

**Dr. S. G. Sreekanteswara Swamy**  
**Executive Secretary**

Ref: 7.1.03/SPP/ 1148

23rd March 2016

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

Dear Sir,

Sub : Sanction of Student Project - 39th Series: Year 2015-2016  
Your Project Proposal Reference No. : **39S\_BE\_1928**

Ref : Your Project Proposal entitled: **STUDY ON THE CHEMICAL COMPOSITION AND IN-VITRO EVALUATION OF THEIR PHARMACOLOGICAL ACTIVITY**

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

Student / s	Nethravathi M and others		Budget	Amount (Rs)
			Materials/Consumables	5,000.00
Guide/s	Dr Ananda S		Labor	-
			Travel	
Department	Biotechnology Engineering		Miscellaneous	500.00
			Report	500.00
			TOTAL	6,000.00
Rupees	SIX	ZERO		
	THOUSAND	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 one copy of the hardbound report along with softcopy of the full report (including coverpages, abstract and preliminary pages) and 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 proposal 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)
  - Keywords

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

Date: 20/05/2016

From,  
The HOD,  
Department of Biotechnology  
Sapthagiri College of Engineering  
Bangalore-57

To,  
The Principal  
Sapthagiri College of Engineering  
Bangalore-57

Respected Sir,

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

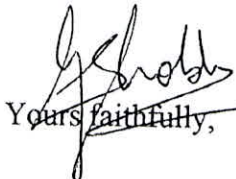
With respect to the above subject, we request you to kindly release the fund in order to complete the objectives of the project accepted by KSCST. We request you to release the fund in the name of the guide mentioned below. Kindly do the needful.


Thanking You,

**Guide:** Dr. Ananda S / Shobha G

**Title:** *Laurus nobilis* L. and *Melaleuca quinquenervia* (Cav.) S.T.Blake: Study on the chemical composition and *in-vitro* evaluation of their Pharmacological activity

**Amount:** Rs 6000/-

  
Yours faithfully,


  
Head of the Department  
Dept. of Bio Technology  
Sapthagiri College of Engineering  
No. 57/1, Chikkasandra,  
Hesaraghatta Main Road,  
Bangalore -57

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

6000 KSCST  
500 Regn fee by SCT  

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6500

Voucher  
G H raised  
6,500/- 



उत्प्रेषण करने वाले बैंक ऑफ मैसूर  
Issuing Branch: SBMP MCHIRAYANAVARA  
बैंक को / CODE No: 40880  
Tel No. 080-28378233

बैंकर्स चेक  
BANKERS CHEQUE

Key: VINCET  
Sr. No: 844204

0 6 0 2 2 0 1 6  
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PAY KSCST SECRETARY

Five Hundred Only

रुपये RUPEES

का या उनके आदेश पर  
ORDER

Key: VINCET Sr. No: 844204

अवकाश  
AMOUNT BELOW 500 (500)

500.00

₹

हो स्टाल बैंक (N.M.S.B.)  
HO STAL BANK (N.M.S.B.)

अवकाश / NOT TRANSFERABLE

कंप्यूटर द्वारा मुद्रित होने पर ही वैध  
VALID ONLY IF COMPUTER PRINTED

अधिकृत हस्ताक्षरकर्ता  
AUTHORISED SIGNATORY

शाखा प्रबंधक  
BRANCH MANAGER

₹ 50,000/- से अधिक के निमित्त से अधिकारी द्वारा हस्ताक्षर होना ही वैध है।  
INSTRUMENTS FOR ₹ 50,000 & ABOVE ARE NOT VALID UNLESS SIGNED BY TWO OFFICERS

⑈078425⑈ 000006000⑈ 700012⑈ 16

Principal

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

20/5/16

UNIVERSITY OF AGRICULTURAL SCIENCES, BANGALORE

Acknowledgement for Receipt of Cash/Draft/Cheque

No 9005

Office of the Dean (Agri)  
College of Agriculture,  
UAS, GKVK, Bangalore - 560 065

Dated 22.1.16 19

RECEIVED from ① Ms. Nethravathi, ② Ms. Divya K. H. Rs. 12000/-  
Rs. 12000/- Sapthagiri

College of Engg. B'lore. Rs. 24000/-  
(Rupees DD No. 560747/11.1.14 Rs. 10,000/- Cash for Rs. 14000/- only)

by Cash/Demand Draft/Cheque No. \_\_\_\_\_ dated \_\_\_\_\_

on account of Project to be from 22.1.16 to 31.4.16

(3 months)

CASHIER

NOTE: This receipt is issued subject to realisation of D.D./Cheque.

