations 2009".*

Title of the Thesis:

RANDOM IMAGE STEGANOGRAPHY

Given under the Seal of the University

Chennai 600 025
India
January 2016

Controller of Examinations *Registrar* *Vice-Chancellor*

Anna University

Reg.No. 20074012004/BG

The Syndicate of the Anna University hereby makes known that **ARUNMOZHI S A** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Information and Communication Engineering,*** *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2015.** *The degree has been awarded in compliance with the* ***"University Grants Commission, Regulations 2009".***

Title of the Thesis:

SECURING MOBILE AD HOC NETWORKS AGAINST DISTRIBUTED DENIAL OF SERVICE ATTACK

Given under the Seal of the University

Chennai 600 025
India
January 2016

Controller of Examinations *Registrar* *Vice-Chancellor*

Anna University

Reg.No. 20074012021/RG

The Syndicate of the Anna University hereby makes known that **RAJESWARI S** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Information and Communication Engineering,*** *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2015.** *The degree has been awarded in compliance with the* ***"University Grants Commission, Regulations 2009".***

Title of the Thesis:

AN ADAPTIVE ENERGY EFFICIENT AND RELIABLE GOSSIP ROUTING PROTOCOL FOR MANETs

Given under the Seal of the University

Chennai 600 025
India
January 2016

Controller of Examinations *Registrar* *Vice-Chancellor*

Anna University

Reg No. 20074012018/RG

The Syndicate of the Anna University hereby makes known that **MOHAN V** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Information and Communication Engineering,*** *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2015.** *The degree has been awarded in compliance with the* ***"University Grants Commission, Regulations 2009".***

Title of the Thesis:

LOSSY STILL IMAGE COMPRESSION - SOME NEW TECHNIQUES

Given under the Seal of the University

Chennai 600 025
India
January 2016

Controller of Examinations *Registrar* *Vice-Chancellor*

Anna University

Reg.No. 20074012024/RG

The Syndicate of the Anna University hereby makes known that **SHANMUGAPRIYA P** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Information and Communication Engineering,*** *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2015.** *The degree has been awarded in compliance with the "University Grants Commission, Regulations 2009".*

Title of the Thesis:

DEVELOPMENT OF EFFICIENT SPEAKER VERIFICATION SYSTEMS USING OPTIMAL FEATURE SELECTION

Given under the Seal of the University

Chennai 600 025
India
January 2016

Controller of Examinations *Registrar* *Vice Chancellor*

Anna University

Reg.No. 20084012002/RG

The Syndicate of the Anna University hereby makes known that **BARITHA BEGUM M** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Information and Communication Engineering,*** *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2015.** *The degree has been awarded in compliance with the* ***"University Grants Commission, Regulations 2009".***

Title of the Thesis:

NEW TECHNIQUES FOR DICTIONARY BASED AND SIGN LANGUAGE BASED TEXT COMPRESSION AND SECURE TRANSMISSION

Given under the Seal of the University

Chennai 600 025
India
January 2016

Controller of Examinations *Registrar* *Vice-Chancellor*

Anna University

Reg.No. 1512459943/RG

The Syndicate of the Anna University hereby makes known that **MALAISAMY K** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the Faculty of Information and Communication Engineering, having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2022.** *The degree has been awarded in compliance with the "University Grants Commission, Regulations 2009".*

Title of the Thesis:

DESIGN AND FABRICATION OF HIGH PERFORMANCE ANTENNAS FOR SATELLITE, WLAN AND WI-FI APPLICATIONS

Given under the Seal of the University

Chennai 600 025
India
July 2022

Controller of Examinations

Registrar

Vice-Chancellor

Anna University

Reg.No. 40810421 12/RG

The Syndicate of the Anna University hereby makes known that **KRISHNAKUMAR C** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the Faculty of Electrical Engineering, having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2014.** *The degree has been awarded in compliance with the "University Grants Commission, Regulations 2009".*

Title of the Thesis:

MITIGATION OF CONDUCTED-ELECTRO MAGNETIC INTERFERENCE ON DC-DC CONVERTER TOPOLOGIES

Given under the Seal of the University

Chennai 600 025
India

Controller of Examinations

Sl. No. 453

The Gandhigram Rural Institute

(Deemed University)

Re-Accredited by NAAC with 'A' Grade

The Board of Management of the

Gandhigram Rural Institute

hereby confers the Degree of

Doctor of Philosophy

on

Kalyanakumar. D

for successfully completing the prescribed programme

of study and presenting the thesis entitled

"HYBRID SEVENLEVEL H-BRIDGE INVERTER BASED DSTATCOM CONTROL USING SUB HARMONIC PULSE WIDTH MODULATION TECHNIQUE – A RATIONAL APPROACH TO ENERGY CONSERVATION"

(Date of Viva Voce: 11.10.2013)

Given this day the Twenty Second of January 2014

under the seal of the Institute

Gandhigram
Tamilnadu
Dated : 22 JAN 2014

Registrar

Vice-Chancellor

Anna University

Reg No. 20093062009/RG

The Syndicate of the Anna University hereby makes known that **VIJAYALAKSHMI S** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Electrical Engineering,*** *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2015.** *The degree has been awarded in compliance with the* ***"University Grants Commission, Regulations 2009".***

Title of the Thesis:

DISCRETE PID CONTROLLER FOR DC-DC CONVERTER USING BILINEAR TRANSFORMATION TECHNIQUE

Given under the Seal of the University

Chennai 600 025
India
January 2016

Controller of Examinations *Registrar* *Vice-Chancellor*

Anna University

Reg.No. 2011230011/RG

The Syndicate of the Anna University hereby makes known that **SUGANYA DEVI M V** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Electrical Engineering,*** *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2015.** *The degree has been awarded in compliance with the* ***"University Grants Commission, Regulations 2009".***

Title of the Thesis:

LOADABILITY MARGIN ESTIMATION IN RESTRUCTURED ENVIRONMENT OF POWER SYSTEM

Given under the Seal of the University

Chennai 600 025
India
January 2016

Controller of Examinations *Registrar* *Vice-Chancellor*

Anna University

Reg.No.2011S5012002/R.G

The Syndicate of the Anna University hereby makes known that **RAJKUMAR K** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* **Faculty of Electrical Engineering** *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2018**. *The degree has been awarded in compliance with the* ***"University Grants Commission, Regulations 2009"***.

Title of the Thesis:

ANALYSIS OF ELECTROMAGNETIC INTERFERENCES AND NOVEL MITIGATION TECHNIQUES IN SINGLE PHASE GRID INTERFACING PHOTOVOLTAIC SYSTEM

Given under the seal of the University

Chennai 600025
India
December 2018

Controller of Examinations *Registrar* *Vice-Chancellor*

Anna University

PROGRESS THROUGH KNOWLEDGE

Reg.No. 1514359182/RG

The Syndicate of the Anna University hereby makes known that **RAM PRAKASH P** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Electrical Engineering****, having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2021.** *The degree has been awarded in compliance with the "****University Grants Commission, Regulations 2009****".*

Title of the Thesis:

DESIGN EMPHASIS OF MULTILEVEL CONVERTER TOPOLOGIES WITH PERFORMANCE ANALYSIS USING TUNED PWM CONTROLLER FOR HYBRID POWER SYSTEMS

Given under the Seal of the University

Chennai 600 025
India
July 2022

Controller of Examinations

Registrar

Vice-Chancellor

Anna University

Reg.No. 16153597177/RG

The Syndicate of the Anna University hereby makes known that **VIJAY R** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Electrical Engineering****, having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2022.** *The degree has been awarded in compliance with the "****University Grants Commission, Regulations 2016****".*

Title of the Thesis:

AN ENERGY-EFFICIENT CLUSTERING PROTOCOL BASED ON CLUSTER SUPERVISOR MANAGEMENT FOR IOT WIRELESS SENSOR NETWORKS

Given under the Seal of the University

Chennai 600 025
India
July 2022

Controller of Examinations

Registrar

Vice-Chancellor

Anna University

Reg.No. 1414359145/RG

The Syndicate of the Anna University hereby makes known that **MARIMUTHU M** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Electrical Engineering,*** *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2021.** *The degree has been awarded in compliance with the "University Grants Commission, Regulations 2009".*

Title of the Thesis:

DESIGN AND DEVELOPMENT OF MULTILEVEL CASCADED BOOST CONVERTER FOR MULTILEVEL INVERTER

Given under the Seal of the University

Chennai 600 025
India
July 2022

Controller of Examinations *Registrar* *Vice-Chancellor*

Anna University

Reg.No.20115012002/RG

The Syndicate of the Anna University hereby makes known that **BHUVANESWARI M** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Science and Humanities****, having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2018**. *The degree has been awarded in compliance with the* ***"University Grants Commission, Regulations 2009"***.

Title of the Thesis:

AN ANALYSIS OF THE TAMIL NADU STATE SAMACHEER (EQUITABLE EDUCATION) ENGLISH SYLLABUS WITH SPECIFIC REFERENCE TO IX STANDARD OF SELECT SCHOOLS IN TRICHY

Given under the seal of the University

Chennai 600025
India
June 2018

Controller of Examinations *Registrar* *Vice-Chancellor*

Code No. 008C7 S.No. 67876

பாரதிதாசன் பல்கலைக்கழகம்
BHARATHIDASAN UNIVERSITY

Re-accredited with 'A' Grade by NAAC

(Established by the Government of Tamil Nadu in 1982, Recognized by UGC under 2(f) and 12(B) of UGC Act)
Member, Association of Indian Universities and Association of Commonwealth Universities)

இந்தியமொழிப் புலமும் பிறமொழிப் புலமும்
FACULTY OF INDIAN AND OTHER LANGUAGES

பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு செப்டம்பர் 2017 ஆம் ஆண்டு வெ. தமிழ் செல்வி என்பவர் ஆங்கிலப் பிரிவில் முனைவர் என்னும் பட்டத்திற்குத் தகுதி பெற்றவர் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி முனைவர் என்னும் பட்டத்தை அவருக்குப் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the **BHARATHIDASAN UNIVERSITY** *hereby makes known that* **V. THAMIL SELVI** *has been admitted to the Degree of* **DOCTOR OF PHILOSOPHY**, *in the subject* **ENGLISH**, *having been certified by duly appointed Examiners to be qualified to receive the same in* **SEPTEMBER 2017**.

Thesis Title

"WOMAN AS EMANCIPATED: OVERCOMING PRAEDIAL SLAVE IN THE SELECT NOVELS OF NAMITA GOKHALE, CHITRA BANERJEE DIVAKARUNI AND GITHA HARIHARAN"

Given under the seal of the University.

பதிவாளர் Registrar

துணைவேந்தர் Vice - Chancellor

திருச்சிராப்பள்ளி
Tiruchirappalli

நாள்: 21st February 2018
Date :

ISSUED ON : 21-02-2018

L 054013

SASTRA UNIVERSITY

Shanmugha Arts, Science, Technology & Research Academy

(A University u/s 3 of the UGC Act, 1956)

Upon the recommendation of the Faculty and by the Authority of the Board of Management acting under the powers vested by the Government of India, the University hereby confers on

Giri Rajkumar S M

the degree of

Doctor of Philosophy

with all the rights and privileges pertaining thereto for the course-work and thesis titled

Controller Tuning for Various Process Systems Using Non-traditional Optimization Techniques

In witness whereof, we have hereunto affixed our signatures and the Seal of the University, this day, the Fourteenth of August, 2010 at the University Campus, Thanjavur, India.

Dean *Registrar* *Vice-Chancellor*

Sl. No. P916733 Reg.No. 44

Anna University

Reg.No. 1515359124/RG

The Syndicate of the Anna University hereby makes known that **ARAVIND P** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Electrical Engineering,*** *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2020.** *The degree has been awarded in compliance with the "University Grants Commission, Regulations 2009".*

Title of the Thesis:

OPTIMUM CONTROLLER DESIGN FOR VARIOUS PROCESS USING RECURSION REDUCTION CONTROL TECHNIQUE

Given under the Seal of the University

Chennai 600 025
India
March 2021

Controller of Examinations *Registrar* *Vice-Chancellor*

ANNA UNIVERSITY
CHENNAI - 600 025

PROVISIONAL CERTIFICATE

Folio No.: **SAR013033**

This is to certify that the candidate has qualified for the award of *Degree of Doctor of Philosophy* in compliance of the UGC Regulations 2009 as detailed below:

Name	:	**THIRUMURUGAN P**
Registration Number	:	**1413379705**
Degree	:	**Ph.D.**
Department/Centre/Subject	:	**ELECTRICAL AND ELECTRONICS ENGINEERING**
Faculty	:	**ELECTRICAL ENGINEERING**
Date, Month & Year of Viva-Voce Examination held	:	**16.07.2021**
Title of the Thesis	:	**NOVEL MULTILEVEL INVERTER USING DIFFERENT PWM CONTROL TECHNIQUES FOR GRID CONNECTED PHOTOVOLTAIC SYSTEM**

Controller of Examinations Chennai 600 025 Anna University

Chennai - 600 025

Date: **18-AUG-2021**

Controller of Examinations

Sl.No.: 2022/1875

410912003

National Institute of Technology Tiruchirappalli

hereby confers the degree of

Doctor of Philosophy

of the institute

on

BANU SUNDARESWARI M

for successfully completing the prescribed programme of study and presenting the thesis entitled

Design and Implementation of Swing Actuators using Shape Memory Alloy for Control of Dynamic Systems

Given this day the Sixth of August 2022

Under the seal of the Institute

TIRUCHIRAPPALLI - 620 015, INDIA

Registrar

Director

Chairperson
Board of Governors

National Institute of Technology

TIRUCHIRAPPALLI - 620 015 INDIA

hereby confers the degree of

Doctor of Philosophy

of the Institute

on

SHANMUGAVALLI M

for successfully completing the prescribed programme of study

and presenting the thesis entitled

MODELING AND EXPERIMENTAL INVESTIGATION OF CORIOLIS FLOW METER USING PIEZOELECTRIC SENSING AND ACTUATION

Given this day the First of October, 2011

Under the Seal of the Institute.

