



**SARAH TUCKER COLLEGE (Autonomous), TIRUNELVELI -7**  
**Performance Appraisal for Faculty (2020 – 2021)**



<b>Name</b>	<b>J. Shakina</b>
<b>Designation</b>	<b>Assistant professor</b>
<b>Department</b>	<b>Chemistry</b>

**I. TEACHING, LEARNING AND EVALUATION RELATED ACTIVITIES**

**I.a. Courses Taught**

S.No.	Semester	Course / Paper		Teaching hours	
				Class	Lab
I	2020 - 2021	ODD Semester PHYSICAL CHEMISTRY -III 18-3PCY09	PG	2	
		PHYSICAL CHEMISTRY PRACTICALS	PG		3
		ELECTROCHEMISTRY AND SPECTROSCOPY II 18-5CYE1	UG	3	
		ALIIED PRACTICALS Group B botany	UG		2
		INORGANIC QUALITATIVE ANALYSIS 185CYL6	UG		2

		ALLIED CHEMISTRY-181CYA1 I BOTANY	UG	3	
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S.No.	Semester	Course / Paper		Teaching hours	
				Class	Lab
I	2020 - 2021	<b>EVEN Semester</b> PHYSICAL CHEMISTRY -IV 18-4PCY12	PG	2	
		<b>ELECTIVE NANO CHEMISTRY 184CYE4</b>	PG	2	
		PHYSICAL CHEMISTRY PRACTICALS	PG		3
		CORE11 PHYSICAL CHEMISTRY 186CY11	UG	3	
		ALIIED PRACTICALS Group B botany	UG		2
		INORGANIC QUALITATIVE ANALYSIS 185CYL6	UG		2
		SKILL BASED ELECTIVE POLYMER CHEMISTRY 184CYSB2	UG	2	
		Sub Total		<b>15</b>	

**I. b. Use of Participatory and Innovative Teaching-Learning Methodologies, Update of Subject Content.**

S.No.	Year	Brief Description	API Score
1	2020 - 2021	<b>Teaching-Learning Methodologies- PPT</b> SINCE ALL CLASSES ARE ON ONLINE ALL SUBJECTS WERE TAUGHT THROUGH PPTS AND VIDEOS-evidence enclosed	<b>10</b>
2		<b>Subject e-Content: -</b> <i>An e-content was prepared for the students and uploaded in the Google classroom for reference for III Year UG and II PG chemistry</i> <i>E-content Titled-</i>	<b>10</b>
3		<b>Feedback</b> Feed back submitted to IQAC	<b>5</b>

**I.c. Examination-related Duties Assigned and Performed**

S.No.	Year	Nature of examination related work	Actual number of days performed	API Score
1		Internal invigilator for all the CIA Exams	12	<b>10</b>
		External Invigilation for End semester Examinations for online practical exams	2	<b>10</b>
				<b>20</b>

<b>Total API Score (maximum 25 points/year)</b>		
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**II.CURRICULAR/ CO-CURRICULAR/ EXTRA-CURRICULAR/ EXTENSION AND PROFESSIONALDEVELOPMENT  
RELATED ACTIVITIES**

Please mention your contribution to any of the following:

Year	Type of Activities performed	API score
<b>2020 - 2021</b>	1. Designing Curriculum	
	Department of Chemistry	15
	<b>Total API Score (maximum 15 points/year)</b>	
	2. Participation in seminars / conferences / workshops	
	Participated in 2 days lecture workshop on “Chemistry for Sustainable planet” sponsored by Indian science academics Department of Chemistry KEC Erode	5
	<b>Total API Score(maximum 5 points/ year)</b>	
	3. Presentation in seminars / conferences / workshops	
	<b>Presented a paper titled Natural fibre reinforced polymer composite.A Comparison and mechanical characterization in National conference on Modern emerging trends :Future of chemical sciences (MET-FCS-2021) held on 23<sup>rd</sup>-24thApril,2021 at Department of Chemistry,Chandigarh University Punjab</b>	10
	<b>Total API Score(maximum 10 points/ year)</b>	
	4. Involvement in club activities	

In charge of IPR cell and published 3 patents	10
<b>Total API Score(maximum 10 points/year)</b>	
5. Headship in the Department	
<i>(Only for HOD)</i>	
<b>Total API Score(maximum 10 points/year)</b>	
6. Administrative positions held in the College	
Placement officer	15
<b>Total API Score(maximum 15 points/year)</b>	
7. Short duration courses attended	
<ol style="list-style-type: none"> <li>1. MOOCs on Designing E-Content by ICAR-National Academy of Agricultural Research Management, Hyderabad from 1.07.2020 to 31.07.2020.(31 days)</li> <li>2. Online UGC- sponsored Short Term Course (STC) on "Challenges in discovery of anti viral agents and vaccines" held from 08/06/2020 to 13/06/2020 by <b>UGC HRDC</b> Jawaharlal Nehru Technological University, Hyderabad. (7 days)</li> <li>3. Online UGC-sponsored Short Term Course (STC) on" MOOCs, e-Content Development and Open Educational Resources" held from 13/07/2020 to 18/07/2020 by <b>UGC HRDC</b> Jawaharlal Nehru Technological University, Hyderabad. (6 days)</li> <li>4. Two weeks Faculty Development Programme on MANAGING ONLINE CLASSES and CO-CREATING MOOCS:2.0" from May 18 - June 03, 2020 by Ramanujan College, New Delhi sponsored by MHRD (16 days).</li> </ol> <p>Two weeks inter disciplinary refresher course on MANAGING ONLINE CLASSES and CO-CREATING MOOCS:5.0" from May 11 – May 25, 2021 by Ramanujan College, New Delhi sponsored by MHRD (15 days).</p>	

	<b>Total API Score(maximum 15 points/year)</b>	15
	8.Designing curriculum of other institutions	-
	<b>Total API Score(maximum 20 points/year)</b>	
	9.Question Setting / Evaluation	
	Acted as an external examiner for UG practicals and additional examiner for PG (Chemistry ) evaluation in Sadakathulla Appa College,Tirunelveli.	
	<b>Total API Score(maximum 20 points/year)</b>	20
	10.Others if any	
	<b>Acted As A Resource Person In The National Webinar On Nano Science And Nano Technology in Mangayarkarasi College for Arts and science Madurai on 16,12,2020</b>	
	<b>Acted as DC member for the student in the department of Chemistry Popes college Sawarpuram</b>	
	<b>Total API Score(maximum 25 points/year)</b>	25
	11. Social Activity	
	<i>Participated in the extension activity on OZONE DAY PROGRAMME conducted by chemistry department -</i>	
	<b>Total API Score (maximum 10 points/year)</b>	10

### III. RESEARCH SUPERVISION FOR ENRICHING KNOWLEDGE (including UG/PG /M.Phil. /Ph.D)

S.No	Semester	No. of Students (1 hour for 1 batch of students)	Category	API Score
		<b>5 students (2 batches)</b>	<b>PG</b>	<b>20</b>
	2021	Name	Reg No	Title of the paper
	202	M Pushpa Latha,	19PCH017	Synthesis and Comparative Study of Novel Cross Linked Bio Polymers From Neem Oil
		K Rashmi Savera	19PCH018	Synthesis and Comparative Study of Novel Cross Linked polymers From Neem Oil
		V Angel Emima	19PCH002	Green synthesis of Silver nanoparticles from Grapes (Vitis. Vinifera) fruit extract Characterisation of the particle and study of antibacterial activity
		T Jeba Suji	19PCH009	Green synthesis of Silver nanoparticles from Grapes (Vitis. Vinifera) fruit extract Characterisation of the particle and study of antibacterial activity
		Jeslin Renisha G.A	19PCH010	Green synthesis of Silver nanoparticles from Grapes (Vitis. Vinifera) fruit extract Characterisation of the particle and study of antibacterial activity
		<b>Ongoing 5</b>	<b>Ph.D</b>	<b>40</b>
		<b>API Score</b>	<b>60</b>	

#### IV: RESEARCH AND ACADEMIC CONTRIBUTIONS

##### A(i) Research papers published in Scopus/Refereed Journals

S.No	Title with page Nos.	Journal with ISSN & Publisher	Latest Impact Factor, if any	API Score
1	SYNTHESIS AND CHARACTERISATION OF NOVEL CROSSLINKED BIOPOLYURETHANE FROM COTTON SEED OIL AS ECO-FRIENDLY BIO-DEGRADABLE MATERIAL SUMATHI.S 1 , Dr. J. SHAKINA 2	Heterocyclic Letters Vol. 11  No.1 45- 52  Nov-Jan  2021 ISSN : (print) 2231–3087 / (online) 2230-9632 CODEN: HLEEAI <a href="http://heteroletters.org">http://heteroletters.org</a>	1.7	10
2	One-pot green synthesis of optical fluorescent sensor for selective detection of Ni <sup>2+</sup> ions and hydro gel studies	Optical Materials Volume 109, November 2020, 110444	2.7	10



**A (ii) Research papers published in Non-Refereed Journals**

<b>S.No</b> .	<b>Title with page Nos.</b>	<b>Journal with ISSN &amp;Publisher</b>	<b>Latest Impact Factor, if any</b>	<b>API Score</b>
1.	SYNTHESIS AND COMPARATIVE STUDY OF NOVEL CROSSLINKED BIOPOLYMERS FROM NEEMOIL	<i>Sarah research Journal</i>	-	<b>10</b>

