



# Karnataka State Council for Science and Technology

Indian Institute of Science Campus, Bangalore - 560 012

Telephone: 080-23341652, 23348848, 23348849 ♦ Telefax: 080-23348840

Email: office@kscst.iisc.ernet.in, office@kscst.org.in ♦ Website: www.kscst.iisc.ernet.in, www.kscst.org.in

**Dr. S. G. Sreekanteswara Swamy**  
Fellow & Principal Investigator - SPP

12th March 2015

Ref: 7.1.03/SPP/1018

The Principal  
Sapthagiri College Of Engineering  
14/5, Chickasandra, Hesaraighatta Main Road  
Bangalore - 560 057.

Dear Sir,

Sub: Sanction of Student Project - 38th Series, Year 2014/2015

Your Project Proposal Reference No. : **38S0913**

Ref : Your Project Proposal entitled "

**ESTIMATION AND DE-IDENTIFICATION OF GENDER  
SIGNATURE FROM FINGERPRINTS**

I am happy to inform that your project proposal referred above, has been approved by the Secretary, KSCST for "Student Project Programme - 38th Series" and has been sanctioned with a budgetary break-up as detailed below:

Student / s	Mr. Chandan N and others	Budget	Amount (Rs)
		Materials/Consumables	2,000.00
Guide/s	Prof. Kamalakshi Naganna	Labor	
		Travel	
Department	Computer Science And Engineering	Miscellaneous	500.00
		Report	500.00
		<b>TOTAL</b>	<b>3,000.00</b>
Rupees	<b>THREE THOUSAND</b>	<b>ZERO HUNDRED</b>	

The following are the guidelines to carryout the project work :

- The project should be performed based on the objectives of the proposal sent by you.
- The project should be completed in all respects and one copy of the hardbound report along with softcopy of the full report in a CD (.pdf format) should be submitted to KSCST.
- Any change in the project title and objectives, etc., or students is liable to rejection of the project and the amount sanctioned needs to be returned to KSCST.
- Please quote your **project sanction reference number printed above** in all your future correspondences.
- Important:** After completing the project, 2 to 3 page write-up (synopsis) needs to be sent by e-mail [spp@kscst.iisc.ernet.in] and should include following :
  - Title of the project
  - Name of the College & Department
  - Name of the students & Guide(s)

*[Signature]*  
Principal  
Sapthagiri College of Engineering  
Chickasandra, Hesaraighatta Road,  
Bangalore-560 057

38S0913

- 5) Introduction / background  
(with specific reference to the project, work done earlier, etc) - about 20 lines
  - 6) Objectives (about 10 lines)
  - 7) Methodology (about 20 lines)  
(materials, methods, details of work carried out, including drawings, diagrams etc)
  - 8) Results and Conclusions  
(about 20 lines with specific reference to work carried out)
  - 9) Scope for future work (about 20 lines).
- (Note: The write-up (Synopsis) should be sent with the approval of project guide. The softcopy of the write-up, in MS Word format, should be sent by e-mail (spp@kscst.iisc.ernet.in). In your e-mail, please also include project proposal reference number and title of the project.)**

e) Projects selected for Seminar / Exhibition will be awarded.

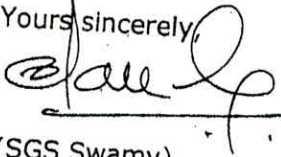
The sanctioned amount will be sent separately by our Accounts Department.

**The sponsored projects evaluation will be held in the Nodal Centre and the details of the nodal centre will be intimated shortly.**

Please visit our website for further announcements / information and for any clarifications please email to spp@kscst.iisc.ernet.in

Thanking you and with best regards,

Yours sincerely,



(SGS Swamy)

Copy to:

- 1) The Head of the Department of  
Computer Science And Engineering  
Sapthagiri College Of Engineering  
14/5, Chickasandra, Hesaraghatta Main Road  
Bangalore - 560 057.
- 2) Prof. Kamalakshi Naganna  
Department of Computer Science And Engineering  
Sapthagiri College Of Engineering  
14/5, Chickasandra, Hesaraghatta Main Road  
Bangalore - 560 057.
- 3) The Finance Officer, KSCST, Bangalore



Principal  
Sapthagiri College of Engineering  
Chickasandra, Hesaraghatta Road,  
Bangalore-560 057

Project proposal ref no.38S0913

**“ESTIMATION AND DE-IDENTIFICATION  
OF  
GENDER SIGNATURE FROM FINGERPRINTS”**

NAME OF THE COLLEGE AND DEPARTMENT

**SAPTHAGIRI COLLEGE OF ENGINEERING  
DEPARTMENT OF COMPUTER SCIENCE AND ENGG**

NAME OF STUDENTS AND GUIDE


**AKSHATHA HEBBAR(1SG11CS006)  
ANUSHA M(1SG11CS012)  
CHANDAN N(1SG11CS019)  
MALLIKARJUNA K R (1SG11CS039)**


UNDER THE GUIDANCE OF

**MRS KAMALAKSHI NAGANNA**  
Associate Professor

KEYWORDS

LBP-Local Binary Pattern.  
LPQ-Local Phase Quantization.  
DFT-Discrete Fourier Transform.

  
Signature of the Guide

  
MRS KAMALAKSHI NAGANNA  
Associate Professor

  
Principal  
Sapthagiri College of Engineering  
Chiklasandra, Hesaraghatta Road,  
Bangalore-560 057

# INTRODUCTION

The soft biometrics exist for identification of individual , research is carried out for extraction of gender from the fingerprint .From this privacy of individual is preserved. The identification of fingerprint has three phases,Initially Local Binary Pattern which obtain the image as a texture which is given as an input to LPQ (Local Phase Quantization). LPQ is used to obtain phase information of the image. These are the features obtained in soft biometrics.

De-Identification is a required element of information integration in order to reduce the risks of unauthorized disclosure. The implicit goal of de-identification is to protect privacy and preserve data utility. In de-identification, data content may be altered to remove or obscure personal information which would allow identification of an individuals who are the source of data. Image de-identification refers to the process of depriving the biometric data of information which would be useful to identify the source of data. In many real world applications, de-identification allows to release of data without sensitive information.

The obtained De-Identified image is matched across the original image and obtain sufficient matching performance.



Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

## OBJECTIVES

- Achieving privacy protection on fingerprint image , where the need of sharing the data in many emerging application is important.
- Extracting the features of soft bio-metrics from given fingerprint image uses efficient De-Identification algorithm.
- Release the researched data of fingerprint image in such a way that it should disallow the successful extraction of soft bio-metrics.
- This proposes a method for reducing the ability to estimate the gender from the de-Identified fingerprint image, without compromising the correctness of the matching operation.

