



3.3.1

**Link for Research
Paper/Journal/Website/URL of
the Print Journal (2018)**

Greater Noida Institute of Technology (Engg. Institute)

**Plot No. 7, Knowledge Park II, Greater Noida
Uttar Pradesh 201310 India**

3.3.1 Number of research papers published per teacher in the Journals notified on UGC website during the last five years

Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal /Digital Object Identifier (doi) number		
						Link to website of the Journal	Link to article / paper / abstract of the article	Is it listed in UGC Care list
Lead time for cities of Northern India by using multi parameter EEW algorithm	Rakhi Bhardwaj	ECE	International journal of Geophysics	2018	0908-6205	https://www.hindawi.com/journals/ijge/	https://doi.org/10.1155/2018/9086205	Yes
Experimental Investigation and Optimization of Process Parameters for Shear Strength of Compound Cast Bimetallic Joints	Sudhir Kumar	ME	Transactions of the Indian Institute of Metals	2018	0972-2815, 0975-1645	https://www.springer.com/journal/12666	https://doi.org/10.1007/s12666-018-1349-1	Yes
Experimental Investigation and Optimization of Process Parameters for Impact Strength of Compound Cast Bimetallic Joints	Sudhir Kumar	ME	International Journal of Metal casting	2018	2163-3193 1939-5981	https://www.springer.com/journal/40962	DOI 10.1007/s40962-017-0190-3	Yes
MICROSTRUCTURE EVALUATION, THERMAL AND MECHANICAL CHARACTERIZATION OF HYBRID METAL MATRIX COMPOSITE	Sudhir Kumar	ME	Journal of Science and Engineering of Composite Materials	2018	2191-0359	https://www.degruyter.com/journal/key/secm/html	https://doi.org/10.1515/secm-2017-0210	Yes
Characterization and microhardness evaluation of A356/Mg joint produced by vacuum assisted sand mold compound casting process	Sudhir Kumar	ME	International Journal of Metal Casting	2018	2163-3193 1939-5981	https://www.springer.com/journal/40962	https://doi.org/10.1007/s40962-018-0264-x	Yes
Experimental Investigation and Evaluation of Joint Strength of A356/Mg Bimetallic Fabricated Using Compound Casting Process	Sudhir Kumar	ME	International Journal of Metal casting	2018	2163-3193 1939-5981	https://www.springer.com/journal/40962	https://doi.org/10.1007/s40962-018-0288-2	Yes
New Dynamic Metrics Suite To Measure Complexity Of Component Based Software	Anjali Chaudhary	CSE	International Conference on Emerging Trends in Science, Engineering & Technology with VSRD International Journal of Technical and Non-technical Research Volume IX	2018	0976-7967	https://www.vsrjournals.com/jms/home.php?ii=12	https://www.vsrjournals.com/jms/home.php?ii=12	Yes
An efficient algorithm for CBIR using clustering techniques for large dataset	Monika Jain	CSE	IEEE Explore via conference published in IEEE Xplore	2018	NA	https://www.aconf.org/conf_147077/abstract.html	https://www.aconf.org/conf_147077/abstract.html	Yes
Analysis and Impact of Social Media and it's Privacy on Big Data	Shilpi Bansal	CSE	IEEE Explore via International Conference on Advances in Computing and Communication Engineering (ICACCE), Paris, 2018	2018	NA	https://www.aconf.org/conf_147077/abstract.html	https://www.aconf.org/conf_147077/abstract.html	Yes
Blockchain -the Technology of Crypto Currencies	Shilpi Bansal	CSE	IEEE Explore via International Conference on Advances in Computing and Communication Engineering (ICACCE), Paris, 2018	2018	NA	https://www.aconf.org/conf_147077/abstract.html	https://www.aconf.org/conf_147077/abstract.html	Yes
Study and comparison of performance of Shell and Tube Heat Exchanger with Two Numerical Methods	Navin Kumar	ME	International journal for research in applied science and engineering technology (IJRASET)	2018	2321-9653	https://www.ijraset.com/	https://www.ijraset.com/	Yes
A MIG welding testing on tensile and hardness using Taguchi method	Navin Kumar	ME	International journal of Advanced Research in Electronics and Communication Engineering (IJARECE)	2018	2278-909X	https://journals.indexcopernicus.com/journal/34390	https://journals.indexcopernicus.com/journal/34390	Yes
Performance enhancement for scale-up of Gas hydrate forming reactors using stirred tank reactors	Navin Kumar	ME	International journal of Advanced Research in Electronics and Communication Engineering (IJARECE)	2018	2278-909X	https://journals.indexcopernicus.com/journal/34390	https://journals.indexcopernicus.com/journal/34390	Yes
A review on phytoconstituents and medicinal properties of Emblica officinalis	Dipti Bharti	AS	Annals of Horticulture Journal	2018	0976-4623	https://www.indianjournals.com/ijor.aspx	10.5958/0976-4623.2018.00002.6	Yes
Air Quality Index Analysis and Solutions for High Traffic, Industrial and Residential Regions in Delhi/NCR	Tabish Quadri	CE	Journal of Advances and Scholarly Researches in Allied Education (JASRAE)	2019	2230-7540	http://ignited.in/I/JASRAE	http://ignited.in/I/JASRAE	Yes

SFDR Enhancement of 120o Phase Angle Based RoF Link by using Linear Polarizers	Shelly Garg	ECE	IEEE Photonics Technology Letters,	2019	1041-1135	https://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=68	10.1109/lpt.2019.2904726	Yes
Mitigating the effects of non linear distortion using polarizers in microwave photonic link	Shelly Garg	ECE	Journal of Optical Communication	2019	2191-6322	https://www.degruyter.com/journal/key/joc/html	https://doi.org/10.1515/joc-2019-0244	Yes
SNDR Optimization of Linearized Mach Zehender Modulator For Multi-Tone RoF System	Shelly Garg	ECE	Journal of Optics, Springer Science,	2019	0974-6900 0972-8821	https://www.springer.com/journal/12596	https://doi.org/10.1007/s12596-019-00524-2	Yes
Intercultural Competence In Lahiri's 'Hell Heaven'	Shivani Kaul	ASHU	THINK INDIA JOURNAL	2022	0971-1260	Think India Journal (thinkindiaquarterly.org)	Think India Journal (thinkindiaquarterly.org)	Yes
Ball Pen Ink level Indicator	YATIN KUMAR AGARWAL	CSE	IJRTE	2019	2277-3878	https://thinkindiaquarterly.org/	Think India Journal (thinkindiaquarterly.org)	Yes
Multiple Object Detection and Tracking	YATIN KUMAR AGARWAL	CSE	IJRECE	2019	2393-9028	http://www.i2or-ijrece.com/	http://www.i2or-ijrece.com/	Yes
A Review: Cryptography and Steganography for data hiding in images	YATIN KUMAR AGARWAL	CSE	JETIR	2019	2349-5162	http://www.i2or-ijrece.com/	http://www.i2or-ijrece.com/	Yes
Online retrieval and indexing of images using multi feature vectors	YATIN KUMAR AGARWAL	CSE	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	2019	2349-5162	https://www.ijitee.org/	https://www.ijitee.org/	Yes
Systematic analysis of semantic web search based on ontology modeling and its search engines	ARUN MITTAL	CSE	JETIR	2019	2349-5162	http://www.i2or-ijrece.com/	http://www.i2or-ijrece.com/	Yes
Self-optimization in LTE: An Approach to Reduce Call Drops in Mobile Network	Divya Mishra	CSE	FTNCT 2018, Springer (CCIS Series)	2019	1865-0929 1865-0937	https://link.springer.com/book/10.1007/978-981-13-3804-5	https://link.springer.com/book/10.1007/978-981-13-3804-6	Yes
Performance Enhanced and Improved Approach to Reduce Call Drops Using LTE-SON	Divya Mishra	CSE	RAACE 2017, Springer (Singapore)	2019	978-981-32-9584-1	https://link.springer.com/book/10.1007/978-981-32-9585-8	https://doi.org/10.1007/978-981-32-9585-8_15	Yes
Fine tuning of MapReduce jobs using parallel K Map clustering	Divya Mishra	CSE	Journal of Emerging Technologies and Innovative Research (UGC)	2019	2349-5162	https://www.jetir.org/	https://www.jetir.org/	Yes
Automated Car Parking with Empty Slot Detection Using IoT	Shilpi Bansal	CSE	International Conference on Advances in Engineering Science Management & Technology (ICAESMT) - 2019, Uttarakhand University, Dehradun, India.	2019	NA	https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3403921	https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3403921	Yes
A Review on Software Effort Estimation Techniques	Dhwani Agrawal	CSE	International Research Journal of Management Science and Technology	2019	2395-0072	https://www.irjet.net/	https://www.irjet.net/archives/V6/i4/IRJET-V6I41063.pdf	Yes
An Evolution on Software Effort Estimation Techniques	Abhishek Singh	CSE	International Research Journal of Management Science and Technology	2019	2250-1959 2348-9367	http://www.irjms.com/	http://www.irjms.com/	Yes
A Review on Software Effort Estimation Techniques	Reena Chaudhary	CSE	International Research Journal of Management Science and Technology	2019	2250-1959 2348-9367	http://www.irjms.com/	http://www.irjms.com/	Yes
A Review on Software Effort Estimation Techniques	Rashmi Chaudhary	CSE	International Research Journal of Management Science and Technology	2019	2250-1959 2348-9367	http://www.irjms.com/	http://www.irjms.com/	Yes
Prediction Analysis Techniques of Data Mining: A Review	Rajiva Ranjan Divivedi	CSE	International Conference on Advance Computing and Software Engineering ICACSE-2019 Organized by Kamla Nehru Institute of Technology Sultanpur.	2019	NA	NA	NA	Yes
Classification Technique for Heart Disease Prediction in Data Mining	Rajiva Ranjan Divivedi	CSE	International Journal of Recent Technology and Engineering (IJRTE)	2019	2277-3878	https://www.ijrte.org/	https://www.ijrte.org/	Yes
SARLA - A 3-TIER ARCHITECTURAL FRAMEWORK BASED ON THE ACO FOR THE PROBABILISTIC ANALYSIS OF THE REGRESSION TEST CASE SELECTION AND THEIR PRIORITIZATION	Neha Kashyap	CSE	International Conference on Advancements in Computing & Management (ICACM-2019) SSRN	2019	NA	NA	NA	Yes
Audio Steganography using ASCII Code and GA	Amba	CSE	ICTUS 2017, DUBAI	2019	NA	NA	NA	Yes

