

# Anna University



Reg.No. 20091032007/RG

The Syndicate of the Anna University hereby makes known that **SIVAKUMAR R** 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 **2015**. The degree has been awarded in compliance with the "University Grants Commission, Regulations 2009".

Title of the Thesis:

**PERFORMANCE EVALUATION OF UASBR FOR TREATING INDUSTRIAL WASTES**

Given under the Seal of the University



ATTESTED

*Dr. S. Ramabalan*  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Chennai 600 025  
India  
January 2016

*[Signature]*  
Controller of Examinations

*[Signature]*  
Registrar

*[Signature]*  
Vice-Chancellor



Reg. No.:2002179701/RG



The Syndicate of the Anna University Chennai hereby makes known that **SEKARAN V** 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 2009.

Title of the thesis:

**COMPARISON AND MODELLING OF ZONE SETTLING DATA FOR CYLINDRICAL AND VARYING CROSS SECTIONAL THICKENERS FOR DIFFERENT TYPES OF SUSPENDED MATERIALS**

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Given under the Seal of the University



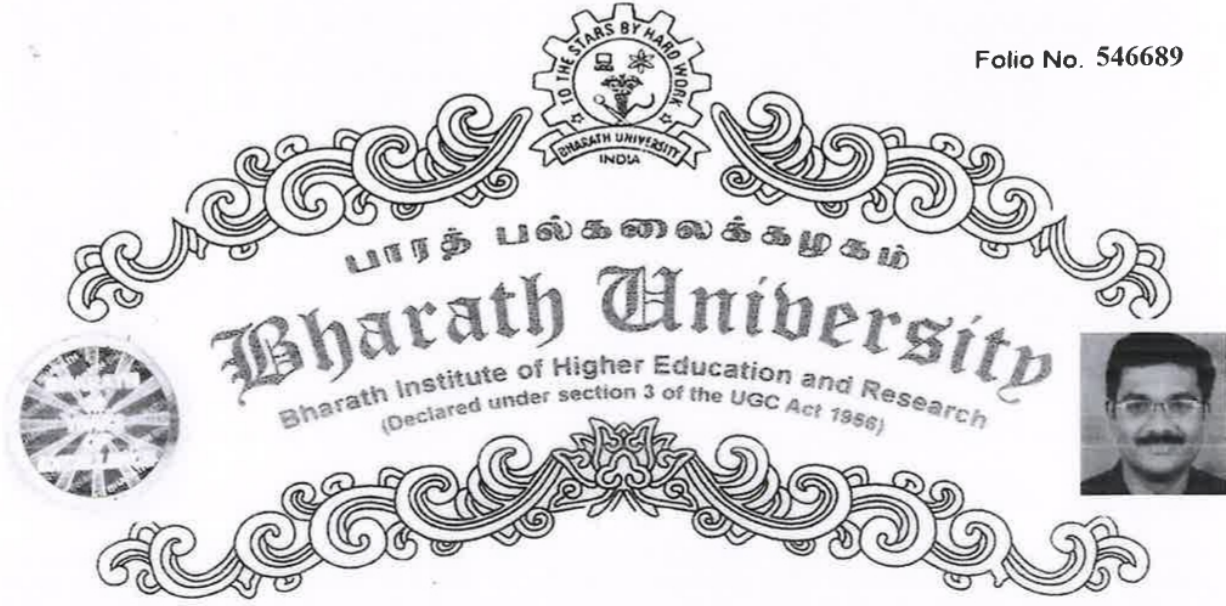
Chennai 600 025  
India  
February 2010

Controller of Examinations

Registrar

Vice-Chancellor






**FACULTY OF ENGINEERING**

The board of management of the Bharath University here by makes known that **RAJ PRASAD J** born on 16-DEC-1979 has been admitted to the DOCTOR OF PHILOSOPHY in CIVIL ENGINEERING, he/she having satisfactory completed the prescribed programme of study and have been certified by duly appointed Examiner to have qualified to receive the same at the examination held on FEB 2012 with Registration number D07CE009

Thesis Title:

**Experimental Investigation on treated recycled Aggregate**

ATTESTED

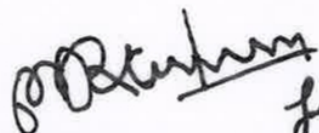
  
Dr. S. RAMABALAN, M.E., Ph.D  
PRINCIPAL  
E.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.



Given under the Seal of the University




DATE  
173 Agaram Road  
Chennai - 600 073  
Tamil Nadu


CONTROLLER OF  
EXAMINATIONS  
Dr. M. PREMJEYAKUMAR

REGISTRAR  
Dr. Prof. S.M. RAJENDRAN  
MD.ERC.P/U.KL.FOMSA

  
VICE - CHANCELLOR  
Dr. K. P. THOYAMANI  
B.E, M.B.A, M.SC, ENGG..

# Anna University



Reg.No.20091012003/RG



The Syndicate of the Anna University hereby makes known that **ELLISS YOGESH R** 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 2018. The degree has been awarded in compliance with the "University Grants Commission, Regulations 2009".

Title of the Thesis:

**ADVANCED OXIDATION OF TANNERY WASTEWATER FOR COD REDUCTION**

Given under the seal of the University



ATTESTED

*Dr. S. Ramabalan*  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Chennai 600025  
India  
June 2018

*[Signature]*  
Controller of Examinations

*[Signature]*  
Registrar

*[Signature]*  
Vice-Chancellor





Reg.No. 20104022003/RG

The Syndicate of the Anna University hereby makes known that **CHINNADURAI 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 **2016**. The degree has been awarded in compliance with the "University Grants Commission, Regulations 2009".

Title of the Thesis:

**A NOVEL FRAMEWORK FOR OPTIMIZING SCHEDULING ALGORITHMS IN HIGH LEVEL SYNTHESIS TOOLS**

Given under the Seal of the University



ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002,  
Nagapattinam (Dt) Tamil Nadu.

Chennai 600 025  
India  
May 2017  
SABR 4129

Controller of Examinations

Registrar

Chairman, Convener Committee  
Vice-Chancellor



Reg. No.:2004479703/RG



The Syndicate of the Anna University Chennai hereby makes known that **APPAVU alias BALAMURUGAN S** has been admitted to the **DEGREE OF DOCTOR OF PHILOSOPHY** under the **Faculty of Information and Communication Engineering**, having been certified by the aily appointed examiners to be qualified to receive the same in the year **2009**.

Title of the thesis:

**ENHANCING THE PERFORMANCE OF CLASSIFICATION ALGORITHMS THROUGH DATASET TUNING, FEATURE SELECTION AND EXCEPTION HANDLING**

ATTESTED

**Dr. S. RAMABALAN, M.E., Ph.D.,**  
PRINCIPAL


E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.

Nagapattinam (Dt) Tamil Nadu.

Given under the Seal of the University



Chennai 600 025  
India  
February 2010

  
Controller of Examinations

  
Registrar



Vic :- Chancellor





மனோன்மணியம் சுந்தரனார் பல்கலைக்கழகம்  
Manonmaniam Sundaranar University



பொறியியற் புலம்  
Faculty of Engineering



மனோன்மணியம் சுந்தரனார் பல்கலைக்கழக ஆட்சிக்குழு  
கணேசன் தி

கணினி அறிவியல் மற்றும் பொறியியல் பாடப்பிரிவில்

அறிஞர் பட்டம் பெறுவதற்குத் தகுதியுடையவர் என முறையாக அமைக்கப்பெற்ற  
தேர்வினோர் சான்றளித்தவாறு ஜூன் 2017 ஆம்  
ஆண்டில் இப் பட்டப்பேற்றுக்கு உரியவர் ஆகின்றார் என இதன்வழி அறிவிக்கின்றது.

பல்கலைக்கழக முத்திரையுடன் இது வழங்கப்படுகின்றது.

The Syndicate of the **MANONMANIAM SUNDARANAR UNIVERSITY**  
hereby makes known that **GANESAN T**  
has been admitted to the Degree of Doctor of Philosophy in  
**COMPUTER SCIENCE AND ENGINEERING**  
he/she having been certified by duly appointed Examiners to  
be qualified to receive the same in the year **JUNE 2017**

Given under the seal of the University.



திருநெல்வேலி, இந்தியா  
Tirunelveli, India

நாள் / Dated 06.12.2017

**Shiharu**  
(Dr.S.Prabakar)

தேர்வாணையர்  
Controller of Examinations

ATTESTED  
**Dr. S. RAMABALAN, M.E., Ph.D.,**  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thir. Nagore - 611 002  
Nagapattinam (Dt) Tamil Nadu  
**(Dr.K.Baskar)**

**P. Govindaraju**  
(Dr.P.Govindaraju)

பதிவாளர்  
Registrar

துணைவேந்தர்  
Vice-Chancellor





Reg. No.:2003479727/RG

The Syndicate of the Anna University hereby makes known that **SENTHAMARAI KANNAN 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 2010.