  
Principal  
Sri Jagadgur College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

SCE-2014-15

Payment Voucher

No. : 890

Dated : 16-Jul-2015

Through : TGM-103091002852

Particulars	Amount
Account : KSCST( Project Work)	3,000.00
On Account of : Being expenses incurred towards KSCCT Project work	
Bank Transaction Details: Akshatha Hebbar Cheque	16-Jul-2015 3,000.00

SAPTHAGIRI COLLEGE OF ENGINEERING  
TGM BANK A/C NO: 202741001307

Cheq No. 810907 Date 18/7/15 Rs. 3,000/-

Prepared by: [Signature] Verified by: [Signature] Authorized Signatory: [Signature]

Amount (in words):  
INR Three Thousand Only

₹ 3,000.00

Receiver's Signature: [Signature]

Authorised Signatory: [Signature]

Checked by:

[Signature]  
1817

Verified by

11-8-15

Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

23/06/2015

The principal,  
Sopthagiri College of Engineering  
Chikkasandra  
Bangalore - 57

To  
Prin. Shobha  
to release KSCST approved  
fund  
23/06/15

Dear Sir,

Subject: Reimbursement of funds granted by KSCST to  
SB AC/NO: "1199101022705"

, Chondan. N (1SG11CS019) a student of your college,  
writing this letter to collect reimbursement of fund  
on behalf of my friends AKshatha Hebbar (1SG11CS000)  
Anusha N (1SG11CS012), molikarjuna KR (1SG11CS039)  
were selected for the student project program  
Organized by KSCST for which they received a grant  
to carry out the project. I have attached the  
receipt of the expenditure along with this letter.  
I kindly request you to reimburse the amount of Rs  
SB AC/NO "1199101022705" (CANARA BANK).

The Expenditure is summarized in the table below.

Forwarded to Principal for needful.

Rys 2000  
23/06/15  
HOD, CS4E

Thanking you,

Sl. No	Item	No	Amount
1	Equipment	1	2500
2	Report	1	500
Total			Rs: 3000

needed to principal  
Sir

Sopthagiri College of Engineering  
Chikkasandra, Hesarahatta Road,  
Bangalore-560 047

CASH BILL Mobile :8892130893

# EHA PRINTS

Engineering College, Hanumanthe Gowda Main Road,  
Chikkasandra, Bangalore - 560 057.

38  
hondan.N Date. 20/5/15

Description	Qty.	Amount
epot	1	500/-
25/6/15 For SNEHA PRINTS		

Bought of

Cash/Credit Memo

Sold to Chondan.N

No 37

Date 15/2/15

QNTY	PARTICULARS	RATE	AMOUNT Rs. P
1	Biometric finger print scanner	1	2500.00
Thank You!		Total	2500/-

Goods once sold will not be taken back

Signature

Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057



GOVERNMENT OF KARNATAKA

## Vision Group on Science and Technology

Department of Information Technology, Biotechnology and Science & Technology  
Karnataka Government Secretariat, Room No.702, 7<sup>th</sup> Floor, 4<sup>th</sup> Gate, M. S. Building, Dr. Ambedkar Veedhi,  
Bangalore-560 001, Phone: 080-2203 2013

E-mail: visiongroup.st@gmail.com

Website: www.vgst.in

Dr. S. Ananth Raj  
Consultant

No. VGST/TRIP/2014-15

Date: 03-03-2015

### **VGST - GRANT SANCTION LETTER**

(6)

To,

The Principal,

Sapthagiri College of Engineering,

No.14/05, Chikkasandra,

Hesaraghatta Main Road,

Bangalore - 560 057

Dear Sir/Madam,

Greetings from Vision Group on Science and Technology (VGST)

Sub: Sanction letter of VGST, DST, GoK for the release of TRIP  
Support grant (FY: 2014-15).

\* \* \* \* \*

1. The Vision Group on Science and Technology (VGST) was constituted in October 2008 under the Chairmanship of distinguished Scientist Bharat Ratna Prof. C.N.R. Rao, FRS., Chairman, National Research Professor and Honorary President and Linus Pauling Research Professor. The VGST is functioning under the aegis of Department of Information Technology, Biotechnology and Science and Technology (Dept. IT, BT and S&T), Government of Karnataka (GoK). The main objective of VGST is to promote Science Education and Research activities among students, teachers and researchers of Karnataka State.
2. Technology Related Innovative Projects (TRIP) is one of the flagship programmes of VGST. The main objective of TRIP programme is to explore the innovative abilities of engineering students to develop prototype models and also encourage student projects related to Energy, Environmental Sciences and Biotechnology.
3. We regrets the delay in sending this cheque because of Administrative issues. VGST could not send the cheques within scheduled period. However, the date of submission of TRIP report AUC & ES has been extended to 31<sup>st</sup> July 2015.

.....2/

4. I am herewith enclosing a crossed cheque for Rs.30,000=00 (Thirty Thousand only) vide cheque No. 970986 dated 28-2-2015 to the TRIP project. Kindly acknowledge the receipt of the grant. The acknowledgement letter is enclosed.

Sl. No.	Name of the College & Place	Name of the Student	Project Title
1	Sapthagiri College of Engineering, Bangalore	1) Madhuri 2) Rakshitha H. S.	Effect of Green Synthesized Copper nanoparticles on Lycopersicon Esculentum: A study involving the antioxidant defense related enzymes

5.

1.	TRIP Project Duration	5 Months (01/03/2015 to 31/07/2015)
2.	Last date for the submission of the following by institution for the TRIP programme (2014-15). (a) Project Report (PR) (b) Audited Utilization Certificate (AUC) (c) Expenditure Statement (ES)	31/07/2015
It is mandatory to submit the PR, AUC & ES to VGST by 31/07/2015. Only after the submission of these three documents the students become eligible to receive the TRIP certificate by VGST.		

6. The TRIP grant has to be utilized by the awardee students in accordance with the VGST approved Expenditure Allocation as given below.