Development and comparison of tensile and compressive strength and percentage shrinkage of glass-jute hybrid fibre reinforced polymer composites	Navin Kumar	ME	IOP Journal of Physics: Conference series	2019	1742-6596	https://iopscience.iop.org/journal/1742-6596	DOI 10.1088/1742-6596/1240/1/012123	Yes
Analytical study on any gate logic function as a pull-up network of pMOS transistors and a pull down network of nMOS transistors	Navin Kumar	ME	IOP Journal of Physics: Conference series	2019	0094-243X (PRINT) 1551-7616 (WEB)	https://pubs.aip.org/aip/acp	https://doi.org/10.1063/1.5122363	Yes
Study on transistors logic with reference to their circuits and noise margin	Navin Kumar	ME	ICABS 2019 ,International conference held at GDC memorial college, Behal, Bhiwani, HR	2019	NA	NA	NA	Yes
Role of Fe2O3 and MoO3 content on optical properties of lead borate glasses	Navin Kumar	ME	AIP Conference Proceedings	2019	0094-243X (PRINT) 1551-7616 (WEB)	https://pubs.aip.org/aip/acp	https://doi.org/10.1063/1.5122426	Yes
Synergistic Effects of Some Medicinal Plants and Transition Metal Ferrocyanides on Some Selected Fungus	Dipti Bharti	ASH	Journal of Pharmacognosy and Phytochemistry	2019	2278-4136	https://www.phytojournal.com/	https://www.phytojournal.com/	Yes
Adsorption of hazardous dye crystal violet from industrial waste using low cost adsorbent Chenopodium album	Dipti Bharti	ASH	Desalination and Water Treatment	2019	1944-3986	https://www.deswater.com/home.php	doi: 10.5004/dwt.2019.24595	Yes
A Novel Cryptographic Data Security Approach for Banking Industry to Adopt Cloud Computing	Anuranjan Misra	CSE	International Journal of Recent Technology and Engineering (IJRTE)	2019	2277-3878	https://www.jetir.org/	https://www.jetir.org/	Yes
Linearization of Photonic Link Based on Phase-Controlled Dual Drive Dual-Parallel Mach-Zehnder Modulator	Shelly Garg	ECE	Wireless Personal Communications	2020	0929-6212	https://www.springer.com/journal/11277	https://doi.org/10.1007/s11277-020-07351-w	Yes
Cooperative Spectrum Sensing Optimization Using Meta-heuristic Algorithms	Vivek Gupta	ECE	Wireless Personal Communications	2020	0929-6212	https://www.springer.com/journal/11277	https://doi.org/10.1007/s11277-020-07290-6	Yes
Bio-Inspired Optimal Weighted Fusion in Cooperative Spectrum Sensing For Cognitive Radio	Vivek Gupta	ECE	International Journal of Advanced Science and Technology	2020	2005-4238	http://serisc.org/journals/index.php/IJAST/index	http://serisc.org/journals/index.php/IJAST/index	Yes
Conventional Combining Scheme in Cooperative Spectrum Sensing	Vivek Gupta	ECE	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	2020	2278-3075	https://www.ijitee.org/	https://www.ijitee.org/	Yes
Third Order Intermodulation Power Variations Of Radio Over Fiber Link By Employing Mzm And Dd-Mzm Modulator	Shelly Garg	ECE	Telecommunications and Radio Engineering	2020	0040-2508 1943-6009	https://www.dl.begeilhouse.com/journals/0632a9d54950b268.html	DOI: 10.1615/TelecomRadEng.v79.i14.40	Yes
Dynamic Range Measurement Of Radio Over Fiber Link By Employing 120° Phase Shift Method	Shelly Garg	ECE	Telecommunications and Radio Engineering	2020	0040-2508 1943-6009	https://www.dl.begeilhouse.com/journals/0632a9d54950b268.html	DOI: 10.1615/TelecomRadEng.v79.i2.20	Yes
Analysis And Implementation FPGA Implementation For Image Processing Algorithm.	Shelly Garg	ECE	Journal of Critical Reviews	2020	ISSN- 2394-5125	https://www.jcreview.com/index.php	doi: 10.31838/jcr.07.14.514	Yes
Performance Comparison Of High Speed And Low Power Forward Error Correction (Fec) Through Viterbi Decode Communication Channel Through Xilinx.	Shelly Garg	ECE	Journal of Critical Reviews	2020	ISSN- 2394-5125	https://www.jcreview.com/index.php	doi: 10.31838/jcr.07.13.517	Yes
Implementation of PID Controller Using An FPGA	Shelly Garg	ECE	Journal of Critical Reviews	2020	ISSN- 2394-5125	https://www.jcreview.com/index.php	https://www.jcreview.com/admin/Uploads/Files/61b3143f450950.95102316	Yes
A Novel Hybrid Fuzzy PD-TID Controller for Load Frequency Control of a Standalone Microgrid	Bhuvnesh Khokhar	EE	Arabian Journal for Science and Engineering	2020	ISSN-2193-567X	https://www.springer.com/journal/13369/	https://doi.org/10.1007/s13369-020-04761-7	Yes
A novel fractional order proportional integral derivative plus second-order derivative controller for load frequency control	Bhuvnesh Khokhar	EE	International Journal of Sustainable Energy	2020	1478-6451	https://www.tandfonline.com/journals/gsol20	10.1080/14786451.2020.1803861	Yes
A Robust Cascade Controller for Load Frequency Control of a Standalone Microgrid Incorporating Electric Vehicles	Bhuvnesh Khokhar	EE	Electric Power Components and Systems	2020	1532-5008	https://www.tandfonline.com/toc/uemp20/current	10.1080/15325008.2020.1797936	Yes
Nuglets: A Virtual Currency	Dhwani Agrawal	CSE	International Research Journal of Engineering & Technology	2020	2395-0072 2395-0056	https://www.irjet.net/	NA	Yes
Nuglets: A Virtual Currency	Abhishek Singh	CSE	International Research Journal of Engineering & Technology (IRJET)	2020	2395-0072 2395-0056	https://www.irjet.net/	NA	Yes

