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S. No	Vo Pu	lume-9 Issue-3s, March 2020, ISSN: 2249-8958 (Online) blished By: Blue Eyes Intelligence Engineering & Sciences Publication	Page No.	
1.	Authors:	Danish Paliwal, Aditya Maheshwari, Yogendra Singh Solanki, Prasun Chakrabarti		
	Paper Title: Analysis of Water Quality using Supervised Machine Learning Classifiers			
	Abstract: The paper points out analysis of water with the use of supervised machine learning classifiers. The parameters include turbidity, ph level, water level, temperature and dissolved oxygen. Curve fitting has also been applied in order to analyze the water quality.			
	References:			
	 M N Barabde, S R Danve, "Continuous Water Quality Monitoring System for Water Resources at Remote Places", International Journal of Engineering Research and General Science, Vol.2, no.3, Part 2, May-June 2015, ISSN 2091-2730. 			
	2. Ph: Definition and measurements https://www.usgs.gov/special-topic/water-science-school/science/ph-a nd-water?qt-science_center_objects=0#qt-science_center_objects			
	3. Himanshu	Patel, R.T. Vashi, in "Characterization and Treatment of Textile Wastewater, 2015		
	4. Dissolved oxygen/	oxygen and aquate me mus.//www.iondirest.com/environmentai-measurements/parameters/ water-quanty/uissorved-		
	5. https://my 6. "Lakes"Ai	udaipurcity.com/goverdhan-sagar-lake/ rchived from the original on 27 March 2013		
	7. Mary L. N	AcHugh "Interrater reliability: the kappa statistic" Oct 2012		
	 Y. Yorozu, M. Hirano, K. Oka, and Y. Tagawa, "Electron spectroscopy studies on magneto-optical media and plastic substrate interfaces (Translation Journals style)," <i>IEEE Transl. J. Magn.Jpn.</i>, vol. 2, Aug. 1987, pp. 740–741 [<i>Dig. 9thAnnu. Conf. Magnetics</i> Japan, 1982, p. 301]. 			
	Authors:	Prateek Agrawal, Himmat Khatik, Yogendra Singh Solanki, Aditya Maheshwari, Vivek J	ain	
	Paper Title:	Smart Industries in Industry4.0: An Iot and Cloud Based Real Time Energy Meter N System	Ionitoring	
2	Abstract: With increase in low cost internet and with advent of 4G technologies increase in internet speed, IoT- based applications are getting more popular day by day and it provides effective solution of many real time monitoring problems. In this research, a cloud based real-time monitoring system for industrial energy meter has been proposed. The prototype system provides continuous and ubiquitous access to energy consumption of the equipment under monitoring to the consumer using IoT technology. To implement the system in any industry it requires a simple and low-cost upgrade to the existing meters rather than complete replacement. Based on the experimental analysis, it is found that from the collected data, it is possible to obtain the pattern of consumption as well as faultiness present in the existing system. In terms of future scope of work, the presented work can also be extended to grid distribution level from which load distributed in the area can be estimated so that the system can be strengthened to enhance performance. Keywords: CRC: Cyclical Redundancy Check, LRC: Longitudinal Redundancy Check, THD: Total Harmonic			
	Distortions: Universal Serial Bus, Smart Energy meter, IoT, Cloud, and Load optimization.			
	Keterences: 1. https://kupdf.net/download/elite-440-modbus-mapping_59faf59ee2b6f5bf6dec254e_pdf 2. https://www.raspberrypi.org/products/raspberry-pi-3-model-b-plus/ 3. https://en.wikipedia.org/wiki/Modbus 4. http://www.securemeters.com/files/5714/7832/5529/Elite_440.pdf 5. https://www.electronics-notes.com/articles/connectivity/serial-data-communications/rs485-introduction-basics.php 6. M. Jagadesh ; M. Saravanan ; V. Narayanan ; M. Priya Vadhana ; K. Logeshwaran"Monitoring system in industrial iot" 7. https://www.researchgate.net/publication/330467093_Design_of_an_IoT_Energy_Monitoring_System 8. https://ieeexplore.ieee.org/document/5752958 9. https://www.researchgate.net/publication/2771141436_Automatic_Energy_Meter_Reading_using_Smart_Energy_Meter 10. https://www.ijariit.com/manuscripts/v4i2/V4I2-1978.pdf 11. http://www.ijcea.com/wp-content/uploads/2018/04/80_CRC.pdf 12. https://ijet.net/archives/V5/i3/IRJET-V5I3612.pdf			
	Authors:	Vivek Jain, Yash Jasnani, Preet Jota, Yogendra Singh Solanki, Aditya Maheshwari		
	Paper Title:	Smart Broom		
3.	Abstract: This paper aims for designing and executing the advanced development in IOT based systems for real time monitoring on sweeper of smart city. Cleanliness - Everyone's prior concern, Authors have taken initiatives to keep our city clean. Even large no. of sweepers are employed for cleaning purpose but the problem arises when they do not work properly. So, here comes in role our SMART BROOM which will Inform working Hour of sweeper, Location of the sweeper, Monitor Regular Working of Sweeper, Data analysis of the work done, Assure the cleanliness of streets, Keeping an eye on Doodle worker. Keywords: Microcontroller, GPS, Accelerometer, Vibration Sensor.			

