

Date: 26/09/2016

To,

The Principal,

Sapthagiri College of Engineering

Bangalore-560057

Sub- Sanction of Research grant for the research project "12 Minutes Energy"

In pursuance of the proceedings of the research committee and approval of the Principal through his letter dated 14/09/2016, the management in its meeting has decided to sanction the research grant. The management is pleased to sanction Rs.20,000/- (**Rupees twenty thousand only**) for the Biotechnology department for carrying out the project, "12 Minutes Energy", by Prof. Saranya D and Prof. Ananda H V as per the recommendation of RDECI.

The Principal is directed to facilitate the sanction of the amount and follow all the necessary procedure of the accounts, and submit the utilization certificate after securing the same from the researcher.


Executive Director

Sri G.D. MANOJ

Executive Director

Sapthagiri College of Engineering
BENGALURU - 560 057.


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



Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)
#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru - 560057
Phone: 080-28372800/1/2 www.sapthagiri.edu.in Fax: 080-28372797

Date: 14/09/2016

To,

The Executive Director,

Sapthagiri College of Engineering

Bangalore-57

From,

The Principal,

Sapthagiri College of Engineering

Bangalore-57

Sub- Requisition for research grant for the research project.

With reference to the above subject, I hereby inform you that RDECI has approved the research project "12 Minutes Energy" submitted Prof. Saranya D and Prof. Ananda H V of Biotechnology department after scrutinizing the research proposal.

Therefore, it is requested that an amount of Rs.20, 000 (**Rupees twenty thousand only**) may please be sanctioned for carrying out the above said research project.

Thanking you,


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


Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Main Road
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Phone: 080-28372800/1/2

www.sapthagiri.edu.in

Fax: 080-28372797

Date: 27/09/2016

To,

The Convener,

R&D, Entrepreneurship Committee & Incubation Center (RDECI),

Sapthagiri College of Engineering

Bangalore-560057

Sub- Sanction of Research grant Reg .,

The management of Sapthagiri College of Engineering has sanctioned the Research fund of Rs.20,000 (**Rupees twenty thousand only**) for the research project "12 Minutes Energy" to be carried out by the department of Biotechnology.

Copy To,

All Departments


Principal

Sapthagiri College of Engineering
#14/5, Chikkasandra, Hesaraghatta Main Road
Bengaluru - 560057


Principal
Sapthagiri College of Engineering
#14/5, Chikkasandra, Hesaraghatta Main Road
Bengaluru - 560057

Date: 09/09/2016

To,

The Principal,
Sapthagiri College of Engineering,
Bangalore-560057,

Through HOD & RDECI

From

Saranya D & Ananda H V
Department of Biotechnology
Sapthagiri College of Engineering
Bangalore-560057

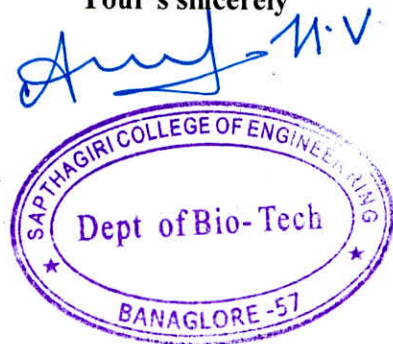
Respected Sir,

Subject: Requisition for the financial assistance for carrying out research project

With respect to above subject, I request your kind self to provide financial assistance to carry out the project entitled "**12 minute Energy**". The research proposal and budget split up has enclosed along with this letter. Kindly consider the requisition and do the need full.

