



Anand Nagar, Krishnankoil - 626126, Srivilliputtur (via), Virudhunagar District, Tamilnadu.

**APPLICATION FOR ADMISSION TO Ph.D. PROGRAMMES**

Date of Application:16-12-2020

Department	CIVIL ENGINEERING	Application No.	202020110
Area of Research	STRUCTURAL ENGINEERING	Research Mode	PART TIME

**Name** :LEKSHMI PRIYA R  
**Date of Birth / Age** :15-11-1983 / 37 Years  
**Gender** :FEMALE  
**Category** :OBC  
**e-Mail ID** :priya.25a84@gmail.com  
**Mobile** :9562872866



*Handwritten signature*

<b>Father's/Husband's Name</b>	TRUTHSSON SATHYA	<b>Father's/Husband's Occupation</b>	CIVIL ENGINEER
<b>Family Income</b>	120000	<b>Residential Type</b>	RURAL
<b>Birth Place</b>	KARUNAGAPPALLY	<b>Mother Tongue</b>	MALAYALAM
<b>Religion</b>	HINDU	<b>Martial Status</b>	MARRIED
<b>Aadhaar No.</b>	2320 9892 7916	<b>PAN No.</b>	AZGPR5740M
<b>Physically Challenged</b>	NO	<b>Type of Disability</b>	-
<b>Address for Communication:</b> OZHATHIL SATHYAMAHAL VALLICODE/ VALLICODE P.O KONNI PATHANAMTHITTA DISTRICT KERALA INDIA Pin-689648		<b>Permenant Address:</b> OZHATHIL SATHYAMAHAL VALLICODE/ VALLICODE P.O KONNI PATHANAMTHITTA DISTRICT KERALA INDIA Pin-689648	

Qualification						
Degree	Discipline	College/university	Year Passed	AVG/CGPA	Class	Mode
M.TECH.	STRUCTURAL ENGINEERING	KARUNYA UNIVERSITY	2010	7.68	FIRST CLASS	REGULAR
AMIE	CIVIL ENGINEERING	IEI	2008	7.22	FIRST CLASS	REGULAR

Experience					
Organization	Designation	Experience From	Experience TO	Work Nature	
SREE NARAYANA INSTITUTE OF TECHNOLOGY, ADOOR	ASSISTANT PROFESSOR	2014-06-16	2020-12-16	TEACHING	
TOC H INSTITUTE OF SCIENCE AND TECHNOLOGY, ERNAKULAM	ASSISTANT PROFESSOR	2010-07-15	2014-05-31	TEACHING	

Payment Details				
Transaction ID	Reference	Date of transaction	Amount	Status
202020110_201216154023	VSBI9564528123	16-12-2020	600	SUCCESS

## **Research project synopsis**

**LEKSHMI PRIYA R**

- **Overview of Thesis**

Structural engineering is the subfield of civil engineering concerned with the strength and stability of buildings, bridges, airplanes, vehicles and other structures. The structural engineer works with architects and designers to calculate the system of support and other requirements to ensure the structural integrity of the finished product. Structural engineers apply knowledge of physics, math and many other disciplines in their work and structural design requirements can vary based on geological constraints and challenges such as earthquake zones and soil types.

The objectives of my Ph.D. in Structural engineering program are to provide the knowledge about the structural behavior of steel structures in different stages.

- **Literature Review**

Performance based assessment of steel frame structures by different material models: Acceptable limit conditions for materials used in structures are one of the influential factors for design and evaluation of buildings. These limits are described using different material models. Material models can be generally defined by the stress-strain relationship. Stress-strain relationship varies based on the material. Mathematical models are used for describing the stress-strain relationship for any material. The material model takes a very important role in the seismic analysis of structures. The aim of this study is investigate of effects of steel models on structural performance of steel frame buildings. For this aim, pushover curves were obtained for three different steel models. It was determined that the pushover curves obtained according to three various steel models used in the study were consonant with each other.

Performance Analysis of Steel Structures with A3 Irregularities: Determination of the behaviour of structures during earthquakes is a very important engineering concern. Irregularities in the structure may lead to more damage imposed on it by weakening its defence mechanism during an earthquake. Some of these irregularities may be indentations or protrusions in the plan. Such irregular buildings may be encountered in practice because of various reasons. This study examined the state of irregularity by the A3 plan in the Turkish Building Earthquake Regulation of 2016. Four different A3-type irregularity cases were considered. The building with no irregularities in its plan was taken as the reference building.