Registrar | Director | Chairman, Board of Governors

Sl.No.: 2021/01638 406912002

National Institute of Technology
Tiruchirappalli

hereby confers the degree of

Doctor of Philosophy

of the institute

on

R THILLAIKARASI

for successfully completing the prescribed programme of study and presenting the thesis entitled

Secured Routing Protocols for Detecting Packet Dropping Attacks in Wireless Mesh Networks

Given this day the Twenty Fifth of September 2021
Under the seal of the Institute

TIRUCHIRAPPALLI - 620 015, INDIA

Registrar *Director* *Chairperson Board of Governors*

DEPARTMENT OF MATHS

Code No: 08906 S.No: 868894

பாரதிதாசன் பல்கலைக்கழகம்
BHARATHIDASAN UNIVERSITY

Re-accredited with 'A' Grade by NAAC

(Established by the Government of Tamil Nadu in 1982, Recognized by UGC under 2(f) and 12(B) of UGC Act)
Member, Association of Indian Universities and Association of Commonwealth Universities)

அறிவியல் புலம்
FACULTY OF SCIENCE

பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு செப்டம்பர் 2015 ஆம் ஆண்டு இரா. நீலாம்பரி என்பவர் கணிதவியல் பிரிவில் முனைவர் என்னும் பட்டத்திற்குத் தகுதி பெற்றவர் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி முனைவர் என்னும் பட்டத்தை அவருக்குப் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the **BHARATHIDASAN UNIVERSITY** hereby makes known that **R. NEELAMBARI** has been admitted to the Degree of **DOCTOR OF PHILOSOPHY**, in the subject **MATHEMATICS**, having been certified by duly appointed Examiners to be qualified to receive the same in **SEPTEMBER 2015**.

Thesis Title

"STUDY ON WEBSERVER QUEUES USING FUZZY MARKOV CHAIN"

Given under the seal of the University.

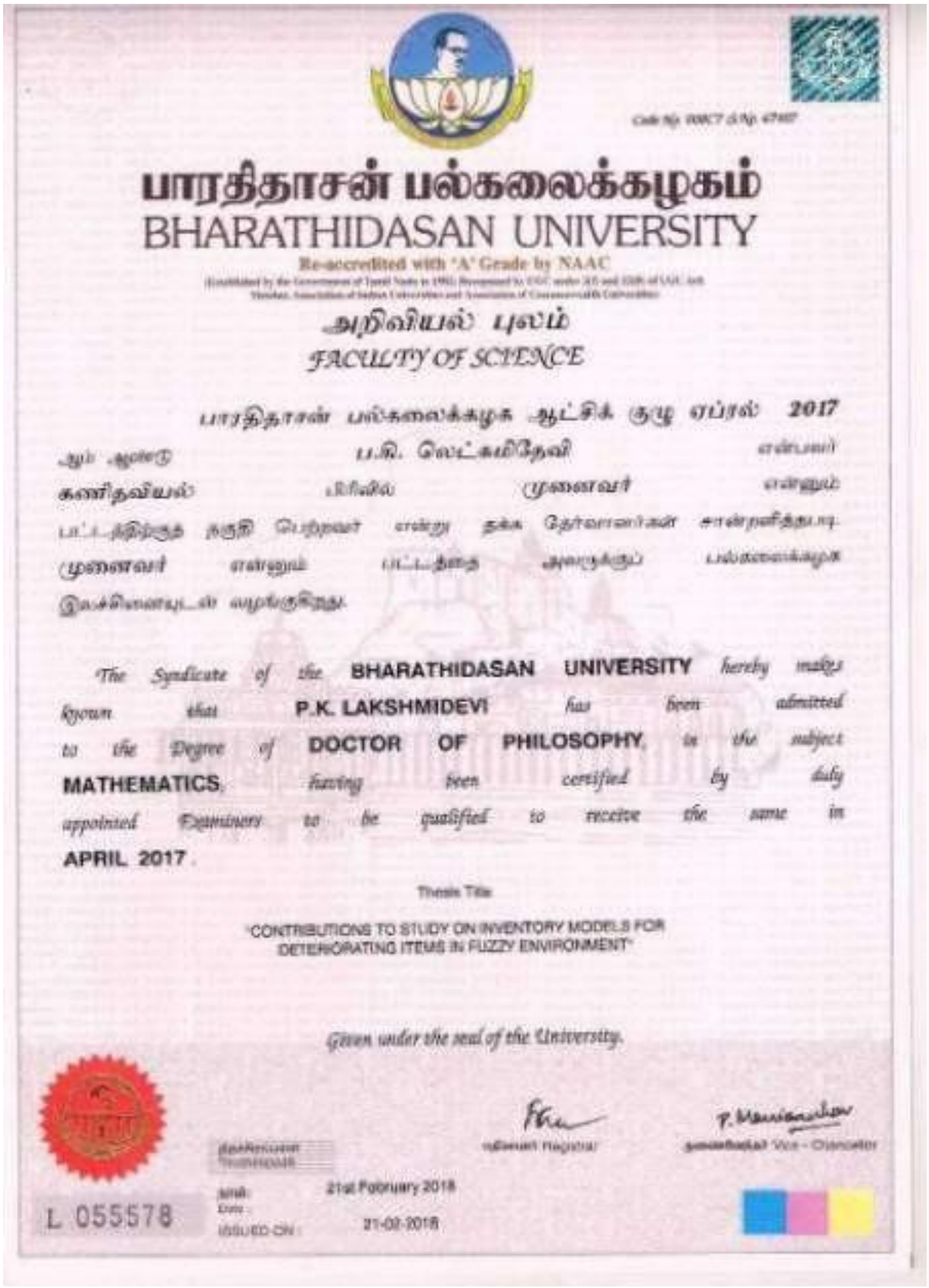
பதிவாளர் Registrar

துணைவேந்தர் Vice-Chancellor

திருச்சிராப்பள்ளி
Tiruchirappalli
05th November 2015

J 033246

ISSUED ON 05-11-2015



பாரதிதாசன் பல்கலைக்கழகம்
BHARATHIDASAN UNIVERSITY
Re-accredited with 'A' Grade by NAAC
அறிவியல் புலம்
FACULTY OF SCIENCE

பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு ஏப்ரல் 2017 ஆம் ஆண்டு பி.கே. லெட்சுமிதேவி என்பவர் கணிதவியல் பிரிவில் முனைவர் என்னும் பட்டத்திற்குத் தகுதி பெற்றவர் என்று தக்க தேர்வாளர்கள் சான்றளித்தமை முனைவர் என்னும் பட்டத்தை அவருக்கும் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the BHARATHIDASAN UNIVERSITY hereby makes known that P.K. LAKSHMIDEVI has been admitted to the Degree of DOCTOR OF PHILOSOPHY in the subject MATHEMATICS, having been certified by duly appointed Examiners to be qualified to receive the same in APRIL 2017.

Thesis Title

"CONTRIBUTIONS TO STUDY ON INVENTORY MODELS FOR DETERIORATING ITEMS IN FUZZY ENVIRONMENT"

Given under the seal of the University.

Registrar

Vice - Chancellor

L 055578

Date of Issue: 21st February 2018

ISSUED ON: 21-02-2018

Code No. 00800 S.No. 69161

பாரதிதாசன் பல்கலைக்கழகம்
BHARATHIDASAN UNIVERSITY

Re-accredited with 'A' Grade by NAAC

(Established by the Government of Tamil Nadu in 1982. Recognized by UGC under 2(f) and 12(B) of UGC Act. Member, Association of Indian Universities and Association of Commonwealth Universities)

அறிவியல் புலம்
FACULTY OF SCIENCE

பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு பிப்ரவரி **2018** ஆம் ஆண்டு **செ. ரேவதி** என்பவர் கணிதவியல் பிரிவில் முனைவர் என்னும் பட்டத்திற்குத் தகுதி பெற்றவர் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி முனைவர் என்னும் பட்டத்தை அவருக்குப் பல்கலைக்கழக இவ்சினையுடன் வழங்குகிறது.

The Syndicate of the **BHARATHIDASAN UNIVERSITY** *hereby makes known that* **S. REVATHI** *has been admitted to the Degree of* **DOCTOR OF PHILOSOPHY**, *in the subject* **MATHEMATICS**, *having been certified by duly appointed Examiners to be qualified to receive the same in* **FEBRUARY 2018**.

Thesis Title

"PERFECT DOMINATION IN FUZZY GRAPH AND INTUITIONISTIC FUZZY GRAPH"

Given under the seal of the University.

Tiruchirappalli

Registrar

Vice - Chancellor

21st February 2018

21-02-2018

L 056851

Anna University

Reg.No.20115022001/RG

The Syndicate of the Anna University hereby makes known that **ARUN KUMAR S** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* **Faculty of Science and Humanities**, *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2017**. *The degree has been awarded in compliance with the* **"University Grants Commission, Regulations 2009"**.

Title of the Thesis:

A NEW PROSPECTUS ON FUZZY CREDIBILITY MEASUREMENT

Given under the seal of the University

Chennai 600025
India
June 2018

Controller of Examinations *Registrar* *Vice Chancellor*

Anna University

Reg.No.20115022003/RG

The Syndicate of the Anna University hereby makes known that **GEETHA D** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* **Faculty of Science and Humanities**, *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2018**. *The degree has been awarded in compliance with the* ***"University Grants Commission, Regulations 2009"***.

Title of the Thesis:

A NEW CLASS OF SOLUTIONS OF THE DIOPHANTINE EQUATIONS

Given under the seal of the University

Chennai 600025
India
December 2018

Controller of Examinations *Registrar* *Vice-Chancellor*

Folio :D 05117

BHARATHIAR UNIVERSITY

COIMBATORE - 641 046

Ph.D. PROVISIONAL CERTIFICATE

This is to certify that ANUPRIYA S has qualified for the award of the Degree of DOCTOR OF PHILOSOPHY of this University in MATHEMATICS on 14/11/2018 after having completed the requirements prescribed for the award of the Degree.*

* under external part time mode.

Coimbatore - 641 046
Date : 16 OCT 2019.

Controller of Examinations i/c.

Bharathidasan University

(Re-accredited with 'A' Grade by NAAC) At in 3rd Cycle

Tiruchirappalli

FOLIO NO: 6291

PROVISIONAL CERTIFICATE

This is to certify that DINESH S

has qualified for the Degree of DOCTOR OF PHILOSOPHY IN MATHEMATICS

he/she having been declared eligible for the same from 14th MARCH 2022 onwards.

COMMENDED

CONTROLLER OF EXAMINATIONS ★ BHARATHIDASAN UNIVERSITY ★

0 5 APR 2022

Seal with Date

M. Senthil

Section Head

Controller of Examinations

Centre Code : 25 Reg.No. 41820-Ph.D-MAT Code no. 3D94B : S.No.

பாரதிதாசன் பல்கலைக்கழகம்
BHARATHIDASAN UNIVERSITY

(Accredited with A+ Grade by NAAC in the Third Cycle)

(Established by the Government of Tamil Nadu in 1982; Recognized by UGC under 2(f) and 12(B) of UGC Act; Member, Association of Indian Universities and Association of Commonwealth Universities)

அறிவியல் புலம்
FACULTY OF SCIENCE

பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு மார்ச் 2021 ஆம் ஆண்டு ரவிச்சந்திரன் கோ என்பவர் கணிதவியல் பாடத்தில் முனைவர் பட்டத்திற்குத் தகுதி பெற்றவர் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி முனைவர் பட்டத்தை அவருக்குப் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the **BHARATHIDASAN UNIVERSITY** *hereby makes known that* **RAVICHANDRAN G** *has been admitted to the Degree of* **DOCTOR OF PHILOSOPHY,** *in the subject* **MATHEMATICS,** *having been certified by duly appointed Examiners to be qualified to receive the same in* **MARCH 2021.**

Place of Study : BISHOP HEBER COLLEGE(Autonomous), TIRUCHIRAPPALLI.

"Ph.D. Degree has been awarded in accordance with the Minimum Standards and Procedure of the Regulations of the University Grants Commission 2016".

Title of the Thesis

"A STUDY ON TIME TO RECRUITMENT IN A SINGLE GRADE MANPOWER SYSTEM WITH DIFFERENT EPOCHS FOR DECISIONS AND EXITS HAVING OPTIONAL AND MANDATORY THRESHOLDS FOR DIFFERENT WASTAGES"

Given under the seal of the University.

பதிவாளர் Registrar

துணைவேந்தர் Vice - Chancellor

திருச்சிராப்பள்ளி
Tiruchirappalli

O 102227

நாள் : Date : 9th December 2021

ISSUED ON : 09-12-2021

Centre Code : 26 Reg.No. 5139-PK-D-MAT Code no. 78755 : S.No.

பாரதிதாசன் பல்கலைக்கழகம்
BHARATHIDASAN UNIVERSITY

(Accredited with A+ Grade by NAAC in the Third Cycle)

(Established by the Government of Tamil Nadu in 1982; Recognized by UGC under 2(f) and 12(B) of UGC Act; Member, Association of Indian Universities and Association of Commonwealth Universities)

அறிவியல் புலம்
FACULTY OF SCIENCE

பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு அக்டோபர் 2021 ஆம் ஆண்டு சுபாஷினி நா என்பவர் கணிதவியல் பாடத்தில் முனைவர் பட்டத்திற்குத் தகுதி பெற்றவர் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி முனைவர் பட்டத்தை அவருக்குப் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the **BHARATHIDASAN UNIVERSITY** *hereby makes known that* **SUBASHINI N** *has been admitted to the Degree of* **DOCTOR OF PHILOSOPHY,** *in the subject* **MATHEMATICS,** *having been certified by duly appointed Examiners to be qualified to receive the same in* **OCTOBER 2021.**

Place of Study : GOVERNMENT ARTS COLLEGE TIRUCHIRAPPALLI.

"Ph.D. Degree has been awarded in accordance with the Minimum Standards and Procedure of the Regulations of the University Grants Commission 2016".