Expenditure Allocation		
Budget Head	Particulars	Grant Amount (In Percent)
A	(1) Equipment	80% of the Allocated Grant (Rs.24,000/-)
	(2) Chemicals	
	(3) Glass Ware	
	(4) Specimen	
	(5) Outsourcing – for chemical analysis and other analytical work (if required)	
B	(1) Stationary	20% of the Allocated Grant (Rs.6,000/-)
	(2) Travel (if any) (not exceeding Rs. 600/-)	
	(3) Books and Journals, reading material	
	(4) Preparation of project report	

7. In case of non-utilization of TRIP grant the college authorities has to return the grant through crossed Cheque or DD favouring Scientific Officer, Dept. of IT, BT and S & T.
8. It is mandatory to complete the TRIP within 5 months. Hence, VGST request the college Principal to release the entire VGST grant to the Project Mentor as soon as you receive this letter and the cheque.

Thanking you,

Yours faithfully,

(Dr. S. Ananth Raj)

Pay to the order of

STATE BANK OF MYSORE

MULTICITY CHEQUE - CASHER ACCOUNT  
BANASHANKARI STAGE BRANCH (30463) BANGALORE 560070

28 02 2015  
D D M Y Y Y

DAY The Principal, Sathagiri College of Engineering,

Bangalore  
Signature of OR BEARER

RUPEES रुपये Thirty Thousand Only  
X 0 X

₹ 30,000/-

No. No. 64110830474

*[Signature]*

CBS BRANCH

MANAGING DIRECTOR, KARNATAKA SCIENCE AND TECHNOLOGY PROMOTION SOCIETY  
Payable at par at all branches of State Bank of Mysore  
Multicity cheque is payable upto a maximum of Rs. 50000/-  
Please sign above

970988 560006004 003104 31

*[Signature]*

Guide copy

**Effect of green synthesized copper nanoparticles on  
*Lycopersicon esculentum*: A study involving the antioxidant  
defense related enzymes**

**A Project report submitted to the Technology Related Innovative Projects  
(TRIP – 2014-15)**

Submitted By

**Madhuri Bhat S**

**Rakshitha H.S**

Under the guidance of

**Dr. Ananda S, MSc, PhD**

**Professor and Head of the Department**

**Department of Biotechnology**



**Sapthagiri College of Engineering**

**Affiliated to Visvesvaraya technological university**

**Bangalore, Karnataka**

*VB*

**Principal**  
**Sapthagiri College of Engineering**  
14/5, Chikkasandra, Hesarghatta Main Road  
Bangalore - 560 057

Submitted to

**Government of Karnataka VISION GROUP ON SCIENCE AND TECHNOLOGY**

**Department of Information Technology, Biotechnology and Science & Technology**

**Bangalore, Karnataka**

# SAPTHAGIRI COLLEGE OF ENGINEERING


#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560 057

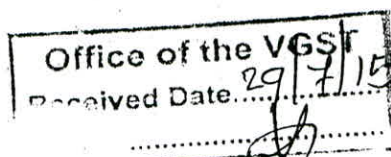


## DEPARTMENT OF BIOTECHNOLOGY

### CERTIFICATE

This is to certified that the project work entitled "Effect of green synthesized copper nanoparticles on *Lycopersicon esculentum*: A study involving the antioxidant defense related enzymes" has been carried out by Ms Madhuri bhat S and Ms Rakshitha H.S bonafide students of VI semester B.E in Biotechnology of Sapthagiri College of Engineering, under Technology Related Innovative Projects scheme of vision group on science and technology during the academic year 2014-2015. The research is a record of original work carried out by them, in Department of Biotechnology, Sapthagiri College of Engineering, Bangalore, Karnataka, under our guidance and supervision and it has not formed the basis for the award of any Degree.

  
Dr. Ananda S.  
Head of the Department  
Signature of Guide  
Sapthagiri College of Engineering  
No. 57/1, Chikkasandra,  
Hesaraghatta Main Road  
Bangalore-57



  
(Dr. Aswatha Kumar M)

Signature of Principal  
Dr. Aswatha Kumar. M  
Principal  
Sapthagiri College of Engineering  
No. 14/5, Chikkasandra,  
Hesaraghatta Main Road,  
Bangalore - 560 057.

Signature  
Dr. S. Ananth Raj  
Executive Secretary  
Vision Group on Science and Technology (VGST)

  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bengaluru - 560 057



**बैंकर्स चेक**  
**BANKERS CHEQUE**


1	4	0	1	2	0	1	9
D	D	M	M	Y	Y	Y	Y


को या उनके आदेश पर 8

**OR ORDER**

6

दुसरे भारतीय स्टेट बैंक  
For STATE BANK OF INDIA

  
 प्रधिकृत हस्ताक्षरकर्ता  
 AUTHORIZED SIGNATORY


  
 शाखा प्रबंधक  
 BRANCH MANAGER

**VINOD KUMAR, M**  
 ₹ 1,50,000/- का अधिकतम मूल्य का दो अधिकारियों द्वारा हस्ताक्षरित होने पर ही वैध है।  
 INSTRUMENTS FOR ₹ 50,000/- AND ABOVE NOT VALID UNLESS SIGNED BY TWO OFFICERS  
**PF ID : 5306010**

11 14 20 56 11 000000 20 01: 000504 11 16

**AUDITED UTILISATION CERTIFICATE**

1. Title of the Project/ Scheme: **Effect of green synthesized copper nanoparticles on *Lycopersicon esculentum*: A study involving the antioxidant defense related enzymes**
2. Name of the Institution: **Sapthagiri college of Engineering**
3. Name of the Principal Investigator: **Dr Ananda S**
4. Department of Science & Technology sanction order No & date Sanctioning the project:
7. Amount received during the financial year      i. Amount : **30,000**  
(Please give DST letter/order no and date)      ii. Letter/Order No: **VGST/TRIP 101/2014-15**  
iii. Date: **13-03-2015**
8. Total amount that was available for expenditure: **Rs. 30,000**  
(Excluding commitments) during the financial year
9. Actual Expenditure (excluding commitments): **Rs. 30,084**  
Incurred during the financial year (upto 31st March)
10. Balance amount available if any: **Nil**
11. Unspent balance refunded, if any (please give details of cheque no etc.): **Nil**

  
**Sapthagiri College of Engineering**  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bangalore - 560 057

**UTILISATION CERTIFICATE FOR PROJECT**

Order no/Letter Date	Amount
Letter Dated: VGST/TRIP 101/2014-15, 03-03-2015 Chq No 970986	
Total amount utilized	30,084
Actual grants utilized	30,000
Unspent Balance	-84

Certified that Rs 30,000 of grants-in-aid under (project) was released by Vision Group on Science and Technology (VGST) And Karnataka Science and technology Promotion society (KSTePS) in favor of Principal Vide letter/ order No VGST/TRIP 101/2014-15, dated 03-03-2015 as stated above during the year 2014-2015. The above grant was sanctioned towards project. The sum of Rs 30,000 has been utilized for the purpose of which it was sanctioned and there is no remaining amount left at the end of the year 2014-2015. Expenditure incurred for the purpose for which the grant was sanctioned is verified with the vouchers produced before me.