Finite Element Modeling and Structural Behavior of Stainless Steel Plates in Compression: Featuring for non-linear stress-strain relation, the behavior of thin-wall plates differ widely from stainless steel to carbon steel, which plays a basic role in relevant research. This paper describes the development of FE models for analyzing stainless steel plates in compression which is based on the existing results of Rasmussen's test, as well as the strength curve achieved by such advanced FE models. The explicit strength equations and design method are proposed for determining the local buckling strength of stainless plate and cold-formed square and rectangular hollow section in compression. It is shown excellent agreement with test results achieved by using Quach's model as stress-strain relations in FE models. The proposed design method also exhibits reliable results, which could be used in structural design of stainless steel plates in compression.

- **Research Methodology**

Qualitative and quantitative Research

- Research Deadlines - expecting to complete the research by 2024

# Karunya UNIVERSITY

(Karunya Institute of Technology and Sciences)  
Declared as Deemed to be University under Sec. 3 of the UGC Act, 1956

KARUNYA NAGAR, COIMBATORE - 641 114, TAMILNADU, INDIA.



*The Board of Management  
of  
Karunya University  
hereby makes known that*

LEKSHMI PRIYA R

*has been admitted to the Degree of*

Master of Technology

in  
Structural Engineering

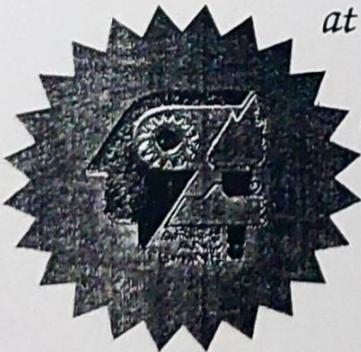
*having been certified by duly appointed examiners to be  
qualified to receive the same and was placed in the*

FIRST CLASS

*at the examination held in* MAY 2010

*Given under the seal of the University*

*Dated: 7th August 2010*



*Paul Thirakaraud*  
Chancellor

*Paul P. Appasamy*  
Vice Chancellor

*Arif*  
Registrar

# The Institution of Engineers (India)

[Established 1920, Incorporated by Royal Charter 1935]

KERALA STATE CENTRE

Observatory Hill, Thiruvananthapuram – 695 033

Dr. D. Balakrishnan, FIE  
Chairman, 98460 33445 (M)

Er. S. Radhakrishnan, FIE  
Honorary Secretary, 94474 50870 (M)



Phone : 0471-2322991  
Facsimile : 0471-2327501  
e-mail : ietvm@vsnl.com  
/ ietvm@dataone.in  
Web : www.ietvm.org

## CERTIFICATE

Ms.Lekshmi Priya R. (T-1403862), Neelam Bhavanam, PO Puthuppally, Kayamkulam, Alappuzha, PIN-690527 is awarded “Er. K.I.Idiculla Endowment Prize 2009” for having secured the highest marks in **Section B, Civil Engineering** Branch of the AMIE Examination of the Institution of Engineers (India) held in the year **2008** from among those who appeared at the Kerala State Centre of the Institution of Engineers (India).

A handwritten signature in black ink, appearing to be 'D. Balakrishnan', written over a horizontal line.

CHAIRMAN

A handwritten signature in black ink, appearing to be 'S. Radhakrishnan', written over a horizontal line.

HONORARY SECRETARY

Date: 25-11-2009



IEI HEADQUARTERS

8 Gokhale Road, Kolkata 700 020

Phones: +91-33-2223-8311/14/15/16/34 Facsimile: +91-33-2223-8345 Web: <http://www.ieindia.org> Gram: ENJOIND

# The Institution of Engineers (India)

020396

T-140386-2



This is to certify that

LEKSHMI PRIYA R

has passed Sections A and B of the Institution Examinations

in the CIVIL ENGINEERING Branch

in SUMMER 2006 and SUMMER 2008 respectively.



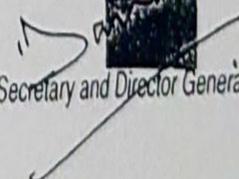
Kolkata

Dated

01.11.2009

*B. Balare*

President

  
Secretary and Director General

Government of India, in continuation to its earlier recognition, has recognised passing of Sections A & B Examinations as revised, conducted by The Institution of Engineers (India) as equivalent to bachelor's degree in the appropriate branch of engineering of the recognised universities in India and has notified in the Gazette of India, Part I, Section 1, dated February 11, 2006.