Title of the Thesis

"SOME CHARACTERIZATION OF BIPOLAR FUZZY GRAPHS"

Given under the seal of the University.

திருச்சிராப்பள்ளி
Tiruchirappalli

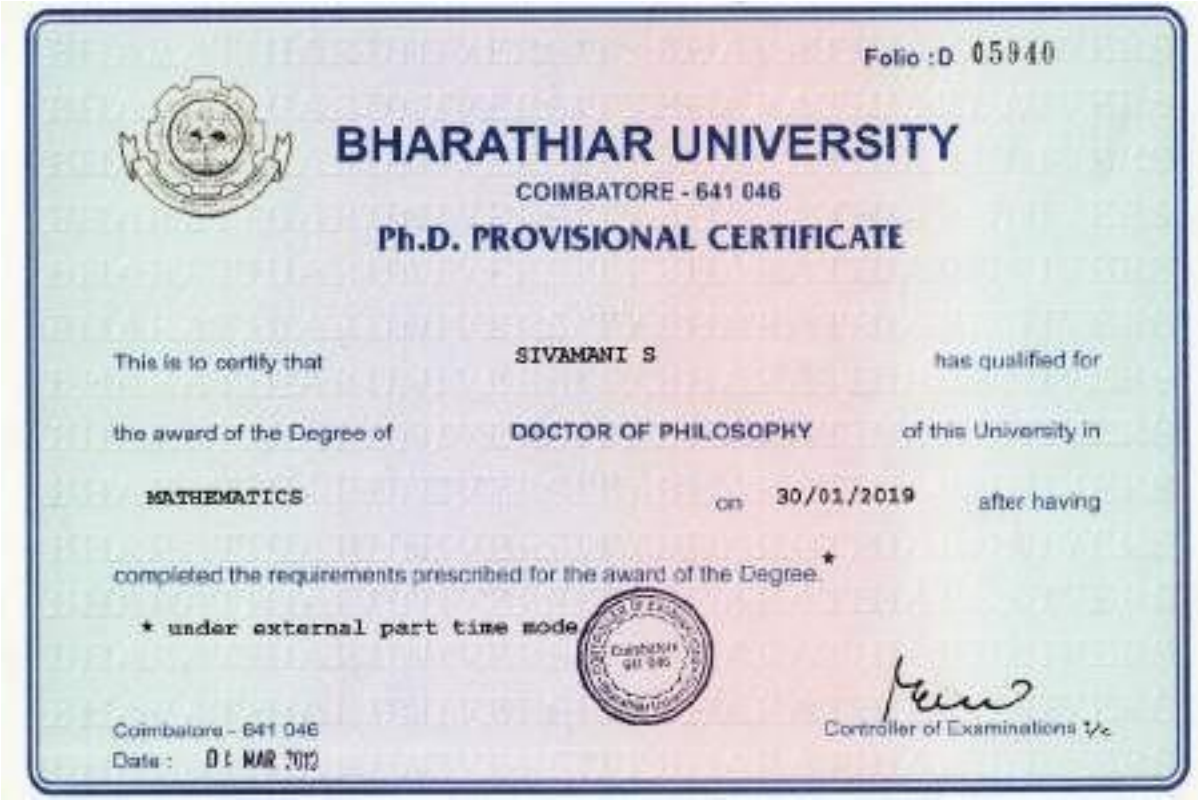
O 102106

நாள் :
Date : 9th December 2021

ISSUED ON : 09-12-2021

பதிவாளர் Registrar

துணைவேந்தர் Vice - Chancellor



Folio :D 05940

BHARATHIAR UNIVERSITY

COIMBATORE - 641 046

Ph.D. PROVISIONAL CERTIFICATE

This is to certify that SIVAMANI S has qualified for the award of the Degree of DOCTOR OF PHILOSOPHY of this University in MATHEMATICS on 30/01/2019 after having completed the requirements prescribed for the award of the Degree.*

* under external part time mode

Coimbatore - 641 046
Date : 01 MAR 2012

Controller of Examinations i/c

பாரதிதாசன் பல்கலைக்கழகம்

BHARATHIDASAN UNIVERSITY

(Accredited with A+ Grade by NAAC in the Third Cycle)

அறிவியல் புலம்

FACULTY OF SCIENCE

The Syndicate of the BHARATHIDASAN UNIVERSITY hereby makes known that AKILANDESWARI V S has been admitted to the Degree of DOCTOR OF PHILOSOPHY, in the subject MATHEMATICS, having been certified by duly appointed Examiners to be qualified to receive the same in JUNE 2019

Place of Study : NEHRU MEMORIAL COLLEGE(Autonomous), PUTHANAMPATTI

Title of the Thesis

"MATHEMATICAL MODEL FOR SOFTWARE RELIABILITY GROWTH USING LEHMANN TYPE LAPLACE DISTRIBUTIONS"

Given under the seal of the University

0 000745

DEPARTMENT OF MANAGEMENT STUDIES

AH16

Code No. 03513 & No. 479271

பாரதிதாசன் பல்கலைக்கழகம்
BHARATHIDASAN UNIVERSITY

(Established by the Government of Tamil Nadu in 1982, Recognised by UGC under 2f and 12B of UGC Act, Member, Association of Indian Universities and Association of Commonwealth Universities, Accredited by NAAC with 'A' Grade)

மேலாண்மையியல் புலம்
FACULTY OF MANAGEMENT

பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு ஜூன் **2009** ஆம் ஆண்டு **க. கார்த்திகேயன்** என்பவர் மேலாண்மையியல் பிரிவில் முனைவர் என்னும் பட்டத்திற்குத் தகுதி பெற்றவர் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி முனைவர் என்னும் பட்டத்தை அவருக்குப் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the **BHARATHIDASAN UNIVERSITY** *hereby makes known that* **K. KARTHIKEYAN** *has been admitted to the Degree of* **DOCTOR OF PHILOSOPHY**, *in the subject* **MANAGEMENT**, *having been certified by duly appointed Examiners to be qualified to receive the same in* **JUNE 2009**.

Thesis Title

"A STUDY ON THE METHODS AND EFFECTIVENESS OF TRAINING IN SELECTED PUBLIC AND PRIVATE SECTOR BANKS IN TIRUCHIRAPPALLI DISTRICT - TAMIL NADU"

Given under the seal of the University.

திருச்சிராப்பள்ளி
Tiruchirappalli
தேதி : 27th November 2009
Dated :

பதிவாளர் Registrar

துணைவேந்தர் Vice-Chancellor

E 33948 ISSUED ON : 27 NOV 2009

Anna University

Reg.No. 10901332015/RG

The Syndicate of the Anna University hereby makes known that **MAHALAKSHMI V** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the Faculty of Management Sciences, having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2014.** *The degree has been awarded in compliance with the "University Grants Commission, Regulations 2009".*

Title of the Thesis:

AN EMPIRICAL EVALUATION OF BANKING SERVICES PROVIDED BY PRIVATE AND PUBLIC SECTOR BANKS IN TAMIL NADU

Given under the Seal of the University

Chennai 600 025
India
November 2014

Controller of Examinations *Registrar* *Vice-Chancellor*

பாரதியார் பல்கலைக் கழகம்
Bharathiar University

சமூக அறிவியல் புலம்
FACULTY OF SOCIAL SCIENCES

பாரதியார் பல்கலைக் கழகத்தால் முறையாக அமைக்கப்பட்ட தேர்வாளர் குழு, முரளி ர, 2019ஆம் ஆண்டு, சனவரி 7ஆம் நாளில் மேலாண்மையியல் என்னும் பிரிவில் ஆய்வியல் அறிஞர் என்னும் பட்டம் பெறத் தகுதியடைத்திருப்பதாகச் சான்றளித்ததை ஏற்று, அவருக்கு அந்தப் பட்டத்தைப் பல்கலைக் கழக இலச்சினையுடன், பாரதியார் பல்கலைக் கழக ஆட்சிக் குழு வழங்குகின்றது.

The Syndicate of the Bharathiar University hereby makes known that **MURALI R** *has been admitted to the Degree of* **DOCTOR OF PHILOSOPHY** *in* **MANAGEMENT,** *having been certified by duly appointed Examiners to be qualified to receive the same on* **7th JANUARY 2019.**

Given under the Seal of the University.

கோயம்புத்தூர்
Coimbatore
நாள்

தேர்வாணையர்(பொ)

பதிவாளர்(பொ)

துணைவேந்தர்

Dated:18th December 2019 Controller of Examinations i/c

Registrar(i/c)

Vice-Chancellor

ISSUED ON - 3 OCT 2020

Anna University

Reg.No. 2007259148/RG

The Syndicate of the Anna University hereby makes known that **JAYAPRAKASH G** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the Faculty of Mechanical Engineering, having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2013.**

Title of the Thesis:

OPTIMAL TOLERANCE DESIGN OF MECHANICAL ASSEMBLIES USING FINITE ELEMENT SIMULATION AND INTELLIGENT TECHNIQUES

Given under the Seal of the University

Chennai 600 025
India
March 2013

Controller of Examinations *Registrar* *Vice-Chancellor*

Code No. 00ASE S.No. 311068

பாரதிதாசன் பல்கலைக்கழகம்

BHARATHIDASAN UNIVERSITY

(Established by the Government of Tamil Nadu in 1982; Recognized by UGC under 2f and 12B of UGC Act; Member, Association of Indian Universities and Association of Commonwealth Universities; Accredited by NAAC with 'A' Grade)

பொறியியல் - தொழில்நுட்பவியல் புலம்

FACULTY OF ENGINEERING AND TECHNOLOGY

பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு ஏப்ரல் 2006 ஆம் ஆண்டு நீ. பாஸ்கர் என்பவர் உற்பத்திப் பொறியியல் பிரிவில் முனைவர் என்னும் பட்டத்திற்குத் தகுதி பெற்றவர் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி முனைவர் என்னும் பட்டத்தை அவருக்குப் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the **BHARATHIDASAN UNIVERSITY** *hereby makes known that* **N. BASKAR** *has been admitted to the Degree of* **DOCTOR OF PHILOSOPHY,** *in the subject* **PRODUCTION ENGINEERING,** *having been certified by duly appointed Examiners to be qualified to receive the same in* **APRIL 2006**.

Thesis Title

"OPTIMIZATION OF MACHINING VARIABLES USING NON-TRADITIONAL TECHNIQUES"

Given under the seal of the University.

திருச்சிராப்பள்ளி
Tiruchirappalli
நாள் :
Dated : 05th October 2006

பதிவாளர் Registrar

துணைவேந்தர் Vice-Chancellor

A 048495 ISSUED ON : - 5 OCT 2006

Anna University

Reg.No.2010S2012014/RG

The Syndicate of the Anna University hereby makes known that **REKHA R** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* **Faculty of Mechanical Engineering** *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2017** *The degree has been awarded in compliance with the* **"University Grants Commission, Regulations 2009"**

Title of the Thesis:

EXPERIMENTAL INVESTIGATIONS AND ANALYSIS ON CYLINDRICAL GRINDING OF STEEL WORKPIECES UNDER DRY AND WET CONDITIONS

Given under the seal of the University

Chennai 600025
India
June 2018

Controller of Examinations *Registrar* *Vice Chancellor*

Anna University

Reg.No.20108201201O/RG

The Syndicate of the Anna University hereby makes known that **MAHESH G** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* ***Faculty of Mechanical Engineering****, having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2018**. *The degree has been awarded in compliance with the* ***"University Grants Commission, Regulations 2009"***.

Title of the Thesis:

EXPERIMENTAL INVESTIGATIONS AND ANALYSIS ON SAND CASTING PROCESS BY VARYING THE MOULD ATTRIBUTES USING OPTIMIZED RISER DESIGN

Given under the seal of the University

Chennai 600025,
India
December 2018

Controller of Examinations *Registrar* *Vice-Chancellor*

Anna University

PROGRESS THROUGH KNOWLEDGE

Reg.No.2010S2012001/RG

The Syndicate of the Anna University hereby makes known that **ANANTHA PADMANABAN M R** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* **Faculty of Mechanical Engineering**. *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2017**. *The degree has been awarded in compliance with the* ***"University Grants Commission, Regulations 2009"***.

Title of the Thesis:

MODELING INVESTIGATION AND OPTIMIZATION OF HOT WIRE GAS TUNGSTEN ARC WELDING OF AUSTENITIC STAINLESS STEEL USED IN POWER BOILER APPLICATIONS

Given under the seal of the University

Chennai 600025
India
June 2018

Controller of Examinations

Registrar

Vice-Chancellor

Anna University

Reg.No.20112012008/RG

The Syndicate of the Anna University hereby makes known that **MERCY VASAN A** *has been admitted to the* **DEGREE OF DOCTOR OF PHILOSOPHY** *under the* **Faculty of Mechanical Engineering**, *having been certified by the duly appointed examiners to be qualified to receive the same in the year* **2018**. *The degree has been awarded in compliance with the* ***"University Grants Commission, Regulations 2009"***.

Title of the Thesis:

THREE DIMENSIONAL MODELING AND INVESTIGATION OF THE TRANSIENT, MULTIPHASE COLD FLOW CHARACTERISTICS OF A FULL LOOP, LABORATORY SCALE CFB BOILER USING CFD TECHNIQUES

Given under the seal of the University

Chennai 600025
India
December 2018

Controller of Examinations

Self attested

Registrar

Vice-Chancellor

Sl.No. 038106 Reg. No. 121313769

PRIST UNIVERSITY THANJAVUR

PONNAIYAH RAMAJAYAM INSTITUTE OF SCIENCE AND TECHNOLOGY

(Under Section 3 of UGC Act 1956)

The Board of Management and the Academic Council of this University hereby make known that

GANESAN.M

has been admitted to the Degree of

DOCTOR OF PHILOSOPHY IN MECHANICAL ENGINEERING

having completed all the Academic requirements and having been certified by duly appointed Examiners to be qualified to receive the same with *COMMENDED* in the Examination conducted during *NOVEMBER 2016*

Given under the seal of the University

Thanjavur
Tamil Nadu India

Registrar

Vice-Chancellor

Scanned with CamScanner

DEPARTMENT OF PHYSICS

பாரதிதாசன் பல்கலைக்கழகம்
BHARATHIDASAN UNIVERSITY

FACULTY OF SCIENCE

The Syndicate of the BHARATHIDASAN UNIVERSITY hereby make known that SENTHILKUMAR P has been admitted to the Degree of DOCTOR OF PHILOSOPHY, in the subject PHYSICS, having been certified by duly appointed Examiners to be qualified to receive the same in JULY 2019.

