



PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, Accredited by National Board of Accreditation and NAAC, Affiliated to Anna University)

NH 544, Avinashi Road, Kaniyur, Coimbatore – 641 659. Ph: 0421 2911200, 2910100

Email : info@park.ac.in Web : www.pcet.ac.in

S. No.	Reg. No.	Student Name	year	project work	mini project	internship (virtual)	field list
1	712218212001	Aartheeshwari K	IV	✓			
2	712218212002	Annapoorani M	IV	✓			
3	712218212003	Arun Mohanavel P	IV	✓			
4	712218212004	Aswin Y	IV	✓			
5	712218212005	Hari Ram G	IV	✓			
6	712218212006	Harishwar M	IV	✓			
7	712218212007	Imroze Y	IV	✓			
8	712218212008	Jai Kishore K M	IV	✓			
9	712218212009	Karthick B	IV	✓			
10	712218212010	Loganathan V	IV	✓			
11	712218212012	Manikandan M	IV	✓			
12	712218212014	Mithul Sankar P V	IV	✓			
13	712218212015	Mohan Babu L	IV	✓			
14	712218212016	Nandha Kumar M	IV	✓			
15	712218212018	Pachainathan K	IV	✓			
16	712218212020	Pradeepraj K	IV	✓			
17	712218212021	Ragavan K	IV	✓			
18	712218212022	Rohithkumar K	IV	✓			
19	712218212023	Sandhiya S	IV	✓			
20	712218212025	Sanjaykanth S	IV	✓			
21	712218212027	Sathishkumar R	IV	✓			
22	712218212028	Sindhuja K	IV	✓			
23	712218212029	Sivabalan S	IV	✓			
24	712218212030	Tharani Priya S P	IV	✓			
25	712218212031	Tharan Kumar S	IV	✓			
26	712218212301	Sathishkumar N	IV	✓			
27	712218212302	Kannankumar L	IV	✓			
28	712218212303	Sivamani S	IV	✓			





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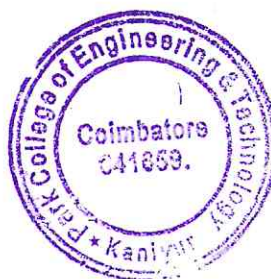
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TEXTILE TECHNOLOGY

PROJECT LIST (2018-2022)

S.NO.	REG. NO.	NAME OF THE STUDENTS	TITLE OF THE PROJECTS	NAME OF THE SUPERVISOR
1.	712218212001	Aartheeshwari K	Development of Wound Healing Cotton Fabric Finished With Herbal Extract	Ms. R.Suganya, M.Tech
	712218212003	Arun Mohanavel P		
	712218212012	Manikandan M		
	712218212025	Sanjaykanth S		
	712218212027	Sathishkumar R		
2.	712218212008	Jai Kishore K M	Comfort properties of cotton and viscose in Interlining fabric	Ms. R.Suganya, M.Tech
	712218212016	Nandha Kumar M		
	712218212028	Sindhuja K		
	712218212029	Sivabalan S		
	712218212025	Sanjaykanth S		
3.	712218212021	Ragavan K	Oil Spills Clean-Up by Structured Recycle Woolen Fabric Based Non-Woven	Dr. K.Rajendrankumar, M.Tech., Ph.D.
	712218212031	Tharan Kumar S		
	712218212302	Kannankumar L		
	712218212303	Sivamani S		
4.	712218212004	Aswin Y	A study on use of used polyester fabrics as soil cover in Agriculture	Mr. J.Veera Prabhakar, M.Tech., Ph.d.
	712218212012	Manikandan M		
	712218212015	Mohan Babu L		
	712218212023	Sandhiya S		
5.	712218212007	Imroze Y	Study and development of Non woven using different blend ratio of pigeon pea with natural, synthetic and Regenerated fibre for Thermal insulation and sound proof	Mr. J.Veera Prabhakar, M.Tech., Ph.d.
	712218212018	Pachainathan K		
	712218212020	Pradeepraj K		
	712218212022	Rohithkumar K		
6.	712218212002	Annapoorani M	Study and Development of Non-woven textile composites for Thermal Resistant Sound Proof Materials	Mr. J.Veera Prabhakar, M.Tech., Ph.d.
	712218212006	Harishwar M		
	712218212009	Karthick B		
	712218212010	Loganathan V		
	712218212018	MohamedRizwan G		
7.	712218212005	Hari Ram G	Processing Optimisation for Eco friendly herbal dyeing of textiles	Dr. K.Rajendrankumar, M.Tech., Ph.D.
	712218212014	Mithul Sankar P V		
	712218212030	Tharani Priya S P		
	712218212301	Sathishkumar N		




