

# Jagadeesh Kumar



---

## Personal Data

Name	Jagadeesh Kumar
Address	Zugspitzstrasse 80 85591 Vaterstetten
Tel.	0176 / 240 82328
E-Mail	jagadeesh.srmuniv@gmail.com
Birth date	05.01.1994 in Chennai
Nationality	Indian
Parents	Mother: Krishnaveni Ashok, 49 Father: Ashok Kumar, 54, Materials Manager
Siblings	Sister: Jaishree Ashok, 19

---

## Professional Experience

August 2017 – present	Technische Universität München Master Thesis
August 2015 – July 2016	Skylark Drones Pvt. Ltd., Bengaluru, India Electronics and Flight Control Engineer
October 2016 – February 2017	Hochschule Ravensburg - Weingarten System on Chip Designer (Work Student)
October 2016 – July 2017	Hochschule Ravensburg - Weingarten Embedded Computing Engineer
October 2016 – July 2017	Hochschule Ravensburg - Weingarten Student Assistant, Co-worker in Laboratory
November 2016 – December 2016	Boehringer Ingelheim Pharma GmbH, Biberach, Deutschland Software Developer (Work Student)

---

## Education

2016 – 2018	Hochschule Ravensburg - Weingarten, Deutschland Degree: Master of Engineering (February 2018)
2011 – 2015	SRM University, Chennai, India Degree: Bachelor of Technology

---

## Knowledge and Skills

**Language** English Spoken and Written (TOEFL Test)  
Deutsch B1  
Tamil, Hindi (Mother tongue)

**Computer Skills** Microsoft Office (Word, Excel)  
Adobe Photoshop  
MATLAB/ Simulink  
C/C++  
VHDL, EAGLE PCB Design  
LabVIEW, Python  
Windows, LINUX & MacOS

**Organizational Skills** Good Team player, Sociable, Leadership

### Certifications

**June 2014** Certificate of participation in the Annual CanSat Competition, 2014,  
organized by AIAA and NASA in Texas, USA

**May – June 2017** Hochschule Ravensburg-Weingarten  
Certified LabVIEW Associate Developer (CLAD)

**Hobbys** Cricket, German Culture, Reading, Music

# JAGADEESH KUMAR. A

[jagadeesh.srmuniv@gmail.com](mailto:jagadeesh.srmuniv@gmail.com) | 017624082328 | Zugspitzstraße 80, Vaterstetten, DE – 85591

## ELECTRICAL AND EMBEDDED SYSTEMS ENGINEER

### AREAS OF EXPERTISE

- |                          |                     |                          |
|--------------------------|---------------------|--------------------------|
| ▪ Embedded Systems       | ▪ VHDL & SystemC    | ▪ Circuit Design (EAGLE) |
| ▪ Hardware Development   | ▪ Signal Processing | ▪ Data Acquisition       |
| ▪ Electrical Engineering | ▪ Microcontrollers  | ▪ Instrumentation        |
| ▪ UAV Flight Control     | ▪ Telecommunication | ▪ Matlab & LabVIEW       |

### SELECTED CAREER HIGHLIGHTS

- Versatile Experience in technical aspects as well as behavioral conduct at **Skylark Drones Pvt. Ltd.** This includes: in-time product delivery, task management and meeting clients' requirements.
- With technical support and financial aid from my Bachelor University, I founded a student organization to develop and research on UAVs, namely, **Student Copters Research Organization (SCRO)**. I also lead the control and power systems domain and successfully developed a custom flight control system for a quadcopter.
- Attained significant exposure in electronic systems by designing a miniature satellite to measure various atmospheric parameters and transmit the data through live feed telemetry to the ground station, while participating at the **Annual CanSat Competition, 2014** held at **Abilene, Texas, USA**, conducted by the prestigious organizations, **AIAA and NASA**.