Title of the thesis:

**IMPROVING CLUSTERING AND CLASSIFICATION PERFORMANCE THROUGH EFFECTIVE ATTRIBUTE SELECTION**

Given under the Seal of the University

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002,  
Nagapattinam (Dt) Tamil Nadu.

Vice-Chancellor

THE REGISTRATION DEPARTMENT



Chennai 600 025  
India

December 2010 Controller of Examinations

GABD 1434\*



Serial No. C27/18/11205

Register No.

PHD 1842

0034



# Pondicherry University



The Vice-Chancellor and the Executive Council of the Pondicherry University, on the recommendations of the duly appointed Board of Examiners, hereby declare that

**PRIYA, M.**

has been admitted to the Degree of

## DOCTOR OF PHILOSOPHY

in Computer Science and Engineering for the thesis entitled "Distributed Processing of Spatial Textual Query Using Probabilistic Technique" in April 2019.



ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002,  
Nagapattinam (Dt) Tamil Nadu.

Registrar

Puducherry  
Date

Vice-Chancellor



பொறியியற் புலம்  
FACULTY OF ENGINEERING

மனோம்மணியம் சுந்தரனார் பல்கலைக்கழக ஆட்சிக்குழு  
கண்ணன் சா /

கணினி இயல் மற்றும் பொறியியல் பாடப்பிரிவில் /

அறிஞர் பட்டம் பெறுவதற்குத் தகுதியுடையவர் என முறையாக அமைக்கப்பெற்ற  
ஜனவரி 2013 / ஆம் ஆண்டில்  
தேர்வினோர் சான்றளித்தவாறு / ஆம் ஆண்டில்  
இப் பட்டப்பேற்றுக்கு உரியவர் ஆகின்றார் என இதன்வழி அறிவிக்கின்றது.

பல்கலைக்கழக முத்திரையுடன் இது வழங்கப்படுகின்றது.

The Syndicate of the MANONMANIAM SUNDARANAR UNIVERSITY  
hereby makes known that KANNAN S /  
has been admitted to the Degree of Doctor of Philosophy in  
COMPUTER SCIENCE AND ENGINEERING /

he/she having been certified by duly appointed Examiners to be qualified  
to receive the same in the year JANUARY 2013 /

ATTESTED

  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL


E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.


Nagapattinam (Dt) Tamil Nadu.


Given under the seal of the University.



திருநெல்வேலி, இந்தியா  
Tirunelveli, India  
Dated 23.09.2013

  
(Dr.S.Prabahar)  
தேர்வாணையர்  
Controller of Examinations

  
(Dr.T.Tamizh Chelvam)  
பதிவாளர்  
Registrar

  
(Dr.A.K.Kumaraguru)  
துணை வேந்தர்  
Vice-Chancellor





Reg No.80806405008/RG

The Syndicate of the Anna University Chennai hereby makes known that **MURALI N** has been admitted to the **DEGREE OF MASTER OF ENGINEERING** in **COMPUTER SCIENCE AND ENGINEERING** under the *Faculty of Information and Communication Engineering*, having completed the prescribed programme of study and having been certified by the duly appointed examiners to be qualified to receive the same, and has been placed in **FIRST CLASS** at the Examination held in **NOVEMBER 2008**.

Given under the Seal of the University



Chennai 600 025  
India  
June 2009  
EST/144/08/147

Controller of Examinations

Registrar

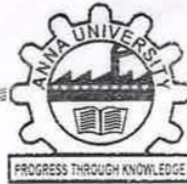
ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002,  
Nagapattinam (Dist. Tamil Nadu)

Vice-Chancellor

# Anna University



Reg.No.1414459842/RG



The Syndicate of the Anna University hereby makes known that **MANIVANNAN 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 **2017**. The degree has been awarded in compliance with the "University Grants Commission, Regulations 2009".

Title of the Thesis:


**LOW LATENCY ANONYMITY DETECTION AND PREVENTION USING NOVEL DIVERSITY MIX TECHNIQUES**

Given under the seal of the University



ATTESTED  
  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002,  
Nagapattinam (Dt) Tamil Nadu.

Chennai 600025  
India  
June 2018  
PAB014209

  
Controller of Examinations  
MANIVANNAN R

  
Registrar

  
Vice-Chancellor  
MOTHSAC/ACT/CE/2018/14459842/RG



# Anna University



Reg.No. 1323469213/RG

The Syndicate of the Anna University hereby makes known that **ELAKIYA E** 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".

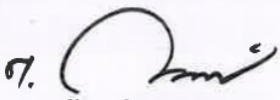
Title of the Thesis:

**TOPIC AND SUBTOPIC DETECTION USING TEXT MINING**



Given under the Seal of the University

Chennai 600 025  
India  
March 2021  
KATROVIAAT

  
Controller of Examinations

  
Registrar

  
Vice-Chancellor

ATTESTED

  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.



Reg.No. 20093012012/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 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:

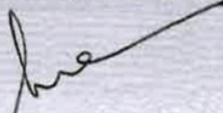
**PERFORMANCE ENHANCEMENT OF AC-DC-AC CONVERTER SYSTEMS**

Given under the Seal of the University

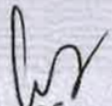


ATTESTED  
  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002,  
Nagapattinam (Dt) Tamil Nadu.

Chennai 600 025  
India  
January 2016

  
Controller of Examinations

  
Registrar

  
Vice-Chancellor



Serial No. : C24/15/20703

Register No. : PHD 503

# Pondicherry University



The Vice-Chancellor and the Executive Council of the Pondicherry University, on the recommendations of the duly appointed Board of Examiners, hereby declare that

**SURESH PADMANABHAN, T.**

has been admitted to the Degree of

## DOCTOR OF PHILOSOPHY

having submitted a thesis entitled

"NOVEL CONTROL STRATEGIES FOR AC-AC POWER CONVERSION SYSTEMS"

and having successfully completed the prescribed requirements in the year MARCH 2015.

Discipline : ELECTRICAL AND ELECTRONICS ENGINEERING.

Given under the Seal of the University



ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,

PRINCIPAL

E.G.S. Pillay Engineering College,

Thethi, Nagore - 611 002.

Nagapattinam (Dt) Tamil Nadu.

M. Ramachandran  
Registrar

Puducherry

Date 4 OCT 2016

Anisabasheer  
Vice-Chancellor

REG. NO. 75507002



*Faculty of Engineering and Technology*

The Board of Management of the SRM University

hereby makes known that

**PALANIVEL P**

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 DECEMBER - 2012

Title of the Thesis: **PERFORMANCE ANALYSIS OF THREE PHASE CASCADED MULTILEVEL INVERTERS USING PULSE WIDTH MODULATION TECHNIQUES (ELECTRICAL AND ELECTRONICS ENGINEERING)**

Given under the seal of the University



ATTESTED

  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002,  
Nagapattinam (Dt) Tamil Nadu

DATED 28-DEC-2012

SRM NAGAR, KATTANKULATHUR - 603 203  
KANCHI PURAM (DIST) TAMILNADU, INDIA

  
REGISTRAR

  
VICE-CHANCELLOR





# Annamalai University



Register No. **1434110002**

## PROVISIONAL CERTIFICATE - Ph.D

This is to certify that **GANESAN @ SUBRAMANIAN G** has qualified himself / herself for the award of the Degree of Doctor of Philosophy in **ELECTRICAL ENGINEERING (EXTERNAL)** on **09/03/2020** and he/she having been certified by duly appointed examiners and approved by the Syndicate of the University.

### TITLE OF THE THESIS

**"PRICE BASED AUTOMATIC GENERATION CONTROL WITH OPTIMAL PLANNING OF ANCILLARY SERVICES IN THE INTEGRATED MARKET SYSTEMS CONSIDERING DIVERSE ENERGY SOURCES IN RESTRUCTURED POWER SYSTEM"**

Annamalainagar - 608 002

Date : **22/06/2020**



*W. Selvaraj*  
Controller of Examinations

**ATTESTED**

*[Signature]*  
**Dr. S. RAMABALAN, M.E., Ph.D.,**  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002,  
Nagapattinam (Dt) Tamil Nadu.



**ANNA UNIVERSITY**  
**CHENNAI - 600 025**  
**PROVISIONAL CERTIFICATE**

Folio No.: RAR013215

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 :

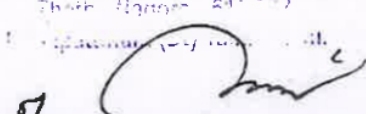
**Name** : CHITRAKALA G  
**Registration Number** : 16243597182  
**Degree** : Ph.D.  
**Department / Centre / Subject** : PETROCHEMICAL TECHNOLOGY  
**Faculty** : ELECTRICAL ENGINEERING  
**Date, Month & Year of Viva-Voce Examination held** : 14.12.2020  
**Title of the Thesis** : DISTORTION REDUCTION, COMPONENTS COUNT WANING AND CONDUCTION PATH CURBING OPTIONS IN MULTILEVEL INVERSION



ATTESTED

  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

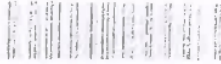
E.G.S. Pillay Engineering College,  
Thiruvananthapuram - 611 012

  
Controller of Examinations

Chennai - 600 025

Date: 07-JAN-2021





Reg No. 7081051115

The Syndicate of the Anna University Coimbatore hereby makes known that **RAJARAM 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 **2013**.

