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S. No		Page No.
1.	**Authors:** Sunil Kumar Dhal	1-4
	Paper Title: A Study of Consumer Buying Behavior and Perception Towards Laptops in Orissa	

Abstract: The technogy is changing so fast with the development of computer hardware. It has observed that last two decade the purchase of laptap has incrased significantly. Now laptop purchase is feel like a purchase of fast moving consuming item. Which signifies that the people are very much interested to handle technological instruments in their day to day activities. The laptop is the main source of commutation with intra and intercommunication among the people. The laptop companies in odhisa are interested to study the buying behavior and perception towards laptop. In order to develop a framework for the study consumer behaviour it is helpful to begin by considering the evolution of the field of consumer research and the different paradigms of thought that have influenced the discipline. As described in this article, a set of dimensions can be identified in the literature, which can be used to characterize and differentiate the various perspectives on consumer research.

Keywords: Facator analysis, KMO Test, Green market, Segmentation.

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2.	**Authors:** Fozia Hanif Khan, Rehan Shams, Farheen Qazi, Dure-E-ShawarAgha	5-7
	Paper Title: Hill Cipher Key Generation Algorithm by using Orthogonal Matrix	

Abstract: The role of cryptography in today's world is significant. It secures information mathematically by mailing massage with a key. Hill cipher is one of the most famous symmetric cryptosystem that can be used to protect information from unauthorized access. This paper suggest a new technique in Hill cipher, here we are establishing the complex procedure of key generation for the process of encryption. This paper explains how the orthogonal matrix can be useful for the generating the key matrix in Hill cipher. Hill cipher is a matrix based poly-graphic substitution. For example {abcd}= ab cd ef… or abc def…and so on. The purpose of generating the key by using orthogonal matrix is to overcome the disadvantage of non invertible matrix in Hill cipher. This paper discovers the idea of generating key that is basically the reflection on a given plane in □ 3. The proposed concept is very easy to implement but it will be more difficult for the attacker to get the key.

Keywords: Hill cipher, Network security, Cryptography, orthogonal matrix.

