



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

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

Date of Application:14-12-2020

Department	CIVIL ENGINEERING	Application No.	202020106
Area of Research	ENVIRONMENTAL ENGINEERING	Research Mode	PART TIME

**Name** :  
**Date of Birth / Age** :01-01-1970 / 51 Years  
**Gender** :  
**Category** :  
**e-Mail ID** :nittinjohnson@gmail.com  
**Mobile** :



<b>Father's/Husband's Name</b>		<b>Father's/Husband's Occupation</b>	
<b>Family Income</b>		<b>Residential Type</b>	
<b>Birth Place</b>		<b>Mother Tongue</b>	
<b>Religion</b>		<b>Martial Status</b>	
<b>Aadhaar No.</b>		<b>PAN No.</b>	
<b>Physically Challenged</b>		<b>Type of Disability</b>	
<b>Address for Communication:</b>		<b>Permenant Address:</b>	
DISTRICT		DISTRICT	
Pin-		Pin-	

Qualification						
Degree	Discipline	College/university	Year Passed	AVG/CGPA	Class	Mode

Experience				
Organization	Designation	Experience From	Experience TO	Work Nature

Payment Details				
Transaction ID	Reference	Date of transaction	Amount	Status
202020106_201214190549	VHD49558572475	14-12-2020	600	SUCCESS

# Municipal Solid Waste Management using Artificial Intelligence Models

Research Proposal  
Nittin Johnson J

# INTRODUCTION

- The waste management process typically involve numerous technical, climate , environmental, demographic, socio-economic, and legislative Parameters.
- Proper Management of municipal solid waste management is one of the prime concern for metropolitan cities.
- Such complex nonlinear process are challenging to model, predict and optimize using conventional methods.
- Recently, Artificial Intelligence (AI) techniques have gained momentum in offering alternative computational approaches to solve solid waste management problems.

# OBJECTIVES

- To compare different models of artificial intelligence and to examine and evaluate their capacity in Municipal Solid Waste Management.
- To forecasting the quantity of municipal solid waste generation.
- To design and operate an effective waste collection system.
- To design the effective vehicle routing using Geographical Information System.
- To design automating the process of garbage sorting and disposal.
- To switching AI for smart recycling and waste management.

# NEED FOR STUDY

- The Major Problems affecting solid waste management are unscientific treatment , improper collection, and ethical problems.
- This turns leads to hazards like environmental degradation, water pollution, soil pollution and air pollution.
- Insufficient planning and inadequate operation are major reasons behind poor waste management.
- Recently there have been serious efforts to revolutionize the waste management industry towards sustainability and profitability by means of advanced technologies and intelligence systems.

# CONCLUSION

- A fundamental step in designing of an effective garbage management system is to predict the amount of waste that a city will generate.
- Determination of the volume of waste beforehand will result in proper planning of land fill sites, recycling units, development as operation of garbage collection infrastructure.
- Artificial intelligence based techniques will be successful for forecasting the volume of the waste and for the smart management of municipal solid waste.

# ACTION PLAN

- Reconnaissance and Survey
- Site selection
- Data collection- Solid Waste Generation in Municipality and current management practices.
- Site visit for understand about the current municipal solid waste management practices.
- Analyzing the conventional methods of solid waste management and find the drawbacks of system.
- Introduce the Artificial intelligence methods to find the better accuracy in quantifying the solid waste generated.

# ACTION PLAN...

- Identify the suitable models after comparing different models of artificial intelligence.
- Forecasting the quantity of solid waste generated using AI models
- Designing the smart waste dustbin for effective collection system and vehicle routing using GIS.
- Implementation of automated sorting system and disposal.
- Introduce smart recycling system with Artificial intelligence technology.

