



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_088**

Ref : Your Project Proposal entitled " **DUAL BIOFUEL PRODUCTION FROM MICROALGAE**

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. Meghana Rao and others	Budget	Amount (Rs)
		Materials/Consumables	8,000.00
Guide/s	Mr. Prashanth Kumar H.P., Dr. Rohith K.C., Ms. Saranya D.	Labor	-
		Travel	-
Department	Biotechnology	Analysis	-
		Miscellaneous	500.00
		Report	500.00
		TOTAL	9,000.00
Rupees	NINE 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,

ALB

@21/6/16

Shobha

Yours faithfully

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

Date: 20/06/2016


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

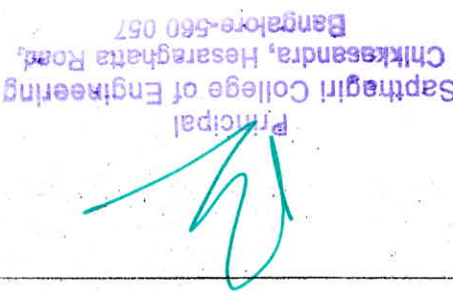
Bill No	Product Description	Amount
1	Chemicals	3917
2	Microalgae	573
3	DD – Sample analysis Including courier charges	650
4	Methanol	1240
5	Report	2040
6	Miscellaneous	500
7	Travel	500
	Total	9420


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


TAX INVOICE

Original - Buyer's Copy

 SAKHALA ENTERPRISES # 966, "SHREEYAA", II PHASE, V STAGE, BEML LAYOUT, RAJARAJESHWARI NAGAR, BENGALURU-560 098. M: 9845156415/9845717528 E-Mail :sakhala13@gmail.com	Invoice No.	Dated	
	SE/1617/068	1-Jun-2016	
Buyer Sapthagiri College of Engineering Prof. Sharnya #14/5, Chikkasandara Hesarghatta Main Road Bangalore - 560057	Buyer's Order No.	Dated	
	e-Mail	16-May-2016	

Description of Goods	Quantity	Rate	per	Amount
SE39231SD (Methy-4-HydroxyBenzoate(Paraben) 500gm)	1 No.	951.00	No.	951.00
SEATB250 (Isochrysis galbana microalgae)	1 No.	750.00	No.	750.00
SE54023SD (CYANOCOBALAMIN (vitamin B12) - 250mg)	1 No.	450.00	No.	450.00
SE22645FS (Cobaltous - 500gm)	1 No.	550.00	No.	550.00
SE25165FS (Magnesium Chloride - 500gm)	1 No.	314.00	No.	314.00
SE36186FS (Sodium Silicate - 500gm)	1 No.	406.00	No.	406.00
				3,421.00
		14.50	%	496.05
				(-0.05)
Out Put VAT - 14.5% Round Off				
Less : 				
Total	6 No.			₹ 3,917.00

Amount Chargeable (In words) E. & O.E
INR Three Thousand Nine Hundred Seventeen Only

Company's VAT TIN : 29171119444 Company's CST No. : 29171119444-C Company's Service Tax No. : ACGFS9635MSD001 Company's PAN : ACGFS9635M	Company's Bank Details Bank Name : State Bank of India A/c No. : 34422344190 Branch & IFS Code : Channasandra Branch, Bangalore & SBIN0017780 for SAKHALA ENTERPRISES  Authorised Signatory
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Declaration
 We declare that this document shows the actual price of the goods described and that all particulars are true and correct.

SUBJECT TO BANGALORE JURISDICTION

This is a Computer Generated Invoice



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

No. : SE/1617/090
Date: 17.06.2016

Sl.No.	Pro. No.	Product Description	Pack Size	Price Rs.	Qty	Amount
1	SETB125	Isochrysis galbana microalgae	1No.	500	1	500

Rupees.: Five Hundred and Seventy Three Only .
Grand Total Inclusive all.

Sub Total	500
VAT 14.5%	73
Grand Total R/O	573

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

From,

Saranya D,
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	Petrol charge	170/-
4	Courier charges	100/-
	TOTAL	520/-


4/7/16
Z


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

TIN No.:29070469890 CASH BILL Phone : 23345

ಶ್ರೀ ರಂಗನಾಥ ಸ್ಟೋರ್ಸ್

Sri Ranganatha Stores

396/1, Oolga Complex, After 8th Cross, Sampige Road,
Malleshwaram, BANGALORE - 560 003.

No. 2298

Date: 11-4

Name: Sharanaya D

SI No.	PARTICULARS	AMOUNT
	Menthol 18	1240
		1240



SPS

CASH BILL

Mobile : 88921308

SNEHA PRINTS

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

No.

Date: 25/3/20

M/s.

Sharanaya D

SI No.	Description	Qty.	Amount
	Report	6	2040
		3	46
			2040

For SNEHA PRINTS

Principal

Sathagiri College of Engineering
Chikkasandra, Hesarghatta Road,
Bangalore-560 057

Payment Voucher

No : 966

Dated : 23-Jun-2016

Through : SBI- 30263521464

Particulars	Amount
Account : KSCST(Project Work)	9,000.00

On Account of :

being expenses incurred towards from Saranya D
Bank Transaction Details:

Saranya.D
Cheque 651750 23-Jun-2016 9,000.00

Amount (in words) :

INR Nine Thousand Only

₹ 9,000.00

[Signature]
Receiver's Signature
26/7/16

Authorised Signatory

Checked by:

[Signature]
29/7

[Signature]
29/7



[Signature]
Principal
Sapthagiri College of Engineering
Chikkasandra, Hesareghatta 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

“DUAL BIOFUEL PRODUCTION FROM MICROALGAE”

Report of 39S_B_BE_088 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

MEGHANA RAO (1SG12BT012)
GAUTHAMI RAVI (1SG12BT019)

Under the Supervision of

Mr. PRASHANTH KUMAR H P

Ms. SARANYA D

Dr. ROHITH K.C

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

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

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 **"DUAL BIOFUEL PRODUCTION FROM MICROALGAE"** has been carried out by **Meghana Rao (1SG12BT012)** and **Gauthami Ravi (1SG12BT019)** 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.

Mr. Prashanth Kumar H P

Ms. Saranya D

Dr. Rohith K.C

(Guides)

Dr. Aswatha Kumar


(Principal)

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

ABSTRACT

Petroleum usage and petroleum sourced fuels is considered as unsustainable because of the enormous contribution of petroleum for the accumulation of carbon dioxide in the environment. Release of carbon dioxide to the environment is a problem which will have a very bad effect on the environment and human population. An alternative for the usage of petroleum is a trend in today's world. Various methodologies and innovative solutions have been developed and are in development for the alternative source of petroleum. This current work deals with the production of biodiesel from a commonly grown microalgae namely *Isochrysis galbana*. This microalga was used as food for fish and now can be applied for the production of fuels. The principles of gas chromatography are used for the separation of compounds having fuel potential for the production of fuels.

Keywords: petroleum usage; fish food; *Isochrysis galbana*; gas chromatography



Principal
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Chikkasandra, Hesaraghatta 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 provided partial financial support of RS35000/- towards Biofuel and SPP student project program 39 th series
1	Pollution study on polymeric surge arrestor	3000/-	Sum of Rs35000/- only has been utilize for the purpose Biofuel and SPP student project program for which it was sanction
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