Title of the thesis:

**A TRUST BASED DISTRIBUTED AUTHENTICATION PROTOCOL FOR SECURITY IN MOBILE AD HOC NETWORKS**

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.

ANNA UNIVERSITY COIMBATORE ANNA UNIVERSITY COIMBATORE ANNA UNIVERSITY COIMBATORE ANNA

Given under the Seal of the University



Coimbatore 641 047  
India  
March 2013

Controller of Examinations

Registrar

Vice-Chancellor

# Anna University



Reg.No.20104012014/RG

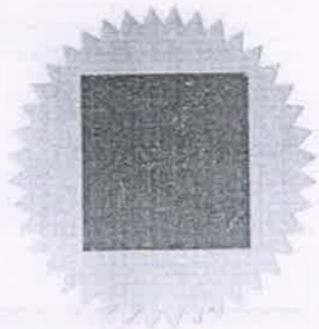


The Syndicate of the Anna University hereby makes known that **PADMANABAN B** has been admitted to the **DEGREE OF DOCTOR OF PHILOSOPHY** under the **Faculty of Information and Communication Engineering**, having been certified by the duly appointed examiners to be qualified to receive the same in the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

Title of the Thesis:

**INVESTIGATIONS ON THE CHARACTERISTICS OF GATE ENGINEERED GATE ALL AROUND MOSFET FOR BIOMOLECULE DETECTION**

Given under the seal of the University



ATTESTED

*[Signature]*  
Dr. S. RAMABALAN, M.E., Ph.D.  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Chennai 600025  
India  
June 2018

*[Signature]*  
Controller of Examinations

*[Signature]*  
Registrar

*[Signature]*  
Vice-Chancellor



# Anna University



Reg.No.1414&9632, RG

The Syndicate of the Anna University hereby makes known that **SUNDAR RAJ 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 2018. The degree has been awarded in compliance with the "University Grants Commission, Regulations 2009"

Title of the Thesis:

**NOVEL SENSING MODELS AND CLUSTERING METHODOLOGIES IN WIRELESS SENSOR NETWORK FOR MANAGING ENERGY UTILIZATION**



Given under the seal of the University

ATTESTED

*Dr. S. Ramabalan*  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Clasconat 600025  
Tamil Nadu  
June 2018

*[Signature]*  
Controller of Examinations

*[Signature]*  
Registrar

*[Signature]*  
Vice-Chancellor

# Anna University



Reg No: 17244597588/RG

The Syndicate of the Anna University hereby makes known that **SATHIYA 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 2020. The degree has been awarded in compliance with the "University Grants Commission, Regulations 2016".

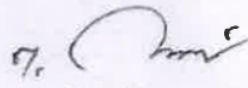
Title of the Thesis:

**EVOLUTIONARY ALGORITHMS BASED MULTI-OBJECTIVE TRAJECTORY PLANNING OF MOBILE ROBOTS**



Given under the Seal of the University

Chennai 600 025  
India  
March 2021

  
Controller of Examinations

  
Registrar

  
Vice-Chancellor

ATTESTED

  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.



# Anna University



Reg.No.20102012042/RG



The Syndicate of the Anna University hereby makes known that **VIJAYALAKSHMI P** 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:*

STUDY ON THE INFLUENCE OF SURFACTANTS IN IMPROVING THE PERFORMANCE OF TURNING PROCESS


*Given under the seal of the University*




ATTESTED

  
**Dr. S. RAMABALAN, M.E., Ph.D.,**  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Chennai 600025  
India  
June 2018

  
Controller of Examinations

  
Registrar

  
Vice-Chancellor



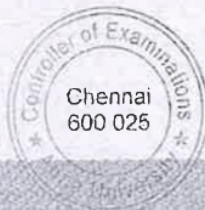
**ANNA UNIVERSITY  
CHENNAI - 600 025**

**PROVISIONAL CERTIFICATE**

Folio No.: PAR014200

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 : ANAKATH A S  
Registration Number : 1513459177  
Degree : Ph.D.  
Department/Centre : MATHEMATICS  
Faculty : INFORMATION AND COMMUNICATION  
ENGINEERING  
Date, Month & Year of Viva-Voce  
Examination held : 11.10.2017  
Title of the Thesis : A STUDY OF PRIVACY PRESERVING  
AUTHENTICATION WITH ANONYMITY  
AND MULTI FACTOR SECURITY IN  
CLOUD COMPUTING ENVIRONMENT



Chennai - 600 025  
Date: 13-NOV-17

*[Signature]*  
Controller of Examinations

ATTESTED

**Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002,  
Nagapattinam (Dt) Tamil Nadu.**



# Anna University



Reg.No. 16154597382/RG

The Syndicate of the Anna University hereby makes known that **MANIKANDAN 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 2020. The degree has been awarded in compliance with the "University Grants Commission, Regulations 2016".

Title of the Thesis:

**DESIGN OF AGENT INTERACTION SYSTEM FOR MONITORING DATA LOGGING IN REMOTE LOCATION**

ATTESTED

*Prof.*  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002,  
Nagapattinam (Dt) Tamil Nadu.

Given under the Seal of the University



Chennai 600 025  
India  
March 2021  
B4R02464

*[Signature]*  
Controller of Examinations

*[Signature]*  
Registrar

*[Signature]*  
Vice-Chancellor



**ANNA UNIVERSITY  
CHENNAI - 600 025  
PROVISIONAL CERTIFICATE**




Folio No.: RAR014593

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** : MANIKANDA KUMARAN K  
**Registration Number** : 16144597379  
**Degree** : Ph.D.  
**Department / Centre / Subject** : COMPUTER SCIENCE AND ENGINEERING  
**Faculty** : INFORMATION AND COMMUNICATION ENGINEERING  
**Date, Month & Year of Viva-Voce Examination held** : 15.10.2020  
**Title of the Thesis** : TASK OFFLOADING OPTIMIZATION FOR CLOUD-ENHANCED ROBOTIC SYSTEM USING HYBRID INTELLIGENT GENERIC ALGORITHM



Chennai - 600 025  
Date: 07-NOV-2020

  
Controller of Examinations

ATTESTED  
  
**Dr. S. RAMABALAN**, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.



CI 002810



பாரதிதாசன் பல்கலைக்கழகம்  
BHARATHIDASAN UNIVERSITY

Established by the Government of Tamil Nadu in 1973. Recognized by the Council for Higher Education,  
Member & Associate of Indian Universities and Association of Universities in India. Accredited by UGC, India.

வணிகவியல் புலம்  
FACULTY OF COMMERCE

பாரதிதாசன் பல்கலைக்கழகம் நட்சிக் துடி ஜூலை 2011

ஆம் ஆண்டு

**R. கார்த்தி**

என்பவர்

வணிகவியல்

பிரிவில்

முனைவர்

என்னும்

பட்டத்கிறகுக் ககுதி பெற்றவர் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி

முனைவர் என்னும் பட்டத்தை அவருக்குப் பல்கலைக்கழக

இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the **BHARATHIDASAN UNIVERSITY** hereby makes known that **R. KARTHI** has been admitted to the Degree of **DOCTOR OF PHILOSOPHY**, in the subject **COMMERCE**, having been certified by duly appointed Examiners to be qualified to receive the same in **JULY 2011**.

Thesis Title

"A STUDY ON CUSTOMERS ATTITUDE TOWARDS THE SERVICES OF LIFE INSURANCE CORPORATION OF INDIA AT NAGAPATTINAM DISTRICT - TAMILNADU"

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

Given under the seal of the University  
G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.



திருச்சிராப்பள்ளி  
Tiruchirappalli

நாள் : 10th November 2011  
Date

பதிவாளர் Registrar

நுண்ணிலைநி Vics - Chancellor

ISSUED ON : 10 NOV 2011



பாரதியார் பல்கலைக் கழகம்  
*Bharathiar University*

வணிகவியல் புலம்

## FACULTY OF COMMERCE



பாரதியார் பல்கலைக் கழகத்தால் முறையாக அமைக்கப்பட்ட தேர்வாளர் குழு, சந்திரசேகர் எஸ் ,2013 ஆம் ஆண்டு, ஏப்ரல் 10 ஆம் நாளில் வணிகவியல் 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 **CHANDRASEKAR S** has been admitted to the Degree of **DOCTOR OF PHILOSOPHY in COMMERCE**, having been certified by duly appointed Examiners to be qualified to receive the same on **10th APRIL 2013**.*

Given under the Seal of the University.



கோயம்புத்தூர்  
Coimbatore  
நாள்

Dated: **10 June 2013**

**K. G. Senthil**

தேர்வாளர்  
Controller of Examinations

**பதிவாளர்**  
Registrar

துணைவேந்தர்  
Vice-Chancellor



ATTESTED  
**ABALAN, M.E., Ph.D.,**  
PRINCIPAL  
E.S. Pillay Engineering College,  
Thekkil Nagore - 641 002,  
Nagapattinam (Tamil Nadu), India.



