



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

APPLICATION FOR ADMISSION TO Ph.D. PROGRAMMES

Date of Application:07-11-2025

| | | | |
|------------------|----------------------------|-----------------|------------|
| Department | BIOTECHNOLOGY | Application No. | 2025011710 |
| Area of Research | ENVIRONMENTAL MICROBIOLOGY | Research Mode | FULL TIME |

Name :ANGELS MATRICULATION HIGHER SECONDARY SCHOOL

Date of Birth / Age :04-02-1988 / 37 Years

Gender :FEMALE

Category :BC

e-Mail ID :sudhag0402@gmail.com

Mobile :9952222262



Sudha G

| | | | |
|---|----------------|--|------------|
| Father's/Husband's Name | GANDHINATHAN G | Father's/Husband's Occupation | RETIRED |
| Family Income | 80000 | Residential Type | URBAN |
| Birth Place | RAJAPALAYAM | Mother Tongue | TAMIL |
| Religion | HINDU | Martial Status | WIDOWED |
| Aadhaar No. | 221275902858 | PAN No. | CJLPS1275D |
| Physically Challenged | NO | Type of Disability | - |
| Address for Communication: 103/69 PERIYASURAKKAI PATTI RAJAPALAYAM VIRUDHUNAGAR DISTRICT TAMILNADU INDIA Pin-626117 | | Permenant Address: 103/69 PERIYASURAKKAI PATTI TOWN VIRUDHUNAGAR DISTRICT TAMILNADU TAMILNADU Pin-626117 | |

| Qualification | | | | | | |
|---------------|----------------|---------------------------------|-------------|----------|------------------------------|---------|
| Degree | Discipline | College/university | Year Passed | AVG/CGPA | Class | Mode |
| UG | BIOTECHNOLOGY | SRI KALISWARI COLLEGE, SIVAKASI | 2008 | 86% | FIRST | REGULAR |
| PG | BIOTECHNOLOGY | BISHOP HEBER COLLEGE, TRICHY | 2010 | 88% | FIRST CLASS | REGULAR |
| PG DIPLOMA | BIOINFORMATICS | BISHOP HEBER COLLEGE, TRICHY | 2010 | 93% | FIRST CLASS WITH DISTINCTION | REGULAR |
| BLISC | 2023 | ALAGAPPA UNIVERSITY | 2023 | 89% | FIRST CLASS | REGULAR |

| Experience | | | | |
|--------------|-------------|-----------------|---------------|-------------|
| Organization | Designation | Experience From | Experience TO | Work Nature |

| Payment Details | | | | |
|-----------------|-----------|---------------------|--------|--------|
| Transaction ID | Reference | Date of transaction | Amount | Status |

| | | | | |
|-------------------------|----------------|------------|-----|---------|
| 2025011710_251107163935 | BHD558U11KVKID | 07-11-2025 | 600 | SUCCESS |
|-------------------------|----------------|------------|-----|---------|

AI BASED CLASSIFICATION AND VISUALIZATION OF VARIOUS MICROBES IN MONITORING AGRICULTURAL SOIL POLLUTION USING PUBLIC METAGENOMIC DATA

Agricultural soil pollution poses a significant threat to ecosystem health and food security. This study includes artificial intelligence (AI) to classify and visualize diverse microbes in public metagenomic data, monitoring the impact of pollution on beneficial microorganisms. We analyzed metagenomic datasets from polluted and non-polluted agricultural soils, applying machine learning algorithms to identify and categorize microbial communities. Our results reveal significant shifts in microbial composition, with beneficial microbes declining in polluted soils. Key factors driving these changes include heavy metal contamination, pesticide use and excessive fertilizer application. AI-Driven visualization techniques illustrate the complex relationships between microbes, pollutants and soil health indicators. This research demonstrates the potential of AI-based metagenomic to inform sustainable soil management practices, mitigate pollution and preserve beneficial microbial ecosystems. Main objective is to classify and visualize microbial communities in agricultural soils using public metagenomic data; to assess the impact of pollutants on beneficial microbes; to identify bio-indicators of soil pollution using machine learning algorithms and correlate microbial changes with soil health indicators; to visualize microbe pollutant interactions using AI based techniques to understand complexity; to provide insights for sustainable soil management practices to preserve beneficial microbial ecosystem and mitigate agricultural soil pollution.