**A (iii) Full Papers and Reviews in Conference Proceedings**

<b>S.No</b> .	<b>Title with Page Nos.</b>	<b>Details of Conference Proceedings/Presentation</b>	<b>ISBN/ISSN</b>	<b>API Score</b>
1	<b>Presented a paper titled Natural fibre reinforced polymer composite.A Comparison and mechanical characterization</b>	<b>National conference on Modern emerging trends :Future of chemical sciences (MET-FCS-2021) held on 23<sup>rd</sup>-24thApril,2021 at Department of Chemistry,Chandigarh University Punjab</b>		10
2	<b>Synthesis and Comparative Study of Novel Cross Linked Bio</b>	<b>National conference on Modern emerging trends :Future of chemical sciences (MET-FCS-2021) held on 23<sup>rd</sup>-24thApril,2021 at Department</b>		

	<b>Polymers From Neem Oil</b>	<b>of Chemistry, Chandigarh University Punjab</b>		
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**B (i) Indexing (Web of Science/Google Scholar/etc.)**

	<b>h-index</b>	<b>i-10 index</b>	<b>Citations</b>	<b>API Score</b>
1	16	22	745	<b>10</b>

**C (i) Ongoing Projects**

<b>S.No.</b>	<b>Title of Research Project</b>	<b>Major/Minor (as per UGC Project guidelines)</b>	<b>PI/ o-PI/ joint PI</b>	<b>Period</b>	<b>Total Grants sanctioned &amp; received (in rupees);</b>	<b>National/ International</b>	<b>API Score</b>
1	Dst fist for level 2 college	major	PI	2019-2024	50 lakhs	<b>National/</b>	<b>10</b>



List of patents published

**Name: Dr J.Shakina**

**Designation: Assistant professor**

**Department: Department of Chemistry and Research Centre**

**College: Sarah Tucker College (Autonomous), Tirunelveli-627007, Tamil Nadu.**

**Email ID:shakinajudson@gmail.com, shakina@sarahtuckercollege.edu.in**

**Contact Number:9384218533**

**Three patents Published in The Patent Office Journal**

**Name of inventor : Dr.J Shakina**



1. Title of the invention : A PROCESS OF SYNTHESIS OF POLY (NEEM TRIGLYCERIDE OIL FUMARATE) â€“MONOMER BASED POLYESTER AND PRODUCTS THEREOF

Patent No .202041049600 A.Date of filing of Application :13/11/2020

**The Patent Office Journal No. 47/2020 Dated 20/11/2020.**

**Name of Applicant and Inventor: Dr.J Shakina**

2. Title of the invention : A PROCESS OF SYNTHESIS OF POLY (NEEM TRIGLYCERIDE OIL FUMARATE) â€“MONOMER-NANO METAL OXIDE BASED POLYESTER AND PRODUCTS THEREOF. Patent No.202041049601 A, Date of filing of Application :13/11/2020.**The Patent Office Journal No. 47/2020 Dated 20/11/2020.**

**Name of inventor: Dr.J Shakina**

3. Title: "A PROCESS OF PREPARING ANTI-CANCER AND ANTI-TUBERCULAR ACTIVITIES EXHIBITING NOVEL BIS(PPTIDM) COBALT(II) AND RUTHENIUM (III)CHLORIDE AND PRODUCT THEREOF" Date of filing of Application :12/02/2021.

Patent No.202141004751 A **The Patent Office Journal No. 7/2021 Dated 12/02/2021**

**Location / Country:India**

**Publisher : The Patent Office Journal**

**Patent link: link for the patent: <https://ipindia.gov.in/journal-patents.htm>**

- a. The Patent Office Journal No. 47/2020 Dated 20/11/2020. 2.The Patent Office Journal No. 47/2020 Dated 20/11/2020. 3.The Patent Office Journal No. 07/2021 Dated 12/02/2021

**I hereby declare that the information given by me in this registration form is true and correct to the best of my knowledge. I understand and agree that any false information in the nomination form may lead to the cancellation of the award in future.**

**Signature**



(12) PATENT APPLICATION PUBLICATION

(21) Application No.202041049600 A

(19) INDIA

(22) Date of filing of Application :13/11/2020

(43) Publication Date : 20/11/2020

(54) Title of the invention : A PROCESS OF SYNTHESIS OF POLY (NEEM TRIGLYCERIDE OIL FUMARATE)  $\hat{\text{c}}$ MONOMER BASED POLYESTER AND PRODUCTS THEREOF

(51) International classification :A61K9/4816  
(31) Priority Document No :NA  
(32) Priority Date :NA  
(33) Name of priority country :NA  
(86) International Application No :NA  
Filing Date :NA  
(87) International Publication No : NA  
(61) Patent of Addition to Application Number :NA  
Filing Date :NA  
(62) Divisional to Application Number :NA  
Filing Date :NA

(71)Name of Applicant :  
**1)DR.PAUL MONEY THARMARAJ**  
Address of Applicant :ASSISTANT PROFESSOR  
RESEARCH CENTRE AND P.G DEPARTMENT OF  
CHEMISTRY THIAGARAJAR COLLEGE MADURAI TAM  
NADU INDIA 625009 Tamil Nadu India  
(72)Name of Inventor :  
**1)DR.PAUL MONEY THARMARAJ**  
**2)DR.JUSTUS SHAKINA**

(57) Abstract :

APPLICANT: DR.PAUL MONEY THARMARAJ TITLE: A PROCESS OF SYNTHESIS OF POLY (NEEM TRIGLYCERIDE OIL FUMARATE)  $\hat{\text{c}}$ MONOMER BASED POLYESTER AND PRODUCTS THEREOF ABSTRACT The present invention disclose a process of synthesis of poly (neem triglyceride oil fumarate)  $\hat{\text{c}}$  monomer based polyester and products thereof. The process of the present invention comprises of following reaction steps;  $\hat{\text{c}}$  preparation of hydroxylated neem oil comprising of mixing 100 mL of Triglyceride oil of neem oil and 100 mL of formic acid in a 1:1 ratio under vigorous stirring at 0  $\hat{\text{A}}$ °C followed by slowly adding 30 %, 55 mL of hydrogen peroxide under continues stirring for 24 hours with temperature maintained below 35  $\hat{\text{A}}$ °C to form a residue in which the residue is extracted thrice with 3 x 40 mL diethylether solvent and organic layer was separated and dried over anhydrous sodium sulphate and solvent was filtered and evaporated using rotaevaporator to isolate hydroxylated triglyceride oil  $\hat{\text{c}}$  preparation of poly (Neem triglyceride oil fumarate) polyester resin comprising of blending 100mL of the hydroxylated triglyceride oil with 49 gm, 0.5 mol of maleic anhydride in ambient temperature using overhead stirrer and heated to 70 oC for 2 hours followed by adding catalytic amount of morpholine base (3-4 drops) upon vigorous blending to form poly (Neem triglyceride oil fumarate) polyester resin;  $\hat{\text{c}}$  preparation of poly (neem triglyceride oil fumarate)  $\hat{\text{c}}$  monomer based polyester comprising of adding 10mL of the poly (Neem triglyceride oil fumarate) polyester resin with 10 mL of monomer in 1:1 equivalent ratio and treated with catalytic amount of benzoyl peroxide (60mg) as a free radical initiator and N,N-dimethylaniline (2-3 drops) as an accelerator followed by vigorous stirring for 10 min using over-head stirrer and poured in glass plate mold pre-coated with silicone oil in the size of 10 x 10 cm and after 5 hours, transparent polymer sheet comprising of poly (neem triglyceride oil fumarate)  $\hat{\text{c}}$  monomer based polyester was peeled off from the glass plate.

No. of Pages : 19 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202141004751 A

(19) INDIA

(22) Date of filing of Application :03/02/2021

(43) Publication Date : 12/02/2021

(54) Title of the invention : A PROCESS OF PREPARING NOVEL CURCUMIN-TRIAZINE BASED TRANSITION METAL COMPLEXES AND PRODUCTS THEREOF

(51) International classification	:C07F0015000000, B01J0037020000, B01J0037030000, H01M0004525000, B01J0031240000	(71)Name of Applicant : <b>1)DR.PAUL MONEY THARMARAJ</b> Address of Applicant :PG AND RESEARCH DEPARTMENT OF CHEMISTRY THIAGARAJAR COLLEGE MADURAI TAMIL NADU INDIA 625009 Tamil Nadu India
(31) Priority Document No	:NA	(72)Name of Inventor :
(32) Priority Date	:NA	<b>1)DR.PAUL MONEY THARMARAJ</b>
(33) Name of priority country	:NA	<b>2)LAZAR ALPHONSE</b>
(86) International Application No	:NA	<b>3)DR. CLARENCE DOROTHY SHEELA</b>
Filing Date	:NA	<b>4)DR. JUSTUS SHAKINA</b>
(87) International Publication No	: NA	
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :

APPLICANT: DR.PAUL MONEY THARMARAJ TITLE: A PROCESS OF PREPARING NOVEL CURCUMIN-TRIAZINE BASED TRANSITION METAL COMPLEXES AND PRODUCTS THEREOF ABSTRACT The present invention discloses a process of preparing anti-tubercular and anti-cancer activity exhibiting novel curcumin-triazine based transition metal complexes and products thereof. The process of the present invention comprises of following steps; a. preparing a starting compound PMHMDD comprising of reacting a mixture of curcumin and imidazole-3-carboxaldehyde in ethanol solution in presence of piperidine to form the starting compound PMHMDD; b. preparing a Ligand PPTIDM comprising of reacting a mixture of starting compound PMHMDD and 2,4-diamino-6-phenyl-1,3,5-triazine in ethanol in presence of piperidine to obtain the Ligand PPTIDM; c. preparing novel curcumin-triazine based transition metal complexes comprises of mixing the Ligand PPTIDM with a solution of anhydrous transitional metal salt solutions in the presence of ethanol to obtain the curcumin-triazine based transition metal complexes.