No. : P 8677

KPVP 50005809

மதுரை காமராசர் பல்கலைக்கழகம்  
Madurai Kamaraj University  
UNIVERSITY WITH POTENTIAL FOR EXCELLENCE



FACULTY OF SCIENCE - COMPUTER SCIENCE  
அறிவியற் புலம் - கணினி அறிவியல்

2015 ஆம் ஆண்டில் மதுரை காமராசர் பல்கலைக்கழகத்தில்

ஆய்வு தீர்மானம் வழங்கிய ஆய்வேட்டுக்காக 12-11-2015 நாளன்று முனைவர் பட்டம் பெறத் தகுதியுடையவர் என்று தக்க தேர்வாளர்களால் சான்றளிக்கப்பட்டு

**சந்திரபோஸ், அ.**

என்பவருக்கு முனைவர் பட்டம் அளிக்கப்படுகிறது என்று மதுரை காமராசர் பல்கலைக்கழக ஆட்சிப் பேரவை அறிவிக்கின்றது.

மதுரை காமராசர் பல்கலைக்கழக இலச்சினையுடன், மதுரையில் 2016 ஆம் ஆண்டு பிப்ரவரி திங்கள் 12 ஆம் நாள் அளிக்கப்பட்டது.

*The Senate of the Madurai Kamaraj University hereby makes known that*  
**CHANDRABOSE, A.**

*has been conferred the*

**DEGREE OF DOCTOR OF PHILOSOPHY**

*he / she having been certified by duly appointed Examiners to be qualified to receive the same as on 12-11-2015*

*Given under the seal of the Madurai Kamaraj University, at Madurai this 12<sup>th</sup> day of February 2016*

Title of the Thesis : "A FRAME WORK FOR THE ENGINEERING OF RELIABLE DISTRIBUTED SYSTEM".



Subject Area : COMPUTER SCIENCE

ATTESTED

*[Signature]*  
**D.S. RAMABALAN, M.E., Ph.D.**  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002  
Nagapattinam (Dt) Tamil Nadu.

பல்கலைக்கழகம், மதுரை - 625 021  
Palkalainagar, Madurai - 625 021  
நாள் Dated: 12-02-2016

*[Signature]*  
தேர்வாளர்  
Controller of Examinations

*[Signature]*  
பதிவாளர்/பொறுப்பு  
Registrar./in-charge

*[Signature]*  
Convener, Syndicate Committee  
துணைவேந்தர்  
Vice-Chancellor





பாரதியார் பல்கலைக் கழகம்  
Bharathiar University

அறிவியல் புலம்

FACULTY OF SCIENCE

பாரதியார் பல்கலைக் கழகத்தால் முறையாக அமைக்கப்பட்ட தேர்வாளர் குழு.  
வனிதா ஜா, 2019ஆம் ஆண்டு, செப்டம்பர் 4ஆம் நாளில் கணிப்பான் அறிவியல்  
என்னும் பிரிவில் ஆய்வியல் அறிஞர் என்றும் பட்டம் பெறத் தகுதியடைந்திருப்பதாகச் சான்றளித்ததை  
ஏற்று, அவருக்கு அந்தப் பட்டத்தைப் பஸ்கலைக் கழக இலச்சினையுடன்.

பாரதியார் பல்கலைக் கழக ஆட்சிக் குழு வழங்குகின்றது.

The Syndicate of the Bharathiar University hereby makes known that **VANITHA J**  
has been admitted to the Degree of DOCTOR OF PHILOSOPHY in COMPUTER SCIENCE,  
having been certified by duly appointed Examiners to be qualified to receive the same on 4th SEPTEMBER 2019.



ATTESTED

*[Signature]*

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethir Nagore - 611 007,  
Nagapattinam (DU), Tamil Nadu.

துணைவேந்தர்

Vice-Chancellor

Given under the Seal of the University.

கோயம்புத்தூர்  
Coimbatore  
61803703  
நாள்

*[Signature]*  
தேர்வாளர் (பொ)

பதிவாளர் (பொ)

Registrar (i/c)

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

ISSUED ON - 3 OCT 2020





# Pondicherry University



The Vice-Chancellor and the Executive Council of the Pondicherry University, on the recommendations of the duly appointed Board of Examiners, hereby declare that

**ARUNKUMAR, P.**

has been admitted to the Degree of

## DOCTOR OF PHILOSOPHY

in Computer Science and Engineering for the thesis entitled "A Multi-Objective Pareto based Hyper-Heuristic approach to optimize scientific and big data workflows task scheduling in IAAS cloud" in November 2019.



ATTESTED

*[Signature]*  
Dr. S. RAMABALAN, M.E., Ph.D.  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002  
Nagapattinam (Dt) Tamil Nadu.

*[Signature]*  
Registrar

Puducherry  
Date 26 FEB 2020

*[Signature]*  
Vice-Chancellor



Reg. No.:2005269106/RG

The Syndicate of the Anna University Chennai hereby makes known that **RAMABALAN S** 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 **2009**.

Title of the thesis:

**EVOLUTIONARY TRAJECTORY PLANNING FOR INTELLIGENT ROBOTS**

ATTESTED

*[Signature]*  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Given under the Seal of the University



Chennai 600 025  
India  
February 2010

*[Signature]*  
Controller of Examinations

*[Signature]*  
Registrar

*[Signature]*  
Vice-Chancellor



No. 100736



அண்ணாமலைப் பல்கலைக்கழகம்

ANNAMALAI UNIVERSITY



பொறியியற்புலம்

FACULTY OF ENGINEERING & TECHNOLOGY

செப்டம்பர், 2015 இல்

உருவாக்கப் பொறியியல்

பிரிவில் நடத்திய தேர்வுகளில்

கிருஷ்ண மோகன் ச

தேர்ச்சியடைந்து ஆய்வேட்டை மதிப்பீடு முறையாக அமைக்கப்பெற்ற தேர்வுக்குழுவினர் சான்றளித்தபடி,

ஆய்வியல் அறிஞர்

மட்டம் பெறுவதற்கு உரியவர் ஆகின்றார்

என அண்ணாமலைப் பல்கலைக்கழக ஆட்சிக் குழு இதன்வழி அறிவிக்கின்றது.

The Syndicate of the ANNAMALAI UNIVERSITY hereby makes known that KRISHNAMOHAN S has been admitted to the Degree of DOCTOR OF PHILOSOPHY in MANUFACTURING ENGINEERING, he/she having been certified by duly appointed Board of Examiners who valued his/her thesis to be qualified to receive the same in SEPTEMBER, 2015.

TITLE OF THE THESIS

SOME STUDY ON Ti6Al4V/SiCp NANO COMPOSITES.

பல்கலைக்கழக முத்திரை பெறுகின்றது  
Given under the seal of the University



அண்ணாமலைநகர்  
Annamalainagar

நாள்:

Dr. K. Arumugam

பதிவாளர் (பொறுப்பு)

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Dr. S. Manian

முனைவர்

No. 232429



அண்ணாமலைப் பல்கலைக்கழகம்

ANNAMALAI UNIVERSITY



பொறியியற்புலம்  
FACULTY OF ENGINEERING & TECHNOLOGY



டிசம்பர், 2017 இல்

உருவாக்கப் பொறியியல்

பிரிவில் நடத்திய தேர்வுகளில்

ராமானுஜம் ந

தேர்ச்சியடைந்து ஆய்வேட்டை மதிப்பிட முறையாக அமைக்கப்பெற்ற தேர்வுக்குழுவினர் சான்றளித்தபடி.

ஆய்வியல் அறிஞர்

பட்டம் பெறுவதற்கு உரியவர் ஆகின்றார்

என அண்ணாமலைப் பல்கலைக்கழக ஆட்சிக் குழு இதன்வழி அறிவிக்கின்றது.

The Syndicate of the **ANNAMALAI UNIVERSITY** hereby makes known that **RAMANUJAM N** has been admitted to the Degree of **DOCTOR OF PHILOSOPHY in MANUFACTURING ENGINEERING**, he/she having been certified by duly appointed Board of Examiners who valued his/her thesis to be qualified to receive the same in **DECEMBER, 2017**.