	References:			
	 Carrie A. M. Laboski and John B. Peters, "Nutrient Application Guidelines for Field, Vegetable, Fruits and Crops in Wincosin" (A2809), 2013. N. V. Hue, R. Uchida, M. C. Ho, "Sampling and Analysis of Plants and Soil Tissues, How to take representative samples, How the samples are tested", in Plant Nutrient Management in Hawaii soils, Approaches for Tropical and Sub-tropical Agriculture, 			
	2014. 3. C. Jones ar 4. A Survey o	nd J. Jacobsen, "Plant Nutrition and Soil Fertility", in Nutrient Management Modules, No. 2, 2014. on Soil Testing, http://www.vegetablegardener. com/item/2374/soil-testing-savvy", Accessed on 15th May 2015.		
	Authors:	Devyani Gupta, Nikita Pande, Jitendra Shreemali, Prasun Chakrabarti		
	Paper Title:	Impact of Work Schedules on the Sleep Patterns of Railroad Workers using CHAI Network and Ensemble Models of Machine Learning	D Neural	
	 Abstract: The study examines the impact of work schedules on the sleep patterns of railroad workers in the USA. The study used the CHAID model, Neural Network and the Ensemble model to identify factors that have a greater impact on sleep patterns. Age, number of children / dependents are found to be key factors for sleep apnea as well as sleep disorders while job pressure and work hours are seen to be the third factor for sleep apnea and sleep disorder respectively. CHAID model provided the highest accuracy (92%) for sleep disorder while the ensemble model provided an accuracy of over 93% for sleep apnea. Keywords: Neural Network, CHAID, Ensemble Model, Sleep disorder, Sleep Apnea. 			
	References:			
1.	 Worley, S. Safety Driwww.ncbi. Alharbi A. Communit www.hsj.g Harma M. Drivers and onlinelibra Dorrian J., Applied www.scien Owens J. (1 (3) e921-e9 Kumar V. www.resea 00000/Slee Kohyama J. syndrome: Retrieved fi McCrae C Medicine content/doo Abad V. C <i>Clin Neuro</i> Vgontzas m.recovery National 	L. (2018) "The Extraordinary Importance of Sleep: The Detrimental Effects of Inadequate Sleep on Health and Public ve an Explosion of Sleep Research". <i>Pharmacy and Therapeutics</i> , 43(12), pp 758-763, Dec. 2018. Retrieved from nlm.nih.gov/pmc/articles/PMC6281147/ AM, Alotaibi TM, Almalki AM, Althekri MSH, Alshadokhi OA, et al. (2017) "Sleep Disorders and its Effect on y". <i>Health Sci J.</i> 2017, 11:4. Retrieved from //medicine/sleep-disorders-and-its-effect-on-community.php?aid=20312 , Sallien, Ranta, Mutanen, Muller (2002) "The Effect of an Irregular Shift System on Sleepiness at Work in Train 1 Railway Traffic Controllers". <i>Journal of Sleep Research</i> , vol. 11, issue 2, pp 141-151, June. 2002. Retrieved from ry.wiley.com/doi/full/10.1046/j.1365-2869.2002.00294.x Baulk S. D., Dawson D. (2010) "Work hours, Workload, Sleep and Fatigue in Australian Rail Industry Employees". <i>Ergonomics</i> , vol. 42, issue 2, pp 202-209, June,2011. Retrieved from cedirect.com/science/article/abs/pii/S0003687010000864 2014) "Insufficient Sleep in Adolescents and Young Adults: An Update on Causes and Consequences". <i>Pediatrics</i> , 134 932, September 2014. Retrieved from pediatrics.aappublications.org/content/134/3/e921.full#sec-9 M. (2014) "Sleep and Sleep Disorders". <i>Indian J Chest Dis Allied Sci</i> 2008; 50: 129-135. Retrieved from rechgate.net/profile/Velayudhan_Kumar/publication/5241469_Sleep_and_sleep_disorders/links/00b4953b62a1fcc5f80 p-and-sleep-disorders.pdf J., Anzai Y., Ono M., Kishino A., Tamanuki K., Takada K., Inoue K., Horiuchi M., Hatai Y. (2018) "Insufficient sleep An unrecognized but important clinical entity". <i>Pediatrics Internationals</i> , vol. 60, issue 4, pp 372-375, April 2018. rom onlinelibrary.wiley.com/doi/abs/10.1111/ped.13519 S. and Lichstein K. L. (2001) "Secondary insomnia: diagnostic challenges and intervention opportunities" <i>Sleep Reviews</i> , Vol. 5, No. 1, pp 47–61, 2001. Retrived from www.med.upenn.edu/cbti/assets/user- uments/LichsteinSIreview.pdf J. and Guilleminault C. (2003) "Diagnosis and treatment of sle	12-16	
	Authors:	Jitendra Choubisa		
	Paper Title:	Story Drift of Buildings with Various Shapes using Etabs Software		
5.	 Abstract: A stable and durable structure is a need of today's engineering world. From the tallest skyscrapers to the appealing houses, stability towards the external loads matters a lot. A large amount of manual work is needed to be done in order to perform the thorough analysis of structure, which in turn takes time. In order to save time, computer aided modelling comes handy. Etabs is such kind of software. With its easy to use user interface it can handle complex tasks. In this paper a comparison is done for the story drift, maximum bending moment & maximum base reaction for earthquake loading (static analysis) between 4 shapes of building (Box, H Shape, Hollow Shape and U shape) using Etabs software and it was found that structures with symmetry perform quite good at the time of earthquake loading. The graphs showed the story drifts in less amount for symmetric shapes H, Box and Hollow. Keywords: Story drift, Etabs, analysis, bending moment, software, modelling, structures, design. 			
	References			

- R. Agarwal, Prof. A Tiwari, Comparison of Design Result of Multi Story Structure using ETABS and STAAD PRO Software, published in IJESC, Vol 7, Issue No. 8.M. Sabeer, D. Gouse Peera, Comparison design result of RCC building using staad and etabs software, published in IJIRAE, Vol 1.
- 2.