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**DEVELOPMENT OF WOUND HEALING
COTTON FABRIC
FINISHED WITH HERBAL
EXTRACT**



A PROJECT REPORT

Submitted by

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ARUN MOHANAVEL.P	712218212003
SANJAY KANTH.S	712218212025
SATHISHKUMAR.R	712218212027
MANIKANDAN.S	712217212015

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degree of*

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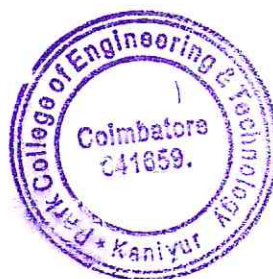
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TEXTILE TECHNOLOGY

PARK COLLEGE OF ENGINEERING AND TEKHNOLGY

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**ANNA UNIVERSITY::CHENNAI 600 025
APRIL 2022**




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BONAFIED CERTIFICATE

Certified that this project report **"DEVELOPMENT OF WOUND HEALING COTTON FABRIC FINISHED WITH HERBAL EXTRACT"** is the bonafide work of **"AARTHEESHWARI.K, ARUN MOHANAVEL.P, SANJAY KANTH.S, SATHISHKUMAR.R, MANIKANDN.S"** who carried out the project work undermy supervision.


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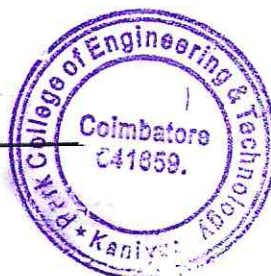

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Submitted for the Project review held on 21.06.2022


INTERNAL EXAMINER

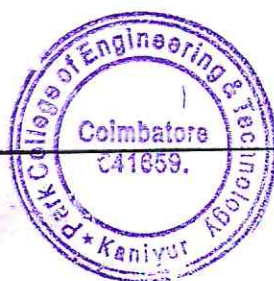

EXTERNAL EXAMINER




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ABSTRACT

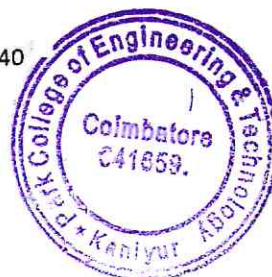
Wounds are inescapable events in life. Wounds may arise due to physical, chemical or microbial agents. Healing is survival mechanism and represents an attempt to maintain normal anatomical structure and function. Wound healing is a process by which tissue regeneration occurs. Plants and their extracts have immense potential for the management and treatment of wounds. The phytomedicines for wound healing are not only cheap and affordable but are also purportedly safe as hyper sensitive reactions are rarely encountered with the use of these agents. These natural agents induce healing and regeneration of the lost tissue by multiple mechanisms. In this day-to-day life, nearly one-third of the world population depends upon the herbal medicine. In this project, we have made an attempt to prepare wound healing cotton fabric using *Tridax procumbens* and *Curcuma Longo*.





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5. COUNCLUSION

In this project, we have proposed a process of developing a woven woundcare material using the mixture of Tridax and curcuma longa. It have the tendency to heal the wounds. The woven cotton fabric is treated with the mixture of Tridax procumbens and curcuma longa can prevent the wound from micro-organisms and enhances the wound healing process. The mixture has the ability to promote rebuilding of cells in the skin. Thus the results carried out shows that the woven material developed using the mixture of Tridax procumbens and curcuma longa can heal the wounds effectively.




