

Indian Institute of Technology  
Delhi

Upon the recommendation of the Senate  
hereby confers the degree of

Doctor of Philosophy

on

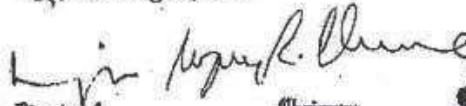
Ram Prakash Rustagi

Thesis title:

Studies in Concurrency Control for Centralized,  
Distributed and Nested Transaction Systems

Given this day under the seal of the Institute at Delhi in  
the Republic of India.

The 14<sup>th</sup> August, 1999

  
Director & Chairman,  
Chairman Senate Board of Governors

  
Registrar



VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI  
KARNATAKA, INDIA



*This is to certify that*

VANEETA M

*has been conferred the Degree of*

**Doctor of Philosophy**

*in*

FACULTY OF COMPUTER & INFORMATION SCIENCES

*for the thesis entitled*

NOVEL KEY DISTRIBUTION AND SECURITY FRAMEWORK FOR NODE  
LEVEL COMMUNICATION FOR WIRELESS SENSOR NETWORKS

*in recognition of the fulfillment of requirements  
for the said degree*

PH  
19 001635

Given under the seal of the University

USN: 1KS15PEJ04



BELAGAVI

DATE : MARCH 10, 2022

VICE CHANCELLOR

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI  
KARNATAKA, INDIA



*This is to certify that*

AMULYASHREE S

*has been conferred the Degree of*

**Doctor of Philosophy**

*in*

FACULTY OF COMPUTER & INFORMATION SCIENCES

*for the thesis entitled*

DESIGN A ROBUST FRAMEWORK WITH AN EFFICIENT LINK MINING  
ALGORITHM FOR SOCIAL AND BIOLOGICAL NETWORKS

*in recognition of the fulfillment of requirements  
for the said degree*

PH  
23 00335

Given under the seal of the University

USN: 1RV16PEJ23



BELAGAVI

DATE : FEBRUARY 24, 2023

VICE CHANCELLOR

13PHD1033

Sl. No. 103470



The Board of Management of the  
Vellore Institute of Technology (VIT)  
hereby confers on

DEEPA S.R

the degree of

DOCTOR OF PHILOSOPHY

in recognition of the research work entitled

**BIO-INSPIRED CLUSTER OPTIMIZATION IN WIRELESS SENSOR NETWORK**

for having fulfilled the prescribed requirements.

The degree has been awarded in compliance with the  
"University Grants Commission, Regulation 2009"

given this day the 14 September 2020

Given under the seal of this university



*R.B. Kockali*  
Vice - Chancellor

*[Signature]*  
Chancellor

Dated : 19-Oct-2020

Vellore - 632 014, Tamil Nadu, India

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

HYDERABAD - 500 085, TELANGANA STATE, INDIA

TS 688185



H.T No. : 0703PH0614

*Ms. Rekha B Venkatapur*

*D/o. Venkatapur B*

having fulfilled the academic requirements in *June, 2016*

has this day been admitted by the Executive Council to the Degree of

*Doctor Of Philosophy*

*Computer Science And Engineering*

Topic : *A Robust Hierarchical Clustering Algorithm for Video Watermark*

Given under the Seal of the University

Date: 09-09-2016



*[Signature]*

*[Signature]*  
REGISTRAR

*[Signature]*  
VICE CHANCELLOR



400201652772

PC NO  
316000364

K.S. INSTITUTE OF TECHNOLOGY  
- BENGALURU - 560 109



Reg.No. I1090053017/RG

*The Syndicate of the Anna University hereby makes known that*  
**PRASANTHA H 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* **2013**.


