



### CRITERION: 3.3.3

***Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during the year 2021-22***

Sl. No.	Details	No. of conference participation	No. of Book chapter	No. of Book publication	Page No.
1	Details of conference / Book chapter / Book publication	72	01	01	02
2	Screen shots of conference / Book chapter / Book publication CIVIL	16	-	-	10
3	Screen shots of conference / Book chapter / Book publication CSE	16	-	-	24
4	Screen shots of conference / Book chapter / Book publication ECE	11	-	-	33
5	Screen shots of conference / Book chapter / Book publication EEE	10	-	-	76
6	Screen shots of conference / Book chapter / Book publication MECH	16	01	-	80
7	Screen shots of conference / Book chapter / Book publication S & H	03	-	01	91

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Sl. No	Name of the teacher	Title of the paper / Book / Book chapter	Name of the conference / Publisher	ISBN/IS SN number of the proceeding	Name of the publisher
<b>CIVIL</b>					
1	Dr. R. Saravanan	Experimental investigation on partial replacement of cement using glass powder in concrete	National Conference on Recent trends and innovations in civil engineering (NC-RTICE'22) organized by Kings college of Engineering.	978-93-85057-25-3	Kings College of Engineering
2	Mr.R.Sundharam	Experimental investigation on utilization of shredded rubber tyre powder in construction of bituminous road	National Conference on Recent trends and innovations in civil engineering (NC-RTICE'22) organized by Kings college of Engineering.	978-93-85057-25-3	Kings College of Engineering
3	Mr.K.Arun	Comparative study of normal paver block with partial replacement of sand by saw dust	National Conference on Recent trends and innovations in civil engineering (NC-RTICE'22) organized by Kings college of Engineering.	978-93-85057-25-3	Kings College of Engineering
4	Ms.D. Shrividhya	Experimental study on partial replacement of bitumen by ldpe bags and coarse aggregate by e- waste on flexible pavement	National Conference on Recent trends and innovations in civil engineering (NC-RTICE'22) organized by Kings college of Engineering.	978-93-85057-25-3	Kings College of Engineering
5	Mr.M.Balaji	Experimental investigation on partial replacement of fine aggregate using waste plastic in concrete tile	National Conference on Recent trends and innovations in civil engineering (NC-RTICE'22) organized by Kings college of Engineering.	978-93-85057-25-3	Kings College of Engineering
6	Mr.R.Ramchandar	Treatment of commercial effluent using activated sludge process	National Conference on Recent trends and innovations in civil engineering (NC-RTICE'22) organized by Kings college of Engineering.	978-93-85057-25-3	Kings College of Engineering
7	Ms.S. Gayathri	Effective removal of organic concentration of textile effluent by using natural adsorbents	National Conference on Recent trends and innovations in civil engineering (NC-RTICE'22) organized by Kings college of Engineering.	978-93-85057-25-3	Kings College of Engineering
8	Ms.K.Elakkiya	Experimental investigation on partial replacement of cement by oyster shell	National Conference on Recent trends and innovations in civil engineering (NC-RTICE'22) organized by Kings college of Engineering.	978-93-85057-25-3	Kings College of Engineering
9	Dr. R. Saravanan	Experimental investigation on partial replacement of cement using glass powder in concrete	Ninth National Conference on Trendy and sustainable development in civil engineering (NCTSDCE - 2022) organized by K.S.R.College of engineering.		K.S.R.College of engineering

10	Mr.R.Sundharam	Experimental investigation on utilization of shredded rubber tyre powder in construction of bituminous road	National Level Conference on Emerging trends in engineering design and manufacturing (ETEDM-22) organized by Hindusthan Institute of technology.		Hindusthan Institute of technology
11	Mr.K.Arun	Comparative study of normal paver block with partial replacement of sand by saw dust	National Conference on Smart materials and modern building techniques (NCSMMBT-2K22) organized by Er.Perumalmanimekalai college of engineering.		Er.Perumalmanimekalai college of Engineering
12	Ms.D. Shrividhya	Experimental study on partial replacement of bitumen by ldpe bags and coarse aggregate by e- waste on flexible pavement	National Level Conference on Emerging trends in engineering design and manufacturing (ETEDM-22) organized by Hindusthan Institute of technology.		Hindusthan Institute of technology
13	Mr.M.Balaji	Experimental investigation on partial replacement of fine aggregate using waste plastic in concrete tile	National Conference on Smart materials and modern building techniques (NCSMMBT-2K22) organized by Er.Perumalmanimekalai college of engineering.		Er.Perumalmanimekalai college of Engineering
14	Mr.R.Ramchandar	Treatment of commercial effluent using activated sludge process	Ninth National Conference on Trendy and sustainable development in civil engineering (NCTSDCE - 2022) organized by K.S.R.College of engineering.		K.S.R.College of engineering
15	Ms.S. Gayathri	Effective removal of organic concentration of textile effluent by using natural adsorbents	National Level Conference on Emerging trends in engineering design and manufacturing (ETEDM-22) organized by Hindusthan Institute of technology.		Hindusthan Institute of technology
16	Ms.K.Elakkiya	Experimental investigation on partial replacement of cement by oyster shell	Ninth National Conference on Trendy and sustainable development in civil engineering (NCTSDCE - 2022) organized by K.S.R.College of engineering.		K.S.R.College of engineering
<b>CSE</b>					
17	Dr.S.M. Uma	Yoga Posture Analysis Using Deep Learning Technique	2 <sup>ND</sup> National Conference on RTESM		Kurinji College of Engineering , on Jun9, 2022
18	Dr.S.M. Uma	Automatic Waste Segregator	2 <sup>ND</sup> National Conference on RTESM		Kurinji College of Engineering , on Jun9, 2022

19	Ms.K.Abhirami	Multilevel Password Authentication Using Bio-Metric Verification For Smart ATM	National Conference NCR TTC'22		Arasu Engineering College on 01/06/2022.
20	Ms.K.Abhirami	Protection Of Crops from Wild Animals in Forest Area Using Artificial Intelligence Based Surveillance	National Conference NCR TTC'22		Arasu Engineering College on 01/06/2022.
21	Ms.S.Puvaneswari	Secured Application For E-Ballot Using Two Factor Authentication	National Conference NCR TTC'22		Arasu Engineering College on 01/06/2022.
22	Ms.S.Puvaneswari	A Smart Android Application For Real Time Accident Alert	2 <sup>ND</sup> National Conference on RTESM		Kurinji College of Engineering , on Jun, 2022
23	Ms.R.Suganthalakshmi	Block Chain Based Certificate Validation	2 <sup>ND</sup> National Conference on RTESM		Kurinji College of Engineering , on Jun9, 2022
24	Ms.B.Sangeetha	Virtual Mouse Using Hand Gesture	2 <sup>ND</sup> National Conference on RTESM		Kurinji College of Engineering , on Jun9, 2022
25	Ms.B.Sangeetha	Skin disease detection based on image processing Technique-Android Application	2 <sup>ND</sup> National Conference on RTESM		Kurinji College of Engineering , on Jun9, 2022
26	Ms.G.Chandrabha	Deep Learning based Plant Disease Predictions using Leaf Images	2 <sup>ND</sup> National Conference on RTESM		Kurinji College of Engineering , on Jun9, 2022
27	Mr.M.Arun	Tamil Voice Assistant for Bus Schedule	2 <sup>ND</sup> National Conference on RTESM		Kurinji College of Engineering , on Jun9, 2022
28	Mr.M.Arun	Effective Emergency Doctor Finding System-App	2 <sup>ND</sup> National Conference on RTESM		Kurinji College of Engineering , on Jun9, 2022
29	Ms.R.Shanthi	College Bus Pass Management System - ANDROID App	2 <sup>ND</sup> National Conference on RTESM		Kurinji College of Engineering , on Jun9, 2022



30	Ms.S.Rajarajan	RFID and Password based Door Lock System with Notification	2 <sup>ND</sup> National Conference on RTESM		Kurinji College of Engineering , on Jun9, 2022
31	Ms.R.S.Karthiga Ms.D.R.Saranya Ms.S.Priyadharshini	Study of several tools in Big Data analytics	National Conference (NCR TTC'22)		Arasu Engineering College on 01/06/2022.
32	Ms.D.R.Saranya Ms.Priyadharshini	Search engine development to enhance user communication.	National Conference NCR TTC'22		Arasu Engineering College, Kumbakonam
<b>ECE</b>					
33	R. Thandayuthapani	Facepin: Face biometric authentication system for ATM using Deep learning	2 <sup>nd</sup> International Conference on Intellectual Research in Science, Engineering and Management (ICIRSEM 2022), 28 <sup>th</sup> May, 2022	-	St. Joseph's College of Engineering and Technology, Thanjavur.
34	W. Newton David Raj	Intelligent Food products monitoring system using QR code scanning	2 <sup>nd</sup> International Conference on Intellectual Research in Science, Engineering and Management (ICIRSEM 2022), 28 <sup>th</sup> May, 2022	-	St. Joseph's College of Engineering and Technology, Thanjavur.
35	D. Vennila	Automated water tank control system with advanced features and controlled by using mobile	2 <sup>nd</sup> International Conference on Intellectual Research in Science, Engineering and Management (ICIRSEM 2022), 28 <sup>th</sup> May, 2022	-	St. Joseph's College of Engineering and Technology, Thanjavur.
36	R. Balakrishnan	BER Performance of OFDM with Differential Index Modulation for Visible Light Communication	2 <sup>nd</sup> International Conference on Intellectual Research in Science, Engineering and Management (ICIRSEM 2022), 28 <sup>th</sup> May, 2022	-	St. Joseph's College of Engineering and Technology, Thanjavur.
37	S. Ramarajan	Real time public transport control and information system	2 <sup>nd</sup> International Conference on Intellectual Research in Science, Engineering and Management (ICIRSEM 2022), 28 <sup>th</sup> May, 2022	-	St. Joseph's College of Engineering and Technology, Thanjavur.
38	P. Rajapirian	AI class room using Raspberry pi	2 <sup>nd</sup> International Conference on Intellectual Research in Science, Engineering and Management (ICIRSEM 2022), 28 <sup>th</sup> May, 2022	-	St. Joseph's College of Engineering and Technology, Thanjavur.
39	T. Jeyaseelan	Automatic Insulin Injector For Diabetic Patients	2 <sup>nd</sup> International Conference on Intellectual Research in Science, Engineering and Management (ICIRSEM 2022), 28 <sup>th</sup> May, 2022	-	St. Joseph's College of Engineering and Technology, Thanjavur.