A Survey on Various Machine Learning Algorithms	Dhwani Agrawal	CSE	International Research Journal of Engineering & Technology	2020	2395-0072 2395-0056	https://www.irjet.net/	NA	Yes
A Survey on Various Machine Learning Algorithms	Abhishek Singh	CSE	International Research Journal of Engineering & Technology	2020	2395-0072 2395-0056	https://www.irjet.net/	NA	Yes
Removal of crystal violet from aqueous solution using iron based metal organic framework	Dipti bharti	ASH	Desalination and water Treatment	2020	1944-3994	https://www.deswater.com/	10.5004/dwt.2020.26387	Yes
A Study on Coal Ash Slurry Flow at Higher Solid Concentrations in Pipeline	Navin Kumar	ME	Proceedings of International Conference in Mechanical and Energy Technology pp 817-822	2020	ISBN 978-981-15-2647-3	https://link.springer.com/book/10.1007/978-981-15-2647-3	https://link.springer.com/chapter/10.1007/978-981-15-2647-3_77	Yes
Optimization of process parameters of A-359 aluminium alloy in EPS-assisted investment casting process using Taguchi method	Girendra Bhati	ME	IOP Conference Series: Materials Science and Engineering	2020	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/804/1/012020	Yes
Antimicrobial Potential of Some Selected Medicinal Plants Collected from Himachal Pradesh	Dipti Bharti	AS	Research Journal of Chemistry and Environment	2020	0972-0626	https://ores.su/en/journals/research-journal-of-chemistry-and-environment/	NA	Yes
Post Quantum Cryptography: A Literature Review	Shipra Srivastava	IT	Shodh Sarita	2020	0974-5823	https://kalaharijournals.com/ijme.php	NA	Yes
A study and Comarative analysis of some advanced symmetric Block Cipher Techniques	Shipra Srivastava	IT	International Journal of Creative Research Thoughts	2020	2320-2882	www.ijert.org	NA	Yes
"Medical Image Security Analysis and Enhancement for Telemedicine Applications"	V. K. PALLAW	MCA	European Journal of Molecular & Clinical Medicine	2020	2515-8260	https://ejmcm.com	NA	Yes
Risk Management in Metro Rail Construction Case Study : Delhi Metro Corridor from Kalkaji to Botanical Garden	Tabish Quadri	CE	INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING AND TECHNOLOGY (IRJET)	2020	ISSN: 2395-0056	https://www.irjet.net/	NA	Yes
A Prototype for Data Integrity in Cloud Environmen	Anuranjan Misra	CSE	EAI Endorsed Transactions on Cloud Systems	2020	2410-6895	https://eudl.eu/	doi/10.4108/eai.7-9-2020.166287	Yes
Blockchain Enabled E-Voting System	Anuranjan Misra	CSE	Dogo Rangsang Research Journal	2020	2347-7180	https://www.journal-dogorangsang.in/	NA	Yes
A Comparative Study on the Seismic and Cost Analysis of RCC and Composite Structure in India	Anuj Sharma	CE	International Journal of All Research Education & Scientific Methods	2020	2455-6211	http://www.ijaresm.com/	NA	Yes
Rigid Triaxial Rotor Model Description of yy-Band in Some Even Nuclei	Moti Singh	ASHU	Physics of Particles and Nuclei Letters, Springer	2021	1547-4771	https://www.springer.com/journal/11497	https://doi.org/10.1134/S154747712202011X	Yes
Using Waste Polymer for Soil Stabilization	Taranpreet Kaur	CE	International Journal of Innovative Science and Research Technology	2021	2456-2165	https://www.ijisrt.com/	NA	Yes
Soil Stabilization Using Plastic Chips, Granules & Sugarcane Bagasse Ash Mixture	Arvind Kumar	CE	International Journal for Research in Applied Science & Engineering Technology (IJRASET)	2021	2321-9653	https://www.ijraset.com/	NA	Yes
Comparison of Concrete made through TMA using Metakaolin and GGBS vs Normal Concrete made through NMA	Anuj Sharma	CE	International Research Journal of Engineering and Technology (IRJET)	2021	2395-0072	https://www.irjet.net/	NA	Yes
Dynamic Analysis of G+15 Multi-storied RCC Commercial Buildings with Different Plan Configuration in Seismic Zone V using ETABS 2018	Anuj Sharma	CE	International Research Journal of Engineering and Technology (IRJET)	2021	2395-0072	https://www.irjet.net/	NA	Yes
Evaluation on Risk Assessment on Indoor Air Pollution: A Case Study of Delhi-NCR Region	Tarun Kumar	CE	IOP Conf. Series: Earth and Environmental Science 796 (2021) 012055	2021	NA	https://iopscience.iop.org/journal/1755-1315	doi:10.1088/1755-1315/796/1/012055	Yes
Influence of Incorporating Industrial Byproducts/Wastes on Mechanical Properties and Durability Characteristics of Self-Consolidating Concrete: A Review	Rajesh Kumar Sharma, Saurav Yadav	CE	Recent Trends in Industrial and Production Engineering, Springer	2021	ISBN: 978-981-16-3330-0	https://link.springer.com/book/10.1007/978-981-16-3330-0	https://link.springer.com/chapter/10.1007%2F978-981-16-3330-0_16	Yes
Load frequency control of a microgrid employing a 2D Sine Logistic map based chaotic sine cosine algorithm	Bhuvnesh Khokhar	EE	ELSEVIER	2021	1568-4946	https://www.science-direct.com/journal/applied-soft-computing	https://doi.org/10.1016/j.asoc.2021.107564	Yes

An Application of Analytical Hierarchy Process in Selection of Coating Material Composition in Lost Foam Casting Process	Gagan Varshney	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012010	Yes
An Application of Analytical Hierarchy Process in Selection of Coating Material Composition in Lost Foam Casting Process	Syed Qaisar Husain	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012010	Yes
An Application of Analytical Hierarchy Process in Selection of Coating Material Composition in Lost Foam Casting Process	Avinash Ravi Raja	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012010	Yes
An Application of Analytical Hierarchy Process in Selection of Coating Material Composition in Lost Foam Casting Process	Girendra Bhati	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012010	Yes
Application of thermal spraying process in advancement of welding Technology	Syed Qaisar Husain	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012021	Yes
Application of thermal spraying process in advancement of welding Technology	Gagan Varshney	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012021	Yes
Application of thermal spraying process in advancement of welding Technology	Girendra Bhati	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012021	Yes
Application of thermal spraying process in advancement of welding Technology	Avinash Ravi Raja	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012021	Yes
Estimation of temperature during TIG welding of titanium	Avinash Ravi Raja	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012023	Yes
Estimation of temperature during TIG welding of titanium	Anuj Dixit	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012023	Yes
Estimation of temperature during TIG welding of titanium	Syed Qaisar Husain	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012023	Yes
Estimation of temperature during TIG welding of titanium	Gagan Varshney	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012023	Yes
High-efficiency thermodynamic cycles for Kalina power generation systems: A comprehensive review	Alok Manas Dubey	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012030	Yes
Optimization of FDM 3D printing process parameters using Taguchi technique	M S Rawat	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012022	Yes
Optimization of FDM 3D printing process parameters using Taguchi technique	Kapil Kumar	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012022	Yes
Optimization of FDM 3D printing process parameters using Taguchi technique	Kumar Rishi Singh	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012022	Yes
Heat Transfer Analysis And Optimisation Of 2-Wheeler Engine Cylinder Head Fins Using FEA	Avinash Ravi Raja	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X	https://iopscience.iop.org/journal/1757-899X	doi:10.1088/1757-899X/1168/1/012012	Yes
Designing E-learning Portal: How Academics come efficiently into Practice	Shipra Srivastava	IT	IJCRT	2021	2320-2882	https://ijcrt.org	https://ijcrt.org/viewfull.php?id=IJCRT2106487	Yes
Lightweight Cloud Storage Auditing With Deduplication Supporting Strong Privacy Protection	Shipra Srivastava	IT	IJCRT	2021	2320-2882	https://www.ijcrt.org	https://www.ijcrt.org/papers/IJCRT2103474.pdf	Yes
Used car price prediction	Ramveer Singh	IT	IJARIT	2021	2454-132X	https://www.ijarit.com	https://www.ijarit.com/manuscript/used-car-price-prediction/	Yes
Used car price prediction	Shipra Srivastava	IT	IJARIT	2021	2454-132X	https://www.ijarit.com	https://www.ijarit.com/manuscript/used-car-price-prediction/	Yes
Next Generation AI based Virtual	Shipra Srivastava	IT	IJRASET	2021	2321-9653	https://www.ijraset.com	https://www.ijraset.com/files/serve.php?FID=33663	Yes
GANAKA: WEB BROWSER	Shipra Srivastava	IT	IRJET	2021	2395-0056	https://www.irjet.net	https://www.irjet.net/archives/V8/i7/IRJET-V8I7327.pdf	Yes
Security and Automation using Raspberry Pi and Arduino for Home	Shipra Srivastava	IT	IRJET	2021	2395-0056	https://www.irjet.net	https://www.irjet.net/archives/V8/i7/IRJET-V8I7232.pdf	Yes
A Novel Approach Based on EMD to improve the Performance of SSVEP Based BCI System	MUKESH kUMAR OJHA	ECE	Wireless Personal Communication	2021	2455-2467	https://www.springer.com/journal/11277	https://doi.org/10.1007/s11277-021-08135-6	Yes