*Title of the Thesis:*

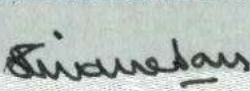
**DIGITAL SIGNAL PROCESSOR IMPLEMENTATION OF SOME NOVEL ALGORITHMS FOR VIDEO PROCESSING ON MOBILE DEVICES**


*Given under the Seal of the University*



Chennai 600 025  
India  
March 2013

  
Controller of Examinations

  
Registrar

  
Vice-Chancellor

11090053017/RG

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI  
KARNATAKA, INDIA



*This is to certify that*

VIJAYALAXMI MEKALI

*has been conferred the Degree of*

*Doctor of Philosophy*

*in*

FACULTY OF COMPUTER & INFORMATION SCIENCES

*for the thesis entitled*

MEDICAL IMAGE ANALYSIS USING COMPUTATIONAL METHODS TO  
DETECT AND DIAGNOSE CANCER TUMOR

*in recognition of the fulfillment of requirements  
for the said degree*

PH 001651 Given under the seal of the University  
19

USN: 1RN13PEN05

BELAGAVI

DATE : MARCH 10, 2022

  
VICE CHANCELLOR

CC 051364

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR



ANANTAPUR - 515 002, ANDHRA PRADESH, INDIA

H.T.No: 0803PH0822

*Pattipathi Naga Sudha*

*D/o Ranga Reddy B*

*having fulfilled the academic requirements in November, 2013 has this day  
been admitted by the Monitoring & Development Committee to the Degree of*

*Doctor of Philosophy*  
(Electronics & Communication Engineering)

for the Thesis entitled,  
"SPEECH COMPRESSION AND ERROR CORRECTION FOR MOBILE  
COMMUNICATION"

*Monday, 16 December, 2013.*

Given under the Seal of the University



  
Director of Evaluation

  
Registrar

  
Vice Chancellor



# JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

HYDERABAD - 500 085, TELANGANA STATE, INDIA

TS 688303



H.T No. : 0803PH08A42

*Ms. Surekha Borra*

*D/o. Venkata Narayana*

having fulfilled the academic requirements in *February, 2015*

has this day been admitted by the Executive Council to the Degree of

*Doctor Of Philosophy*

*Electronics & Communication Engineering*

Topic : Image Data Hiding for Copyright Protection based on Visual Cryptography Schemes

Given under the Seal of the University

Date: 17-09-2016



*CSE*

DIRECTOR OF EVALUATION

*H. H. H. H.*

REGISTRAR

*A. S. S.*

VICE-CHANCELLOR



460201552883

PC No  
21777026418

ENROLMENT NO.: AU141787



Hereby confers the degree of

**DOCTOR OF PHILOSOPHY**



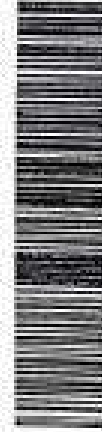
in  
Electronics & Communication Engineering  
on  
**Sangappa**

who has fulfilled all the requirements prescribed  
under the regulations and successfully defended the thesis on

14th, July 2017

entitled

**A Cross Layer Architecture Based Robust Routing Protocol for  
Inter-Vehicular Communication in VASNET**



एतद् द्वारा प्रदान कया है

**डॉक्टर ऑफ फिलॉसॉफी**

की उपाधि

इलेक्ट्रॉनिक्स एण्ड कम्युनिकेशन इंजीनियरिंग

में

**संगप्पा**

को उल्लेख द्वारा उपाधी हेतु विनियम विहित सभी आहताओं को पूर्णकर अपने शोध प्रबंध को

14 जुलाई 2017 में

सफलतापूर्वक प्रस्तुत करने पर, जिसका शीर्षक है :

अ क्रॉस लेयर आर्किटेक्चर बेस्ड रोबस्ट राउटिंग प्रोटोकॉल फॉर इन्टर-वीकूलर  
कम्युनिकेशन इन वासनेट

Given this day under the seal of the University at Raisen  
(Madhya Pradesh) in the Republic of India

  
Registrar

Date : 20/02/2018  
Raisen (M.P.) India

  
Vice-Chancellor

JUC 70029

JGI



## JAIN UNIVERSITY

Declared as Deemed-to-be University vide 3 of the UGC Act, 1956  
vide MHRD Notification No. F-9-57(2007-UJA)