Certified that I have satisfied myself that the grants in aid sanctioned have been fulfilled and that I have exercised the following checks to see that the money was actually utilized for the purpose for which it was sanctioned.

  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bengaluru - 560 057

# SAPTHAGIRI COLLEGE OF ENGINEERING

(Affiliated to Visveswaraya Technological University, Belgaum & Approved by AICTE - New Delhi)

## Statement of Expenditure

Bill No	Particulars	Amount (Rs)
	<b>Sample characterization</b>	
1	XRD analysis	1200
2	SEM analysis	900
3	Bacteria Xanthomonas vesicatoria from I-CBI + Courier charges	1100
	<b>Glassware</b>	
4	Micropipete	
	Disposable petriplates	
		10826
	<b>Chemicals</b>	
5	Guaicol	
	Fluorouracil	
	Cyclohexanone	
		3685
6	Tris Hcl buffer	
	Tween 20	
	B-phenyl alanine	
	Potassium dihydrogenate	
		5373
7	Catechol	1150
8	Tomato seeds	1350
	<b>Stationary</b>	500
	<b>Travel</b>	700
9	<b>Preparation of project report (5)</b>	1300
	<b>Grand total (B)</b>	<b>30,084</b>

Sl.No	Particulars	Grants Amount (Rs)
1	Grant received (A)	30,060
2	Total expenditure (B)	30,084
	<b>Unspent Balance (A-B)</b>	<b>-84</b>

## Kinds of Checks Exercised

1. Supporting Bills
2. Vouching
3. Bank reconciliation

Signature:  
Designation:  
Date:  
Place:

  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bangalore - 560 057

No. 120/2017

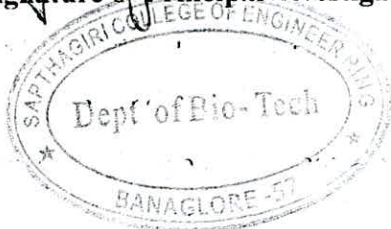
Date:

Place:

**CERTIFICATE**

Certified that I have verified the disturbance of Rs 30,000, thirty thousand towards project as mentioned above. We have exercised the verification of vouchers and supporting documents to see that the money was actually utilized for the purpose for which it was sanctioned.

Signature of Principal Investigator



Signature of the Principal

Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bangalore - 560 057

Place: Bangalore

Signature of Chartered Accountant  
(Seal)  
(FRN and M.NO)



Signature of Principal

Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bangalore - 560 057



# Karnataka State Council for Science and Technology

Indian Institute of Science Campus, Bengaluru - 560 012

Telephone: 080-23341652, 23348848, 23348849 ♦ Telefax: 080-23348840  
Email: office@kscst.iisc.ernet.in, office@kscst.org.in ♦ Website: www.kscst.iisc.ernet.in, www.kscst.org.in

**Dr. S. G. Sreekanteswara Swamy**  
Fellow & Principal Investigator - SPP

27th March 2015

Ref: 7.1.03/SPP/1018

The Principal  
Sapthagiri College of Engineering  
14/5, Chickasandra, Hesaraghatta Main Road,  
Bengaluru - 560 057

*Prof. Sreeleela*  
EC  
KSCST

Dear Sir,

Sub : Sanction of Student Project - 38th Series: Year 2014-2015

Your Project Proposal Reference No. : **38S1628**

Ref : Your Project Proposal entitled " **FUNGAL LIGNIN PEROXIDASE FOR BIODEGRADATION OF PULP PAPER AND TEXTILE EFFLUENT**

I am happy to inform that your project proposal referred above, has been approved by the Secretary, KSCST for "Student Project Programme - 38th Series" and has been sanctioned with a budgetary break-up as detailed below:

Student / s	Ms. Rohini S and others	Budget	Amount (Rs)
		Materials/Consumables	5,000.00
Guide/s	Asst. Prof. Soumya C & Asst. Prof. Vinutha Moses	Labor	1,000.00
		Travel	1,000.00
Department	Biotechnology	Miscellaneous	500.00
		Report	500.00
		<b>TOTAL</b>	<b>8,000.00</b>
Rupees	<b>EIGHT THOUSAND</b>	<b>ZERO HUNDRED</b>	

The following are the guidelines to carryout the project work :

- The project should be performed based on the objectives of the proposal sent by you.
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  - Title of the project
  - Name of the College & Department
  - Name of the students & Guide(s)
  - Keywords

*Sapthagiri College of Engineering*  
Chickasandra, Hesaraghatta Main Road,  
Bengaluru-560 057

5) Introduction / background

38S1628

(with specific reference to the project, work done earlier, etc) - about 20 lines

6) Objectives (about 10 lines)

7) Methodology (about 20 lines)

(materials, methods, details of work carried out, including drawings, diagrams etc)

8) Results and Conclusions

(about 20 lines with specific reference to work carried out)

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e) Projects selected for Seminar / Exhibition will be awarded.

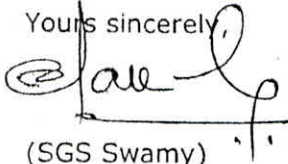
The sanctioned amount will be sent separately by our Accounts Department.

**The sponsored projects evaluation will be held in the Nodal Centre and the details of the nodal centre will be intimated shortly.**

Please visit our website for further announcements / information and for any clarifications please email to spp@kscst.iisc.ernet.in

Thanking you and with best regards,

Yours sincerely,



(SGS Swamy)

Copy to:

- 1) The Head of the Department of  
Biotechnology  
Sapthagiri College Of Engineering  
14/5, Chickasandra, Hesaraghatta Main Road,  
Bengaluru - 560 057
- 2) Asst. Prof. Soumya C & Asst. Prof. Vinutha Moses  
Department of Biotechnology  
Sapthagiri College Of Engineering  
14/5, Chickasandra, Hesaraghatta Main Road,  
Bengaluru - 560 057
- 3) The Finance Officer, KSCST, Bangalore



Principal  
Sapthagiri College of Engineering  
Chickasandra, Hesaraghatta Road,  
Bangalore-560 057

# Fungal lignin peroxidase for biodegradation of paper pulp and textile effluent



A Project Report Submitted To The Karnataka State Council For Science And  
Technology  
(KSCST – 2014-15)