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COMFORT PROPERTIES OF COTTON AND VISCOSE IN INTERLINING FABRIC



A PROJECT REPORT

Submitted by

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BACHELOR OF TECHNOLOGY

in

TEXTILE TECHNOLOGY

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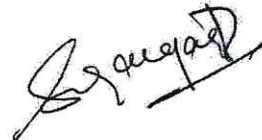
ANNA UNIVERSITY: CHENNAI 600 025

BONAFIED CERTIFICATE

Certified that this project report "**COMFORT PROPERTIES OF COTTON AND VISCOSE IN INTERLINING FABRIC**" is the bonafide work of "**JAI KISHORE.K , NANDHA KUMAR.M, SINDHUJA.K, SIVABALAN.S, SANJAY KUMAR.M** " who carried out the project work undermy supervision.



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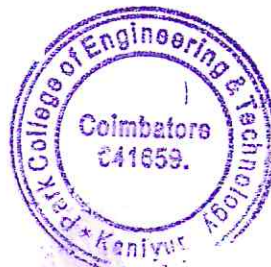

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INTERNAL EXAMINER


EXTERNAL EXAMINER



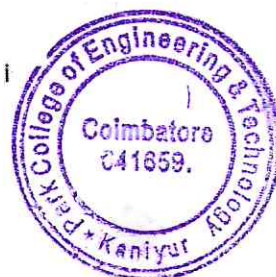

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Abstract

Development of this antimicrobial interlining fabric for helmet remain mandatory in today's competitive and fast growing technical world since our government is imposing the need of safety through implementation of strict rules that all motor cycle riders wear helmet and it's our duty that we should wear helmet.

Hygienic helmet is main to protect us in all basis. The interlining fabric improves higher level of quality in a helmet In this project we used our study for applying extraction of herbal finish on cotton and viscose fabrics through Pad Dry Cure method.

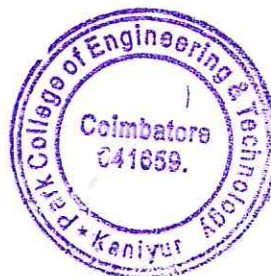
The treated samples are subjected to color fastness to perspiration, Antimicrobial test, Pilling test, Fabric Strength, pH analysis. The treated samples (unwashed) show a very good zone of Bacteriostatics against identified microbes. The test samples also has good antimicrobial activity, perspiration fastness, and pH level.




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4.7 CONCLUSION

- The extraction of mint is processed in both the fabrics using padding method
- Thus the herbal treated viscose fabrics shows very good resistance when compared to herbal treated cotton fabrics. Hence the color fastness to perspiration works well in herbal treated cotton and viscose fabrics.
- Thus the herbal treated viscose sample shown best pilling grade when compared to cotton sample. Hence the herbal treated viscose showed the best pilling grade which is acceptable according to the interling requirements.
- Thus both the treated fabrics shows 99.9% reduction of bacteria hence both the treated fabrics has very good antimicrobial activity.
- Thus the cotton fabric shows poor results when compared to viscose fabric
- **Viscose** fabric is good in comfort properties of interlining of helmet.





**OIL SPILLS CLEAN-UP BY STRUCTURED
RECYCLED WOOLEN FIBRE BASED
NON-WOVEN**



A PROJECT REPORT

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of

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in

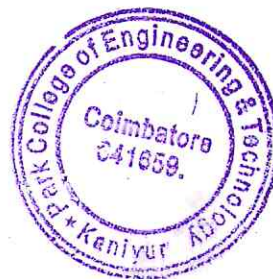
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BONAFIDE CERTIFICATE

Certified that this project report "OIL SPILLS CLEAN-UP BY
STRUCTURED RECYCLED WOOLEN FIBRE BASED NON-WOVEN"
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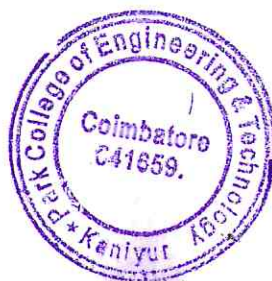
Submitted for the project review held on 21.06.2022



INTERNAL EXAMINER



EXTERNAL EXAMINER



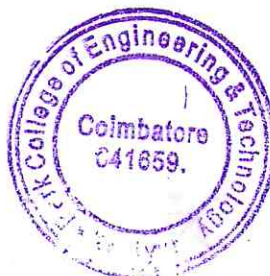
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ABSTRACT

The aim of this study was to highlight the possibility of using recycled wool-based nonwoven material as a sorbent in an oil spill clean-up. This material absorbs higher amounts of diesel from the surface of a demineralized or artificial seawater bath. Superficial modification of material with the low-temperature air plasma led to a slight decrease of sorption capacity. Loose fibres of the same origin as nonwoven material have significantly higher sorption capacities than investigated nonwoven material. Recycled wool-based nonwoven material showed good sorption properties and adequate reusability, indicating that a material based on natural fibres could be a viable alternative to commercially available synthetic materials that have poor biodegradability. That's why we are taking recycled wool fibres for this project.

