



# 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  
Executive Secretary

7th April, 2016

Ref: 7.1.03/SPP/17

The Principal  
Sapthagiri College of Engineering  
14/5, Chickasandra,  
Hesaraghatta Main Road,  
Bangalore - 560057

Dear Sir,

Sub : Sanction of Student Project (Biofuel)-39th Series : Year 2015-2016

Your Project Proposal Reference No. :

39S\_B\_BE\_050

Ref : Your Project Proposal entitled "

SIMAROUBA OIL CAKE: THE SOLID LOW VALUE SUBSTRATE TO  
PRODUCE LIPASE WITH POTENTIAL APPLICATION IN  
BIODIESEL EXTRACTION AND TO ASSAY THE TOXICITY OF  
PHYTOCHEMICAL IN INHIBITION OF LIPASE ACTIVITY

I am happy to inform that your project proposal referred above, has been approved by the Secretary, KSCST for "Student Project Programme (Biofuel) 39th Series" and has been sanctioned with a budgetary break-up as detailed below:

Students	Ms. Vinitha N. and others	Budget		Amount (Rs)
		Materials/Consumables		12,000.00
Guide/s	Prof. Shobha G.	Labor		-
		Travel		500.00
Department	Biotechnology	Analysis		-
		Miscellaneous		-
		Report		500.00
		TOTAL		13,000.00
Rupees	THIRTEEN THOUSAND	ZERO HUNDRED	ONLY	

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) **One copy** of the hardbound report b) Softcopy of the full report (including coverpages, abstract & preliminary pages 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. Project Title or the Objectives can be altered only with prior permission of KSCST. Any change in the project are strictly prohibited and liable for rejection and the amount sanctioned needs to be returned back 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 [biofuelcell.kscst@gmail.com] and should include following points:
  - Title of the project
  - Name of the College & Department
  - Name of the students & Guide(s)
  - Keywords

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

From,  
Shobha G /Saranya D  
Assistant Professor  
Department of Biotechnology  
Sapthagiri College of Engineering  
Bangalore-57

Date: 20/06/2016

To,  
The Principal  
Sapthagiri College of Engineering  
Bangalore-57

Respected Sir,

**Subject: Requisition for the release of project fund sanctioned by KSCST.**

With respect to the above subject, we request you to kindly release the fund towards completion of the objectives of the project accepted by KSCST. We request you to release the fund in the name of the guides mentioned below. The expenditures done during the course of project, bill has been enclosed. Kindly do the needful.

**Guide: Shobha G (Rs 13,000)**  
**Saranya D (Rs 9,000)**

Thanking You,

*AKS*

*@21/6/16*


*Shobha*

Yours faithfully

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

From,  
Shobha G  
Assistant Professor  
Department of Biotechnology  
Sapthagiri College of Engineering  
Bangalore-57

Bill No	Product Description	Amount
1	Chemicals	5725
2	Sample analysis	2863
3	DD – Sample analysis Including courier charges	650
4	Sample analysis	1500
5	Report	2040
6	Olive oil	115
7	Miscellaneous (Travel + Simarouba oil Cake)	500
	Total	13393

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





# Sakhala Enterprises

#966, "Shreeyaa" II Phase, V Stage, BEML layout, R.R. Nagar, Bengaluru-560098  
Email: sakhala13@gmail.com M: 09845156415 / 09845717528

ONE TO ONE SOLUTION

Supplier & Channel Partner of Laboratory Consumables, Instruments, Research Services & Stationery Items.