40	K. Sudarsanan	Instant Video doorbell	2 <sup>nd</sup> International Conference on Intellectual Research in Science, Engineering and Management (ICIRSEM 2022), 28 <sup>th</sup> May,2022	-	St.Joseph's College of Engineering and Technology, Thanjavur.
41	T. Pasupathi	IoT Enabled smart kitchen for cooking	Second International Virtual Conference on Recent Trends in Electrical Energy, Artificial Intelligence, Internet of Things and Nano materials (IVC-RTEAIN-2022)	-	26 <sup>th</sup> May 2022, M.Kumarsamy College of Engineering, Karur.
42	S. Sivakumar	Design and Implementation of night patrolling robot for real time monitoring.	2 <sup>nd</sup> International Conference on Intellectual Research in Science, Engineering and Management (ICIRSEM 2022), 28 <sup>th</sup> May,2022	-	St.Joseph's College of Engineering and Technology, Thanjavur.
43	W.Newton David Raj N.Mangaiyarkarasi T.Pasupathi U.Jeyamalar	Design and Implementation of MIMO-FSO Communication System for Disaster Management	2 <sup>nd</sup> International Conference on Intellectual Research in Science, Engineering and Management (ICIRSEM 2022), 28 <sup>th</sup> May,2022	-	St.Joseph's College of Engineering and Technology, Thanjavur.
<b>EEE</b>					
44	R.Sundaramoorthi	SOC and SOH Estimation Based on Adaptive Systems for Battery Operated Vehicle Systems.	International E-conference on Advanced Electric Vehicle Drives (ICAEVD 2022), 11th and 12 <sup>th</sup> April 2022.	978-93-5627-180-7	Navodaya Institute of Technology
45	R. Arulraj	Optimal Distributed Generation Planning in Distribution Network Using (MCSO) Algorithm.	International Virtual Conference on "Innovative Research in Power and Energy Engineering 2.0 (IRPEE-2.0'22)", 18 <sup>th</sup> May 2022	-	Arasu Engineering College
46	J.Arokiaraj	Wireless Charging for Electric Vehicles	1 <sup>st</sup> International Conference on Emerging Trends in Electric Vehicles and Smart Technologies (ICETEVST-22) -21.04.22 & 22.04.22	978-93-94899-37-7	SRM TRP Engineering College
47	R.Sundaramoorthi	Development of Battery Management Systems for Electric Vehicles Applications	2 <sup>nd</sup> International Conference on Intellectual Research in Science, Engineering and Management (ICIRSEM 2022), 28 <sup>th</sup> May 2022	-	St.Joseph's College of Engineering and Technology
48	R.Sundaramoorthi	Over Voltage Protection and Harmonic Rejection for Electric Vehicle Applications	1 <sup>st</sup> International Conference on Emerging Trends in Electric Vehicles and Smart Technologies (ICETEVST-22), 21.04.22 & 22.04.22	978-93-94899-37-7	SRM TRP Engineering College
49	R. Arulraj	RF based vehicle over based automatic controlling system	2 <sup>nd</sup> International Conference on Intellectual Research in Science, Engineering and Management (ICIRSEM 2022), 28 <sup>th</sup> May 2022	-	St.Joseph's College of Engineering and Technology

50	Dr.M.Meenalochani	IoT Based Monitoring for Smart Cities	1 <sup>st</sup> International Conference on Emerging Trends in Electric Vehicles and Smart Technologies (ICETEVST-22), 21.04.22 & 22.04.22	978-93-94899-37-7	SRM TRP Engineering College
51	P.Thirumagal	Automatic Energy Conservation System Based on IoT	2 <sup>nd</sup> International Conference on Intellectual Research in Science, Engineering and Management (ICIRSEM 2022), 28 <sup>th</sup> May 2022	-	St.Joseph's College of Engineering and Technology
52	R.Sundaramoorthi	Recent Trends In Electrical Drives	9 <sup>th</sup> International Conference on Emerging Trends in Engineering and Technology (ICETET'22), 29 <sup>th</sup> and 30 <sup>th</sup> April 2022	-	PandianSar aswathiYadav Engineering College
53	Sundaramoorthi R	Optimized SCADA Systems For Electrical Substations	9 <sup>th</sup> International Conference on Emerging Trends in Engineering and Technology (ICETET'22), 29 <sup>th</sup> and 30 <sup>th</sup> April 2022	-	PandianSar aswathiYadav Engineering College
<b>MECH</b>					
54	Dr. T. Pushparaj & Mr. V. Vinoth Kannan	Book Chapter on "Characteristics Analysis of Performance as Well as Emission of Elaeocarpus Ganitrus Additive Based Pumpkin and Juliflora Mixed Biodiesel Blend in CI Engine"	Diesel Engines and Biodiesel Engines Technologies	978-1-80355-787-8	Intech Open Limited 5 Princes Gate Court, London, SW7 2QJ, UK
55	T.Pushparaj B.Abinash, B.Jayaraj,	Design and Fabrication of Solar power trolley	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications
56	Akashraja.D, FazilAhamed.S	Design and fabrication of Automatic urinal flushing system	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications
57	M.Abimanyu, B.Akash,	Micro structural and Characterization of Nicrbsi Thermal Sprayed Coating on Super Ferrous 800 Metal	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications
58	R.Akash, U.Muthukumar an,	Experimental Investigation of Dissimilar metal by using shielded metal arc welding	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications
59	Arulselvam.E, Vignesh.M,	Tribology properties upgrading over fusion deposition modeling process parameter effect on PMM	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications

60	S.Jegathish, S.Naveen,	Mechanism for Four wheel Steering with small turning radius	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications
61	C.Guhan, E.Midhunkumar,	Performance and emission characteristics Analysis in CI by using of Annona with 1 Pentanol	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications
62	S.Sanjaykumar, K.Selvaganapathy,	Synthesis and characterization of Aluminium composites (Al – SiC – Y <sub>2</sub> O <sub>3</sub> )	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications
63	C.Akilarasan, K.Chandru,	Design, fabrication and analysis of electrochemical grinding machine (silicon carbide)	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications
64	Aswin.D, Brithiviraj.D,	Mechanical properties upgrading over fusion deposition modelling process parameter effect on polymer matrix composite	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications
65	Venkatesh.A, Karthik karan.S,	Design and Fabrication of Three axis Pneumatic Trailer by Wireless.	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications
66	P.P.Shantharaman P.Pradheesh, S.Samuel,	Metallurgical Study on high temperature hot corrosion Characteristics of IN625	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications
67	S.Arunpandiyan, P.Manikandan,	Synthesis and characterization studies on cu-sic-Y <sub>2</sub> O <sub>3</sub> hybrid composites	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications
68	D.Pavithraj, R.Rajadurai,	Corrosion study of SS316 at an elevated temperature of 800°C	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications
69	R.Thiruvengaden, K.A.Yogendran,	Design and Fabrication of Grass Cutting Bicycle	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications
70	S.R. Hariharan, S. Mahendran, S. Sakthi, M.Vimalkumar	Microstructure, mechanical and wear behavior of LM24/SiC/MoS <sub>2</sub> hybrid composites produced via liquid metallurgy process	National Conference on Energy and Manufacturing Scenario-2022	978-93-85057-22-9	Kings Publications

S&H					
71	Dr. P. Saravanan	Text Book on "Engineering Chemistry"	-	7893850 5-7243	Kings Publication
72	Dr.V.Sureshkumar	CSIR Sponsored A comparative study of polythiophene (pth) and Itsderivatives on corrosion inhibition of mild steel by Weight loss method	National Conference on "Chemical, Environment, Energy and Engineering Research" (NCCEEER - 2021)		ARASU ENGINEERING COLLEGE, Kumbakonam
73	Dr.S.Udayakumar	CSIR Sponsored Adsorption of chromium ion by low cost acid Activated carbon-cocciniagrandsis	National Conference on "Chemical, Environment, Energy and Engineering Research" (NCCEEER - 2021)		ARASU ENGINEERING COLLEGE, Kumbakonam
74	Dr.P.Saravanan	CSIR Sponsored A study on the eco-friendly natural dye obtained from Barks of odinawodierlinn. On wool in different Conditions	National Conference on "Chemical, Environment, Energy and Engineering Research" (NCCEEER - 2021)		ARASU ENGINEERING COLLEGE, Kumbakonam

## **CE012**

# **EXPERIMENTAL INVESTIGATION ON PARTIAL REPLACEMENT OF CEMENT USING GLASS POWDER IN CONCRETE**

*Dr. R. Saravanan, Ph.D., S.Jayashree R.Nandhini S.Rahini*  
*Professor, UG Students*  
*Kings College of Engineering, Pudukkottai*

Nowadays Cement industries produce harmful environmental impacts due to the emission of carbon-dioxide from it. We have to replace the cement to protect the environment. In this project we are going to replace the cement by glass powder partially. Waste Glass Powder can be used as a binding material for the partial replacement of cement, it can acts as a filler material. We have to collect the waste glass materials. After the process of proper cleaning, the glass is used as the crushed powder for the replacement of cement. When the waste glass grained into a very fine powder, it shows pozzolanic properties because it contains high SiO<sub>2</sub> and therefore to some extent it can replace cement in concrete and contribute strength development. In this process we will do the similar tests of cement on glass powder to know the properties of glass powder. This investigation will conclude that the age of testing the cube may affects the compressive strength.

## **CE014**

# **EXPERIMENTAL INVESTIGATION ON UTILIZATION OF SHREDDED RUBBER TYRE POWDER IN CONSTRUCTION OF BITUMINOUS ROAD**

*SUNDHARAM R<sup>1</sup>, DHINAKARAN.D<sup>2</sup>, THILAK.M<sup>3</sup>, SIVASANKAR.M<sup>4</sup>*

*<sup>1</sup>Assistant Professor, Department of Civil Engineering*

*<sup>2,3,4</sup>Final Year Student(UG), Department of Civil Engineering*

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The waste generation from old rubber tires has been increasing and causing environmental degradation with the escalation of vehicles number especially in the cities. Bitumen is extensively used in flexible pavement construction and as its manufacturing industries were still growing, the cost has not been much affordable. This study aimed at evaluating the possibility of a partial replacement of ordinary bitumen by tire rubber waste, with the purpose to reduce not only the amount of rubber wastes dispersed in the nature, but also the material cost, while keeping or improving the bitumen product performance.

**CE016****COMPARATIVE STUDY OF NORMAL PAVER BLOCK WITH  
PARTIAL REPLACEMENT OF SAND BY SAW DUST***K.ARUN<sup>1</sup>, S.CHANDRU<sup>2</sup>, A.JOSHI<sup>3</sup>, A.PATRICK ANTONY SAMY<sup>4</sup>**<sup>1</sup>Assistant Professor, Department of Civil Engineering**<sup>2,3,4</sup>Final Year Student(UG), Department of Civil Engineering**Kings College of Engineering, Pudukkottai*

This study investigates between normal paver block and partially replacement of sand by using sawdust. The presently paver block is used in outdoor versatility application and also it is used in street road and other construction places. Concrete paving blocks are ideal materials on the footpaths and roads for easy laying, better look and finish. Today the construction field lags down due to various reason. Among that, important one is lack of sand. To solve this problem we replaced the sand by sawdust for making paver blocks. Sawdust can easily available at low cost. It is environmental eco friendly material. The development of sawdust concrete is suitable for the production of lightweight load bearing blocks (Outdoor Purpose), where the ingredients used in the mixing are cement, aggregates, water and sawdust. The physical and mechanical properties of sawdust concrete not only depend on the amount of sawdust used but also on the chemical and physical characteristics of the sawdust. Here we conduct Compressive strength over the saw dust paver block to determine their properties and strength.



## **CE018**

# **EXPERIMENTAL STUDY ON PARTIAL REPLACEMENT OF BITUMEN BY LDPE BAGS AND COARSE AGGREGATE BY E- WASTE ON FLEXIBLE PAVEMENT**

Ms.D. SHRIVIDHYA, J.ABRAHAM RAJA, S. JEGAN, B.VAITHEES WARAN

<sup>1</sup>*Assistant Professor, Department of Civil Engineering*

<sup>2,3,4</sup>*Final Year Student(UG), Department of Civil Engineering  
Kings College of Engineering, Pudukkottai*

An efficient transport system is a prerequisite for the sustainable development of a country, which plays a very important role in the speedy and economic growth of a country. In India mostly bituminous roads are preferred. The significant change in seasonal temperature demands improved road characteristics. The use of materials such as LDPE bags, electronics waste etc. offers an economically viable and sustainable alternative towards increasing demand for better road construction. Improve the quality by coating the aggregates with plastic to reduce the deterioration and to what extent bitumen and aggregate replaced by waste plastic and e-waste.