No. of Pages : 25 No. of Claims : 6

## **SARAH TUCKER COLLEGE (AUTONOMOUS), TIRUNELVELI - 7**

### **INNOVATIVE TEACHING TECHNIQUES DURING ONLINE COURSES (DURING LOCKDOWN)**

**Name of the Faculty:Dr J.Shakina**

#### **ONLINE INNOVATIVE TEACHING TECHNIQUES**

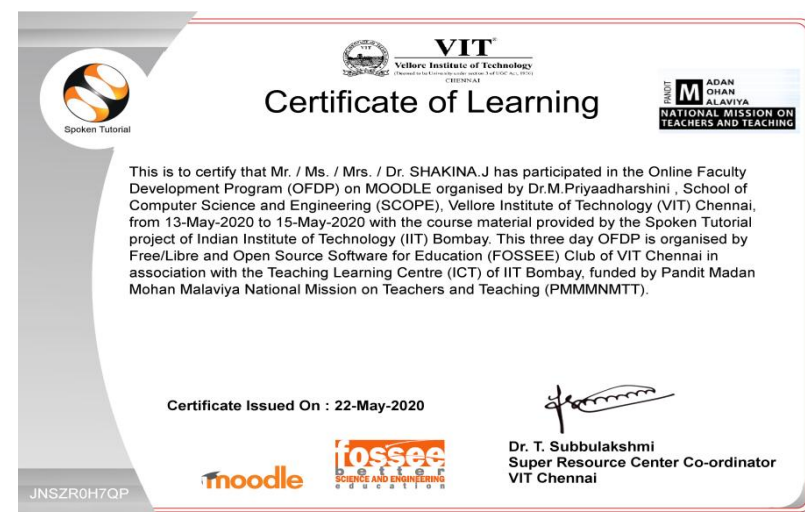
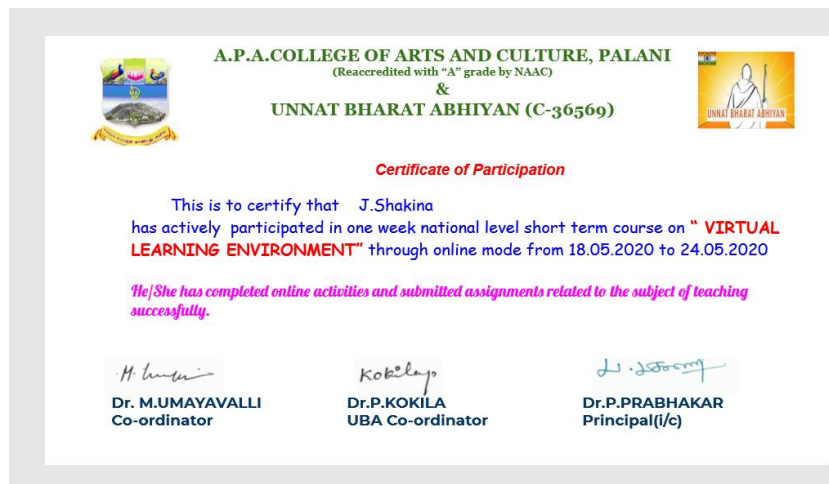
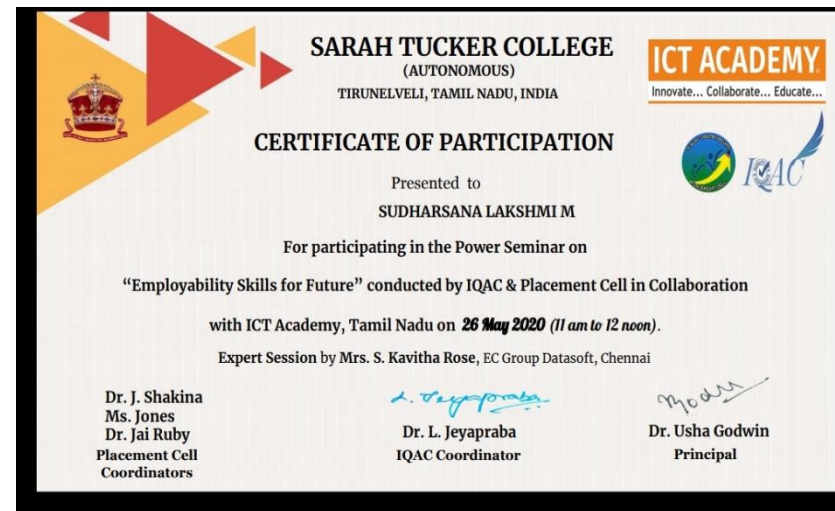
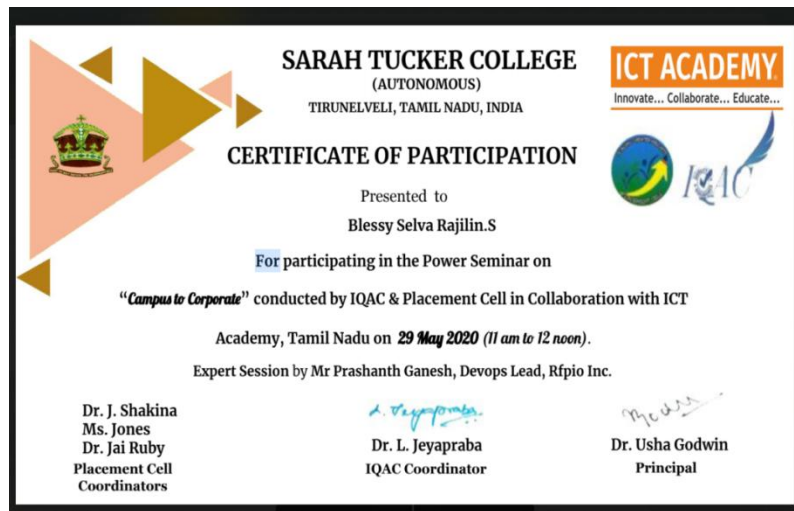
1. Conducting Online Classes through Google Class room For UG and PG Students.
  - Proof attached
2. Develop 2 MOODLE COURSE For ARTS AND SCIENCE UG STUDENTS on The topic CHEMISTRY IN EVERYDAY LIFE and CLINICAL CHEMISTRY and the registration is started
  - Proof attached
3. Creation of MOOC course NANO POLYMERS for PG students in Edu.next platform through the website CHEMLEARNING and the registration is started
  - Proof attached
4. Develop E content for the students and published in You tube channel
  - Proof attached
5. Attending online courses/FDP/QUIZ/Short term courses/webinars
  - Proof attached
6. Conducting online classes through ZOOM platform and GOOGLE MEET for UG and PG students
  - Proof attached
7. Question paper setting for Various Colleges
  - Proof attached



### Online courses/FDP/QUIZ/Short term courses/webinars

S.No	Name of the Staff	Training/FDP/Quiz/Seminar/Conference	Title of the Program	Organized Institution	Date (dd-mm-yy)	Organized/ Participated
1	J.Shakina	Power Seminar	Campus to corporate program	Placement cell and IQAC Sarah Tucker College, Tirunelveli	29.05.2020	Organized
2	J.Shakina	Power Seminar	Employability skills for future	Placement cell and IQAC Sarah Tucker College, Tirunelveli	26.05.2020	Organized
1	J.Shakina	Short Term Course	Virtual learning environment	APA College Of arts and Science Palani	18.5.2020 to 24.05 2020	Completed
2	J.Shakina	FDP	MOODLE	VIT Chennai	13.5.2020 to 15.5.2020	Completed
3	J.Shakina	FDP	Teaching Learning and Evaluation	APA college for women, Palani	4.05.2020-6.05.2020	Completed
4	J.Shakina	FDP	Nanomaterials for energy harvesting and biomedical applications	NPBLand GIET Andra Pradesh	18.5.2020 to 22.2.2020	Completed
5	J.Shakina	Online course	Vermiculture and vermicompost technology	APA college for Women, Palani	11.05.2020 to 13.05.2020	Completed
7	J.Shakina	Seven Days International Level FDP	New Paradigms on teaching	NGMC college .Coimbatore	22.05.2020-29.05.2020	Completed

8	J.Shakina	Online Course	MOOC2.0	MHRD and Ramanujam college Delhi	18.05.2020-5.06.2020	doing
8	J.Shakina	Webinar	Stress management	American College, Madurai	27.05.2020	<b>Participated</b>
	J.Shakina	Webinar	COVID 19 biblical perspective	WCC Chennai	1.06.2020	<b>Participated</b>
9	J.Shakina	Webinar	National level webinar on Principle and application of electronic spectroscopy	Annai College of Arts and science	07.05.2020	<b>Participated</b>
10	J.Shakina	Quiz	International level online quiz on Cope With Stress During Lock Down	Sri sarada College for women Salem	17.05.2020	<b>Participated</b>
11	J.Shakina	Quiz	Chemistry in Engineering	Department of Chemistry FX Engineering College	2.6.2020	<b>Participated</b>
12	J.Shakina	Quiz	COVID 19 awareness	Pavithra Insistute Of Medical Sciences	29.05.2020	<b>Participated</b>
13	J.Shakina	Test	Basis of IPR	Sarah Tucker College	April 2020	<b>Participated</b>