*We, the Chancellor, Vice Chancellor,  
Members of the Board of Management &  
Academic Council of Jain University certify that*

**B Sudarshan**

*having been examined in February-2017  
with Reg. No. 10PPECE146  
has been conferred with the Degree of*

**DOCTOR OF PHILOSOPHY**  
*in Electronics Engineering*

*by Jain University, Bengaluru  
on the 6<sup>th</sup> day of January 2018.*

*In Testimony whereof are set the seal of the  
said University and the signature of the  
said Vice Chancellor*

Date : 06.01.2018

*N. Sundarshan*  
Vice Chancellor

## जैन विश्वविद्यालय

विश्वविद्यालय अधिनियम अधिनियम, 1956 के अनुच्छेद 3 के अन्तर्गत भारत सरकार द्वारा मान्यता प्राप्त विश्वविद्यालय की  
प्रमाणित प्रमाण संख्या: 9-57(2007-UJA) के द्वारा मान्यता-विश्वविद्यालय के रूप में घोषित

हम, जैन विश्वविद्यालय के कुलाधिपति, कुलपति,  
प्रबन्धन परिषद् के सदस्य एवं  
शिक्षा समिति, प्रमाणित करते हैं कि

**बि. सुदर्शन**

जिनकी पंजीयन संख्या 10PPECE146 है,  
फरवरी - 2016 के परीक्षोपरांत

पीएच. डी.  
विद्युत्तन्त्र अभियांत्रिकी

की उपाधि में उत्तीर्ण हुए।  
जैन विश्वविद्यालय, बैंगलूरु की ओर से  
दिनांक 6 जनवरी 2018 को उन्हें यह उपाधि  
प्रदान की गई है, जिसके प्रमाण स्वरूप उक्त  
विश्वविद्यालय की मोहर एवं  
उक्त कुलपति के हस्ताक्षर अंकित हैं।

*N. Sundarshan*  
कुलपति

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM  
KARNATAKA, INDIA



*This is to certify that*

**CHANDA V REDDY**

*has been conferred the Degree of*

**Doctor of Philosophy**

*in*

*Faculty of Electrical & Electronics Engineering Sciences*

*for the thesis entitled*

*Bit Loading Algorithm With Optimised Bitrate And Power  
Allocation In Wireless Communication System*

*in recognition of the fulfillment of requirements  
for the said degree*

PH<sub>13</sub> 001433

Given under the seal of the University;

USN: 1RV10PEN01



BELGAUM

DATE : March 18, 2019

A handwritten signature in black ink, likely belonging to the Vice Chancellor.  
VICE CHANCELLOR

