KSCST

Karnataka State Council for Science and Technology
(An autonomous organisation under the Dept. of Science & Technology, Govt. of Karnataka)
Indian Institute of Science Campus, Bengaluru - 560 012
Telephone: 080-23341652, 23348848, 23348849, 23348840
Email: office.kscst@iisc.ac.in, office@kscst.org.in ♦ **Website:** www.kscst.iisc.ernet.in, www.kscst.org.in

Mr. H. Hemanth Kumar
Executive Secretary

19th April 2021

Ref: 7.1.01/SPP/10

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

Dear Sir/Madam,

Sub : Sanction of Student Project - 44th Series: Year 2020-2021
Your Project Proposal Reference No. : 44S_BE_3774
Ref : Your Project Proposal entitled " **FEASIBILITY OF GREYWATER TREATMENT WITH RIVER SAND AND POLYPROPYLENE PAL RINGS AS FILTER MEDIA**

We are pleased to inform that your student project proposal referred above, has been approved by the Council under "Student Project Programme - 44th Series" with a budgetary break-up as detailed below:

Students	Mr. Mithun Gowda B	**Budget**	
	Mr. Advith Jain	**Particulars**	**Amount (Rs)**
	Ms. Kavya S S	Materials/Consumables	4,000.00
	Ms. Shreshta Shetty	Labour	500.00
Guide/s	Ms. Kavyashree S	Travel	500.00
		Miscellaneous	500.00
Department	Civil Engineering	Report	500.00
		Total	**6,000.00**
	SIX THOUSAND RUPEES ONLY		

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 softcopy of the full report in a CD (single file .pdf format only) 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 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
Mijar, MOODBIDRI - 574 225, D.K

5) Introduction / background **44S_BE_3774**
(with specific reference to the project, work done earlier, etc) - about 20 lines

6) Objectives (about 10 lines)

7) Methodology (about 20 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.)

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.

REDUCE SIZE OF AGGREGATES FROM 12.5 TO 2MM

The sanctioned amount will be sent to the Principal / Head of the Institute by NEFT details provided by the college/institution.

The sponsored projects evaluation will be held in the Nodal Centre /online platform and the details of the same will be intimated shortly by e-mail / Website announcement.

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

Thanking you and with best regards,

Yours sincerely,

(H. Hemanth Kumar)

Copy to (by email):

1) Dr. Kiran B Malagi
SPP Coordinator
Alva'S Institute Of Engineering And Technology,
Shobavana Campus,
Mijar, Moodbidri - 574 225.

2) Ms. Kavyashree S
Department of Civil Engineering
Alva'S Institute Of Engineering And Technology,
Shobavana Campus,
Mijar, Moodbidri - 574 225.

3) The Finance Officer, KSCST, Bengaluru

Encl: As Above

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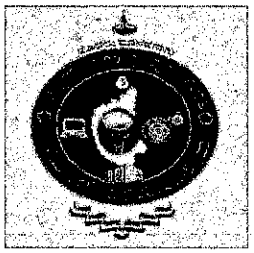
"FEASIBILITY OF GREY WATER TREATMENT WITH RIVER SAND AND POLYPROPYLENE PALL RINGS AS FILTER MEDIA"



PROJECT REPORT

Submitted by

KAVYA S S	4AL17CV025
M ADVITH JAIN	4AL17CV030
MITHUN GOWDA B	4AL17CV037
SHRESHTA SHETTY	4AL16CV112

In partial fulfilment of the requirements for the degree of

BACHELOR OF ENGINEERING

In

CIVIL ENGINEERING

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI-590018.

Under the Guidance of

Ms. KAVYASHREE S

Assistant Professor

AIET, Mijar

ALVA'S
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Department of Civil Engineering

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

MOODBIDRI-574225, KARNATAKA

2020-2021

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

MIJAR, MOODBIDRI D.K. -
574225 KARNATAKA

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DEPARTMENT OF CIVIL ENGINEERING

CERTIFICATE

Certified that the project work entitled "**FEASIBILITY OF GREY WATER TREATMENT WITH RIVER SAND AND POLYPROPYLENE PALL RINGS AS FILTER MEDIA**" has been successfully completed by

KAVYA S S	**4AL17CV025**
M ADVITH JAIN	**4AL17CV030**
MITHUN GOWDA B	**4AL17CV037**
SHRESHTA SHETTY	**4AL16CV112**

The bonafide students of Department of Civil Engineering ,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 2021. It is certifiedthat 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 seminar work prescribed for the Bachelor of Engineering Degree.

Ms. KAVYASHREE S	**Dr. H AJITH HEBBAR**	**Dr. PETER FERNANDES**
Project Guide	**Head of the Department**	**Principal**
		PRINCIPAL Alva's Institute of Engg. & Technology Mijar, MOODBIDRI - 574 225, D.K.

Name **of the examiners** **Signature with date**

1.
2.

ABSTRACT

There is an increase in scarcity of water with rapid population increase in urban areas giving reason for concern and the need for appropriate water management practices. Grey water recycling is emerging as a new trend in water management practices. Initiatives by the Urban Local Bodies have resulted attempting the grey water recycling in urban areas, flats and apartment and also in individual houses. A rational design is not available for grey water recycling unlike domestic waste water. Hence, a study was taken in Alva's Institute of Engineering and Technology (AIET), Shobhavana campus to evaluate the feasibility of treating grey water using river sand and poly propylene pall rings. The methodology involve designing, fabricating and installing a grey water treatment model in . Grey water treatment system installed in AIET food court consisted of anaerobic and aerobic treatment units. The system was monitored over a period of time to check the performance. The sampling of grey water was done weekly and the samples were analyzed for differ water quality parameters like pH, Total Suspended Solids, Total Dissolved Solids, Bio-Chemical Oxygen Demand, Chemical Oxygen Demand, Turbidity and nutrients. The grey water system with river sand Polypropylene Pall Rings as anaerobic and aerobic filter media was effective in removing the turbidity, Total Suspended Solids, Bio-chemical Oxygen Demand, Chemical Oxygen Demand and nutrients from the grey water sample to significant extent. It has shown moderate efficiency in removing Total Dissolved Solids compared to other parameters.

The system has an overall efficiency of 90% in removing pollutants from grey water. Hence the treated grey water can be used for gardening and flushing toilets. But further treatment is required for reuse in other purpose in urban house hold. Based on the studies carried out on laboratory scale model, a treatment system has been proposed to treat 500 l of grey water per day from urban house hold.