An explicit output current-mode quadrature sinusoidal oscillator and a universal filter employing only grounded passive components- A minimal realization	Shiv Narain Gupta	ECE	Advances in Electrical and Electronic Engineering	2021	1804-3119	http://advances.etc.sk/index.php/AEEE	10.15598/aeee.v19i3.4121	Yes
Big Data Security Problem and Its Solution	Anuranjan Misra	CSE	International Journal of Engineering and Advanced Technology (IJEAT)	2021	2249-8958	https://www.ijeat.org/	NA	Yes
Importance of Security in Big Data Log Files on Cloud	Anuranjan Misra	CSE	International Journal of Engineering and Advanced Technology (IJEAT)	2021	2249-8958	https://www.ijeat.org/	NA	Yes
Queing Theory: Effective and Efficient Tool to Reduce the Waiting Time in Hospital	Shikha Srivastava	ASH	International journal of analytical and experimental modal analysis	2021	0886-9367	https://ijaema.com/	DOI:18.0002.IJAEMA.2021.V1316.200001.015685903002	Yes
Queing Theory: Effective and Efficient Tool to Reduce the Waiting Time in Hospital	Renu Kaushik	ASH	International journal of analytical and experimental modal analysis	2021	0886-9367	https://ijaema.com/	DOI:18.0002.IJAEMA.2021.V1316.200001.015685903002	Yes
IMPACT OF COVID – 19 ON INDIAN EDUCATION SYSTEM: A STUDY WITH SPECIAL REFERENCE TO GREATER NOIDA SCHOOLS AND COLLEGES	Renu Kaushik	ASH	International journal of analytical and experimental modal analysis	2021	0886-9367	https://ijaema.com/	DOI:18.0002.IJAEMA.2022.V14105.200001.015685971377	Yes
IMPACT OF COVID – 19 ON INDIAN EDUCATION SYSTEM: A STUDY WITH SPECIAL REFERENCE TO GREATER NOIDA SCHOOLS AND COLLEGES	Shikha Srivastava	ASH	International journal of analytical and experimental modal analysis	2021	0886-9367	https://ijaema.com/	DOI:18.0002.IJAEMA.2022.V14105.200001.015685971377	Yes
EFFECT OF QUEUING THEORY APPLICATION: WITH SPECIAL REFERENCE OF BANKING SECTOR	Renu Kaushik	ASH	International journal of analytical and experimental modal analysis	2021	0886-9367	https://ijaema.com/	DOI:18.0002.IJAEMA.2021.V1318.200001.01568590499	Yes
Study of mechanical properties of pultruded Jute-glass reinforced unsaturated polyester bio- composites with hybrid filler loading	Navin Kumar	ME	World Journal of Engineering	2021	1708-5284	https://www.emerald.com	https://www.emerald.com/insight/content/doi/10.1108/WJE-04-2020-0127/full/html	Yes
Tribological characterization of pultruded hybrid glass-jute fibre reinforced plastic composites from room tempearture to 75. C	Navin Kumar	ME	World Journal of Engineering	2021	1708-5284	https://www.emerald.com	https://www.emerald.com/insight/content/doi/10.1108/WJE-03-2021-0147/full/html?utm_source=rss&utm_medium=feed&utm_campaign=rss_journalLatest	Yes
parametric optimization of friction stir processing on micro hardness of Al/B4C composite	Kapil Kumar	ME	International Journal of Materials Research	2021	2195-8556	https://www.degruyter.com/journal/key/ijmr/html	https://doi.org/10.1515/ijmr-2020-8027	Yes
Scheduling in Fog Computing: A Survey	Navin Kumar	ME	Design Engineering	2021	0011-9342	NA	NA	Yes
Study on Effect of variation of Goographical and Climatic Conditions on Chemical Constituents and Biological Activity of Emblica officinalis	Dipti Bharti	AS	Research Journal of Chemistry and Environment	2021	0972-0626	https://ores.su/en/journals/research-journal-of-chemistry-and-environment/	DOI:10.25303/2510rjce114120	Yes
PM2.5 AND PM10: EXISTANCE, TREATMENT AND PROBLEMS	Anuj Sharma	CE	Journal of Emerging Technologies and Innovative Research (JETIR)	2021	2349-5162	https://www.jetir.org/v	NA	Yes
Semiconductor devices	Dr. Dhiraj Gupta, Nikhil Gupta	EE	Journal of Innovative Science and Research Technology	2021	2456-2165	https://www.ijisrt.com	NA	Yes
Vehicle Accident Spotting and Rescue System using Internet of Things	Nikhil Gupta	EE	International Research Journal of Engineering and Technology (IRJET)	2021	2395-0056	https://www.irjet.net	NA	Yes
Enhancement in properties of concrete by Silica fumes.	Arvind Kumar	CE	International Research Journal of Engineering and Technology (IRJET)	2022	2395-0056	https://www.irjet.net/	NA	Yes
Study of Bond Ash Properties of Concrete utilizing Fly Ash, Marble and Granite Powder	Shreeja Kacker	CE	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET);	2022	2319-8753 2320-6710	http://www.ijirset.com/	NA	Yes
Design of Road & Transportation System in Surjkund Area (Faridabad)	Shreeja Kacker	CE	International Journal of All Research Education & Scientific Methods	2022	ISSN: 2455-6211	https://www.citefactor.org	NA	Yes
Optimum Replacement of Coarse Aggregate by Steel Slag and Fie Aggregate by Waste Glass Powder	Shreeja Kacker	CE	International Research Journal of Engineering and Technology (IRJET)	2022	2395-0056	https://www.irjet.net/	NA	Yes

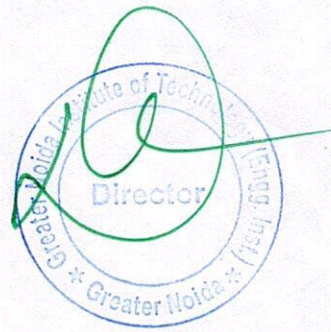
Effect of Steel Fibre and Marble Dust on the Mechanical Properties of High Strength Concrete (HSC)	Anuj Sharma	CE	International Research Journal of Engineering and Technology (IRJET)	2022	2395-0056	https://www.irjet.net/	NA	Yes
Design & Development of Maglev Girder Bridge & Vehicle	Anuj Sharma	CE	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET);	2022	2319-8753 2320-6710	http://www.ijirset.com/	NA	Yes
Manufacturing of Bricks with Solid Waste	Tabish Quadri	CE	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET);	2022	2319-8753 2320-6710	http://www.ijirset.com/	NA	Yes
A Study on Plastic Waste for Replacement of Coarse Aggregate with Soft and Hard Plastic in Concrete	Saurav Yadav	CE	International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET);	2022	2319-8753 2320-6710	http://www.ijirset.com/	NA	Yes
Load Frequency Control of a Multi-Microgrid System Incorporating Electric Vehicles	Bhuvnesh Khokhar	EE	Electric Power Components & Systems, Taylor & Francis	2022	1532-5008	https://www.tandfonline.com/journals/ueemp20	https://doi.org/10.1080/15325008.2022.2049648	Yes
Detection of SSVEP Frequency component using Filter Bank Approach for EEG Based BCI System	Mukesh Kumar Ojha	ECE	Neuroquantology	2022	1303-5150	https://www.neuroquantology.com	https://10.14704/nq.2022.20.6.NQQ22359	Yes
Detection of SSVEP Frequency component using Filter Bank Approach for EEG Based BCI System	Dhiraj Gupta	ECE	Neuroquantology	2022	1303-5150	https://www.neuroquantology.com	https://10.14704/nq.2022.20.6.NQQ22359	Yes
Detection of SSVEP Frequency component using Filter Bank Approach for EEG Based BCI System	Priyesh Tiwari	ECE	Neuroquantology	2022	1303-5150	https://www.neuroquantology.com	https://10.14704/nq.2022.20.6.NQQ22359	Yes
Cuckoo Search Constrained Gamma Masking for MRI Image Detail Enhancement (SCIE, SCOPUS)	Mukesh Kumar Ojha	ECE	Traitement du Signal, IIETA	2022	0765-0019, 1958-5608	https://www.iieta.org/	https://doi.org/10.18280/ts.390433	Yes
Cuckoo Search Constrained Gamma Masking for MRI Image Detail Enhancement	Dhiraj Gupta	ECE	Traitement du Signal, IIETA	2022	0765-0019, 1958-5608	https://www.iieta.org/	https://doi.org/10.18280/ts.390433	Yes
Cuckoo Search Constrained Gamma Masking for MRI Image Detail Enhancement	Priyesh Tiwari	ECE	Traitement du Signal, IIETA	2022	0765-0019, 1958-5608	https://www.iieta.org/	https://doi.org/10.18280/ts.390433	Yes
Relative Result and Design Analysis of SPV Tracking System on Simulink Platform	Priyesh Tiwari	ECE	ADBU Journal of Engineering Technology (AJET)	2022	2348-7305	https://journals.dbuniversity.ac.in/ojs/index.php/AJET/index	https://journals.dbuniversity.ac.in/ojs/index.php/AJET/article/view/3611	Yes
Predicting Carbon Residual in Biomass Wastes Using Soft Computing Techniques	Preety Verma	CSE	Adsorption Science & Technology	2022	0263-6174, 2048-4038	https://www.hindawi.com/journals/ast/	https://doi.org/10.1155/2022/8107196	Yes
Service Providers for Home Appliances	Indradeep Verma	CS-IoT	Journal of Positive School Psychology	2022	2717-7564	https://journalppw.com/index.php/jpsp	NA	Yes
Green Manufacturing: An Insight	Iqbal Ahmend Khan	ME	GIS Science Journal	2022	1869-9391	https://gisscience.net/	NA	Yes
A new CMOS compatible high performance first-order all-pass filter realisation	Shiv Narain Gupta	ECE	Australian Journal of Electrical and Electronics Engineering	2022	2205-362X	https://www.tandfonline.com/journals/tele20	https://doi.org/10.1080/1448837X.2022.2068487	Yes
First Order Mixed Mode MOS-C All-Pass Frequency Selective Analog Network with Electronic Tuning	Shiv Narain Gupta	ECE	Walailak Journal of Science and Technology	2022	2774-0226	https://tis.wu.ac.th/index.php/tis/index	https://doi.org/10.48048/tis.2022.4616	Yes
CMOS Transistors based First-Order Voltage-Mode All-pass Filter with Tunable Transformation Possibility	Shiv Narain Gupta	ECE	Journal of Circuits, Systems, and Computers	2022	1793-6454	https://www.worldscientific.com/worldscinet/jcsc	https://doi.org/10.1142/S0218126622502942	Yes
Treatment of thyroid disease through machine learning predictive model	Ajay Kumar Sahu	IT	International Journal of Health Sciences	2022	2550-6978 2550-696X	https://sciencescholar.us/journal/index.php/ijhs/index	https://doi.org/10.53730/ijhs.v6n58.12813	Yes
Treatment of thyroid disease through machine learning predictive model	Shivani Dubey	IT	International Journal of Health Sciences	2022	2550-6978 2550-696X	https://sciencescholar.us/journal/index.php/ijhs/index	https://doi.org/10.53730/ijhs.v6n58.12813	Yes
Analysis of Stock Market Prediction by using PSO Algorithm Optimizing LS- SVM	Shivani Dubey	IT	International Journal of Computer Sciences and Engineering	2022	2347-2693	https://www.ijcseonline.org/	https://doi.org/10.26438/ijcse/v10i2.2630	Yes
Analysis of Stock Market Prediction by using PSO Algorithm Optimizing LS- SVM	Amit kumar agrawal	CSE-AIML	International Journal of Computer Sciences and Engineering	2022	2347-2693	https://www.ijcseonline.org/	https://doi.org/10.26438/ijcse/v10i2.2630	Yes
Implementation of IoT based Automatic Street light illumination by using IR sensor	Shivani Dubey	IT	GIS Science Journal	2022	1869-9391	https://gisscience.net/	NA	Yes
Case Study: An Efficient Survey on Security Analysis of Social Networking	Shipra Srivastava	IT	TCS transactions	2022	1938-6737 1938-5862	https://iopscience.iop.org/journal/1938-5862	DOI:10.1149/10701.15533ecst	Yes
Production of Ethanol From Jaggery	Syed Qaisar Husain	ME	International Journal for Research in Applied Science & Engineering Technology IJRASET	2022	2321-9653	https://www.ijraset.com/	NA	Yes