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI  
KARNATAKA, INDIA



*This is to certify that*

REKHA N

*has been conferred the Degree of*

**Doctor of Philosophy**

*in*

FACULTY OF ELECTRICAL & ELECTRONICS ENGINEERING SCIENCES

*for the thesis entitled*

NOISE CANCELLATION IN GSM LOGICAL CHANNEL USING SEARCH  
ALGORITHM

*in recognition of the fulfillment of requirements  
for the said degree*

PH 000746 Given under the seal of the University  
19

USN: 1KS14PEM01



BELAGAVI

DATE : APRIL 03, 2021

  
VICE CHANCELLOR

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI  
KARNATAKA, INDIA



*This is to certify that*

DINESH KUMAR D S

*has been conferred the Degree of*

**Doctor of Philosophy**

*in*

FACULTY OF ELECTRICAL & ELECTRONICS ENGINEERING SCIENCES

*for the thesis entitled*

A NOVEL MULTI ALGORITHM BASED SPEECH & FACE RECOGNITION  
(MULTI MODAL) SYSTEM FOR THE ANALYSIS OF FAR & FRR

*in recognition of the fulfillment of requirements  
for the said degree*

PH 001061  
19

Given under the seal of the University

USN: 1TJ12PEN04



BELAGAVI

DATE : APRIL 03, 2021

VICE CHANCELLOR

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI  
KARNATAKA, INDIA



*This is to certify that*

DEVIKA B

*has been conferred the Degree of*

**Doctor of Philosophy**

*in*

FACULTY OF ELECTRICAL & ELECTRONICS ENGINEERING SCIENCES

*for the thesis entitled*

OPTIMIZING POWER IN AD HOC NETWORKS

*in recognition of the fulfillment of requirements  
for the said degree*

PH 19 000811 Given under the seal of the University

USN: 1KS14PEM03



BELAGAVI

DATE : APRIL 03, 2021

VICE CHANCELLOR

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI  
KARNATAKA, INDIA



*This is to certify that*

POOJA S

*has been conferred the Degree of*

**Doctor of Philosophy**

*in*

FACULTY OF ELECTRICAL & ELECTRONICS ENGINEERING SCIENCES

*for the thesis entitled*

A HYBRID REGULARIZATION ALGORITHM FOR EFFICIENT BLIND IMAGE  
DEBLURRING

*in recognition of the fulfillment of requirements  
for the said degree*

PH  
23 00872

Given under the seal of the University

USN: IJS17PES04



BELAGAVI

DATE : FEBRUARY 24, 2023

A handwritten signature in green ink, likely belonging to the Vice Chancellor, located to the right of the seal.

VICE CHANCELLOR





# Indian Institute of Technology, Madras

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

**VENKATESWARA ALIAS BALAJI K**

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

**A STUDY OF SOME PSYCHOLOGICAL ANTECEDENTS  
IN INDUSTRIAL ACCIDENTS**

*Given this day the Twentysixth of July, 1996  
under the seal of the Institute.*

*[Signature]*  
PRINCIPAL  
K.S. INSTITUTE OF TECHNOLOGY  
BENGALURU - 560 109.



*[Signature]*  
Registrar

*[Signature]*  
Director

*[Signature]*  
Chairman, Board of Governors

Registration No.



03221012A



**National Institute of Technology Karnataka, Surathkal**

hereby confers the degree of

**Doctor of Philosophy**



on

*Dilip Kumar K*

in recognition of the research work on

*Computer Aided Prediction Of Forming Severity In L-Bending Of Aluminum Sheet Metal*

carried out in the Department of

**Mechanical Engineering**

and completed all the requirements

in May 2009

Given under the seal of the Institute,

on 5<sup>th</sup> May 2010

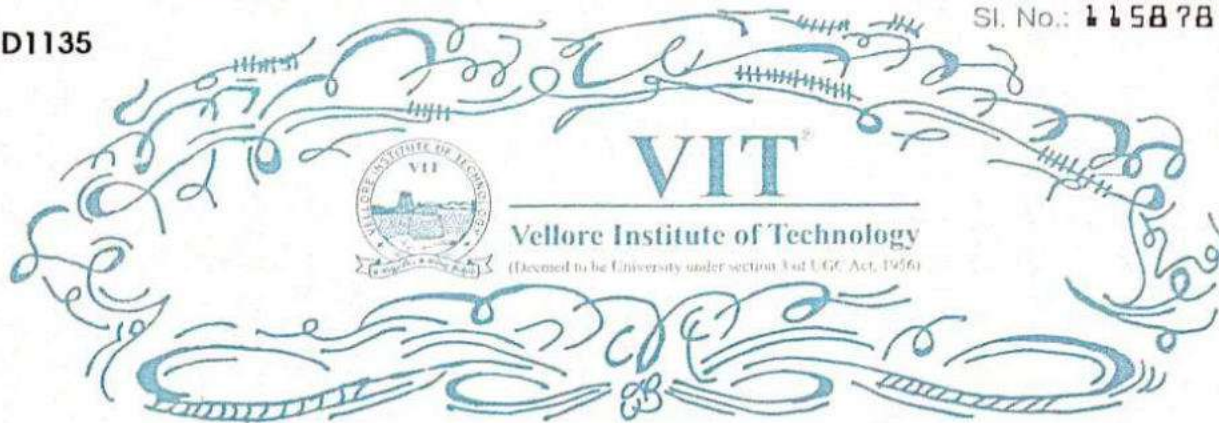


*[Signature]*  
Registrar

*[Signature]*  
Director

*[Signature]*  
Chairman, Board of Governors

Sl. No. PH09036



The Board of Management of the  
Vellore Institute of Technology (VIT)  
hereby confers on