**CE020**  
**EXPERIMENTAL INVESTIGATION ON PARTIAL  
REPLACEMENT OF FINE AGGREGATE USING WASTE  
PLASTIC IN CONCRETE TILE**

M.BALAJI, M.ARAVINTH, V.DEENATHAYALAN, S.KALAIKUMAR,  
S.KARIKALAN

<sup>1</sup>*Assistant Professor, Department of Civil Engineering*

<sup>2,3,4</sup>*Final Year Student(UG), Department of Civil Engineering  
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Plastics have become now integral part of the day today life. PolyVinyl Chloride (PVC) bags, Polyethylene Terephthalate (PET) bottles, and many other products are finding wide range of applications in all fields of life. These non-biodegradable products are used and thrown out which leads to the environmental pollution. These plastic varieties which are dumped in open and which otherwise create nuisance and damage to public can be utilized in eco-friendly way to reduce the problems it creates. In the present study, these non biodegradable plastic products viz. polythene bags and PET bottles are pulverized and used in concrete as a partial replacement for fine aggregate. The replacement to the extent of 0%,10%, 20% and 30% is we has to be tried.

## **CE022**

# **TREATMENT OF COMMERCIAL EFFLUENT USING ACTIVATED SLUDGE PROCESS**

R.RAMCHANDAR, P.ABINAYA, B.PRIYANKA, K.ROOSIKA

<sup>1</sup>*Assistant Professor, Department of Civil Engineering*

<sup>2,3,4</sup>*Final Year Student(UG), Department of Civil Engineering*

*Kings College of Engineering, Pudukkottai*

Treatment of waste water involves a variety of method . Biological treatment using Aerobic Activated Sludge Process has been in practice over a century. Conventional Activated Sludge Process (ASP) is the most common and oldest bio treatment process used to treat municipal and industrial waste water . Typically waste water after Primary Treatment i.e. Suspended impurities removal is treated in an activated Sludge process based biological treatment system comprising Aeration Tank followed by Secondary Clarifier . The Aeration Tank is completely mixed Bio Reactor where specific concentration of biomass (measured as mixed liquor suspended solids) (MLSS) is maintained along with sufficient dissolved oxygen (DO) concentration (typically 2 mg/l) to effect bio degradation of soluble organic impurities measured as biochemical oxygen demand (BOD 5 days). The hydraulic retention time (HRT) is varied in the range 3-8 hrs. the maximum BOD removal efficiency obtained was 93.7% and turbidity removal efficiency was 87.6% in the 8 hrs HRT.

**CE024**  
**EFFECTIVE REMOVAL OF ORGANIC**  
**CONCENTRATION OF TEXTILE EFFLUENT BY USING**  
**NATURAL ADSORBENTS**

*S. GAYATHRI, M.MANIKANDAN, T.SETHUBALA, R.VIJAYAPRAKASH,*  
*J.VINOTHKUMAR*

**R.RAMCHANDAR, P.ABINAYA, B.PRIYANKA, K.ROOSIKA**  
*<sup>1</sup>Assistant Professor, Department of Civil Engineering*  
*<sup>2,3,4</sup>Final Year Student(UG), Department of Civil Engineering*  
*Kings College of Engineering, Pudukkottai*

The textile industry is a large water consumer. Effluent from the textile industry contains toxic compounds. These compounds contaminate the surface water, thereby making it unfit for irrigation and drinking. Since farmers use water from the rivers for agricultural purposes and the residents of the town, use both the surface and underground water from the same area as potable water, it is quite unsafe to discharge this effluent into water body. Suspended solids can clog fish gills, either kill them or reduce their growth rate. They also reduce the ability of algae to produce food and oxygen. The main aim of this study is to utilize natural low cost adsorbent materials like neem powder, China clay, bark plantain plant, parthenium species powder. The removal efficiency of COD, BOD, color, total dissolved solids, pH, chloride gave a better result by using these natural adsorbents

**CE025**

## **EXPERIMENTAL INVESTIGATION ON PARTIAL REPLACEMENT OF CEMENT BY OYSTER SHELL**

*K.ELAKKIYA, S. JAYA LAKSHMI, R. PADMA REKA, C. PAVITHRA, N. SARMILA*

*<sup>1</sup>Assistant Professor, Department of Civil Engineering*

*<sup>2,3,4</sup>Final Year Student(UG), Department of Civil Engineering  
Kings College of Engineering, Pudukkottai*

Concrete is a mixture of cement, fine aggregate, coarse aggregate and water. In this project we are going to replace the cement by oyster shell partially. The oyster shell will be available in the sea shore side. We going to replace Ordinary Portland Cement(OPC) partially by 10%,15%,20%. In this research ,we are going to discuss about the high performance of concrete by replacing the cement by oyster shell and we are going to determine the effect on the shell with the concrete experimentally. Therefore to some extent replace cement in concrete contribute strength development. In this process we will do the common tests of cement on oyster shell. This investigation will conclude test the compressive strength.

**CE027**

# K.S.R.COLLEGE OF ENGINEERING

(Autonomous)

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Accredited by NAAC with A Grade and Eligible courses accredited by NBA

K.S.R Kalvi Nagar, Tiruchengode - 637 215 Namakkal District, Tamilnadu, India

## DEPARTMENT OF CIVIL ENGINEERING

### NINTH NATIONAL CONFERENCE ON

### “TRENDY AND SUSTAINABLE DEVELOPMENT IN CIVIL ENGINEERING”

### NCTSDCE - 2022

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# Analysis of Cloud Analytic Tool

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**Abstract-** Cloud computing is a common word for everything that provide hosted services over the world wide web. Cloud computing provides three major services: Platform as a service (PaaS), Software as a service (SaaS) and Infrastructure as a service (IaaS). To implement a cloud computing model, cloud infrastructure requires the hardware and software components. Cloud computing is the on-demand computing. In this paper, we are going to analysis the most excellent cloud analytics tools on the marketplace.

**Keywords-** Cloud computing and analytic tools

## I. INTRODUCTION

Cloud computing is the on-demand accessibility of computer resources, particularly storage of data and power computing, without straight management of user. In cloud data is distributed over various locations and every locations is considered as data center. Cloud computing relies on using a "pay-as-you-go" model by distribution of resources. So it can avoid the capital cost of users but may increases the operational cost of ignorant users. The main aim of cloud computing is to take advantages from all of the technologies by the users, without having a more understanding about or skill with all of them.

The cloud goal is to reduce the expenses and assist the users concentrate on their main business instead of having delay by software barrier. The cloud computing major tool is virtualization. Virtualization software do computing tasks by separating a hardware device into more "virtual" devices, each devices can be effortlessly assemble and manageable.

Cloud analytics describe the function of analytic the data against a private or public cloud for bring a outcome of users significance. It involves use of scalable cloud computing with great analytic software to data pattern identifications and to mine latest insights. It is one kind of analytics model that transfer processing of data and storage operations to a public or private cloud. Due to needs of several analytics requirements for companies used this model.

**cloud analytics:**

The process of analytics a data in a private or public cloud is called cloud analytics. Cloud analytics services and applications are provided based on subscription or price model.

Gartner defines the six major analytics elements such as distribution or storing of outcomes, sources of data, models of data, applications processing, power computing and cloud models of analytic.



The products and services of cloud analytics examples are software-as-a-service business intelligence (SaaS BI), hosted data warehouses and social media analytics based on cloud.

Software-as-a service business intelligence (called as cloud Business Intelligence or on-demand Business Intelligence) used to send business intelligence (BI) applications from a hosted locations to users. It is a scalable model and establish business more easier and low price, but in-house application, product might not provide the same characteristics. For social media applications cloud based analytics tools provide the remote delivering of tools for choosing the application from social media sites, to gather data for the applications, services for storage and software based on data analytics in social media.

A hosted data warehouse is a centralized depository for data that is provided to accessible of data from remote

**YOGA POSTURE ANALYSIS USING DEEP LEARNING TECHNIQUES****Dr. S.M. Uma<sup>1</sup>, R.S. Karthiga<sup>2</sup>, Dharshini T.R<sup>3</sup>,****Gayathri J<sup>4</sup>**<sup>1,2</sup>Assistant Professor, Department Of CSE, Kings College Of Engineering, Tamilnada, India.<sup>3,4</sup>IV CSE Student, Department Of CSE, Kings College Of Engineering, Tamilnada, India.**ABSTRACT**

Human pose estimation is a profound, established computer vision issue that has uncovered numerous past difficulties. Breaking down human exercise is advantageous in multiple fields like surveillance, biometrics, and many healthcare applications. Workout with yoga poses is famous these days since yoga activities can expand adaptability and muscular quality, and the respiration procedure will be improvised. The yoga postures evaluation is hard to check, so specialists will most likely be unable to benefit from the exercises ultimately. IoT-based yoga frameworks are required for individuals who need to rehearse Yoga at home. A few studies are recommended camera-oriented or wearable gadget-oriented yoga posture finding strategies with more precision. Nonetheless, camera-based plans have security and privacy issues, and the wearable device-based methods are illogical in the earlier applications. To build such systems, one must have a strong foundation and current research in pose estimation. In this project, we have developed a web application that is capable of analyzing yoga postures and gives the result only when the postures match with the trained models.

**Keywords:** Yoga Pose, Yoga Health, Pose estimation, Deep Learning, IoT.**I. INTRODUCTION**

Yoga started in India many decades ago, gathering exercise related to mental, physical, and profound strength. Yoga and sports have been drawing in people groups for endless years, yet from the most recent decade, an enormous community accepts Yoga as a feature of their life. The reason is because of the medical advantages. It is critical to do this activity in the right manner, particularly in the right pose. At some point, because of no assistance or information, individuals don't have a better idea about the correct technique to perform Yoga and begin doing Yoga with no proper guidance. Accordingly, they harm them-self while self-preparing because of an ill-advised stance. Yoga ought to perform under the direction of a trainer, yet it is likewise not moderate for all individuals. These days individuals utilize their cell phones to figure out how to do yoga stances and begin doing that, yet while doing that, they don't realize that the yoga present they are doing is precise or not. To conquer the constraints, as mentioned earlier, numerous works have been proposed. Computer vision and data science methods are utilized Artificial Intelligence (AI) products that act as a trainer. It depicts the benefits of that present. In some articles, there applied AI and Deep learning modules on an enormous number of picture dataset, which includes different yoga poses (Laxman, 2020). Yoga utilizes a progression of physical postures called asana, breathing control, and meditation. Since Yoga focuses on both body and brain, it is unmistakably more remedial than work out. Yoga practice must consolidate the extending of significant muscle gatherings, adding to physical ability and adaptability (Rowland et.al, 2020). A few yoga-based meditations directed in the community have been described. Regardless of how interventions assist in decreasing falls and the dread of losing, older people with these issues may not promptly approach such network-dependent projects. Particular old individuals' manifest inconvenience at rehearsing Yoga publicly, Which is particularly valid for ladies who want to do much at home and recreation. It is desirable to train Yoga in a bounded area with no disturbance. In rural zones, notwithstanding, yoga coaches are scarce (Mohan, 2021), and this factor is a significant driver in the production of a self-helped yoga training framework. Learning is frequently connected with two criteria, area and time, and is relevant to exercise or Yoga by the older too. Given an overall hesitance concerning the old to exercise or practice Yoga, the spot and season of training are adaptable by their inclinations. Also, learning depends on the person's choices and inspiration to learn at their movement.