Submitted By

Ms Rohini S  
Ms Priyanka P Ullal

Under the guidance of

Mrs Soumya C  
Mrs Vinutha Moses  
Assistant Professor  
Department of Biotechnology  
Sapthagiri College of Engineering  
Affiliated to Visvesvaraya technological university  
Bangalore, Karnataka

Submitted to

KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY  
INDIAN INSTITUTE OF SCIENCE CAMPUS,  
BENGALURU - 560012  
Karnataka

  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesareghatta Road  
Bangalore-560 057

# SAPTHAGIRI COLLEGE OF ENGINEERING

#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560 057



## DEPARTMENT OF BIOTECHNOLOGY

### CERTIFICATE

This is to certified that the project work entitled "Fungal lignin peroxidase for ~~bio~~gradation of paper pulp and textile effluent" has been carried out by Ms Rohini and Ms Priyanka P Ullal bonafide students of VIII semester B.E in Biotechnology of Sapthagiri College of Engineering, under scheme of The Karnataka State Council For Science And Technology during the academic year 2014-2015. The research is a record of original work carried out by them, in Department of Biotechnology, Sapthagiri College of Engineering, Bangalore, Karnataka, under our guidance and supervision and it has not formed the basis for the award of any Degree.

Signature of Guide

Mrs. Soumya C

Mrs. Vinutha Moses

Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Main Road,  
Bengaluru-560 057

(Dr. Aswatha Kumar M)

Signature of Principal

1-08-15

From,

Soumya C

Dept of Biotechnology,

Sapthagiri College of engineering,

Bangalore.

To,

Principal,

Sapthagiri College of engineering,

Bangalore.

Through

HOD


Respected Sir,


**Subject: Requisition to grant KSCST Sanction fund amount**

With reference to above subject I, Kindly request you to issue the cheque in the favour of soumya C of the grant amount Rs 8,000 towards the procurement of chemicals, glass wares, characterization of sample and report preparation. The budget estimation to carry out project as attached.

Thanking You,

Yours faithfully,

  
Soumya C

Forwarded  
for the kind  
kind  
  
1-8-15

ALCS  
  
01/08

  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

BUDGET ESTIMATE			
Bill No		Particulars	Amount
1		Sample charcterisation	1368 ✓
2		Chemicals	5298 ✓
3		Project report	800 ✓
4.		Travel +Miscellaneous	534 ✓
		Grand total	8000

  
 Principal  
 Sapthagiri College of Engineering  
 Chikkasandra, Hesarghatta Road,  
 Bangalore-560 057



# RAGHAVENDRA SPECTRO METALLURGICAL LABORATORY

## **BILL**

No. 5668  
Customer : ROHINI.S  
SAPTHAGIRI COLLEGE OF ENGINEERING

Date : 11-Jul-2015

Page 1 of 1

Vendor :  
Phone :

Your Reference	D.C.No.	Qty.	Rate	Amount
T NT073 TEXTILES WASTE WATER	LT DT:10.07.2015	1	1200.00	1200.00
Sub Total				1200.00
Add Service TaxRgn No.: AAEFR8971MST001 @14%				168.00
Total (Rounded) :		1		1368.00

for RAGHAVENDRA SPECTRO METALLURGICAL LABORATORY

Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

# GRACE ENTERPRISES

Ph : 99163 56657

Suppliers of : Laboratory Equipments Sales &amp; Services, Glass Wares &amp; Plastics Wares &amp; Chemicals

# 101, 8th 'C' Cross, Venkatapura, Bangalore - 560 034. E-mail : graceenterprisessam@gmailcom

M/s. *Somnagar**Sophy's college of engg***TAX INVOICE**(ORIGINAL)  
(DUPLICATE / TRIPLICATE)

No. 494

Date *22/04/16*

Your Order No.

Date

Challan No.

Date

Despatched Per

To

To

From

Freight : To Pay/Paid Rs.

No. of Cases

R.R./G.R./P.R. No.

Date

Documents Through/Payment

Sl.No.	DESCRIPTION	RATE	QTY.	AMOUNT Rs.	Ps.
1.	<i>Guicool</i>	1200	<i>500ml x 1</i>	1200	00.
2.	<i>NNNN tetraethylene methylene diamine</i>	1350	<i>250ml x 1</i>	1350	00
				270	00.
3.	<i>Ammonium per Sulphate</i>	270	<i>500g x 1</i>	1828	00
4.	<i>Bromocyanide</i>	1828	<i>100g x 1</i>	4648	00
			<i>total</i>	650.	72
			<i>VAT 14%</i>		

Amount in Words Rs.

**TOTAL**

5298.72

TIN No. : 29080728923

We certify the goods on which Sales Tax has been charged have not been exempted under Sales Tax Act or the rules made thereunder and that the Charges on account of Sales Tax on those goods are correct under the provision of the Act and the contract.

Time

**Party's**

TIN No.....

E. &amp; O. E.

L.S.T. No.....

C.S.T. No.....

Area Code.....

All goods are considered at consignee's Risk and we are not Responsible for any damage or breakage in transit. Interest will be charged at 24% on bills not paid within 30 days.

SUBJECT TO BANGALORE JURISDICTION

For **GRACE ENTERPRISES***Rajaraman*

SCE-2014-15

## Payment Voucher

No : 1210

Dated : 8-Aug-2015

Through : TGMG-103091002852

Particulars	Amount
-------------	--------

Account :

KSCST( Project Work)

8,000.00

On Account of :

Being towards refund of KSCST expenses ( expenses incurred towards chemicals, Glass ware and Characterization of samples and report Preparation)

Bank Transaction Details:

Soumya C

Cheque

8-Aug-2015

8,000.00

SAPTHAGIRI COLLEGE OF ENGINEERING  
TGMG BANK A/C NO.: 103091002852

Chq. No. 812563 Date 20/8/15 Rs. 8000

Prepared

Verified

Authorized Signatory

Amount (in words) :

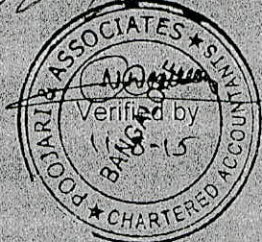
INR Eight Thousand Only

₹ 8,000.00

Receiver's Signature

Authorised Signatory

Checked by



Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

339	38S0161	ASSISTIVE CLOTHING PATTERN RECOGNITION FOR VISUALLY IMPAIRED PEOPLE	INFORMATION SCIENCE AND ENGINEERING	PROF. VEENA N	MR. SHASHI KUMAR T	3,000.00	A
340	38S0165	GREEN TICKET	INFORMATION SCIENCE AND ENGINEERING	PROF. VRINDA SHETTY	MR. SUJAN KUMAR K	4,000.00	B