VAT TIN.: 29171119444, PAN No.: ACGFS9635M

"WE SERVE THE QUALITY"

## INVOICE

Original Buyer's Copy

To  
Prof. Shobha  
Sapthagiri College of Engineering  
#14/5, Chikkasandra  
Hesaraghatta Nain Road  
Bangalore - 560057

No. : SE/1617/089A

Date: 17.06.2016

Sl.No.	Pro. No.	Product Description	Pack Size	Price Rs.	Qty	Amount
1	SE460090T	Petridish with triple vent Radiation Sterile - 90 x 14	100Nos.	1000	1	1,000
2	SETC287	Tween-20®	100ml	1750	1	1,750
3	SEGRM682	Gum acacia, powder	500gm	750	1	750
4	SEMV157	Tributyrin HiVeg™ Agar Base w/o Tributyrin	100gm	1500	1	1,500
						Sub Total 5,000
						VAT 14.5% 725
						Grand Total R/C 5,725

Rupees.: Five Thousand Seven Hundred and Twenty Five Only .  
Grand Total Inclusive all.

### Our Bank Details:

Account Name: SAKHALA ENTERPRISES

Account No.: 34422344190

IFSC Code: SBIN0017780

Bank Name: State Bank of India

Bank Address: Channasandra, Rajarajeshwari Nagar, Bengaluru - 560098

\*Order once placed will not be cancelled or materials once sold will not be taken back

Payment: Please make your DD/Cheque in the Name of "SAKHALA ENTERPRISES" Payable at Bengaluru.

\* Subject to Bengaluru Jurisdiction

for SAKHALA ENTERPRISES.



Authorised Signatory

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

R3 dt. 01.09.2015

**INVOICE**

Format No. BTH/QF/19

**BANGALORE TEST HOUSE**D-36, 4th Main, KSSIDC Industrial Estate, Rajajinagar,  
Bengaluru - 560 044. INDIAPh.: 23356415, 23385979, 23502684, 23388895, Fax: 080-23502689  
e-mail: bthr@bthindia.com bthindia@hotmail.com  
website: www.bthindia.com

Certifications/Approval
ISO:9001-2008
ISO:18001-2007
FSSAI

M/s.: **Shobha.G**  
**Sapthagiri Engineering College,**  
**Hesarghatta Main Road,**  
**Bangalore**

Phone : 9964591024

Invoice No: FC-0102

Date : 26/04/2016

Area Code: General

Ref.No. : RFA Dt:22.04.16

Sl.	Name of sample	Report No.	Batch No.	Amount
1	Seeds	FC/2016/04/0753	Mkd-01	500.00
2	Seeds	FC/2016/04/0802	Mkd-0.1	500.00
3	Seeds	FC/2016/04/0803	Mkd-0.4	500.00
4	Seeds	FC/2016/04/0804	Mkd-0.8	500.00
5	Seeds	FC/2016/04/0805	Mkd-Control	500.00
Total Amount				2500.00
Gross Amount				2500.00
Collection Charges				0.00
Boarding & Lodging Charges				0.00
Transportation Charges				0.00
Service Tax 14.00%				350.00
Swachh Bharat Cess 0.50%				12.50
H.S.E.C. 0.00%				0.00
Rounded Off				0.00

(IN WORDS): Rs. TWO THOUSAND EIGHT HUNDRED SIXTY THREE ONLY

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

- \* 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 charges/testing charges only. The test certificate does not relieve the parties from their contractual obligations etc.
- \* All disputes are subject to BANGALORE Jurisdiction

Prepared By

Kaipana

For BANGALORE TEST HOUSE

Authorised Signatory

**Principal**  
**Sapthagiri College of Engineering**  
**Chikkasandra, Hesarghatta Road**  
**Bangalore - 560 057**  
**PAN NO. : AAZPC861**

From,

Shobha G,  
Assistant professor,  
Dept. of Biotechnology,  
Sapthagiri college of Engineering,  
Bangalore-560057.

**Miscellaneous Expenses Details**

Sl No.	Particulars	Amount
1	Paper prints	150/-
2	Stationary	100/-
3	Seed oil cake	250/-
	<b>TOTAL</b>	<b>500/-</b>



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





# BANGALORE TEST HOUSE

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

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

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

website : www.bthindia.com

Certifications/Approval

ISO:9001-2008

ISO:18001-2007

FSSAI

Format No. BTH/QF/116

**CASH RECEIPT** No. 224

Date 5/5/16

Received an amount of Rs. 1500/- (Amount in words) Rs. \_\_\_\_\_

One thousand five hundred Only.