### PROFESSIONAL EXPERIENCE

**TECHNICAL UNIVERSITY OF MUNICH**, Munich, Deutschland

08/2017 – present

#### *Master's Thesis*

- Delivering a hardware solution to measure the atmospheric Carbon dioxide concentration with high accuracy and a precision of 0.02 ppm using Tunable Diode Laser Absorption Spectroscopy.
- Develop and implement the TDLAS control circuit with Temperature controllers and Laser diode drivers.
- Simulate the results and compare with the current available technologies.
- Publish a paper on the results of this hardware and the other contemporary measurement technologies.

**SKYLARK DRONES PVT. LTD.**, Bengaluru, India

08/2015 – 07/2016

#### *Electronics and Flight Control Engineer*

- Drove profitable operations, including successful project completions in Aerial surveillance using drones and UAVs.
- Key team member responsible for the electronics integration and monitoring the health of the drones.
- Managed the on-field operations and responsible for live data acquisition from in-flight drones.
- Offered skilled manual piloting of the drones and controlled autonomous navigation.
- Accolades received for actively involving in Research and Development.
- Directed and trained new intern students on handling drones and its electronics.

**HS RAVENSBURG WEINGARTEN**, Weingarten, Deutschland

10/2016 – 02/2017

***System On Chip Designer (Work Student)***

- Delivered an 8-bit Tester Chip and Port Expander Board, using development environments such as EAGLE PCB designer and ModelSim.
- Eliminated errors in the design and boosted the performance of the design by 30% with minimum internal memory.
- Created VHDL scripts and Testbench codes to support XILINX FPGA review.
- Simultaneously developed a SystemC program with a focus on the timing and RTL of certain blocks of 8051 Microcontroller and Synthesized the same using XILINX ISE design suit.

**HS RAVENSBURG WEINGARTEN**, Weingarten, Deutschland

10/2016 – 07/2017

***Embedded Computing Engineer***

- Developed a system for QR code tracking by image processing using OpenCV and Raspberry Pi.
- Also achieved detection of distance between the Camera and the QR code in all the 3 axis, with a given focal length of the camera.
- Successfully implemented the same for swarm robots, where slave carts would track and follow the master cart holding a QR code.

**HS RAVENSBURG WEINGARTEN**, Weingarten, Deutschland

10/2016 – 07/2017

***Student Assistant***

- Designed various Higher Order Filters and implemented them using the Arduino Due Microcontroller.
- Realized various complicated Signal Processing circuits using PicoScope and Matlab.
- Assisted the Research and Development department by testing various DSPs and Communication Systems.

**BOEHRINGER INGELHEIM PHARMA GmbH**, Biberach, Deutschland

11/2016 – 12/2016

***Software Developer (Work Student)***

- Successfully presented our team's idea and secured a place at the Boehringer eHealth Hackathon.
- Developed a Raspberry Pi based eHealth monitoring system to record and simultaneously upload the feed values from different health sensors such as Blood Pressure, Temperature, Sugar level sensor, etc. to the cloud.

---

**EDUCATION AND AFFILIATIONS**

---

**Qualification** *Master of Engineering in Electrical Engineering and Embedded Systems.*

**Duration** 09/2016 – 03/2018 (Expected).

**Organization** Hochschule Ravensburg Weingarten, 88250, Weingarten, Deutschland.

**Principal Subjects**

- Advanced Mathematics
- Signal Processing
- Telecommunication Technology
- Embedded Computing
- System on Chip
- Embedded Control

**Core Competencies**

MATLAB, GNU OCTAVE  
MATLAB and Picoscope  
Cadence OrCAD, PSpice  
C/C++, Raspberry Pi & Arduino  
EAGLE, VHDL, SystemC  
MATLAB, Control System

**Qualification** *Bachelor of Technology in Electronics and Instrumentation Engineering.*

**Duration** 07/2011 – 05/2015

**Organization** SRM University, 603203, Chennai, India.

**Principle Subjects**

VLSI Design and Embedded Systems, Virtual Instrumentation, Communication Technology, Control Systems, Digital Systems, DSP, Microcontrollers, Power Electronics, Electrical Machines.

