KSCST

Karnataka State Council for Science and Technology

Indian Institute of Science Campus, Bengaluru - 560 012

Telephone: 080-2334 1652, 2334 8848, 2334 8849 ♦ Telefax: 080-2334 8840
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

Ref: 7.1.03/SPP/

27th March, 2017

The Principal
Alva's Institute of Engineering and Technology
Shobavand Campus,
Mijar, Moodbidri - 574 225.
Mangaluru.

Dear Sir,

Sub : Sanction of Student Project - 40th Series: Year 2016-2017
Your Project Proposal Reference No. : 40S_BE_0838

Ref : Your Project Proposal entitled " **PERFORMANCE EVAUATION OF ELECTROCOAGULATION TECHNIQUE FOR DAIRY WASTE WATER TREATMENT SUING ALUMINIUM ELECTRODES**

I am happy to inform that your project proposal referred above, has been approved by the Secretary, KSCST for "Student Project Programme - 40th Series" and has been sanctioned with a budgetary break-up as detailed below:

Students	Mr. Santosh Kamble and others	**Budget**	**Amount (Rs)**
		Materials/Consumables	4,000.00
Guide/s	Prof. Sanjay S	Labor	-
		Travel	-
Department	Civil Engineering	Miscellaneous	500.00
		Report	500.00
		TOTAL	5,000.00
	Rupees Five Thousand		

The following are the guidelines to carryout the project work :

a) The project should be performed based on the objectives of the proposal sent by you.

b) The project should be completed in all respects and one copy of the hardbound report along with softcopy of the full report in a CD (.pdf format) should be submitted to KSCST.

c) 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.

d) Please quote your **project sanction reference number printed above** in all your future correspondences.

e) 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 points:
   1) Title of the project
   2) Name of the College & Department
   3) Name of the students & Guide(s)
   4) Keywords

PRINCIPAL
Alva's Institute of Engg. & Technology
MOODBIDRI - 574 225, D.K.

5) Introduction / background 40S_BE_0838

(with specific reference to the project, work done earlier, etc) - about 20 lines

6) Objectives (about 16 lines)

7) Methodology (about 30 lines)

(materials, methods, details of work carried out, including drawings, diagrams etc)

8) Results and Conclusions

(about 20 lines with specific reference to work carried out)

9) Scope for future work (about 20 lines).

(Note: The write-up (Synopsis) should be sent with the approval of project guide. The softcopy of the write-up, in MS Word format, should be sent by e-mail (spp@kscst.iisc.ernet.in). In your e-mail, please also include project proposal reference number and title of the project.)

e) Projects selected for Seminar / Exhibition will be awarded.

The following are the extract of comments / suggestions of the expert. The students and project guides are hereby directed to implement the same and will be looked into during evaluation of the project.

** DETERMINE COLUMBIC EFFICIENCY. * AL+ USED PER COD REMOVED. * ENERGY USED PER G COD REMOVED. * ALUMINIUM IN SLUDGE AND TREATED WATER.*

The sanctioned amount will be sent separately by our Accounts Department.

The sponsored projects evaluation will be held in the Nodal Centre and the details of the nodal centre will be intimated shortly.

Please visit our website for further announcements / information and for any clarifications please email to spp@kscst.iisc.ernet.in

Yours sincerely

(SGS Swamy)

Copy to:

1) The Head of the Department of
Civil Engineering
Alva'S Institute Of Engineering And Technology
Shobavana Campus,
Sub : Sanction Of Student Project - 40Th Series: Year 2016-2017
Mangaluru.

2) Prof. Sanjay S
Department of Civil Engineering
Alva'S Institute Of Engineering And Technology
Shobavana Campus,
Sub : Sanction Of Student Project - 40Th Series: Ye
Mangaluru.

3) The Finance Officer, KSCST, Bangalore

"PERFORMANCE EVALUATION OF ELECTROCOAGULATION TECHNIQUE FOR DAIRY WASTEWATER TREATMENT USING ALUMINIUM ELECTRODES"

PROJECT REPORT

Submitted by

SANTOSH KAMBLE
4AL13CV085

SNEHA K
4AL13CV124

SHINS T WILSON
4AL13CV125

SHANKAR BADIGER
4AL14CV421

In partial fulfillment of the requirements for the degree of

BACHELOR OF ENGINEERING

in

CIVIL ENGINEERING

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI- 590018

Under the Guidance of

Mr. SANJAY S

ASSISTANT PROFESSOR

Department of Civil Engineering

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

MOODBIDRI-574225, KARNATAKA

2016 – 2017

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

MIJAR, MOODBIDRI D.K. -574225 – KARNATAKA

DEPARTMENT OF CIVIL ENGINEERING

CERTIFICATE

Certified that the project work entitled **"Performance Evaluation of Electrocoagulation Technique for Dairy Wastewater Treatment Using Aluminum Electrodes"** is a bonafide work carried out by

SANTOSH KAMBLE	**4AL13CV085**
SNEHA K	**4AL13CV124**
SHINS T WILSON	**4AL13CV125**
SHANKAR BADIGER	**4AL14CV421**

Are bonafide students of Department of Civil Engineering of Alva's Institute of Engineering and Technology in partial fulfillment for the award of BACHELOR OF ENGINEERING in **CIVIL ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2016–2017. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

15/5/17

Prof. Sanjay. S
Project Guide

15/05/2017

Prof. B. Durgaprasad Baliga
Head of the Department

H.O.D.
Dept. of Civil Engineering
Alva's Institute of Engg. & Technology
Mijar, Moodbidri - 574 225

Dr. Peter Fernandes
Principal

PRINCIPAL
Alva's Institute of Engg. & Technology,
Mijar, MOODBIDRI - 574 225, D.K.

Name of the Examiners **Signature with Date**

1.

2.

ABSTARCT

The dairy industry is one of the most polluting of industries, not only in terms of volume of effluent generated, but also in terms of its characteristics as well. Dairy effluents decompose rapidly and deplete the dissolved oxygen level of the receiving bodies. Dairy effluents contain soluble organics, suspended solids, trace organics. The purpose of this study was to investigate the effect of parameters such as applied voltage, detention time on electrocoagulation process for diary wastewater treatment using aluminium electrodes. It is observed that the removal efficiency of BOD, COD, TDS, Nitrates, Phosphates and oil and grease increased with increase in the applied voltage. The results indicate that electrocoagulation is efficient and observed removal efficiencies are 78.51%, 81.08%, 75%, 93%, 90.28% and 75% of BOD, COD, TDS, Nitrates, Phosphates and oil and grease respectively for 75 minutes of treatment under a constant voltage of 15V.

The experiments demonstrated the effectiveness of electrocoagulation technique for the treatment of diary wastewater.

Keywords: Diary wastewater, Aluminium electrodes, Electrocoagulation, DC power supply.