Crude Oil is one of the major sources of energy in the modern industrial world and transported from the many production facilities to various countries across the globe through oceans and inland transport. During transportation, the containers may get damaged by natural calamity or by other threats causing environmental pollution. Sorbents made from mechanically bonded nonwoven assembly are found to be the best material to clean oil spills. The oil sorption and retention behaviour of sorbents are influenced by the body and structure of the sorbent and oil physical characteristics.

For the sustainable environment, replacing the synthetic sorbents with recycled natural fibres is a viable alternative. In this context the naturally available bio-degradable materials have greater potential than the synthetic ones. It is verified and validated by tests that recycled wool based nonwoven is superior to their synthetic counterpart.

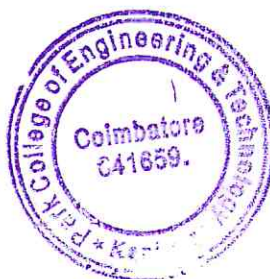


CHAPTER 5

CONCLUSION

The obtained results suggest that recycled wool is a good candidate for the clean-up process of marine oil spill, competitive with other synthetic sorbents normally used. Oil uptake is rapid even at 2 min where oil sorption capacity was 19.960 g oil/ g sorbent for 2 min draining time and retains oil for long time. In this way, an effective cleaning of sea surface can be coupled with the revaluation of a sheep breeding waste, suitable for the purpose thanks to its **Hydrophobic** and **Oleophilic** behaviour. Satisfactory performance was found both on laboratory test and on the scaled-up prototype: dirt grade of the wool, contact area, contact time and contact angle between wool and oil and ship speed were identified as the crucial parameters for the optimization of the process. Promising results can encourage deeper research on the topic and the real application of the tested device on a suitable ship.

The kapok fiber nonwovens exhibited poor breaking strength and hence they may fail during usage. These findings indicate that the natural fiber nonwovens with improved strength must be developed as oil sorbents for oil spill removal application.




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**A STUDY ON USE OF USED POLYESTER
FABRICS AS SOIL COVER IN
AGRICULTURE**



A PROJECT REPORT

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Of

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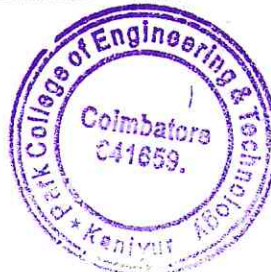
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BONAFIDE CERTIFICATE

Certified that this project report "A STUDY ON USE OF USED POLYESTER FABRICS AS SOIL COVER IN AGRICULTURE" is the bonafide work of "ASWIN.Y, MANIKANDAN.M, MOHAN BABU.L, SANDHIYA.S" who carried out the project work under my supervision

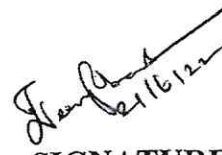


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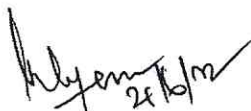
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INTERNAL EXAMINER



EXTERNAL EXAMINER



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ABSTRACT

Agriculture is the oldest occupation of mankind. People have been involved in this profession. since the beginning of creation and it is still one of the largest global industries

The new field that has been created as a result of the combination of textile technology and Agriculture is known as Agro Textiles or Agro-tech

This project is about a compare study between polythene sheet (Mulch sheet) and used polyester sarees for study the seed growth and soil condition.

As per survey and knowledge, use of seeds likely to affect the soil health due, to lake of air circulation, resulting in crop starving for nutrients.

According to that, we applied used sarees which are more porous but also durable and flexible and, help to forming good bacteria and weed control.