**Bachelor Project** *Smart Glass: Holographic Projection and gesture control of Computer.*

Technische Universität München | Arcisstraße 21 | 80333 München  
Professur für Umweltsensorik und Modellierung

A. Jagadeesh Kumar  
Briachstraße 2, Zi. Nu. A114  
Weingarten-88250  
Baden Württemberg  
Deutschland  
Email: jagadeesh.srmuniv@gmail.com

München, 13. Juni 2017

**Subject: Invitation letter for conducting Master's Thesis at TU Munich**

Dear Mr. Jagadeesh Kumar. A,


It is my pleasure to invite you to the **Electronic System for High Accuracy Green-house gas Measurement** at the **Technische Universität München** from 10<sup>th</sup> August to 31<sup>st</sup> January 2018 in order to carry out your Master's thesis in the area of **Urban Emission Estimates Using TDLAS**. The **Environmental Sensing and Modeling** will provide the required laboratory space and experimental infrastructure that will be required to carry out your thesis. Close collaboration and supervision support from the senior researcher from the Chair will also be provided.

The task of the Master thesis is to design the electronic system to make the TDLAS measurement system be portable. That is: a temperature controller to control the temperatures of the laser and the photodetector, a current signal generator to tune the laser wavelength, and a data acquisition to record the laser light signal.

We understand that your travel expenses to Munich, including all incidental expenses, your accommodation in Munich and health insurance will be borne by you.

With best regards,

Sign by supervisor

  
Lijuan LAN

Technische Universität München  
Fakultät für Elektrotechnik und  
Informationstechnik  
Professur für Umweltsensorik und  
Modellierung

Professorin Dr.-Ing. Jia Chen  
Theresienstr. 90  
Rückgebäude N5  
80333 München

Tel. +49 89 289 23350  
Fax +49 89 289 23348

jia.chen@tum.de  
www.esm.ei.tum.de  
www.tum.de

Bayerische Landesbank  
IBAN-Nr.:  
DE1070050000000024866  
BIC: BYLADEMM  
Steuer-Nr.: 143/241/80037  
USt-IdNr.: DE811193231

## IMMATRIKULATIONSBESCHEINIGUNG

für das Wintersemester 2017/18

Herr	Jagadeesh Kumar Ashok Kumar
Matrikel-Nr.	28807
geboren am	05.01.1994
geboren in	Chennai/India
ist an der	Hochschule Ravensburg-Weingarten
im Studiengang	El. and Embedded Systems
im Status	Haupt Hörer
mit dem Abschlussziel	Master of Engineering (M.Eng.)
	ordnungsgemäß immatrikuliert und nicht beurlaubt.
Bescheinigungsdauer:	Wintersemester 2017/18
Wintersemester	01.09. - 29.02.
Sommersemester	01.03. - 31.08.
Regelstudienzeit:	3

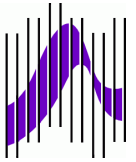
Erstellt am 06.11.2017

Diese Bescheinigung wurde per Computer erstellt und ist ohne Unterschrift gültig. Zusätze und Änderungen bedürfen der ausdrücklichen Bestätigung durch die Studentische Abteilung.

Verifikationsschlüssel: UGXXHXFNKPYL

Zur Verifikation dieser Bescheinigung rufen Sie bitte folgende Webadresse auf:  
<https://www.lsf.hs-weingarten.de/verify>





Herrn  
Jagadeesh Kumar Ashok Kumar  
Briachstraße 2, Zi. A114  
88250 Weingarten

geboren am: 05.01.1994  
in: Chennai/India  
Matrikelnummer: 28807  
aktuelles Fachsemester: 3