**II. SYSTEM ARCHITECTURE**

The COVID outbreak and resulting lockdown had constrained us all to stay at homes prompting a more unpleasant life (Borave, 2020). Public distancing had invigorated the chance to improve mental ability and



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## AUTOMATIC SPEED CONTROLLING OF VEHICLE BASED ON SIGNBOARD DETECTION USING IMAGE PROCESSING

E. Hariharan<sup>1</sup>, Mr. M. Arun<sup>2</sup>, T. Rathnakumar<sup>3</sup>, B. Gunaseelan<sup>4</sup>

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<sup>1</sup>Professor of the Department of CSE, Kings College of Engineering, Tamilnadu, India

**Abstract** - The aim of this project is to reduce accidents and follow traffic rules by identifying and recognizing traffic sign boards in various backgrounds and lighting conditions from static digital images. These identification is done by using image processing technology. A major reason for accidents is not considering the signboards and not following the rules consequently. So to avoid this problem, introduce an automatic speed controlling vehicle using an image processing system in the vehicle which will detect the signboard. It will reduce the speed of the vehicle according to the signboard speed limit with the help of image processing algorithm and if head counts more than 10, speed of the vehicle automatically limited to 35km/hr. Traffic sign recognition is important to the transport system on the highway road. Major approach is to detect road signs and use the data to reduce the speed of the vehicle. Proposed system will play a vital part in saving numerous lives.

**Key Words:** Traffic sign recognition, Deep learning, Speed control, Image Processing

### 1. INTRODUCTION

Most of the traffic accidents are the result of neglectfulness, ignorance of the traffic rules and disobeying traffic sign boards, by the drivers and also people in the society at large. Due to inflated vehicle density and over speed driving causes a lot of accidents. The applied mathematics reports of happened accidents shows that, there area unit inflated rate of auto density, the Indian roads area unit drastically inflated quite up to the expecting level excluding the national road, multiple performing at the time of driving the vehicle that's like use of mobile, drink whereas driving, refuse of traffic rules and regulation, crossing speed limits that is dangerous for your own safety which of others. This is apparent from the fact that every hour 56 accidents occurring due to carelessness, disobeying of traffic rules and overspeed. Similarly, every hour nearly 14 people die in road accidents. When someone fails to obey traffic signs, they are making themselves at risk as well as the life of pedestrians, and other drivers. Speed limit sign boards and traffic signals helps to reduce traffic in roads and they also are fabricate to reduce the number of traffic accidents. Image processing technology plays an important role in the speed limit sign board capturing. In this journal we have introduced a system that can help the driver, significantly increasing passenger's safety. Road sign

detection and recognition systems have also been implemented lately by many companies. In earlier days the road signs were detected manually by the drivers. But now the Automatic speed controlling of vehicles based on signboard detection using image processing can easily recognize the signs using the raspberry pi camera module.

### 1.1 METHODOLOGY

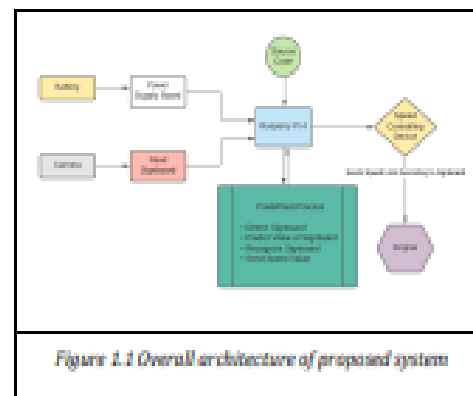


Figure 1.1 Overall architecture of proposed system

The automatic recognition of these signs, however, isn't simple due to weather's conditions, the blur ensuing from moving vehicles and also the lighting conditions. To handle these challenges, researchers suggested the use of image processing and machine learning techniques. Automatic speed controlling of vehicles using image processing includes mainly, the traffic sign detection and also the traffic sign classification. Traffic signs have many distinctive options like colors, shapes and symbols. Within the detection stage, the input pictures are preprocessed increased so metameric in step with their color or pure mathematics

Proposed speed controlling system has two modules, which is an image processing module and a speed controlling unit module. The image processing module acknowledges the regulation signs before extracting from them a speed of the vehicle data that may be sent to the speed controlling unit module. A summary of those units is shown in Figure 1.1.



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## SECURED APPLICATION FOR E-BALLOT USING TWO FACTOR AUTHENTICATION

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### ABSTRACT

India's democratic underpinning are based on election results. In earlier days, voting periods range in length from three days to 46 days. In traditional they were using ballot paper and other methods for voting system. Now at 21<sup>st</sup> century, we are all using advanced electronic voting machine. Electronic voting machine contains certain drawbacks as chances of the violence, damage of machineries, dummy votes etc. So to avoid these drawbacks this paper implements a new technique as Android Mobile based Voting System. Our voting application is highly secured, and it has a quite simple and interactive user interface. For security purpose, we are using two authentication technique such as user recognition of Fingerprint and QR Scanner. Since the QR code and Fingerprint of each human being is different, the voter can be easily authenticated. Once the user can login and vote for the candidate who are nominated. User can vote the candidate only once, the application will not allow the candidate to vote for the second time. These votes will be counted and the results will be reported immediately. In our application helps to user can vote anywhere in the places and country.

**Keywords:** Voter ID And QR Code Based Online Voting System, E-Voting, Fingerprint Based Online Voting, One Time Password(OTP).

### I. INTRODUCTION

Traditionally, election process plays a important role in democratic country. The election is a process for selection of a perfect candidate who will lead the nation. In a democracy, people choose their leader by giving their vote. Recently in India, electronic voting system is used and voter availability at in the city is compulsory. Now, this electronic system has no need of ballot papers. Electronic Voting systems suffers from various drawbacks such as time consuming, consumes large volume of paper work, no direct role for the higher officials, damage of machines due to lack of attention, mass update doesn't allows users to update and edit many item simultaneously etc.

In our application, the major advantage is that the user has no need of coming to the voting halls, as they can vote from anywhere. It has more features as compared to the normal voting system. By this way most the people can cast their votes without missing. There's a chance to kill long lines at review stations and offer better reception for people who are mentally ill, experiencing illness, serving in the military or living abroad as well as those who are away from close rides and others who feel hard to see. Young people between the ages of 18 and 30 are special voters and the application is a process to attract those citizens who seem to be the hardest to reach.

### II. METHODOLOGY

The Existing System of election is running manually. The voter has to visit to booths to vote a candidate so there is wastage of time. The voter has to manually register into the voter list and also vote counting has to be done manually. All the information of the voter or candidate is to be filling in manually. Voter must be present in his/her constituency to give his/her vote. There are Electronic Voting Machines used which takes more cost. The voting system previously being used by the Government is a paper based system, in which the voter simply picks up ballots sheets from electoral officials, tick off who they would like to vote for, and then cast their votes by merely handing over the ballot sheet back to electoral official. Maintaining the integrity of the specifications.

Some of the existing system are:

1. Paper-based voting
2. Punch card
3. Direct recording electronic voting machine

## A SMART ANDROID APPLICATION FOR REAL TIME ACCIDENT ALERT

Ms. S. Puvaneswari<sup>1</sup>, R. Shanthi<sup>2</sup>, G. Divyabharathi<sup>3</sup>,  
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### ABSTRACT

Technology has made our lives far easier, faster and better through communication. Nowadays everything is becoming a mobile technology. Such as Mobile Government, Mobile Hospital, Mobile ambulance all are innovative research area in this technology era. This paper proposes a Smart Android Application System for the purpose of increasing security and giving a real time emergency alert for the people who are in the emergency or a hazardous situation. This mobile application will send the alert with the real time location of the user to the nearby police station and the public in and around the area by the use of Google map API and GPS. Also, this application will send the live video proofs of the user who are sends alert. The main purpose of this system is to reduce the response time of emergency services in situations like health emergencies, traffic emergencies, women security emergencies or other emergencies such as fire, theft/robberies. So, that the Governmental agencies such as Police Departments and family members can also easily find out the people who are in the occurrence of danger through push notifications.

**Keywords:** Emergency Alert, Accident Alert, Mobile Application, Push Notification, Cloud Technology, GPS Location, Traffic Accidents, SOS, Real-Time Emergency Alert, Google Map API.

### I. INTRODUCTION

With current technology era where mostly everything runs on smart phones and applications, the need of quick and efficient services is important in every aspect especially when it comes to women security, emergency and medical services. In emergency cases the number of deaths due to road accidents is very high. Looking at the number of deaths and injuries due to road accidents shows the global crisis of road safety. Nearly 1.4 million people are killed every year. More than 90% of road accident deaths occur in middle-income countries, in low-income countries the figure is even higher. If we analyse such this problem one of the main reasons behind this is lagging in medical response and lagging in reporting on correct time. The most likely reason for an individual's death in an accident is lack of the first aid provision that is because of emergency services not receiving information about accident in time. Analysis shows that if we decrease just one minute in accident response time that increases chances of saving an individual's life up to six percent. Women are still facing unpeakable insecurities. For these kinds of security and emergency purpose many devices and applications are already exist but those are ineffective. In such other emergency cases like fire emergency, theft/robberies cases we need to give immediate alert in order to avoid death causes. Due to the above reasons, it is quite apparent that there is a striving need for emergency alert in the country. However, it is a point worth to note that advancement in technology has paved its path in almost all walk of life. To resolve these types of societal issues, current technologies are have to be introduced.

In this work we are utilizing android smartphone to give real time emergency or accident alert to the nearest Police Stations and emergency contacts with the exact location of victims and live video in emergency. On an emergency responder side, the system will inform responders about the incidents that occur near to them and provide them with real time tracking of emergency victims on a Google map. This will help emergency responders keep track of victim's location and rescue them as soon as possible. With live video proof will help to the responders. So, that the given information might not be wrong at any time.

### II. SYSTEM ARCHITECTURE

An architecture diagram is a diagram of a system that is used to abstract the overall outline of the software system and the relationship, constraints, and boundaries between the component. Initially, after installing the



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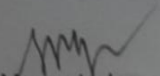
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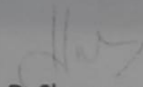
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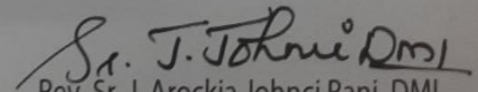
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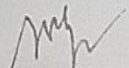
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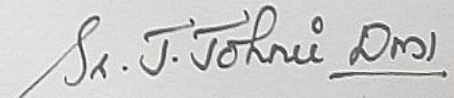
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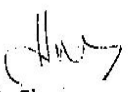
KINGS COLLEGE OF ENGINEERING has presented a paper entitled

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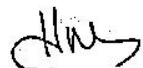
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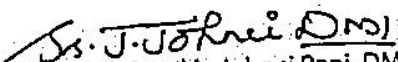
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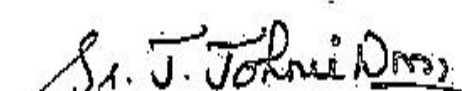
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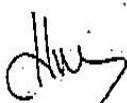
KINGS COLLEGE OF ENGINEERING has presented a paper entitled

BER PERFORMANCE OF OFDM WITH DIFFERENTIAL INDEX MODULATION FOR in the  
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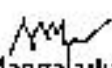
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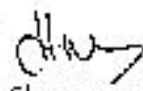
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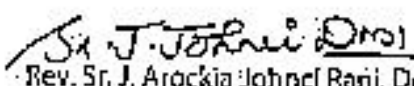
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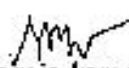
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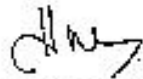
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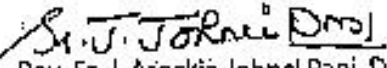
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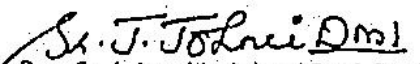
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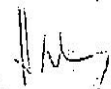
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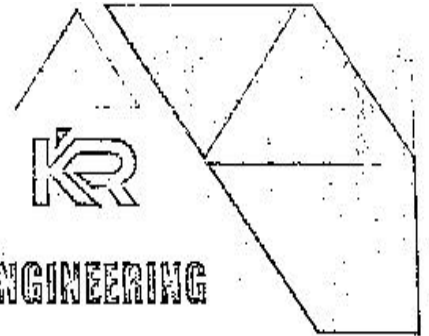


