



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

APPLICATION FOR ADMISSION TO Ph.D. PROGRAMMES

Date of Application:02-06-2020

Department	PHYSICS	Application No.	20200042
Area of Research	PHYSICS & NANOTECHNOLOGY	Research Mode	PART TIME

Name :KANIVALAN K.
Date of Birth / Age :23-01-1986 / 34 Years
Gender :MALE
Category :MBC
e-Mail ID :kani.ntech@gmail.com
Mobile :9715843044



(Handwritten Signature)

Father's/Husband's Name	KASINATHAN K.	Father's/Husband's Occupation	LATE
Family Income	200000	Residential Type	RURAL
Birth Place	THANJAVUR	Mother Tongue	TAMIL
Religion	HINDU	Martial Status	MARRIED
Aadhaar No.	202827208913	PAN No.	BXAPK4331E
Physically Challenged	NO	Type of Disability	-
Address for Communication: 86 KALYANA SUNDHARAM NAGAR, SECOND CROSS STREET NANJIKOTTAI ROAD, THANJAVUR THANJAVUR DISTRICT TAMILNADU INDIA Pin-613006		Permenant Address: 86 KALYANA SUNDHARAM NAGAR, SECOND CROSS STREET NANJIKOTTAI ROAD, THANJAVUR THANJAVUR DISTRICT TAMILNADU INDIA Pin-613006	

Qualification						
Degree	Discipline	College/university	Year Passed	AVG/CGPA	Class	Mode
B.SC	PHYSICS	BHARATHIDASAN UNIVERSITY, TRICHY	2006	71.36	FIRST	REGULAR
M.SC	PHYSICS	BHARATHIDASAN UNIVERSITY, TRICHY	2008	75.56	FIRST	REGULAR
M.TECH	NANOTECHNOLOGY	PERIYAR MANIAMMAI UNIVERSITY, THANJAVUR	2010	8.01	FIRST	REGULAR
M.PHIL	PHYSICS	BHARATHIDASAN UNIVERSITY, TRICHY	2014	8.50	FWD	REGULAR

Experience				
Organization	Designation	Experience From	Experience TO	Work Nature
PERIYAR MANIAMMAI UNIVERSITY, THANJAVUR	RESEARCH ASSISTANT	2010-08-10	2011-07-25	RESEARCH
VSB ENGINEERING COLLEGE, KARUR	ASSISTANT PROFESSOR	2011-07-28	2013-06-17	TEACHING

MOUNT ZION COLLEGE OF ENGINEERING AND TECHNOLOGY, PUDUKKOTTAI	ASSISTANT PROFESSOR	2014-07-02	2020-06-02	TEACHING
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Payment Details				
Transaction ID	Reference	Date of transaction	Amount	Status
20200042_200620123345	SHMP8915784010	20-06-2020	600	SUCCESS

Investigation on rare earth doped metal oxide/tungstate for high energy density super capacitor application

The rapid increase of depletion of fossil-fuels and environment pollutions are major concerns to the modern society over the past few years. Recently, scientists and engineers are involved to develop various kinds of sustainable and renewable energy storage devices with the help of modernized technology. Electrochemical super capacitor (SC) is one of the most promising energy storage devices and commercially used for various applications such as portable electronic devices, hybrid electric vehicles, industrial power systems and military etc due to its unique properties of high-power density, fast charge/discharge time and long cycle stability. Recently, it has gained great attention with research interests to improve the functional performance.

In general, SCs can be classified into two kinds according to charge storage mechanism such as electrical double-layer capacitors (EDLCs) and pseudo capacitors. In EDLCs, the charge has been stored physically at the electrode/electrolyte interface and high surface area with carbonaceous materials such as graphene oxide, activated carbon and single/multi-wall carbon nanotubes are commonly used for electrode materials. However, its low energy density and specific capacitance restricts the wide range of practical applications. On the other side, pseudo capacitors have fast and highly reversible faradic redox process occurring at the electrode surface of the active metal oxide/electrolyte interface. Transition metal oxides/hydroxide such as RuO_2 , MnO_2 , Co_3O_4 , NiO , $\text{Ni}(\text{OH})_2$, $\text{Co}(\text{OH})_2$ are used for pseudo capacitor electrode materials which can provide high specific capacitance than EDLCs. Among them, MnO_2 receives great attention due to its low cost and high electrochemical performance. Rather than metal oxides, metal tungstate-based researches getting huge attention due to their high electro catalytic activity and stability.

