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Paper Title	Development of electrode by increasing toughness steel to reduce temper Embrittlement
Authors & Affiliation	Mritunjay Avinash ¹ Ashutosh Dwivedi ² 1M.Tech. Research Scholar 2Assistant Professor 1,2Department of Mechanical Engineering 1,2VITS Satna, India
Abstract & Keyword	Abstract 2.25Cr-1Mo steel has an excellent mechanical property, so manufactures have wide scope in development of high-performance welding electrodes for these steels. In the current study the commercial electrodes are collected and welded, and the weld coupon is subjected to post weld heat treatment. The half of specimen is taken and subjected to step cooling at different temperatures at different intervals to observe the segregation that is occurring in the original service life of material. Then the sample is machined for impact testing specimens. The charpy V-notch test is carried out for specimens of both step-cooled and post weld heat treatment and only post weld heat treatment to compare the loss of toughness after step cooling. The impact test shows drastic loss of toughness after step cooling in weld coupons manufactured with commercial electrodes. Then by trial-and-error method and some literature work a specific composition arrived and the flux is formulated, and electrode is fabricated. To check the results, we need to evaluate the chemical composition of respective weld metal and radiography testing. Further, weld metal is subjected to Charpy V-notch test to measure the toughness of step cooling and post weld heat treated and only post weld heat treated weld metal. Keywords: 2.25Cr-1 Mo steel, welding, electrodes, radiography, impact testing
Paper Download Link	https://ijemmr.co.in/wp-content/uploads/2024/07/upMritunjay-Avinash1_pagenumber.pdf
Paper Title	Analyzing the Impact of Cutting Parameters on Machinability Factors in CNC Lathe Drilling of Al6063T6 Aluminum Alloy
Authors & Affiliation	Praveen Pandey ¹ Ashutosh Dwivedi ² 1M.Tech. Research Scholar 2Assistant Professor 1, 2Department of Mechanical Engineering 1,2VITS Satna, India

<i>Abstract & Keyword</i>	<i>Abstract</i> <i>Dye-sensitized solar cells (DSSCs) have been an emerging technology for renewable energy generation due to their low-cost fabrication process and high efficiency. In recent years, natural dyes have been extensively explored as a replacement for synthetic dyes, which are environmentally harmful and expensive. This paper reviews the recent progress in using natural dyes as sensitizers in DSSCs. The main challenges in utilizing natural dyes for DSSCs, such as low absorption coefficient and instability, are discussed along with the possible solutions. Various natural dyes used in DSSCs and their performance are presented, including anthocyanins, carotenoids, chlorophylls, and other plant extracts. The influence of parameters such as dye concentration, pH, and co-adsorbents on the efficiency of DSSCs is also discussed. Finally, the future outlook and possible developments in the use of natural dyes in DSSCs are proposed. The utilization of natural dyes as sensitizers in DSSCs holds promise in achieving sustainable and eco-friendly solar energy generation.</i>
<i>Paper Download Link</i>	https://ijemmr.co.in/wp-content/uploads/2024/07/upPraveen-Pandey1_pagenumber.pdf