## 2) SAMBHRAM INSTITUTE OF TECHNOLOGY, BENGALURU

Sl. No.	Proj. Ref. No.	TITLE OF THE PROJECT	BRANCH	NAME OF THE GUIDE/S	STUDENT1 & TEAM LEADER	SANCTIONED AMOUNT (in Rupees)	BATCH NO
341	38S0452	SATELLITE AND RF ENABLED ASSISTANCE FOR MARINE NAVIGATION	ELECTRONICS AND COMMUNICATION ENGINEERING	MR. C. RANGASWAMY	MR. ABHAY S BHARADWAJ	7,000.00	A
342	38S0458	P-POWER GENERATION	MECHANICAL ENGINEERING	PROF. SHIVA KRISHNA J	MR. DANISH FAIZI	4,000.00	A

## 3) SAPTHAGIRI COLLEGE OF ENGINEERING, BENGALURU

Sl. No.	Proj. Ref. No.	TITLE OF THE PROJECT	BRANCH	NAME OF THE GUIDE/S	STUDENT1 & TEAM LEADER	SANCTIONED AMOUNT (in Rupees)	BATCH NO
343	38S1628	FUNGAL LIGNIN PEROXIDASE FOR BIODEGRADATION OF PULP PAPER AND TEXTILE EFFLUENT	BIOTECHNOLOGY	MSOUMYA C, MVINUTHA MOSES	MS. ROHINI S	8,000.00	B
344	38S0913	ESTIMATION AND DE-IDENTIFICATION OF GENDER SIGNATURE FROM FINGERPRINTS	COMPUTER SCIENCE AND ENGINEERING	PROF. KAMALAKSHI NAGANNA	MR. CHANDAN N	3,000.00	A
345	38S1329	MULTIPURPOSE MEASURING DEVICE USING BLUETOOTH ON ANDROID	ELECTRONICS AND COMMUNICATION ENGINEERING	ASST PROF. P AGALYA SIVAKUMAR	MR. KARTHIK M D	6,000.00	A

## 4) SCHOOL OF ENGINEERING AND TECHNOLOGY, JAIN GLOBAL CAMPUS, RAMANAGARA

Sl. No.	Proj. Ref. No.	TITLE OF THE PROJECT	BRANCH	NAME OF THE GUIDE/S	STUDENT1 & TEAM LEADER	SANCTIONED AMOUNT (in Rupees)	BATCH NO
346	38S1006	SMART SOLAR BASED LOW COST WATER FILTER FOR RURAL APPLICATION	ELECTRICAL AND ELECTRONICS ENGINEERING	PROF. PRASANNA KUMAR C.	MR. NAVEEN B.	6,000.00	A
347	38S1432	DESIGN AND DEVELOPMENT OF MULTIPURPOSE SMART BIOGAS ENERGIZER FOR	ELECTRONICS AND COMMUNICATION ENGINEERING	ASST. PROF. VINAY KUMAR	MR. HARISH S.	7,500.00	A

Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesarghatta Road,  
Bangalore-560 057



# Karnataka State Council for Science and Technology

Indian Institute of Science Campus, Bengaluru - 560 012

Telephone: 080-23341652, 23348848, 23348849 ♦ Website: [www.kscst.iisc.ernet.in](http://www.kscst.iisc.ernet.in)

## Certificate

*This is to certify that* MR. KARTHIK M D, MR. NARENDRA CHOUDHARY, MS. SNEHA G and MR. RAKESH Y

*students of* SAPTHAGIRI COLLEGE OF ENGINEERING, BENGALURU


*participated in the Student Project Programme (SPP)*

*during the year 2014 - 2015 (38th Series) and completed the project entitled* DESIGN AND IMPLEMENTATION OF A WIRELESS MULTI PURPOSE MEASURING EMBEDDED INSTRUMENT WITH AN INTEGRATED ANDROID APPLICATION

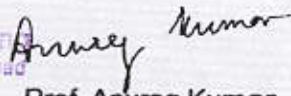
*under the guidance of* MRS. P AGALYA SIVAKUMAR

*This project*

*was selected for the Seminar / Exhibition held at Sahyadri College of Engineering and Management, Mangalore on 20th and 21st August 2015.*

  
Prof. M. S. Mohan Kumar  
Secretary  
KSCST

  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesaraghatta Main Road  
Bengaluru - 560 057

  
Prof. Anurag Kumar  
Director, Indian Institute of Science and  
Vice-President, KSCST



# Karnataka State Council for Science and Technology

Indian Institute of Science Campus, Bangalore - 560 012

Telephone: 080-23341652, 23348848, 23348849 ♦ Telefax: 080-23348840

Email: office@kscst.iisc.ernet.in, office@kscst.org.in ♦ Website: www.kscst.iisc.ernet.in, www.kscst.org.in

**Dr. S. G. Sreekanteswara Swamy**  
Fellow & Principal Investigator - SPP

23rd March 2015

Ref: 7.1.03/SPP/1018

The Principal,  
Sapthagiri College of Engineering  
14/5, Chickasandra,  
Hesaraghatta Main Road, Bengaluru - 560 057

Dear Sir,

Sub : Sanction of Student Project (Biofuel)-38th Series : Year 2014-2015

Your Project Proposal Reference No. :

**38S\_B\_BE\_038**

Ref : Your Project Proposal entitled "

**THE POTENTIAL UTILIZATION OF PROCESSED ARECA CATECHU  
WATER AN AGROWASTE FOR BIOETHANOL PRODUCTION BY  
FERMENTATION PROCESS**

I am happy to inform that your project proposal referred above, has been approved by the Secretary, KSCST for "Student Project Programme (Biofuel)" and has been sanctioned with a budgetary break-up as detailed below:

Student / s	Ms. Veda and others		Budget	Amount (Rs)
			Materials/Consumables	6,000.00
Guide/s	Prof. Shobha G		Labor	-
			Travel	-
Department	Biotechnology		Analysis	-
			Miscellaneous	500.00
			Report	500.00
			TOTAL	7,000.00
Rupees	SEVEN THOUSAND	ZERO HUNDRED		

The following are the guidelines to carryout the project work :