037



Centre Code :25

Reg. No. 4BT086519 :Code No. 152EC :S.No. 553576

பாரதிதாசன் பல்கலைக்கழகம்
BHARATHIDASAN UNIVERSITY

(Established by the Government of Tamil Nadu in 1982; Recognized by UGC under 2f and 12B of UGC Act; Member, Association of Indian Universities and Association of Commonwealth Universities; Accredited by NAAC with 'A' Grade)

அறிவியல் புலம்
FACULTY OF SCIENCE

பாரதிதாசன் பல்கலைக்கழக ஆட்சிக் குழு ஏப்ரல் 2010 ஆம் ஆண்டு
பிஷப் ஹீபர் கல்லூரி (தன்னாட்சி), திருச்சிராப்பள்ளி

நடத்திய

உயிர்நுட்பவியல்

தேர்வில்

கா. சுதா

என்பவர் முதல் வகுப்பில் தேர்ச்சி பெற்றார் என்று தக்க தேர்வாளர்கள்
சான்றளித்தபடி அறிவியல் நிறைஞர் என்னும் பட்டத்தை
அவருக்குப் பல்கலைக்கழக இலச்சினையுடன் வழங்குகிறது.

The Syndicate of the **BHARATHIDASAN UNIVERSITY** hereby makes
known that **G. SUDHA** has been
admitted to the Degree of **MASTER OF SCIENCE**, having
been certified by duly appointed Examiners to be qualified to receive the same in
BIOTECHNOLOGY at the Examination
held in **APRIL 2010** and placed in **FIRST** Class through the
BISHOP HEBER COLLEGE (Autonomous), TIRUCHIRAPPALLI of the University.

Given under the seal of the University.