**THANK YOU**

Sl. No. .... 556

Reg. No. 07209015

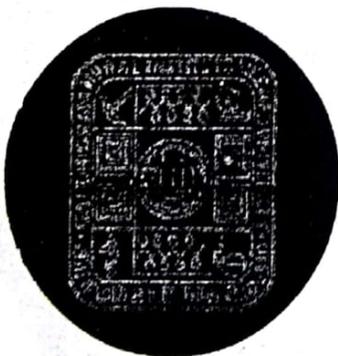
*The* **Gandhigram Rural Institute**  
( **Deemed University** )



*Re-Accredited by NAAC with 'A' Grade*

The Board of Management of the **Gandhigram Rural Institute** hereby makes known that ..... *Nittin Johnson. J.* ..... has been admitted to the Degree of **Bachelor of Technology in Civil Engineering** (Habitat Development), he / ~~she~~ having been duly certified by duly appointed examiners to be qualified to receive the same. He / ~~She~~ secured a ..... **First** ..... Class in the examination held in ..... **April 2011** ..... under the Choice Based Credit System.

GIVEN under the Seal of the Institute



Gandhigram

Tamilnadu

Dated : 08 JAN 2013

*H. N. [Signature]*  
Registrar

*[Signature]*  
Vice-Chancellor

Serial No. : c24/13/02751

Register No. : CE1122

# 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*

**NITTIN JOHNSON, J.**

*has been admitted to the Degree of*

**MASTER OF TECHNOLOGY**

*in Branch :* ENVIRONMENTAL ENGINEERING

*and placed in* FIRST CLASS

*held in* MAY 2013.

*at the Examination*

*He / She was a bonafide student of*

PONDICHERRY ENGINEERING COLLEGE.

*Given under the Seal of the University*



Registrar

Puducherry

Date 29 JAN 2016

Anisabashaer  
Vice-Chancellor



# GANDHIGRAM RURAL UNIVERSITY

(Est'd. u/s 3 of the UGC Act 1956)

B.TECH. CIVIL ENGINEERING (HABITAT DEVELOPMENT)

## CONSOLIDATED STATEMENT OF GRADES

(UNDER CHOICE BASED CREDIT SYSTEM)