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Presented his/her Paper titled Automatic Insulin Injector For Diabetic Patients

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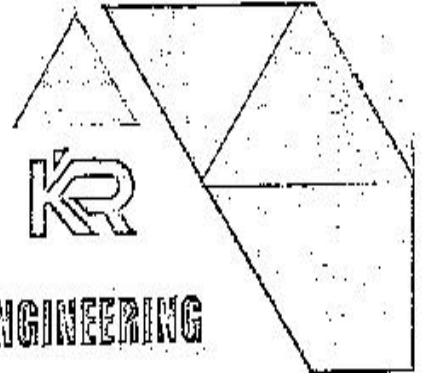
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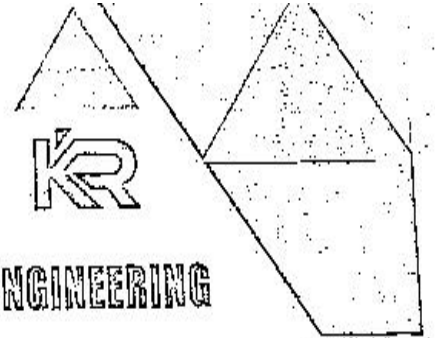


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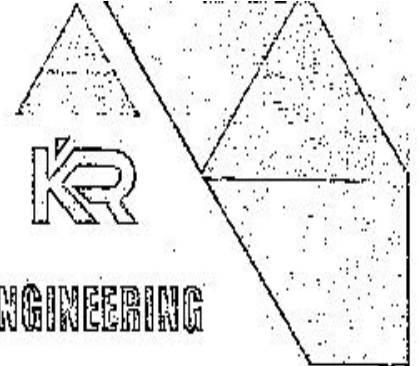


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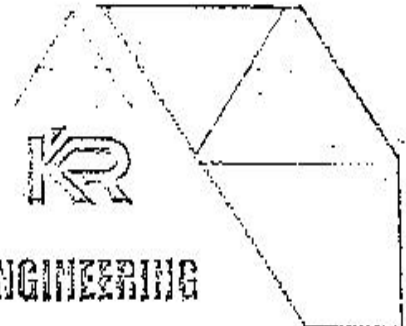
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2<sup>nd</sup> International Conference on Intellectual Research in Science, Engineering and Management

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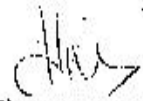
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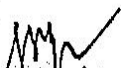
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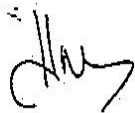
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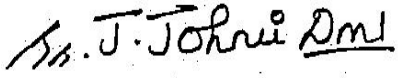
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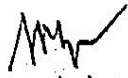
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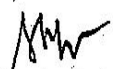
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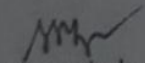
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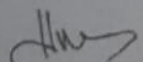
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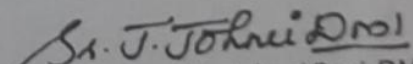
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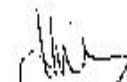
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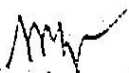
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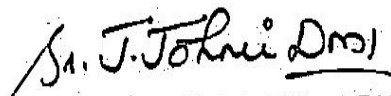
INTELLIGENT FOOD PRODUCTS MONITORING SYSTEMS USING QR CODE SCANNING in the

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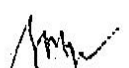
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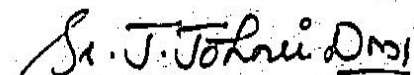
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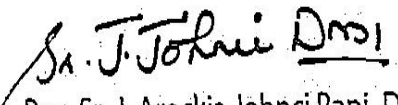
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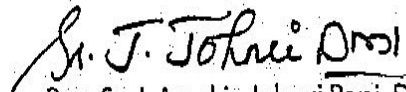
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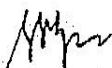
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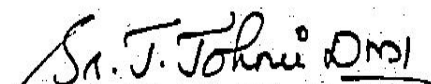
FACEPIN: FACE BIOMETRIC AUTHENTICATION SYSTEM FOR ATM USING DEEP in the  
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**R.Raguraman**, Kings College of Engineering

**S.Mohamed Halith**, Kings College of Engineering

*Abstract:—*

In this project we designed a wireless power transmission charging circuit for electric vehicles to increase the battery life of the vehicle and also to sort out the issue of battery overheating due to plugged in charging. Wireless Power Transfer (WPT) systems transfer electric energy from a source to a load without any wired connection. WPT is achieved through the affordable inductive coupling between two coils termed as transmitter and receiver coil. We can be implemented Wireless power transfer as a static charging system. When we use wireless technology for the charging very less amount of heat is produced comparatively. Here we use app to know about the charging percentage through notification. So we can manually off when we had enough charging. Otherwise, it can automatically off after completion of full charging. Wireless power transmission with the help of inductive coupling is the main motive of our project.

## **Overvoltage Protection and Harmonic Reduction for Electric Vehicle Application**

R.Sundaramoorthi, Kings College of Engineering

A.Akesh Sathya, Kings College of Engineering

K.Vasanth, Kings College of Engineering

K.Karthikeyan, Kings College of Engineering

*Abstract—*

This paper presents and deals with overvoltage protection circuit against an overvoltage caused by sudden battery removal from the dc link circuit. In addition, with harmonic measurement and analysis during electric vehicle (EV) charging also presented. The general effect on distribution system caused by the spread of EV will be considered is the coincidence between the charging start time and the eventual evening load peak period, which varies with customer and country. Electric vehicle protection and harmonic analysis pertaining to safety is important as far as research is concerned. The proposed system design can be protected against the overvoltage by opening the neutral point of the generator. The voltage and current waveform during charging was analyzed in order to investigate the harmonic component exist in the system. Total harmonic distortion of voltage and current is calculated. This method will be tested and validate. The results of the study will be useful for understanding the harmonic distortion and protection of EV. Keyword - overvoltage; load dump; range extender; generator ;Electric Vehicle; Total Harmonic Distortion; Electric Vehicle Charging; Harmonic; Power Quality.

## **IoT based Monitoring for Smart Cities**

**M.Meenalochini**, Kings College of Engineering

**U.Abirami**, Kings College of Engineering

**S.Chandrapriya**, Kings College of Engineering

**N.Premalatha**, Kings College of Engineering

*Abstract:--*

The idea of a smart city injects new thought into the innovation of city development mode and brings tangible development benefits for urban residents. Building smart cities have become a crossdisciplinary hot issue in the current information technology and city development. An Environment monitoring system using Wireless Sensor networks in smart cities is proposed. The monitoring system consists of street lights as routers and vehicles as nodes. The data collected by the nodes in vehicles are transmitted to the routers in the street light. The router data can be sent to a central station through the Internet of Things for monitoring the overall city. Once this network is created, many parameters can be monitored in a smart city setup. Since the network of vehicles and street lights covers a wide range and is orderly distributed and easy to be managed, the Zigbee Wireless Sensor Network based on the vehicles and street lights could offer a new idea for the construction of a smart city's infrastructure.

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## Chapter

# Characteristics Analysis of Performance as Well as Emission of Elaeocarpus Ganitrus Additive Based Pumpkin and Juliflora Mixed Biodiesel Blend in CI Engine

*Vinoth Kannan Viswanathan and Pushparaj Thomai*

## Abstract

Up-to-the-minute researches of different countries have used conformist seed oils such as jatropha oil, coconut oil for the synthesis of biodiesel. In the present investigation, (pumpkin) *Cucurbita pepo. L* along *Prosopis juliflora* seed oil was used for the synthesis of mixed biodiesel with 5 ml Elaeocarpus Ganitrus (Rudraksha) as additive. Performance tests were conducted using biodiesel blend in water cooled CI engine and the emissions were analyzed using a five-gas analyzer. Pumpkin and Juliflora biodiesels were blended in equal ratio to form mixed biodiesel denoted by PJB. It was observed that there was 51% amplify in Brake Thermal efficiency and 33% diminution in Brake Specific Fuel consumption at the maximum load when compared to diesel for PJB20 blend with 5 ml additive. It was also noted that emission of CO bargain by 75%. CO<sub>2</sub> bargain by 16.95%, HC compact by 49.2% and NO compact by 34.2% for PJB20 blend with 5 ml Rudraksha additive than that of diesel. The smoke opacity with respect to diesel was also noted to be concentrated by 6% for PJB20 with additive used as fuel in CI engine without any engine modification.

**Keywords:** *Cucurbita pepo. L* (pumpkin), *Prosopis Juliflora*, B20 biodieseel blend, Elaeocarpus Ganitrus, Rudraksha, Emission characteristics, 5-gas analyzer

## 1. Introduction

Liquid fuels of agricultural origin are being increasingly considered as alternatives to gasoline and gas oil as sources of energy. Specifically, biodiesel has a substantial potential to reduce oil imports and ensure continuity in the energy supply [1]. The main alternative fuels operated so far are oxygenates (alcohol, ether etc.), vegetable oils and their esters, gaseous fuel (hydrogen, liquefied petroleum gas etc.), gas to liquids (GTL) and coal imitatives. Ethanol has attracted attention wide-reaching because of its potential use as an alternative fuel [2]. New cheap oil crops are wanted to produce economical oils appropriate for biodiesel production. One of the possible

substitute oil crops for the Mediterranean area is pumpkin seed (*C. pepo* L.). To the authors' best knowledge, studies on pumpkin seed oil as the feedstock for methyl ester making were never conducted. In the search for substitute oils for biodiesel production, pumpkin seed oil here a promising choice; however, this cannot be regarded as a massive raw material for biodiesel production on a large scale. The percentage increase of biodiesel in the blends increases emissions due to improper combustion process [3]. However, the selecting of oil is an important measure for biodiesel performance. In biodiesel production, it is needed to make the low cost oil crops. Pumpkin oil and juliflora oil are few of the good oil crops for biodiesel production. The pumpkin seed oil contains an oil intensity of 42–54% depending on numerous factors such as plant area, climate and state of ripeness [3]. The biodiesel is extracted from digestible or non-digestible vegetables by using transesterification production method [4, 5]. The biodiesel have most widely used five types of methyl esters like methyl linolenate, methyl stearate, and methyl oleate and methyl palmitate [6]. During the combustion phase of the biodiesel, engine emitted 9% carbon composition which is less than high speed diesel [7]. In any type of biodiesel preparations FFA oil content of less than 3% has been easily converted by using a catalyst [8, 9]. Similarly, the transesterification process of base catalyst cannot access the high amount of FFA content in vegetable oils [10–12]. EG biodiesel can be blended with other biodiesel as additives for improving the performance and reducing the emission at effective cost [13]. mixture of two biodiesels in equal weight ratio namely *C. pepo*.L (pumpkin) and *Tectona grandis* (teak) seed oil was used for the synthesis of biodiesel with 5-ml Diethyl ether as additive [14]. Present work investigates the biodiesel obtained from transesterification process of Pumpkin and Maize is used as an alternative fuel to diesel [15]. Present investigation, (pumpkin) *C. pepo*.L and *prosopis juliflora* seed oil was used for the synthesis of biodiesel [16].

In this experiment, pumpkin seed oil, juliflora seed oil are converted to fatty acid, by adding 15 g potassium hydroxide (KOH) as catalyst for transesterification [17]. Rudraksha was added as additive to the exceeding mixed biodiesel blend and the engine was driven with minimum load to maximum load and at excess load condition. From the results, it was noted that here was an enhancement in BTE and diminish in Specific fuel consumption. The advantage of *C. pepo* oil along with *prosopis juliflora* oil over other edible oil stretch out in the oil price. In this regard the proposed research work is aimed to focus on the performance and emission of the pumpkin and juliflora mixed biodiesel blend with Rudraksha additive.