திருச்சிராப்பள்ளி
Tiruchirappalli

நாள் : 12th November 2010

Dated : 17 4 FEB 2011

பதிவாளர் Registrar

துணைவேந்தர் Vice-Chancellor



2189

| Name : SUDHA G | | | | | Reg. No. : 4BT086519 | |
|--|----------|-----------------------------|-------------------|-----------------|--------------------------|-------------|
| Date of Birth : 04/02/1988 | | | | | Gender : Female | |
| Sem & Course | Code | Course Title | Credits earned in | Credits | Letter Grade | Grade Point |
| 1 Core | PO8BT101 | Cell and Molecular Biology | Nov08 | 4 | B | 8 |
| 1 Core | PO8BT102 | Biochemistry | Nov08 | 5 | S | 10 |
| 1 Core | PO8BT103 | Bioinformatics | Nov08 | 5 | S | 10 |
| 1 Core | PO8BT104 | Enzyme Technology | Nov08 | 4 | A | 9 |
| 1 Core | PO8BT1P1 | Laboratory Course - I | Nov08 | 3 | S | 10 |
| 1 Elect | PO8BT1:1 | Microbiology | Nov08 | 4 | S | 10 |
| 2 Core | PO8BT205 | rDNA Technology | Apr09 | 5 | A | 9 |
| 2 Core | PO8BT206 | Bioprocess Technology | Apr09 | 5 | B | 8 |
| 2 C-Pra | PO8BT2P2 | Laboratory Course - II | Apr09 | 3 | A | 9 |
| 2 C-Pra | PO8BT2P3 | Laboratory Course - III | Apr09 | 3 | A | 9 |
| 2 Elect | PO8BT2:1 | Stem Cells | Apr09 | 4 | S | 10 |
| 2 ED 1 | PO8CA2E1 | Multimedia Systems | Apr09 | 4 | B | 8 |
| 2 VLO | PO8VL2:2 | Moral Instruction | Apr09 | 2 | A | 9 |
| 3 CORE | PO8BT307 | Animal Biotechnology | Nov09 | 5 | B | 8 |
| 3 CORE | PO8BT308 | Plant Biotechnology | Nov09 | 5 | B | 8 |
| 3 CORE | PO8BT309 | Immunotechnology | Nov09 | 5 | A | 9 |
| 3 CORE | PO8BT310 | Medical Biotechnology | Nov09 | 5 | A | 9 |
| 3 C PRA | PO8BT3P4 | Laboratory Course-IV | Nov09 | 3 | A | 9 |
| 3 ELECT | PO8BT3:1 | Biosafety and IPR | Nov09 | 4 | A | 9 |
| 4 Core | PO8BT411 | Environmental Biotechnology | Apr10 | 5 | A | 9 |
| 4 Elect | PO8BT4:1 | Research Methodology | Apr10 | 4 | B | 8 |
| 4 C-Pro | PO8BT4PJ | Project | Apr10 | 5 | S | 10 |
| -----END OF STATEMENT----- | | | | | | |
| Semester | I | II | III | IV | Programme Completed in | APR 2010 |
| Credits Registered | 25 | 26 | 27 | 14 | Total Credits Earned | 92 |
| Grade Point Average (GPA) | 9.52 | 8.81 | 8.63 | 9.07 | Minimum Credits required | 92 |
| Cumulative Grade Point Average (CGPA) 8.99 | | | | Class : I Class | | |

Any correction invalidates this statement.

Date of Issue : 12 JUN 2010

[Signature]
Controller of Examinations



[Signature]
Principal &

Chief Controller of Examinations



Self Financing

BISHOP HEBER COLLEGE (AUTONOMOUS)

(Nationally Reaccredited at the A⁺ Level by NAAC)
(Affiliated to Bharathidasan University)

TIRUCHIRAPPALLI - 620 017

TRANSFER CERTIFICATE

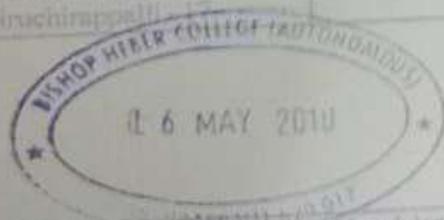
S.NO. 961

ADMISSION NO. 20847

ROLL NO. 83333

1. Name of the Pupil (in BLOCK LETTERS as entered in +2 or equivalent Certificate) : SUDHA G
2. Name of the Parent / Guardian : GANDHINATHAN G
3. Nationality, Religion and Caste : INDIAN, HINDU, VEERAKODI VELLALAR
4. Community : BC
5. Sex : FEMALE
6. Date of Birth as entered in the Admission Register (in figures and words) : 4-2-1988 (Fourth, February, 1988)
7. Personal marks of identification : a) NIL
b) NIL
8. Date of Admission and Class in which admitted (the year to be entered in words) : 09-Jul-08, First M.SC.-BIO-TECHNOLOGY
9. (a) Class in which the pupil was studying at the time of leaving (in words) : Second M.SC.-BIO-TECHNOLOGY
(b) Programme studied : Main : BIO TECHNOLOGY
Allied : _____
(c) Language offered under Part - I : _____
(d) Medium of Instruction : ENGLISH
10. Whether the student has paid all the fees due to the College : YES
11. Whether the student was in receipt of any scholarship (Nature of the scholarship to be specified) or (Educational Concession) : NO
12. Whether the student has undergone Medical Inspection, if any, during the academic year (first or repeat to be specified) : NO
13. Date on which the student actually left the College : 10-4-2010
14. Student's Conduct and Character : GOOD
15. Date on which the application for Transfer Certificate was made by the Student : 6-5-2010
16. Date of the Transfer Certificate : 6-5-2010
17. Programme of Study

| Name of the College | Academic Year | Programme Studied | First Language | Medium of Instruction |
|--|---------------|----------------------|----------------|-----------------------|
| BISHOP HEBER COLLEGE (AUTONOMOUS) Tiruchirappalli | 2008-2010 | M.SC.-BIO-TECHNOLOGY | _____ | ENGLISH |