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3.	**Authors:**	**A. S. M. Fahad Hossain, Naveel Islam, Mehedi Ahmed Ansary**	
	Paper Title:	**Use of PS Logging and Ground Response Analysis using DEEPSOIL in BUET-JIDPUS, BUET, Dhaka**	
	Abstract: With the increased use of machines on super structures along with constructions on loose sands and soft clays in Bangladesh, the chances of collateral effects are increasing. Degree of damage during earthquake strongly depends on dynamic characteristics of building as well as amplification of soil. So for measurement of dynamic properties and site amplifications, seismic wave velocities determination is necessary. The paper deals with the use of PS Suspension Logging Downhole Seismic Testing System for measurement of compression and shear wave velocities also determination of the dynamic soil properties and site response using DEEPSOIL (Hashash et al., 2011) V5.1. **Keywords:** Soil Amplification, Dynamic Soil Properties, PS Logging, Downhole Seismic, DEEPSOIL, Response Spectrum, Peak Ground Acceleration. **References:** 1. Ali, M.H and Choudhury, J.R (1992) "Tectonics and Earthquake Occurrence in Bangladesh", 36th Annual Convention, IEB, Dhaka. 2. U.S Geological Survey, National Seismic Hazard Maps (2012). 3. Kitsunezaki, C., (1980), A new method of shear wave logging, Geophysics, 45, 1489-1506. 4. Molnar, S., Cassidy, J.F., Monahan, P. A. and Dosso1, S. E., (2007) "Comparison Of Geophysical Shear-Wave Velocity Methods" in Ninth Canadian Conference on Earthquake Engineering Ottawa, Ontario, Canada, 26-29 June, pp. 390-391. 5. Luna, R. and H. Jadi, (2000) "Determination of Dynamic Soil Properties Using Geophysical Methods," Proceedings of the First International Conference on the Application of Geophysical and NDT Methodological to Transportation Facilities and Infrastructure, St. Louis, MO. 6. Ansary, M. A; Noor, M. A. and Rashid, M. A. (2004) "Site amplification characteristics of Dhaka city", Journal of Civil Engineering (IEB), 32 (1) pp-5 7. Kaneko, F., Kanemori, T. &Tonouchi, K. (1990). "Low-Frequency Shear Wave Logging in Unconsolidated 8. Formations for Geotechnical Applications."Geophysical Applications for Geotechnical Investigation, ASTM STP 1101, F.L. Paillet and W.R. Saunders, Eds., American Society for Testing and Materials, Philadelphia, pp 79-98. 9. GEO Vision, "SUSPENSION PS VELOCITY LOGGING METHOD" 10. OLSON Instruments, Freedom Data PC with WINGEO Software Version 2.1, "SYSTEM REFERENCE MANUAL 2007 - CROSSHOLE AND DOWNHOLE SEISMIC TEST" 11. Hashash, Y.M.A, Groholski, D.R., Phillips, C. A., Park, D and Musgrove, M. (2011 DEEPSOIL 4.0, User Manual and Tutorial. 98 p.	**8-12**
4.	**Authors:**	**Pranali Hatode, Sayali Kavathekar, Pranati Kulkarni, Akhila Kurup, Apurwa Loya**	
	Paper Title:	**Body Through Data Transfer**	
	Abstract: The field of technology is constantly evolving to process larger data sets and maintain higher levels of connectivity. At the same time, advances in miniaturization had increased mobility and accessibility. We present a device designed with a short range wireless connectivity technology that uses the capability of human body to transfer few signals for safe and smooth communication between two electronically compatible devices. Our objective is to implement one touch data transmission technique using simple object oriented programming language. The system we intend to develop is easy to implement and cost effective. The system is based on advanced RISC architecture. It can be modified to develop new or improve existing products. **Keywords:** Miniaturization, wireless connectivity technology, electronically compatible devices, RISC architecture. **References:** 1. "WIRELESS UWB BODY AREA NETWORKS: USING THE IEEE802.15.4-2011" BY MATTI HÄMÄLÄINEN AND JARI IINATTI. 2. Wireless Body Area Network Volume 8 of River Publishers series in information and science technology. 3. T. G. Zimmerman, "Personal Area Networks: Near- Field Intrabody Communication" IBM Syst. J., vol. 35, no.3-4, p. 609-617, 1996. 4. Basic Electronics by B.Ram 5. Digital Electronics by R.P.Jain 6. M. Patel, Wang Jianfeng, "Applications, challenges and prospective in emerging body area network technologies", IEEE Wireless Communications, Volume 17, Issues 1, p 80-88, February 2010.	**13-15**
	Authors:	**Ritula Thakur, Puneet Chawla**	
	Paper Title:	**High Voltage Distribution System (HVDS)-An Alternate for Improvement of Voltage Drop Profile**	
	Abstract: In the past, the consumption of electricity is prime motto, as it is available in lot with a capacity to do work, but as the time spent, now time is to conserve the electricity not to consume the electrical energy. In fact, it has become essential ingredient for improving the quality of life and its absence is associated with poverty and poor quality of life. Sub-transmission and distribution systems constitute the link between electricity utilities and consumers. Efficient functioning of the segment of the electricity utility is essential to sustain the growth of the power sector and the economy of the country. So, the present situation is characterized by unacceptable high losses, power quality and reliability of supply, billing sector, revenue collection, frequent interruptions in supply and thus consumer dissatisfaction etc. Distribution Sector requires economical system to provide electrical energy at a suitable prize and at a minimum voltage drop to reduce the voltage regulation. So, we require the economical way to provide the electrical energy by State Electricity Boards to various	