5 ml Rudraksha biodiesel as additive was added to mixed biodiesel blend Pumpkin+ Juliflora biodiesel called PJB were then blended with diesel. Take 900 ml of diesel in 1000 ml measuring jar first and add 100 ml PJB biodiesel and add 5 ml Rudraksha additive named PJB10 biodiesel. Take 800 ml of diesel in 1000 ml measuring jar first and add 200 ml PJB biodiesel and add 5 ml Rudraksha additive named PJB20 biodiesel. Take 700 ml of diesel in 1000 ml measuring jar first and add 300 ml PJB biodiesel and add 5 ml Rudraksha additive named PJB30 biodiesel. Take 600 ml of diesel in 1000 ml measuring jar first and add 400 ml PJB biodiesel and add 5 ml Rudraksha additive named PJB40 biodiesel. Take 500 ml of diesel in 1000 ml measuring jar first and add 500 ml PJB biodiesel and add 5 ml Rudraksha additive named PJB50 biodiesel. In India Rudraksha is available in abundance from the Gangetic plane in foothills of the Himalayas and hilly regions, which can be converted into biodiesel. Rudraksha trees can be cultivated in larger scale which may cause severe impact on expenditure of EG biodiesel production. The EG biodiesel as additive are blended in minimal quantity of 5 ml with diesel fuel consumption which led to better performance and clean environment.



**NATIONAL CONFERENCE ON**

**ENERGY AND MANUFACTURING**

**SCENARIO (NCEMS'22)**

09<sup>th</sup> JUNE 2022

**PROCEEDINGS**

Organized by

Department of Mechanical Engineering  
Kings College of Engineering  
Punalkulam-613303, Pudukkottai Dt.  
Website: [www.kingsengg.edu.in](http://www.kingsengg.edu.in)

## AGENDA

<b>Inauguration</b>		<b>VENUE : Chera Hall</b>
<b>10.00 am</b>	<b>Prayer song</b>	
<b>10.05 am</b>	<b>Welcome address – Dr.T.Pushparaj, HOD/ Mech</b>	
<b>10.10 am</b>	<b>Introduction of Chief Guest – Dr.D.Jeyasimman by Mr.S.Sabanayagam, AP/Mech</b>	
<b>10.15 am</b>	<b>Lamp lighting, Proceeding CD release and Shawl honoring ceremony</b>	
<b>10.20 am</b>	<b>Presidential address by Dr.S.Sivakumar, Vice Principal</b>	
<b>10.25 am</b>	<b>Keynote Address by Dr.D.Jeyasimman, chief guest</b>	
<b>10.45 am</b>	<b>Tea Break</b>	
<b>11.00 am</b>	<b>Presentation Session – I</b>	
<b>1.00 pm</b>	<b>Lunch Break</b>	
<b>1.45 pm</b>	<b>Presentation Session - II</b>	
<b>3.10 pm</b>	<b>Tea Break</b>	
<b>Valedictory</b>		
<b>3.30 pm</b>	<b>Conference Report by – Mr.H.Agilan, AP/Mech</b>	
<b>3.45 pm</b>	<b>Vote of Thanks – Mr.R.Shankar, AP/Mech</b>	

**Dr.R.Rajendaran,**  
**SECRETARY**

**Ref: KCE / Secretary/ NCEMS-Message/21-22**

**04.06.2022**



**Message**

It is indeed awesome that the Department of Mechanical Engineering is organizing a National level conference(*NCEMS'22*) on 09<sup>th</sup>JUNE, 2022.

The symposium aims at bringing researchers, academicians, and practicing engineers on to a common platform which provides a national forum for researchers to exchange of ideas in recent advances on various aspects of theories, analysis, experimentation and computational method in energy and manufacturing scenario. I am confident that it would be really essential to chip in discussions on technology and would serve the society with a fruitful end result in future.

I am in no doubt that the symposium will be successful and I would like to express my sense of gratitude to the organizing chair, the organizing secretaries, the faculty members, and students for excellent work and I wish to give a warm welcome to the delegates to grace the Juncture with scintillating success.

Best wishes

Regards



**Dr.R.Rajendaran**  
**Secretary**



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Email : [contact@kingsindia.net](mailto:contact@kingsindia.net), Thanjavur Information Centre : - 04362-279779

**MESSAGE**



On behalf of the Organizing Committee, I feel happy to invite you to the National Level Conference “**NCEMS’22**” on 09<sup>th</sup> June, 2020, organized by the Department of Mechanical Engineering.

Mechanical Engineering is one of the broadest engineering disciplines and is notable for its versatility. As a result of new technological developments, this field has undergone a remarkable transformation. Hence, the emerging research issues in the design & production of mechanical systems are to be focused and addressed.

I congratulate the members of various committees and I wish them best for their successful conduct of the e-symposium. I appreciate their efforts in providing a virtual platform for dissemination of innovations, discussion on recent trends and establishing collaboration in the promising fields of Mechanical Engineering to the participants. I am sure, this Symposium will be a great success & everyone will benefit from it.

I wish all the participants a great success in their endeavors.

Regards

**Dr. J. Arputha Vijaya Selvi**

**Principal**

**Dr.S.Sivakumar, M.Tech., Ph.D.,**  
**VICE PRINCIPAL**

**Ref: KCE / VP/ NCEMS-Message/21-22**

**04.06.2022**



**MESSAGE**

It is indeed pleasure to note that, the Department of Mechanical Engineering is organizing a “**National Conference on Energy and Manufacturing Scenario 2022**”on **09.06.2022**. It is appreciated that, this conference has attracted presentations from reputed institutions and throws lights on various flourishing techniques pertaining to Energy and Manufacturing domain. Hope the deliberations will bring in lot of insights in the emerging areas of this discipline. I congratulate the efforts made by the faculty members of the mechanical department and the Head, for their untiring efforts to conduct the conference and wish them successful deliberations.

Best wishes

Regards

**Dr.S.Sivakumar**  
**Vice Principal**



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**Dr.T.Pushparaj**  
**HOD /Mechanical**

Ref: KCE/HOD/MECH/NCEMS-Message/21-22

05.06.2022



**MESSAGE**

Welcome to Kings College of engineering, punalkulam.

On behalf of the Mechanical Engineering department, I am delighted to welcome all the participants, for national level conference(*NCEMS'22*) on 09<sup>th</sup>June, 2022. Expansion of knowledge takes place when the intellectuals come together and exchange their ideas and experiences in a common forum like conferences, journal publications and symposium. It will give participants a platform to exchange ideas, discover novel opportunities, reacquaint with colleagues, meet friends, and broaden their knowledge.

I hope that, you will find the National Level conference and your stay in Kings College of Engineering both valuable and enjoyable. I congratulate all the participants of the *NCEMS'22*. I believe this national level conference will be a great success and everyone will benefit it from it.

With open arms and warm regards, we look forward to welcoming you *NCEMS'22*.

Thank you

Regards



**Dr.T.Pushparaj**  
**HOD-MECH**

**Dr.D.JEYASIMMAN**

Associate Professor ,  
Department of Mechanical Engineering,  
PeriyarManiammai Institute of Science & Technology  
Vallam - 613403.



**MESSAGE**

04.06.2022

I am extremely glad to note that the Department of Mechanical Engineering, Kings College of Engineering is Organizing A National Level Conference on “Energy and Manufacturing Scenario 2022” on 09th June 2022.

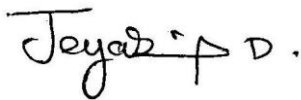
I am sure that interaction between the students from various parts of the country is sharing the knowledge and latest developments in the field.

I wish a great success for the Conference, which will provide a platform for exchanging scientific ideas.

I'm happy to see that the conference has received an overwhelming response all over India. I take this opportunity to congratulate the organizing committee, supporting staff, and delegates for the initiative and wish a grand success for the National Level Conference on “Energy and Manufacturing Scenario 2022”.

Thank You

Regards



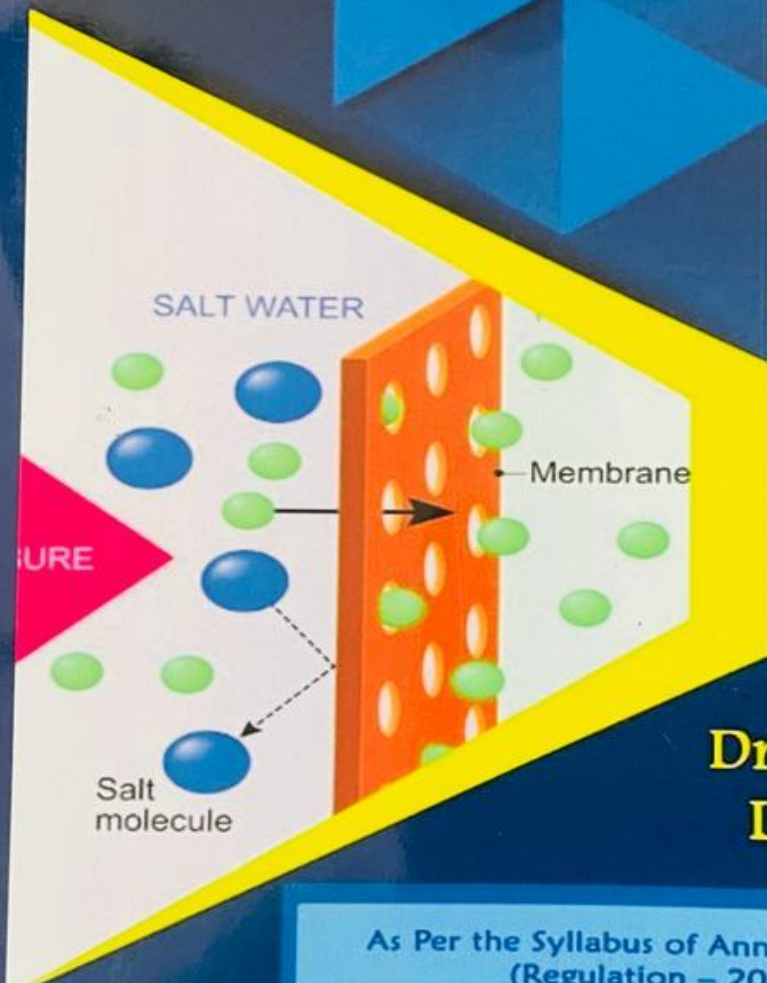
Dr.D.Jeyasimman

### LIST OF ARTICLES

S001	B.Abinash, B.Jayaraj, Design and Fabrication of Solar power trolley
S002	Akashraja.D, FazilAhamed.S, Design and fabrication of Automatic urinal flushing system
S003	M.Abimanyu, B.Akash, Micro structural and Characterization of Nicrbsi Thermal Sprayed Coating on Super Ferrous 800 Metal
S004	R.Akash, U.Muthukumaran, Experimental Investigation of Dissimilar metal by using shielded metal arc welding
S005	Arulselvam.E, Vignesh.M, Tribology properties upgrading over fusion deposition modeling process parameter effect on polymer matrix composite
S006	S.Jegathish, S.Naveen, Mechanism for Four wheel Steering with small turning radius
S007	C.Guhan, E.Midhunkumar, Performance and emission characteristics Analysis in CI by using of Annona with 1 Pentanol
S008	S.Sanjaykumar, K.Selvaganapathy, Synthesis and characterization of Aluminium composites (Al – SiC – Y <sub>2</sub> O <sub>3</sub> )
S009	C.Akilarasan, K.Chandru, Design, fabrication and analysis of electrochemical grinding machine (silicon carbide)
S010	Aswin.D, Brithiviraj.D, Mechanical properties upgrading over fusion deposition modelling process parameter effect on polymer matrix composite
S011	Venkatesh.A, Karthik karan.S, Design and Fabrication of Three axis Pneumatic Trailer by Wireless.
S012	P.Pradheesh,S.Samuel, Metallurgical Study on high temperature hot corrosion Characteristics of IN625
S013	S.Arunpandiyan, P.Manikandan, Synthesis and characterization studies on cu-sic-Y <sub>2</sub> O <sub>3</sub> hybrid composites
S014	D.Pavithraj, R.Rajadurai, Corrosion study of SS316 at an elevated temperature of 800°c
S015	R.Thiruvengaden,K.A.Yogendran, Design andFabrication ofGrassCuttingBicycle
S016	S.R. Hariharan,S. Mahendran, S. Sakthi, M. Vimalkumar, Microstructure, mechanical and wear behavior of LM24/SiC/MoS <sub>2</sub> hybrid composites produced via liquid metallurgy process