Place of Study

Title of the Thesis

Given under the seal of the University.

O 000264

Bharathidasan University

(Re-accredited with 'A' Grade by NAAC) A+ in 3rd Cycle

Tiruchirappalli

FOLIO NO: 6364

PROVISIONAL CERTIFICATE

This is to certify that KARTHIKEYAN K

has qualified for the Degree of DOCTOR OF PHILOSOPHY IN PHYSICS

and he/she having been declared eligible for the same from 25th FEBRUARY 2022 onwards.

COMMENDED

CONTROLLER OF EXAMINATIONS
20 APR 2022
BHARATHIDASAN UNIVERSITY

Seal with Date

Section Head

Controller of Examinations

National Institute of Technology

TIRUCHIRAPPALLI - 620 015 INDIA

hereby confers the degree of

Doctor of Philosophy

of the Institute

on

R MARIAPPAN

for successfully completing the prescribed programme of study and presenting the thesis entitled

STUDIES ON DUPLEX STAINLESS STEELS PRODUCED THROUGH POWDER METALLURGY ROUTE

Given this day the Ninth of October, 2010
Under the Seal of the Institute.

Registrar *Director* *Chairman, Board of Governors*

From

dt:07-07-2021

B.Divya
Research Scholar (1524359757),
Department of Electronics and Communication Engineering,
Saranathan College of Engineering
Trichy 600 012,Tamilnadu, India.

To

Dr.R.Srinivasan, M.Sc., Ph.D.,F.I.C.S., M.A.C.S.(USA).,
Member Secretary
Tamilnadu State Council for Science and Technology
Sardar Patel Road,
DOTE Campus,
Chennai 600 025,Tamilnadu, India.

Sir/ Madam,

Sub: Programme to bridge the gap in research funding for research scholars in colleges (RFRS) –request for extension-reg
Ref: TNSCST/RFRS/VR/12/7366

With reference to the above, I am writing to request a time extension for the project, "Intelligent Post Harvest Monitoring and Controlling System Using Wireless Sensor Network". There is delay in completing the project due to the COVID-19 pandemic. Though I have been working on the project during the lockdown, still 30% of the work yet to be completed.

In view of the preceding facts, I kindly request you to provide the extension of the project till 28th Feburary,2022. This extension will help me to publish more papers in journals and will come with a more accurate and comprehensive report.

I apologize for the delayand thank you for your understanding.

Thanking You.

Signature of the RFRS Awardee
B.Divya

Signature of the Guide
Dr. M.Santhi
Professor & Head
Saranathan College of Engineering

7/7/21

7/7/2021

Head of the Institution / The Registrar / The Finance Officer
Dr. D VALAVAN
Principal
Saranathan College of Engineering

PRINCIPAL
Saranathan College of Engineering
TRICHY - 12.

UTILIZATION CERTIFICATE
(Two Copies)

1. Name of the Scheme : Programme bridge the gap in research funding for research scholar in colleges (RFRS)

2. Name and address of :the RFRS Awardee

B.Divya
Research Scholar
Department of ECE
Saranathan college of Engineering
Trichy 620012.

3. Council Sanction letter details / reference : TNSCST/RFRS/VR/12/2018-19/7648 Dt:06.06.2019

4. Amount Sanctioned : -

CERTIFICATE

The sum of **Rs.1.5 lakh (Rupees One Lakh and Fifty Thousand only)** to be sanctioned as the 2nd year grant by the Council for the scheme "Programme to bridge the gap in research funding for research scholars in colleges (RFRS)" through the Council sanction letter**TNSCST/RFRS/VR/12/2018-19/7648 Dt:06.06.2019** is fully needed for the purpose for which it was sanctioned as per the terms and conditions of the scheme and the corresponding details will be submitted at the end of the project duration.

Signature of the RFRS Awardee
B.Divya

7/2/24
Signature of the Guide
Dr. M.Santhi
Professor & Head
Saranathan College of Engineering

7/2/2024
Head of the Institution / The Registrar / The Finance Officer
Dr. D VALAVAN
Principal
Saranathan College of Engineering

PRINCIPAL
Saranathan College of Engineering
TRICHY - 12.

PROGRESS REPORT
(Tow Copies)

1.	Name of the Scheme	:	Programme bridge the gap in research funding for research scholar in colleges (RFRS)
2.	Name and address ofthe RFRS Awardee	:	B.Divya Research Scholar Department of ECE Saranathan college of Engineering Trichy 620012.
3.	Council Sanction letter details / reference	:	TNSCST/RFRS/VR/12/2018-19/7648 Dt:06.06.2019
4.	Amount Sanctioned	:	Total amount sanctioned- Rs.3 Lakhs First year grant Rs.1.5 Lakhs received during June,2019.
5.	Title of the Research Work	:	Intelligent Image-Based Pest Monitoring and Controlling System for Agriculture Using IOT
6.	Objectives Approved	:	(1) wide variations in the positioning of pest insect objects and being able to distinguish the insect objects from varying degrees of background clutter (2) the significant intra-class difference and large inter-species similarity that exists for many species (3) a requirement for a fast collection and interpretation of data to allow rapid responses, particularly when large numbers of pests are detected.
7.	Objectives realized so far	:	(1) wide variations in the positioning of pest insect objects and being able to distinguish the insect objects from varying degrees of background clutter (2) intra-class difference and large inter-species similarity that exists for many species (3) Fast recognition rate of pest having any background has been achieved. When large number of different insects are obtained in same background, Proposed AGRIPESTNET CNN can precisely clarify between pest types.

8.	Detailed Research work including Details of experimental work conducted, research data in form of tables, figures and photographs (elaborated details should be given)	:	PFA
9.	Research Publications made from the RFRS work. If any	:	B.Divya and M.Santhi (2021) 'Modified Convolutional Neural Network Based Automatic Detection and Classification of Insects in Agricultural Fields', Journal of Green Engineering (JGE) , 11(3), pp. 2766-2783 B.Divya and M.Santhi (2020) "Insect classification based on improved squeeze-and-excitation network" at first International e-Conference on "Cutting Edge Technologies in Electrical, Communication, Embedded system and Soft computing Techniques (ICECES'20) at Saranathan college of Engineering,Trichy
10.	Planned / Expected date of Completion	:	February,2022.

Signature of the RFRS Awardee
B.Divya

7/7/21
Signature of the Guide
Dr. M.Santhi
Professor & Head
Saranathan College of Engineering

7/7/2021
Head of the Institution / The Registrar / The Finance Officer
Dr. D VALAVAN
Principal
Saranathan College of Engineering

PRINCIPAL
Saranathan College of Engineering
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27 – 29, November 2021

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Conference ID: 52855

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This is to certify that Prof. / Dr. / Mr. / Ms. **VIJAY R** from **SARANATHAN COLLEGE of ENGINEERING, TRICHY** has presented a paper titled **Design And Implementation Of PV Powered Air Cooler System Using Thermoelectric Cooler** in the 3rd IEEE International Conference on Innovations in Power and Advanced Computing Technologies, i-PACT2021 jointly organized by **Faculty of Engineering**, **Universiti Malaya, Kuala Lumpur, Malaysia & School of Electrical Engineering, Vellore Institute of Technology**, **Vellore, India**.

Conference ID: 52855

Prof. Ir. Dr. Hazlie Mokhlis
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(Maharashtra State Technological University Established Under the Maharashtra Act XXIX of 2014)

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This certificate is awarded to

Vijay Ravindran

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A smart energy optimization and collision avoidance routing strategy for IoT systems in the WSN domain

at the International Conference on Computing in Engineering and Technology (ICCET - 2022) held by Department of Electronics and Telecommunication Engineering at Dr. Babasaheb Ambedkar Technological University During 12-13 February 2022.

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A Perceptive Node Transposition and Network Reformation in Wireless Sensor Network

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Program Chair

Prediction of EV battery SOC using a charging and discharging model

Author(s): V. Ravindran [1] ; A. Durgadevi [1] ; R. P. Ponraj [1] ; S. Ragunathan [1] ; K. Swaminathan [2]
View affiliations

Source: 7th International Conference on Computing in Engineering & Technology (ICCET 2022), 2022 p. 306 – 310
Conference: 7th International Conference on Computing in Engineering & Technology (ICCET 2022)

- « Previous article
- Table of contents
- Next article »

Abstract

Li-ion battery packs, which are increasingly being utilized in Electric Vehicles (EV), Hybrid Electric Vehicles (HEV), Unmanned Aerial Vehicles (UAV), and smart grid systems, require accurate estimation of State of Charge (SOC). The SOC, often known as the actual quantity of battery energy remaining, is a critical factor in guaranteeing the performance and consistency of lithium-ion batteries. Modern lithium-based batteries can be safeguarded against damage and mishaps by a Battery Management System. A lithium battery management system can ensure that the battery operates in a reliable and secure environment, hence increasing the battery's lifespan. A battery management system for Lithium-ion batteries is presented in this research. Presenting a charging and discharging model. The proposed system is simulated using MATLAB/Simulink, and the results are presented.

DOI: 10.1049/icp.2022.0637
ISBN: 978-1-83953-704-2
Location: Online Conference
Conference date: 12-13 February 2022
Format: PDF

Inspec keywords: battery powered vehicles; smart power grids; battery management systems; lithium compounds; electric vehicle charging; secondary cells; hybrid electric vehicles; autonomous aerial vehicles
Subjects: Transportation; Secondary cells; Secondary cells

Related content

An effective method for charging electric vehicles through wireless power transfer system

Author(s): R. P. Ponraj [1] ; K. Badrinath [1] ; V. Ravindran [1] ; S. Ragunathan [1] ; K. Swaminathan [2]

View affiliations

Source: 7th International Conference on Computing in Engineering & Technology (ICCET 2022), 2022 p. 302 – 305

Conference: 7th International Conference on Computing in Engineering & Technology (ICCET 2022)

- « Previous article
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Abstract

Wireless Power Transfer (WPT) systems transfer electricity without a wired connection from a source to a charge. The advantages of wired compared with cable systems such as no exposed wires, ease of loading, and fearless power transmission into adverse environmental conditions make the WPTs appeal to many industrial applications. Some companies have paid attention to the adoption of WPTs for charging the onboard batteries of electrical vehicles (EV), and efforts are made to develop and improve the various topologies associated with these systems. WPT is obtained by the cost-effective induction of two spins known as the transmitter and the receiver. The transmitter bobbins are entered into the road in EV charging applications, and receiver bumps are placed in the vehicle. Resonant type inductive WPT is common for medium-high power transmission applications such as EV charging because its effectiveness is increased. The Wireless Power Transfer emerged as the fastest-growing technology for power transmission without cables. This field is getting new proposals and advancements in technology, making this more reliable and efficient. Hence, this becomes a field for the newly manufactured electric vehicles that rely only on wireless charging. Here, the wireless power transfer takes place with the help of 'Inductive & Magnetic Coupling.'

DOI: 10.1049/icp.2022.0636

ISBN: 978-1-83953-704-2

Location: Online Conference

Conference date: 12-13 February 2022

Format: PDF

Inspec keywords: receivers; electric vehicle charging; power cables; inductive power transmission; electric vehicles; transmitters

Subjects: Transportation; Power cables

Related content

Applications of coupling WPT for electric vehicle

- Yukio Yokoi
- View description Hide description
- Availability to deploy wireless power transfer (WPT) on electric vehicle (EV) has opened at the report of MIT Team at 2007 where they proved wide and variable airgap power transfer. That is called "MIT's revolution or Columbus's egg (2007)"[1]. After the MIT report, many concept EV cars with WPT capability have displayed and demonstrated at various motor shows. At Tokyo Motor Show 2011 Japan, many Original Equipment Manufacturers (OEMs), such as Toyota, Nissan, Mitsubishi motors, Yamaha, and GM, displayed their concept EVs with WPT option [2]. At next year of the

Tokyo Motor Show 2011, at New York International Auto Show 2012, Nissan announced that they will deliver the Infiniti LE Concept with the wireless charging option within 24 months [3]. It was doubtless the world first announcement to install the WPT system on mass production passenger EV. Unfortunately the plan does not realized.

Influence of railway line characteristics in inductive interference on railway track circuits

- Giovanni Lucca
- View description Hide description
- This study firstly presents an algorithm for the study of the 50–60 Hz inductive electromagnetic interference produced by a High Voltage power line on nearby not parallel railway track circuits used for signalling purposes; secondly the algorithm is used for a sensitivity analysis relevant to the level of generated electromagnetic interference depending on the characteristics of the railway line (electrified/not electrified, single/double track) and with reference to the state of rails insulation from the soil.

On the role and the value of flexibility options in planning of distribution networks with high penetration of electric vehicle charging stations: Case study of Mostar

- M. Međugorac ; T. Capuder ; M. Skok ; D. Škrlec ; D. Bago
- View description Hide description
- This paper describes effects of load increase because of electric vehicle charging stations (EV CS) connection in the city cable distribution network. Initial condition for analyses is distribution network model which was done using DIgSILENT PowerFactory (DPF) professional tool. Consumption analyses for maximum interval in year 2019 is considered. Analyses showed that even when connecting EV CS with peak load 100 kW (2x50 kW) on every 0,4 kV node, voltage is within grid code allowed limits for both 10 kV and 0,4 kV operating voltage in medium and low voltage network, respectively. Also, when adding EV CS load, several 10(20)/0,4 kV substation load exceeds 100% but this is not major issue due to overloading values and short intervals of peak load during the year. However, network losses are increasing. This is especially important nowadays because of high electrical energy market prices. Therefore, to minimize losses, DSO should compare classical solutions like grid reinforcement with modern solution like flexibility of the new consumers.