Paper Title	<i>The Influence of Cutting Parameters on Machinability Variables for Turning on Al6063T6 Using CNC Lathe</i>
Authors & Affiliation	<i>Krishnanand Chaturvedi¹ Ashutosh Dwivedi² 1M.Tech. Research Scholar 2Assistant Professor 1,2Department of Mechanical Engineering 1,2VITS Satna, India</i>
Abstract & Keyword	<i>Abstract</i> <i>This study investigates the impact of cutting parameters on machinability variables during turning operations on Al6063T6 aluminum alloy using a CNC lathe. Cutting speed, feed rate, and depth of cut were examined, focusing on surface roughness, cutting force, and tool wear. Results underscored cutting speed's significant influence on all variables, while feed rate showed moderate impact and depth of cut had minimal effect. Increasing speed and feed rate improved surface quality and reduced energy consumption but increased tool wear. Conversely, deeper cuts elevated roughness and force but decreased tool wear. These findings inform optimized machining strategies for industries using Al6063T6, like automotive and aerospace, enhancing productivity, quality, and cost-efficiency.</i>
Paper Download Link	https://ijemmr.co.in/wp-content/uploads/2024/07/nupKrishnanand-chaturvedi_pagenumber.pdf
Paper Title	<i>Review on modelling and simulation software's of Solar Photovoltaic systems</i>
Authors & Affiliation	<i>Krati Patel¹, Manish sawale² 1M.Tech Scholar , Department of Electrical & Electronics engineering, OIST Bhopal, India 2Professor, Department of Electrical & Electronics engineering, OIST Bhopal, India</i>
Abstract & Keyword	<i>Abstract:</i> <i>This review paper broke down the at present accessible building plan virtual products for draftsmen, with an attention on early outline stage choices of building activities, to distinguish newly accessible programming devices or potentially missing functionalities required for empowering and improving outline of structures combination of photovoltaic frameworks and advancements. This paper shows that there are numerous recreation programming which can be utilized for the estimation of detached sun based increases is considered in the count of the entire building warm adjust computation are: bSol, DesignBuilder, DPV, Ecotect, EDGII, ENERGIEplaner, eQUEST, IDA ICE, IES VE,</i>

	LESOSAI, and VisualDOE. The recreation programming with the most intriguing light counts are: DAYSIM, DesignBuilder, Ecotect, eQUEST, IDA ICE, IES VE and Radiance. In this paper demonstrates that there are a lot of representation and reproduction devices accessible today for modelers. This review article covers a large portion of the apparatuses broadly known and utilized by the design group. Keywords: Building design, photovoltaic, energy, solar, software.
Paper Download Link	https://ijemmr.co.in/wp-content/uploads/2024/08/paper1-Krati-patel_pagenumber.pdf
Paper Title	Simulation and Performance Analysis of Grid Connected Solar Photovoltaic Power Plant
Authors & Affiliation	Krati Patel¹, Manish sawale² 1M.Tech Scholar , Department of Electrical & Electronics engineering, OIST Bhopal, India 2Professor, Department of Electrical & Electronics engineering, OIST Bhopal, India
Abstract & Keyword	Abstract: The growing energy demand in developing nations has triggered the issue of energy security. This has made essential to utilize the untapped potential of renewable resources. Grid connected PV systems have become the best alternatives in renewable energy at large scale. Performance analysis of these grid connected plants could help in designing, operating and maintenance of new grid connected systems. A 10 MW photovoltaic grid connected power plant commissioned at Ramagundam is one of the largest solar power plants with the site receiving a good average solar radiation of 4.97 kW h/m² /day and annual average temperature of about 27.3 degrees centigrade. The plant is designed to operate with a seasonal tilt. In this study the solar PV plant design aspects along with its annual performance is elaborated. The various types of power losses (temperature, internal network, power electronics, grid connected etc.) and performance ratio are also calculated. The performance results of the plant are also compared with the simulation values obtained from PV syst and PV-GIS software. Keywords: Energy, Solar PV, power, final yield, performance ratio, PV syst
Paper Download Link	https://ijemmr.co.in/wp-content/uploads/2024/08/paper2-Krati-patel_pagenumber.pdf