# The Institution of Engineers (India)

5141

G-546394-5



This Certificate is granted to

**MS LEKSHMI PRIYA R**

who had been elected as

**Graduate**

on the **Fifteenth** day of **September** **2008**

Dated **18-11-2008**

A handwritten signature in black ink, appearing to be "S. S. S.", is written over a circular stamp or seal.

Secretary and Director General



# KARUNYA UNIVERSITY

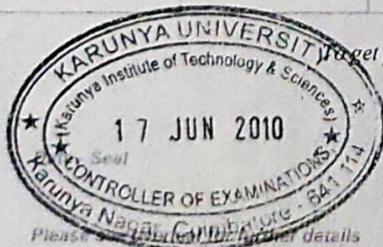
KARUNYA NAGAR, COIMBATORE - 641 114, TAMILNADU, INDIA  
CONSOLIDATED STATEMENT OF GRADES

NAME: **LEKSHMI PRIYA R**  
COURSE: **M.Tech.**  
BRANCH: **Civil Engineering**  
SPECIALISATION: **Structural Engineering**

SL. No: **E 007841**  
FOLIO No: **293**  
REG. No: **08DA017**  
MONTH & YEAR OF ADMISSION: **JULY 2008**

SEM	SUBJECT CODE	NAME OF THE SUBJECT	SUBJECT CREDIT	LETTER GRADE	MONTH & YEAR OF PASSING	SEM	SUBJECT CODE	NAME OF THE SUBJECT	SUBJECT CREDIT	LETTER GRADE	MONTH & YEAR OF PASSING
1	CE301	Matrix Computer Methods of Structural Analysis	3:1.0	C	DEC 2008						
1	CE302	Applied Elasticity & Plasticity	3:1.0	B	DEC 2008						
1	CE309	Design of Foundation Structures	3:1.0	P	DEC 2008						
1	CE332	Stability of Structures	3:1.0	A	DEC 2008						
1	CE364	Advanced Design of Reinforced Concrete Structures	3:1.0	B	DEC 2008						
1	CE365	Advanced Design of Steel Structures	3:1.0	S	DEC 2008						
1	CE308	Advanced Computer Application Lab.	0:0.2	S	DEC 2008						
2	CE304	Finite Element Methods in Engineering	3:1.0	B	MAY 2009						
2	CE311	Advanced Bridge Engineering	3:1.0	A	MAY 2009						
2	CE328	Structural Dynamics	3:1.0	A	MAY 2009						
2	CE330	Analysis and Design of Plate & Shell Structures	3:1.0	A	MAY 2009						
2	CE335	Prestressed Concrete Structures	3:1.0	B	MAY 2009						
2	CE363	Advanced Concrete Technology	4:0.0	A	MAY 2009						
2	VE107	Value Education - III	2:0.0	S	MAY 2009						
2	CE315	Advanced Concrete Technology Lab.	0:0.2	A	MAY 2009						
3	CE333	Maintenance and Rehabilitation of Structures	3:1.0	B	DEC 2009						
3	CE334	Aseismic Design of Structures	3:1.0	B	DEC 2009						
3	CE951	Mini Project - I	0:0.2	S	DEC 2009						
3	CE952	Mini Project - II	0:0.2	S	DEC 2009						
3	CE901	Industrial Training - I	0:0.1	A	DEC 2009						
3	CE902	Industrial Training - II	0:0.1	A	DEC 2009						
4	CE998	Half Semester Project	0:0.12	A	MAY 2010						
4	CE999	Project Work & Viva Voce	0:0.20	A	MAY 2010						
<u>Non-Academic Programs (Not considered for CGPA Calculation)</u>											
2	NA082	Mountaineering Trekking Adventurous Club	0:0.1	C	MAY 2009						

ACADEMIC CREDITS		NON-ACADEMIC CREDITS		CUMULATIVE GRADE POINT AVERAGE (CGPA)	CLASS AWARDED
EARNED	TOTAL TO BE EARNED	EARNED	TOTAL TO BE EARNED		
100	100	1	1	7.68	FIRST CLASS