*TITLE OF THE THESIS*

**STUDY ON WEAR BEHAVIOR OF MAGNESIUM (AZ91) MATRIX WITH SiCp REINFORCED COMPOSITE PRODUCED THROUGH ACCUMULATIVE DIFFUSION BONDING**

பல்கலைக்கழக முத்திரை பெறுகின்றது  
Given under the seal of the University



ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

அண்ணாமலைநகர்  
Annamalainagar

Dr. K. Arumugam

பதிவாளர் (பொறுப்பு)  
Registrar (i/c)

Dr. S. Manian

துணை வேந்தர்  
Vice-Chancellor

நாள்:

Dated: 17/02/2018



No. 242802



அண்ணாமலைப் பல்கலைக்கழகம்

ANNAMALAI UNIVERSITY



பொறியியற்புலம்  
FACULTY OF ENGINEERING & TECHNOLOGY

டிசம்பர், 2017 இல்

உருவாக்கப் பொறியியல்

பிரிவில் நடத்திய தேர்வுகளில்

சிவராமகிருஷ்ணன் வே

தேர்ச்சியடைந்து ஆய்வேட்டை மதிப்பிட முறையாக அமைக்கப்பெற்ற தேர்வுக்குழுவினர் சான்றளித்தபடி,

ஆய்வியல் அறிஞர்

பட்டம் பெறுவதற்கு உரியவர் ஆகின்றார்

என அண்ணாமலைப் பல்கலைக்கழக ஆட்சிக் குழு இதன்வழி அறிவிக்கின்றது.

The Syndicate of the ANNAMALAI UNIVERSITY hereby makes known that SIVARAMAKRISHNAN V has been admitted to the Degree of DOCTOR OF PHILOSOPHY in MANUFACTURING ENGINEERING, he/she having been certified by duly appointed Board of Examiners who valued his/her thesis to be qualified to receive the same in DECEMBER, 2017.

TITLE OF THE THESIS

STUDY ON HOT DEFORMATION BEHAVIOR OF MAGNESIUM (AZ91) MATRIX WITH SiC<sub>p</sub> REINFORCED COMPOSITES FABRICATED THROUGH ACCUMULATIVE DIFFUSION BONDING

பல்கலைக்கழக முத்திரை பெறுகின்றது  
Given under the seal of the University



அண்ணாமலைநகர்  
Annamalainagar

நாள்:

Dr. K. Arumugam

பதிவாளர் (பொறுப்பு)

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Dr. S. Marian

துணை வேந்தர்



# Indian Institute of Technology Madras

hereby confers the degree of  
**Doctor of Philosophy**  
of the Institute

on

**SIVARAMAN V**

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



ME08D011

STUDY ON MACHINABILITY OF A FERRITE-BAINITE-MARTENSITE  
MICROALLOYED STEEL

Given this day the Twentyfirst of July, 2017  
under the seal of the Institute.

ATTESTED

**Dr. S. RAMABALAN, M.E., Ph.D.,**  
**PRINCIPAL**

E.G.S. Pillay Engineering College,  
Thathi Nacore - 611 302,  
Nagapattinam (By) Tamil Nadu.



V.G.B

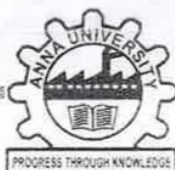
Registrar

Director

Chairman, Board of Governors



# Anna University



Reg.No.20112012007/RG



The Syndicate of the Anna University hereby makes known that **JEEVAMALAR J** 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 PARAMETRIC STUDY OF ELECTRIC DISCHARGE DRILLING FOR INCONEL 718 ALLOY**


Given under the seal of the University



ATTESTED

  
Dr. S. RAMABALAN, M.E. Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore  
Nagapattinam (Dt)

Chennai 600025  
India  
June 2018  
PAR012128

  
Controller of Examinations  
JEEVAMALAR J

  
Registrar

  
Vice-Chancellor  
SANKARANARAYANAN

# Anna University



Reg.No. 1314279202/RG

The Syndicate of the Anna University hereby makes known that **CHOCKALINGAM S** 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 **2016**. The degree has been awarded in compliance with the "University Grants Commission, Regulations 2009".


Title of the Thesis:

**INVESTIGATION ON MACHINABILITY AND DAMPING PERFORMANCE BY MODIFICATION OF BORING BAR USING PASSIVE DAMPING METHOD**

Given under the Seal of the University



Chennai 600 025  
India  
May 2017  
MAY 2017

  
Controller of Examinations  
CHOCKALINGAM S

  
Registrar

  
Chairman, Convener Committee  
Vice-Chancellor

ATTESTED

  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.



No. 304051



அண்ணாமலைப் பல்கலைக்கழகம்  
**ANNAMALAI UNIVERSITY**



**FACULTY OF ENGINEERING & TECHNOLOGY**

The Syndicate of the **ANNAMALAI UNIVERSITY** hereby makes

known that **NAVANEETHA KRISHNAN V** has been admitted to the

Degree of **DOCTOR OF PHILOSOPHY in MANUFACTURING ENGINEERING**

he/she having been certified by duly appointed Board of Examiners who valued

his/her thesis to be qualified to receive the same in **JANUARY, 2019.**

**TITLE OF THE THESIS**

**"MECHANICAL AND TRIBOLOGICAL INVESTIGATION ON POLYMER NANO COMPOSITE"**

Given under the seal of the University

ATTESTED

*[Signature]*  
**Dr. S. RAMABALAN, M.E., Ph.D.,**  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thiruv. Nagar - 611 002  
Nagapattinam (Dt) Tamil Nadu.



Annamalainagar

Dated: 30/11/2019

*[Signature]*  
**Dr. N. Krishnamohan**  
Registrar (i/c)

*[Signature]*  
**Dr. V. Murugesan**  
Vice-Chancellor



Code No. 0493C-S.96.869561

# 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 **அ. சார்லஸ்** 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 **A. CHARLES** 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  
**SEPTEMBER 2015.**

Thesis Title

"PHYTOCHEMICAL AND BIOACTIVITY STUDIES OF ALSEODAPHNE  
SEMELCARPIFOLIA NEES AND THUNBERGIA FRAGRANS ROXB"

Given under the seal of the University.



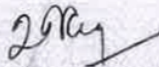
திருச்சிரப்பள்ளி  
Tiruchirappalli

05th November 2015

நாள் :  
Date :


ISSUED ON 05-11-2015

  
பதிவாளர் Registrar

  
துணைவேந்தர் Vice-Chancellor

J 033671

ATTESTED

  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.



Reg. No. 3793



அறிவியற் புலம்  
FACULTY OF SCIENCE

மனோன்மணியம் சுந்தரனார் பல்கலைக்கழக ஆட்சிக்குழு

கோபி சி

வேதியியல் பாடப்பிரிவில்

அந்நூர் பட்டம் பெறுவதற்குத் தகுதியுடையவர் என முறையாக அமைக்கப்பெற்ற தேர்வினோர் சான்றளித்தவாறு டிசம்பர் 2015 ஆம் ஆண்டில் இப் பட்டப்பேற்றுக்கு உரியவர் ஆகின்றார் என இதன்வழி அறிவிக்கின்றது.

பல்கலைக்கழக முத்திரையுடன் இது வழங்கப்படுகின்றது.

The Syndicate of the **MANONMANIAM SUNDARANAR UNIVERSITY** hereby makes known that **GOPI C** has been admitted to the Degree of **Doctor of Philosophy in CHEMISTRY**.

he/she having been certified by duly appointed Examiners to be qualified to receive the same in the year **DECEMBER 2015**



Given under the seal of the University.

*Shikhar*  
(Dr.S.Prabakar)

தேர்வாளையர்  
Controller of Examinations

*John De Britto*  
(Dr.A.John De Britto)

பதிவாளர்  
Registrar

*Selvi. Apoorva I.A.S.*  
(Selvi. Apoorva I.A.S.)  
(Convenor)

குணை வேந்தர்  
Vice-Chancellor

திருநெல்வேலி, இந்தியா  
Tirunelveli, India  
நாள், Dated .....13.02.2016

ATTESTED

*S. Ramabalan*  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002,  
Nagapattinam (Dt) Tamil Nadu.

H 074565



Code No. 00690 -S.No. 733319

**பாரதிதாசன் பல்கலைக்கழகம்**  
**BHARATHIDASAN UNIVERSITY**

(Established by the Government of Tamil Nadu in 1982; Recognized by UGC under 21 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 ஆட்சிக்குழு ஆகஸ்டு 2013**

ஆம் ஆண்டு **க. பொன்சடை லக்ஷ்மி** 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 **S. PONSADAI LAKSHMI** 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 2013.**

Thesis Title

"WATER QUALITY ASSESSMENT AND MONITORING IN AND  
AROUND MAYILADUTHURAI OF NAGAPATTINAM DISTRICT"



Given under the seal of the University.

திருச்சிரப்பள்ளி  
Tiruchirappalli

தாள் : 25th November 2013  
Date :

பதிவாளர் Registrar

AUTHORIZED SIGNATORY  
For  
துணைவேந்தர் Vice - Chancellor

ISSUED ON : 25 NOV 2013

ATTESTED

**Dr. S. RAMABALAN, M.E., Ph.D.,**  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.



No. 131196



அண்ணாமலைப் பல்கலைக்கழகம்

ANNAMALAI UNIVERSITY



கலையியற்புலம்  
FACULTY OF ARTS

நவம்பர், 2014 இல்

ஆங்கிலம்

பிரிவில் நடத்திய தேர்வுகளில்

அசாருதீன் நெ

தேர்ச்சியடைந்து ஆய்வேட்டை மதிப்பிட முறையாக அமைக்கப்பெற்ற தேர்வுக்குழுவினர் சான்றளித்தபடி,

ஆய்வியல் அறிஞர்

பட்டம் பெறுவதற்கு உரியவர் ஆகின்றார்

என அண்ணாமலைப் பல்கலைக்கழக ஆட்சிக் குழு இதன்வழி அறிவிக்கின்றது.