**FRANCIS XAVIER**  
ENGINEERING COLLEGE  
AN AUTONOMOUS INSTITUTION

ACCREDITED BY NBA  
ISO 9001:2015 Certified | DST-FIST Supported Institution  
Recognized under Section 2(f) & 12(B) of the UGC Act, 1956  
Vannarpettai, Tirunelveli - 627003, Tamil Nadu

**CERTIFICATE OF APPRECIATION**

This is to certify that **SHAKINA J** of **Sarah Tucker College Autonomous Tirunelveli** has successfully completed the E-Quiz on "**Chemistry in Engineering**" organized by the Department of Chemistry, FRANCIS XAVIER ENGINEERING College, Tirunelveli, Tamilnadu on 2-6-2020 with a passing score of 93%

Dr. P S SUJA PON MINI  
CONVENER

Certificate id:  
Q1ZMO4-CE000134  
\* E-Certificate signature not required

Dr.V. VELMURUGAN  
PRINCIPAL



**SARAH TUCKER COLLEGE**  
AUTONOMOUS  
Tirunelveli



CERTIFICATE OF COMPLETION

This certificate is granted to

**Dr J shakina**

In recognition of Completing the Test on  
**Basics of Intellectual Property Right**  
organized by  
**Internal Quality Assurance Cell (IQAC)**  
April 2020



*This is an auto generated Certificate and needs no Signature*



**V.V.Vanniaperumal College for Women**  
*An Autonomous Institution Affiliated to Madurai Kamaraj University, Madurai*  
*Re-Accredited with 'A' Grade (3rd Cycle) by NAAC*

This is to certify that

**Shakina J**  
**Assistant Professor**

**Sarah Tucker College Autonomous Tirunelveli**

Has successfully completed "GENERAL CHEMISTRY E\_QUIZ"  
organized by the Department of Chemistry, V.V.Vanniaperumal  
College for Women, Virudhunagar on 2.6.2020.

Dr. J. KAVITHA  
CONVENER

Dr. A. ANITHA  
CO-ORDINATOR

Dr. S.M.MEENA RANI  
PRINCIPAL



**PRAVARA INSTITUTE OF MEDICAL SCIENCES**  
(Deemed to be University)  
Loni (Bk), Tal. Rahata, Dist. Ahmednagar, Maharashtra  
**Centre for Biotechnology**

"Online Quiz on COVID-19 Awareness"

**Certificate of Participation**

This is to certify that, **Dr J SHAKINA** of **Sarah Tucker College Autonomous Tirunelveli** has successfully completed the **Quiz Programme on COVID -19 Awareness** organized by **Centre for Biotechnology**, Pravara Institute of Medical Sciences-DU, Loni, Ahmednagar, Maharashtra.  
5/29/2020.



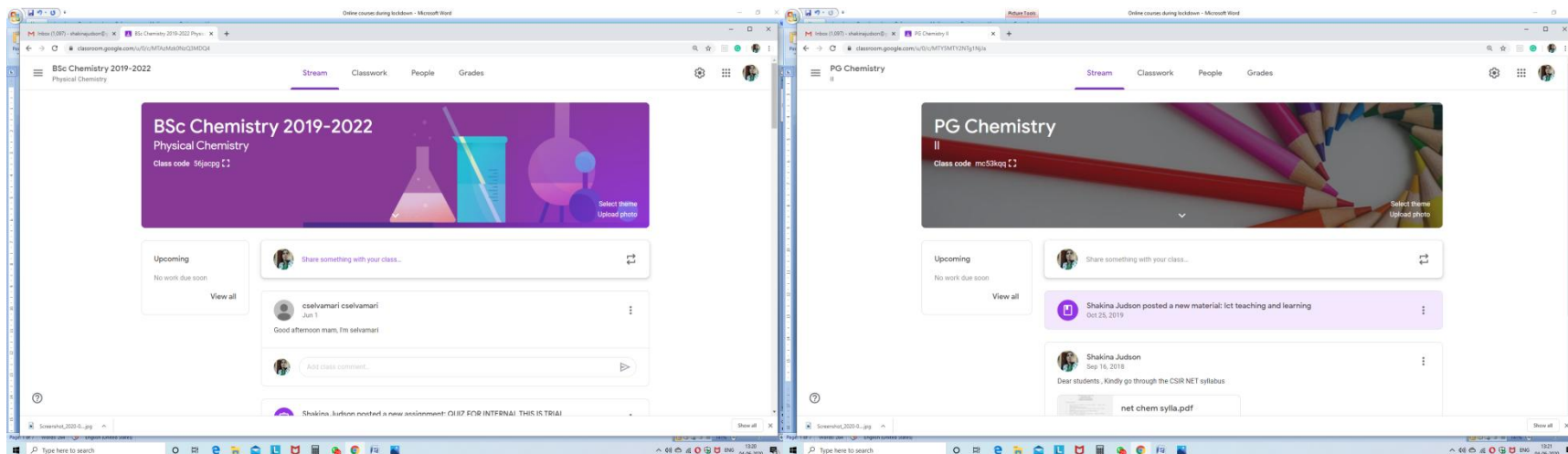
Mr. Ganesh Vikhe  
Ms. Jyoti Kulkarni  
Organizing Members



*Sonali*  
Dr. Sonali Das  
Organizing Chairman

# ONLINE ACTIVITIES

## 1. Conducting Online Classes through Google Class room For UG and PG Students



## 2. Develop 2 MOODLE COURSE For ARTS AND SCIENCE UG STUDENTS on The topic CHEMISTRY IN EVERYDAY LIFE and CLINICAL CHEMISTRY and the registration is started

The screenshot shows a web browser window displaying a Moodle course page. The browser's address bar shows the URL: `jshakina.moodlecloud.com/?redirect=0&mcstoken=AAAAAAAAUHkARyA18C282h6NAybgTPUsV`. The page title is "My new Moodle site" and the language is set to "ENGLISH (EN)".

The page content is divided into two main sections:

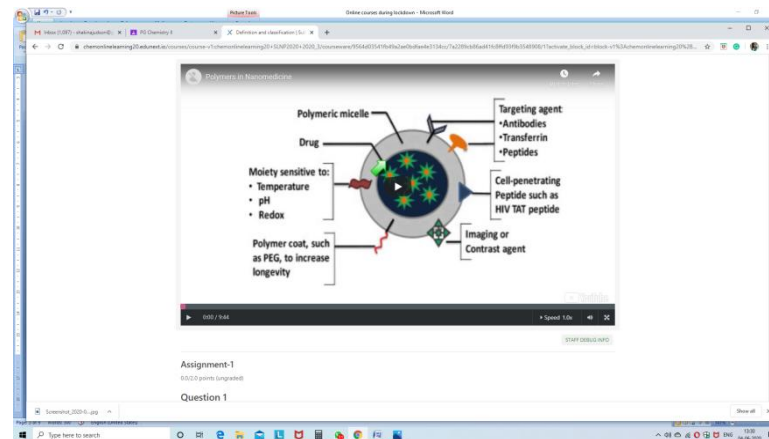
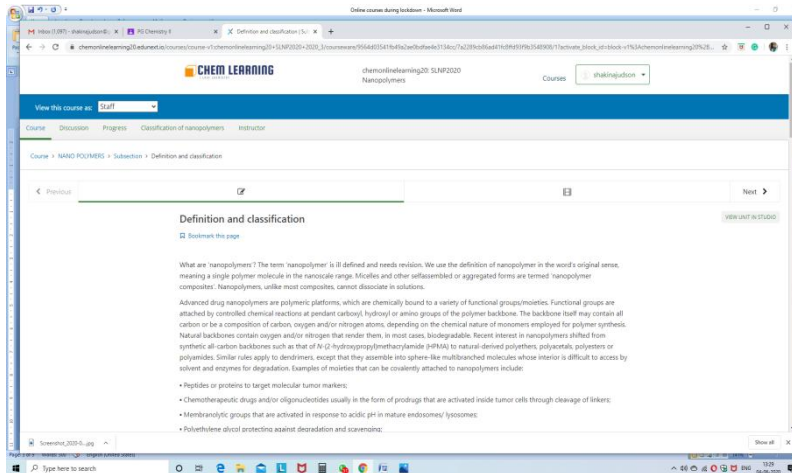
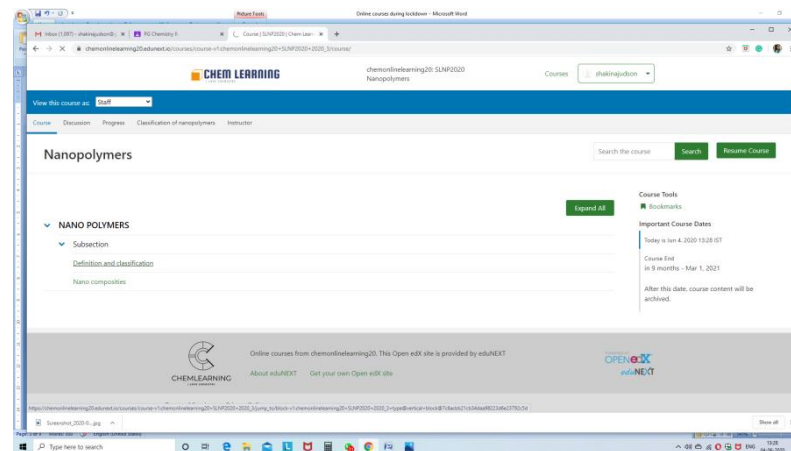
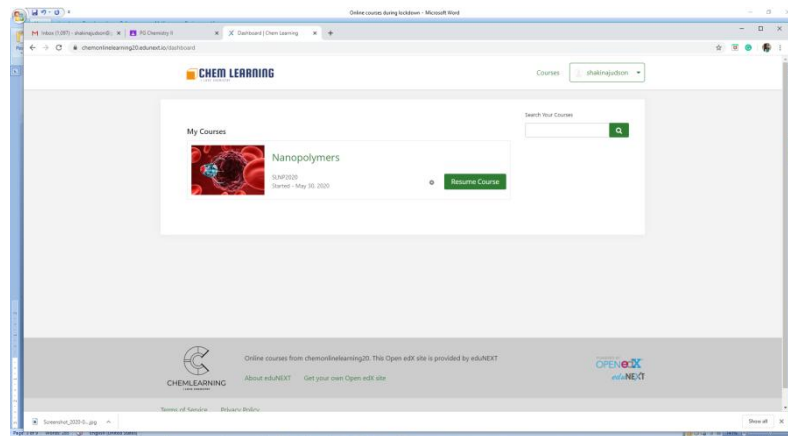
- Available courses**
  - Introduction to Moodle**
    - Teacher: Shakina Justus
    - Description: This tiny course can help you get started if you are new to Moodle. It's been hidden so that only you, as the site administrator, can see it.
  - Clinical chemistry**
    - I. OVERVIEW**

