Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed-to-be University under section 3 of UGC Act, 1956)
(Vide Notification No. F.9-5/2000 - U.3, Ministry of Human Resource Development, Govt. of India, dated 4th July 2002)

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Phone : 044-22290742 / 22290125 . Telefax : 044-22293886
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173, Agaram Road, Selaiyur, Tambaram, Chennai - 600 073. Tamil Nadu.

Ref No. SMS-2018-O-1

Date : 07/10/2018

TO

Mrs.E.Kowsalya

Asst. Professor/ IBT

BIHER

Thro: Concern Head of the Department

Greetings!!!

We are happy to announce that the Research Advisory Committee has approved your proposal for Seed Money Scheme-2018 which was presented by you. You are requested to complete the proposal and send the progress report to the Dean Research in the prescribed time period.

Title of the Project: Synthetic Waste water Treatment by absorption

Seed Money Amount: Rs.1,00,000/- (Rupees One Lakh Only)

Approved on : 27/09/2018

Payment details:

Cheque No. 351621 **Dated: 09/10/2018**

Bank Name: Indian Bank, Selaiyur, Chennai.

With Regards

Dean-Research 07/10/18

Received

इंडियन बैंक
Indian Bank

Branch : SELAIYUR (TAMBARAM)
PLOT NO.17 AND 18, HASAN COLONY
AGARAM ROAD, SELAIYUR.,TAMBARAM. CHENNAI. T.N.
IFS Code :IDIB000S246

VALID FOR THREE MONTHS ONLY

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0	9	1	0	2	0	1	8

PAY Ms. E. Kowsalya या धारक को OR BEARER

RUPEES रुपये One Lakh Only.

अदा करें ₹ 1,00,000/-

खा.सं. A/c No.	CA 6670628110

FOR BIHER RESEARCH AND CONSULTANCY

CBS Code: 02505

AUTHORISED SIGNATORY

Please sign above

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PROPOSAL SUBMISSION

1. **Details of Principal Investigator**

Name	: Ms. E. Kowsalya
Designation	: Assistant Professor
Highest Qualifications	: M. tech
Department	: Industrial Biotechnology
E-mail	:kowsalya1110@gmail.com
Contact no	: 9944074782
Date of Joining	: 21.07.2014

2. **Details of Co - Principal Investigator**

Name	: Dr. L. Jeyanthi Rebecca
Designation	: Professor
Highest Qualifications	: Ph.D
Department	: Industrial biotechnology
E-mail	:hodbiobharath@gmail.com
Contact no	: 9444649109
Date of Joining	: 08.08.2005

Technical details

1. Introduction

Water is regarded as an essential and abundant source to the living organisms on the earth for their survival and growth but in India, 70% of the available water has been polluted by industries or domestic wastes. Drinking water contaminated with different chemical or physical sources has the greatest impact on health of human being, especially in developing countries. Common contaminant of water has been classified into physical, chemical and biological sources. Physical sources are turbidity, color, odour and other floating matter. Chemical sources comprises of Biochemical oxygen demand (BOD), Chemical oxygen demand (COD), chlorides, alkalinity, pH, hardness etc. biological source of contaminants are the coliform bacteria and pathogens causing gastrointestinal disorders

particularyindia is the major producer and exporter of cotton and aslo other types of fabrics in the world market level. Usually garment waste are sending for reuse, recycle as a craft product s such as carpets, doormats, pillow cover etc . Fabric made out of differentfibers that are obtained from different sources some are naturally available and still some fibers are synthesized natural fibres cellulosic fibres are derived from plants cellulose is made up of elements like Carbon, Hydrogen, oxygen, so using this solid waste the project was carried out to prepare aActivated carbon and to use this to treat the waste water by Adsorption.

2. Review of status of Research and Development in the subject

Conventionally there sreso many methods available as a unit operation and unit process for the treatment of waste water namely, Flocculation, Coagulation ,sedimentation ,precipitation filtration (UF,MF),RO, Ion Exchange column, Adsorption from the above all Adsorption is the one of the best method for waste water treatment Adsorption is used majoritilly from rest of all this is because it is very easy to operate, reliable ,less cost of installation and also maitananence ,can also be used to handle large volume of waste waster .