# CY8151

## Engineering Chemistry



**Dr. V. Sureshkumar**  
**Dr. P. Saravanan**

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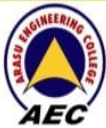




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## DEPARTMENT OF CHEMISTRY

**National Conference on Chemical, Environment,  
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### CERTIFICATE

This is to certify that **Mr/Ms/Dr. V. SURESH KUMAR**, Associate Professor, Department of Chemistry, Kings College of Engineering, Thanjavur has presented a paper entitled "**A COMPARATIVE STUDY OF POLYTHIOPHENE (PTH) AND ITS DERIVATIVES ON CORROSION INHIBITION OF MILDSTEEL BY WEIGHT LOSS METHOD**" in the **CSIR Sponsored National Conference on Chemical, Environment, Energy and Engineering Research (NCCEEER-2021)** held at Arasu Engineering College, Kumbakonam on 17-12-2021.

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### CERTIFICATE

This is to certify that **Mr/Ms/Dr. S. UDAYAKUMAR**, Assistant Professor (Grade III), Department of Chemistry, Kings College of Engineering, Punalkulam, Thanjavur has presented a paper entitled "**ADSORPTION OF CHROMIUM ION BY LOW COST ACID ACTIVATED CARBON- COCCINIA GRANDIS**" in the **CSIR Sponsored National Conference on Chemical, Environment, Energy and Engineering Research (NCCEEER-2021)** held at Arasu Engineering College, Kumbakonam on 17-12-2021.

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## DEPARTMENT OF CHEMISTRY

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### CERTIFICATE

This is to certify that **Mr/Ms/Dr. P. SARAVANAN**, Assistant Professor (Grade III), Department of Chemistry, Kings College of Engineering, Punalkulam, Thanjavur has presented a paper entitled **"A STUDY ON THE ECO-FRIENDLY NATURAL DYE OBTAINED FROM BARKS OF ODINA WODIER LINN. ON WOOL IN DIFFERENT CONDITIONS"** in the **CSIR Sponsored National Conference on Chemical, Environment, Energy and Engineering Research (NCCEEER-2021)** held at Arasu Engineering College, Kumbakonam on 17-12-2021.

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## ARASU ENGINEERING COLLEGE, KUMBAKONAM – 612 501

### CSIR Sponsored National Conference on Chemical, Environment, Energy and Engineering Research (NCCEEER – 2021)

#### PAPER PRESENTATION SCHEDULE

**Session : 01**

**Time:** 11.15 a.m. to 01.00 p.m.

**Session Chairs:** Dr. V. Sureshkumar & C. Kaviarasu

**Meeting link:** <https://meet.google.com/dfw-winz-nyq>

Paper id	Title of the paper	Details of the author(s)
OP001	Cd (II) REMOVAL FROM POLLUTED WATER USING FRESHLY PREPARED COTTON SEED CAKE CARBON	<b>S. Malathi<sup>1</sup> &amp; R. Kayalvizhi<sup>1</sup></b> <sup>1</sup> PG Department of Chemistry, Vellalar College for Women, Erode-638012, Tamil Nadu, India.



OP002	DESIGN AND IMPLEMENTATION OF MULTI-SENSOR EMBEDDED BED FOR THE EARTHQUAKE PROTECTION	<b>A. Ashwin<sup>1</sup>, P. Ragul<sup>1</sup>, S. Arun Kumar<sup>1</sup> &amp; M. Thiyagarajan<sup>2</sup></b> <sup>1</sup> Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India <sup>2</sup> Assistant Professor, Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India.
OP003	PHYTOGENIC SYNTHESIS, ANTIBACTERIAL AND ANTIFUNGAL ACTIVITY OF COPPER OXIDE NANOPARTICLES	<b>S. Manikandan<sup>1</sup>, M. Senthilkumar<sup>2</sup>, B. Ravindran<sup>3</sup> and K. Ramesh<sup>4</sup></b> <sup>1 &amp; 2</sup> Department of Chemistry, Government Arts College (Autonomous), Kumbakonam- 612002 <sup>3</sup> Assistant Professor, Department of Physics, Thiru. Vi. Ka. Government Arts College, Thiruvarur-610003 <sup>4</sup> Assistant Professor, Department of Chemistry, Poombukar College (Autonomous), Melaiyur-609107
OP004	DYEING OF COTTON FABRIC WITH ECO-FRIENDLY NATURAL DYE OBTAINED FROM <i>TECOMA CAPENSIS</i> USING COMBINATION OF MORDANTS	<b><sup>1</sup>M. Kumaresan</b> <sup>1</sup> Professor and Head, Department of Chemistry, Nehru Institute of Technology, Kaliyapuram, Coimbatore.
OP005	Ag RELEASING BIOMEDICAL CONTRIVANCE USING ZNO-REDUCED GRAPHENE OXIDE HYBRID	<b>Kavitha Alagappan<sup>1</sup>, Rajeswari Rakkappan<sup>2</sup> &amp; Gurumallesh Prallahiah<sup>2</sup></b> <sup>1</sup> Department of Chemistry, Sree Sevugan Annamalai College, Affiliated to Alagappa University, Devakottai 630303, Tamil Nadu, India
OP006	RESEARCH ON SUSTAINABLE ENERGY	<b>S. S. Dharaneedharan<sup>1</sup>, M. Kalaivani<sup>2</sup> &amp; K. Shanthi<sup>2</sup></b> <sup>1</sup> Bannariamman Institute of technology, Sathyamangalam, Erode dt, <sup>2</sup> Er. Perumal Manimekalai College of Engineering, Chennethapalli rd, Nnallaganakothapalli.
OP007	AUTOMATED NUTRIENT MANAGEMENT FOR EFFECTIVE UTILIZATION OF WATER AND FERTILIZERS	<b>P.M. Murali<sup>1</sup> &amp; T. Sheela</b> Department of Electronics and Communication Engineering, Vinayaka Mission's KirupanandaVariyar Engineering College, Vinayaka Mission's Research Foundation (Deemed to be University), Salem, Tamilnadu, India
OP008	A STUDY ON THE ECO-FRIENDLY NATURAL DYE OBTAINED FROM BARKS OF ODINA WODIER LINN. ON WOOL IN DIFFERENT CONDITIONS	<b>P. Saravanan<sup>1</sup> &amp; S. Saivaraj<sup>2</sup></b> <sup>1</sup> Department of Chemistry, Kings College of Engineering, Punalkulam, Thanjavur Tamilnadu -613303, India <sup>2</sup> Department of Chemistry, Chennai Institute of Technology, Kundrathur, Chennai Tamilnadu - 600069, India

Paper id	Title of the paper	Details of the author(s)
OP009	FINGER-VEIN RECOGNITION SYSTEM FOR E-VOTING	<b>A. Sriram<sup>1</sup>, V. E. Reethiga<sup>2</sup>, A. Shaheen Begum<sup>2</sup> &amp; N. Ilakkiya<sup>2</sup></b> <sup>1</sup> Assistant Professor, Department of ECE, Arasu Engineering College, Kumbakonam, Tamilnadu, India – 612 501 <sup>2</sup> Department of ECE, Arasu Engineering College, Kumbakonam, Tamilnadu, India – 612 501
OP010	PERFORMANCE ANALYSIS OF PCM INTEGRATED SOLAR PANEL WITH VCR SYSTEM BY USING ORGANIC PCM AND WATER	<b>R. Metha Prasannan<sup>1</sup>, S. Krishnamoorthy<sup>1</sup> &amp; R. Karmegam<sup>1</sup></b> <sup>1</sup> Department of Mechanical Engineering, Bannari Amman Institute of Technology, Sathyamangalam, Erode, Tamilnadu.
OP011	ANTIOXIDANT AND PHYTOCHEMICAL ACTIVITY OF CAMELLIA SINENSIS AGAINST CANCER CELL LINE	<b>B. Logeshwaran<sup>1</sup> &amp; T. Nivedha<sup>1</sup></b> <sup>1</sup> Department of Biotechnology, Bannari Amman Institute of Technology, Sathyamangalam, Erode, Tamilnadu.
OP012	NANOBIOTECHNOLOGY IN AGRICULTURE: USE OF NANOMATERIALS TO PROMOTE PLANT GROWTH AND STRESS TOLERANCE	<b>K. Divya<sup>1</sup> &amp; V.A. Saraniyah Devee<sup>1</sup></b> <sup>1</sup> Department of Biotechnology, Bannari Amman Institute of Technology, Sathyamangalam, Erode (DT)
OP013	STUDY ON WATER POLLUTION TREATMENT BY NANO TECHNOLOGY	<b>Arunendra Narayan Sharma<sup>1</sup>, Rakesh Ranjan<sup>2</sup> &amp; Avinash Ojha<sup>3</sup></b> <sup>1</sup> Research scholar, University Department of chemistry, Jai prakash University, Chapra, Bihar, India. <sup>2</sup> Research scholar, University Department of home science, Patliputra University, Patna, Bihar, India. <sup>3</sup> Assistant professor, Department of chemistry, L.M.V. Hafizpur, Baniyapur, Jai Prakash University, Chapra, Bihar, India.
OP014	ADSORPTION OF CHROMIUM ION BY LOW COST ACID ACTIVATED CARBON- COCCINIA GRANDIS	<b>S. Udayakumar<sup>1</sup> &amp; K. Kavitha<sup>2</sup></b> <sup>1</sup> Department of Chemistry, Kings College of Engineering, Thanjavur, Tamilnadu, India. <sup>2</sup> Department of Chemistry, S.T.E.T Women's College, Mannargudi, Tamilnadu, India.
OP015	CONTROL OF POST-HARVEST STORAGE LOSSES IN WATER CHESTNUT ( <i>TRAPA BISPINOSA</i> ROXBURG) FRUITS BY NATURAL FUNCTIONAL HERBAL COATING AND GAMMA RADIATION PROCESSING	<b>V. Rajasubramanian<sup>1</sup> &amp; M. Kumaresan<sup>2</sup></b> <sup>1</sup> Assistant Professor, Department of Food Technology, Nehru Institute of Technology, Kaliyapuram, Coimbatore. <sup>2</sup> Professor and Head, Department of Chemistry, Nehru Institute of Technology, Kaliyapuram, Coimbatore.
OP016	ENERGY DISTRIBUTION MANAGEMENT WITH SOLAR SYSTEM	<b>R. Vinoth<sup>1</sup> &amp; A. Balasubramanian<sup>1</sup></b> <sup>1</sup> Assistant Professor, Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India – 612 501
OP017	DYNAMO POWERED ELECTRIC TWO WHEELER	<b>N. Arun Kumar<sup>1</sup> &amp; V. Manojkumar<sup>1</sup></b> <sup>1</sup> Department of Mechanical Engineering, Bannari Amman Institute of Technology, Sathyamangalam, Tamilnadu, India.
OP018	SOLAR POWERED VOICE CONTROLLED HOME SECURITY, SAFETY AND AUTOMATION SYSTEM FOR PHYSICALLY CHALLENGED PEOPLE	<b>S.L. Aakash<sup>1</sup>, K. Abjal Thowfeek<sup>1</sup>, P. Guruprakash<sup>1</sup> &amp; S. Chandrasekaran<sup>2</sup></b> <sup>1</sup> Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India <sup>2</sup> Assistant Professor, Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India
OP019	TECHNOLOGICAL PROPERTIES AND FT-IR SPECTRAL ANALYSIS OF CERAMIC PRODUCT CONTAINING WASTE MATERIAL ADDITIVES	<b>R. Vijayaragavan<sup>1</sup>, S. Shantha Sheela<sup>2</sup> &amp; S. Mullainathan<sup>3</sup></b> <sup>1 &amp; 2</sup> Department of Physics, Arasu Engineering College, Kumbakonam, Tamilnadu, India. <sup>3</sup> Assistant Professor, Post Graduate and Research Department of Physics, Applied Energy Resource Divisions, Thiru. Vi. Kalyanasundaram Govt Arts and Science College, Thiruvarur, Tamilnadu.
OP020	FORMATION OF CH <sub>3</sub> NH <sub>3</sub> PBBR <sub>3</sub> PEROVSKITE NANOCUBES AND THEIR OPTICAL PROPERTIES	<b>S. Sathiya<sup>1</sup></b> <sup>1</sup> Assistant Professor, Department of Physics, Arasu Engineering College, Kumbakonam, Tamilnadu, India