Mobile Energy Disseminators increase electrical vehicles range in a smart city

- L.A. Maglaras ; Jianmin Jiang ; A.L. Maglaras ; F.V. Topalis
- View description Hide description
- Dynamic wireless charging of electric vehicles is becoming a preferred method since it enables power exchange between the vehicle and the grid while the vehicle is moving. Dynamic charging so far is based on stationary charging stations that can be allocated in parking lots or bus stations. The concept of mobile energy disseminators (MED) was recently introduced. In the proposed cooperative methods the charging of vehicles with the use of trucks/busses can be achieved while in motion or immobilized. Based on this concept, optimal routing of electric vehicles is formulated as a shortest path problem with constraints.

Analysis on the effect of V2G aggregation on distribution network based on traffic simulator

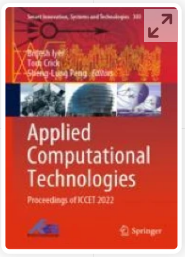
- T. Mannari and H. Hatta
- View description Hide description
- Transition to electrical vehicles (EVs) is promoted in many countries to reduce CO_2 emissions. EVs are also expected to work as one of the distributed energy resources (DERs), which can contribute to grid balancing. Businesses on EV aggregation are appearing, and some demonstration projects have proceeded. In such projects, the potential for grid balancing of EV aggregation has been evaluated, however, the effect of the EV aggregation on distribution networks has not been sufficiently discussed. The bundled EVs are expected to be charged or discharged at the same time, causing large power flow and an excessive voltage variation in distribution networks. Power flow analysis is required for discussing the voltage variation. However, the amount of data on charging and discharging of EVs is insufficient. The purpose of this research is

to develop a method of simulating charging and discharging patterns of EVs controlled by aggregators. The difficulty of this research is in how to consider the connection of each EV to chargers, which is the critical restriction in scheduling the charging and discharging of EVs. This problem was solved by generating time-series data on connections of each EV to chargers with a traffic simulator, which had already been developed in our institution. This report proposed to schedule charging and discharging of EVs based on the data given by the traffic simulator for simulating charging and discharging patterns. This method was applied to simulated load curves made by the aggregator that operates a distribution network similarly to a virtual power plant (VPP). The aggregator scheduled charging and discharging of 256 EVs such that the cost of purchasing electrical power and the wheeling charges are minimized. The voltage variation was evaluated based on this load curve in the VPP.

Distribution Grid planning by self-designing with reinforcement learning

- O. Pohl ; M. Rose ; T. Frye
- View description Hide description
- Decentral energy resources are identified as indispensable for a successful energy transition with the target to reduce greenhouse gas emissions. This leads to amplifying electrification thereby posing new challenges to the distribution grid. In Germany, as in most countries, the electrical grid was designed based on central energy generation principles along with rather static load profiles. Given the two trends of electrification and decentralization, the distribution grid needs to be reinforced more dynamically than before. In this paper, a fully automated pipeline of grid planning is presented.

  Its central part is a novel (Multi-) Reinforcement Learning scheme operating on the electrical graph. It performs sequential grid planning actions such as switching, cable reinforcement and cable construction. Costs for construction are assigned by a cable route planner based on open street maps. Rewards depending on costs and load flow calculations on real grid data steer the optimization. It is shown that the optimizer develops strategies to solve grid violations while reducing associated costs for the actions. The framework is used to extract grid action sequences which are needed to mitigate increasing EV penetration. Furthermore, the dependency of EV density and associated grid action costs is evaluated quantitatively by running the optimizer for several scenarios. It is shown that costs increase rapidly when exceeding certain limit EV concentrations.



International Conference on Computing in Engineering & Technology

ICCET 2022: **Applied Computational Technologies** pp 623–634

A Perceptive Node Transposition and Network Reformation in Wireless Sensor Network

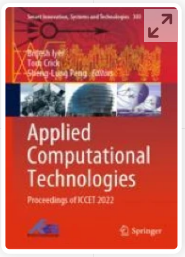
K. Swaminathan, Vijay Ravindran, P. Ram Prakash & R. Satheesh

Conference paper | First Online: 15 May 2022

Part of the Smart Innovation, Systems and Technologies book series (SIST,volume 303)

Abstract

In WSN, modes are more minor with specific energy sources that are not replaceable. When the energy is depleted faster than it can be restored, the associated node becomes inactive. It leads to network failure in which the node was deployed. Hence, the network loses its connectivity and breaks into several parts of clustered nodes. To rebuild the network, we have to connect all the nodes in their specific coverage area. The inactive node should be replaced with other nodes in the network. The existing strategy didn't focus on the



International Conference on Computing in Engineering & Technology

ICCET 2022: **Applied Computational Technologies** pp 655–663

A Smart Energy Optimization and Collision Avoidance Routing Strategy for IoT Systems in the WSN Domain

K. Swaminathan, Vijay Ravindran, Ramprakash Ponraj & R. Satheesh

Conference paper | First Online: 15 May 2022

Part of the Smart Innovation, Systems and Technologies book series (SIST,volume 303)

Abstract

Wireless Sensor Networks (WSNs) offer a wide range of applications, including next-generation intelligent Internet of Things (IoT) applications. Network nodes in WSNs do not admit their battery replacement since the phenomenon being researched is rarely accessible or inaccessible. WSN nodes with limited resources utilize batteries with limited capacity. For IoT applications, power utilization of each node and the longevity of the overall network is a difficulty for long-running WSNs. Energy-efficient technologies must be

Energy consumption in cluster communication using mcsbch approach in WSN

Article type: Research Article

Authors: Ravindran, Vijay (https://content.iospress.com:443/search?q=author%3A%28%22Ravindran, Vijay%22%29)[a;*] | Vennila, C. (https://content.iospress.com:443/search?q=author%3A%28%22Vennila, C.%22%29)[b]

Affiliations: **[**a**]** Department of Electrical and Electronics Engineering, Saranathan College of Engineering, Trichy, India | **[**b**]** Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, India

Correspondence: [*] Corresponding author. Vijay Ravindran, Assistant Professor, Department of Electrical and Electronics Engineering, Saranathan College of Engineering, Trichy, India. E-mail: vijay-eee@saranathan.ac.in (mailto:vijay-eee@saranathan.ac.in).

Abstract: Internet of Things (IoT) proposed a new digital computing paradigm enabling interaction between devices and machines. It deliberately creates connectivity between the internet, electronics, and other forms of hardware. A novel modern cluster supervisor-based cluster head selection algorithm (MCSBCH) is proposed for the Wireless Sensor Network (WSN). The proposed cluster supervisor mechanism is responsible for controlling and monitoring the network effectively. In this approach, the cluster supervisor is the heart of the network, and the whole mechanism work under its supervision. The Cluster supervisor (CS) monitors the node's energy level and allocates CH (cluster head) node. Each node's energy level is considered for electing the CH. Obviously when the cluster head energy level gets drained, then it allocates the next higher energy node as cluster head. The assigned CH is the next node with the highest energy level known as the backup node. This cluster supervisor (CS) is supported by the cluster head (CH) and other backup nodes in the network. The proposed MCSBCH is boosted with an enhanced clustering routing protocol. An experimental result is based on the aspect of a lifetime, energy consumption, and throughput, to test the proposed mechanism performance.

Keywords: WSN, IoT, energy consumption, cluster communication and management

DOI: 10.3233/JIFS-212632

Journal: Journal of Intelligent & Fuzzy Systems (https://content.iospress.com:443/journals/journal-of-intelligent-and-fuzzy-systems), vol. 43, no. 1, pp. 1669-1679, 2022

Published: 01 June 2022

Price: EUR 27.50

http://ijpeds.iaescore.com | ISSN 2088-8694, e-ISSN 2722-256X
International Journal of Power Electronics and Drive Systems (IJPEDS)
CiteScore 2021 3.3 Scopus Q3 SJR 2021 0.346 SNIP 2021 0.638

Performance enhancement of BLDC motor using PID controller

S. Usha, Pranjul Mani Dubey, R. Ramya, M. V. Suganyadevi

Abstract

Mainly the DC motors are employed in most of the application. The main objective is to Regulate the DC motor system. A motor which displays the appearances of a DC motor but there is no commutator and brushes is called as brushless DC motor. These motors are widespread to their compensations than other motors in relationships of dependability, sound, efficiency, preliminary torque and longevity. To achieve the operation more reliable and less noisy, brushless dc motors are employed. In the proposed work, dissimilar methods of speed control are analysed. In real time submission of speed control of BLDC motor, numerous strategies are executed for the speed control singularity. The modified approaches are the employment of PI controller, use of PID controller and proposed current controller.

Keywords

BLDC motor; PI-controller; PID- controller; Firing signal generator; Frequency analysis; Speed control

Full Text:

PDF

DOI: http://doi.org/10.11591/ijpeds.v12.i3.pp1335-1344

Refbacks

- There are currently no refbacks.

Performance investigation of SVR for evaluating Voltage Stability Margin in a Power utility

Publisher: IEEE

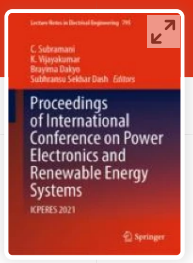
Tamilarasan Thiyagarajan ; Suganyadevi Mv ; A.Karuppa Samy ; A. Venkadesan **All Authors**

Abstract

Abstract: Voltage stability margin is one of the key parameters to ensure the credibility of the power system in real time. Voltage stability margin indicates the maximum loading c... **View more**

Metadata

Abstract:
Voltage stability margin is one of the key parameters to ensure the credibility of the power system in real time. Voltage stability margin indicates the maximum



Proceedings of International Conference on Power Electronics and Renewable Energy Systems pp 271–281

A Simplified Beginner's Guidelines for Design and Fabrication of Prototype Electrical Vehicle

P. Ramesh Babu, P. Vigneshwar, R. Udaya Simha, S. Tanweer Ahamed, S. Vengatesh & V. Vijay

Conference paper | First Online: 22 November 2021

Part of the Lecture Notes in Electrical Engineering book series (LNEE,volume 795)

Abstract

The aim of this paper is to build a prototype electric vehicle out of structural materials. It is influential in the development of a modern, safe, and environmentally sustainable mode of public mobility. The objective of its design is to create a lightweight, compact three-wheeled electric vehicle frame. The design phase entails the creation of a 3D model, a practical prototype, and frame refinement using CAD software and the material parameters. The electrical and mechanical study is performed, the results recorded 125 km

per charge, and the weight of the vehicle is 180 kg. The top speed is 40kmph along with >80% efficiency of the BLDC hub motor.

Keywords

Electric vehicle **Lithium-ion battery** **BLDC hub motor** **Suspension** **Steering**

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Acknowledgements

The authors would like to express their gratitude to the National Solar Vehicle Challenge (NSVC) and the Saur Urja Vehicle Challenge (SUVC) for validating our prototype electric vehicle through competition in India. And we'd like to thank our college for supporting us to work in various

aspects, as well as fabricate the completed prototype vehicle.

• 2nd Runner-up in NATIONAL SOLAR VEHICLE CHALLENGE 2019

• Runner-up in SAUR URJA VEHICLE CHALLENGE 2020.

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Ramesh Babu, P., Vigneshwar, P., Udaya Simha, R., Tanweer Ahamed, S., Vengatesh, S., Vijay, V. (2022). A Simplified Beginner's Guidelines for Design and Fabrication of Prototype Electrical Vehicle. In: Subramani, C., Vijayakumar, K., Dakyo, B., Dash, S.S. (eds) Proceedings of International Conference on Power Electronics and Renewable Energy Systems. Lecture Notes in Electrical Engineering, vol 795. Springer, Singapore. https://doi.org/10.1007/978-981-16-4943-1_25

.RIS .ENW .BIB

DOI

https://doi.org/10.1007/978-981-16-4943-1_25

Published Publisher Name Print ISBN

22 November 2021	Springer, Singapore	978-981-16-4942-4
Online ISBN	eBook Packages	
978-981-16-4943-1	Energy	
	Energy (R0)	

Simulation and Steady State Analysis of SIMO Boost Converter for Electric Vehicles

May 2021

DOI: 10.1109/INCET51464.2021.9456358

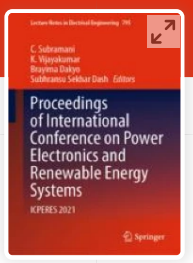
Conference: 2021 2nd International Conference for Emerging Technology (INCET)

Lab: Ramprasath Selvaraj's Lab

C. Keerthika · Ramprasath Selvaraj · P. Rameshbabu · C. Krishnakumar

Abstract

Extreme environmental and human life issues such as global warming, air pollution and the rapid loss of oil resources in the planet are caused by the vast number of cars used. To overcome these issues traditional vehicles have been replaced by the Electric vehicles (EVs). To communicate the elements in the E-Vehicle DC-DC converters are used, by increasing or decreasing the input voltage levels. In order to efficiently reduce the quantity of electronic components to get different output voltages, Single-input Multiple-output DC-DC converters have been developed, also reduces cost. The SingleInput Multi-Output(SIMO) dc-dc converter delivers various levels of output voltage required by the load from a single source of dc input voltage. There are many SIMO topologies were evolved. In order to achieve the above limitations, in this project our work is to model a Single-Input Multiple-Outputs Boost converter. The suggested converter would uplift the voltage to a controllable middle voltage and high voltage dc output from a low voltage input power source. To validate the proposed topology for real time applications, the proposed converter is simulated in the MATLAB application.



Proceedings of International Conference on Power Electronics and Renewable Energy Systems pp 407–415

Performance Analysis of Slope-Compensated Current Controlled Universal PV Battery Charger for Electric Vehicle Applications

S. Ramprasath, R. Abarna, G. Anjuka, K. Deva Priya, S. Iswarya & C. Krishnakumar

Conference paper | First Online: 22 November 2021

Part of the Lecture Notes in Electrical Engineering book series (LNEE,volume 795)

Abstract

The main purpose of the proposed system is to design a low-cost universal PV battery charger for electric vehicle application. The proposed system is integrated with a slope-compensated current controller which controls the charging current that corresponds to maximum power point of the PV module. As an interface converter, the proposed system consists of a buck converter to control the flow of the charging current and to find out the reference current Iref from the PV array at MPP.

