



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.

SE/1617/068

Dated

1-Jun-2016

Buyer's Order No.

Dated

e-Mail

16-May-2016

Buyer

Sapthagiri College of Engineering

Prof. Sharnya

#14/5, Chikkasandara

Hesarghatta Main Road

Bangalore - 560057

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

Out Put VAT - 14.5%

14.50 %

496.05

Less :

Round Off

(-)0.05

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

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

Declaration

We declare that this document shows the actual price
of the goods described and that all particulars are true
and correct.

Authorised Signatory

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

यह लिखत जारी करने की तारीख से तीन महीने तक वैध है।
Valid for three months only from the date of issue.

CB P7062018
041713025629 413497

वैयसी कानन, बंगलूर - 560 003
VYALIKAV, BANGALORE - 560 003 (0417)

On Demand Pay V I T UNIVERSITY, VELLORE

को या उनके आदेश पर Or Order प्राप्त मूल्य के लिए

रुपये Rupees FIVE HUNDRED AND SEVENTY ONLY

अदा करें For Value Received 570.00

नोट नं. 570

केनरा बैंक Canara Bank

VELORE MAIN (1129)

प्रधिकृत हस्ताक्षर कर्ता
AUTHO SIGNATORY

नाम
NAME

पदनाम
DESIGNATION

हस्ताक्षर अधिकारी
B. S. K. KUMAR

नाम
NAME

पदनाम
DESIGNATION

हस्ताक्षर
S.P. No.

CTDN F
DRAWEE BRANCH D. F. CODE

413497 0000150000 450417 16

Principal
Sapthagiri College of Engineering
Chikkasandra, Hasaraghatta 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

Name : Sharanaya D

Date : 11-4

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
	Reprt	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-560057