Based on the literature, the metal tungstate (CoWO_4 , CuWO_4 , MnWO_4 and NiWO_4) are composited with MnO_2 nanorods to achieve the high surface area. Further, the electrochemical performances will be enhanced by doping rare earth metals (Ce, Sm, Gd, Dy, Ho). This may lead to the enhanced electrochemical performance of super capacitor electrode material for commercial applications.



Centre Code: 574

Reg. No. 2003/PT-41229 /Om- No. 002/PT-5.5/0- 06/55/04

பாரதிதாசன் பல்கலைக்கழகம் BHARATHIDASAN UNIVERSITY

(Established by the Government of Tamil Nadu in 1962). Recognized by UGC under 205 and 120B of UGC Act.
Member, Association of Indian Universities and Affiliated to Council for Higher Education

அறிவியல் புவம் FACULTY OF SCIENCE

பாரதிதாசன் பல்கலைக்கழக ஆட்சிக்குழு செப்டம்பர் 2014 தேர்வில்
ஆம் ஆண்டு நடந்த இயற்பியல் தேர்வில்

கா. கனிவான்
என்பவர் தனிச்சிறப்பு - முதல் வகுப்பில் D+ தரத்தவர் தேர்ச்சி
பெற்றார் என்று தக்க தேர்வாளர்கள் சான்றிதழை ஆய்வியல் துறைத்
என்றும் மட்டத்தை அலகுக்குப் பல்கலைக்கழக இலக்கிணைப்புடன் வழங்குகிறது.

The Syndicate of the BHARATHIDASAN UNIVERSITY hereby makes
known that K. KANIVAN has been
admitted to the Degree of MASTER OF PHILOSOPHY, having
been certified by duly appointed Examiners to be qualified to receive the same in
PHYSICS at the Examination field in
SEPTEMBER 2014 and placed in FIRST CLASS - DISTINCTION WITH D + GRADE .

Given under the seal of the University.