Symmetric Multilevel Inverter Using DC-DC Zeta Converter

Publisher: IEEE

S. Srinithi ; S. Vijayalakshmi ; M. Marimuthu ; B. Parathagan All Authors

Abstract: This paper presented is an attempt to suggest a high-gain Zeta converter with a voltage multiplier cell is fed with multilevel H-Bridge inverter. A perfect mixture of a s... **View more**

Metadata

Abstract:

This paper presented is an attempt to suggest a high-gain Zeta converter with a voltage multiplier cell is fed with multilevel H-Bridge inverter. A perfect mixture of a slightly modified version of the regular Zeta converter and a voltage multiplier unit is the proposed circuit. The voltage addition of the suggested refitted zeta enhances the voltage gain by increasing n time of the multiplier unit. The proposed converter decreases the voltage issue over the transition, which concludes the superior output and the gain is improved without disrupting the primary circuit. In inverter to use minimum switches and get M-level output. The thorough study of the proposed converter with numerical analysis is now achieved with the help of MatLAB/Simulink.

Published in: 2021 2nd International Conference for Emerging Technology (INCET)

Date of Conference: 21-23 May 2021

Date Added to IEEE *Xplore*: 22 June 2021

ISBN Information:

INSPEC Accession Number: 20866944

DOI: 10.1109/INCET51464.2021.9456396

Publisher: IEEE

Conference Location: Belagavi, India

Analysis of PV Panel based Bidirectional Converter for Electric Vehicle

Publisher: IEEE

S Vijayalakshmi ; M Marimuthu ; R Venugopal ; N Shivabalan ; VK Shathishkumar ; T Pr... All Authors

Abstract: This paper present an analysis of PV panel based Bidirectional converter for Electric vehicle charging. This system consists of solar cell battery, bidirectional dc -dc c... **View more**

Metadata

Abstract:
This paper present an analysis of PV panel based Bidirectional converter for Electric vehicle charging. This system consists of solar cell battery, bidirectional dc -dc converter. A Battery is provided for supply power to dc motor during no sunlight condition. The bidirectional dc-dc converter is working in both charging and discharging the battery and can manage the flow of power in both the direction and hence excess energy from the PV panel can be stored in battery. Under the influence of varying irradiance and varying load conditions, the MPPT controller extracts full power from the PV module. Evaluation and analysis of model output was carried out via MatLAB/Simulink.

Published in: 2021 2nd International Conference for Emerging Technology (INCET)

Date of Conference: 21-23 May 2021

Date Added to IEEE *Xplore*: 22 June 2021

ISBN Information:

INSPEC Accession Number: 20712728

DOI: 10.1109/INCET51464.2021.9456435

Publisher: IEEE

Conference Location: Belagavi, India

A Novel Isolated DC-DC Multi-Level Flyback Converter for Multi-Level Inverter Application

R Venugopal ; S Vijayalakshimi ; M Marimuthu ; M Chandra Kishore ; Z Mohammed Rifa… All Authors

Abstract: The main theme of this paper is to present a high voltage gain dc-dc boost converter using flyback and multilevel concept. The proposed converter focuses on multilevel ou... **View more**

Metadata

Abstract:
The main theme of this paper is to present a high voltage gain dc-dc boost converter using flyback and multilevel concept. The proposed converter focuses on multilevel outputs with voltage multiplier cell. The input of the general dc-dc converters is either PV array or battery or fuel cell. The circuit is composed of diodes and capacitors which acts as voltage multiplier and also as a rectifier. The implemented multilevel flyback converter can be connected to an H-bridge forming a multilevel inverter. With the help of a single driven semiconductor switch namely MOSFET, the designed converter can produce a high voltage gain in continuous conduction mode. The proposed multilevel flyback converter has been simulated and verified with theoretical values. The results have been demonstrated in the report.

Published in: 2021 2nd International Conference for Emerging Technology (INCET)

Date of Conference: 21-23 May 2021

Date Added to IEEE *Xplore*: 22 June 2021

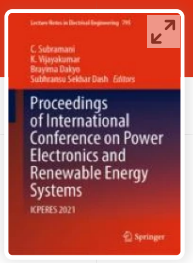
ISBN Information:

INSPEC Accession Number: 20893485

DOI: 10.1109/INCET51464.2021.9456311

Publisher: IEEE

Conference Location: Belagavi, India



Proceedings of International Conference on Power Electronics and Renewable Energy Systems pp 21–30

Non-isolated Multilevel Zeta Converter for MLI Application

Marikannu Marimuthu, Subramanian Vijayalakshmi, B. Paranthagan, R. Venugopal, S. Srinithi, B. Yuvaraj, R. Soundarajan & S. K. Vasantha Kumar

Conference paper | First Online: 22 November 2021

Part of the Lecture Notes in Electrical Engineering book series (LNEE,volume 795)

Abstract

A new multilevel zeta converter which converts fixed DC voltage to multilevel DC output voltage is discussed in this paper. Proposed converter has stable voltage feedback capacity and produces high gain output voltages with less input current. Voltage supplied by the PV panel or the fuel cell is at an output of a low voltage. These output voltages can be interfaced with standalone (or) grid connected inverter system by employing the proposed converter. By using a single transistor with the multilevel capacitor geometric structure,

Smart Monitoring to be Incorporated in Existing Public Toilets – Intelligent Toilets

Gayathri Natarajan, Dr C KrishnaKumar

Keywords: cloud, IoT, smart city, smart hub

ABSTRACT

Globally many people lack access to basic sanitation facility. The country needs smart and sustainable solution for all the sanitation challenges. Consequently, we propose a smart management system to pull off the inefficiency prevailing in the current toilet monitoring and maintenance system. Our System provides support to manage the multiple restrooms situated across a city by a single person and maintains the restrooms based on parameters like occupancy, cleanliness, availability of water and energy resource management, smart sanitation, effective use of cleaning personnel and the corresponding ratings. So, we propose an IoT based monitoring system with the help of contemporary sensors and then cloud Integrated two-way network will help to create an Intelligent Toilet that can be easily connected with a smart hub.

Symmetric Multilevel Inverter Using DC-DC Zeta Converter

Publisher: IEEE

S. Srinithi ; S. Vijayalakshmi ; M. Marimuthu ; B. Parathagan All Authors

Abstract: This paper presented is an attempt to suggest a high-gain Zeta converter with a voltage multiplier cell is fed with multilevel H-Bridge inverter. A perfect mixture of a s... **View more**

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This paper presented is an attempt to suggest a high-gain Zeta converter with a voltage multiplier cell is fed with multilevel H-Bridge inverter. A perfect mixture of a slightly modified version of the regular Zeta converter and a voltage multiplier unit is the proposed circuit. The voltage addition of the suggested refitted zeta enhances the voltage gain by increasing n time of the multiplier unit. The proposed converter decreases the voltage issue over the transition, which concludes the superior output and the gain is improved without disrupting the primary circuit. In inverter to use minimum switches and get M-level output. The thorough study of the proposed converter with numerical analysis is now achieved with the help of MatLAB/Simulink.

Published in: 2021 2nd International Conference for Emerging Technology (INCET)

Date of Conference: 21-23 May 2021

Date Added to IEEE *Xplore*: 22 June 2021

ISBN Information:

INSPEC Accession Number: 20866944

DOI: 10.1109/INCET51464.2021.9456396

Publisher: IEEE

Conference Location: Belagavi, India

Contents

DC to DC converters are the circuits that transform direct current sources to another voltage level by adjusting the duty cycle of the main circuit switches. These converters are commonly used in power distribution systems, dc motor drive applications and switched mode dc power system. Now a day it can be used in the maximum power point tracking in PV panel like a buck-boost converter. The Zeta converter design is identical to the SEPIC converter. The advantages of Zeta converter over the SEPIC converter are: 1. It has stable feedback loop even if the voltage range is wide it can provide a very good output voltage with relation. 2. Low output ripple, the output ripple of the Zeta converter is also lower than an equivalent SEPIC converter design. The multilevel Zeta converter is the combination of both conventional Zeta and the Voltage Multiplier Unit (VMU). The number of levels is easily added by the number of capacitors and diodes.

Modeling and Analysis of Hybrid Quadratic Boost Converter in MATLAB/Simulink Environment

Publisher: IEEE

Ramprasath Selvaraj ; Krishnakumar Chittibabu ; Muthumariyammal Anandharaj ; Ram… **All Authors**

Abstract

Abstract: This work presents a systematic and analytical investigation of non-isolated Hybrid Quadratic Boost Converter (HQBC) topology from the Reduced Redundant Power Processing ... **View more**

Metadata

Abstract:
This work presents a systematic and analytical investigation of non-isolated Hybrid Quadratic Boost Converter (HQBC) topology from the Reduced

Redundant Power Processing (R2P2) converter family. The voltage conversion is performed by a single switch with a pair of inductor and capacitor. Due to the suggested HQBC quadratic behavior, significant voltage gain may be attained with a modest variation in duty cycle. The theoretical study of the converter's effective step-up voltage ratio and current stresses under continuous conduction mode, are emphasized. Steady state and dynamic modeling were used to examine the behavior of proposed converter. Steady state average equation was derived and a model was designed for 500 w and simulated in MATLAB/ Simulink. The Design and performance analysis of the suggested converter typologies is validated by simulation results.

Published in: 2022 First International Conference on Electrical, Electronics, Information and Communication Technologies (ICEEICT)

Date of Conference: 16-18 February 2022

INSPEC Accession Number: 21859450

Date Added to IEEE *Xplore*: 10 May 2022

DOI: 10.1109/ICEEICT53079.2022.9768404

ISBN Information:

Publisher: IEEE

Conference Location: Trichy, India

Contents

conversion range [7]–[9]. The purpose of this operation is to give the lowest or maximum feasible duty ratios for the converter; nevertheless, it is restricted by the power switching devices' limited commutation time. Alternative methods like cascaded interconnection [11]–[13] of them has been proposed which leads to low efficiency due to their series connection. The R2P2 idea has been used to offer non-cascaded arrangements [14]–[16]. The primary concept behind this converter family is to create non-cascaded combinations by combining two basic converters [6].

Authors

Figures

References

Keywords

Metrics

UPQC-based effective mitigation of harmonics by signal processing approach

Ananthan Nagarajan (https://jpels.org/digital-library/category-search?author=Ananthan Nagarajan) M. V. Suganyadevi (https://jpels.org/digital-library/category-search?author=M. V. Suganyadevi)

Vol. 22, No. 3, pp. 454-464, Mar. 2022
10.1007/s43236-021-00368-9

UPQC (https://jpels.org/digital-library/category-search?keyword=UPQC)
Adaptive PI controller (https://jpels.org/digital-library/category-search?keyword=Adaptive PI controller)
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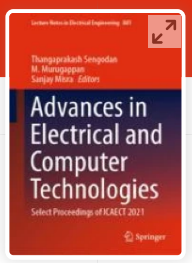
Weiner filter (https://jpels.org/digital-library/category-search?keyword=Weiner filter)
Hilbert transform (https://jpels.org/digital-library/category-search?keyword=Hilbert transform)
DCNN (https://jpels.org/digital-library/category-search?keyword=DCNN)

Abstract

This paper introduces a solution for solving the harmonics problem in power distribution systems. The unified power quality conditioner (UPQC) is a combination of shunt and series converters linked by a common capacitor. Controlling the link voltage and generating the reference current are the two main objectives of this work. An adaptive PI controller is employed for regulating the link voltage. For reference current generation, the DDSRF (decoupled double synchronous reference frame) theory is employed, which assists in eliminating the harmonics that occur in the system. By the DDSRF theory, a THD of around 3.3% is accomplished, and to further minimize the harmonics, a signal processing approach is implemented. Pre-processing, segmentation and feature extraction are the three major steps used in this paper to accurately extract the reference current. Finally, the obtained test data is classified with the trained data by the DCNN (deep convolutional neural network). Thus, the reference current is extracted clearly by this technique, and the THD is minimized to 0.98%. This work is implemented in MATLAB, and the results are verified through hardware implementation.



International Conference on Advances in Electrical and Computer Technologies

ICAECT 2021: **Advances in Electrical and Computer Technologies** pp 901–913

Optimization of Power Generation Costs Through Soft Computing Techniques

M. V. Suganyadevi & A. R. Danila Shirly

Conference paper | First Online: 26 June 2022

Part of the Lecture Notes in Electrical Engineering book series (LNEE,volume 881)

Abstract

This chapter attempts to use a new evolutionary algorithm called hybrid multi-agent particle swarm optimization (HMAPSO) to solve extremely complex economic load dispatch (ELD) problems with transmission loss and heterogeneous cost curves. The efficiency of this method has been tested successfully on IEEE 14 bus, New England 39 bus and IEEE 118 bus systems. In this proposed method, observation indicates the point which is HMAPSO method and can find more cost-

effective load dispatch solutions than the lambda-iteration method (LIM), evolutionary program (EP), genetic algorithm (GA), particle swarm optimization (PSO), bacteria foraging (BF), multi-agent system (MAS), multi-agent particle swarm optimization (MAPSO), particle swirl algorithm (PSA) and hybrid particle swarm optimization (HPSO). In addition, compared with other methods, the calculation time is relatively uniform and shorter.