	 2 (Aug 20 Prashanth, Software, j Ramanand IJSRST, V V.ramanja and etabs f Sayyed A published Ali Kadhin 2; May 20 	 15), Issue 8. Anshuman, Pandey, A. Herbert, Comparison of design results of a Structure designed using STAAD and ETABS published in IJCSE, Vol 2, No 3, 2012. Shukla, Prithwish Saha, Comparative study of a G+10 storied building using ETABS and STAAD, published in 'ol 3, and Issue 6. neyulu, Dharmesh.m, V.chiranjeevi, Comparative study on design results of a multi-storied building using staad pro for regular and irregular plan configuration, published in IRJET, Vol, and Issue 1. Ahad, Hashmi S Afzal, Pathan Tabrej, Analysis and Design of Multistory Apartment Building Using ETABS, in IJECS, Volume 6 Issue 5 May 2017. n Sallal, Design and analysis ten storied building using ETABS software-2016, published in IJRAET, Volume 4; Issue 18. 	
	8. Rinkesh R published	Bhandarkar, Utsav M Ratanpara, Mohammed Qureshi Seismic Analysis & Design of Multistory Building Using Etabs, in IJEDR Volume 5, Issue 2, 2017.	
	Authors:	Rakesh Yadav, Trilok Gupta, Ravi S. Sharma	
	Paper Title:	Seismic Behavior of RC Intze Water Tank under Various Zone and Soil Condition	
6.	Abstract: RC in adequate pressure can induce large supported on fra experimental outµ III, IV, V) in diffe Keywords: Intze References: 1. G. Madhul advanced 2. M. S. Mhe Mechanica 3. S.K. Jain Bridge and 4. K Harsha, Science Te 5. O. R Jaisw and Examµ 6. IS 1893 (I Standards, 7. J. Lakhanh Science Re 8. R. Livaog Structure-5 863. 9. H. Shakib Internation 10. K. Vyanka supported' 11. IS 1893 (P 12. S Nerkar. on Recent	 tze water tanks are constructed for storage and suppling of water through a certain height with o of water distribution. Many overhead water tanks affected due to certainty like earthquake that lateral forces. So, there is a necessity to Understand and examine the behavior of intze tank ming in context to different soil types under the seismic forces. This paper evaluates the pout of seismic analysis that compares shear and moments at base for different seismic zone (II, erent type of soil conditions. water tank, Seismic analysis, Base shear, Base moment. water tank, Seismic analysis, Base shear, Base moment. water tank, Pati, "Analysis of Elevated Water Storage Structure Using Different Staging ", <i>International Journal of research in Engineering (IOSR-JMCE)</i>, 2(6), 2015, 159-167. tree and G. R. Patl, "Analysis of Elevated Water Storage Structure Using Different Staging System", <i>IOSR Journal of U and Civil Engineering (IOSR-JMCE)</i>, 2(6), 2015, 21-32. and S.U. Sajiad, "A Review of the requirement in Indian codes for a seismic design of Elevated water tanks", <i>The I Structural Engineering</i>, 12(1), 1993, 1-15. K. S. K. Reddy and S.K. Kala, "Seismic Analysis and Design of Intze Type Water tank", <i>International Journal of choology and Industrial Engineering</i>, 2(3), 2015, 11-24. val. and S. K Jain, "Modified Proposed Provisions for a Seismic Design of Liquid Storage Tanks: Part II-Commentary oles", <i>Journal of Structural Engineering</i>, 32(4), 2005, 297-310. Part-2) "Criteria for Earthquake Resistant Design of Structures Part 2 Liquid Retaining Tanks", <i>Bureau of Indian</i> New Delhi, 2014. vag and H. J Shah, "A Parametric Study of an Intze Tank Supported on Different Staging", <i>International Journal for research in Engineering</i>, 3(4), 2005, 297-310. Part-2) "Criteria for Earthquake Resistant Design of Structures Part 2 Liquid Retaining Tanks", <i>Bureau of Indian</i> New Delhi, 2014. vag and H. J Shah, "A Parametric S	22-25
	Authors:	Sangeeta Choudhary, Kunjal Jain, Praveen Choudhary, Kishan Dangi, Kirtesh Kalal	
	Paper Title:	Requirements of Solid Waste Management System in Savina Vegetable Market at St Udaipur in Rajasthan	nart City
7.	Abstract: Awar hygiene and healt service. It is need solid waste. The separation at sour Vegetable Marke associated with la fruit-vegetable wa waste is generate for this market b selling the vegeta profits per year ca Keywords: Fru Processing center	eness of Solid Waste Management is main requirement in India. Environmental deprivation, th problems are raising due to increasing quantity of solid waste and improper execution of this d of hour to conduct detail surveys of different areas and identify the solutions to manage the main object of this study was to educate people about Solid Waste Management, benefits of rce and to estimate the quantity of separated wastes for design of processing centre for Savina t. Processing centers in campus of market can reduce transportation cost and also problems andfills. After conducting 5 days workshop it was estimated that an average per day 3464 kg aste, 504 kg paper waste, 111 kg plastic wastes are generated in this market. Vegetable and fruit d in very high amount which can be converted into compost. It can be converted in to revenue ecause farmers are the customers for compost and they visiting everyday in this market for ables and fruits. As per calculation based on this study Rs 15, 60,000 revenue and 5, 59,200 an be generated after expenditure for maintenance of processing centre.	26-29

City Sanitation Plan – Draft Report – Udaipur City
 Akolkar, A.B. (2005). Status of Solid Waste Management in India, Implementation Status of Municipal Solid Wastes,