A course designed for students in nursing to develop an appreciation for the utility of the objective data generated by the clinical chemistry laboratory. Students should gain insight into the relationship between various common diseases, the underlying biochemistry and the clinical tests used in their diagnosis and therapeutic monitoring.
    - II. COURSE OBJECTIVES**

An appreciation of the practice of laboratory medicine and an understanding of clinical chemistry provides valuable information that can be used in nursing practice. The objective of this course is to enable you to begin to relate a client's clinical signs and symptoms to underlying biochemical and physiological phenomena and these in turn to results provided by the clinical laboratory. Concepts relating to structure, properties and function of the major biological molecules are developed in sufficient detail to permit a qualitative understanding of these substances and their behavior in living organisms.
  - The Chemistry of Everyday Life (20CHLIFE)**
    - Professors: faculty1 chemistry, faculty2 faculty2
    - Description: This course is designed for non-science majors to explore the chemistry involved in processes people experience and talk on daily bases
    - Course General Objective
      - Introduce chemical concepts using everyday activities as examples to fulfill the following goals:
      - increase scientific literacy in a general population of students;
      - increase an appreciation of, and enjoyment for scientific endeavors among a general population of students,
      - create an environment that illustrates the importance of chemistry as an experimental science through experiments, and by evaluating current issues associated to chemistry,



### 3. Creation of MOOC course NANO POLYMERS for students in Edu.next platform through the website CHEMLEARNING and the registration is started.



#### 4. Develop E content for the students and published in Youtube channel <https://youtu.be/micBQG8lbzE>

The screenshot displays a web browser window with a Microsoft Word application running in the background. The browser is open to the YouTube channel page for Shakina Judson. The channel has 12 subscribers and features several video uploads. The navigation menu includes Home, Trending, Subscriptions, and Library. The video thumbnails include a flowchart for group theory, a Google form, a diagram of a butterfly with mirror planes, and a video of Shakina Judson speaking.

Online courses during lockdown - Microsoft Word

YouTube IN Search

Shakina Judson  
12 subscribers

CUSTOMIZE CHANNEL YOUTUBE STUDIO

HOME VIDEOS PLAYLISTS CHANNELS DISCUSSION ABOUT

Uploads ▶ PLAY ALL

Group theory  
1 view • 1 week ago

Google form with attachment  
3 views • 1 week ago

Point group of a molecule  
1 view • 1 week ago

J Shakina Feedback about FDP Programme RCMOCS...  
8 views • 1 week ago

https://www.youtube.com/watch?v=d8eNXkkyQY

Page: 4 of 10 Words: 324 English (United States)

Type here to search

13:35 04-06-2020

5. Conducting online classes in ZOOM platform, and GOOGLE MEET platform for UG and PG students

The image shows a Zoom whiteboard window titled "Whiteboard - Zoom" on a Windows desktop. The desktop background is blue and features a vertical taskbar on the left with various application icons including Google Chrome, Telegram, HP Ink Tank 310 series, TAMIL WORKSHE..., Shop for Supplies..., Scratch Desktop, Recycle Bin, MindMaster, Control Panel, draw.io, Media Player Classic, Google Docs, Picasa 3, Google Sheets, WinRAR, Google Slides, and Microsoft Office Excel. The whiteboard content includes the text "ONLINE CHEMISTRY CLASSES" and "Revision for the III internal Test" in blue. A hand-drawn diagram of a square with two diagonal lines intersecting at the center is shown. The top-right corner of the square is labeled with a blue "N", and the center of the intersection is labeled with a blue "Co". A toolbar at the top of the whiteboard contains icons for Select, Text, Draw, Stamp, Spotlight, Eraser, Format, Undo, Redo, Clear, and Save. A small video window in the top right corner shows a woman with the name "Shakina Judson" below her. At the bottom of the whiteboard, a green status bar reads "You are screen sharing" with a "Stop Share" button. The Windows taskbar at the bottom shows the search bar, taskbar icons, and system tray with the time 13:48 and date 04-06-2020.

## 6. Question paper setting for Various Colleges

**Sadakathullah Appa College (Autonomous)**  
(Recognized by NAAC at an 'A' Grade with a CGPA of 3.40 out of 4.0  
in the III Cycle An ISO 9001:2015 Certified Institution)

Controller of Examinations,  
Email - shmoahmedamcnc@gmail.com Office : 0462- 2540567  
Web : www.sadakath.ac.in Mobile : 9443463698

Ref: SAC / CE / QS / APRIL 2020 Date: 09.01.2020  
Dear Professor, Dr. SHAKINA

I am pleased to appoint you as a Question Paper setter for the Semester Examination of our college to be held in APRIL 2020 for the following paper(s). Please find the enclosed syllabus, model question paper, claim form and covers.

Degree: B.Sc CHEMISTRY Subject Code: 15UCHG61  
Title of Paper: PHYSICAL CHEMISTRY-III (1set)

Kindly dispatch ONE/TWO set of question paper(s) along with scheme of valuation to the Controller of Examinations through e-mail (shmoahmedamcnc@gmail.com) preferably before 20.01.2020.

The Question Setters are expected to maintain strict confidentiality in setting and correspondences. Please contact the Controller of Examinations for further details.

Thank you

Yours faithfully  
Dr. S.H. MOHAMMED AMEEN  
(Dr.S.H.MOHAMMED AMEEN)

**ACCEPTANCE FORM**

From To: The Controller of Examinations,  
Sadakathullah Appa College (Autonomous), Tirunelveli - 627 011.

I accept / do not accept to set the Question Paper for April/Nov-2020 Semester Examinations. Kindly send further communication to the following address.

Pin Code : \_\_\_\_\_  
Phone - OE : \_\_\_\_\_ Resd : \_\_\_\_\_  
Mobile : \_\_\_\_\_

Degree : \_\_\_\_\_ Subject Code : \_\_\_\_\_  
Title of paper : \_\_\_\_\_ Signature of the Q.P. Setter  
Date : \_\_\_\_\_

**Sadakathullah Appa College (Autonomous)**  
Approved by NAAC at an 'A' Grade with a CGPA of 3.40 out of 4.0  
in the III Cycle An ISO 9001:2015 Certified Institution

Dr. S. H. Moh. Ameen  
Controller of Examinations  
Tel: 0462-2540567

I am glad to inform you that you are appointed as a question paper setter for the Semester Examination APRIL 2020 of our college for the following syllabus. Please find enclosed the syllabus and model questions.

No.	Degree	Code	Course Name	No. of sets
1	B.Sc	15UCHG	INORGANIC CHEMISTRY III	2
2	B.Sc	15UCHG	PHYSICAL CHEMISTRY III	2

Kindly go adhere to the following **and** **distribution** of the questions and covers and bear in the signature of questions.

Unit No.	Question No.	Difficulty level	Cognitive Level
I	1, 2, 3, 4, 5	Basic	Remember
	6, 7, 8, 9, 10	Intermediate	Understand
II	1, 2, 3, 4, 5	Challenging	Apply
	6, 7, 8, 9, 10	Challenging	Analyze
III	1, 2, 3, 4, 5	Challenging	Evaluate
	6, 7, 8, 9, 10	Challenging	Create

1. Questions have to be written in **English**, well defined and without any ambiguity and also in good language.

2. A booklet for each scheme of valuation with proper distribution of marks to be prepared for each set of question paper (The answer for the scheme will be furnished only if it is detailed and complete).

3. Setters are encouraged to send the questions to the E-Mail of: [ce@sadakath.ac.in](mailto:ce@sadakath.ac.in) with subject code as the file name attached. Questions can also be sent in the soft form in a CD or word format with course code as the file name and question.

4. The model question cover must include the Q. numbers, Q. scheme of valuation, in CD and in English form, with A.C.No. (PSC Code) from the bank. Date of the bank.