செயலாளர்
Bharathidasan University

சு.
Date

23rd December 2014

ISSUED ON

J 023865

10-03-2015

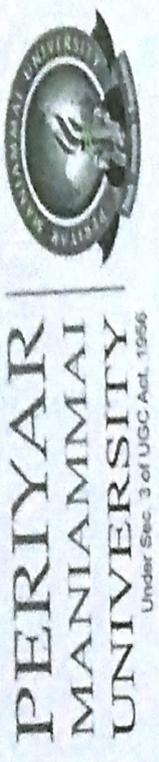
A.
University Registrar

Dr. Rajan
University Vice-Chancellor



000193

CHOICE BASED CREDIT SYSTEM (CBCS)
CONSOLIDATED GRADE REPORT



**PERIYAR
MANIAMMAI
UNIVERSITY**
Under Sec. 3 of UGC Act, 1956

Name of the Candidate		KANIVALAN K		Register No.	08012302006			
School/Centre		School of Architecture, Engineering and Technology					Regulations	2008
Degree/Diploma Branch		M.Tech. / Nano Technology						
Sem	Subject Code	Subject Title	PMU Credits	PMU Grade	ECTS Grade	ECTS Credits	Month & Year of Passing	At.Gr.
1	YNT101	Fundamentals of Nanotechnology	4	C	C	4	JAN.2009	O
1	YNT102	Quantum Mechanical Phenomena in Nanostructures	4	C	C	4	JAN 2009	O
1	YNT103	Properties of Nanophase Materials	4	C	C	4	JAN 2009	O
1	YNT104	Processing and Fabrication of Nanostructures	4	D	D	4	JAN.2009	M
1	YNT105A	Molecular Biology	3	C	C	3	JAN.2009	O
1	YNT106B	Molecular Nanoelectronics	3	C	C	3	JAN.2009	O
1	YNT107	Computer Simulation Lab-I	3	C	C	3	JAN.2009	O
1	YNT108	Nanotechnology Lab-1	3	D	D	3	JAN.2009	O
2	YNT201	Advanced Nanomaterials Characterization Techniques	4	C	C	4	APR.2009	M
2	YNT202	Semiconductor Nanostructures and Devices	4	C	C	4	APR.2009	M
2	YNT203	Nanotechnology for Energy Systems	4	C	C	4	APR.2009	M
2	YNT204	Applied Nanotechnology	4	C	C	4	APR.2009	M
2	YNT205A	Photonic Materials and Devices	4	D	D	4	APR.2009	M
2	YNT206A	Micro Electromechanical System Design and Applications	3	C	C	3	APR.2009	M
2	YNT207	Nanotechnology II Analytical	3	C	C	3	APR.2009	M
2	YNT208	Nanotechnology II Simulation	3	C	C	3	APR.2009	M
3	YNT301	Project Work (phase I)	10	C	C	3	APR.2009	M
4	YNT401	Project Work (Phase II)	12	B	B	10	DEC.2009	O
						12	MAY 2010	O

***** End of Statement *****



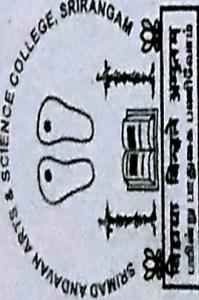
No. of Credits Registered : 78
CGPA : 8.01
No. of Credits Earned : 78
CLASS : First Class

Date & Seal : 15-09-2010
Vallam - 613 403, Thanjavur.
Tamil Nadu, India.
Web: www.pmu.edu

[Signature]
Controller of Examinations



Details overleaf



(AUTONOMOUS)
Managed By Sri Ranganatha Paduka Vidyalaya Trust (Regd.)
(Affiliated to Bharathidasan University)
Nationally Re-Accredited with 'A' Grade by NAAC
An ISO 9001:2015 Certified Institution
No.7, NELSON ROAD, T.V. KOIL, TIRUCHIRAPPALLI - 620 005

TRANSFER CUM CONDUCT CERTIFICATE

ADMISSION NO.: 20130693 TC. NO.: 10907
UNIVERSITY EXAMINATION REGISTER NO.: 2K13FT - 41229

1. NAME OF THE STUDENT : KANIVALAN K
2. FATHER'S NAME : KASINATHAN K
3. MOTHER'S NAME : PADMINI K
4. DATE OF BIRTH : 23/01/1986
5. SEX : MALE
6. NATIONALITY : INDIAN
7. RELIGION : HINDU
8. CASTE : GANDHARVAKKOTTAI KALLAR
9. WHETHER BELONGS TO SC/ST/BC/MBC/DNC/OC : DNC
10. COURSE OF STUDY : M. PHIL PHYSICS
11. CLASS IN WHICH THE STUDENT WAS STUDYING AT THE TIME OF LEAVING THE COLLEGE : M. PHIL PHYSICS
12. DATE OF ADMISSION : 16/09/2013
13. DATE OF LEAVING : 29/09/2014
14. REASON OF LEAVING : PROGRAMME COMPLETED
15. WHETHER QUALIFIED FOR PROMOTION TO HIGHER CLASS : REFER MARK SHEET
16. CONDUCT AND CHARACTER DURING THE PERIOD OF STUDY : GOOD

PLACE : TRICHY
DATE : 30/01/2020

Radhika J
PRINCIPAL

PRINCIPAL
SRIMAD ANDAVAN ARTS AND
SCIENCE COLLEGE (Autonomous)
TIRUCHIRAPPALLI-620 005.



V.S.B. Engineering College

(ISO 9001 : 2008 Certified Institution)

Approved by AICTE & Affiliated to Anna University, Chennai.
Karudayampalayam, KARUR - 639 111, Tamilnadu



South Asia

VSBE/ADMIN/SC/2013-14

Date:29.05.2014

SERVICE CERTIFICATE

This is to certify that **Mr.Kanivalan.K** served as **Assistant Professor** in the Department of **Physics** in our Institution from **28.07.2011** to **17.06.2013**.

His conduct and character was found to be good. I wish him success in all his future endeavors.