Thanking you

Your's sincerely



RDECI:

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

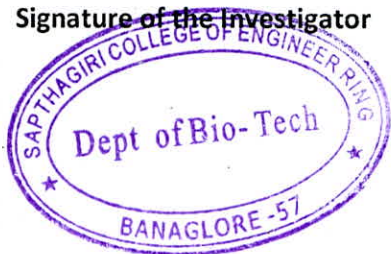
Principal
Sapthagiri College of Engineering
14/5, Chikkasandra, Hesaraghatta Rd
Bengaluru - 560

RESEARCH PROPOSAL

A. GENERAL INFORMATION

1	About the project	
a	Title of the project	: 12 minute Energy
b	Subject area as per instruction	: Bio instrument , Chemicalengineering
2	Details of Principal Investigator	
a	Name	: Dr. Ananda S/ Saranya D & Ananda H V
b	Qualification	: Ph.D/M.Tech (Bio instruments)/M.Tech (Chemical Engineering)
c	Designation	: Professor/ Assistant Professor/ Assistant Professor
d	Department	: Biotechnology
e	Years of teaching/research experience	: 16/5/2
f	Email ID	: hodbt@sapthagiri.edu.in anandahv@sapthagiri.edu.in
g	Cell Number	: 9900833873/9964262548
h	Details of the Head of the Department	
i	Name of the Head of the Department	Dr. Ananda S
j	Email ID	: hodbt@sapthagiri.edu.in
k	Cell Number	: 9900833873/9964262548

Signature of the Investigator



Signature of Head of the Department

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
14/6, Chikkasandra, Hesaraghatta Main Road
Bangalore - 560 057

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

A. DETAILS OF THE PROJECT PROPOSAL

1.	Title of the Project Proposal:
	<p style="text-align: center;">“12 minute energy”</p> <p>(A Manual energy consumption Reciprocating pump for both urban and rural areas)</p>
2.	Objectives of the proposal:
	<ul style="list-style-type: none"> • Prototype preparation • Fabrication work • Optimization process
3.	Background of the project:
	<p>Aquaponic is an integration of aquaculture and hydroponics. Aquaponics uses the symbiotic association of aquaculture and hydroponics in which plants feed on waste matter excreted by fishes. Simultaneously the vegetables purify the water that is utilized by the fishes. Microbes play a vital role in providing nutrition to plant. These microbes are present in the roots of the plant which transforms excreta of fishes and solid waste into substance that plants can feed upon for their metabolic activities. Aquaponics is a useful technology and widely developing. Aquaponics is gaining lot of attention because small space is used for cultivation and have a great harvest of healthier and organic vegetables which are devoid of soil borne disease</p> <p>On observing the frequent power failure and lack of electricity supply in rural areas, I am thinking of starting a project that is designing a novel reciprocating pump which uses manual energy as power instead of electricity.</p> <p>We can reduce the usage of electricity by using manual power. As such, I want to start a project by name “12 MINUTE ENERGY” in which we can pump 1000 liter of water to higher levels without using electricity in just 12 minutes. It will be a boon to rural areas and indirectly it will also help in maintaining the health of general public by pedaling for 12 minutes.</p>


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

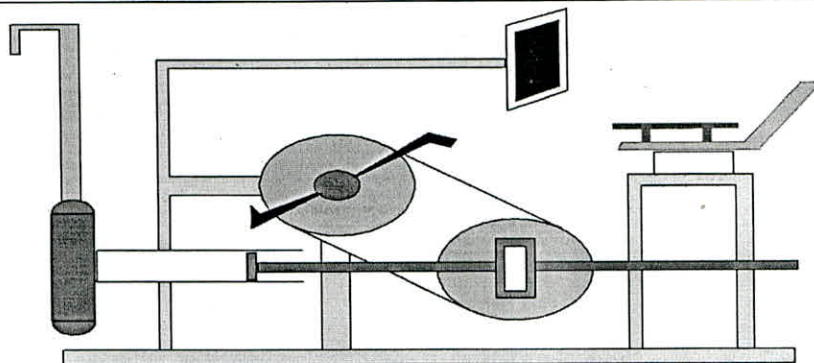


Fig 1: Outline of the product- 12 minute energy

4. Methodology :

HOW IT WORKS!!!

- A Pump lifts the water from lower reservoir to higher reservoir.
- The novel approach to lift water is the simplest manual operated reciprocating pump..
- As the cycle pedal rotates the crank shaft connected to the disc rotates & the piston moves backward & forward.
- During the suction stroke the piston moves left thus creating vacuum in the cylinder.

During the delivery stroke the piston moves towards right. The increase in pressure in the cylinder causes the suction valve to close & delivery valve opens. Water is forced in the delivery pipe.