5. Kindly send the questions to the Controller of Examinations on or before **23-03-2020**

6. Your appointment and questions are to be kept strictly confidential.

Thank you. Yours sincerely  
Controller of Examinations  
Tel: 0462-2540567 www.sadakath.ac.in

**ATTENDING VARIOUS FDP COURSES TO EQUIP OURSELVES IN TEACHING LEARNING AND RESEARCH**

8	Dr.J.Shakina	3 days Faculty Development Program	“The Challenges Of Education System During Pandemic Days”	National	A.P.A.College Of Arts And Culture, Palani (Reaccredited With “A” Grade By Naac) & Unnat Bharat Abhiyan (C-36569)	6.06.2020 to 08.06.2020.
	Dr.J.Shakina	3 Day FDP	“Advanced Molecular Chemistry”	National	PG & Research Department of Chemistry Arulmigu Palaniandavar College of Arts & Culture,Palani Re-accredited with "A" Grade by NAAC Run by Arulmigu Dhandayuthapani Swamy Thirukkoil,H.R &C.E Dept A Government Aided College - Affiliated to Madurai Kamaraj University, Madurai	1-6-2020 to 3-6-2020.
	Dr.J.Shakina	One week FDP	Capacity building in drafting proposal for funded research	National	St Teresa college Ernakulam and MHRD ,PMMNMTT	
	Dr.J.Shakina	Workshop-FDP	Managing Virtual classrooms and OER	National	Centre for Academic leader ship and educational management Punjab University Chandigarh (MHRD-PMMMNTT)	24.06.2020-29.06.2020
	Dr.J.Shakina	workshop	Science leadership workshop	National	Central University of Punjab	22.06.2020-28.06.2020
	Dr.J.Shakina	training	Training in Photoshop	National	Sarah Tucker college	22.06.2020

	Dr.J.Shakina	FDP	Teaching Strategies using case study approach	National	Brindavan College Bangalore	14.07.2020
	Dr.J.Shakina	One week online FDP	Being a super teacher	National	Bannari Amman Insistute Of Technology	6.7.2020-12.7.2020
	Dr.J.Shakina	3 days workshop	Consumer Rights,Awareness And Protection	National	St Marys College Thoothukodi	9.7.2020-11.7.2020
	Dr.J.Shakina	Short term training course	LMS Moodle	National	NIT Warangal	10.8.2020 -14.08.2020
	Dr.J.Shakina	14 days Online FDP	Material Science and Nanotechnology	National	B.S.Abdur rahman Cresent nsistute of Science and technology,Chennai	03.08.2020-17.08.2020
	Dr.J.Shakina	Faculty enrichment programme	Digital Technology of life sciences and humanities	National	Dr Ambedkar Government Arts College Vysarpadi,Chennai and Indian science congress association	21.07.2020-25.07.2020
	Dr.J.Shakina	One week pedagogical training for teachers	Online teaching learning and evaluation	National	Swami Ramamand Theerth marathwada University ,Nanded	1.08.2020 -6.08.2020
	Dr.J.Shakina	UGC short term course	E-Content development and open educational resources	National	Academic staff college,JNTU, Hyderabad	13.07.2020-18.07.2020
	Dr.J.Shakina	FDP	Educational innovative teaching shkills	National	Dewan insistute of Management and college Meerut ,U.P	25.07.2020-29.07.2020
	Dr.J.Shakina	FDP	ICT Tools in teaching chemistry	NATIONAL	St.Teresa college ,Ernakulam	2.09.2020-6.09.2020
	Dr.J.Shakina	FDP	Blended and Integrated Teaching in Real and Virtual Classroom	National	ALAPAN, West Bengal	01/07/2020 to 09/07/2020
	Dr.J.Shakina	Workshop	LMS moodle	National	SNDT Womens University,Mumbai,teaching Larning Centre (PMMMNMTT)	27.7.2020-2.08.2020

	Dr.J.Shakina	FDP	One Week Online Faculty Development Programme on New Insights on Outcome Based Education	National	Department of Commerce, Sarah Tucker College	27/7/2020 to 3/8/2020
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Research and innovations

List of paper publications

As Assistant Professor- Experienced in teaching and administrative duties, rich research experience in the field of polymer chemistry, excellent problem solving and communication skills. Teaches courses in the discipline area of chemistry Develops and designs curriculum plans to foster student learning, stimulate class discussions, and ensures student engagement. Provides tutoring and academic counselling to students, maintains classes related records, and assesses student coursework. Collaborates and supports colleagues regarding research interests and co-curricular activities. Typically reports to a department head. Has experience and is qualified to teach at undergraduate post graduate levels and doctorate levels and contributes to research in a specialized field of nanochemistry, polymer chemistry and environmental chemistry and publishes findings in professional journals, books, or electronic media. As placement officer - Performs a mix of career counselling, recruits duties , assists students and coordinates with the institution's staff and employers.

**A(i) Research papers published in Scopus/Refereed Journals**

S.No	Name of the Staff	Title of the Paper / Chapter	Level((National/ International/ State/ Regional)	Journal Name with Issue No, Page No, Vol.No, ISSN & Impact factor	Citation/ Scopus index/ Web of Science	h- index
1	J.Shakina	Synthesis and Characterization of stretchable IPN Polymers from Biodegradable Resins Incorporated With Styrene and Methyl Methacrylate Monomers for Enhanced Mechanical Strength	International	<i>European Polymer Journal</i> , 138, 1-8, 2020.	Scopus	4



2	<b>J.Shakina</b>	, Multi Scale Plant Based Polymer Matrix: Synthesis, Biodegradation And Thermal Studies,	International	<i>International journal of scientific &amp; technology research</i> , 9(1), 2449-2453, 2020.	Web of Science	
3	<b>J.Shakina,</b>	Synthesis, characterization and thermal behavior of thermosetting polyesters from bio-degradable plant oil,	International	<i>Heterocyclic Letters</i> , 10(2),321-332,2020.	Web of Science	4
4	J.Shakina	, One pot synthesis of optical fluorescent sensor for selective detection of Ni <sup>2+</sup> ion and hydrogel studies,	International	<i>Optical Materials</i> , 109, 110444 , 2020.	Web of Scienc	

#### PROJECT GUIDED TO THE PG STUDENTS

Name	Reg No	Title of the paper
M. Pushpa Latha,	19PCH017	Synthesis and Comparative Study of Novel Cross Linked Bio Polymers From Neem Oil
K. Rashmi Savera	19PCH018	Synthesis and Comparative Study of Novel Cross Linked polymers From Neem Oil
V.Angel Emima	19PCH002	Green synthesis of Silver nanoparticles from Grapes (Vitis. Vinifera) fruit extract Characterisation of the particle and study of antibacterial activity
T.Jeba Suji	19PCH009	Green synthesis of Silver nanoparticles from Grapes (Vitis. Vinifera) fruit extract Characterisation of the particle and study of antibacterial activity
Jeslin Renisha.G.A	19PCH010	Green synthesis of Silver nanoparticles from Grapes (Vitis. Vinifera) fruit extract Characterisation of the particle and study of antibacterial activity

#### A (ii) Research papers published in Non-Refereed Journals

S.No.	Title with page Nos.	Journal with ISSN & Publisher	Latest Impact Factor, if any	API Score
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1.	SYNTHESIS AND COMPARATIVE STUDY OF NOVEL CROSSLINKED BIOPOLYMERS FROM NEEMOIL	<i>Sarah research Journal</i>	-	<b>10</b>
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**A (iii) Full Papers and Reviews in Conference Proceedings**

S.No.	Title with Page Nos.	Details of Conference Proceedings/Presentation	ISBN/ISSN	API Score
1	<b>Presented a paper titled Natural fibre reinforced polymer composite.A Comparison and mechanical characterization</b>	<b>National conference on Modern emerging trends :Future of chemical sciences (MET-FCS-2021) held on 23<sup>rd</sup>- 24thApril,2021 at Department of Chemistry,Chandigarh University Punjab</b>		10
2	<b>Synthesis and Comparative Study of Novel Cross Linked Bio Polymers From Neem Oil</b>	<b>National conference on Modern emerging trends :Future of chemical sciences (MET-FCS-2021) held on 23<sup>rd</sup>- 24thApril,2021 at Department of Chemistry,Chandigarh University Punjab</b>		

**B (i) Indexing (Web of Science/Google Scholar/etc.)**

<b>S.No.</b>	<b>h-index</b>	<b>i-10 index</b>	<b>Citations</b>	<b>API Score</b>
1	16	22	745	<b>10</b>

**C (i) Ongoing Projects**

<b>S.No.</b>	<b>Title of Research Project</b>	<b>Major/Minor (as per UGC Project guidelines)</b>	<b>PI/ o-PI/ joint PI</b>	<b>Period</b>	<b>Total Grants sanctioned &amp; received (in rupees); Name of the Funding Agency</b>	<b>National/ International</b>	<b>API Score</b>
1	Dst fist for level 2 college	major	PI	2019-2024	50 lakhs	<b>National/</b>	<b>10</b>

Award for best reviewer

*Journal of Materials Science Research and Reviews*

2020



Certificate No: SDI/HQ/PR/Cert/59922/JSH

*Certificate of Excellence in Reviewing*

awarded to

**J.shakina**

Manonmaniam Sundaranar University India

*in recognition of an outstanding contribution to the quality of the journal.*

A handwritten signature in blue ink.