Montag, 06. November 2017

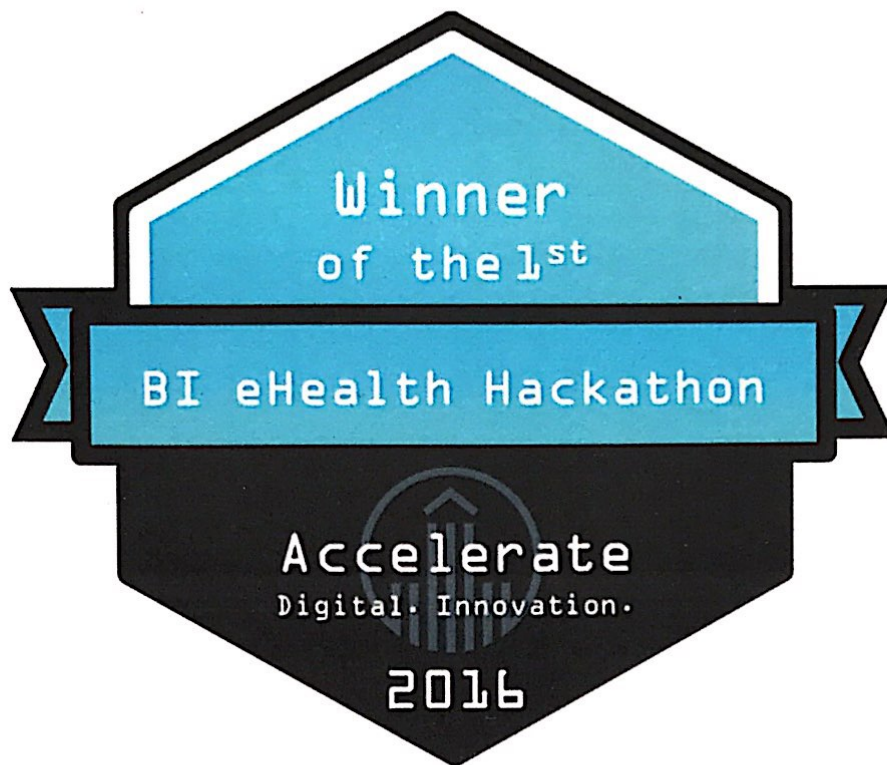
# Notenspiegel

Studiengang: El. and Embedded Systems  
(angestrebter) Abschluss: Master mit vorausg. Absch  
PO-Version: 10

PrNr	Prüfungstext	Semester	Note	Status	Credits	Versuche
49402	Circuits and Systems 1	WS 2016	3,0	BE	5.0	1
49404	Communication 2	WS 2016	4,0	BE	5.0	1
5891	Deutsch als Fremdsprache A 1	WS 2016	1,7	BE	2.0	1
49403	Signalprocessing 1	WS 2016	3,6	BE	5.0	1
49407	Advanced Control Systems	SS 2017	2,4	BE	5.0	1
49405	Circuits and Systems 2	SS 2017	2,0	BE	5.0	1
49401	Communication 1	SS 2017	2,5	BE	5.0	1
5892	Deutsch als Fremdsprache A2	SS 2017	1,3	BE	4.0	1
49408	Embedded Computing	SS 2017	1,6	BE	10.0	1
49400	Mathematics	SS 2017	1,3	BE	10.0	1
43036	Processes and Automation in Photovoltaics	SS 2017	2,2	BE	5.0	1
49406	Signalprocessing 2	SS 2017	1,1	BE	5.0	1
43027	System Analysis and Simulation with LabView	SS 2017	1,6	BE	5.0	1
43028	Laboratory on Robotics	WS 2017	---	BE	3.0	1

Diese Liste wurde maschinell erstellt und trägt daher keine Unterschrift.

Status: AN=angemeldet. BE=bestanden. EN=endgültig nicht bestanden. NB=nicht bestanden.