5. Milestones with time schedule & work plan: 06 months

6. List of equipment required for Phase-II for Project Implementation

SL No.	Expenditure	Amount
1	Prototype	15000/-
2	Fabrication	10000/-
3	Scale up	25000/-
4	Miscellaneous	5000/-
5	Patenting	5000/-

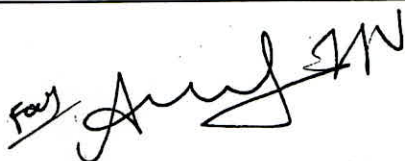
7. Relevance, importance & application of the project:

- Pumping of 1000 liter of water in just 12 minutes without using electricity up to 3rd floor of Building.
- Transportation of water in rural areas.

(Handwritten signature)

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

10.	Novelty/Uniqueness of the project proposal	:	Innovative proposal
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for 

Name & Signature of the
Principal Investigator
(with seal)

for 

Name & Signature of
Head of the Department
Head of the Department
(with seal)
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

Date: 01/10/2016

From,

Research and Development cell,
Sapthagiri College of Engineering,
Bangalore-560057.

To,

Principal investigator,
Sapthagiri College of Engineering,
Bangalore-560057.

Subject: Sanction of research grants Reg.,

The committee hereby informed that following project have been approved for the academic year 2017. The report and the outcome of the project have to be submitted to the committee after the completion of the project. The utilization certificate shall be given along with the final report.

Sl. No	Principal Investigator	Department	Project entitled	Amount Sanctioned
1	Dr. Ananda S/ Saranya D / Ananda H V	BT	12 Minute Energy	20000/-

Kon
Convener

Copy To,

Principal
All Departments
IQSC

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

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

Date: 16/1/2017

To,

Principal,
Sapthagiri College of Engineering
Bangalore-560057

Through HOD

From,

Saranya D & Ananda H V
Department of Biotechnology,
Sapthagiri College of Engineering
Bangalore-560057

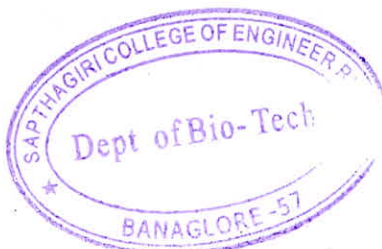
Respected Sir,

Sub: Procurement of Instruments Reg.,

With reference to the letter received from R& D committee regarding approval of research project, we are here by requesting the procurement of the Digital Signature and fabrication for the research project entitled "**12 minutes Energy**" to carry out. This will enhance the research potential to contribute for the improvement in the field of biotechnology. Kindly consider the request and do the need full.

Thanking you,

Yours Faithfully,



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

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

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

66

Date: 20/09/2017

To,

Research and Development cell,
Sapthagiri College of Engineering
Bangalore-560057

Through HOD

From

Saranya D & Ananda H V
Department of Biotechnology
Sapthagiri College of Engineering
Bangalore-560057

Sub: Submission of report and utilization details

With reference above cited subjected I am hereby enclosing project report entitled "12 Minute Energy" and utilization certificate. This for your kind information, please.

Sl No	Particulars	Quantity	Amount	Remarks
1	Fabrication	1	10,000/-	Purchased
2	Digital Signature	1	5,000/-	Purchased
3	Miscellaneous		5000/-	Purchased

Thanking You,

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

Copy,

Principal

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

Kai
Principal
Sapthagiri College of Engineering
14/6, Chikkasandra, Hesaraghatta Main Road
Bangaluru - 560 057



TRANSACTION DETAILS**PAYMENT SUMMARY**

STATUS	AMOUNT	TRANSACTION ID	PAYMENT GATEWAY ID
SUCCESS	₹ 4029	913956084729	6040807681

COMPLETE THE BELOW STEPS

Application ID : 4263961,4263960

[DOWNLOAD INSTRUCTION](#)[DOWNLOAD APPLICATION](#)

1. Download and print the above acknowledged application form
2. Paste your passport size photograph in the space indicated and sign across the photograph
3. Enclose the copy of the document proofs selected by you in the application form
4. Sign the application form at the place specified in the application form
5. Keep the copy of the document proofs ready for verification and pick up
6. Within few hours of the receipt of the document, You would receive an email for download of signature.
7. If you have selected token, it would courier to you shortly.