Keywords

Power system optimization

Particle swarm optimization

Economic load dispatch

Bacterial foraging algorithm

Particle swirl algorithm

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Suganyadevi, M.V., Danila Shirly, A.R. (2022). Optimization of Power Generation Costs Through Soft Computing Techniques. In: Sengodan, T., Murugappan, M., Misra, S. (eds) Advances in Electrical and Computer Technologies. ICAECT 2021. Lecture Notes in Electrical Engineering, vol 881. Springer, Singapore. https://doi.org/10.1007/978-981-19-1111-8_71

.RIS .ENW .BIB

DOI
https://doi.org/10.1007/978-981-19-1111-8_71

Published	Publisher Name	Print ISBN
26 June 2022	Springer, Singapore	978-981-19-1110-1

Online ISBN	eBook Packages
978-981-19-1111-8	Computer Science Computer Science (R0)

Improvement of Power Quality Using PV with UPQC

Publisher: IEEE

T. Thenmozhi ; M.V.Suganya Devi ; S. Kavitha All Authors

Abstract: The ability of energy to reach consumer devices is determined by the quality of the power that was used to create it. Using a Unified Power Quality Conditioner (UPQC) to ... **View more**

Metadata

Abstract:

The ability of energy to reach consumer devices is determined by the quality of the power that was used to create it. Using a Unified Power Quality Conditioner (UPQC) to improve power quality on feeders in distribution system, this study offers a new joint that may be utilized in conjunction with the UPQC. The unified power quality conditioner makes use of active power filters, which are capable of altering both voltage and current at the same time. The UPQC connected to the feeders by means of a cable (Figure 1). (Lines). When it comes to resolving power quality concerns and reducing the number of transmission lines at a substation, the Unified Power Quality Conditioner is the most effective customized power equipment available on the market. An UPQC system with a three-phase bus that is fed by PV is modeled and tested. Sagging is caused by heavy loads, whereas swelling is caused by light loads. Solar arrays fed by UPQC are becoming increasingly popular as a means of reducing the severity of these power quality issues. MATLAB is used to analyze and report on the data that has been collected, This study makes use of concepts such as automatic power factor (APF), photovoltaic, proportional, and integral controllers (PI).

Published in: 2022 8th International Conference on Smart Structures and Systems (ICSSS)

Date of Conference: 21-22 April 2022

Date Added to IEEE *Xplore*: 01 June 2022

INSPEC Accession Number: 21766030

DOI: 10.1109/ICSSS54381.2022.9782210

ISBN Information:

RESEARCH ARTICLE OPEN ACCESS

Design and Implementation of Proportional Resonant Controller for Power Inverters

C.Pearline Kamalini [1] , Dr.M.V.Suganyadevi [2] , Bharathi Freetha K[3] , Madhu shree S [4]
[1] *AssistatProfessor, pearline-eee@saranathan.ac.in*
[2] *Associate Professor, suganyadevi-eee@saranathan.ac.in*
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Department of EEE, Saranathan College of Engineering, Trichy

ABSTRACT.
This paper provides a design procedure of single-phase inverter with LC filter and the inverter load current is regulated by Proportional-resonant controller. The Proportional-resonant controller provides an effective control of single-phase inverter suitable for various Distributed Generation systems i.e grid connected and stand-alone systems. The performance study is based on frequency response and the model is simulated in MATLAB/ SIMULINK environment which provides better stability, improved load current regulation with low THD value prescribed in the IEEE standards. The prototype model is also fabricated with Atmega328 processor and performance are satisfied.
Keywords: PV inverter, LC filter, PR controller, APF,THD.

Date of Submission: 10-07-2021 Date of Acceptance: 26-07-2021

I. INTRODUCTION

Inverter is one of the main power conditioning devices in the integration of renewable energy, other distributed energy sources. Voltage source converter is the basic component in power quality improvement to filter out the harmonics i.e Active Power filters and Facts devices. The power conversion from DC to AC with good power quality is from an Inverter. As a consequence, power converters for renewable energy sources are becoming increasingly common. It's vital to produce clean and green energy. It is important to sustain the inverter output and the proposed system is designed with an LC filter to filter out high frequency components. [1] The various control techniques to control the PV inverters to provide high quality of output current and voltage connected to a linear or

non-linear load are hysteresis current controller, Predictive Current controller, Proportional Integral (PI) controller and Proportional Resonant (PR) controller [2]. The effect of harmonics such as power losses, decay of quality power reduces the equipment life and failure of components. In a grid-connected application, for example, the power converter must follow many typical grid parameters, including voltage, current, frequency, harmonics, power factor, and flicker.

Based on literature the hysteresis controller is simple, unconditional stability and good accuracy with comprehensive band harmonic spectrum. The predictive controller force the measured current to track the reference current . The famous conventional controller PI controller produces steady state error while tracking the sinusoidal reference due to dynamic integral term[3]. The proposed PR controller provides zero steady state error, high gain in wide range of frequency response with fast tracking of specified references and with low value of %THD. The block diagram of single-phase inverter with PR controller is shown in Fig:1.

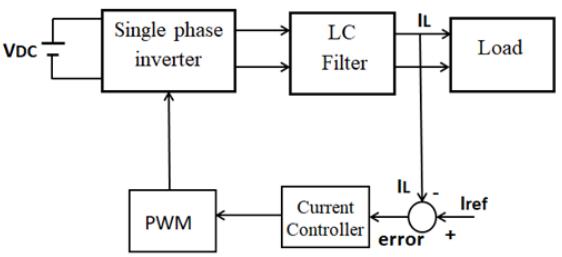

Fig.1 Closed loop Block diagram of single-phase inverter

IoT-Based Smart Transformer Monitoring System with Raspberry Pi

Publisher: IEEE

Vijay Ravindran ; Ramprakash Ponraj ; C. Krishnakumar ; Satheesh Ragunathan ; V Ra… All Authors

Abstract: Transformers are used in the electrical distribution and transmission industries to reduce the voltage at the primary level. This allows customers to use a lower voltage.... **View more**

Metadata

Abstract:

Transformers are used in the electrical distribution and transmission industries to reduce the voltage at the primary level. This allows customers to use a lower voltage. In the electrical industry, distribution transformers are more expensive, and as such, this paper describes a system that monitors the various characteristics of distribution transformers. A central unit, RTU, and remote terminal unit (RTU) are two units of equipment that are quite distinct. This work describes an embedded system for monitoring and recording critical distribution transformer's operation characteristics such as load current, voltage imbalance, transformer oil level rise or fall, and temperature level. A standalone single-chip microprocessor and sensor packages are integrated into the proposed monitoring system. It is situated near the distribution transformer and records the above-mentioned parameters. The parameter values obtained are processed and saved in the system memory. This method will assist utilities in making the best use of transformers and detecting problems before they become disastrous. The above values are updated on the web page so that they can be monitored from any place. An alternate distribution transformer is used as an additional power source when the present distribution transformer fails. This system also sends a warning message to the person in charge when an abnormality occurs in the transformer. The switching process is controlled by using Internet of Things (IoT) technology. This system helps to increase the health of the transformer.

Published in: 2021 Innovations in Power and Advanced Computing Technologies (i-PACT)

Design and Implementation of PV Powered Air Cooler System Using Thermoelectric Cooler

Publisher: IEEE

Cite This PDF

Paranthagan B ; Vijay Ravindran ; M. Marimuthu ; Satheesh Ragunathan ; Swaminatha… All Authors

Abstract: The world was pushed to a dangerous conclusion by modern lifestyle equipment. People now use refrigerators and air conditioners that emit harmful CFC (Chloro-Fluoro-Carbo... **View more**

Metadata

Abstract:
The world was pushed to a dangerous conclusion by modern lifestyle equipment. People now use refrigerators and air conditioners that emit harmful CFC (Chloro-Fluoro-Carbons) gas to the environment. This leads to the depletion of ozone and world warming. This project proposes a thermoelectric cooler-based photovoltaic air cooler that does not emit CFC gas, which is environmentally friendly. The zero-emission of harmful CFC gases reduces global warming and ozone depletion. For refrigeration, the Peltier module is used. In response to temperature feedback, the microcontroller controls the current and voltage from the power module. Thus the system is kept at a balanced temperature by modulating the heat generation rate that corresponds to the system heat dissipation rate. Through the use of non-conventional

Comptes rendus de l'Acade'mie bulgare des Sciences, , No12, pp.1815-1822

AN ENERGY-EFFICIENT CLUSTERING PROTOCOL FOR IOT WIRELESS SENSOR NETWORKS BASED ON CLUSTER SUPERVISOR MANAGEMENT

Vijay Ravindran, Chockalingam Vennila

ABSTRACT

In recent years, the Internet of Things (IoT) has been viewed as a tremendous integration with digital computing. It consciously establishes links between the internet, electronics, and other types of hardware. A revolutionary modern cluster supervisor-based cluster head selection algorithm is presented in this paper (MCSBCH). It is a defined cluster supervisor technique that efficiently controls and monitors the network. The cluster supervisor is the core of a network in this design, and it governs the entire process. In other words, the Cluster Supervisor (CS) keeps a track of the energy level of each node and assigns the CH (cluster head) node. It assesses the node's energy level before electing CH. When the cluster head's energy level is depleted, the next highest energy node is assigned as cluster head. The allocated CH is a backup node, which is the next node with the highest energy level. This cluster supervisor (CS) is assisted by the cluster head (CH) and other backup nodes in the network. An improved cluster routing mechanism is added to the planned MCSBCH. The analysis of experimental data is being conducted to determine the suggested mechanism's durability, energy consumption, and throughput.

Key words: cluster management, IoT, networking, routing protocol, wireless sensor network

DOI: 10.7546/CRABS.2021.12.12 Topic: ENGINEERING SCIENCES

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Original Article | Published: 01 August 2022

Analysis of Multi-Input Multilevel Boost Inverter Circuit with Optimal Firing Angles Using dSPACE

Ram Prakash Ponraj, Titus Sigamani & Vijay Ravindran

Journal of Electrical Engineering & Technology (2022)

Abstract

The DC load utilities are increased due to the modern development of alternate renewable Energy sources and Electric Vehicles. Contemporary applications like Electric Vehicles require multiple voltages that require separate DC-DC converters. Usage of more power electronic converters for multiple loads leads to more harmonics and high switching loss. To minimize the losses and improve efficiency, this paper presents a new multilevel inverter topology with multiple outputs and multiple inputs. This circuit combines a multi-input multistage DC-DC converter for various DC voltage levels and a level shifter circuit with H-Bridge. The performance of the circuit was analysed using Phase opposition and disposition modulation and optimal firing angle PWM techniques. Pulses for DC-DC

Design and simulation of UWB antenna with multiple notched bands on the feed line

Author(s): V. Ramkumar [1] ; R. Vijay Ravindran [2] ; R. Bhavani [3] ; C. Vennila [4] ; M. Gunavathi [5]
View affiliations

Source: 7th International Conference on Computing in Engineering & Technology (ICCET 2022), 2022 p. 288 – 292
Conference: 7th International Conference on Computing in Engineering & Technology (ICCET 2022)

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Abstract

Transforming present global telecommunications networks into an integrated system capable of offering clients a diverse variety of ubiquitous communications services regardless of location, time of day, or mode of transportation, some devices are crucial because they have a direct impact on the performance of wireless communication. As wireless communication technology advances, smaller antennas are in demand. They often produce a single resonance frequency due to their small bandwidth. These antennas can produce resonances in multiple bands or with a wide bandwidth. This paper is divided into two segments, each focusing on a distinct area of communication technology. The first is investigating and designing novel ultra-wideband (UWB) high-appreciative DRA antennas. The purpose of this study is to determine the effect of patch length, patch width, microstrip line length and breadth, substrate height, and dielectric constant on suggested wireless antenna arrays. The proposed antenna is created and simulated with the High-Frequency Simulator Structure (HFSS) program and then fabricated via photolithography etching. These parameters were simulated and confirmed using the indicated system's return loss and radiation pattern. The proposed antenna can be used for wireless communication applications in the C-band, X-band, and Ku-band bands. The suggested antenna's numerical design and implementation are illustrated (manufacturing and testing).

DOI: 10.1049/icp.2022.0633
ISBN: 978-1-83953-704-2
Location: Online Conference
Conference date: 12-13 February 2022
Format: PDF

Inspec keywords: antenna radiation patterns; microstrip lines; microstrip antennas; ultra wideband communication; antenna arrays; ultra wideband antennas; antenna feeds; antenna accessories; photolithography
Subjects: Single antennas; Radio links and equipment; Antenna accessories; Waveguides and microwave transmission lines; Antenna arrays

Related content

Analysis and optimisation of super-wideband monopole antenna with tri-band notch using a transmission line model

- Wasan H. Althubitat Al Amro and Mohamed K. Abdelazeez
- View description Hide description
- A study of monopole antenna for super-wideband applications is presented. A compact patch antenna is suggested to enhance the overall covered bandwidth (BW), where a major improvement of the BW obtained in the range 2.6–23 GHz (BW of 20.4 GHz).

An efficient SAR image detection based on deep dense-mobile net method

Author(s): R. Bhavani [1] ; V. Ramkumar [2] ; V. Ravindran [3] ; R. Sindhuja [4] ; K. Swaminathan [5]
View affiliations

Source: 7th International Conference on Computing in Engineering & Technology (ICCET 2022), 2022 p. 92 – 95
Conference: 7th International Conference on Computing in Engineering & Technology (ICCET 2022)

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- Next article »

Abstract

Nowadays, many studies are based on the Synthetic aperture radar (SAR) for detecting a ship which is more important for its safety. This method is used to safeguard the ship from lousy weather and reach it on its time. In recent times, the studies are advanced with deep learning for very sensitive calculation with higher accuracy skills; the SAR image is also worked on it. In this brief, the proposed deep learning of hybrid DenseNet and mobile (DMN) is implemented to detect the ship. This technique is based on the convolutional neural network (CNN), a multi-layer classifier. This method combines DenseNet and mobile techniques that are used to classify the missing ship and detect the false alarm with higher precision. The results are simulated and compared with the previous method by validating parameters like precision, recall, and F1 score. The results showed that the proposed DMN is much more effective than the previous deep learning in ship detection.