Commercially available Activated carbons are all expensive as they are usually produced from the non-renewable high value raw material such as coal, which is also leading to major Air pollution problem so today in every field finding an choice for the preparation of any product is based on the low cost and renewable is initiated, coconut shell , waste apricot, sugar beet ,bagasse molasses , rubber wood sawdust, bamboo, rattan sawdust ,oil palm fibre and coconut husk . on based on this point this work was done to find a novel material as a source of carbon making raw material, also it was thought that if the material was found from the waste means it could make a recycle of waste into value added product also it will improve the waste management more efficient and easier.

Based on this the work was done to convert textile waste in to Carbon particle and it was chemically activated.

2.1 International Status: NIL

2.2 National Status: NIL

3. Progress/achievement so far,

a) Literature survey was studied.
b) Novel adsorbent was developed
c) Proposal work has been completed.

4. Work Plan:

4.1 Methodology:

The main objectives of the project are as follows,

- To Prepare Activated carbon in economical way
- To prepare synthetic dye solution for the analysis
- To treat the synthetic dye effluent by Adsorption using prepared adsorbent

4.2 Time Schedule of activities giving milestones through BAR diagram.

Work plan (including detailed methodology and time schedule)

Sl. No.	Activity / Milestone	1st Year		2nd Year	
1.	Literature review	1-6			
2.	Preparation and Characterization of Activated carbon		7-12		
3.	Adsorption for the treatment of synthetoic dye effluent by a prepared adsorbent and further parameters studies			13-18	
4.	Experiments and results				19-24

4.3 Expected outcome within the time period of Seed Money Scheme

For preliminary implemented within the time period of Seed Money Scheme.

(A)For a real time field work can be done within the time period of Seed Money Scheme.

5. Suggested Plan of action stating the name of funding agency where the project will be communicated for financial support within the time period of project.

Nil

6. Bibliography: Nil

7. List of Projects submitted/implemented by the Investigators (Separate for Pi and Co-PI)

Nil

7.1 Details of Projects submitted to various funding agencies:

S.No	Title	Cost in Lakhs	Month of Submission	Role as PI/Co-PI	Agency	Status

	NA	NA	NA	NA	NA	NA

7.2 Details of Projects under implementation

Sl. No.	Title	Cost in lakhs	Duration	Role as PI/ Co-PI	Agency
	NA NA	NA	NA	NA	NA

7.3 Details of Projects completed during the last 5 years

Sl. No.	Title	Cost in lakhs	Duration	Role as PI/ Co-PI	Agency
	NA	NA NA	NA	NA	NA

8. List of publications published by the Investigators, if any:

a) Co - Principal Investigator

Sl No	Author	Title	Journal	Year	Volume(issue)	Page no
1	Dr. L. Jeyanthi Rebecca	Plant extracts inhibiting the adhesion of oral bacteria	Drug Invention Today	2018	10(7)	100-1101
2	Dr. L. Jeyanthi Rebecca	Green synthesized silver nanoparticles as an antimicrobialagent in dentistry	Drug Invention Today	2018	10(6)	950-953
3	Dr. L. Jeyanthi Rebecca	Current trends in reducing microbial adhesion to acrylic denture base resins.	Drug Invention Today	2018	10(6)	946-949
4	Dr. L. Jeyanthi Rebecca	Study on the antibacterial activity and identification of cellulolytic bacteria from cow urine	Research Journal of Pharmacy and Technology	2018	11(9)	1-5
5	Dr. L. Jeyanthi Rebecca	Antibacterial activity of phytochemicals against oral bacteria.	Drug Invention Today	2018	10(7):	1091-1093