**M UMASHANKAR**

the degree of

**DOCTOR OF PHILOSOPHY**

in recognition of the research work entitled

**TRIBOLOGICAL STUDIES ON ZINC-ALUMINIUM CAST ALLOYS**

for having fulfilled the prescribed requirements.

The degree has been awarded in compliance with the  
"University Grants Commission, Regulation 2009"

given this day the 16 June 2021



Given under the seal of this university



*R.B. Kodali*  
Vice - Chancellor

*[Signature]*  
Chancellor

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI  
KARNATAKA, INDIA



*This is to certify that*

**NAGAPRASAD K S**

*has been conferred the Degree of*

**Doctor of Philosophy**

*in*

*Faculty of Mechanical Engineering Sciences*

*for the thesis entitled*

*A Study on Effect of Fluid Injection on Diesel Engine  
Performance and Emissions*

*in recognition of the fulfillment of requirements  
for the said degree*

PH  
19 000332

Given under the seal of the University

USN: 1DA08PMN03



BELAGAVI

DATE : Feb 08, 2020

VICE CHANCELLOR

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM  
KARNATAKA, INDIA



*This is to certify that*

**GIRISH T R**

*has been conferred the Degree of*

**Doctor of Philosophy**

*in*

*Faculty of Mechanical Engineering Sciences*

*for the thesis entitled*

*Development And Characterization of Hybrid Composite Using  
Jute And Glass Fiber*

*in recognition of the fulfillment of requirements  
for the said degree*

PH  
13

001511

Given under the seal of the University

USN: 5VX12PMN37



A handwritten signature in green ink, likely of the Vice Chancellor, located at the bottom right of the certificate.

BELGAUM  
DATE

: March 18, 2019

VICE CHANCELLOR

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**  
ANANTHAPURAMU - 515 002, ANDHRA PRADESH, INDIA

CC 067139

H.T.No:10PH0340

Aadhaar No:890764913798



*L Nirmala*

*D/o. L Rangaiah  
&  
Lingutla Ramathulasi*

*having fulfilled the academic requirements in August, 2019 has this day  
been admitted by the Executive Council to the Degree of*

*\*\*\* Doctor of Philosophy \*\*\**  
(Mechanical Engineering)

for the Thesis entitled,  
"STUDIES ON ABRASIVE WEAR, CORROSION RESISTANCE AND MICROSTRUCTURAL  
PROPERTIES OF ZA27 NICKEL ALLOY"

Date of Viva Voce : 24.08.2019 Given under the Seal of the University  
Saturday, 24 April, 2021.



  
DIRECTOR OF EVALUATION

  
REGISTRAR

  
VICE CHANCELLOR

P-020

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD  
HYDERABAD - 500 085, TELANGANA STATE, INDIA

S 1503275



T No.: 0903PH1526

*Mr. Saleem Khan*

*No. Gulam Hussain*

has fulfilled the academic requirements in *November - 2020*

and has been admitted by the Executive Council to the Degree of

*Doctor of Philosophy*

*Mechanical Engineering*

Topic: "Development of Hybrid Al6061-Si<sub>3</sub>N<sub>4</sub>-C<sub>r</sub> Metal Matrix Composite".