	 India wastes fruits and vegetables worth Rs 13300 crore every year: Emerson study [Online] Available: http://www.2.emerson.com/en-in/News/Pages/india-food-waste-and-cold-infrastructure report.aspx Word Bank. (1997) The Use of Compost in Indonesis: Proposed Compost Quality Standards. Savala C. E. N., Omare M.N. and Woomer P.L. (2003): Organic Resources Management in Kenya, Perspectives and Guidelines Asnani, P.U. (2004). United States Agency for International Development, (2005). Technical Committee Report, West Bengal SWM Mission 2005, Government of West Bengal, Kolkata. SC (1999). Report of the Supreme Court Appointed Committee on Solid Waste Management in class I Cities in India, Supreme Court of India, New Delhi. Krishna, S. 1994. "Solid Waste Management: A Community based Approach", Monograph on Solid Waste Management, Dender CEE 			
	Banglore: 9. N.B. Mazu	CEE. undar. 1996. "Municipal Solid Waste Management – Indian Perspective, "Energy Environment Monitor, 12(2).		
	Authors:	Anupreet Dube, Jayesh Trivedi, Yogendra Singh Solanki, Aaditya Maheshwari, Abhishek	Sharma	
	Paper Title:	Design of an Economical Iot Based Intelligent Lake Water Quality Measuring System w	vith of the	
8.	Abstract: The p low cost industri measure the impo onto a dedicated an android applic of abnormal dyna intelligence that of lighting condition battery power. T structure at any s remain afloat on are presented of t with standard labo Keywords: IoT, References: 1. https://en.v 2. https://en.v 3. https://ww 4. www.enr.g 5. https://ww 6. Manoharai Internation 2019 7. Tha. Suga SYSTEM 2018, 1363 8. Gokulanat Science an	Shelf Industrial Grade Sensors aper presents an IOT based intelligent lake water quality measuring system that comprises of al grade sensors and off the shelf components along with signal conditioning circuits that ortant water quality parameters such as DO, pH, TDS, and Temperature. The data is pushed cloud platform in real-time and can be accessed through an online dashboard, as well as from ation on smart phones. The system is also equipped with very important feature: the detection unic variation in measured parameters and anomaly alert algorithm. The system firmware has modulates the data transmission rate to cloud for extending the battery life, based on ambient is and optimizes the rate in case of anomaly in water quality parameters to optimize the use of he system has two variants, the first variant has a fixed structure that can be affixed to a elected location preferably the shore, whereas the second one has a floating structure that can the water surface. System architecture is described and the measured water quality parameters ests conducted at multiple lakes in different weather conditions. The results have been verified oratory test results and presented here. Remote sensing, ambient lighting detection, Dynamic transmission rate, Anomaly alert. wikipedia.org/wiki/PH wikipedia.org/miki/Total_dissolved_solids w.safewater.org/fact-sheets-1/2017/1/3/ds-and-ph 1.5, Sathiyaraj.G, Thiruvenkadakrishnan.K, Vetriselvan.G.V, Praveenkishor," Water Quality Analyzer using IoT'', al Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-8, Issue-8S, June priyaa, S. Rakshaya, K. Ramyadevi, M. Ramya, P.G. Rashmi, "SMART WATER QUALITY MONITORING FOR REAL TIME APPLICATIONS", International Journal of Pure and Applied Mathematics Volume 118 No. 20 8-1369 brian, S., et al. "A GSM Based Water Quality Monitoring System	30-34	
	 S. I. Samsudin, S.I.M. Salim, K. Osman, S. F. Sulaiman, M. I. A. Sabri," A Smart Monitoring of a Water Quality Detector System", Indonesian Journal of Electrical Engineering and Computer Science Vol. 10, No. 3, June 2018, pp. 951~958 ISSN: 2502-4752 R. Nithyanandam, T. W. Huan and N. H. T. Thy, "Case Studies: Analysis of Water Quality in Sungai Batu Ferringhi," Journal of Engineering Science and Technology, EURECA 2014 Special Issue, pp. 15 – 25, April 2015. Z. Wang, Q. Wang, X. Hao, "The design of the remote water quality monitoring system based on WSN," in 2009 5th International Conference on Wireless Communications, Networking and Mobile Computing, 2009. pp. 1–4. 			
	Authors:	Nikita Pande, Devyani Gupta, Jitendra Shreemali, Prasun Chakrabarti		
	Paper Title:	Predicting Fatalities in Air Accidents using CHAID XGBoost Generalized Linear Mod	lel Neural	
9.	Abstract: The study examines the historical data of about 4700 air crashes all over the world since the first recorded air crash of 1908. Given the immense impact on human beings as well as companies, the study aimed at utilizing Machine Learning principles for predicting fatalities. The train-test partition used was 75-25. Employing the IBM SPSS Modeler, the machine learning models used included CHAID model, Neural Network, Generalized Linear Model, XGBoost, Random Trees and the Ensemble model to predict fatalities in air crashes. The best results (90.6% accuracy) were achieved through Neural Network with one hidden layer. The results presented also include comparison of the predicted versus observed results for the test data. Keywords: Neural Network, CHAID, Ensemble Model, XGBoost Model, Air accidents, Fatalities. References:			
	 Walton T. waltontelk Rao S., Sh of Engin 	"What Are The Most Common Causes Of Aviation Accidents" <i>Walton Telken injury Attorneys</i> . Retrieved from en.com/common-causes-aviation-accidents/ ruthi, Shruti Vinaya M, Rao P. and Naik S.R. "Airplane Crash Analysis Using LDA " International <i>Research Journal</i> <i>eering and Technology (IRIET)</i> Volume: 05 Issue: 04 Apr-2018 PP 4929 Retrieved from		