# ARASU ENGINEERING COLLEGE, KUMBAKONAM – 612 501

CSIR Sponsored National Conference on Chemical, Environment, Energy and Engineering Research (NCCEEER – 2021)

## PAPER PRESENTATION SCHEDULE

Session : 02

Time: 03.15 p.m. to 04.30 p.m.

Session Chairs: Dr. J. Swaminathan & Dr. S. Sundaraselvan

Meeting link: <https://meet.google.com/dfw-winz-nyg>

Paper id	Title of the paper	Details of the author(s)
OP021	A COMPARATIVE STUDY OF POLYTHIOPHENE (PTH) AND ITS DERIVATIVES ON CORROSION INHIBITION OF MILD STEEL BY WEIGHT LOSS METHOD	<b>V. Suresh Kumar<sup>1</sup></b> <sup>1</sup> Department of Chemistry, Kings College of Engineering, Thanjavur -613 303
OP022	INTELLIGENT SYSTEMS FOR EFFECTIVELY MANAGING CLOUD COLLABORATION STRATEGIES	<b>K. Vijay Kumar<sup>1</sup>, S. Dhanasekaran<sup>2</sup>, S. Rajasekaran<sup>3</sup>, P. Vijayakar<sup>4</sup>, S. Sankara Narayanan<sup>5</sup> &amp; V. Anjana Devi<sup>6</sup></b> <sup>1</sup> PhD Research Scholar, CSE Department, Kalasalingam Academy of Research and Education, Krishnankoil.
OP023	SMART MEDICINE REMINDER BOX (SMRB) WITH AN ANDROID APPLICATION	<b>D. Karthikeyan<sup>1</sup>, G. Chandraprakash<sup>1</sup> &amp; M. Nivedha<sup>2</sup></b> <sup>1</sup> Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India <sup>2</sup> Assistant Professor, Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India.
OP024	ELECTRONIC AND GEOMETRICAL STRUCTURE, STABILITY AND SPECTRAL PROPERTIES OF COBALT BORANES [(C <sub>5</sub> H <sub>5</sub> )COB <sub>4</sub> H <sub>7</sub> X WHERE, X = F, Cl, Br, I.] - A THEORETICAL INSIGHT	<b>S. Pooja<sup>1</sup> &amp; B. S. Krishnamoorthy<sup>2</sup></b> <sup>1</sup> Department of Chemistry (UA), PSG College of Arts and Science, Coimbatore, Tamilnadu, India - 641014. <sup>2</sup> Assistant Professor, Department of Chemistry (UA), PSG College of Arts and Science, Coimbatore, Tamilnadu, India.
OP025	PHOTOVOLTAIC SYSTEM FED WITH HIGH GAIN DC TO DC CONVERTER AND COUPLED TO FUZZY BASED BOOST INVERTER	<b>G. Rathinasamy<sup>1</sup> &amp; S. Chandrasekaran<sup>2</sup></b> <sup>1</sup> Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India <sup>2</sup> Assistant Professor, Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India
OP026	ENERGY GENERATION IN TYRES USING PIEZOELECTRIC MATERIAL	<b>D. Karthikeyan<sup>1</sup>, K. Chandraprakash<sup>1</sup>, J. Sriram<sup>1</sup>, R. Prasanna<sup>1</sup> &amp; M. Saranya<sup>2</sup></b> <sup>1</sup> Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India <sup>2</sup> Assistant Professor, Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India
OP027	MOLECULAR STRUCTURE, REACTIVITY AND METAL COORDINATING ABILITY OF GINGEROL - A COMPUTATIONAL STUDY	<b>Yuvashree<sup>1</sup> &amp; B. S. Krishnamoorthy<sup>2</sup></b> <sup>1</sup> Department of Chemistry (UA), PSG College of Arts and Science, Coimbatore, Tamilnadu, India - 641014. <sup>2</sup> Assistant Professor, Department of Chemistry (UA), PSG College of Arts and Science, Coimbatore, Tamilnadu, India.
OP028	MULTI INPUT NINE LEVEL INVERTER WITH LOW TSV FOR HYBRID ENERGY SYSTEM	<b>S. Srinivasan<sup>1</sup> &amp; S. Chandrasekaran<sup>2</sup></b> <sup>1</sup> Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India <sup>2</sup> Assistant Professor, Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India

<b>Paper id</b>	<b>Title of the paper</b>	<b>Details of the author(s)</b>
OP029	ASSEMBLY OF PORTABLE SOLAR THERMOELECTRIC REFRIGERATOR	<b>C. Sathishkumar<sup>1</sup>, R.S. Kavinraj<sup>2</sup>, N. Divin N<sup>2</sup> &amp; V. Bhoopathi<sup>2</sup></b> <sup>1</sup> Assistant Professor, Department of Mechanical Engineering, Bannari Amman Institute of Technology, Erode, Tamilnadu, India. <sup>2</sup> Department of Mechanical Engineering, Bannari Amman Institute of Technology, Erode, Tamilnadu, India.
OP030	AUTOMATED SYSTEM FOR EFFECTIVE AGRICULTURAL PROCESSES	<b>S. Hemashalini<sup>1</sup>, A. Asuwathy<sup>1</sup>, R. Shakila<sup>1</sup> &amp; K. Kalpana<sup>2</sup></b> <sup>1</sup> Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India <sup>2</sup> Assistant Professor, Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India
OP031	FINGER PRINT BASED ELECTRONIC VOTING MACHINE	<b>C. Sakthidasan<sup>1</sup>, S. Jayasurya<sup>1</sup>, E. Ashwath kumar<sup>1</sup>, R. Karthikeyan<sup>1</sup> &amp; A. Balasubramanian<sup>2</sup>,</b> <sup>1</sup> Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India <sup>2</sup> Assistant Professor, Department of EEE, Arasu Engineering College, Kumbakonam, Tamilnadu, India
OP032	ICOSAHEDRAL HETEROBORANES FOR BORON NEUTRON CAPTURE THERAPY (BNCT) AND DRUG DELIVERY APPLICATIONS – A COMPUTATIONAL STUDY	<b>B. S. Krishnamoorthy<sup>1</sup></b> <sup>1</sup> Department of Chemistry, PSG College of Arts and Science, Coimbatore, 641 014, Tamilnadu, India.
OP033	UTILIZATION OF ACTIVATED CARBON OBTAINED FROM NEEM OIL CAKE IN WASTE WATER TREATMENT	<b>M. Rukmangathan<sup>1</sup></b> <sup>1</sup> Professor, Department of chemistry, Arasu Engineering College, Kumbakonam, Tamilnadu, India.
OP034	EXPERIMENTAL ANALYSIS OF VAPOUR COMPRESSION REFRIGERATION SYSTEM BY INCORPORATING PHASE CHANGE MATERIAL AT CONDENSOR SIDE	<b>S. Arunachalakumar<sup>1</sup>, K. Arun praveen<sup>1</sup> &amp; S. Akash S<sup>1</sup></b> <sup>1</sup> Department of Mechanical Engineering, Bannari Amman Institute of Technology, Sathyamangalam, Erode, Tamilnadu, India
OP035	ANDROID APP DEVELOPMENT FOR SOLVING VARIOUS MECHANICAL PROBLEMS	<b>S. Aravind<sup>1</sup>, S. Arulkumar<sup>1</sup>, C. Govendran<sup>1</sup></b> <sup>1</sup> Department of Mechanical Engineering, Bannari Amman Institute of Technology, Sathyamangalam, Erode, Tamilnadu, India
OP036	ORGANIC NANOMATERIALS FOR ELECTROCHEMICAL APPLICATIONS – ASSEMBLY & CHARACTERIZATION STUDY	<b>M. Rukmangathan<sup>1</sup></b> <sup>1</sup> Professor, Department of chemistry, Arasu Engineering College, Kumbakonam, Tamilnadu, India.
OP037	A CONCISE REVIEW ON BIODIESEL AS AN ECONOMICALLY FEASIBLE AND ECO-FRIENDLY ALTERNATIVE FUEL	<b>R. Harshini<sup>1</sup>, R. Lithika<sup>1</sup> &amp; L. Sanjana<sup>1</sup></b> <sup>1</sup> Department of Biotechnology, Bannari amman institution of technology, Sathyamangalam, Erode.
OP038	RECENT ADVANCES IN APPLICATIONS OF GREEN CHEMISTRY	<b>T. Parimala<sup>1</sup></b> <sup>1</sup> Assistant Professor, Department of Chemistry, Arasu Engineering college, Kumbakonam, Tamilnadu, India
OP039	AN IONIC LIQUID CATALYSED FACILE GREEN SYNTHESIS OF PHENYL POLYHYDRO-1, 8-ACRIDINE DIONES	<b>C. Karthikeyan<sup>1</sup> &amp; T. Parimala<sup>1</sup></b> <sup>1</sup> Assistant Professor, Department of Chemistry, Arasu Engineering College, Kumbakonam, Tamilnadu, India.
OP040	A SYSTEMATIC STUDY OF PHYSICO-CHEMICAL PARAMETERS OF WATER SAMPLES IN KOPPAL CITY, KARNATAKA, INDIA.	<b>K. N. Madhu<sup>1</sup>, K. Lokesh<sup>2</sup> &amp; A. Aswini<sup>3</sup></b> Department of Chemistry, Tontadarya College of Engineering, Gadag (D). Karnataka (S)
OP041	HEAD MOVEMENT CONTROLLED WHEEL CHAIR USING MEMS SENSORS AND ARM PROCESSOR	<b>J. Azhagarasan<sup>1</sup>, R. Hariharan<sup>1</sup>, J. Abdul Rahman Ali<sup>1</sup> &amp; N. Ezhilan<sup>2</sup></b> <sup>1</sup> Department of ECE, Arasu Engineering College, Kumbakonam, Tamilnadu, India <sup>2</sup> Assistant Professor, Department of Biomedical Engineering, Arasu Engineering College, Kumbakonam, Tamilnadu, India