A survey on Crane wire rope Failure	Syed Qaisar Husain	ME	International journal of recent Technology Science and Management	2022	2455-9679	http://sjifactor.com/passport.php?id=19039	NA	Yes
A survey on Crane wire rope Failure	Avinash Ravi Raja	ME	International journal of recent Technology Science and Management	2022	2455-9679	http://sjifactor.com/passport.php?id=19039	NA	Yes
Design and Analysis on Crane wire ropes by Using FEA methods	Syed Qaisar Husain	ME	International journal of recent Technology Science and Management	2022	2455-9679	http://sjifactor.com/passport.php?id=19039	NA	Yes
Design and Analysis on Crane wire ropes by Using FEA methods	Avinash Ravi Raja	ME	International journal of recent Technology Science and Management	2022	2455-9679	http://sjifactor.com/passport.php?id=19039	NA	Yes
MIMO Antennas: Design Approaches, Techniques and Applications	Preeti Sharma	ASHU	MDPI, SENSOR	2022	1424-8220	https://www.mdpi.com/journal/sensors	doi.org/10.3390/s22207813	Yes
Dual-band trident shaped MIMO antenna with novel ground plane for 5G applications	Preeti Sharma	ASHU	AEU - International Journal of Electronics and Communications	2022	1434-8411 1618-0399	https://www.science-direct.com/journal/aeu-international-journal-of-electronics-and-communications	doi.org/10.1016/j.aeue.2022.154364	Yes
Automated Health Monitoring System Using GSM and IOT	Akshika Jain	CSE-AIML	International Journal of Scientific Research in Computer Science, Engineering and Information Technology	2022	2456-3307	https://ijsrceit.com/	doi : https://doi.org/10.32628/CSEIT228126	Yes
Emotions specified Automatic Report Generator for Psychiatrist	Pooja Sharma	CSE-AIML	International Journal of Scientific Development and Research	2022	2455-2631	www.ijsdr.org	www.ijsdr.org	Yes
Implementation of IoT based Automatic Street light illumination by using IR sensor	Shivani Dubey	CSE-AIML	GIS Science Journal	2022	1869-9391	https://gisscience.net/	https://gisscience.net/	Yes
Automated Irrigation System for monitoring the Soil Moisture Content via Automatic Watering by using Microcontroller Node MCA ESP8266	Shivani Dubey	CSE-AIML	Journal of Emerging Technologies and Innovative Research	2022	2349-5162	www.jetir.org	www.jetir.org	Yes
Multi-Resolution based Singular Value decomposition approach for Breast Cancer Image Classification	Vijay Shukla	CSE	BioMd Research International Journal, Q2, Indexing in Web of Science, SCIE, Scopus (Publisher: Hindwai)	2022	NA	https://pubmed.ncbi.nlm.nih.gov/	https://www.hindawi.com/journals/bmri/2022/6392206/	Yes
Design and Optimization of 4-Bit Array Multiplier with Adiabatic Logic Using 65 nm CMOS Technologies	Mukesh Ojha	ECE	IETE Technical Review	2022	2307-1877	https://www.tandfonline.com/journals/tjtr20	https://doi.org/10.1080/03772063.2023.2204857	Yes
X-Ray Image Authentication Scheme Using SLT and Contourlet Transform for Modern Healthcare System	V. K. PALLAW	MCA	Journal of Universal Computer Science (SCI IF-1.05).	2022	0948-6968	https://academic-accelerator.com/Impact-of-Journal/Journal-of-Universal-Computer-Science	103897/jucs.94132	Yes
A Novel adaptive intelligent MPC scheme for frequency stabilization of a microgrid considering SoC control of EVs	Bhuvnesh Khokhar	EE	Applied Energy	2022	0306-2619	https://www.science-direct.com/journal/applied-energy	doi.org/10.1016/j.apenergy.2021.118423	Yes
Smart Chatbot	Sonam Sirohi	ECE	Journal of Emerging Technologies and Innovative Research (JETIR)	2022	2349-5162	https://www.jetir.org/	https://www.jetir.org/	Yes
Removal of Error by finding defect in RGB image	Anil Kumar Debey	ECE	Journal of Emerging Technologies and Innovative Research (JETIR)	2022	2349-5162	https://www.jetir.org/	https://www.jetir.org/	Yes
Face Mask Detection	Shiv Narain Gupta	ECE	Journal of Emerging Technologies and Innovative Research (JETIR)	2022	2349-5162	https://www.jetir.org/	https://www.jetir.org/	Yes
Plant Disease Detection Using Machine Learning	Shiv Narain Gupta	ECE	Journal of Emerging Technologies and Innovative Research (JETIR)	2022	2349-5162	https://www.jetir.org/	https://www.jetir.org/	Yes
AI Based Chess Engine	Anil Kumar Debey	ECE	Journal of Emerging Technologies and Innovative Research (JETIR)	2022	2349-5162	https://www.jetir.org/	https://www.jetir.org/	Yes
Real-Time Face Recognition using openCV	Anil Kumar Debey	ECE	Journal of Emerging Technologies and Innovative Research (JETIR)	2022	2349-5162	https://www.jetir.org/	https://www.jetir.org/	Yes
ROAD SAFETY PLAN FOR HAIRPIN CURVES	Sushant Kumar	CE	International Research Journal of Engineering and Technology (IRJET)	2022	2395-0056	https://www.irjet.net	https://www.irjet.net	Yes

Seismic Response study of multi-storied reinforced concrete building with fluid viscous dampers	Shreeja Kacker	CE	International Research Journal of Engineering and Technology (IRJET)	2022	2395-0056	https://www.irjet.net	https://www.irjet.net	Yes
MHD FLOW OF DUSTY VISCOUS FLUID THROUGH A POROUS MEDIUM BOUNDED BY AN OSCILLATING POROUS PLATE IN SLIP FLOW REGIME	Dr. Kirti	AS	International Research Journal of Engineering and Technology (IRJET)	2022	2395-0056	https://www.irjet.net	https://www.irjet.net	Yes
Energy Meter	Dr. Dhiraj Gupta, Nikhil Gupta	EE	International Journal of Innovation Science and Research Technology	2022	2456-2165	https://www.ijisrt.com	https://www.ijisrt.com	Yes
GSM Based Smart Home Appliances	Aneep Kumar	EE	International Journal for Scientific Rouch & Development	2022	2821-4613	https://www.ijisrd.com	https://www.ijisrd.com	Yes
Bill Board Wifi Based Bill Board Led Display	Dr. Dhiraj Gupta, Nikhil Gupta, Aastha Dixit	EE	International Journal of Innovative Science and Research Technology	2022	2456-2165	www.ijisrt.com	www.ijisrt.com	Yes
Comparative Performance Analysis of MPPT Techniques For Solar Power Extraction Using Zeta Converter	Dr. Dhiraj Gupta, Nikhil Gupta	EE	International Journal of Research in Engineering and Science (IIRES)	2022	2320-9156	www.nes.org	www.nes.org	Yes
Scrolling Display GSM based Messages Crolling Led Display	Dr. Dhiraj Gupta, Nikhil Gupta	EE	International Journal of Innovative Science and Research Technology	2022	2456-2165	https://www.ijisrt.com	https://www.ijisrt.com	Yes
LED DISPLAY SCROLLING BOARD BASED ON GLOBAL SYSTEM FOR MOBILE COMMUNICATION	Dr. Dhiraj Gupta	EE	International Research Journal of Modernization in Engineering Technology and Science	2022	2582-5208	www.irimets.com	www.irimets.com	Yes
GSM BASED MESSAGE SCROLLING LED DISPLAY	Nikhil Gupta	EE	International Research Journal of Engineering and Technology (IRJET)	2022	2395-0056	www.irjet.net	www.irjet.net	Yes