	www.irjet. 3. Carden H. <i>Technical</i> 4. Oster C.V pdfs.semar 5. "Airport www.nap.c 6. Broach D. Inclusion O DOT/FAA 08.pdf 7. Vane R. (2 <i>and Technic</i> 8. DeAngelis from www	net/archives/V5/i4/IRJET-V5I41086.pdf D. (1982) "Correlation and Assessment of Structural Airplane Crash Data with Flight Parameters as Impact" <i>NASA</i> <i>Paper 2083.</i> NASA TP-2083. Nov 1982 Retrieved from ntr.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/19830006250.pdf /, Strong J.S. and Zorn C.K. "Why Airplanes Crash: Causes of Accidents Worldwide". Retrieved from nticscholar.org/9e7a/e442f0d799e53e88470a038322df608cfe33.pdf%20/ ApronManagement and Control Programs" <i>The National Academies Press</i> chapter 2. Retrieved from edu/read/22794/chapter/3#3 (2004) "Methodological Issues in the Study of Airplane Accident Rates by Pilot Age: Effects of Accident and Pilot Criteria and Analytic Strategy" <i>Final Report U.S. Department of Transportation Federal Aviation Administration</i> /AM-04/8 May 2004. Retrieved from libraryonline.erau.edu/online-full-text/faa-aviation-medicine-reports/AM04- 2016) "Flight delay analysis and possible enhancements with big data" <i>International Research Journal of Engineering</i> <i>ology (IRJET).</i> Volume: 03 Issue: 06. June-2016. Retrieved from www.irjet.net/archives/V3/i6/IRJET-V3I6144.pdf T. (2008) "Why airplanes crash". <i>American Psychological Association.</i> Vol 39, No. 3, PP 32. March, 2008. Retrieved apa.org/monitor/2008/03/airplanes-crash		
	Authors:	Sangeeta Choudhary, Om Prakash Prajapat, Bhuvnesh Suthar, Suresh Kumar, Mahendra	a Kumar	
	Paper Title:	Requirements and Planning of Badliya Village for converting it into Smart Village Ca Banswara, Rajasthan	ategory in	
	Abstract: India is developing country and around 67% population is lived in villages. Large mass of people are migrating from rural area to urban area due to scarcity of basic facilities in villages like schools, roads, hospitals, electricity, pure water, proper sewage system and hygienic conditions for better life. So it is need of the hour to identify the requirements of villages to converting it into smart village category for stopping the migration of rural population to urban area, as it will control the load of excessive population on urban cities. In this project Badliya village in Udaipur was selected for survey to make out the necessities and planning of different facilities according to requirements of village. This type of projects will be helpful for developing Smart Villages in India.			
10.	Keywords: Smar	rt Village, Infrastructure, Field Survey, Road Network.		
	References:			
	 International Journal of Scientific & Engineering Research, Volume 7, Issue 6, June-2016 395 ISSN 2229-5518 IJSER © 2016 http://www.ijser.org; "Study and development of village as a smart village" by Rutuja Somwanshi, Utkarsha Shindepatil, Deepali Tule, Archana Mankar, Namdev Ingle. Sustainability 2018, 10, 2559; doi:10.3390/su10072559 . "Smart Villages: Comprehensive Review of Initiatives and Practices" by Veronika Zavratnik, Andrej Kos and Emilija Stojmenova Duh "Design of Smart Villages" by N. Viswanadham, Computer Science and Automation, Indian Institute of Science, Bangalore Centre for Contemporary Studies, February 6, 2014 "Smart Villages" A Pocket guide to rural energy & "Smart Village" www.conferenceworld.in ISBN: 978-93-87793-0303 "Detailed Project Report On Smart Village Kandalgaon" 			
	Authors:	Nirajkumar Mehta, Komal Mehta, Dipesh Shukla, Prasun Chakrabarti		
	Paper Title:	Development of Empirical Correlation for Thermal Fatigue Life Cycle Prediction		
	Abstract: Furnaces are most commonly used for melting of Iron and its various alloy materials. Induction furnaces are using electric power supply so they are more beneficial as no fuel is required. It is an extremely critical to find life span or life cycle of Induction Melting Furnace Wall under thermal load change conditions. The low cycle thermal fatigue life time L is depended upon various parameters like thickness of induction furnace refractory wall t, density of refractory material, inside film co-efficient outside film co efficient, thermal expansion coefficient outside temperature, specific heat of refractory material C, elasticity constant E, ultimate strength S, thermal conductivity of refractory material k, Volume V, time period of melting cycle τ . An expression for thermal fatigue life time of induction furnace melting wall is derived by dimensional analysis using bunkingham's π theorem. Then the empirical correlation is derived from the data available from theory as well as experimental and numerical results. Keywords: Induction Furnace, Heat Transfer, Empirical Correlation, Life Cycle Prediction.			
11.	References:		44.46	
	 H, Kohne R, Nitsch J, Sprengel U, Solar thermal powerplants for solar countries—technology, economics and market potential, Applied Energy 52(2–3), 1995; 165–83. Mancini TR, Kolb GJ, Chavez JM, Solar thermal power today and tomorrow, Mech. Engg., 116(8), 1994, 74–9. Ravi Kumar K, Reddy KS, Thermal analysis of solar parabolic trough with porous disc receiver. Applied Energy 86(9), 2009, 1804–12. Vanita Thakkar, Status of Parabolic Dish Solar Concentrators, International Journal of Enhanced Research in Science Technology & Engineering Vol. 2 Issue 6, June-2013, pp – 42-50 S. A. Kalogirou, Solar thermal collectors and applications. Prgress in Energy and Combustion Science, 2004. 30: p. 231-295. Australian Energy Resource Assessment, Solar Energy. A. Sazena and S. Ghanshyam, Performance studies of a multipurpose solar Energy System for Remote areas. MIT International Journal of Mchanical Engineering, 2013. 3(1): p. 21-33. S. A. Kalogirou, Solar thermal collectors and applications. Prgress in Energy and Combustion Science, 2004. 30: p. 231-295. B.SriHariPriya, R.SantoshiKumari, M.TukaramBai, V.Sridevi, Review on Water Desalination using Renewable Solar Energy. UIRST –International Journal for Innovative Research in Science & Technology Volume 2 Issue 07 December 2015. 			