Principal
BISHOP HEBER COLLEGE (AUTONOMOUS)
TIRUCHIRAPPALLI - 620 017
Signature of the Principal

Date :

Note: (1) Erasures and unauthorised alterations of fraudulent alteration in the certificate will lead to its cancellation.
(2) Should be signed in ink by the head of the Institution who will be held responsible for the correctness of the entries.

Declaration

I hereby declare that the particulars recorded against items 1 to 7 are correct and that no change will be demanded by me in future.

S. Sudha
Signature of the Student

Signature of the Parent / Guardian

आयकर विभाग
INCOME TAX DEPARTMENT



भारत सरकार
GOVT. OF INDIA

SUDHA G
GANDHINATHAN

04/02/1988
Permanent Account Number
CJLPS1275D



G. Sudha

Signature

UNION OF INDIA Driving Licence (Tamil Nadu)



DL. No. **TN84 20190006118**

(NT)



Date of Issue

27-09-2019

Valid Till

(NT)

26-09-2029



Date of Birth

04-02-1988

Blood Group

O+

Name

SUDHA G

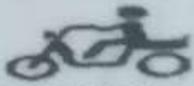
Son/Daughter/Wife of

GANDHINATHAN



TND01441606

TN84 20190006118



MCWOG

27-09-2019

Badge Date

Badge No.



Address

103 / 69 PERIYASURAKKAI PATTI STREET

RAJAPALAYAM

Rajapalayam, Virudhunagar, TN 626125

Signature of Issuing Authority

TN84 SRIVILLIPUTTUR RTO

R.Dis...../200 dt.

BC

சான்றிதழ் எண் :
Certificate No. :

6238448



மாவட்டக் குறியீடு எண் :
District Code

வட்டக் குறியீடு எண் :
Taluk Code

கிராமக் குறியீடு எண் :
Village Code

| | | |
|---|---|---|
| 1 | 2 | |
| 0 | 2 | |
| 0 | 0 | 4 |

சாதிச் சான்றிதழ்
COMMUNITY CERTIFICATE

விருதுநகர் மாவட்டம் இராசபாளையம் வட்டம்
 கிராமம்/நகரம், திரு/திருமதி/செல்வி
 செல்வன் கிராமத்தின் கிராமத்தினர்
 பெயர் கிராமத்தினர் கிராமத்தினர்

வகுப்பைச் சார்ந்தவர், அரசு ஆணை நலை எண் 28, பிற்பட்ட மற்றும்
 மிகவும் பிற்பட்ட பிரிவின் நலத் துறை, நாள் 19.7.1994 வரிசை எண் 695 படி,
 பிற்பட்ட பிரிவினைச் சார்ந்தவர் எனச் சான்றளிக்கப்படுகிறது.

This is to certify that..... Son / Daughter of
 Thiru..... I 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. திரு/திருமதி/செல்வன்/செல்வி கிராமத்தின் விருதுநகர்
 எனபவரும் அவருடைய குடும்பத்தினரும் தமிழ்நாட்டில்
 மாவட்டத்தில் இராசபாளையம் வட்டத்தில் கிராமத்தினர்
 கிராமத்தில்/நகரத்தில் வசித்து வருகிறார்கள் எனச் சான்றளிக்கப்படுகிறது.

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

முத்திரை.
Seal.



சைகமொழிபெயர்
Signature
நாள்
Date

[Handwritten Signature]
 Zonal Dy Tansilaaai
 Rajapalayam,

1.8.05 31/8/05