5.	consumers at minimum voltage drop and reduce the regulation of voltage. This paper presents the various aspects of High Voltage Distribution System commissioned for improvement of voltage drop profile in the distribution sectors for economical way to customer's satisfaction. **Keywords:** Low voltage distribution system (LVDS), High Voltage Distribution system (HVDS), Aerial Bunched Cables (ABCs), Annual savings, Payback period, voltage profile. **References:** 1. Report of TATA Power DDL, Delhi, July, 2014. 2. Rakesh Das Begamudre, "Energy Conversion Systems", page no. 377, Edition 2013. 3. Isha Bansal, Harmeet Singh Gill and Ankita Gill, "Minimization of Losses by Implementing High Voltage Distribution System in Agricultural Sector", IOSR Journal of Electrical and Electronics Engineering (IOSRJEEE), Vol. 1, No. 5, pp. 39-45, Aug, 2012. 4. Amit Dembra and A.K. Sharma, "High Voltage Distribution System for Agricultural Feeders in Distribution System", International Journal of Engineering Research and Reviews, Vol. 2, Issue 3, pp. 1-8, July, 2014. 5. W.V. Jahnavi, "Reduction of Losses in Distribution System Using HVDS with Real Time Application", International Journal of Advanced Research in Electrical, Electronics & Instrumentation Engineering, Vol. 3, Issue 9, pp. 39-45, Sept., 2014. 6. K.V.S. Ramachandra Murthy and M. Ramalinga Raju, "Electrical Energy Loss in Rural Distribution Feeders-A case study", ARPN Journal of Engineering and Applied Sciences, Vol. 4, No. 2, April, 2009. 7. M.V. Deshpande, "Electrical Power System Design", page no. 284-285, Edition 2006. 8. Terence Hazal, Senior Member, IEEE, "Limiting Short-Circuit Currents in Medium Voltage Applications", International Conference, PCIC, 38050 Grenoble, France, 2001.	**16-19**
6.	**Authors:** **Shruti Rastogi, Manish Kumar Singh** **Paper Title:** **A Study on Voltage Balance Control Strategy for Cascaded Multilevel STATCOM** **Abstract:** This paper presents a study on dc capacitor voltage balance control strategy for cascade multilevel static synchronous compensator (STATCOM) and it also offers a general analytical method for balance control strategy. The focus area of concern for this study starts with the development of imbalance of dc capacitor voltage. This imbalance arises due to non-uniformity of active power consumed by chain and absorbed by it. Thus, as a solution to this problem a balance control strategy is discussed in this paper, which is based on Phase shift angle regulation. A general analytical method based on vector analysis is also presented. By this method of vector analysis the performance of Phase shift angle regulation balance control strategy can be analysed, together with its regulation capacity. To find out the importance of applying balance control strategy, a comparison assessment which is based on vector analysis between a system which is using balance control strategy and a system which is devoid of any balance control strategy is provided. This comparison comprehends that using balance control strategy is much better for the system. Another inference of comparison is that balance control strategy which is based upon Phase shift angle regulation, has the benefit of strong regulation capacity. After the comparison via vector analysis, the same comparison is done by using Simulink in MATLAB. The result of the simulations is the same as of vector analysis. The simulated data also verifies that application of a balance control strategy delivers better performance of cascade multilevel STATCOM rather than not using it. **Keywords:** Cascaded multilevel, dc capacitor voltage balance, Static synchronous compensator (STATCOM), Vector analysis. **References:** 1. D. Soto and T. C. Green, "A comparison of high-power converter topologies for the implementation of FACTS controllers," IEEE Trans. Ind.Electron., vol. 49, no. 5, pp. 1072–1080, Oct. 2002. 2. C. K. Lee, J. S. K. Leung, S. Y. R. Hui, and H. S.-H. Chung, "Circuit-level comparison of STATCOM technologies," IEEE Trans. Power Electron., vol. 18, no. 4, pp. 1084–1092, Jul. 2003. 3. T. An, M. T. Powell, H. L. Thanawala, and N. Jenkins, "Assessment of two different STATCOM configurations for FACTS application in power systems," presented at the Int. Conf. Power Syst. Technol., Beijing, China, 1998. 4. J. D. Ainsworth, M. Davies, P. J. Fitz, K. E. Owen, and D. R. Trainer, "Static var compensator (STATCOM) based on single-phase chain-circuit converters," Proc. IEE—Gen., Transm., Distrib., vol. 145, no. 4, pp. 381–386, Jul. 1998. 5. S. Sirisukprasert, "The modeling and control of a cascaded-multilevel converter-based STATCOM," Ph.D. dissertation, Dept. Electr. Eng., Va. Polytechnic Inst. State Univ., Blacksburg, VA, Feb. 2004. 6. C. Han, Z. Yang, B. Chen, A. Q. Huang, B. Zhang, M. R. Ingram, and A.-A. Edris, "Evaluation of cascade-multilevel-converter-based STATCOM for arc furnace mitigation," IEEE Trans. Ind. Appl., vol. 43, no. 2, pp. 378–385, Mar./Apr. 2007. 7. C. Ying, Q. Chang, M. L. Crow, S. Pekarek, and S. Atcitty, "A comparison of diode-clamped and cascaded multilevel converter for a STATCOM with energy storage," IEEE Trans. Ind. Electron., vol. 53, no. 5, pp. 1512–1521, Oct. 2006. 8. L. Yu, S. Bhattacharya, S. Wenchao, and A. Q. Huang, "Control strategy for cascade multilevel inverter based STATCOM with optimal combination modulation," presented at the Power Electron. Spec. Conf., Rhodes, Greece, 2008	**20-26**
	Authors: **Sudarshan B, Vishwesh Prasad, Mohammed Ismail Zabi, Prashanth M** **Paper Title:** **Experimental Analysis of Temperature Variation in an Air Medium Radiation Field** **Abstract:** In Turbo jet engines, Gas turbines, High pressure boilers and IC engine applications the heat distribution after combustion is a combined phenomenon of convection and radiation heat transfer. Interpreting the role of each mode of heat transfer in the perspective of increasing the efficiency and reducing the heat loss is one of the prime necessities for thermal power plant, aerospace and automobile industries. Here we analyzed the characteristics of the radiation field by temperature profiles through their variation at different planes of the domain, using an experimental approach. The	