6	Dr. L. Jeyanthi Rebecca	Screening of marine actinomycetes for fibrinolytic enzymes	Res.J of Pharmacy and technology	2018	11(10)	4365-4369
7	Dr. L. Jeyanthi Rebecca	Plant Extracts with Activity against Oral Bacteria	Drug Invention Today	2018	10(7)	1088-1090
8	Dr. L. Jeyanthi Rebecca	Isolation of Pseudomonas aeruginosa from Quarry Sand	Journal of Chemical and Pharmaceutical Research	2018	10(1)	6-8
9	Dr. L. Jeyanthi Rebecca	Optimization of protease enzyme production by marine actinomycetes	Int J Pharma Bio Sci	2017	8	188-194
10	Dr. L. Jeyanthi Rebecca	Antimicrobial Activity of Marine Actinomycetes against Human Pathogenic Bacteria	Pharm. Sci. & Res.	2017	9(11)	2086-2088

b) Principal Investigator

S.No	Author names	Title of paper	Name of Journal	Vol (issue)	Page no.	Year
1.	Kowsalya,E., Sharmila,S., JeyanthiRebecca,L., Yogasri,K	Ground nut shell and spent tea: An Eco friendly low cost adsorbent	International Journal of Pharmaceutical Sciences Review and Research	31(1):	132-134	April, 2015
2	Kowsalya,E., Sharmila,S., JeyanthiRebecca,L.,	Evaluation of efficiency in congored dye removal – By Casurina leaves in two different approach	Der Pharmacia Letter	8(4)	324-330	2016

9. Budget

Sl. No.	Equipment	Quantity	Amount in INR
1	Furnace	1	10,000
	Rotary shaker	1	20,000
	Waterbath	1	10,000
	Colorimeter	1	10,000
	Centrifuge	1	15,000
2	Consumables (Like, testing tools Charge controller, etc.)	As per requirement	20,000
3	Travel support for the purpose of research work.	---	5,000
4	Contingency	---	5000
5	Others	---	5000
	Total		1,00,000

10. Name of at least two subject experts from the Institute and one from the outside Institute with their contact details:

a) Dr.S.Sharmila – Associate Professor, Dept of IBT, BIHER, Chennai-600073.

b) Dr. S. Subhashini– Assistant Professor, Dept of Biotechnology, SRM Institute of Science and Technology, Chennai.

CERTIFICATE FROM THE INVESTIGATOR

Project Title: Synthetic Waste water treatment by a Novel Adsorbent

It is certified that

1. I do hereby agree to submit a complete proposal for financial support to the external funding agency within the time period of SMS-2018

2. I undertake that spare time on equipment procured in the project will be made available to other users.

3. I agree to submit a certificate from Institutional Biosafety Committee, if the project involves the utilization of genetically engineered organisms. I also declare that while conducting experiments, the Biosafety Guidelines of Department of Biotechnology, Department of Health Research, GOI would be followed in to.

4. I agree to submit ethical clearance certificate from the concerned ethical committee, if the project involves field trials/experiments/exchange of specimens, human & animal materials etc.

5. I agree to abide by the terms and conditions of SMS-2018, BIHER, and Chennai.

Name and signature of
Principal Investigator

Name and signature of
Co-Principal Investigator

Date: 29.08.2018
Place: Chennai - 73

Forwarded by Head of the Department

Signature of the Head

PROJECT EVALUATION FORMAT

Recommendation Sheet

Name of the Principal Investigator	Ms.E.Kowsalya
Name of the Co-Investigator	Dr.L.Jeyanthirebecca
Name of the Department	IBT
Title of project	Synthetic Waste water treatment by a Novel Adsorbent
Recommendation of the evaluation committee	Recommended
Financial allocation recommended	Rs. 1,00,000/-

Sl. No.	Equipment	Quantity	Amount in INR
	Furnace	1	10,000
	Rotary shaker	1	20, 000
	Waterbath	1	10, 000 10,000
	Colorimeter	1	10,000
	Centrifuge	1	15,000
2	Consumables (Like, testing tools Charge controller, etc.)	As per requirement	20,000
3	Travel support for the purpose of research work.	---	5,000
4	Contingency	---	5000
5	Others	---	5000
	Total		1,00,000

Name and Signature of the Research Advisory Committee members with date

Dr. P. Naveenchandran

BIHER Chennai IQAC Quality Assurance