**Jagadeesh Kumar**

was part of the winning team of the

**1<sup>st</sup> BI eHealth Hackathon**

**Nov 16<sup>th</sup>-17<sup>th</sup> 2016 in Biberach**

  
Martin Locher

  
Prof. Dr. Franz Brümmer



Serial Number: 100-317-20570

Issue Date: 6/29/2017

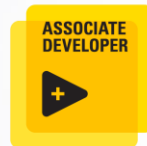
Expiration Date: 6/28/2019

NI CUSTOMER EDUCATION

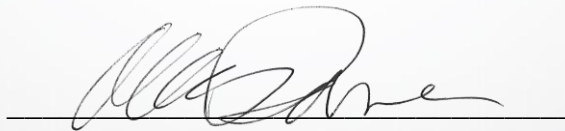
# Certification

## Jagadeesh Kumar Ashok Kumar

Has successfully completed all requirements and is now granted the title of:



Certified LabVIEW  
Associate Developer  
National Instruments

A handwritten signature in black ink, appearing to read "Alex Davern", written over a horizontal line.

Alex Davern  
President and CEO  
National Instruments

**DATE: 26<sup>th</sup> July, 2016**

## **TO WHOMSOEVER IT MAY CONCERN**

This is to certify that **Mr. Jagadeesh Kumar A**, has worked in our organization, **SKYLARK DRONES PRIVATE LIMITED** since **3<sup>rd</sup> August 2015 to 28<sup>th</sup> July 2016** designated as **Electronics and Flight Controller**.

He was responsible for the electronics and sensor integration of the Drones in our organization.

He possesses good technical knowledge and communication skills. During his tenure in our organization, we found his character and conduct to be satisfactory.

We wish him all success.

**For Skylark Drones Pvt. Ltd.**



**John Paul**  
**HR-Admin**





*Faculty of Engineering and Technology*  
*The Board of Management of the SRM University*  
*hereby makes known that*  
*JAGADEESH KUMAR A*

*has been admitted to the Degree of*  
*BACHELOR OF TECHNOLOGY IN*  
*ELECTRONICS AND INSTRUMENTATION ENGINEERING*

*having been certified by duly appointed examiners to be*  
*qualified to receive the same and placed in the*  
*FIRST CLASS*

*at the examination held in* MAY - 2015

*Given under the seal of the University.*



DATED: 07 NOV 2015

SRM NAGAR, KATTANKULATHUR - 605 205  
KANCHI PURAM DIST., TAMILNADU, INDIA.