- The project should be performed based on the objectives of the proposal sent by you.
- The project should be completed in all respects and **a) Two copies** of the hardbound report **b) Softcopy** of the full report in a CD (.doc and .pdf format) **c) A Poster** in Flex (2 x 3') for display should be submitted to KSCST.
- The project report shall mention the name of "Karnataka State Biofuel Development Board and Karnataka State Council for Science and Technology" as Sponsored Organisations in the title page. Any change in the project title and objectives, etc., or students is liable to rejection of the project and the amount sanctioned needs to be returned to KSCST. The fund is to be utilised only to the activities to which it has been released.
- Please quote your **project sanction reference number printed above** in all your future correspondences.
- Important:** After completing the project, 2 to 3 page write-up (synopsis) needs to be sent by e-mail [spp@kscst.iisc.ernet.in] and should include following :
  - Title of the project
  - Name of the College & Department

**Principal**  
Sapthagiri College of Engineering  
14/5, Chickasandra, Hesaraghatta Main Road  
Bengaluru - 560 057

**Principal**  
Sapthagiri College of Engineering  
Chickasandra, Hesaraghatta Road,  
Bangalore-560 057

16-07-15

From,  
Shobha G  
Dept of Biotechnology,  
Sapthagiri College of engineering,  
Bangalore.

To,  
Principal,  
Sapthagiri College of engineering,  
Bangalore.

Through

HOD

Respected Sir,

**Subject: Requisition to grant KSCST Sanction fund amount**

With reference to above subject I, Kindly request you to issue the cheque in the favour of Shobha G of the grant amount Rs 7,000 towards the procurement of chemicals, glass wares, characterization of sample and report preparation. The budget estimation to carry out project as attached.

Thanking You,

*Shobha*  
Yours faithfully,  
Shobha G

Forwarded for the  
need for  
*ALF*  
16.7.15

*B*  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesareghatta Main Road,  
Bangalore-560 057

*Kari*  
Principal  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesareghatta Main Road  
Bangalore - 560 057

147 4

BUDGET ESTIMATE			
Bill No		Particulars	Amount
1		Sample charcterisation	
		Gc analysis	1026
2		Chemicals	
		Dintrosalicylic acid	
		Potassium di chromate	
		Carboy methyl cellulose	
		Sodium potassium tatarate	
			4853
		Areca nuts	300
		Travel +Miscellaneous	316
3		Preparation of project report	505
		Grand total	7000

  
 16-7-15

  
 Principal  
 Sapthagiri College of Engineering  
 Chikkasandra, Hesaraghatta Road,  
 Bangalore-560 057

# GRACE ENTERPRISES

Ph : 99163 56657

Suppliers of : Laboratory Equipments Sales & Services, Glass Wares & Plastics Wares & Chemicals

# 101, 8th 'C' Cross, Venkatapura, Bangalore - 560 034. E-mail : graceenterprisessam@gmailcom

M/s. <u>Shobha-G</u>	<b>TAX INVOICE</b> (ORIGINAL) (DUPLICATE / TRIPLICATE)
<u>Dept of Biotechnology</u> <u>Sapthagiri college</u>	
No. <u>495</u>	Date

Your Order No.	Date	Challan No.	Date
----------------	------	-------------	------

Despatched Per	To	To	From
----------------	----	----	------

Freight : To Pay/Paid Rs.	No. of Cases	R.R./G.R./P.R. No.	Date
---------------------------	--------------	--------------------	------

Documents Through/Payment
---------------------------

Sl.No.	DESCRIPTION	RATE	QTY.	AMOUNT Rs.	Ps.
1.	Dinitro salicylic acid	1500	100g X 1	1500	80
2	Potassium dichromate	650	500g X 1	550	80
3.	Carboxy methyl cellulose	1100	500g X 1	1100	80
4	Sodium potassium sulfate	1007	500g X 1	1007	80
Vat 147.				4257	80
				595	98

*[Signature]*  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

Amount in Words Rs.	<b>TOTAL</b>	<u>4852</u>	<u>98</u>
---------------------	--------------	-------------	-----------

TIN No. : <b>29080728923</b>	We certify the goods on which Sales Tax has been charged have not been exempted under Sales Tax Act or the rules made thereunder and that the Charges on account of Sales Tax on those goods are correct under the provision of the Act and the contract.	Time
Party's TIN No.....		E. & O. E.
L.ST. No.....	All goods are considered at consignee's Risk and we are not Responsible for any damage or breakage in transit. Interest will be charged at 24% on bills not paid within 30 days.	For <b>GRACE ENTERPRISES</b> <i>[Signature]</i>
C.S.T. No.....		
Area Code.....	<b>SUBJECT TO BANGALORE JURISDICTION</b>	

SCE-2014-15

Payment Voucher

No. : 905

Dated : 17-Jul-2015

Through : TGMC-103091002852

Particulars	Amount
-------------	--------

Account :

KSCST( Project Work)

7,000.00

On Account of :

being amount paid to Shobha G towards KSCST  
Project work

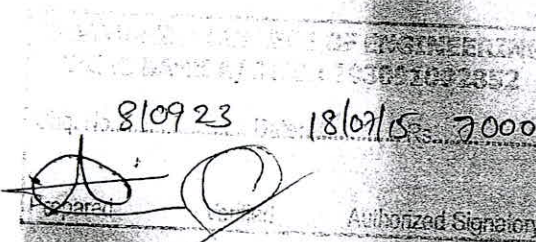
Bank Transaction Details:

Shobha..G

Cheque

17-Jul-2015

7,000.00



Amount (in words) :

INR Seven Thousand Only

₹ 7,000.00

Saptagiri College of Engineering  
Chikkasandra, Hesareghatta Road,  
Bangalore-560 057

Receiver's Signature

Authorised Signatory

Checked by:

Verified by

17-7-15

**SPS** **CASH BILL** Mobile :8892130893

**SNEHA PRINTS**

Opp Sathagiri Engineering College, Hanumanthe Gowda Main Road,  
Chikkasandra, Bangalore - 560 057.