1/2

Serial No.	01471
Date of publication of the final result	07/06/2011

Name : NITTIN JOHNSON, J		Reg. No. : 07209015		Batch : 2007-2011		Month & Year of Passing : APR, 2011									
Course Code	COURSE TITLE	CGY	CDT	GRD	GPT	NA	Month & Year	Course Code	COURSE TITLE	CGY	CDT	GRD	GPT	NA	Month & Year
<b>FIRST SEMESTER</b>								<b>FOURTH SEMESTER</b>							
UTH0101A	ENGLISH-I	LAN	3	A	8.3	1	NOV 07	UTH0401A	MECHANICS OF SOLIDS-II	MJC	3	C	6.6	1	APR 09
UTH0102A	FINE ARTS	FDC	1	B	7.2	1	NOV 07	UTH0402A	FUNDAMENTAL OF GIS	MJC	3	B	7.9	1	APR 09
UTH0103A	ENGINEERING MATHEMATICS-I	ALC	4	C	6.3	1	NOV 07	UTH0403A	FLUID MECHANICS AND MACHINERIES	MJC	3	D	5.0	1	APR 09
UTH0104A	ENGINEERING PHYSICS	ALC	3	D	5.3	1	NOV 07	UTH0404A	SOIL MECHANICS	MJC	3	C	6.8	1	APR 09
UTH0105A	ENGINEERING PHYSICS-LAB	ALC	2	B	7.9	1	NOV 07	UTH0405A	HABITAT DEVELOPMENT DIMENSION-III (SOIL, WATER AND CROP MANAGEMENT)	MJC	3	C	6.2	1	APR 09
UTH0106A	ENGINEERING CHEMISTRY	ALC	3	D	5.0	2	JAN 08	UTH0406A	TRANSPORTATION ENGINEERING-I	MJC	3	B	7.0	1	APR 09
UTH0107A	ENGINEERING CHEMISTRY-LAB	ALC	2	C	6.5	1	NOV 07	UTH0407A	FLUID MECHANICS LAB	MJC	2	A	8.6	1	APR 09
UTH0108A	HABITAT DEVELOPMENT DIMENSION-I (SOCIO-ECONOMIC STRUCTURE AND SUSTAINABLE DEVELOPMENT)	MJC	3	C	6.5	1	NOV 07	UTH0408A	GIS LAB	MJC	2	B	7.4	1	APR 09
UTH0109A	ENGINEERING GRAPHICS	MJC	2	D	5.3	1	NOV 07	UTH0409A	SUMMER INTERNSHIP	MJC	2	B	7.8	1	APR 09
UTH0110A	VALUES AND SOCIAL RESPONSIBILITIES	EXW	4	B	7.3	1	NOV 07	<b>FIFTH SEMESTER</b>							
<b>SECOND SEMESTER</b>								UTH0501A	REMOTE SENSING	MJC	3	C	6.1	1	NOV 09
UTH0201A	ENGLISH-II	LAN	3	A	8.5	1	APR 08	UTH0502A	IRRIGATION ENGINEERING	MJC	3	B	7.5	1	NOV 09
UTH0202A	ENGINEERING MATHEMATICS - II	ALC	4	C	6.0	1	APR 08	UTH0503A	STRUCTURAL ANALYSIS-I	MJC	3	D	5.7	1	NOV 09
UTH0203A	ENGINEERING MATERIALS AND EARTH SCIENCE	MJC	3	B	7.9	1	APR 08	UTH0504A	WATER RESOURCE ENGINEERING	MJC	3	B	7.1	1	NOV 09
UTH0204A	BUILDING CONSTRUCTION	MJC	3	B	7.7	1	APR 08	UTH0505A	DESIGN OF REINFORCED CONCRETE STRUCTURES	MJC	3	D	5.9	1	NOV 09
UTH0205A	BASIC ELECTRICAL AND ELECTRONICS ENGINEERING	MJC	3	C	6.3	1	APR 08	UTH0506A	FOUNDATION ENGINEERING	MJC	3	C	6.0	1	NOV 09
UTH0206A	BASIC MECHANICAL ENGINEERING	MJC	3	D	5.0	1	APR 08	UTH0507A	IMAGE PROCESSING LAB	MJC	2	A	8.5	1	NOV 09
UTH0207A	WORKSHOP PRACTICE	MJC	2	A	8.0	1	APR 08	UTH0508A	SOIL MECHANICS LAB	MJC	2	A	8.1	1	NOV 09
UTH0208A	COMPUTER PRACTICE	MJC	2	C	6.0	1	APR 08	UTH0509A	VALUES AND SOCIAL RESPONSIBILITIES	EXW	4	A	8.5	1	NOV 09
UTH0209A	ENVIRONMENTAL STUDIES	EXW	4	C	6.3	1	APR 08	<b>SIXTH SEMESTER</b>							
<b>THIRD SEMESTER</b>								UTH0601A	TRANSPORTATION ENGINEERING - II	MJC	3	B	7.8	1	APR 10
UTH0301A	ENGINEERING MATHEMATICS-III	ALC	4	D	5.5	1	NOV 08	UTH0602A	RESEARCH METHODOLOGY AND STATISTICS	MJC	3	D	5.1	1	APR 10
UTH0302A	ARCHITECTURE	MJC	3	B	7.3	1	NOV 08	UTH0603A	ENVIRONMENTAL ENGINEERING	MJC	3	B	7.0	1	APR 10
UTH0303A	MECHANICS OF SOLIDS-I	MJC	3	D	5.2	1	NOV 08	UTH0604A	STRUCTURAL ANALYSIS-II	MJC	3	D	5.9	1	APR 10
UTH0304A	SURVEYING	MJC	3	C	6.7	1	NOV 08	UTH0605A	ELECTIVE: NUMERICAL METHODS	MJC	4	D	5.0	1	APR 10
UTH0305A	HABITAT DEVELOPMENT DIMENSION-II (ENERGY ENGINEERING)	MJC	3	D	5.3	1	NOV 08	UTH0606A	ENVIRONMENTAL ENGINEERING LAB	MJC	2	B	7.8	1	APR 10
UTH0306A	SURVEY LAB	MJC	2	A	8.4	1	NOV 08	UTH0607A	GIS MODELING LAB	MJC	2	B	7.0	1	APR 10
UTH0307A	STRENGTH OF MATERIALS LAB	MJC	2	C	6.6	1	NOV 08	UTH0608A	SUMMER INTERNSHIP	MJC	2	B	7.2	1	APR 10
UTH0308A	COMPUTER AIDED BUILDING DRAWING	MJC	2	D	5.7	1	NOV 08	UTH0609A	ENVIRONMENTAL ENGINEERING DRAWING	MJC	2	S	9.1	1	APR 10
UTH0309A	VALUES AND SOCIAL RESPONSIBILITIES	EXW	4	S	9.6	1	NOV 08	*** STATEMENT CONTINUES ***							