Index

S.No.	Sub-Criteria3.3.1:Document Description	Page Number(s)
1	Journal Research Papers published by GNIOT faculty members in the year 2018	
2	Journal Research Papers published by GNIOT faculty members in the year 2019	
3	Journal Research Papers published by GNIOT faculty members in the year 2020	
4	Journal Research Papers published by GNIOT faculty members in the year 2021	
5	Journal Research Papers published by GNIOT faculty members in the year 2022	



Research Article

Lead Time for Cities of Northern India by Using Multiparameter EEW Algorithm

Rakhi Bhardwaj¹ and Mukat Lal Sharma²

¹Department of Electronics and Communication Engineering, GNIOT, Greater Noida 201308, Greater Noida, India

²Department of Earthquake engineering, Indian Institute of Technology Roorkee, Roorkee 247667, Uttarakhand, India

Correspondence should be addressed to Rakhi Bhardwaj; rakhibhardwaj25@gmail.com

Received 12 May 2018; Accepted 12 September 2018; Published 26 September 2018

Guest Editor: ZhiQiang Chen

Copyright © 2018 Rakhi Bhardwaj and Mukat Lal Sharma. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Earthquake early warning (EEW) is considered one of the important real-time earthquake damage mitigation measures. The presence of seismogenic sources generating high seismicity in Himalayas and the cities of concern lying at appropriate distances makes Northern India a perfect case to be monitored using EEW systems. In the present study, an attempt has been made to estimate the lead times for Northern Indian cities for issuing early warning by using the EEW system deployed by IIT Roorkee in Central Himalayas. The instrumentation deployed at 100 locations between Uttarkashi and Chamoli has been used to estimate the lead time at six cities. The estimated lead time includes the time to reach S-wave after subtraction of the sum of P-wave arrival time at the station, time taken by EEW algorithm, transmission and processing delay. The study reveals that for Dehradun, Hardwar, Roorkee, Muzaffarnagar, Meerut, and Delhi the minimum calculated lead time is 5, 11, 20, 35, and 68 sec while the maximum lead time is 37, 36, 47, 59, and 90 sec, respectively. Such larger estimated lead times to these densely populated cities show that EEW can successfully work as one of the important real-time earthquake disaster reduction measures in Northern India.

1. Introduction

The rapid growth of the world's population over the past few decades has led to a concentration of people, buildings, and infrastructure in urban areas. These vulnerable areas when falling in vicinity of seismically active sources become the center of disasters in terms of economic losses and death tolls. Such a case exists in Northern India where a lot of development has taken place in the vicinity of Himalayas which is one of the world's seismically very active zone. Himalaya has been repeatedly hit by damaging earthquakes including some of the great earthquakes, namely, 1897 Shilong (M 8.7), 1905 Kangra (M 8.6), 1934 Bihar (M 8.4), and 1950 Assam (M 8.7), along with other moderate earthquakes which occurred recently, for example, 1991 Uttarkashi (M 6.8), 1999 Chamoli (M 6.4), 2005 Muzaffarabad (M 7.6), and 2011 Sikkim earthquake (M 6.9) in which huge loss of life and property took place [1–3]. The recent 2015 Nepal earthquake may be considered as a whistle blower for revisiting our

preparedness towards heavy losses which the local populace has to face in future due to such natural calamity. The problem becomes manifold when the pace of urbanization rapidly increases into the Himalayan region and its periphery and, in turn, increase in the vulnerability is considered. It is therefore essential to take measures to reduce earthquake losses through scientific research. In addition, to create an earthquake resilience society by providing earthquake resistant built environment, it will be of paramount importance to consider the information about such event if it can be given *a priori*. Since earthquake prediction seems to be a little distant future, the earthquake early warning (EEW) systems are making swift in-roads in becoming a practical tool to reduce the losses by giving warning before the arrival of a damaging ground motion at a site [4, 5]. One of the prerequisites for disaster mitigation and management is the *a priori* knowledge of impending strong ground motion. EEW systems have also played an integral role in engineering applications. The main challenge for the effective use of EEW



Experimental Investigation and optimization of Process Parameters for Shear Strength of Compound Cast Bimetallic Joints

Rajender Kumar Tayal¹ · Sudhir Kumar² · Vikram Singh¹

Received: 18 September 2017 / Accepted: 4 June 2018 / Published online: 19 June 2018
© The Indian Institute of Metals - IIM 2018

Abstract Joining of A356 alloy and magnesium was carried out by vacuum assisted sand mold compound casting process. Microstructure at the joint interface was studied by using optical microscope, scanning electron microscope, energy dispersive X-ray spectroscopy and X-ray diffractometer. Characterization indicated that a relatively uniform joint interface was obtained. The joint interface was composed of three distinct layers containing Mg_2Al_3 on aluminum side, $Mg_{17}Al_{12} + \delta$ eutectic structure on magnesium side and $Mg_{17}Al_{12}$ as middle layer. As a result of interaction between silicon, present in A356 with magnesium, Mg_2Si compound was formed. Push out test was conducted on electronics universal testing machine to measure the shear strength across the joint interface. The important process parameters (grit size of sand paper, insert temperature, pouring temperature and vacuum pressure) were optimized to maximize the shear strength. Optimization was carried out by using response surface methodology, desirability analysis and genetic algorithm (GA) techniques. It was observed that the shear strength increased by 14.21, 8.60 and 4.80% with genetic algorithm, desirability analysis and regression model respectively. GA reported the optimal value of shear strength.

Keywords Compound casting · Micro-structure · Characterization · Shear strength · Optimization

Genetic algorithm · Response surface methodology · Desirability analysis

1 Introduction

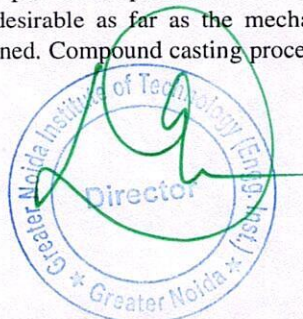
Aluminum and magnesium, the lightest engineering metals, are preferred in aerospace, automobile, computers and electronics industry, navigation and military affairs owing to their unique properties. These metals possess low weight to strength ratio, excellent castability and corrosion resistance [1, 2]. Weight of magnesium is nearly one third of aluminum while having similar melting points. Aluminum alloys as an alternative to steel and cast iron exhibit the improved energy efficiency and performance of vehicles. Aluminum is able to maintain strength at elevated temperature and possesses high ductility. On the other hand, the use of magnesium alloys has increased significantly in automobile sector in order to reduce the weight of vehicle and hence CO_2 emissions. Magnesium exhibits low ductility and creep resistance [3, 4]. The joint of aluminum and magnesium leads to the advantage of combined properties of both the materials. The combined configuration proves to be quite effective to meet the requirement for lightweight and high performance parts. Therefore, the Al–Mg compound structures seem to be a promising solution for present industrial applications.