No. 702 Date 24/06/2015

M/s. reda

Sl. No.	Description	Qty.	Amount
1	binding	85X3	255
2	printout	196	196/-
3	PHP Sheets	13X3	39/-
4	colour print	5X3	15/-
			505/-

For **SNEHA PRINTS**

13

**Sathagiri College of Engineering**  
Principal  
Chikkasandra, Hesareghatta Road  
Bangalore-560 057

# INVOICE

Format No. BTH/QF/19



## BANGALORE TEST HOUSE

D-36, 4th Main, KSSIDC Industrial Estate, Rajajinagar,  
Bengaluru - 560 044. INDIA

Ph.: 23356415, 23385979, 23502684, 23388895, Fax: 080-23502689

e-mail: bthr@bthindia.com bthindia@hotmail.com

website: www.bthindia.com

OHSAS 18001 : 2007 & ISO 9001 : 2008



JAS-ANZ



Cert. No. RQ91/JA/1111

Cert. No.: RO91/JA/IC/1111

<b>M/s.: Veda.G</b> <b>Sapthagiri College of Engineering,</b> <b>14/5, Chikkasandra, Hesaraghatta Main Road,</b> <b>Bangalore-560057</b> <b>Phone : 9738324954</b>	<b>Invoice No: FC-0635</b> <b>Date : 22/06/2015</b> <b>Area Code: General</b> <b>Ref.No. : RFA, Dt:18.06.15</b>
--	--

Sl.	Name of sample	Report No.	Batch No.	Amount
1	Areca Water	FC/2015/06/0769	--	1000.00

Total Amount	1000.00
Discount@ 10.00%	100.00
Gross Amount	900.00
Collection Charges	0.00
Boarding & Lodging Charges	0.00
Transportation Charges	0.00
Service Tax 14.00%	126.00
Education Cess 0.00%	0.00
H.S.E.C. 0.00%	0.00
Rounded Off	0.00

IN WORDS): Rs. ONE THOUSAND TWENTY SIX ONLY	Grand Total 1026.00
---	---------------------

Service Tax NO.: STC/TIC/AAZPC8617L/ST001 PAN NO. : AAZPC8617L

Service Tax Category :Technical Testing and Analysis  
The sample is accepted by us subject to our general conditions of services which is available on request  
The testing has been performed to the best of our ability & total liability of our laboratory is limited to the invoice chareges/tesing charges only. The test certificate does not relieve the parties from their contractual obligations etc.  
All disputes are subject to BANGALORE Jurisdiction

Prepared By *Poy* For BANGALORE TEST HOUSE  
*for Shirley*  
Authorized Signatory

# **The Potential Utilization Of Processed Areca Catechu Water An Agro waste For Bioethanol Production By Fermentation Process**

A Project Report Submitted To The Karnataka State Council For Science And  
Technology  
(KSCST – 2014-15)

**Submitted By**

**Ms VEDA G**

**Under the guidance of**

**Mrs Shobha G**

Assistant Professor

Department of Biotechnology

Sapthagiri College of Engineering

Affiliated to Visvesvaraya technological university

Bangalore, Karnataka

**Submitted to**

**KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY  
INDIAN INSTITUTE OF SCIENCE CAMPUS,  
BENGALURU - 560012  
Karnataka**

  
**Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057**

## DECLARATION

I, **Ms. Veda G** hereby declare that the project work, entitled "**The Potential Utilization of Processed Areca Catechu Water An Agro waste For Bioethanol Production By Fermentation Process**" submitted to **The Karnataka State Council For Science And Technology** is a record of original research work carried out by me during academic year 2014-2015 under the supervision and guidance of Ms Shobha G, Department of Biotechnology, Sathagiri College of Engineering, Bangalore, Karnataka.



Signature of the candidate

Veda G

Date: 25/6/2015

Place: Bangaluru



Principal  
Sathagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

# SAPTHAGIRI COLLEGE OF ENGINEERING

#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560 057



## DEPARTMENT OF BIOTECHNOLOGY

### CERTIFICATE

This is to certified that the project work entitled "The Potential Utilization of Processed Areca Catechu Water An Agro waste For Bioethanol Production By Fermentation Process" has been carried out by Ms Veda G bonafide students of VII semester B.E in Biotechnology of Sapthagiri College of Engineering, under scheme of The Karnataka State Council For Science And Technology during the academic year 2014-2015. The research is a record of original work carried out by them, in Department of Biotechnology, Sapthagiri College of Engineering, Bangalore, Karnataka, under our guidance and supervision and it has not formed the basis for the award of any Degree.

  
(Shobha G)

Signature of Guide

  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

  
(Dr. Aswatha Kumar M)

Signature of Principal  
Dr. Aswatha Kumar. M  
Principal  
Sapthagiri College of Engineering  
No. 14/5, Chikkasandra,  
Hesaraghatta Main Road,  
Bangalore-560 057.

## KSCST PROJECTS

### UTILIZATION CERTIFICATE

**KSCST Student project program 38th series - 2014-2015**

Sl No	Lettered NO and Date	Amount	Certified that KSCST has provided partial financial support of <b>RS 24000/-</b> towards Biofuel and SPP student project program 38th series  Sum of Rs <b>24000/-</b> only has been utilize for the purpose Biofuel and SPP student project program for which it was sanction
1	7.1.03/SPP/1018	3000/-	
2	7.1.03/SPP/1018	8000/-	
3	7.1.03/SPP/1018	6000/-	
4	7.1.03/SPP/1018	7000/-	

Certified that I have satisfied myself that condition on which the grant in aid sanctioned has been duly/are be fulfilled and that I have excise the following check to see that the money was actually utilized for the purpose for which it was sanctioned.

Kinds of check exercised

1. Cash book
2. Vouchers

*X Ravi*

Principal

**Sapthagiri College of Engineering**  
14/5, Chikkasandra, Hesaraghatta Main Road,  
Bangalore - 560 057

**Sapthagiri College of Eng**  
Chikkasandra, Hesaraghatta Road,  
Bangalore- 560 057

Sl. No	Project proposal ref no	Title of the project	Dept./Guide	Amount Sanction by KSCST	Amount utilized by the college	Balance if any to be refunded to KSCST
1	38S0913	Estimation and de-identification of gender signature from finger prints	CSE/ Prof. Kamalakshi Naganna	3000/-	3000/-	0
2	38S1628	Fungal lignin peroxidase for Bio Degradation of pulp paper and textile effluent	BT/ Prof. Soumya C Prof. Vinutha Moses	8000/-	8000/-	0
3	38S1329	Multipurpose measuring device using Bluetooth on ANDROID	EC/ Prof. Agalya P.	6000/-	6000/-	0
4	38S_B_BE_038	The potential utilization of processed areca catechu water an agro waste for bioethanol production by fermentation process	BT/ Prof. Shobha G	7000/-	7000/-	0

*x kavi*  
Signature of the Principal with seal

Sapthagiri College of Engineering  
 Date: Chikkasandra, Hesaraghatta Main Road  
 Bengaluru - 560 057

Signature of Auditor with seal

Date:

Principal  
 Sapthagiri College of Engineering  
 Chikkasandra, Hesaraghatta Road  
 Bangalore-560 057