- 10. Philippe SCHILD, European Commission on Concentrated Solar Thermal Energy, Office CDMA 5-141,B-1049 Brussels.
- 11. M. Ouannene, B. Chaouachi, S.Gabsi, design and realisation of a parabolic solar cooker. National School of Engineers of Gabes (E.N.I.G) Omar IbnElKhattab Street -6029 Gabes-Tunisia.
- 12. Nirajkumar Mehta, (May 2012), Review on Computational Investigation on Different Kinds of Furnaces, International Conference on Emerging Technologies and Applications in Engineering, Technology and Sciences, Volume 3, pp 1 7.
- 13. S. O. Jimoh (2013), analysis of the characteristics of the blast furnaces peripherical zone, international journal of science and technology research
- N C Mehta, Vipul B Gondaliya, Jayesh V Gundaniya, (February 2013), Applications of Different Numerical Methods in Heat Transfer - A Review, International Journal of Emerging Technology and Advanced Engineering, Volume 3, Issue 2, pp 363 – 368.
- 15. Camilolezcano (2013), Numerical calculation of the recirculation factor in flameless furnaces, ISSN 0012-7353, pp 144-151.
- N C Mehta, Viral V Shiyani, Jemish R Nasit, (May 2013), Metal Forming Analysis, International Journal of Emerging Technology and Advanced Engineering, Volume 3, Issue 5, pp 190 - 196.
- 17. Vipul Gondaliya, Mehul Pujara, Nirajkumar Mehta, (August 2013), Transient Heat Transfer Analysis of Induction Furnace by Using Finite Element Analysis, International Journal of Applied Research, Volume 3, Issue 8, pp 231 234.
- N C Mehta, Vasim G Machhar, Ravi K Popat, (October 2013), Thermal Fatigue Analysis of Induction Furnace Wall for Alumina ramming mass, International Journal of Science and Engineering Applications, Volume 2, Issue 10, pp 186 – 190, DOI: 10.7753/IJSEA0210.1002.
- 19. Gaurav Kumar Thakur (2013), Analysis of fuel injection in blast furnaces with the help of CFD software approach, international journal of scientific and research publication, volume 3, issue 3, ISSN 2250-3153, page no-1-7.
- N C Mehta, Akash D Raiyani, Vikas R Gondalia, (February 2013), Thermal Fatigue Analysis of Induction Melting Furnace Wall for Silica ramming mass, International Journal of Emerging Technology and Advanced Engineering, Volume 3, Issue 2, pp 357 – 362.
- 21. Vimal R Nakum, Kevin M Vyas, Niraj C Mehta, (April 2013), Research on Induction Heating A Review, International Journal of Science and Engineering Applications, Volume 2, Issue 6, pp 141 144, DOI: 10.7753/IJSEA0206.1005.
- 22. Andrey V Gil (2015), Research of integral parameters for furnaces of a circulating fluidized bed, EDP publication science, EPJ web of conference 82,01044, page no-01044-p.1-01044-p.5.
- 23. Nirajkumar C Mehta, Dipesh D Shukla, Ravi K Popat, (December 2014), Optimization of Wall Thickness for Minimum Heat Loss for Induction Furnace by FEA, Indian Foundry Journal, Volume 60, No. 12, pp 19-25.
- 24. Nirajkumar C Mehta, Dr. Dipesh D Shukla, Vishvash B Rajyaguru, (April 2015), Numerical Analysis of Furnace: Review, National Conference on Recent Research and Development in Core Disciplines of Engineering, Vadodara, Volume: 2, pp 1 -7.
- Nirajkumar C Mehta, Dr. Dipesh D Shukla, Vishvash B Rajyaguru, (April 2015), Thermal Fatigue Analysis of Induction Furnace Wall for Zirconia, National Conference on Recent Research and Development in Core Disciplines of Engineering, Vadodara, Volume: 2, pp 1 – 6.
- 26. Nirajkumar C Mehta, Dr. Dipesh D Shukla, Pragnesh D Kandoliya, (April 2015), Comparison of Finite Difference Method and Finite Element Method for 2 D Transient Heat Transfer Problem, National Conference on Recent Research and Development in Core Disciplines of Engineering, Vadodara, Volume: 2, pp 1 10.
- 27. Saheedlekangbad Mosi (2015), Effect of steel plants with three-phase induction furnaces on power distribution quality of the existing 33kv network in Nigeria, advance in science and technology research journal, volume 9, no.27, pages 1-10.
- Nirajkumar C Mehta, Dr. Dipesh D Shukla, (June 2015), Thermal Fatigue Analysis of Induction Furnace Wall for Magnesia Ramming Mass, ASME 2015 Applied Mechanics and Materials Conference, At Seattle, Washington, United States of America, Volume: 12, pp 1 – 6.
- 29. Nirajkumar C Mehta, Dr. Dipesh D Shukla, Pragnesh D Kandoliya, (December 2016), Advanced Mathematical Modeling of Heat Transfer in Induction Furnace Wall of Zirconia, International Journal of
- 30. Engineering Research and Technology, Volume 5, Issue 10, pp 176 181, DOI: 10.17577/IJERTV5IS120128
- Nirajkumar C Mehta, Dr. Dipesh D Shukla, Pragnesh D Kandoliya, (December 2016), Advanced Heat Transfer Analysis of Alumina Based Refractory Wall of Induction Furnace, National Conference on Emerging Trends in Engineering, Volume 1, pp 1 - 6.
- 32. Piotr Bulinski (2016), coupled numerical model of metal melting in an induction furnace: sensitivity analysis and validation of model, Silesian university of technology, institute of thermal technology and Silesian university of technology, department of industrial informatics, ISSN 0033-2097
- 33. Mirko Filipponi (2016), thermal analysis of an industrial furnace, MDPI Energies, 2016, 9, 833, 1-30. Prof. Nirajkumar C. Mehta, Dr. Dipesh D. Shukla, (December 2017) Mathematical Modelling for Life Cycle Forecasting of Zirconia Based Furnace Wall, International Journal of Advance Research and Innovative Ideas in Education, IJARIIE, ISSN(O)-2395-4396, Vol-3 Issue-4 2017, pp 796-807.
- Nirajkumar C Mehta, Dr. Dipesh D Shukla, Stress analysis of induction furnace wall for magnesia ramming mass, Journal of Metallurgy and Materials Science, Volume: 59, Issue: 2, pp. 85-110, Print ISSN: 0972-4257. Online ISSN: 0974-1267, November 2017.
- 35. Nirajkumar C Mehta, Dr. Dipesh D Shukla, Comparison of Life Cycle for Various Refractory Materials of Induction Melting Furnace Wall under Thermal Fatigue Loading Conditions", International Journal of Advance Engineering and Research Development, e-ISSN (O): 2348-4470, p-ISSN (P): 2348-6406, Volume 5, Issue 01, January 2018.
- 36. Patil Kaushal, Makwana Arjunsinh, Arab Mohammadazhar, Nirajkumar C Mehta, "Mathematically Advanced Computational Heat Transfer Analysis of Cylindrical and Spherical Induction Furnaces: Review", International Journal of Advance Engineering and Research Development, e-ISSN (O): 2348-4470, p-ISSN (P): 2348-6406, Volume 5, Issue 02, February 2018.
- Ronik Varia, Sachin Vasani, Rahul Varma, Dr. Nirajkumar C Mehta, "Review of Solar Heating Furnace Development", International Journal of Advance Engineering and Research Development, e-ISSN (O): 2348-4470, p-ISSN (P): 2348-6406, Volume 5, Issue 03, March -2018.
- Rahul Waghela, Shreyas Parmar, Susmit Vasava, Dr. Nirajkumar C Mehta, "Review of Refractory Materials for Innovative Investigation and Testing", International Journal of Advance Engineering and Research Development, e-ISSN (O): 2348-4470, p-ISSN (P): 2348-6406, Volume 5, Issue 03, March -2018.