Note:

1. All the supporting document proofs should be attested by Gazetted officer or Post Master or Bank Manager. No application would be processed without attestation.
2. Applicant signature should be in Blue Ink Only
3. Cross Signature across the photo is mandatory

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Where to find us

eMudhra Limited, Sai Arcade, 3rd Floor,

No.56 Outer Ring Road, Bangalore-103

CIN - U72900KA2008PLC060368

080-67405700

info@emudhra.com, sales@emudhra.com**Activate Windows**

Go to PC settings to activate Windows.

[Show all](#)

Principal
Sapthagiri College of Engineering
Chikkasandra, Hesaraghatta Road
Bangalore-560 077

SAMPLE INVOICE

Document No.

Date: 15-03-2017

SENDER:

CONSIGNEE:

Mr.PRADEEP KUMAR
EMUDHRA LIMITED
3RD FLOOR SAI ARCADE 56
OUTER RING ROAD
DEVARABEESANAHALLI
BANGALORE-560103
CON-080-67401400

ANANDA S
HOD, DEPT OF BIOTECHNOLOGY, SAPTHAGIRI COLLEGE
OF ENGINEERING, HESARAGATTA MAIN ROAD,
BANGALORE, BANGALORE, 560058 MOB - 9900833873

No.	DESCRIPTION	QTY	UNIT PRICE	TOT. VALUE
1	CRYPTO USB TOKEN	1NO	999	999
TOTAL				999

THIS IS TO CERTIFY THAT THE MENTIONED CONSIGNMENT IS BEING SENT TO CONSIGNEE AFTER CALIBRATION. VALUE DECLARED FOR TRANSPORT PURPOSE ONLY AND HAS 'NO COMMERCIAL VALUE'

For **EMUDHRA LIMITED**

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

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

eMudhra Limited
#56, Sai Arcade, 3rd Floor, Outer Ring Road,
Devarabeesanahalli, Bangalore - 560103

TIN: 29620818060
ST. Regn. No: AAACZ3347GST001
CIN: U72900KA2008PLC060368
PAN: AAACZ3347G

TAX - INVOICE

Billed To:
S Ananda
#194, Maddur
Taluk, Thylur, Thyloor, Maddur, Mandya, Karnataka - 571433
Mobile: 9900833873
Email Id: ipranand@gmail.com

Invoice No: eMudhra/Online- ESIGN102127

Date: 16-Feb-2017

Sl No	Product Details	Unit Price (in Rs.)	Amount (in Rs.)
1	Unlimited eSign for 1 Year	Rs.500.00	Rs.500.00
Sub Total			Rs.500.00
Service Tax @ 14%			Rs.70.00
Swachh Bharat Cess @ 0.5%			Rs.2.50
Krishi Kalyan Cess @ 0.5%			Rs.2.50
Total			Rs.575.00

E.&OE.

Total amount is rounded off to nearest rupees.

Amount in words: Five Hundred and Seventy Five Only

Payment Remarks

Online Payment: Transaction ID -ESIGN5827520170216093133

Signature Not Verified

Signed by: DS EMUDHRA LIMITED 3
Reason: eMudhra eSign Service
Location: Bangalore


Principal
Sapthagiri College of Engineering
14/6, Chikkasandra, Hesaraghatta Main Road
Bangalore - 560 057


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

UTILIZATION CERTIFICATE

Sl No	Particulars	Quantity	Amount
1	Fabrication		10000
2	Digital signature		5000
3	Miscellaneous		5000
	Total		20,000

Certified that Sapthagiri college of Engineering has provided partial financial support of **RS 20,000/-** (Twenty thousand only) towards 12 Minutes Energy project by Biotechnology Department of Sapthagiri college of Engineering.

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

Kinds of check exercised**1. Bills****Signature of the Principal with seal**

Principal

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

Signature of Auditor with seal


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