In Agriculture field using of polythene sheet (Mulch sheet) causes loss of soil quality and only have limited air supply Which leads to death of earth worms. using of poly sarees all those things can be avoided.

It was observed from the study that the crop growth rate and yield seems to be better when compared to polythene sheet



CHAPTER 5

CONCLUSION

In this project we have used polythene sheet and polyester sarees. the soil report and nutrients, used polyester sarees are comparatively better than in polythene sheet (mulch sheet).

The need to weed out as well as necessity of excess water can be greatly reduced because of polyester sarees. The net outcome of this idea is to have a good revenue or income without causing any damage to the ecology for our blue planet.

Polyester sarees as an alternate of polythene sheet in agriculture field polyester sarees increases the yield of the vegetable and control of weeds. the strength of the soil and saves the life of the earth worm it can be concluded that the polyester sarees improves the yield in the agriculture farm. As a final remark, improvising the farming ideologies with the development of technologies. Along with it, the concept of reusing used polyester sarees makes is cost effective and improve the yield thus increasing the revenue of farmers




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**STUDY AND DEVELOPMENT OF NONWOVEN
USING DIFFERENT BLEND RATIO OF PIGEON
PEA WITH NATURAL, SYNTHETIC AND**



**REGENERATED FIBRE FOR THERMAL INSULATION AND
SOUND PROOF**

A PROJECT REPORT

Submitted by

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PRADEEPRAJ K	712218212020
ROHITH KUMAR K	712218212022

*In partial fulfilment for the award of the degree
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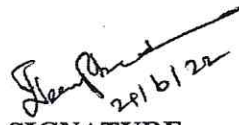
Certified that this project report "STUDY AND DEVELOPMENT OF NONWOVEN USING DIFFERENT BLEND RATIO OF PIGEON PEA WITH NATURAL SYNTHETIC AND REGENERATED FIBRE FOR THERMAL INSULATION AND SOUND PROOF" is the bona-fide work of "ROHITHKUMAR.K, PRADEEPRAJ.K, PACHAINATHAN.K, IMROZE.Y" who carried out this project work under my supervision.


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SUPERVAISOR

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Submitted for the project review held on 21.06.2022


INTERNAL EXAMINER

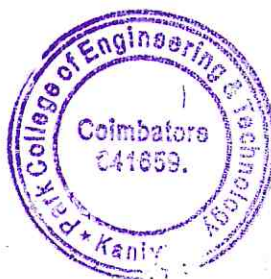

EXTERNAL EXAMINER




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ABSTRACT

Nonwoven fabric formation is highly emerging technology for production of cheapest material of textile for different purposes. Nonwovens used in garments, home textiles, decorative purposes and technical textiles with their own performance requirements which will be discussed in this paper. In recent days, many developments done in non-woven. Non-woven has loose construction and also increase in GSM for our requirement. In market rock wool has mostly used for producing thermal and sound proofing composites. It has effective property but it's too costlier. In this study we have chosen pigeon pea fibre, alternative for rock wool. This fibre is extracted from the stem of the plant. After extraction fibre we have to study about basic fibre properties such as strength, length elongation, lignin content and moisture absorption, moisture value. Pigeon pea fibre also have sound and thermal proofing properties. After that the fibre is blend with natural fibre(cotton), synthetic(polyester), regenerated(viscose) in different blend ratio. Then the fibre is converted into a web by carding mechanism. After that, By using needle punching method the web converted as a non-woven.



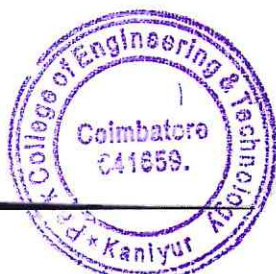

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CHAPTER 5

CONCLUSION

The obtained results suggest that blended non-woven of pigeon pea material shows good thermal insulation and acoustic proofing properties. In this project pigeon pea fiber is blended with three different fibers which are natural, synthetic and regenerated fiber with three different blend ratio to obtain non -woven material. The Non -Woven material which is mainly prepared for the use of sound proofing resistance and thermal properties. Bulky, fibrous, porous nonwoven structures are widely used as sound absorbers for variety of applications for instant building and automotive insulations, machine insulations, etc. The fibers interlocking in non woven are the frictional elements and provided resistance to acoustic wave motion. These finding indicate that the pigeon pea fibre non-woven shows improved thermal insulation and acoustic proofing resistance. It can be concluded that thermal and acoustic insulation materials based on natural and synthetic fibres are suitable for use in civil engineering. Their thermal-technical properties are similar to conventional insulations.