The Syndicate of the *ANNAMALAI UNIVERSITY* hereby makes known that **ASHARUDEEN N** has been admitted to the Degree of **DOCTOR OF PHILOSOPHY in ENGLISH**, he/she having been certified by duly appointed Board of Examiners who valued his/her thesis to be qualified to receive the same in **NOVEMBER, 2014**.

*TITLE OF THE THESIS*

**AN ANALYSIS OF FLUSTERED CHARACTERS IN THE SELECT PLAYS OF SAM SHEPARD**

பல்கலைக்கழக முத்திரை பெறுகின்றது  
Given under the seal of the University



அண்ணாமலைநகர்  
Annamalainagar

நாள்:

Dated: 26/02/2016

Dr. K. Arumugam  
பதிவாளர் (பொறுப்பு)  
Registrar (i/c)

ATTESTED  
  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Dr. S. Manian  
துணை வேந்தர்  
Vice-Chancellor



Centre Code : 15

Reg.No. 31514-Ph.D-MAT

Code no. A95B5 : S.No.



# 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 ஆட்சிக்குழு அக்டோபர் 2018  
ஆம் ஆண்டு தீபா இரா 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 **DEEPA R** 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 2018**.

Place of Study : TRANQUEBAR BISHOP MANICKAM LUTHERAN COLLEGE PORAYAR.

### Title of the Thesis

"AN OVERVIEW ON THE DEVELOPMENT OF FUZZY RANDOM VARIABLES"



Given under the seal of the University.



திருச்சிரப்பள்ளி  
Tiruchirappalli  
23rd October 2018

நாள்: 12-11-2018  
Date :  
ISSUED ON :

*P. Manisankar*  
முனைவர் Registrar

*P. Manisankar*  
தலைமைவேந்தர் Vice - Chancellor

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.



Centre Code : 15 Reg.No. 49521-Ph.D-MAT



Code no. 4E071 : 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

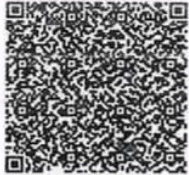
பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு ஜூன் 2019  
ஆம் ஆண்டு கமலநாதன் சா என்பவர்  
கணிதவியல் பிரிவில் முனைவர்  
என்னும் பட்டத்திற்குத் தகுதி பெற்றவர் என்று தக்க தேர்வாளர்கள்  
சான்றளித்தபடி முனைவர் என்னும் பட்டத்தை அவருக்குப்  
பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the **BHARATHIDASAN UNIVERSITY** hereby makes  
known that **KAMALANATHAN 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 : TRANQUEBAR BISHOP MANICKAM LUTHERAN COLLEGE PORAYAR.

### Title of the Thesis

"CONTRIBUTION TO THE STUDY ON RANKING METHODS ON FUZZY  
NUMBERS"



Given under the seal of the University.

ATTESTED  
*[Signature]*  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.



திருச்சிராப்பள்ளி  
Truchirappalli

*[Signature]*  
பதிவாளர் Registrar

*[Signature]*  
துணைவேந்தர் Vice - Chancellor

0 000678

நாள் :  
Date : 1st October 2019

ISSUED ON : 01-10-2019

Centre Code : 13 Reg.No. 58860-Ph.D-MAT



Code no. 802CC : 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 மே 2019  
ஆம் ஆண்டு கவிதா த 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 **KAVITHA T.** 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 **MAY 2019.**

Place of Study: A.D.M. COLLEGE FOR WOMEN(Autonomous), NAGAPPATTINAM.

### Title of the Thesis

"A STUDY ON DOMINATION IN FUZZY GRAPHS"



ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Given under the seal of the University.



திருச்சிராப்பள்ளி  
Tiruchirappalli

நாள் :  
Date : 1st October 2019

ISSUED ON : 24-08-2021

பதிவாளர் Registrar

துணைவேந்தர் Vice - Chancellor

O 095153





SI.No.: 2015/01556

412111004



*hereby confers the degree of  
Doctor of Philosophy  
of the institute  
on*

**EDWARD ANAND E**

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

**CORROSION AND TRIBOLOGICAL STUDIES ON  
PULSE ELECTRODEPOSITED COBALT BASED COATINGS  
REINFORCED WITH CARBON NANOTUBES**

*at the viva-voce examination held on Twenty Ninth June 2015*

*Given this day the twenty second of August, 2015  
Under the seal of the Institute*



TIRUCHIRAPPALLI - 620 015, INDIA



*A. Srinivas*  
Registrar

*Shuleya*  
Director

*K. M. Srinivasan*  
Chairperson,  
Board of Governors

1619

**ATTESTED**  
*[Signature]*  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.



Code No. 008CE S.No. 69032

# 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 டிசம்பர் 2017

ஆம் ஆண்டு ந. மூர்த்தி என்பவர்  
இயற்பியல் 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. MOORTHY** 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  
DECEMBER 2017.

Thesis Title

"QUANTUM CHEMICAL CALCULATIONS AND SPECTRAL ANALYSIS OF SOME  
ORGANIC NON LINEAR OPTICAL CRYSTALS"

Given under the seal of the University.



திருச்சிராப்பள்ளி  
Tiruchirappalli

நாள்: 21st February 2018

Date: 21-02-2018

ISSUED ON: 21-02-2018

L 056252

R. Kamel  
முனைவர் Registrar

P. Manisankar  
தலைவர், Vice - Chancellor

ATTESTED  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.





# Bharathidasan University

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

Tiruchirappalli



FOLIO NO: 6193

434

## PROVISIONAL CERTIFICATE

This to certify that **MANJU K**

has qualified for the Degree of DOCTOR OF PHILOSOPHY IN MATHEMATICS

he/she having been declared eligible for the same from 5th JANUARY 2022 onwards.

*[Handwritten signature]*

*[Handwritten signature]*

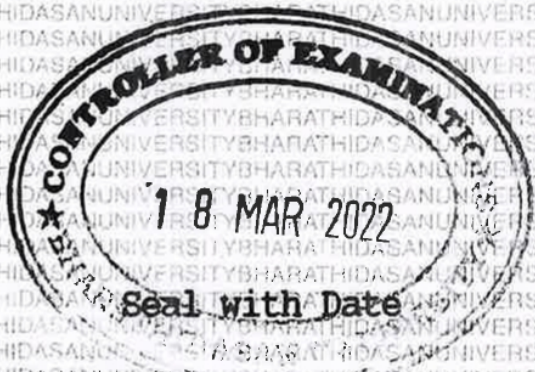
ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611-602,  
Nagapattinam (Dt) Tamil Nadu.

HIGHLY COMMENDED

*[Handwritten signature]*  
M. Seetha

*[Handwritten signature]*  
Controller of Examinations



Seal with Date

Section Head

Controller of Examinations



No. 304051



அண்ணாமலைப் பல்கலைக்கழகம்  
**ANNAMALAI UNIVERSITY**



**FACULTY OF ENGINEERING & TECHNOLOGY**

The Syndicate of the **ANNAMALAI UNIVERSITY** hereby makes

known that **NAVANEETHA KRISHNAN V** has been admitted to the

Degree of **DOCTOR OF PHILOSOPHY in MANUFACTURING ENGINEERING**

he/she having been certified by duly appointed Board of Examiners who valued  
his/her thesis to be qualified to receive the same in **JANUARY, 2019.**

**TITLE OF THE THESIS**

**"MECHANICAL AND TRIBOLOGICAL INVESTIGATION ON POLYMER NANO COMPOSITE"**

Given under the seal of the University

ATTESTED

*[Signature]*  
**Dr. S. RAMABALAN, M.E., Ph.D.,**  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thiruv. No. 1, 611 002  
Nagapattinam (Dt) Tamil Nadu.



Annamalainagar

Dated: 30/11/2019

*[Signature]*  
**Dr. N. Krishnamohan**  
Registrar (i/c)

*[Signature]*  
**Dr. V. Murugesan**  
Vice-Chancellor





Code No. 0493C-S.96.869561

# 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 **அ. சார்லஸ்** 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 **A. CHARLES** 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 **SEPTEMBER 2015**.

Thesis Title

"PHYTOCHEMICAL AND BIOACTIVITY STUDIES OF ALSEODAPHNE SEMECARPIFOLIA NEES AND THUNBERGIA FRAGRANS ROXB"

Given under the seal of the University.