PARTY'S NAME	BILL NO.	DATE	AMOUNT Rs.	BILL NO.	DATE	AMOUNT Rs.
Rajeev Rohan. B Bangalore				Advance		1500.-

For BANGALORE TEST HOUSE

AS  
Authorised Signatory

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

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

<b>SNEHA PRINTS</b> Opp. Sathagiri Engineering College, Hanumanthi Gowda Main Road, Chikkasandra, Bangalore - 560 057 Mobile : 8892170693		<b>CASH BILL</b>		<b>SFS</b>
No. 9 M/S. Shobha		Date: 20/6/16		
SI. No.	Description	Qty	Amount	
	Report	6	2000.00	
	CO	3	40.00	
				2040.00

[illegible]



## Payment Voucher

No. 965

Dated 23-Jun-2016

Through : SBI-30263521464

Particulars	Amount
Account : KSCST (Project Work)	13,000.00

## On Account of :

being amount received from Shoba.G towards  
KSCST Project work

## Bank Transaction Details:

Shobha.G  
Cheque 651734 23-Jun-2016 13,000.00

## Amount (in words) :

INR Thirteen Thousand Only

₹ 13,000.00

Receiver's Signature

Authorised Signatory

Checked by



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





**SAPTHAGIRI COLLEGE OF ENGINEERING**  
**DEPARTMENT OF BIOTECHNOLOGY**

(Affiliated to Visvesvaraya Technological University, Belgaum, Approved by AICTE, New Delhi)  
 14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560057



**A PROJECT REPORT ON**

**“Simarouba Oil cake: The solid low value substrate to produce lipase  
 with potential application in Biodiesel extraction and to assay the  
 toxicity of phytochemical in inhibition of lipase activity”**

Report of 39S\_BE\_050 submitted to Karnataka State Council for Science and  
 Technology – Biofuel Project Programme – 39series

This project has been supported by Karnataka State Council for Science and  
 Technology, Indian Institute of Science, & Karnataka State Bio energy  
 Development Board, Government of Karnataka.

Submitted by

**Usha Rani S D (1SG12BT028)**  
**Vinitha N (1SG12BT030)**

Under the Supervision of

**Mrs Shobha G**  
 Assistant Professor  
 Department of Biotechnology  
 Sapthagiri college of Engineering

Submitted To



**ಕರ್ನಾಟಕ ರಾಜ್ಯ ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರವಿದ್ಯಾ ಮಂಡಳಿ**  
**Karnataka State Council for Science and Technology**  
 Indian Institute of Science Campus, Bengaluru 560 012

2015- 2016



# SAPTHAGIRI COLLEGE OF ENGINEERING

(Affiliated to VTU, Belagavi, Approved by AICTE, New Delhi)


14/5, Hesaraghatta Main Road BENGALURU-560057

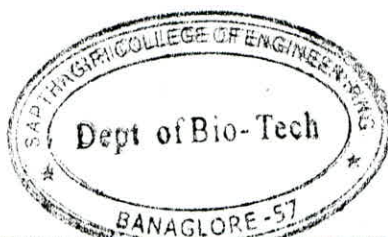


## DEPARTMENT OF BIOTECHNOLOGY


### CERTIFICATE

This is to certified that the Project Report entitled "Simarouba Oil cake: The solid low value substrate to produce lipase with potential application in Biodiesel extraction and to assay the toxicity of phytochemical in inhibition of lipase activity" has been carried out by Usha Rani S D (1SG12BT028) and Vinitha N (1SG12BT030) under the scheme of The Karnataka State Council For Science And Technology during the academic year 2015-2016 are bonafide students of Eight Semester, Sapthagiri College of Engineering. 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.