Any alteration or overwriting invalidates this statement of grades. This statement replaces all statements dated prior to this.

Sem	-
GPA	-
CGPA	-

Total Credits	-
---------------	---

contd...2

GANDHIGRAM - 624 302

DATE 29/06/2011

Details overleaf

CONTROLLER OF EXAMINATIONS



# GANDHIGRAM RURAL UNIVERSITY

(Est. by 3 of the UGC Act 1956)

**B.TECH. CIVIL ENGINEERING (HABITAT DEVELOPMENT)**

## CONSOLIDATED STATEMENT OF GRADES

(UNDER CHOICE BASED CREDIT SYSTEM)

2/2

Serial No.	01472
Date of publication of the final result	07/06/2011

Name : <b>NITTIN JOHNSON, J</b>		Reg. No. : <b>07200015</b>		Batch : <b>2007-2011</b>		Month & Year of Passing : <b>APR, 2011</b>									
Course Code	COURSE TITLE	CGY	CDT	GRD	GPT	NA	Month & Year	Course Code	COURSE TITLE	CGY	CDT	GRD	GPT	NA	Month & Year
<b>SEVENTH SEMESTER</b>								<b>EIGHTH SEMESTER</b>							
UTH0701	ESTIMATION AND COSTING	MJC	3	C	6.6	1	NOV 10	UTH0801	DESIGN OF REINFORCED CONCRETE & BRICK MASONRY STRUCTURES	MJC	3	B	4.5	1	APR 11
UTH0702	DESIGN OF STEEL STRUCTURES	MJC	3	D	5.8	1	NOV 10	UTH0802	ELECTIVE-11: CONCRETE TECHNOLOGY	MJC	4	C	6.5	1	APR 11
UTH0703	VALUATION OF CIVIL ENGINEERING STRUCTURES	MJC	3	A	8.1	1	NOV 10	UTH0803	COST EFFECTIVE CONSTRUCTION TECHNOLOGY	MJC	3	C	6.7	1	APR 11
UTH0704	CONSTRUCTION MANAGEMENT	MJC	3	B	7.4	1	NOV 10	UTH0804	CONSTRUCTION PRACTICE	MJC	2	B	7.3	1	APR 11
UTH0705	SOLID WASTE MANAGEMENT	MJC	3	B	7.1	1	NOV 10	UTH0805	PROJECT WORK	MJC	6	C	6.8	1	APR 11
UTH0706	COMPUTER AIDED DESIGN AND DRAFTING LAB	MJC	2	B	7.7	1	NOV 10								
UTH0707	IRRIGATION & ENVIRONMENTAL ENGINEERING DRAWING	MJC	2	A	8.0	1	NOV 10								
UTH0708	VALUES AND SOCIAL RESPONSIBILITIES	EXW	4	A	8.5	1	NOV 10								
*** END OF STATEMENT ***								*** END OF STATEMENT ***							

Any alteration or overwriting invalidates this statement of grades. This statement replaces all statements dated prior to this.

Sem	I	II	III	IV	V	VI	VII	VIII
GPA	6.05	6.64	6.22	6.92	6.73	6.65	7.18	6.39
CGPA	6.05	6.35	6.30	6.48	6.53	6.55	6.63	6.61

Total Credits	195
---------------	-----

CATEGORY :	LAN	MJC & ALC
TOTAL MARKS :	168 / 200	4097/6100
PERCENTAGE :	84.00	67.16
CLASS :	FIRST	FIRST

*[Signature]*  
CONTROLLER OF EXAMINATIONS



## PONDICHERRY ENGINEERING COLLEGE

(Established and Funded by the Government of Puducherry)

(Affiliated to Pondicherry University)

PILLAICHAVADY, PUDUCHERRY 605 014.