Dr. Vasundhara  
Assistant Controller  
Agricultural College,  
GKVK, Bangalore-560 065.

Sapthagiri College of Engineering  
Chikkasandra, Hesarghatta Road,  
Bangalore-560 067

Attested copy  
M. Mahesh

28/5/16



# Payment Voucher

No. : 724

Through : SBI-30263521464

Dated : 2-Jun-2016

Particulars

Account :

Amount

KSCST (Project Work)

6,500.00

On Account of :

Being amount paid towards expenses towards  
KSCST (Project Work)

Bank Transaction Details:

Shobha G

Cheque

651742

2-Jun-2016

6,500.00

Amount (in words) :

INR Six Thousand Five Hundred Only

₹ 6,500.00

Receiver's Signature

8/6/16

Authorised Signatory

Checked by:

03/06



Principal  
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

***“Laurus nobilis L. and Melaleuca quinquenervia (Cav.)***  
**S.T.Blake: Study on the Chemical Composition and *In-Vitro***  
**Evaluation of their Pharmacological Activity”**

Report of 39S\_BE\_1928 submitted to Karnataka State Council for Science and Technology –  
Student Project Programme – 39series

Submitted by

**NETHRAVATHI. M**  
**DIVYA. K. H**

**1SG12BT016**  
**1SG12BT009**

Internal Guide

**Dr ANANDA. S**  
The HOD,  
Department of Biotechnology,  
Sapthagiri College of Engineering

External Guide

**Dr M. VASUNDHARA**  
Professor,  
Medicinal and Aromatic section,  
Department of horticulture;  
UAS (B), GKVK

Submitted To



*Principal*  
*Sapthagiri College of Engineering*  
*Chikkasandra, Hesaraghatta Road*  
*Bangalore-560057*

ಕರ್ನಾಟಕ ರಾಜ್ಯ ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರವಿದ್ಯಾ ಮಂಡಳಿ  
**Karnataka State Council for Science and Technology**  
Indian Institute of Science Campus, Bengaluru 560 012  
**2015- 2016**

## Abstract

Nethravathi. M and Divya. K. H  
Department of Biotechnology, Sapthagiri College of Engineering  
Email Id: nethram6kan@gmail.com

Essential oils are the highly concentrated volatile oils which are extracted from flowers, leaves, bark, stem, roots and seeds of aromatic plants. These oils are known to possess antimicrobial, antioxidant, anti-diabetic, anti-helminthic and anti-inflammatory potential. In the present work, two major aromatic trees were considered namely, *Laurus nobilis* L. and *Melaleuca quinquenervia* (Cav.) S.T.Blake. The essential oils extracted through hydro-distillation were assessed for the quality through Physico-Chemical parameters and chemical composition was evaluated through Gas Chromatography-Mass Spectrometry. The extracted essential oils were tested for their Antimicrobial potentiality against pathogenic strain by Disc diffusion method and for their Antioxidant potentiality through various *in-vitro* assays. The results revealed that both *Laurus nobilis* L. and *Melaleuca quinquenervia* (Cav.) S.T.Blake essential oils displayed antimicrobial activity against disease causing microorganism such as *Escherichia coli* and *Staphylococcus aureus*. Also, the results revealed that both the plants essential oils are promising alternatives to the synthetic antioxidants that are in use currently in the food industries.

**Keywords:** Volatile oil, Antimicrobial, Antioxidant, disc diffusion method.



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

## 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/-	provided partial financial support of RS35000/- towards Biofuel and SPP student project program 39 <sup>th</sup> series
2	Study on the Chemical composition and invitro evaluation of their Pharmacological activity	6000/-	Sum of Rs35000/- only has been utilize for the purpose Biofuel and SPP student project program for which it was sanction
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