From above test results shows that the sample material S4PP/N have good thermal conductivity. The sample S6PP/N have good thermal insulation. The sample S9C/N have more sound adsorption co-efficient. The sample S9C/N has more sound resistance.




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**STUDY AND DEVELOPMENT OF
NON-WOVEN TEXTILE COMPOSITES FOR
THERMAL RESISTANT SOUND PROOF
MATERIALS**



A PROJECT REPORT

Submitted by

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MOHAMMED RIZWAN G	712217212018

In partial fulfilment for the award of the degree

Of

BACHELOR OF TECHNOLOGY

In

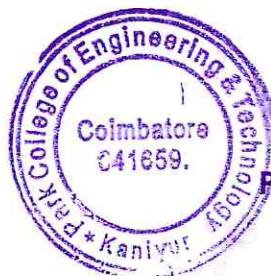
TEXTILE TECHNOLOGY


PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

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BONAFIDE CERTIFICATE

Certified that this project report "STUDY AND DEVELOPMENT OF NON-WOVEN TEXTILE COMPOSITES FOR THERMAL RESISTANT SOUND PROOF MATERIAL" is the bonafide work of "ANNAPOORANI.M, HARISHWAR.M, KARTHICK.B, LOGANATHAN.V, MOHAMMED RIZWAN.G" who carried out this project work under my supervision.


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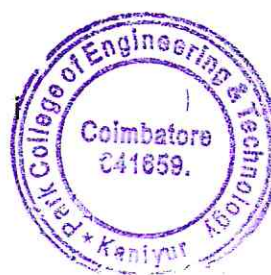
Technology, Kaniyur,


Coimbatore – 641 659.

Submitted for the project review held on 21.06.2022


INTERNAL EXAMINER


EXTERNAL EXAMINER




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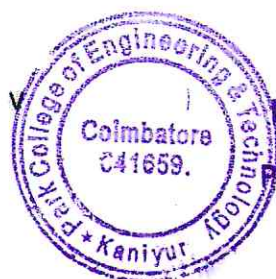
ABSTRACT

According to research survey, pigeon pea fibre is a natural fibre widely cultivated in tropical region. The stem is used as firewood or simply goes as waste. As per study, the fibres were extracted mechanically from the stem of pigeon pea stem by using some machine specially designed for the purpose.

After extraction of fibre, tests were conducted to measure basic fibre properties such as strength, length, elongation, lignin content and moisture absorption, moisture value. These fibres were then blended with other fibres like cotton, poly propylene, and viscose rayon.

Regenerated fibre (viscose) and pigeon pea fibre in different blend ratios of 20:80, 50:50, 65:35 were made into nonwoven by using the needle punching mechanism.

The nonwoven blends were converted into composites in sheet form by using epoxy resin as matrix material and tested for its thermal and sound resistant properties.




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CHAPTER 5

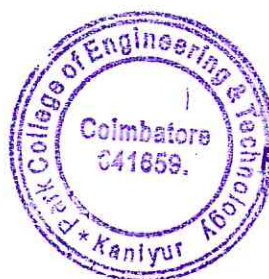
CONCLUSION

Thickness of material S6(PP/N) is much greater compared to thickness of material S9(C/N).

Sound Absorption coefficient of material S4(PP/N) is much greater compared to Sound Absorption coefficient of material S9(C/N).

The obtained results suggest that blended non-woven of pigeon pea material shows good thermal insulation and acoustic proofing properties. In this project pigeon pea fiber is blended with three different fibers which are natural, synthetic and regenerated fiber with three different blend ratio to obtain non - woven material. The Non -Woven material which is mainly prepared for the use of sound proofing resistance and thermal properties. Bulky, fibrous, porous nonwoven structures are widely used as sound absorbers for variety of applications for instant building and automotive insulations, machine insulations, etc. The fibers interlocking in non woven are the frictional elements and provided resistance to acoustic wave motion. These finding indicate that the pigeon pea fibre non-woven shows improved thermal insulation and acoustic proofing resistance. It can be concluded that thermal and acoustic insulation materials based on natural and synthetic fibres are suitable for use in civil engineering. Their thermal-technical properties are similar to conventional insulations.