### TRANSFER AND CONDUCT CERTIFICATE

Sl.No. 2150

Adm.No. 1122/11

1. Name of the Student : NITTIN JOHNSON J
2. Name of the Father/Husband : JEYARAJ M
3. Date of Birth as entered in the College records : 05/06/1990  
[FIFTH JUNE NINETEEN NINTY]
4. Nationality : INDIAN
5. Date of Admission : 15/09/2011
6. Course / Branch of Study : M.TECH (EE)
7. Whether qualified for promotion to Higher Class : REFER MARK SHEET
8. Date on which the student left the College : 19/04/2013
9. Reason for leaving the College : COURSE COMPLETED
10. Whether the student has paid all the dues to the College : YES
11. Conduct and Character : Good

Date: 22/04/2013

College Seal:



*[Signature]*  
PRINCIPAL



# SBM

## COLLEGE OF ENGINEERING & TECHNOLOGY

Approved by AICTE, New Delhi and Affiliated to Anna University Chennai

SBM Nagar, Thamaraipadi, Trichy Road, Dindigul - 624 005.

Website : sbminstitutions.org.

E-mail : sbmecollege@gmail.com

Ph : 0451 - 2050989, 98421 90901

Dr. K.P. Padmanaban B.E., M.E., Ph.D.,  
Principal

Lr.No:SBM/SC/31/2014

Date : 13/11/14

### SERVICE CERTIFICATE

This is to certify that Mr. J.NITTIN JOHNSON, had served as ASSISTANT PROFESSOR, in the DEPARTMENT OF CIVIL ENGINEERING of our institution from 01.06.2013 F.N to 31.10.2014 A.N.

He has been relieved from duty on his own request.

During the period of his service, his Conduct and Character were Good.....



  
Dr.K.P. PADMANABAN B.E., M.E., Ph.D.,  
PRINCIPAL  
S.B.M. College of Engg & Tech  
DINDIGUL - 624 005

To

Mr. J.NITTIN JOHNSON / Assistant Professor

Copy to: Office file

आयकर विभाग  
INCOME TAX DEPARTMENT



भारत सरकार  
GOVT. OF INDIA

MITTIN JOHNSON J

JEYARAJ

05/06/1990

Permanent Account Number

AWIPN2199K

Signature



Self attested  
J. Mitti Johnson



இந்திய அடையாள அட்டை அட்டை

இந்திய அரசாங்கம்  
Unique Identification Authority of India  
Government of India

பதிவு அடையாளம் / Enrollment No.: 2017/49453/29266

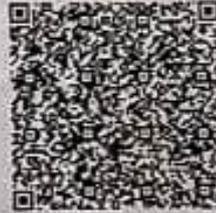
To  
நிட்டின் ஜான்சன்  
Nittin Johnson  
S/O: Jeyaraj  
21-587B alagapuri  
VINOVA COLONY  
Ayan Karisalkulam  
Karisalkulam  
Srivilliputhur Virudhunagar  
Tamil Nadu 626149  
9500926064

17/03/2016

345607058



MA456070581FT



உங்கள் ஆதார் எண் / Your Aadhaar No. :

**8753 1968 3360**

எனது ஆதார், எனது அடையாளம்



இந்திய அரசாங்கம்

Government of India



நிட்டின் ஜான்சன்  
Nittin Johnson  
பிறந்த நாள் / DOB - 05/06/1990  
ஆண்பால் / Male



**8753 1968 3360**

எனது ஆதார், எனது அடையாளம்

Self attested  
J. nithy Johnson

R.Dis 7911 /200 5 dt

GO 266-739-175 Cps-11-7-2001(p2-1)

S/NO 246/2005

BC



பரமபுகை தாலுக்கை :  
District Code  
பரமபுகை தாலுக்கை :  
Taluk Code  
பரமபுகை தாலுக்கை :  
Village Code

1	3
0	2
0	0
0	2

சான்றிதழ் எண் :  
Certificate No.