Authors:Lavi Vashishth, Kanishka Jain, Aditya Maheshwari, Prasun ChakrabartiPaper Title:Lung Cancer Prognosis using Machine Learning

12.

Abstract: The paper calls attention to investigation of Lung Cancer in the light of regulated AI classifiers. The parameters incorporate age, smokes, passive smoking, alcohol and gender. Curve fitting has likewise been applied in request to break down the Lung Cancer. These days, around 33% of grown-ups are known to be smokers, and smoking rates are expanding among the female population. Tobacco use has been accounted for to be the fundamental driver of 90% of male and 79% of female lung malignancies. 90% of passing from lung malignancy are evaluated to be because of smoking.

47-49

	Keywords: malignancy, age, smoke, tobacco, alcohol.			
	References:			
	 Wikipedia. Retrived from en.wikipedia.org/wiki/Lung_cancer Pietrangelo A. (2019). "Everything You Need to Know About Lung Cancer". <i>Healthline. May</i> 14, 2019. Retrieved from www.healthline.com/health/lung-cancer#causes Nall R., MSN, CRNA (2018). "What to know about lung cancer". <i>edical News Today</i>. 16 November, 2018. Retrieved from www.medicalnewstoday.com/articles/323701#what-is-lung-cancer. Davis C.P. "Cancer". <i>MedicineNet</i>. Retrieved from www.medicinenet.com/cancer/article.htm Stöppler M.C. "Smoking and How to Quit Smoking". <i>MedicineNet</i>. Retrieved from www.medicinenet.com/smoking and quitting smoking/article.htm 			
	Authors: Kalyan Das, Sayantan Samajpati, Abhirup Das, Samir Kumar Bandyopadhyay, Amiya			
	Paper Title:	An Enhance Scheme of Visual Secret Share for Lossless Recovery		
 Abstract: Algorithms in Visual Cryptography usually uses a sharing scheme where instead of sharing the secret or message directly, it is embedded into multiple shares which are then shared between the intended individuals whereby upon receiving them the decrypting algorithm on the receiving end restores the original secret. A novel cryptographic scheme will not only hide the data, but also will do it in an efficient way which will further ensure that the algorithm is robust to noises and attacks. The proposed algorithm utilizes bitwise operations for efficient hiding of data. Also, it is important that the secret image is losslessly recovered. Keywords: Key less secret sharing, lossless recovery of secret image, Run Length Encoding (RLE). References: Naor, M., & Shamir, A. (1995). <i>Visual cryptography. Lecture Notes in Computer Science</i>, 1–12. Visual Cryptography Based On Modified RLE Compression without Pixel Expansion–Manimurugan.S, Ramajayam.N Shyamalendu kandar et al, "k-n secret sharing visual cryptography scheme for color image using random number," International journal of engineering science and technology vol. 3 no. 3 mar 2011.B. Smith, "An approach to graphs of linear forms (Unpublished work style)," unpublished. Carlo Blundo et al, "Visual Cryptography Schemes with Optimal Pixel Expansion" Universit'a degli Studi di Milano, 26013 Crema, Italy. B.SaiChandana, & S.Anuradha, (2010). A New Visual Cryptography Scheme for Color Images. International Journal of Engineering Science and Technology 2. Chang, C. C. and Yu. T. X., Sharing a Secret Gray Image in Multiple Images, in the Proceedings of International Symposium on Cyber Workis: Theories and Practice, Tokyo, Japan, Nov. 2002, pp.230-237. Youmaran, R., Adler, A., & Miri, A. (n.d.). An Improved Visual Cryptography Scheme for Secret Hiding. 23rd Biennial Symposium on Communications, 2006. Lee, KH., & Chin, PL. (2012). An Extended Visual Cryptography Alg			50-54	
	Authors:	Nirajkumar Mehta, Shail Shah, Dipesh Shukla, Aditya Maheshwari, Prasun Chakrabarti		
	Paper Title:	Development of Probability Concept for Thermal Fatigue Life Cycle Prediction		
	Abstract: Furnaces are most commonly used for melting of Ferrous Metals and its alloy materials. Induction furnaces use Electrical Power so that they are more advantageous as no fuel is required. It is a very critical problem to find life span of Induction Melting Furnace Wall under thermal load variation. The life cycle of induction furnace refractory wall is a variable as minor variation is always present due to effect of skill of workers and many other factors. The life cycle of furnace wall will vary minor with some miscellaneous factors and cannot be justified as a single value always. The probability concept is utilized here in the forecast of life cycle calculation to justify the miscellaneous factors effected for the damage of the induction furnace refractory wall. The probability concept initially defines a minimum life of induction furnace wall for a certain case then it is assumed to vary with different probability as given below. So, all the cases of induction furnace wall are having minimum life always but some cases of induction furnace wall are having much longer life. It is due to effect from many miscellaneous factors like skills of workers, efficiency of workers, raw material quality used for construction of wall, tools applied for ramming of it, row material employed for melting, etc.		57-60	
	S			