Aluminum and magnesium can be joined together by different fusion and diffusion processes such as tungsten inert gas welding, spot welding [5], laser welding [6, 7], vacuum diffusion bonding [8, 9] and friction-stir welding [10–12]. In these processes, hard and brittle intermetallic compounds are produced at the Al/Mg interface, which are undesirable as far as the mechanical properties are concerned. Compound casting process is preferred as it results

✉ Rajender Kumar Tayal
tayal.rajender@gmail.com

¹ YMCA University of Science & Technology, Faridabad, Haryana, India

² Greater Noida Institute of Technology, Greater Noida, U.P., India





CrossMark

EXPERIMENTAL INVESTIGATION AND OPTIMIZATION OF PROCESS PARAMETERS FOR IMPACT STRENGTH OF COMPOUND CAST BIMETALLIC JOINTS

Rajender Kumar Tayal and Vikram Singh

YMCA University of Science and Technology, Faridabad, Haryana, India

Sudhir Kumar

Greater Noida Institute of Technology, Greater Noida, U.P, India

Copyright © 2017 American Foundry Society
DOI 10.1007/s40962-017-0190-3

Abstract

Aluminum alloy A356 and pure magnesium bimetallic castings were produced by vacuum-assisted sand mold compound casting process. The effect of process parameters, i.e., pouring temperature, vacuum pressure, insert temperature and grit size of sandpaper, on impact strength of joint interface was investigated. The experiments were executed by using central composite design approach. Experimental data were utilized to formulate a second-order regression model. Scanning electron microscopy of joint interface revealed that a uniform joint interface consisting of three different layers is obtained due to the diffusion between A356 insert and Mg melt. X-ray diffraction and energy-dispersive X-ray spectroscopy patterns confirmed the formation of intermetallic compounds

Mg_2Al_3 , $Mg_{17}Al_{12}$ and Mg_2Si at A356/Mg interface. The parameters were optimized by using desirability analysis (DA), response surface methodology and genetic algorithm (GA) techniques in order to maximize the impact strength. The maximum value of impact strength is obtained as 10.5, 10.68, 11.71 and 12.29 in experimental, regression, DA and GA, respectively. The best value of impact strength (12.29 MPa) is obtained by GA optimization at 661.13 °C pouring temperature, 200.02 mm of Hg vacuum pressure, 328 °C insert temperature and 1187.15 as grit size of sandpaper.

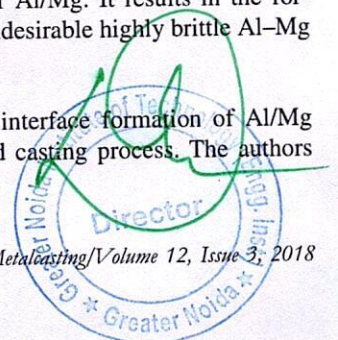
Keywords: VASMCC process, microstructure, impact strength, optimization, GA, RSM, desirability analysis

Introduction

Die casting is an effective casting method for the bulk production of light metal components. The parts with complicated shape and high degree of precision can be fabricated with this method that finds a large number of applications in automotive and aerospace industries.^{1,2} However, the requirement of lightweight construction cannot be fulfilled with one material alone. A feasible solution arises with the use of multi-materials.³ Multi-material joining techniques play a vital role in manufacturing of such lightweight structures. Compound casting process allows the joining of dissimilar (or similar) materials through direct casting in which one material is kept in solid state, while the other is kept in liquid. The solid insert is placed in mold cavity, and the liquid material is allowed to pour around it. Diffusion reaction zone initiated at the

interface of solid insert and melt leads to the formation of joint.^{4,5} A number of attempts have been made by the researchers to employ this process to join dissimilar or similar metals such as Al/Al,⁶ Al/Mg,^{7,8} steel/Cu,⁹ Al/Cu^{10,11} and steel/Al.¹² It has been reported that Al/Mg joint renders the desirable mechanical and metallurgical properties. This leads to the significant increase in the applications of these metals in automotive industry. Solid state joining and fusion welding processes have also been employed to join aluminum and magnesium.¹³⁻¹⁶ The problem associated with these processes is the presence of oxide film on the surface of Al/Mg. It results in the formation of weak joints and undesirable highly brittle Al-Mg intermetallic compounds.

Hajjari et al.¹⁷ studied the interface formation of Al/Mg joint prepared by compound casting process. The authors



Shyam Lal*, Sudhir Kumar and Zahid A. Khan

Microstructure evaluation, thermal and mechanical characterization of hybrid metal matrix composite

<https://doi.org/10.1515/secm-2017-0210>

Received June 21, 2017; accepted January 2, 2018; previously published online August 8, 2018

Abstract: In this paper, an inert gas assisted electromagnetic stir casting process is adapted for manufacturing a cast hybrid metal matrix composite (MMC) using Al_2O_3 and SiC particulates as a hard phase reinforcement in Al 7075 alloy metal matrix. Four different samples containing 5, 10, 15 and 20 wt% of Al_2O_3 and SiC with Al 7075 alloy composites were fabricated. The characterizations for all the samples were carried out through optical microstructure, scanning electron microscopy (SEM) fractograph, X-ray diffraction (XRD) analysis, differential thermal analysis (DTA) analysis and mechanical properties. The results revealed that the particles are uniformly distributed in the matrix. No peaks of Al_4C_3 were found. There is negligible loss of material in the composite. The tensile strength and microhardness of the hybrid composite are higher by 65.7% and 13.5%, respectively, when compared to its cast metal matrix Al 7075 alloy.

Keywords: Al7075; DTA; electromagnetic stir casting; hybrid composite; XRD.

1 Introduction

Composite materials are engineered materials having a combination of two or more chemically distinct and insoluble phases. The ceramic reinforcement has high strength and high modulus whereas the metal matrix is ductile. The resulting composite material has mechanical properties intermediate to the matrix alloy and the ceramic reinforcement. In metal matrix composites (MMCs), the primary function of the reinforcement is to support most of the applied

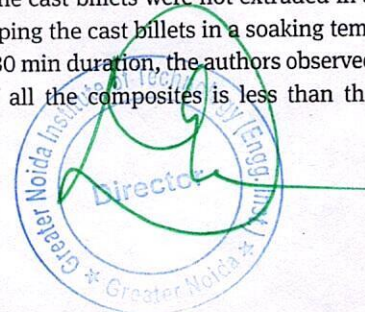
load, while that of the matrix is to bind the reinforcement together [1]. Aluminum is widely used as a metal matrix because of its light weight, good mechanical properties and formability, economy and high resistance to environmental degradation. Also aluminum has the capability to incorporate a wide variety of reinforcing agents such as Al_2O_3 , SiC, graphite fibers, whiskers and other particles. Hybrid MMC is obtained by incorporating two or more different kinds of reinforcements in a single matrix. Hybrids have a better all-round combination of mechanical properties than composites containing only a single reinforcement. Composite materials find wide applications in aircraft, space vehicles, offshore structures, piping, electronics, automobiles, boats and sporting goods [2, 3]. Cambronero et al. [4] produced MMC through the powder metallurgy route using 7015 Al-alloy powder with 5 wt% Si_3N_4 , TiB_2 and B_4C ceramic powder (8–10 μm size). Ceramic powders are uniformly distributed in AA7015 matrix and no porosity was found. The authors further observed that ceramic addition decreases electrical conductivity, lowers tensile strength, decreases plastic deformation, but has a better wear behavior when compared with heat treated T_6 AA7015 Al-alloy [4]. Kumar and Balasubramanian [5] fabricated AA7075/SiC_p composite by the powder metallurgy route and developed a mathematical model to evaluate the wear rate. The authors concluded that particle size has an inversely proportional relationship with wear rate, while the volume fraction of reinforcement and sliding speed are directly proportional with the wear rate. Kalkanli and Yilmaz [6] prepared Al7075 composite with 10 wt%, 15 wt%, 20 wt% and 30 wt% SiC through vertical pressure die/squeeze casting.

Characterizations of samples were carried out through scanning electron microscopy (SEM) analysis, X-ray diffraction (XRD) analysis and mechanical properties. The results revealed that no Al_4C_3 was present in the sample and hardness increased with an increased in SiC content [6]. Karthikeyan et al. [7] made a calorimetric study of 7075 Al/SiC_p composite fabricated by the stir casting technique having 10%, 15% and 20% volume fractions of SiC_p of 20 μm average size. The cast billets were hot extruded in a ratio of 20:1. After keeping the cast billets in a soaking temperature of 420°C for 30 min duration, the authors observed that heat capacity of all the composites is less than the

*Corresponding author: Shyam Lal, Department of Mechanical Engineering, Noida Institute of Engineering and Technology, Greater Noida, India, e-mail: shyamlal561@gmail.com

Sudhir Kumar: Department of Mechanical Engineering, Greater Noida Institute of Technology, Greater Noida, India

Zahid A. Khan: Department of Mechanical Engineering, Faculty of Engineering and Technology, Jamia Millia Islamia, New Delhi, India





CrossMark

CHARACTERIZATION AND MICROHARDNESS EVALUATION OF A356/Mg JOINT PRODUCED BY VACUUM-ASSISTED SAND MOLD COMPOUND CASTING PROCESS

Rajender Kumar Tayal and Vikram Singh

YMCA University of Science and Technology, Faridabad, Haryana, India

Sudhir Kumar and Rohit Garg

Greater Noida Institute of Technology, Greater Noida, UP, India

Copyright © 2018 American Foundry Society
<https://doi.org/10.1007/s40962-018-0264-x>

Abstract

Joining of A356 alloy and magnesium was carried out by vacuum-assisted sand mold compound casting process. Experiments were performed as per central composite design method. The second-order regression model validated the accuracy and reliability of experimental results. The interfacial microstructure was assessed by using scanning electron microscope and energy-dispersive X-ray spectroscopy. Phase constitutions were identified by X-ray diffractometer. It was observed that a uniform joint interface of A356/Mg formed with three distinct layers composed of Mg_2Al_3 , $Mg_{17}Al_{12}$ and $Mg_{17}Al_{12} + \delta$ eutectic structure. Mg_2Al_3 revealed highest microhardness followed by $Mg_{17}Al_{12}$ and $Mg_{17}Al_{12} + \delta$ eutectic structure. Brittle and partial ductile fracture morphology was observed on A356 and Mg side, respectively, whereas the middle layer

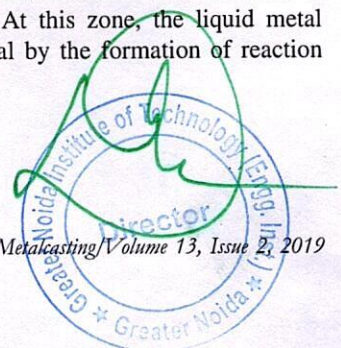
indicated mixed brittle and partial ductile fracture morphology. The process parameters (pouring temperature, vacuum pressure, insert temperature and surface roughness of insert) of compound casting were optimized with respect to the microhardness of joint interface. Optimization was carried out by using response surface methodology (RSM), desirability analysis (DA) and genetic algorithm (GA). A variation of 0.30, 0.84 and 1.35% in microhardness was obtained by RSM, DA and GA, respectively.