7.	testing domain, which replicates the size of the IC engine cylinder, is heated to a high temperature using a coil heater and is insulated to avoid external influence. Using 'K' type thermocouples arranged in series, the temperatures at various points and at various sections are determined. Correspondingly the Temperature profiles for different section planes are plotted. The propagation of radiation from the source as a function of distance and the effect of wall has been analyzed using the temperature profiles. **Keywords:** Air medium, radiation, temperature variation, thermocouple. **References:** 1. A.Tremante and F. Malpica "Analysis of the temperature profile of ceramic composite materials exposed to combined conduction –radiation between concentric cylinders", J. Eng. Gas Turbines Power 120(2), 271-275,5 pages ,Apr 01, 1998. 2. M.Y. Abdollahzadeh Jamalabadi, M. Ghassemi, M.H. Hamedi "Numerical investigation of thermal radiation effects on open cavity with discrete heat sources" International Journal of Numerical Methods for Heat & Fluid Flow, Vol. 23 Issue: 4, pp.649 – 661. 3. E. D. dos Santos, M. M. Galarça, A. C. Mossi "A numerical study of the influence of temperature fluctuations in the thermal radiation field" Universidad Federal do Rio Grande do Sul, Brazil 4. I. Zahmatkesh "Influence of thermal radiation on free convection inside a porous enclosure" Department of Mechanical Engineering, Shiraz University, Shiraz, Iran 5. Severino P.C. Marques "Analysis of conduction-radiation problem in absorbing and emitting non gray materials", Center of Technology, Federal University of Alagoas, Mexico.	**27-32**
8.	**Authors:** **S. Sudha, K. Manikandan** **Paper Title:** **General Pattern of Total Coloring of a Prism Graph of n-Layers and a Grid Graph** **Abstract:** Behzad [1] introduced the total coloring of a graph $\boldsymbol{G}$ as an assignment of colors to the elements (vertices and edges) of $\boldsymbol{G}$ such that no two elements receive the same color. In this paper, we have obtained the total coloring of prism graph of $\boldsymbol{n}$-layers and grid graphs in general using five colors only and found that the total-chromatic number is $\Delta(\boldsymbol{G}) + \mathbf{1} = \mathbf{5}$ for both prism graph of $\boldsymbol{n}$-layers and grid graphs. AMS Subject Classification: 05C15. **Keywords:** Total coloring, prism graph of $\boldsymbol{n}$-layers, grid graphs. **References:** 1. M. Behzad, "Graphs and their chromatic numbers", Ph.D. Thesis, Michigan state university, East Lansing. 1965. 2. V.G. Vizing, "On an estimate of the chromatic class of a p-graph (Russian)", Diskret.Analiz 3, 1964, pp. 25-30. 3. Jensen and Toft, "Graph Coloring Problems", Wiley-Interscience, New York. 1995. 4. O. V. Borodin, "The star coloring of graphs", Discrete Math., 25, 1979, pp. 211-236. 5. I. Gutman, "Distance of Thorny Graphs", Publ. Inst Math.Nouvelle serie, Vol.63(77), pp. 31-36. 6. A.Heckman and A.Kemnitz, "Circular total coloring of graphs", Congressus numerantium. 7. S. Sudha and K. Manikandan, "Total coloring and (k,d)-total coloring of prisms", Mathematical Sciences International Research Journal, Vol. 3, Issue 1, 2014, pp. 11-13. 8. S. Sudha and K. Manikandan, "Total coloring of S(n,m)-graphs", International Journal of Scientific and Innovative Mathematical Research, Vol. 2, Issue 1, 2014, pp. 16-22. 9. J. A. Bondy, U.S.R. Murty, "Graph theory with applications", 1982.	**33-37**