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**PROCESS OPTIMISATION FOR ECO
FRIENDLY HERBAL DYEING OF
TEXTILES**



A PROJECT REPORT

Submitted by

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of

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in

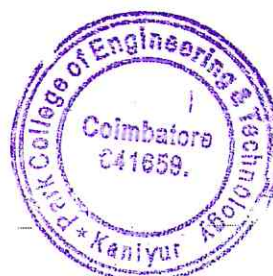
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BONAFIDE CERTIFICATE

Certified that this project report " **PROCESS OPTIMISATION FOR ECO FRIENDLY HERBAL DYEING OF TEXTILES** " is the bonafide work of "HARI RAM.G , MITHUL SANKAR.P.V , THARANI PRIYA.S.P , SATHISH KUMAR.N , DHAVASEELAN.R " who carried out this project work under my supervision.


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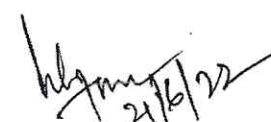
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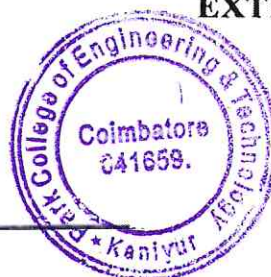
Technology, Kaniyur,

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Submitted for the project review held on 21-06-2022


INTERNAL EXAMINER

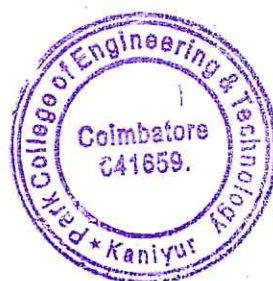

EXTERNAL EXAMINER




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ABSTRACT

In this project, an attempt was made to develop and optimise the process of dyeing textiles using herbal extracts. The aim of herbal dyeing of fabric is to capitalise eco-friendly and sustainable nature of colourants for dyeing. A mixture of three herbal extracts was applied on to fabrics after scouring. Scouring was carried out by treating the fabrics in a hot bath containing natural agents like soap nut and ash water. The Triphala, Turmeric and Haritaki (mordant) were used for herbal dyeing process. The herbs Triphala and turmeric are taken in the form of powder and Haritaki (mordant) fruit is taken without seed. The herbs were mixed in the form of Kashaya for dyeing process. The dyeing is done in semi-automatic winch machine. The Dyed fabric were tested for Colour Fastness (Rubbing, Washing, Perspiration and Light), Anti-microbial test and Heavy metals test. The dyed fabrics demonstrated good fastness properties except for perspiration, very good antibacterial properties and heavy metal content was nil. It is established that by optimising the process conditions, eco-friendly wet processing of textiles is possible and suitable modifications can be made to scaleup production rates.




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CHAPTER 5

CONCLUSION

In this project, herbal dyeing is opted not only for the antimicrobial property or heavy metals existence, but also for the eco-friendly and sustainable herbal dyeing process. The entire wet processing cycle including preparatory utilised only substances derived from herbal plants which results in reduced pollution. The herbs that are used for the dye preparation like Turmeric, Triphala, Soap nut solution, Haritaki and combination product called kashayam are eco-friendly herbal dye. The taken colorant and mordant naturally contains anti-microbial properties . From the result that Colour fastness to laundering ,colour fastness to light and colour fastness to rubbing (when it is dry) were Good whereas colour fastness to rubbing (when it is wet) and colour fastness to perspiration, the result is good for change in colour. However, perspiration fastness to Staining is poor for both acid and alkaline especially on cotton component of multi fibre fabric. The Fabric has excellent anti-microbial properties. The heavy metal test shows that has no harm to skin and environment. The fabric can be used in healthcare and hygiene as it inhibits microbial contamination. No hazardous heavy metal particles were detected in the tested fabric which indicates that the fabric is not harmful to wear. Besides the effluent of the process contain no harm full chemicals and hence the waste water discharge can be used for watering the agricultural fields.