  
Mrs. Shobha G  
(Guide)



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

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

## DECLARATION

This is to certify that Project report entitled "Simarouba Oil cake: The solid low value substrate to produce lipase with potential application in Biodiesel extraction and to assay the toxicity of phytochemical in inhibition of lipase activity" which is submitted by us to The Karnataka State Council For Science And Technology is a record of original research work carried out by me during academic year 2015-2016 under the supervision and guidance of Mrs Shobha G, Department of Biotechnology, Sapthagiri College of Engineering, Bangalore, Karnataka.



Name: Usha Rani S D

USN: 1SG12BT028



Name: Vinitha N

USN: 1SG12BT030

Date: 7/7/16

Place: Bangalore



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

## ACKNOWLEDGEMENT

*We are grateful to The Karnataka State Council for Science and Technology, Bangalore, Karnataka for considering and accepting our project proposal and giving us a chance to begin our research journey, thereby for all financial assistances. Without this, it would have been impossible to carry out the project.*

*We take this opportunity to thank our Project Guide **Mrs. Shobha G** for her immense support and guidance.*

*We express our most sincere salutation to **Sapthagiri College of Engineering, Department of Biotechnology**, which gave us opportunity to have a sound base of engineering knowledge hereby helping us to fulfill our cherished desire of becoming Biotechnology Engineers.*

*We wish to express our sincere thanks to our Principal **Dr. Aswatha Kumar M**, and Director **Dr.N.Srinivasan**, Chairman **Sri Dayanand G** and Executive director **Sri Manoj G.D**, Sapthagiri College of engineering, Bangalore for providing us with excellent facilities in the college.*

*We are thankful to **Dr. Ananda S**, Head of the Department of Biotechnology. We would like to extend our deepest gratitude to all of the **Department faculty members** for their insightful comments and encouragement, non-teaching staff, one and all, who directly or indirectly, have let their hand in this venture.*

**Usha Rani S D**

**Vinitha N**

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



## KSCST PROJECTS

### UTILIZATION CERTIFICATE

#### KSCST Student project program 39th series - 2015-2016

Sl No	Title of the project	Amount	Certified that KSCST has
1	Pollution study on polymeric surge arrestor	3000/-	<p>provided partial financial support of RS35000/- towards Biofuel and SPP student project program 39<sup>th</sup> series</p> <p>Sum of Rs35000/- only has been utilize for the purpose Biofuel and SPP student project program for which it was sanction</p>
2	Study on the Chemical composition and invitro evaluation of their Pharmacological activity	6000/-	
3	Simarouba oil-Cake:The solid low value substrate to produce Lipase with potential application in Bio-Diesel extraction and to assay the toxicity of Phytochemical in inhibition of Lipase activity	13000/-	
4	Dual biofuel Production From Microalgae	9000/-	
5	Next Generation E-Voting System For Elderly And Blind Users	4000/-	
6	Aggregate Crypto System for scalable data sharing in cloud storage	3000/-	

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

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

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

Creating Tomorrow

# SAPTHAGIRI COLLEGE OF ENGINEERING

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

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	39S_BE_1925	Pollution study on polymeric surge arrestor	EEE/ Dr. K N Ravi	3000/-	3000/-	0
2	39S_BE_1928	Study on the Chemical composition and invitro evaluation of their Pharmacological activity	BT/ Dr. Anand S	6000/-	6000/-	0
3	39S_BE_050	Simarouba oil-Cake: The solid low value substrate to produce Lipase with potential application in Bio-Diesel extraction and to assay the toxicity of Phytochemical in inhibition of Lipase activity	BT/ Prof. Shobha G	13000/-	13000/-	0
4	39S_BE_088	Dual biofuel Production From Microalgae	BT/ Prof. Saranya D	9,000	9,000	0
5	39S_BE_1911	Next Generation E-Voting System For Elderly And Blind Users	EC/ Prof. Karthik N. C.	4000	4000	0
6	39S_BE_1924	Aggregate Crypto system for Scalable data sharing in cloud Storage	IS/Prof. Prerana Chaitra	3000	3000	0

Signature of the Principal with seal

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

Signature of Auditor with seal



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