9.	**Authors:** **Pratap S. Vikhe, Neelam Punjabi, Chandrakant B. Kadu** **Paper Title:** **DC Motor Speed Control Using PID Controller In Lab View** **Abstract:** Proportional-Integral-Derivative (PID) control is the most common control algorithm used in industry and has been universally accepted in industrial control. One of the applications used here is to control the speed of the DC motor. Controlling the speed of a DC motors is very important as any small change can lead to instability of the closed loop system. The aim of this paper is to show how DC motor can be controlled by using a PID controller in LabVIEW. DC Motor will be interfaced with LabVIEW using an ATmega 8A Microcontroller. The speed of the DC motor will be set by creating a Graphic User Interface (GUI) for PID Controller in LabVIEW. LabVIEW will send serial command to the DC motor using the PWM pins on the Microcontroller board. DC motor will move with the speed set by the user in LabVIEW. The speed of the dc motor will be sensed by using the IR sensor. From the sensor, the output is sent back to the PID Controller in LabVIEW via ATmega Microcontroller. PID Controller compares the actual speed of the DC motor with the set speed. If its speed is not same, PID Controller will try to minimize the error and bring the motor to the set point value [1]. **Keywords:** DC Motor, LabVIEW, PID Controller, IR Sensor, Open-Loop, Closed-Loop. **References:** 1. Priyanka Rajput, "A Study of Speed Control of PMDC Motor using Auto-tuning of PID Controller through LabVIEW ", AKJEC International journal of Technology, Volume 5, No. 1. 2. Salim, Sunil Kumar, Jyoti Ohri "LabVIEW Based DC Motor and Temperature Control Using PID Controller " ,IJARCSSE, Volume 3, Issue-5, May 2013 3. Naveen Kumar R, et. al., "Low Cost Data Acquisition and Control using Arduino Prototyping platform and LabVIEW", IJSR, India Online, Volume 2, Issue 2, February 2013, ISSN: 2319-7064 4. A. Purna Chandra Rao et. al., "Robust Internal Model Control Strategy based PID Controller for BLDCM",International Journal of Engineering Science and Technology Volume 2(11), 2010, 6801-6811 5. R. Vilanova, "PID Controller tuning rules for robust step response of first-order-plus-dead-time models", IEEE 2006. 6. M. H. Moradi, "New Techniques for PID Controller Design", IEEE Xplore, 2003 7. Umesh Kumar Bansal, Rakesh Narvey, "Speed Control of DC Motor Using Fuzzy PID Controller", Department of Electrical Engineering, Advance in Electronic and electric Engineering. ISSN 2231-1297, volume 3, Number 9 (2013), pp, 1209-1220.	**37-41**

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