*[Signature]*  
REGISTRAR

*[Signature]*  
VICE-CHANCELLOR





# SRM UNIVERSITY

Established U/S 3 of UGC Act 1956



## B.Tech. DEGREE EXAMINATION

### TRANSCRIPT

FOLIO NO : A36532

NAME OF THE CANDIDATE		JAGADEESH KUMAR A [05-Jan-1994]	REGISTER NUMBER		1171110122		BRANCH / SPECIALISATION	ELECTRONICS AND INSTRUMENTATION ENGINEERING		MONTH & YEAR OF LAST APPEARANCE		MAY - 2015	
Sem	Subject Code	Subject Title	Credits	Grade	Att Code	Month & Year of Passing	Sem	Subject Code	Subject Title	Credits	Grade	Att Code	Month & Year of Passing
1	LE0101	ENGLISH	2	B+	9	DEC - 2011	5	EI0303	INDUSTRIAL INSTRUMENTATION	3	C+	9	NOV - 2013
1	MA0101	MATHEMATICS - I	4	B-	9	DEC - 2011	5	EI0305	CONTROL SYSTEMS	3	C-	H	NOV - 2013
1	PH0101	PHYSICS	3	C	H	DEC - 2011	5	EI0307	MICROPROCESSORS AND MICROCONTROLLERS	3	B	H	NOV - 2013
1	CY0101	CHEMISTRY	3	C+	H	DEC - 2011	5	EI0309	ANALYTICAL INSTRUMENTATION	3	B-	H	NOV - 2013
1	GE0101	BASIC ENGINEERING - I	4	B	H	DEC - 2011	5	EI0311	DIGITAL SIGNAL PROCESSING	3	B	H	NOV - 2013
1	PD0101	PERSONALITY DEVELOPMENT - I	0	-	9	DEC - 2011	5	PD0301A	PERSONALITY DEVELOPMENT - V	2	B-	H	NOV - 2013
1	GE0107A	NSS	1	D	-	DEC - 2011	5	EI0313	MICROPROCESSORS AND MICROCONTROLLERS LABORATORY	1	B+	H	NOV - 2013
1	GE0105	COMPUTER LITERACY	1	B	H	DEC - 2011	5	EI0315	CONTROL ENGINEERING LABORATORY	1	A+	9	NOV - 2013
1	PH0103	PHYSICS LABORATORY	1	B	H	DEC - 2011	5	EI0319	COMPREHENSION - I	1	B+	H	NOV - 2013
1	CY0103	CHEMISTRY LABORATORY	1	A-	H	DEC - 2011	5	EI0321	INDUSTRIAL TRAINING - I	1	A+	9	NOV - 2013
1	ME0130	ENGINEERING GRAPHICS	3	A-	H	DEC - 2011	6	EI0302	POWER ELECTRONICS	3	C-	9	MAY - 2014
2	GE0108	VALUE EDUCATION	1	C	H	MAY - 2012	6	EI0310	VLSI DESIGN AND EMBEDDED SYSTEMS	3	C-	9	MAY - 2014
2	GE0102	BIOLOGY FOR ENGINEERS	2	B-	H	MAY - 2012	6	EI0304	DIGITAL SYSTEM DESIGN	3	E	9	MAY - 2014
2	GE0104	PRINCIPLES OF ENVIRONMENTAL SCIENCE	2	C	9	MAY - 2012	6	EI0306	PROCESS CONTROL	3	D	9	MAY - 2014
2	MA0102	MATHEMATICS - II	4	C+	H	MAY - 2012	6	EI0308	INDUSTRIAL DRIVES AND CONTROL	3	C	H	MAY - 2014
2	PH0102	MATERIAL SCIENCE	3	B-	H	MAY - 2012	6	EI0354	MODERN CONTROL SYSTEMS	3	C-	9	MAY - 2014
2	GE0106	BASIC ENGINEERING - II	4	B	H	MAY - 2012	6	PD0302A	PERSONALITY DEVELOPMENT - VI	2	B+	9	MAY - 2014
2	EI0102	ELECTRONIC DEVICES	3	B-	9	MAY - 2012	6	EI0312	ELECTRONIC DESIGN PROJECT LABORATORY	1	B	H	MAY - 2014
2	PD0102	PERSONALITY DEVELOPMENT - II	0	-	H	MAY - 2012	6	EI0314	PROCESS CONTROL LABORATORY	1	C-	H	MAY - 2014
2	CS0140	COMPUTER PRACTICE	2	A+	9	MAY - 2012	6	EI0316	COMPUTER SKILLS	2	B+	9	MAY - 2014
2	ME0120A	WORKSHOP PRACTICE	2	A-	9	MAY - 2012	6	EI0318	COMPREHENSION - II	1	B-	9	MAY - 2014
2	EI0110	DEVICES LABORATORY	1	B+	H	MAY - 2012	7	EI0401	VIRTUAL INSTRUMENTATION	3	B	9	NOV - 2014