He has been relieved from the duty on his own request.


PRINCIPAL

आयकर विभाग

INCOME TAX DEPARTMENT



सत्यमेव जयते

भारत सरकार

GOVT. OF INDIA

K KANIVALAN

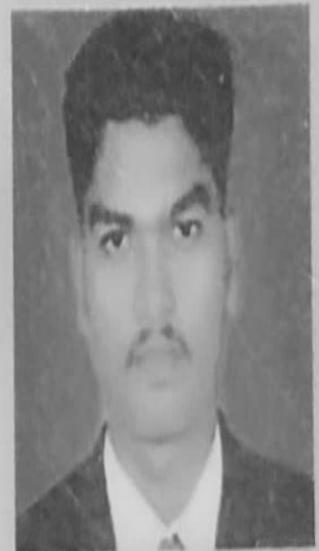
KASINATHAN

23/01/1986

Permanent Account Number

BXAPK4331E

Signature



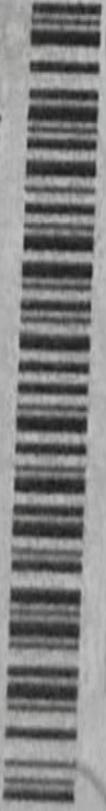
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இந்திய தேர்தல் ஆணையம்
Election Commission of India



வாக்காளர் புகைப்பட அடையாள அட்டை ELECTOR PHOTO IDENTITY CARD



RRN0882381



வாக்காளரின் : கனிவளன்
பெயர்

Elector's : KANIVALAN
Name

உறவினரின் : காசிநாதன்
பெயர்

Relation's : KASINATHAN
Name

463 / 14

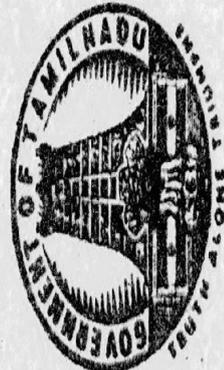
*CERTIFICATE No.

3413404

DISTRICT CODE 111

TALUK CODE 02

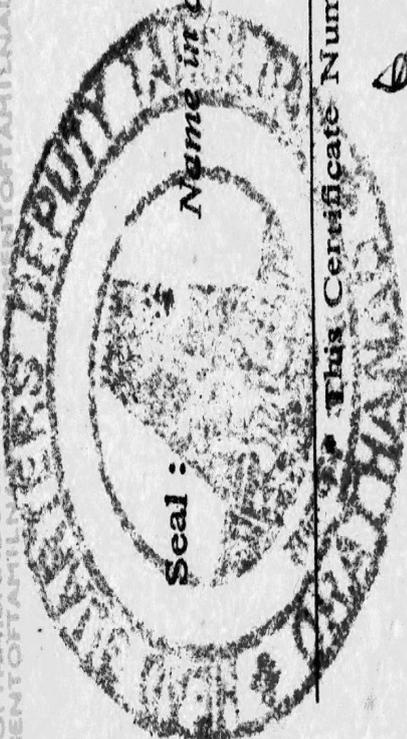
VILLAGE CODE 030



COMMUNITY CERTIFICATE

This is to certify that **K. ANIVALAN-K** son/daughter of **Thiru. K. asinatham** of **Shekkuray village/town**... taluk of **THANJAVUR**... district of the State of Tamil Nadu belongs to **Hindu**... **Gaidanavakottai** Kallakommunity, which is recognised as a Most Backward Class / Denotified Community / Backward Class / Scheduled Caste / Scheduled Tribe as per G.O. Ms. No. **2.H.2**... Dated **2.8.79**... / The S.C. and S.T. Orders (Amendment) Act, 1976, vide Sl. No. **297**...

2. It is certified that **K. ANIVALAN-K** and his/her family ordinarily reside(s) at **Shekkuray**... village/town... taluk... **THANJAVUR**... district of the State of Tamil Nadu.



Signature :

Date :

Name in capital letters :

[Signature]
U. SHANMUGAM
 Designation ZONAL DEPUTY TAHSILDAR No - **31546**
ORATHANAD.

This Certificate Number is to be filled in the Application Forms.