**Dr. M Basumondal**  
Chief Managing Editor

Reg. 108/01

Index: Good House Book, Street no. 1, 1/A, Baghly, West Bengal, India, Tel: +91 9657327206, UK Third Floor, 207 Bagin Street, London W1B 3RH, UK, Fax: +44 20 3031 1129

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202041049600 A

(19) INDIA

(22) Date of filing of Application :13/11/2020

(43) Publication Date : 20/11/2020

(54) Title of the invention : A PROCESS OF SYNTHESIS OF POLY (NEEM TRIGLYCERIDE OIL FUMARATE)  $\hat{\text{a}}\text{E}$ MONOMER BASED POLYESTER AND PRODUCTS THEREOF

(51) International classification :A61K9/4816  
(31) Priority Document No :NA  
(32) Priority Date :NA  
(33) Name of priority country :NA  
(86) International Application No :NA  
Filing Date :NA  
(87) International Publication No : NA  
(61) Patent of Addition to Application Number :NA  
Filing Date :NA  
(62) Divisional to Application Number :NA  
Filing Date :NA

(71)Name of Applicant :  
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Address of Applicant :ASSISTANT PROFESSOR  
RESEARCH CENTRE AND P.G DEPARTMENT OF  
CHEMISTRY THIAGARAJAR COLLEGE MADURAI TAMIL  
NADU INDIA 625009 Tamil Nadu India  
(72)Name of Inventor :  
**1)DR.PAUL MONEY THARMARAJ**  
**2)DR.JUSTUS SHAKINA**

(57) Abstract :

APPLICANT: DR.PAUL MONEY THARMARAJ TITLE: A PROCESS OF SYNTHESIS OF POLY (NEEM TRIGLYCERIDE OIL FUMARATE)  $\hat{\text{a}}\text{E}$ MONOMER BASED POLYESTER AND PRODUCTS THEREOF ABSTRACT The present invention disclose a process of synthesis of poly (neem triglyceride oil fumarate)  $\hat{\text{a}}\text{E}$  monomer based polyester and products thereof. The process of the present invention comprises of following reaction steps;  $\hat{\text{a}}\text{E}$  preparation of hydroxylated neem oil comprising of mixing 100 mL of Triglyceride oil of neem oil and 100 mL of formic acid in a 1:1 ratio under vigorous stirring at 0  $\hat{\text{A}}$ °C followed by slowly adding 30 %, 55 mL of hydrogen peroxide under continues stirring for 24 hours with temperature maintained below 35  $\hat{\text{A}}$ °C to form a residue in which the residue is extracted thrice with 3 x 40 mL diethylether solvent and organic layer was separated and dried over anhydrous sodium sulphate and solvent was filtered and evaporated using rotaevaporator to isolate hydroxylated triglyceride oil;  $\hat{\text{a}}\text{E}$  preparation of poly (Neem triglyceride oil fumarate) polyester resin comprising of blending 100mL of the hydroxylated triglyceride oil with 49 gm, 0.5 mol of maleic anhydride in ambient temperature using overhead stirrer and heated to 70 oC for 2 hrs followed by adding catalytic amount of morpholine base (3-4 drops) upon vigorous blending to form poly (Neem triglyceride oil fumarate) polyester resin;  $\hat{\text{a}}\text{E}$  preparation of poly (neem triglyceride oil fumarate)  $\hat{\text{a}}\text{E}$  monomer based polyester comprising of adding 10mL of the poly (Neem triglyceride oil fumarate) polyester resin with 10 mL of monomer in 1:1 equivalent ratio and treated with catalytic amount of benzoyl peroxide (60mg) as a free radical initiator and N,N-dimethylaniline (2-3 drops) as an accelerator followed by vigorous stirring for 10 min using over-head stirrer and poured in glass plate mold pre-coated with silicone oil in the size of 10 x 10 cm and after 5 hours, transparent polymer sheet comprising of poly (neem triglyceride oil fumarate)  $\hat{\text{a}}\text{E}$  monomer based polyester was peeled off from the glass plate.

No. of Pages : 19 No. of Claims : 7

## 1B USE OF PARTICIPATORY AND INNOVATIVE TEACHING LEARNING METHODOLOGIES, UPDATE OF SUBJECT CONTENT

### TEACHING LEARNING METHODOLOGIES –PPT

Br = K<sub>2</sub>Cot KMg<sub>2</sub>  
CO<sub>2</sub>(HO)  
Ng

### Introduction

E- Z notation is used to name geometric isomers. cis – trans descriptors is not sufficient when there are more than two different substituents on a double bond. To differentiate the stereochemistry in them, a new system of nomenclature known as the E-Z notation method is to be adopted. It was found by the scientists Cahn-Ingold-Prelog.

Click to add notes

Slide 2 of 21 "Chemistry Lesson by Slidesgo" English (United States) 142% 22:38 19-05-2021

### E-CONTENT FOR III B.SC STUDENTS

## E-CONTENT - Electrochemistry and spectroscopy

1 of 55

File | F:\college%202020\III%20BSC%20LEARNING%20MATERIAL%20to%20upload.pdf

Page view | Read aloud | Draw | Highlight | Erase


**SARAH TUCKER COLLEGE**  
**(AUTONOMOUS), TIRUNELVELI-627007**  
Affiliated to Manonmaniam Sundaramer University, Tirunelveli, Tamil Nadu, India

**DEPARTMENT OF CHEMISTRY AND RESEARCH CENTER**  
Choice Based Credit System  
(For the candidates admitted to the academic year June 2018 and afterwards)

**Semester V**  
**B.Sc Chemistry (2018-2021)**

**LEARNING MATERIAL FOR ONLINE CLASSES**  
**For Unit I and II**

**ELECTIVE: I**  
**ELECTROCHEMISTRY & SPECTROSCOPY**  
**SUB CODE: 18-5CYE1**



Prepared by  
Mrs.Anita Gloria Chellam, Associate Professor of Chemistry  
Dr.J.Shakima, Assistant Professor of Chemistry

1

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22:25  
19-05-2021

## E-CONTENT -II B.SC CHEMISTRY – ORGANIC ANALYSIS

ICONN certificate.pdf x J.SHAKINA.pdf x SHAKINA\_J\_Certificate.pdf x E-Certificate for International Vi... x faculty profile.pdf x front page ii bsc.pdf

File | F:/college%202020/front%20page%20ii%20bsc.pdf

1 of 1

SARAH TUCKER COLLEGE (AUTONOMOUS), TIRUNELVELI-7  
Affiliated to Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu India

DEPARTMENT OF CHEMISTRY AND RESEARCH CENTER  
Choice Based Credit System  
(For the candidates admitted to the academic year June 2018 and afterwards)

Semester III  
B.Sc Chemistry (2019-2022)

Quantitative analysis

PRACTICALS - ORGANIC QUANTITATIVE ANALYSIS  
SUB CODE: 18-3PCYL3



Prepared by

Dr Rajula Jasmine Usha, Dean of Science & Associate Professor of Chemistry  
Dr J.Shakina, Assistant Professor of Chemistry  
Dr J.Sheela, Assistant Professor of Chemistry  
Ms.P.Mahalakshmi, Assistant Professor of Chemistry

Type here to search

22:23  
19-05-2021



## 1C EXAMINATION RELATED DUTIES AND ASSIGNED AND PERFORMED

### Internal CIA examination

Return ✉ 30 points ⌵ ⚙

**All students**

Sort by status ⌵

**Turned in**

<input type="checkbox"/>	AKESHYA S	25 <i>Draft</i>
<input type="checkbox"/>	ANANTHA JOTHI M	26.5 <i>Draft</i>
<input type="checkbox"/>	ANAVARATHA SELVI M	25 <i>Draft</i>

**III CIA test Semester - IV April 2021**

43 Turned in | 0 Assigned

All ⌵ 📁

AKESHYA S  
polymer chemistry  
Turned in

ANANTHA JOTHI M  
2021.04.24 .pdf  
Turned in

ANAVARATHA SELVI M  
M. Anavaratha selvi .p...  
Turned in

DEL\_C\_MOOC Com...pdf DEL\_C\_MOOC Com...pdf fdp (2).pdf fdp.pdf fdp (1).pdf Show all

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### External Semester examination

Return 60 points

<input type="checkbox"/>	All students
Sort by status	
<input type="checkbox"/>	Turned in
<input type="checkbox"/>	AKESHYA S <span style="float: right;">_ /60</span>
<input type="checkbox"/>	ANANTHA JOTHI M <span style="float: right;">_ /60</span>
<input type="checkbox"/>	ANAVARATHA SELVI M <span style="float: right;">_ /60 Done late</span>

### Organic Quantitative Analysis; 18-3CYL3; semester practical-III

42 Turned in | 0 Assigned

All

AKESHYA S

organic quantitative a...  
Turned in

ANANTHA JOTHI M

2 attachments  
Turned in

ANAVARATHA SELVI M

New doc 17-Dec-2020...  
Turned in late





# KONGU ENGINEERING COLLEGE

(Autonomous)  
PERUNDURAI ERODE 638 060 TAMILNADU INDIA

## Science & Humanities Department of Chemistry

Lecture Workshop on 'Chemistry for a Sustainable Planet'



Certificate No:146

### CERTIFICATE

This is to certify that Dr/Prof/Mr/Ms

**SHAKINA J**

**SARAH TUCKER COLLEGE AUTONOMOUS, TIRUNELVELI**

UG/PG/M.Phil/Research Scholar/Faculty has attended the 2 days Lecture Workshop on "Chemistry for a Sustainable Planet" sponsored by Indian Science Academies and organised by the Department of Chemistry, Kongu Engineering College, Perundurai, Erode from 08.04.2021 to 09.04.2021.