Keywords: compound casting process, microhardness, interfacial microstructure, characterization, optimization

Introduction

Aerospace and automobile industry increase the demand of parts with minimum weight while achieving similar or even superior parts properties. At the same time, the parts must be produced at lower cost. Sometimes, single material is not able to complete the demand of market; then, compound configuration is required because it provides desired properties.¹⁻³ The compound casting process covers a wide range of requirements within one component by combining different materials. In this process, one material in liquid state and the other in solid form diffused properly. Consequently, a consistent metallic transition formed between these two materials.⁴⁻⁶ The process is employed to join semifinished components having the complicated shape merely by pouring a liquid metal around a solid shaped insert.⁷

In transport industry, lightweight fabrication helps to reduce weight and thus saves fuel. Magnesium and aluminum are light metals. These metals are employed to an ever-increasing extent in lightweight fabrication. A number of processes such as diffusion bonding,^{8,9} friction stir welding,¹⁰⁻¹² laser welding^{13,14} and metal arc welding^{15,16} are also feasible to achieve the joining of dissimilar metals like aluminum and magnesium. The joining of Al/Mg by these processes leads to the formation of intermetallic compounds at the interface, which are highly brittle. The preference of using the compound casting process over other dissimilar joining processes renders the formation of a uniform interface zone. At this zone, the liquid metal diffuses into the solid metal by the formation of reaction phases and solid solutions.





CrossMark

EXPERIMENTAL INVESTIGATION AND EVALUATION OF JOINT STRENGTH OF A356/Mg BIMETALLIC FABRICATED USING COMPOUND CASTING PROCESS

Rajender Kumar Tayal, Vikram Singh, and Anju Gupta
YMCA University of Science and Technology, Faridabad, Haryana, India

Sudhir Kumar
Greater Noida Institute of Technology, Greater Noida, U.P., India

Deepa Ujjawal
Indian Veterinary Research Institute, Bareilly, U.P., India

Copyright © 2018 American Foundry Society
<https://doi.org/10.1007/s40962-018-0288-2>

Abstract

In the present work, two lighter materials (pure magnesium and aluminum alloy A356) were joined together by vacuum-assisted sand mold compound casting process. The dominating process parameters such as pouring temperature, insert temperature, surface roughness of insert and vacuum pressure were chosen to execute the casting process. Microstructure of joint interface was analyzed by SEM, EDS and XRD techniques. Mechanical properties, namely, microhardness, impact and shear strength of joint, were measured experimentally. The accuracy of experimental data was checked by using response surface methodology. The joint strength of A356/Mg interface was evaluated by applying graph theoretic approach (GTA). A

numerical value, joint strength index, was proposed to show the effect of factors and subfactors. Index values of subsystems revealed that shear strength has maximum influence on joint strength followed by microhardness and impact strength. GTA proves an effective tool in estimating the optimum process parameters for compound casting process.

Keywords: *compound casting process, joint interface, microstructure, mechanical properties, graph theoretic approach*

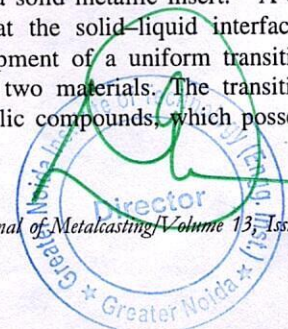
Introduction

Magnesium and aluminum are the lightest engineering metals. Magnesium is 35% lighter than aluminum.¹ Owing to the desirable properties such as light weight, good castability, high strength and corrosion resistance, aluminum alloys are extensively used in automobile, aerospace and defense sectors.² Magnesium possesses excellent castability and better noise and vibration dampening properties than aluminum.³

Sometimes, the requirement of a lightweight part is notable to meet with a single material alone. This problem can be sorted out by employing the part fabricated with multi-materials. A joint of magnesium and aluminum offers the benefit of distinctive properties of both the

materials into a single part. These metals can be joined together by a variety of processes such as spot welding,⁴ tungsten inert gas welding,⁵ gas metal arc welding,⁶ friction stir welding,⁷⁻⁹ laser welding^{10,11} and vacuum diffusion bonding.^{12,13} The formation of brittle intermetallic compounds at Al/Mg interface is accompanied in these processes due to which the interface turns out to be weaker.

The compound casting process provides a better solution to this problem. It is a unique metal casting process preferably employed to join dissimilar materials. It involves pouring of liquid metal over a solid metallic insert.¹⁴ A diffusion process is initiated at the solid-liquid interface which results in the development of a uniform transition zone sandwiched between two materials. The transition zone consists of intermetallic compounds, which possesses the





A REVIEW ON PHYTOCONSTITUENTS AND MEDICINAL PROPERTIES OF EMBLICA OFFICINALIS

Charu Arora¹, Dipti Bharti², Dhruv Arora³ and Vinita Tamrakar¹

¹Department of Chemistry, Guru Ghasidas Vishwavidyalaya
Koni, Bilaspur, Chhattisgarh 495009

ABSTRACT

Emblca officinalis has great importance in herbal, Ayurvedic, Chinese and traditional medicinal systems in various countries. *Emblca officinalis* has been believed to increase defense against various diseases. In this article, phytoconstituents separated from *Emblca officinalis* and application of *Emblca officinalis* in various diseases like, cancer, diabetes, heart disease, diarrhea, ulcer, pyria, snake bite, analgesic, antioxidant, antitussive, antimicrobial, hypoprotective, and cytoprotective etc., have been reviewed. *E. officinalis* is also used as ingredient of various preparations used to enhance memory, treat ophthalmic disorders and lowering cholesterol level.

Key words : *Emblca officinalis*, antioxidant activity, anticancer, antivenom activity.

Medicinal plant have played key role in world health. Herbal drugs have been used since ancient time as medicines for the treatment of rang of diseases. Herbal medicinal preparations are still popular in developing countries inspite of great advanced observed in modern medicines in recent decades. Plants are very efficient sources of renewable organic materials such as unusual and nutritionally rich proteins, lipids and enormous spectrum of chemical constituents. Many of them have known value as drugs, biomaterials, flavorings, fragrances, coloring agents and potent agrochemicals (1).

Medicinal plants are known to be much safer. These are used for the treatment of various bacterial fungal and viral diseases in crops as well as in Ayurvedic and other medicinal systems (2) (3). In the world 5-10% of all plants are systematically investigated for their medicinal property. Two thousand medicinal plants are recognized. *Emblca officinalis* is a deciduous tree of euphorbiaceae family. Plant has been also known as Dhatriphaa, Amla Amaliki, Amalakan, Sriphalam, Vayastha in Sanskrit, Amla in Hindi and German, *Emblca myroblan* in English, Mirabolano emblica in Italian, Amba in Nepalese, An mole in Chinese, Papak Melaka in

Malaysian, Mirabolano emblica in Portugues and Tibetan (4).

Emblca officinalis contains innumerable constituents in varying amounts falling in broad of alkaloids, benzenoids derivatives, diterpenes and furanolactones, flavonoids and sterols (2). Amla or Indian gooseberry has been playing a significant role from ancient times in traditional medicine, Ayurveda and in tribal medicine. These phytochemicals extracted from other plants has been investigated for different bioscreening showing significant results but have not been researched from *Emblca officinalis* solvent extraction yet (5).

The chemical constituents of this plant have been used in formulation of many herbal and patent drugs (6). Many of medicinal properties like analgesic, antipyretic, anticancer, antioxidant, antivenom, antitussive, antimicrobial, antibacterial, antifungal, antitumour, antiulcerogenic, hypoprotective, cytoprotective, antidiarrheal etc. reported in this plant. It is usefull in memory enhancing, ophthalmic disorders and lowering cholesterol level. It is often used in the form of Triphla which is an herbal formulation containing fruit of *Emblca officinalis*,

²Department of Applied Science, Greater Noida Institute of Technology Greater Noida Plot No. 7, Knowledge Park - II, Greater Noida, Uttar Pradesh 201308.

³Department of Food Technology, Gautam Budha University, Greater Noida, U.P.