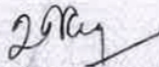
திருச்சிரப்பள்ளி  
Tiruchirappalli

05th November 2015

நாள் :  
Date :


ISSUED ON 05-11-2015

  
பதிவாளர் Registrar

  
துணைவேந்தர் Vice-Chancellor

J 033671

ATTESTED

  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

No. 232429



அண்ணாமலைப் பல்கலைக்கழகம்

ANNAMALAI UNIVERSITY



பொறியியற்புலம்  
FACULTY OF ENGINEERING & TECHNOLOGY



டிசம்பர், 2017 இல்

உருவாக்கப் பொறியியல்

பிரிவில் நடத்திய தேர்வுகளில்

ராமானுஜம் ந

தேர்ச்சியடைந்து ஆய்வேட்டை மதிப்பிட முறையாக அமைக்கப்பெற்ற தேர்வுக்குழுவினர் சான்றளித்தபடி.

ஆய்வியல் அறிஞர்

பட்டம் பெறுவதற்கு உரியவர் ஆகின்றார்

என அண்ணாமலைப் பல்கலைக்கழக ஆட்சிக் குழு இதன்வழி அறிவிக்கின்றது.

The Syndicate of the **ANNAMALAI UNIVERSITY** hereby makes known that **RAMANUJAM N** has been admitted to the Degree of **DOCTOR OF PHILOSOPHY in MANUFACTURING ENGINEERING**, he/she having been certified by duly appointed Board of Examiners who valued his/her thesis to be qualified to receive the same in **DECEMBER, 2017**.

*TITLE OF THE THESIS*

**STUDY ON WEAR BEHAVIOR OF MAGNESIUM (AZ91) MATRIX WITH SiCp REINFORCED COMPOSITE PRODUCED THROUGH ACCUMULATIVE DIFFUSION BONDING**

பல்கலைக்கழக முத்திரை பெறுகின்றது  
Given under the seal of the University



ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

அண்ணாமலைநகர்  
Annamalainagar

Dr. K. Arumugam

பதிவாளர் (பொறுப்பு)  
Registrar (i/c)

Dr. S. Manian

துணை வேந்தர்  
Vice-Chancellor

நாள்:

Dated: 17/02/2018



No. 242802



அண்ணாமலைப் பல்கலைக்கழகம்

ANNAMALAI UNIVERSITY



பொறியியற்புலம்  
FACULTY OF ENGINEERING & TECHNOLOGY

டிசம்பர், 2017 இல்

உருவாக்கப் பொறியியல்

பிரிவில் நடத்திய தேர்வுகளில்

சிவராமகிருஷ்ணன் வே

தேர்ச்சியடைந்து ஆய்வேட்டை மதிப்பிட முறையாக அமைக்கப்பெற்ற தேர்வுக்குழுவினர் சான்றளித்தபடி,

ஆய்வியல் அறிஞர்

பட்டம் பெறுவதற்கு உரியவர் ஆகின்றார்

என அண்ணாமலைப் பல்கலைக்கழக ஆட்சிக் குழு இதன்வழி அறிவிக்கின்றது.

The Syndicate of the ANNAMALAI UNIVERSITY hereby makes known that SIVARAMAKRISHNAN V has been admitted to the Degree of DOCTOR OF PHILOSOPHY in MANUFACTURING ENGINEERING, he/she having been certified by duly appointed Board of Examiners who valued his/her thesis to be qualified to receive the same in DECEMBER, 2017.

TITLE OF THE THESIS

STUDY ON HOT DEFORMATION BEHAVIOR OF MAGNESIUM (AZ91) MATRIX WITH SiC<sub>p</sub> REINFORCED COMPOSITES FABRICATED THROUGH ACCUMULATIVE DIFFUSION BONDING

பல்கலைக்கழக முத்திரை பெறுகின்றது  
Given under the seal of the University



அண்ணாமலைநகர்  
Annamalainagar

நாள்:

Dr. K. Arumugam

பதிவாளர் (பொறுப்பு)

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Dr. S. Marian

துணை வேந்தர்



# Indian Institute of Technology Madras

hereby confers the degree of  
**Doctor of Philosophy**  
of the Institute

on

**SIVARAMAN V**

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



ME08D011

STUDY ON MACHINABILITY OF A FERRITE-BAINITE-MARTENSITE  
MICROALLOYED STEEL

Given this day the Twentyfirst of July, 2017  
under the seal of the Institute.

ATTESTED

**Dr. S. RAMABALAN, M.E., Ph.D.,**  
**PRINCIPAL**

E.G.S. Pillay Engineering College,  
Thathi Nacore - 611 302,  
Nagapattinam (By) Tamil Nadu.



V.G.B

Registrar

Director

Chairman, Board of Governors



Centre Code : 15 Reg.No. 49521-Ph.D-MAT



Code no. 4E071 : 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

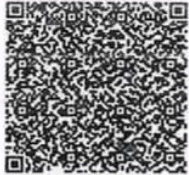
பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு ஜூன் 2019  
ஆம் ஆண்டு கமலநாதன் சா என்பவர்  
கணிதவியல் பிரிவில் முனைவர்  
என்னும் பட்டத்திற்குத் தகுதி பெற்றவர் என்று தக்க தேர்வாளர்கள்  
சான்றளித்தபடி முனைவர் என்னும் பட்டத்தை அவருக்குப்  
பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the **BHARATHIDASAN UNIVERSITY** hereby makes  
known that **KAMALANATHAN 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 : TRANQUEBAR BISHOP MANICKAM LUTHERAN COLLEGE PORAYAR.

### Title of the Thesis

"CONTRIBUTION TO THE STUDY ON RANKING METHODS ON FUZZY  
NUMBERS"



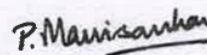
Given under the seal of the University.

ATTESTED  
  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.



திருச்சிராப்பள்ளி  
Truchirappalli

  
பதிவாளர் Registrar

  
துணைவேந்தர் Vice - Chancellor

நாள் :  
Date : 1st October 2019

ISSUED ON : 01-10-2019

0 000678

Centre Code : 13 Reg.No. 58860-Ph.D-MAT



Code no. 802CC : 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 மே 2019  
ஆம் ஆண்டு கவிதா த 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 **KAVITHA T** 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 **MAY 2019.**

Place of Study: A.D.M. COLLEGE FOR WOMEN(Autonomous), NAGAPPATTINAM.

### Title of the Thesis

"A STUDY ON DOMINATION IN FUZZY GRAPHS"



ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Given under the seal of the University.



திருச்சிராப்பள்ளி  
Tiruchirappalli

நாள் :  
Date : 1st October 2019

ISSUED ON : 24-08-2021

பதிவாளர் Registrar

துணைவேந்தர் Vice - Chancellor

O 095153





SI.No.: 2015/01556

412111004



*hereby confers the degree of  
Doctor of Philosophy  
of the institute  
on*

**EDWARD ANAND E**

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

**CORROSION AND TRIBOLOGICAL STUDIES ON  
PULSE ELECTRODEPOSITED COBALT BASED COATINGS  
REINFORCED WITH CARBON NANOTUBES**

*at the viva-voce examination held on Twenty Ninth June 2015*

*Given this day the twenty second of August, 2015  
Under the seal of the Institute*



TIRUCHIRAPPALLI - 620 015, INDIA



*A. Srinivas*  
Registrar

*Shuleya*  
Director

*K. M. Srinivasan*  
Chairperson,  
Board of Governors

1619

**ATTESTED**  
*[Signature]*  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.



Code No. 008CE S.No. 69032

# 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 டிசம்பர் 2017

ஆம் ஆண்டு ந. மூர்த்தி என்பவர்  
இயற்பியல் 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. MOORTHY** 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  
DECEMBER 2017.

Thesis Title

"QUANTUM CHEMICAL CALCULATIONS AND SPECTRAL ANALYSIS OF SOME  
ORGANIC NON LINEAR OPTICAL CRYSTALS"

Given under the seal of the University.



திருச்சிராப்பள்ளி  
Tiruchirappalli

நாள்: 21st February 2018

Date: 21-02-2018

ISSUED ON: 21-02-2018

L 056252

R. Kamel  
முனைவர் Registrar

P. Manisankar  
தலைவர் Vice - Chancellor

ATTESTED  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.





**Bharathidasan University**  
(Accredited with A+ Grade by NAAC in the Third Cycle)  
**Tiruchirappalli**

FOLIO NO: 6057

**PROVISIONAL CERTIFICATE**

This to certify that **PRINCE RICHARD J**

has qualified for the Degree of **DOCTOR OF PHILOSOPHY IN PHYSICS**

he/she having been declared eligible for the same from **24th NOVEMBER 2021 onwards**

**HIGHLY COMMENDED**



*Alade*  
Section Head

*[Signature]*  
Controller of Examinations

**ATTESTED**  
*[Signature]*  
**Dr. S. RAMABALAN, M.E., Ph.D.,**  
**PRINCIPAL**  
E.G.S. Pillay Engineering College,  
Thethri, Nagore - 611 002,  
Nagapattinam (Dt) Tamil Nadu.



Reg. No.:2003479727/RG

The Syndicate of the Anna University hereby makes known that **SENTHAMARAI KANNAN 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 2010.