<i>Paper Title</i>	<i>Optimization analysis of solar PV and WT hybrid system: Based on different Fuzzy logic defuzzification</i>
<i>Authors & Affiliation</i>	<i>Prateek kumar and dr. K.N.shukla Department of electrical & electronics engineering Lakshmi narain college of technology excellence Bhopal (m.p.)</i>
<i>Abstract & Keyword</i>	Abstract— The expansion in electrical energy request has made sustainable energy source assets more attractive. Major sources of renewable energy such as solar energy, biomass energy, wind power and small hydro systems are gaining importance day by day. The progress of reliability of the energy source and electricity power supply in the hybrid system has reached to new height. Hybridization of two sources, such as solar photovoltaic and wind turbine for the supply of electrical power demand in Energy Park LNCT , Bhopal have been considered in this paper. The optimization of the hybrid energy system (HES) components using fuzzy logic algorithm and Hybrid optimization model for multiple energy resources (HOMER 3.11.6) pro software have been carried out. The ideal outcome is accomplished as for the minimization of the cost of energy (COE) over a lifetime of 20 years with different sensitivity parameters. Keywords— Solar photovoltaic; Wind turbine; Fuzzy logic; HOMER; Optimization
<i>Paper Download Link</i>	https://ijemmr.co.in/wp-content/uploads/2024/08/IJEMMR_preeteek.pdf
<i>Paper Title</i>	<i>Review Analysis of solar PV energy system</i>
<i>Authors & Affiliation</i>	<i>Aditi Pandey, Anuj Tripathi, Sijo C Mathew, Shreya Shukla and Vivek Rai Department of Electrical & Electronics Engineering, LNCT Bhopal , M.P. India</i>

<i>Abstract & Keyword</i>	Abstract Solar photovoltaic (PV) technology has emerged as the dominant source of new electricity-generating capacity worldwide, driven by steep cost declines, rapid efficiency gains, and supportive policy frameworks. This review synthesizes current knowledge on PV energy systems, covering the physical principles of photovoltaic conversion, the evolution of cell technologies from crystalline silicon to perovskite tandem architectures, system configurations (grid-connected, off-grid, and hybrid), and the factors that govern real-world performance. Drawing on recent industry and research data, the review documents that global PV additions reached roughly 605-700 GW in 2024 alone, pushing cumulative installed capacity to nearly 3 terawatts and PV's share of global electricity supply above 10%. Commercial module efficiencies for mainstream silicon panels now range between 21% and 25%, while laboratory tandem cells have surpassed 30%. Despite this progress, the review identifies persistent challenges, including thermal losses, soiling and degradation, curtailment and grid-integration constraints at high PV penetration, module recycling and end-of-life management, and land-use pressures. The review concludes by outlining emerging directions such as perovskite-silicon tandem commercialization, bifacial and agrivoltaic deployment, AI-assisted operations and maintenance, and storage co-location, which are expected to shape the next phase of PV development. Keywords: photovoltaic systems, solar energy, module efficiency, perovskite tandem cells, grid integration, renewable energy review
<i>Paper Download Link</i>	https://ijemmr.co.in/wp-content/uploads/2026/09/IJEMMR_Solar_PV_Review_Paper_page_number-1.pdf
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<i>Abstract & Keyword</i>	<i>Abstract: This paper Review Analysis of Enhanced Security Framework for Reliable Service Discovery in Mobile Ad Hoc Networks. Nodes in MANET create connections between senders and receivers at any time through intermediate nodes. Limited range mobile nodes maintain links in mobile ad hoc networks (MANETs) using routing protocols such as AODV. The attacker's node in the network that is part of the communication link sends a fake response to the sender regarding the destination. Nodes communicate in an open medium, and communication between mobile nodes occurs without any central authority. Therefore, network security is one of the most important issues for MANETs. MANETs contain many attackers, such as gray hole attacks, which selectively drop packets into the network with little impact on network performance. Security solutions should be used in the network to ensure the security of the network. In this study, we propose SHA security algorithm to improve network security and routing performance. The proposed work is to implement data encryption and decryption methods to protect network data packets and prevent malicious activities from gray hole attackers. This work analyzes the impact of gray hole attacks by selectively dropping packets. The packet reaches its destination and the difference calculation can ignore variations in data reception. The proposed SHA algorithm is applied at the application layer to detect and eliminate infections from attackers in the network. The performance of the proposed scheme gives better results after focusing on the malicious activities of the hacker. The attacking SHA algorithm provides better results and improves routing performance in dynamic networks.</i> <i>Keywords: gray hole attack, sha, routing, aodv, security, malicious</i>
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