3	LE0201	GERMAN - I	2	B+	H	NOV - 2012	7	EI0403	COMPUTER CONTROL OF PROCESSES	3	B	H	NOV - 2014
3	MA0211	MATHEMATICS - III	4	C+	H	NOV - 2012	7	EI0405	INDUSTRIAL AUTOMATION	3	B-	H	NOV - 2014
3	CE0221	ENGINEERING MECHANICS	3	B	H	NOV - 2012	7	EI0451	ROBOTICS AND AUTOMATION	3	C+	H	NOV - 2014
3	EI0201	ELECTRICAL MACHINES	3	B-	H	NOV - 2012	7	EI0459	POWER PLANT INSTRUMENTATION	3	C+	9	NOV - 2014
3	EI0203	DIGITAL SYSTEMS	3	B	H	NOV - 2012	7	EI0413	VIRTUAL INSTRUMENTATION LABORATORY	1	A	H	NOV - 2014
3	EI0205	ELECTRONIC CIRCUITS	3	B-	H	NOV - 2012	7	EI0415	AUTOMATION LABORATORY	1	A-	H	NOV - 2014
3	EI0207	ELECTRIC CIRCUITS AND NETWORKS	3	B-	H	NOV - 2012	7	EI0417	INDUSTRIAL TRAINING - II	1	A+	H	NOV - 2014
3	PD0201A	PERSONALITY DEVELOPMENT - III	1	C+	H	NOV - 2012	8	EI0458	INSTRUMENTATION AND CONTROL IN PETROCHEMICAL INDUSTRIES	3	C	9	MAY - 2015
3	EI0213	CIRCUITS LABORATORY	1	A	H	NOV - 2012							
3	EI0215	ELECTRICAL AND ELECTRONICS LABORATORY	1	A+	H	NOV - 2012	8	EI0460	INSTRUMENTATION AND CONTROL IN IRON AND STEEL INDUSTRIES	3	C+	H	MAY - 2015
4	LE0202	GERMAN - II	2	B	9	MAY - 2013	8	EI0444	PROJECT WORK	8	A+	H	MAY - 2015
4	MA0212	PROBABILITY AND QUEUEING THEORY	4	C+	9	MAY - 2013			***** End Of Statement *****				
4	ME0232	THERMODYNAMICS AND FLUID MECHANICS	3	C+	9	MAY - 2013			CGPA : 7.512				
4	EI0202	LINEAR INTEGRATED CIRCUITS	3	C+	9	MAY - 2013			CGPA is Calculated from Third Semester Onwards				
4	EI0204	TRANSDUCERS ENGINEERING	3	C+	9	MAY - 2013							
4	EI0206	ELECTRICAL AND ELECTRONICS MEASUREMENTS AND INSTRUMENTATION	3	A-	9	MAY - 2013							
4	EI0208	COMMUNICATION ENGINEERING	3	C	9	MAY - 2013							
4	PD0202A	PERSONALITY DEVELOPMENT - IV	1	B+	9	MAY - 2013							
4	EI0212	LINEAR AND DIGITAL INTEGRATED CIRCUITS LABORATORY	1	B	9	MAY - 2013							
4	EI0214	TRANSDUCER ENGINEERING LABORATORY	1	A-	8	MAY - 2013							
5	MB0301	ENGINEERING ECONOMICS AND MANAGEMENT	3	B	H	NOV - 2013							

SRM Nagar  
Kattankulathur - 603 203  
Kancheepuram (Dt), Tamil Nadu, India.

Date : 28-Mar-2016

Medium of Instruction : English

This Certificate bears no correction

*[Signature]*  
Registrar

GRADING

Letter Grade	A+	A	A-	B+	B	B-	C+	C	C-	D	E	U	W	I
Grade Points	10	9.5	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.0	4.0	0	0	0

U - Failure due to insufficient marks

W - Failure due to insufficient attendance

I - Incomplete due to absent

CALCULATION OF CGPA


The Cumulative Grade Point Average (CGPA) =  $\frac{\sum(C \times GP)}{\sum C}$

Where, C = Credit of the course  
GP = Grade Points obtained for the course

CGPA is calculated considering all the courses taken from third semester onwards.

ATTENDANCE CODE (Att. Code)

Attendance Percentage	95 % and above	85 to 94%	75 to 84%	Below 75%
Code	H	9	8	L

Read by	
Verified by	