Given under the Seal of the University

Date: 26-02-2022



*[Signature]*

RECTOR OF EVALUATION

*[Signature]*

*[Signature]*

VICE CHANCELLOR



410114100082

PC No  
320091720



*This is to certify that*

JALAJA P

*has been conferred the Degree of*

**Doctor of Philosophy**

*in*

FACULTY OF APPLIED SCIENCES (MATHEMATICS)

*for the thesis entitled*

A NUMERICAL STUDY OF UNSTEADY INCOMPRESSIBLE BOUNDARY  
LAYER THROUGH DOUBLE CHOKING SUPERSONIC EJECTORS

*in recognition of the fulfillment of requirements  
for the said degree*

PH  
19 001156

Given under the seal of the University

USN: 1EW15PGJ04



BELAGAVI

DATE : APRIL 03, 2021

VICE CHANCELLOR





ವಿಶ್ವವಿದ್ಯಾಲಯದ ಕುಲಾಧಿಪತಿ, ಸಮಕುಲಾಧಿಪತಿ, ಕುಲಪತಿ,  
*We, the Chancellor, the Pro-Chancellor, the Vice-Chancellor,*  
 ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ತು ಮತ್ತು ಸಿಂಡಿಕೇಟ್ ಸದಸ್ಯರಾದ ನಾವು  
*the members of the Academic Council and the Syndicate*

**Certify that**

**KIRAN KUMAR S R**

ಇವರು ಪರೀಕ್ಷಕರಿಂದ ಪರೀಕ್ಷಿಸಲ್ಪಟ್ಟು, ಪರೀಕ್ಷಕರ ಮಂಡಳಿಯ ಶಿಫಾರಸ್ಸಿನಂತೆ,  
*on the recommendation of the Board of Examiners, admitted to the degree of*

**Doctor of Philosophy**  
**(Chemistry)**

ಪದವಿಗೆ ಅರ್ಹರಾಗಿರುತ್ತಾರೆಂದು ಪ್ರಮಾಣೀಕೃತವಾಗಿರುವುದರಿಂದ  
*in recognition of the fulfilment of requirements*  
 ೩೦ನೇ ಘಟಿಕೋತ್ಸವದಲ್ಲಿ ಸದರಿ ಪದವಿಗೆ ಇವರನ್ನು ಅಂಗೀಕರಿಸಲಾಗಿದೆ.  
*for the said Degree at the THIRTIETH Convocation*

ಅಧಿಸೂಚನೆ ದಿನಾಂಕ / Date of Notification : 12/06/2019

ಘಟಿಕೋತ್ಸವ ದಿನಾಂಕ / Date of Convocation : 29th July 2020

ವಿಶ್ವವಿದ್ಯಾಲಯದ ಮೊಹರಿನೊಂದಿಗೆ ನೀಡಲಾಗಿದೆ.

*Given under the seal of the University.*



Jnana Sahyadri, Shankaraghatta-577451  
 Shivamogga District,  
 Karnataka, India

Date of Issue : 29/07/2020

KUS



*Jnana Sahyadri*  
 ಕುಲಪತಿ  
 Vice-Chancellor



# பாரதியார் பல்கலைக் கழகம் Bharathiar University

அறிவியல் புலம்

## FACULTY OF SCIENCE

பாரதியார் பல்கலைக் கழகத்தால்

முறையாக

அமைக்கப்பட்ட

தேர்வாளர்

குழு.

ரேணுகா ச, 2018 ஆம் ஆண்டு, நவம்பர் 22 ஆம்

நாளில்

இயற்பியல்

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 RENUKA C has been admitted to the Degree of DOCTOR OF PHILOSOPHY in PHYSICS, having been certified by duly appointed Examiners to be qualified to receive the same on 22nd NOVEMBER 2018.



கோயம்புத்தூர்

Coimbatore

018553463

நாள்

Given under the Seal of the University.