**Dr.A.Geetha**  
Associate Professor  
Chemistry  
KEC  
**Coordinator**

**Dr.T. Pradeep FNASc**  
Professor  
Department of Chemistry  
IIT Madras, Chennai  
**Convener**

**Dr.V.Balusamy**  
KEC  
**Principal**

3. Presentation in Seminars / Conferences / Workshops



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**NATIONAL CONFERENCE ON  
“MODERN EMERGING TRENDS: FUTURE OF CHEMICAL SCIENCES” (MET-FCS-2021)**

## *Certificate of Appreciation*

*This is to certify that*

Mr. / Ms. / Dr. J.SHAKINA

*has participated/presented a paper (oral/poster) entitled*  
Natural Fibre Reinforced Polymer Matrix Composite: A Comparison And Mechanical Characterization

*& secured - position in National Conference on “Modern Emerging Trends: Future  
of Chemical Sciences” (MET-FCS-2021) held on 23rd – 24th April, 2021 at Department of  
Chemistry, UIS, Chandigarh University, Gharuan, Mohali, Punjab, India.*

*We appreciate the participant's endeavors.*

*Convener*

*Organizing Secretary*

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**SYNTHESIS AND CHARACTERISATION OF NOVEL CROSSLINKED BIOPOLYURETHANE FROM COTTON SEED OIL AS ECO-FRIENDLY BIODEGRADABLE MATERIAL.**

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**ABSTRACT:**  
Novel cross linked Bio-polyurethane were synthesized from naturally occurring cottonseed oil. Polyurethane was prepared by Epoxidation followed by the formation of Polyol by thermal hydrolysis at high temperature for five hours. The formed polyol was converted into polyurethane by the addition of hexamethylenediisocyanate at different concentration. The cross linked novel biopolyurethane were evaluated by FTIR and NMR studies. The biodegradation of the formed polymer were evaluated by soil burial test. The Chemical resistance of the cross-linked polyurethane was analyzed by different solvents. As a result of these studies, it shows that the newly synthesized Polyurethane was potentially biodegradable and used for the manufacture of leather and automobile parts.  
Keywords: Burial test, epoxidation, biodegradable.

**INTRODUCTION**  
Cottonseed oil has been found to be more useful in the preparation of rigid, semi-rigid flexible urethane resistant to moisture. Polyurethanes prepared from cottonseed oil containing

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**One-pot green synthesis of optical fluorescent sensor for selective detection of Ni<sup>2+</sup> ions and hydro gel studies**

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**ARTICLE INFO**      **ABSTRACT**

**Keywords:**  
Schiff base  
Fluorescence sensor  
Hydrogel  
DFT

**ABSTRACT**  
A Schiff base chromophore derived from 2-aminophenol and 9-aminocrotonaldehyde (APAD) was designed and synthesized as a green approach. It was prepared by microwave irradiation using few drops of acetic acid. The synthesized chromophore was characterized by <sup>1</sup>H NMR and IR LCMS mass analysis. Its selective sensitivity towards Ni<sup>2+</sup> was examined by both colorimetric and fluorescence sensing techniques. A rapid colour change from yellow to dark brown was observed when Ni<sup>2+</sup> was added. Among the captured metals only Ni<sup>2+</sup> has notable colour change. In the UV-Visible spectrum a new peak apart from the colour appeared which confirms the selectivity in sensing. A significant enhancement in fluorescence was observed in presence of Ni<sup>2+</sup>. Among the various metals Cu<sup>2+</sup>, Cd<sup>2+</sup>, Zn<sup>2+</sup>, Co<sup>2+</sup>, Mg<sup>2+</sup>, Hg<sup>2+</sup>, Fe<sup>2+</sup>, Cr<sup>3+</sup>, Pb<sup>2+</sup>, Al<sup>3+</sup>, Ni<sup>2+</sup>, K<sup>+</sup>, Na<sup>+</sup>, Cr<sub>2</sub>O<sub>7</sub><sup>2-</sup> investigated no major interference was observed even in higher concentration of analytes with a comparatively lower detection limits of 0.04 µM. The experimental results are further supported by the DFT studies. The chromophore is likely to find application in the recovery of contaminated water and hydrogel experiments were carried out in order to support the selective colorimetric detection of Ni<sup>2+</sup> by APAD.

**1. Introduction**  
Environmental pollution is caused mainly by the disability to degrade the heavy metal ions and the industrial waste [1]. Nickel being the most abundant element among the transition metals plays a vital role in many biological processes in our body [2–4]. Ni<sup>2+</sup> participates in respiration and in protein biosynthesis and its deficiency affects both prokaryotic and eukaryotic organisms [5–9]. It is employed in dental prostheses and in magnetic tapes of computers [1]. However, surplus of Ni<sup>2+</sup> causes destructive effects to human health. Ni<sup>2+</sup> is released as industrial pollutant by above said diverse industrial processes [1,11,12]. It tends to accumulate in kidney and blood thereby causing the roots of asthma, sinus and cancer in lung on the other hand easy absorption of Ni<sup>2+</sup> causes nasopharyngeal carcinoma [13]. Hence, we are really in need for the development of a novel prototypical sensor for the selective sensing of Ni<sup>2+</sup> in environmental and biological samples [14–16].  
Among the different types of chromophore, Schiff base have drawn interests among chemists owing to their specific isolation, low cost, easy detection and applicability in synthesis of chelating compounds, catalysts, optical properties [17–19]. They have the tendency to form stable chelating metal complexes due to effective electronic factors. The azomethine bond (HC=N) in the Schiff base has strong ability in rapid detection of metals. Many fluorescent sensors were developed over the past decade. Many examples such as, 5-thiopyridylaldehyde and 8-aminquinoline were employed to develop sensors which selectively sensed Ni<sup>2+</sup> among the interfering metals [20]. Arzene based Schiff bases sensed dual ions Zn<sup>2+</sup> and Ni<sup>2+</sup>. Hence it is much essential to develop a efficient sensor with high specificity and sensitivity with many applications [21]. The present work deals with development of potential Schiff base sensor from 2-aminophenol and 9-aminocrotonaldehyde by microwave assisted synthesis and to study the fluorescent nature and optical property. The developed sensor was characterized by spectral analysis and DFT/mg experiment.

**2. Experimental section**  
**2.1. General information, chemicals, solvents and starting materials**  
All the reagents, metal salts and solvents were Analytical grade (A.R. grade) and used without any further purification. High purity 2-Amino

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Synthesis and Comparative Study of Novel Cross Linked Bio Polymers From Neem Oil

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**Abstract**

Novel cross linked biopolymers were synthesized from naturally available Neem oil. Epoxidation of Neem oil was carried out by per acetic acid method. Further acrylated epoxidized resin (AENO) was synthesised from the epoxidized Neem oil (ENO). The (AENO) was characterised by spectral and physicochemical properties (Specific gravity, viscosity, Saponification value, iodine value).The Novel cross linked biopolymer were prepared by using AENO with Triethylene glycol trimethacrylate(TEGMA). The mechanical properties of cross linked biopolymer was improved by adding filler like wood flour. The environmental degradation was assessed by Scanning Electron Microscope (SEM) analysis. The outcome of the studies revealed that the newly prepared cross linked biopolymers are potential biodegradable material for various consumer applications like psckage materials, sporting goods and floor mats.

**Key words:** Biodegradation, Epoxidation, Neem oil, Tensile modulus.

**1. Introduction:**

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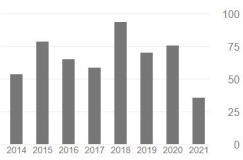
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(51) International classification	:A61K9/4816	(71)Name of Applicant :
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(57) Abstract :

APPLICANT: DR.JUSTUS SHAKINA TITLE: A PROCESS OF SYNTHESIS OF POLY (NEEM TRIGLYCERIDE OIL FUMARATE)  $\alpha$ -MONOMER-NANO METAL OXIDE BASED POLYESTER AND PRODUCTS THEREOF ABSTRACT The present invention disclose a process of synthesis of poly (neem triglyceride oil fumarate)  $\alpha$ -monomer-nano metal oxide based polyester and products thereof. The process comprises of following reaction steps;  $\alpha$  preparation of hydroxylatedneem oil comprising of mixing 100 mL of Triglyceride oil of neem oil and 100 mL of formic acid in a 1:1 ratio under vigorous stirring at 0  $\text{^\circ C}$  followed by slowly adding 30 %, 55 mL of hydrogen peroxide under continues stirring for 24 hours with temperature maintained below 35  $\text{^\circ C}$  to form a residue in which the residue is extracted thrice with 3 x 40 mL diethylether solvent and organic layer was separated and dried over anhydrous sodium sulphate and solvent was filtered and evaporated using rotaevaporator to isolate hydroxylated triglyceride oil;  $\beta$  preparation of poly (Neem triglyceride oil fumarate) polyester resin comprising of blending 100mL of the hydroxylated triglyceride oil with 49 gm, 0.5 mol of maleic anhydride in ambient temperature using overhead stirrer and heated to 70 $\text{^\circ C}$  for 2 hrs followed by adding catalytic amount of morpholine base (3-4 drops) upon vigorous blending to form poly (Neem triglyceride oil fumarate) polyester resin;  $\gamma$  preparation of poly (neem triglyceride oil fumarate)  $\alpha$ -monomer-nano metal oxide based polyester comprising of adding 10mL of the poly (Neem triglyceride oil fumarate) polyester resin with 10 mL of monomer and nano metal oxide in 1:0.5: 0.4ratio and treated with catalytic amount of benzoyl peroxide (60mg) as a free radical initiator and N,N-dimethylaniline (2-3 drops) as an accelerator followed by vigorous stirring for 10 min using over-head stirrer and poured in glass plate mold pre-coatedwith silicone oil in the size of 10 x 10 cm and after 5 hours, transparent polymer sheet comprising of poly (neem triglyceride oil fumarate)  $\alpha$ -monomer-nano metal oxide based polyester was peeled off from the glass plate.

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