References:

14.

13.

- 1. Nirajkumar Mehta, (May 2012), Review on Computational Investigation on Different Kinds of Furnaces, International Conference on Emerging Technologies and Applications in Engineering, Technology and Sciences, Volume 3, pp 1 7.
- N C Mehta, Vipul B Gondaliya, Jayesh V Gundaniya, (February 2013), Applications of Different Numerical Methods in Heat Transfer - A Review, International Journal of Emerging Technology and Advanced Engineering, Volume 3, Issue 2, pp 363 – 368.
- N C Mehta, Viral V Shiyani, Jemish R Nasit, (May 2013), Metal Forming Analysis, International Journal of Emerging Technology and Advanced Engineering, Volume 3, Issue 5, pp 190 - 196.
- Vipul Gondaliya, Mehul Pujara, Nirajkumar Mehta, (August 2013), Transient Heat Transfer Analysis of Induction Furnace by Using Finite Element Analysis, International Journal of Applied Research, Volume 3, Issue 8, pp 231 – 234.
- N C Mehta, Vasim G Machhar, Ravi K Popat, (October 2013), Thermal Fatigue Analysis of Induction Furnace Wall for Alumina ramming mass, International Journal of Science and Engineering Applications, Volume 2, Issue 10, pp 186 – 190, DOI: 10.7753/IJSEA0210.1002.

- N C Mehta, Akash D Raiyani, Vikas R Gondalia, (February 2013), Thermal Fatigue Analysis of Induction Melting Furnace Wall for Silica ramming mass, International Journal of Emerging Technology and Advanced Engineering, Volume 3, Issue 2, pp 357 – 362.
- 7. Vimal R Nakum, Kevin M Vyas, Niraj C Mehta, (April 2013), Research on Induction Heating A Review, International Journal of Science and Engineering Applications, Volume 2, Issue 6, pp 141 144, DOI: 10.7753/IJSEA0206.1005.
- Nirajkumar C Mehta, Dipesh D Shukla, Ravi K Popat, (December 2014), Optimization of Wall Thickness for Minimum Heat Loss for Induction Furnace by FEA, Indian Foundry Journal, Volume 60, No. 12, pp 19-25.
- 9. Nirajkumar C Mehta, Dr. Dipesh D Shukla, Vishvash B Rajyaguru, (April 2015), Numerical Analysis ofFurnace: Review, National Conference on Recent Research and Development in Core Disciplines of Engineering, Vadodara, Volume: 2, pp 1 -7.
- Nirajkumar C Mehta, Dr. Dipesh D Shukla, Vishvash B Rajyaguru, (April 2015), Thermal Fatigue Analysis of Induction Furnace Wall for Zirconia, National Conference on Recent Research and Development in Core Disciplines of Engineering, Vadodara, Volume: 2, pp 1 – 6.
- Nirajkumar C Mehta, Dr. Dipesh D Shukla, (June 2015), Thermal Fatigue Analysis of Induction Furnace Wall for Magnesia Ramming Mass, ASME 2015 Applied Mechanics and Materials Conference, At Seattle, Washington, United States of America, Volume: 12, pp 1 – 6.
- Nirajkumar C Mehta, Dr. Dipesh D Shukla, Pragnesh D Kandoliya, (December 2016), Advanced Mathematical Modeling of Heat Transfer in Induction Furnace Wall of Zirconia, International Journal of Engineering Research and Technology, Volume 5, Issue 10, pp 176 – 181, DOI: 10.17577/IJERTV5IS120128
- Nirajkumar C Mehta, Dr. Dipesh D Shukla, Pragnesh D Kandoliya, (December 2016), Advanced Heat Transfer Analysis of Alumina Based Refractory Wall of Induction Furnace, National Conference on Emerging Trends in Engineering, Volume 1, pp 1 - 6.
- Nirajkumar C Mehta, Dr. Dipesh D Shukla, Stress analysis of induction furnace wall for magnesia ramming mass, Journal of Metallurgy and Materials Science, Volume: 59, Issue: 2, pp. 85-110, Print ISSN: 0972-4257. Online ISSN: 0974-1267, November 2017.
- Nirajkumar C Mehta, Dr. Dipesh D Shukla, Comparison of Life Cycle for Various Refractory Materials of Induction Melting Furnace Wall under Thermal Fatigue Loading Conditions", International Journal of Advance Engineering and Research Development, e-ISSN (O): 2348-4470, p-ISSN (P): 2348-6406, Volume 5, Issue 01, January 2018.
- Rahul Waghela, Shreyas Parmar, SusmitVasava, Dr. Nirajkumar C Mehta, "Review of Refractory Materials for Innovative Investigation and Testing", International Journal of Advance Engineering and Research Development, e-ISSN (O): 2348-4470, p-ISSN (P): 2348-6406, Volume 5, Issue 03, March -2018.