தேர்வாளையர்(பொ)

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

ISSUED ON - 3 OCT 2020

பதிவாளர்(பொ)

Registrar(i/c)

துணைவேந்தர்

Vice-Chancellor

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI  
KARNATAKA, INDIA



*This is to certify that*

VENKATARAMANA B S

*has been conferred the Degree of*

**Doctor of Philosophy**

*in*

FACULTY OF APPLIED SCIENCES (MATHEMATICS)

*for the thesis entitled*

STUDIES ON POWER EXPONENTIAL MEAN IN SEVERAL VARIABLE  
AND ITS APPLICATIONS

*in recognition of the fulfillment of requirements  
for the said degree*

PH  
19 001822

Given under the seal of the University

USN: 1JS15PGJ05



BELAGAVI

DATE : MARCH 10, 2022

VICE CHANCELLOR

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI  
KARNATAKA, INDIA



*This is to certify that*

MADHAVI. S

*has been conferred the Degree of*

Doctor of Philosophy

*in*

FACULTY OF APPLIED SCIENCES (PHYSICS)

*for the thesis entitled*

STUDY ON PHYSICAL, THERMAL, AND MECHANICAL PROPERTIES OF  
BAMBOO POLYPROPYLENE COMPOSITE

*in recognition of the fulfillment of requirements  
for the said degree*

PH  
23 00119

Given under the seal of the University

USN: 1GA16PGJ02



BELAGAVI

DATE : FEBRUARY 24, 2023

VICE CHANCELLOR



ವಿಶ್ವವಿದ್ಯಾಲಯದ ಕುಲಾಧಿಪತಿ, ಸಮಕುಲಾಧಿಪತಿ, ಕುಲಪತಿ,  
*We, the Chancellor, the Pro-Chancellor, the Vice-Chancellor,*  
 ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ತು ಮತ್ತು ಸಿಂಡಿಕೇಟ್ ಸದಸ್ಯರಾದ ನಾವು  
*the members of the Academic Council and the Syndicate*

**Certify that**  
**HARISHA S**

ಇವರು ಪರೀಕ್ಷಕರಿಂದ ಪರೀಕ್ಷಿಸಲ್ಪಟ್ಟು, ಪರೀಕ್ಷಕರ ಮಂಡಳಿಯ ಶಿಫಾರಸ್ಸಿನಂತೆ,  
*on the recommendation of the Board of Examiners, admitted to the degree of*

**Doctor of Philosophy**  
**(Chemistry)**

ಪದವಿಗೆ ಅರ್ಹರಾಗಿರುತ್ತಾರೆಂದು ಪ್ರಮಾಣೀಕೃತವಾಗಿರುವುದರಿಂದ  
*in recognition of the fulfilment of requirements*  
 ಒಂನೇ ಘಟಿಕೋತ್ಸವದಲ್ಲಿ ಸದರಿ ಪದವಿಗೆ ಇವರನ್ನು ಅಂಗೀಕರಿಸಲಾಗಿದೆ.  
*for the said Degree at the THIRTIETH Convocation*

ಅಧಿಸೂಚನೆ ದಿನಾಂಕ / Date of Notification : 27/04/2019

ಘಟಿಕೋತ್ಸವ ದಿನಾಂಕ / Date of Convocation : 29th July 2020

ವಿಶ್ವವಿದ್ಯಾಲಯದ ಮೊಹರಿನೊಂದಿಗೆ ನೀಡಲಾಗಿದೆ.

*Given under the seal of the University.*



Jnana Sahyadri, Shankaraghatta-577451  
 Shivamogga District,  
 Karnataka, India

Date of Issue : 29/07/2020

KUS



*Jnana Sahyadri*  
 ಕುಲಪತಿ  
 Vice-Chancellor

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI  
KARNATAKA, INDIA



*This is to certify that*

SHOBHA G

*has been conferred the Degree of*

**Doctor of Philosophy**

*in*

FACULTY OF APPLIED SCIENCES (BIO-TECHNOLOGY)

*for the thesis entitled*

RAPID BIOSYNTHESIS OF COPPER NANOPARTICLE AND THEIR  
EFFECT ON AGRONOMICAL TRAITS OF LYCOPERSICON  
ESCULENTUM

*in recognition of the fulfillment of requirements  
for the said degree*

PH  
19 000968

Given under the seal of the University


USN: 1MV13PGN04



BELAGAVI

DATE

: APRIL 03, 2021

  
VICE CHANCELLOR