To get percentage of marks, multiply the CGPA by 10

*[Signature]*  
CONTROLLER OF EXAMINATIONS



# The Institution of Engineers (India)

8, GOKHALE ROAD, KOLKATA 700 020

NAME AND ADDRESS OF THE CANDIDATE MS LEKSHMI PRIYA R NEELAM BHAVANAM PO PUTHUPALLY KAYAMKULAM ALAPPUZHA KERALA  690527	MEMBERSHIP NO  T-140386-2
	ROLL NO.  209410

TERM & YEAR  
OF EXAMINATION

SUMMER 2006

EXAMINATION

SECTION A (NON DIP)

DATE OF DECLARATION  
OF RESULT

15/09/2006

### Result of Examination

You have secured final pass. The marks obtained by you are given below :

SUBJECT	Previous Exemption Marks	Current Examination Marks
MATHEMATICS I	56	
MATHEMATICS II	50	
ENGINEERING DRAWING & GRAPHICS	52	
NATURAL SCIENCES	50	
MATERIAL SCIENCE AND PROCESSES	50	
FUNDAMENTALS OF ELECTRONICS AND INSTRUMENTATION	51	
COMPUTER SYSTEM AND DATA ANALYSIS	54	
ENGINEERING, ENVIRONMENT AND SOCIETY	60	
FUNDAMENTALS OF DESIGN AND MANUFACTURING		73
COMPUTING AND INFORMATICS		60



1. Full Marks - 100 in each subject
2. Minimum exemption marks - 50 in each subject.
3. Minimum aggregate marks - 50 percent of total marks

Director (EEA)



# The Institution of Engineers (India)

8, Gokhale Road, Kolkata 700 020

## GRADE CARD

NAME AND ADDRESS OF THE CANDIDATE		MEMBERSHIP NO.	
MS LEKSHMI PRIYA R NEELAM BHAVANAM PO PUTHUPPALLY KAYAMKULAM ALAPPUZHA KERALA		T-140386-2	
690527		ROLL NO. 457624	
TERM AND YEAR OF EXAMINATION	EXAMINATION	DATE OF DECLARATION OF RESULT	
SUMMER 2008	SECTION B CIVIL ENGINEERING	15/09/2008	
SUBJECTS		Grade in Previous Examination	Grade in Current Examination
ENGINEERING MANAGEMENT		B	
CIVIL ENGG MATERIALS AND CONSTRUCTION PRACTICE		B	
GEOTECHNICAL AND FOUNDATION ENGINEERING		B	
WATER RESOURCES SYSTEMS		C	
PRINCIPLES OF GEOINFORMATICS			A
ANALYSIS AND DESIGN OF STRUCTURES		C	
ADVANCED STRUCTURAL ANALYSIS		B	
DESIGN OF RCC AND PRESTRESSED CONCRETE STRUCTURES		C	
DESIGN OF STEEL STRUCTURES		C	
PROJECT WORK			A
LABORATORY EXPERIMENTS			H

SUCCESSFULLY COMPLETED SECTION B EXAMINATION WITH GPA 7.22 AND CGPA\* 7.19

CGPA\* = (SUMMATION OF GRADE POINTS OBTAINED IN SUBJECTS OF SECA, SECB, PROJECT WORK & LABORATORY EXPERIMENTS) / APPLICABLE NUMBER OF SUBJECTS

Director (EEA)

Please turn over



**Karunya UNIVERSITY**

(Declared as Deemed-to-be-University under Section-3 of the UGC Act, 1956)  
Karunya Nagar, Coimbatore - 641 114.

**TRANSFER CUM CONDUCT CERTIFICATE**

Serial No. : **5245**

Date : **16/06/2010**

1. Name of the Student : **LEKSHMI PRIYA. R**
2. Register Number : **08DA017**
3. Sex : **Female**
4. Date of Birth (in words) : **15/11/1983**  
: **Fifteenth November Nineteen Eighty Three**
5. Nationality, Religion & Caste : **Indian, Hindu & Ezhava**
6. Community : **Refer Community Certificate**
7. Academic Period : **2008 - 2010**
8. Class in which the student was studying : **FINAL YEAR - Master of Technology**  
(Structural Engineering)
9. Date of Admission / Promotion to that class: **July 2009**
10. Medium of Instruction : **ENGLISH**
11. Whether qualified for Promotion to a higher class : **REFER MARK STATEMENT**
12. Whether the student has paid all the fees due to the Institution : **Yes**
13. Whether the student was in receipt of any Scholarship through the Institution (nature of the Scholarship to be specified) : **No**
14. Date on which the student left : **MAY 2010**
15. Conduct of the student : **good**
16. Remarks, if any : **---**