4832713

சாதிச் சான்றிதழ்  
COMMUNITY CERTIFICATE

திண்டுக்கல் மதுரை மாவட்டம்  
இலக்குவன்குடி வட்டம்  
இலக்குவன்குடி கிராமத்தின், தி.நி.நி.செல்வி/  
செல்வி J. நி.டி.முன் ஜோன்சன் தம்பலவாடி/கணவர்  
மதுரை மாவட்டம், இலக்குவன்குடி  
கிராமத்தின், தி.நி.நி.செல்வி/  
செல்வி J. நி.டி.முன் ஜோன்சன் தம்பலவாடி/கணவர்  
கிராமத்தின், தி.நி.நி.செல்வி/  
செல்வி J. நி.டி.முன் ஜோன்சன் தம்பலவாடி/கணவர்

அதுமட்டுமே சாதித்தவர், அரசு ஆணை நம்ப எண் 28, பிறப்பு 1 மற்றும்  
பிறப்பு 1 பி.வி.என் கூடுதல் தள்ளி 197994 விவரம் எண் 018 1994,  
பிறப்பு 1 பி.வி.என் சாதித்தவர் எனச் சான்றளிக்கப்படுகிறது.

This is to certify that..... Son / Daughter  
of Thiru..... of.....  
..... Village / Town,..... Taluk,.....  
..... District of the State of Tamil Nadu belongs to  
..... Community, which is recognised as  
a Backward Class as per Government Order (Ms.) No. 28, Backward Classes  
and Most Backward Classes Welfare, dated 19th July 1994.  
vide Serial No.....

2. தி.நி.நி.செல்வி / செல்வி / செல்வி J. நி.டி.முன் ஜோன்சன்  
தம்பலவாடி அங்கம் 14 கிராமத்தின் தி.நி.நி.செல்வி /  
செல்வி J. நி.டி.முன் ஜோன்சன் தம்பலவாடி கிராமத்தின்  
திண்டுக்கல் மதுரை மாவட்டம், இலக்குவன்குடி வட்டம்  
கிராமத்தின், தி.நி.நி.செல்வி / செல்வி / செல்வி J. நி.டி.முன் ஜோன்சன்  
தம்பலவாடி அங்கம் 14 கிராமத்தின் தி.நி.நி.செல்வி /  
செல்வி J. நி.டி.முன் ஜோன்சன் தம்பலவாடி கிராமத்தின்  
திண்டுக்கல் மதுரை மாவட்டம், இலக்குவன்குடி வட்டம்  
கிராமத்தின், தி.நி.நி.செல்வி / செல்வி / செல்வி J. நி.டி.முன் ஜோன்சன்

2. It is certified that Thiru/Tmt/Selvan/Selvi..... and  
his/her family ordinarily reside(s) at .....Village/  
Town ..... Taluk ..... District of  
Tamil Nadu.



கையொப்பம் :  
Signature :  
திகதி :  
Date

J. சிவசுந்தரன்  
2019  
தலைவர்  
தலைவர்

பெயர் (பெரிய எழுத்துக்களில்)  
Name (in Capital)  
பதவி  
Designation

Handwritten signature



# UKF COLLEGE

## OF ENGINEERING & TECHNOLOGY

ISO 9001:2008 Institution

*learning to succeed*

Approved by AICTE No. 06/06/KER/ENGG/2009-10/007 dtd. 08/06/09 & Affiliated to Kerala Technological University No. KTU/A/593/2015 dtd. 15/05/2015

UKF/SM/NOC/29-0/05

7<sup>th</sup> December 2020

### NO OBJECTION CERTIFICATE

This is to certify that **Mr. Nittin Johnson J** is working in our institution as Assistant Professor in the Department of Civil Engineering since 1<sup>st</sup> February 2019. We have no objection in admitting him for the Ph.D Programme in Civil Engineering (Part-time) in the Kalasalingam University on the condition that the day to day work in the college should not be affected in any manner.

  
PRINCIPAL