DOI: 10.1049/icp.2022.0598
ISBN: 978-1-83953-704-2
Location: Online Conference
Conference date: 12-13 February 2022
Format: PDF

Inspec keywords: radar imaging; convolution; synthetic aperture radar; ships; learning (artificial intelligence); neural nets; object detection
Subjects: Computer vision and image processing techniques; Radar equipment, systems and applications; Instrumentation and techniques for geophysical, hydrospheric and lower atmosphere research; Image recognition; Optical, image and video signal processing

Related content

Extracting Human Settlement Footprint from Historical Topographic Map Series Using Context-Based Machine Learning

- J.H. Uhl ; S. Leyk ; Yao-Yi Chiang ; Weiwei Duan ; C.A. Knoblock
- View description Hide description
- Information extraction from historical maps represents a persistent challenge due to inferior graphical quality and large data volume in digital map archives, which can hold thousands of digitized map sheets. In this paper, we describe an approach to extract human settlement symbols in United States Geological Survey (USGS) historical topographic maps using contemporary building data as the contextual spatial layer. The presence of a building in the contemporary layer indicates a high probability that the same building can be found at that location on the historical map. We describe the design of an automatic sampling approach using these contemporary data to collect thousands of graphical examples for the symbol of interest. These graphical examples are then used for robust learning to then carry out feature extraction in the entire map. We employ a Convolutional Neural Network (LeNet) for the recognition task. Results are promising and will guide the next steps in this research to

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Government of India

सत्यमेव जयते

INTELLECTUAL PROPERTY INDIA
PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS

Application Details	
APPLICATION NUMBER	202241027519
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	13/05/2022
APPLICANT NAME	1 . Dr. S. Raviraja 2 . Ms.Sangeethapriya.J 3 . Ms.A.Sheelavathi 4 . Dr. V.Punitha 5 . Ms.N.Bhavani 6 . Ms.K.Muthukarupaee 7 . Mr. D. Saravanan 8 . Ms.Patrali Pradhan 9 . Dr. Swati Chowdhuri 10 . Dr.Biswarup Neogi
TITLE OF INVENTION	SMART ENERGY MANAGEMENT SYSTEM USING MACHINE LEARNING AND IOT
FIELD OF INVENTION	ELECTRONICS
E-MAIL (As Per Record)	drsraviraja@gmail.com
ADDITIONAL-EMAIL (As Per Record)	drsraviraja@gmail.com
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	27/05/2022

Saranathan College of Engineering

Department of Information Technology

Staff patent details

S#	Patent	Faculty members
1	Title of Patent: AN IMAGE SEPARATOR FOR BOTH LETTER AND PHOTOGRAPHIC INFORMATION AND METHOD THEREOF Application No: 202141033363 Published Date: 06/07/2021	Dr. V. Punitha Mr. V. Senthil Balaji Mr. R. Rengaraj
2	Title of Patent: WOMEN SAFETY COPTER Application No: 202141051889 A. Published Date: 26/11/2021	Mr. V. Manoj Kumar

2021 - 2022

ipindiaservices.gov.in/PatentSearch/PatentSearch/ViewApplicationStatus

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Department of Industrial Policy & Promotion,
Ministry of Commerce & Industry,
Government of India

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Application Details

APPLICATION NUMBER	202141033363
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	25/07/2021
APPLICANT NAME	1 . Dr.K.Mahalakshmi 2 . Dr.V.Punitha 3 . Dr.Rajesh Gogineni 4 . Mr.Maddimsetty Surya Prakash 5 . Mr.V.Senthil Balaji 6 . Dr.B.Jagadeesh 7 . Dr.G.Anand Kumar 8 . Mr.K.S.Chandrasekaran 9 . Mr.R.Rengaraj Alias Muralidharan 10 . Dr.Md.Khaja Mohiddin
TITLE OF INVENTION	AN IMAGE SEPARATOR FOR BOTH LETTER AND PHOTOGRAPHIC INFORMATION AND METHOD THEREOF
FIELD OF INVENTION	ELECTRONICS

Office of the Controller General of Patents, Designs & Trade Marks
Department of Industrial Policy & Promotion,
Ministry of Commerce & Industry,
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GEOGRAPHICAL INDICATIONS

2021-2022

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2021-2022

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APPLICANT NAME	1 . Dr.K.Mahalakshmi 2 . Dr.V.Punitha 3 . Dr.Rajesh Gogineni 4 . Mr.Maddimsetty Surya Prakash 5 . Mr.V.Senthil Balaji 6 . Dr.B.Jagadeesh 7 . Dr.G.Anand Kumar 8 . Mr.K.S.Chandrasekaran 9 . Mr.R.Rengaraj Alias Muralidharan 10 . Dr.Md.Khaja Mohiddin
TITLE OF INVENTION	AN IMAGE SEPARATOR FOR BOTH LETTER AND PHOTOGRAPHIC INFORMATION AND METHOD THEREOF
FIELD OF INVENTION	ELECTRONICS

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (the **"MOU"**) is entered into on 31st day of January 2022 (the **"Effective Date"**), by and between:

Sorting Hat Technologies Private Limited, a private company incorporated under the provisions of the Companies Act, 2013 bearing CIN U72200KA2015PTC082063 and having its registered office at Maruti Infotech Centre, 3rd Floor, A-Block, Domlur, Koramangala Inner Ring Road, Bangalore- 560 071, Karnataka, India (hereinafter referred to as **"CodeChef",** which expression shall, unless repugnant to the meaning or context thereof, be deemed to include its legal representatives and permitted assigns) of the **FIRST PART;**

AND

Saranathan College of Engineering, with its campus at Venkateswara Nagar, Panjappur, Tiruchirappalli - 620012, (hereinafter referred to as "**College**", which expression shall, unless repugnant to the meaning or context thereof, be deemed to include its legal representatives and permitted assigns**) of the SECOND PART;**

The CodeChef and the College shall thereafter, as the context may require, individually be referred to as a "**Party**" and collectively be referred to as the "**Parties".**

WHEREAS:

i. The College is engaged in education to students across various domains.
ii. The Parties wish to enter into a collaboration wherein CodeChef shall provide one-year free access to its platform, to the students and faculty of the College.
iii. The College has represented and warranted to CodeChef that it has relevant authority, permit and licenses to fulfill its obligations under this MoU and based on the said representation and warranties, CodeChef has agreed to enter into this MoU with the College on a non-exclusive basis and the Parties have agreed to fulfill their obligations under this MoU.

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein, the Parties agree as follows

1. The College shall enroll approximately 100 students with CodeChef.
    a. The College shall share the student details in a timely basis and in one-go by sending CodeChef a spreadsheet containing student's account creation details such as - Name, Roll number (optional), email id, College name (preferred way of referring the College), and preferred pattern for creating their usernames on CodeChef.
    b. For those students whose accounts are already on CodeChef, the College shall share their existing CodeChef usernames as well in the spreadsheet.

c. By using the information in the spreadsheet, CodeChef shall create bulk account/profiles of students and share the same with the College.

2. CodeChef shall conduct an Orientation session for faculty and students of the College on a time mutually decided by both the parties.

3. The College shall review the program curriculum shared by CodeChef and map it to its existing semester/curriculum.

   a. The program curriculum is given as Annexure 2 to this MOU.

   b. In case of changes, CodeChef and College shall discuss and finalize the same before commencement of the program.

   c. CodeChef shall organize meeting(s) with the faculty of the College to understand the curriculum in depth, and select problems per topic.

4. Periodic practice sessions & Assessment-based tests (for grading) shall be created by CodeChef for the students and shared regularly with the College. The program structure is given as Annexure 1 to this MOU.

5. Monthly report shall be sent to the College about the students' overall performance on CodeChef.

6. CodeChef has no liability whatsoever other than that of providing access to the platform for one year and creating practice & assessment-based tests.

7. College and CodeChef agree that the information shared during the term of this MoU is confidential in nature and shall not disclose it with any third-party without prior written consent.

8. College hereby agrees to indemnify and save harmless CodeChef including, where applicable, its affiliates, directors, officers, employees and agents (each such party being an "Indemnified Party") harmless from and against and agree to be liable for any and all losses, claims, actions, suits, proceedings, damages, liabilities or expenses of whatever nature or kind, incurred by the Indemnified Party that arises out of:

   a) breach of any of its obligations, covenants or representations and warranties under this Agreement; or
   b) Violation of any applicable laws; or
   c) Infringement of any third-party intellectual property rights;

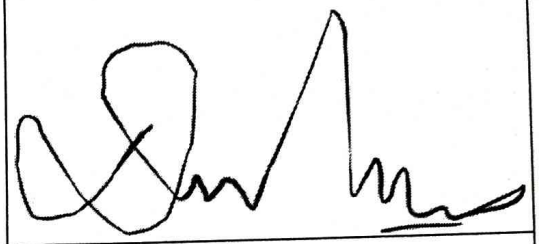
9. This MoU shall be valid for a period of one year from Effective Date.

10. This MoU may be terminated at any time by either Party upon fifteen (15) days written notice to the other party.

11. This MoU shall be governed by the laws of India. The courts of India shall have exclusive jurisdiction.

12. In the event that the Parties desire to change, add, or otherwise modify any terms, they shall do so in writing to be signed by both parties.

The Parties agree to the terms and conditions set forth above as demonstrated by their signatures as follows:

Signature		
Name	Tony Mathew	Dr. D. Valavan
Title	Authorized Signatory	Principal
	For, **CodeChef**	For, **College**

TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
DOTE CAMPUS, CHENNAI - 600 025

STUDENT PROJECT SCHEME 2021-2022
UTILISATION CERTIFICATE

(TWO COPIES)

1. Name of the guide and address : Dr. A. Belin Jude,
Assistant Professor & Head,
Department of Civil Engineering,
Saranathan College of Engineering,
Tiruchirapalli – 620012.

2. Name of the student(s) : K. Dinesh, B. Gokul,
R. Mohamed Nawfal, S. Mohan Kishore

3. Title of the project : Study of the performance of Polystyrene Petroleum Gel as a Construction material

4. Project code : ECV - 132

It is certified that a sum of **Rs.7500** **(Rupees Seven thousand Five hundred)** Sanctioned by the council for carrying out above mentioned student project has been utilized for the purpose for which it was sanctioned and sum of Rs. .....Nil..... remaining unutilized is refunded.

Signature of the guide

Signature of the HOD
Head of the Department
Department of Civil Engineering
Saranathan College of Engineering
Tiruchirappalli 620 012.

Signature of the
REGISTRAR/PRINCIPAL/DEAN
With SEAL

PRINCIPAL
Saranathan College of Engineering
TRICHY - 12.

SARANATHAN COLLEGE OF ENGINEERING

TIRUCHIRAPPALLI-620012

02-09-2022

Report on Smart India Hackathon -2022 (SIH 2022)

For the SIH 2022, a total of 594 students registered as 99 teams and the initial selection was done in two stages. In stage one, the screening was carried out by internal experts while in the second stage the screening was done by external experts. Out of the 99 teams 44 were selected in stage one and in stage two only 30 teams were shortlisted for uploading their ideas in the SIH website for screening by SIH technical experts..

In the pre-screening conducted by Overall SIH technical experts, six teams were shortlisted out of the 30 teams for participating in the SIH Grand Finale. Five teams were selected under software category and one team was selected under hardware category to exhibit their proposed models in the grand finale that was conducted at various nodal centers namely, Bangalore, Ernakulam, Salem, Ahmedabad and Kanpur.

The team NEOSPARKERS that participated in the Smart India Hackathon 2022 Grand Finale held between 25-08-22 and 29-08-22 at R V University, Bangalore was adjudged as the joint Winners of SIH - 2022 (hardware stream) along with SRM University, Chennai. The winning team proposed a model for the problem statement on finding a “Solution to detect air quality inside the cabin and improve it”, posted by Volvo.

The team received a cash award of Rs.50,000/- from SIH-2022. In order to motivate the students further and encourage such endevours, our college management matched the cash award of Rs 50,000 given by SIH-2022. Thus, the winning team clinched a total cash award of one lakh rupees.

As a token of appreciation of the efforts taken by the team mentor, Mr. G. Sivakannu, Asst. Professor, Department of ECE and the SPoC of SIH 2022 Dr. P. Shanmugapriya, Associate Professor, Dept of ECE were awarded Rs 5,000 each, by the college management.

Members of the winning team **Neosparkers** – and the other teams are given in the Table below:

.

Details of the student members and the mentors of the 6 teams participated in SIH 2022- Grand Finale

S. No	Team Name	Team Members	Mentor	Department	Category of PS	Nodal Centers
1	Flawless Taverniers	Karthika.M Janet Priscilla.A.J Dharanika.S Harsika Nivasini.R.G Harani.M Nisha.M	Dr.V.Mohan	ECE	Software	Gujarat Technological University, Ahmedabad, Gujarat,
2	Techno Phantom	kedzi Jero Kathrin.P Kirthiga. K Nisagar.S Nithin raj .S Rakshana.S Sarulatha.S	Dr.P.Shanmuga priya	ECE	Software	SCMS School of Technology and Management, Ernakulam, Kerala
3	Step Up	Abirami R Thangam A Aiswarya SG Thiyagarajan Sabari Sahana Parveen	Ms. K Gomathi	CSE	Software	SCMS School of Technology and Management, Ernakulam, Kerala
4	Neosparkers	K.Vaishnavi R.Srisudharssan Afrah Zainab Khan Santhosh Kumar .M Harini.K Akshaya .K	Mr.G.Sivakannu	ECE ECE ECE ECE EEE ECE	Hardware	JAIN (Deemed-to-be University)Faculty of Engineering and Technology, Bengaluru, Karnataka.
5	InfoTech	Ratnakumar A Abishek A S Jhanani R S Keerthana P Mohamed Ameen A Ramachandran A	Ms.Sangeetha Priya. J	IT	Software	Sona College of Technology, Selam, Tamilnadu
6	Target Bright	Aswin Visveswar S Rajaratnam Kawshika Aishvariyaa B B Nithin T Santhosh S Haridhanush R	Mr. P Dineshkumar	CSE	Software	IIT KANPUR, Kanpur,Uttar Pradesh

Winning Team with our Respected Secretary, Principal, Head (R&D) and Head (ECE)

Team Receiving the additional matching Cash Award of Rs.50,000/- from our honorable Secretary

Faculty Mentor Mr. G. Sivakannu receives a cash award Rs. 5000/- from our Honourable Secretary as token of appreciation