Title of the thesis:

**IMPROVING CLUSTERING AND CLASSIFICATION PERFORMANCE THROUGH EFFECTIVE ATTRIBUTE SELECTION**

Given under the Seal of the University

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Vice-Chancellor

THE REGISTRATION DEPARTMENT



Chennai 600 025  
India

December 2010 Controller of Examinations

GABD 1434





Reg. No.:2003479727/RG

The Syndicate of the Anna University hereby makes known that **SENTHAMARAI KANNAN 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 2010.

Title of the thesis:

**IMPROVING CLUSTERING AND CLASSIFICATION PERFORMANCE THROUGH EFFECTIVE ATTRIBUTE SELECTION**

Given under the Seal of the University

ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002,  
Nagapattinam (Dt) Tamil Nadu.

Vice-Chancellor



Chennai 600 025  
India

December 2010 Controller of Examinations

GABD1434\*

V. Jayaram

Registrar

[Signature]

DE REGISTRATION/UNIVERSITY





Code No. 008CE S.No. 69032

# 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 டிசம்பர் 2017

ஆம் ஆண்டு ந. மூர்த்தி என்பவர்  
இயற்பியல் 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. MOORTHY** 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  
DECEMBER 2017.

Thesis Title

"QUANTUM CHEMICAL CALCULATIONS AND SPECTRAL ANALYSIS OF SOME  
ORGANIC NON LINEAR OPTICAL CRYSTALS"

Given under the seal of the University.



திருச்சிராப்பள்ளி  
Tiruchirappalli

நாள்: 21st February 2018

Date: 21-02-2018

ISSUED ON: 21-02-2018

L 056252

R. Kamel  
முனைவர் Registrar

P. Manisankar  
தலைவர் Vice - Chancellor

ATTESTED  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.





**Bharathidasan University**  
(Accredited with A+ Grade by NAAC in the Third Cycle)  
**Tiruchirappalli**

FOLIO NO: 6057

**PROVISIONAL CERTIFICATE**

This to certify that **PRINCE RICHARD J**

has qualified for the Degree of **DOCTOR OF PHILOSOPHY IN PHYSICS**

he/she having been declared eligible for the same from **24th NOVEMBER 2021 onwards**

**HIGHLY COMMENDED**



*Alde*  
Section Head

*[Signature]*  
Controller of Examinations

**ATTESTED**  
*[Signature]*  
**Dr. S. RAMABALAN, M.E., Ph.D.,**  
**PRINCIPAL**  
E.G.S. Pillay Engineering College,  
Thetri, Nagore - 611 002,  
Nagapattinam (Dt) Tamil Nadu.





Code No. 008D8 :S.No. 988813

# 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 நவம்பர் 2015

ஆம் ஆண்டு ஜி. பார்த்தீபன் என்பவர்  
கணிதவியல் பிரிவில் முனைவர் என்னும்  
பட்டத்திற்குத் தகுதி பெற்றவர் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி  
முனைவர் என்னும் பட்டத்தை அவருக்குப் பல்கலைக்கழக  
இலச்சிணையுடன் வழங்குகிறது.

The Syndicate of the **BHARATHIDASAN UNIVERSITY** hereby makes  
known that **J. PARTHEEBAN** 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  
**NOVEMBER 2015.**

Thesis Title

"CONTRIBUTIONS TO THE STUDY ON FUZZY SETS AND FUZZY  
LOGIC WITH APPLICATIONS"

Given under the seal of the University.



திருச்சிராப்பள்ளி 14th October 2016  
Tiruchirappalli

  
பதவாரீர Registrar

  
தணைவேந்தர் Vice-Chancellor

K 057176

நாள் :  
Date : 14-10-2016

ISSUED ON :





SI.No.: 2015/01556

412111004



*hereby confers the degree of  
Doctor of Philosophy  
of the institute  
on*

**EDWARD ANAND E**

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

**CORROSION AND TRIBOLOGICAL STUDIES ON  
PULSE ELECTRODEPOSITED COBALT BASED COATINGS  
REINFORCED WITH CARBON NANOTUBES**

*at the viva-voce examination held on Twenty Ninth June 2015*

*Given this day the twenty second of August, 2015  
Under the seal of the Institute*



TIRUCHIRAPPALLI - 620 015, INDIA



*A. Srinivas*  
Registrar

*Shuleya*  
Director

*K. M. Srinivasan*  
Chairperson,  
Board of Governors

1619

**ATTESTED**  
*[Signature]*  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Centre Code : 13 Reg.No. 14210-Ph.D-MAT



Code no. A9988 : 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 தாரணி ச 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 **THARANI 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 **OCTOBER 2021.**

Place of Study : A.D.M. COLLEGE FOR WOMEN(Autonomous), NAGAPPATTINAM.


"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 FUZZY SOFT DIGRAPHS AND ITS APPLICATIONS"


ATTESTED

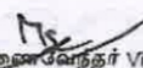
  
Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002,  
Nagappattinam (Dt) Tamil Nadu.

Given under the seal of the University.



திருச்சிராப்பள்ளி  
Tiruchirappalli

  
பதிவாளர் Registrar

  
தலைவர் Vice - Chancellor

O 103493

நாள் : 9th December 2021  
Date : 9th December 2021

ISSUED ON : 09-12-2021



Serial No. : C24/15/20703

Register No. : PHD 503

# Pondicherry University



The Vice-Chancellor and the Executive Council of the Pondicherry University, on the recommendations of the duly appointed Board of Examiners, hereby declare that

**SURESH PADMANABHAN, T.**

has been admitted to the Degree of

## DOCTOR OF PHILOSOPHY

having submitted a thesis entitled

"NOVEL CONTROL STRATEGIES FOR AC-AC POWER CONVERSION SYSTEMS"

and having successfully completed the prescribed requirements in the year MARCH 2015.

Discipline : ELECTRICAL AND ELECTRONICS ENGINEERING.

Given under the Seal of the University



*M. Ramachandran*  
Registrar

Puducherry

Date 4 OCT 2016

ATTESTED

*[Signature]*  
Dr. S. RAMABALAN, M.E., Ph.D.,

PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002,  
Nagapattinam (Dt) Tamil Nadu.

*[Signature]*  
Vice-Chancellor

# Anna University



Reg.No.20102012042/RG



The Syndicate of the Anna University hereby makes known that **VIJAYALAKSHMI P** 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:*

STUDY ON THE INFLUENCE OF SURFACTANTS IN IMPROVING THE PERFORMANCE OF TURNING PROCESS

*Given under the seal of the University*



ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002.  
Nagapattinam (Dt) Tamil Nadu.

Chennai 600025  
India  
June 2018

Controller of Examinations

Registrar

Vice-Chancellor



Serial No. : C24/15/20703

Register No. : PHD 503

# Pondicherry University



The Vice-Chancellor and the Executive Council of the Pondicherry University, on the recommendations of the duly appointed Board of Examiners, hereby declare that

**SURESH PADMANABHAN, T.**

has been admitted to the Degree of

## DOCTOR OF PHILOSOPHY

having submitted a thesis entitled

"NOVEL CONTROL STRATEGIES FOR AC-AC POWER CONVERSION SYSTEMS"

and having successfully completed the prescribed requirements in the year MARCH 2015.

Discipline : ELECTRICAL AND ELECTRONICS ENGINEERING.

Given under the Seal of the University



*M. Ramachandran*  
Registrar

Puducherry

Date 4 OCT 2016

ATTESTED

*[Signature]*  
Dr. S. RAMABALAN, M.E., Ph.D.,

PRINCIPAL

E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611 002,  
Nagapattinam (Dt) Tamil Nadu.

*[Signature]*  
Vice-Chancellor





# Bharathidasan University

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

Tiruchirappalli



FOLIO NO: 6193

434

## PROVISIONAL CERTIFICATE

This to certify that **MANJU K**

has qualified for the Degree of DOCTOR OF PHILOSOPHY IN MATHEMATICS

he/she having been declared eligible for the same from 5th JANUARY 2022 onwards.

*[Handwritten signature]*

*[Handwritten signature]*

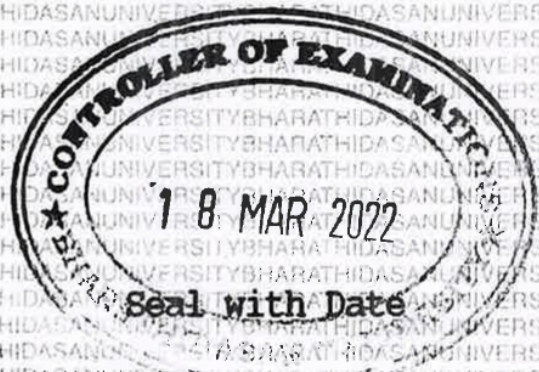
ATTESTED

Dr. S. RAMABALAN, M.E., Ph.D.,  
PRINCIPAL  
E.G.S. Pillay Engineering College,  
Thethi, Nagore - 611-602,  
Nagapattinam (Dt) Tamil Nadu.

HIGHLY COMMENDED

*[Handwritten signature]*  
M. Seetha

*[Handwritten signature]*  
Controller of Examinations



Seal with Date

Section Head