Date :

**REGISTRAR**  
**KARUNYA UNIVERSITY**  
**Karunya Institute of Technology and Sciences**  
**Karunya Nagar, Coimbatore - 641 114**



# SNIT<sup>®</sup> ADOOR

## SREE NARAYANA INSTITUTE OF TECHNOLOGY<sup>®</sup>

Approved by AICTE, New Delhi & Affiliated to APJ Abdul Kalam Technological University  
Theppupara, Adoor, Kerala-691554, Ph: 04734-244600, 244700, Fax: 04734- 243400  
An ISO 9001:2008 Certified Institution

Ref:SNIT/LP/A/CE/2020

01.12.2020

### SERVICE CERTIFICATE

This is to certify that *Mrs.Lekshmi Priya R, Ozhathile Sathyamahal, Vallicode P O, Pathanamthitta*<sup>is</sup> an employee of this Organization and the particulars of her service period/character are as under:

1	Title	<i>Assistant Professor</i>	
2	Department / Core area	Department of Civil Engineering	
3	Nature of Appointment	Permanent	
4	Period of service	<i>Entry</i>	<i>Exit</i>
		16 June 2014	NA
5	Total Service	06 Y 5M 15 D	
6	Character & Conduct	Excellent	

As per her request this certificate is issued for the purpose of Ph.D registration



*[Signature]*  
PRINCIPAL 1 x 11 20

आयकर विभाग  
INCOME TAX DEPARTMENT



भारत सरकार  
GOVT. OF INDIA

LEKSHMI PRIYA R  
RAMACHANDRAN

15/11/1983

Permanent Account Number

AZGPR5740M

*Lekshmi*

Signature



*In case this card is lost / found, kindly inform / return to :*  
Income Tax PAN Services Unit, **UTIITSL**  
Plot No. 3, Sector 11, CBD Belapur,  
Navi Mumbai - 400 614.

यह कार्ड खो जाने पर कृपया सूचित करें / लौटाए :  
आयकर पैन सेवा यूनीट, **UTIITSL**  
प्लॉट नं: ३, सेक्टर ११, सी. बी. डी. बेलापूर,  
नवी मुंबई - ४०० ६१४.

आयकर विभाग  
INCOME TAX DEPARTMENT



भारत सरकार  
GOVT. OF INDIA

LEKSHMI PRIYA R  
RAMACHANDRAN

15/11/1983

Permanent Account Number

AZGPR5740M

*Lekshmi*

Signature



*In case this card is lost / found, kindly inform / return to :*  
Income Tax PAN Services Unit, **UTIITSL**  
Plot No. 3, Sector 11, CBD Belapur,  
Navi Mumbai - 400 614.

यह कार्ड खो जाने पर कृपया सूचित करें / लौटाए :  
आयकर पैन सेवा यूनीट, **UTIITSL**  
प्लॉट नं: ३, सेक्टर ११, सी. बी. डी. बेलापूर,  
नवी मुंबई - ४०० ६१४.

ANNEXURE-I

CERTIFICATE FROM THE ORGANISATION WHERE THE CANDIDATE IS EMPLOYED

Certified that Mrs. Lekshmi Priya R is employed as Assistant Professor in the Civil Engineering department of Sree Narayana Institute of Technology, Theppupara P.O, Adoor, Pathanamthitta, Kerala-691554.

We have no objection in forwarding her application for the Ph. D Research Programme

**FOR FULL TIME:**

The candidate will be sanctioned leave for the duration of the research programme and will be relieved from duty from \_\_\_\_\_ to \_\_\_\_\_ to undertake the full time research work in the University.

**FOR PART TIME :**

The candidate will be permitted to undertake part time study in the University/College and will be allowed to be present for discussions with the supervisor, attending course works, conduct of experiments and participations in seminars and related presentations. Further the required facilities at our organization will also be provided to the candidate for doing research.

Date : 01.12.2020

Signature of the Head of organization with office seal



A handwritten signature in blue ink, appearing to be "L. S. M.", written over the text "Signature of the Head of organization with office seal".