CSC – 701 AUTOMATA & COMPILER DESIGN

UNIT – I

Introduction: Alphabets, Strings and Languages, Automata and Grammars, Deterministic finite Automata (DFA)-Formal Definition, Simplified notation: State transition graph, Transition table, Language of DFA, Nondeterministic finite Automata (NFA), Equivalence of NFA and DFA, Minimization of Finite Automata, Regular Expressions, Arden's theorem.

UNIT – II

Compiler Structure: Compilers and Translators, Various Phases of Compiler, Pass Structure of Compiler, Bootstrapping of Compiler. Lexical Analysis: The role of Lexical Analyzer, A simple approach to the design of Lexical Analyzer, Implementation of Lexical Analyzer. The Syntactic Specification of Programming Languages: CFG, Derivation and Parse tree, Ambiguity, Capabilities of CFG. Basic Parsing Techniques: Top-Down parsers with backtracking, Recursive Descent Parsers, Predictive Parsers.
.

UNIT – III

Bottom–Up Parsers, Shift-Reduce Parsing, Operator Precedence Parsers, LR parsers (SLR, Canonical LR, LALR) Syntax Analyzer Generator: YACC, Intermediate Code Generation: Different Intermediate forms: three address code, Quadruples & Triples. Syntax Directed translation mechanism and attributed definition. Translation of Declaration, Assignment, Control flow, Boolean expression, Array References in arithmetic expressions, procedure calls, case statements, postfix translation.

UNIT – IV

Run Time Memory Management: Static and Dynamic storage allocation, stack based memory allocation schemes, Symbol Table management Error Detection and Recovery: Lexical phase errors, Syntactic phase errors, Semantic errors.

UNIT – V

Code Optimization and Code Generation: Local optimization, Loop optimization, Peephole optimization, Basic blocks and flow graphs, DAG, Data flow analyzer, Machine Model, Order of evaluation, Register allocation and code selection

REFERENCE BOOKS:

1. Principles of compiler design -A.V. Aho . J.D.Ullman; Pearson Education.
2. Modern Compiler Implementation in C- Andrew N. Appel, Cambridge University Press.
3. A. C. Holub. Compiler Design in C , Prentice-Hall Inc., 1993.
4. Raghavan, Compiler Design, TMH Pub.

LIST OF EXPERIMENTS

1. Write a program to convert regular expression into NFA
2. Write a program to find first in CFG.
3. Write a program to find string is keyword or not.
4. Write a program to find string is identifier or not.
5. Write a program to find string is constant or not.
6. An ALGO to convert NFA to DFA.
7. Write a program to generate tokens for the given grammar
8. An ALGO for minimizing of DFA
9. Write a program to check string is in grammar or not
10. Write a program to calculate leading for all non-terminals

CSC - 702-CLOUD COMPUTING

UNIT-I

Introduction, Cloud computing history, Cloud architecture, Characteristics of cloud computing as per NIST, Cloud services requirements, System Models for Distributed and Cloud Computing, NIST Cloud Computing Reference Architecture, Applications, ECG Analysis in the cloud, Protein structure prediction, Gene Expression Data Analysis, Satellite Image Processing, CRM and ERP, Social networking.

UNIT-II

Cloud Reference Model, Types of Clouds, Cloud Interoperability & Standards, Scalability and Fault Tolerance, Design Challenges, Inter Cloud Resource Management, Resource Provisioning and Platform Deployment, Global Exchange of Cloud Resources, Cloud services (Iaas, Paas & Saas).

UNIT-III

Basics of Virtualization, Types of Virtualization, Implementation Levels of Virtualization, Virtualization Structures, Tools and Mechanisms - Virtualization of CPU, Memory, I/O Devices, Virtual Clusters and Resource management, Virtualization for Data-center Automation, Virtual LAN (VLAN) and Virtual SAN (VSAN) and their benefits.

UNIT-IV

Cloud Security:- Security Overview Infrastructure security, Data security and storage, Network security – I , Network security – II, Host security, Disaster recovery and management, Cloud Information security fundamentals, Cloud security services, Design principles, Secure Cloud Software Requirements, Policy Implementation, Cloud Computing Security Challenges, Virtualization security Management, Cloud Computing Security Architecture.

UNIT-V

Cloud Solutions: - Cloud Ecosystem, Cloud Business Process Management, Cloud Service Management Third Party Cloud Services, Market Based Management of Clouds. Case study: - Amazon cloud services, Amazon EC2, Amazon S3, Google cloud services, Google Map reduce, GFS, Sales Force, Windows Azure- EMC cloud services, IBM cloud services, Apache Hadoop.

REFERENCE BOOKS:
1. Kenneth Hess, Amy New Man – Practical Virtualization Solutions – Prentice Hall, 2010
2. Shahed Latif, Tim Mather, Subra Kumara swamy – Cloud Security and Privacy: An Enterprise perspective on risks and compliance – O'Reilly Media Inc., 2009
3. Gautam Shroff – Enterprise Cloud Computing: Technology, Architecture, Applications – Cambridg Press, 2010

LIST OF EXPERIMENTS
1. Creating and working with a new document in Google docs.
2. Preparing a presentation of ten slides on using Google docs.
3. Setting up service for running hadoop daemons on windows 7
4. Create and Deploy a Cloud Service
5. Study of Eucalyptus
6. Installation of Eucalyptus Cloud
7. Study of Cloudsim.
8. CloudSim setup and installation
9. Working and installation of Google App Engine
10. Working in Cloud9 to demonstrate different language.

CSC-703 OBJECT ORIENTED ANALYSIS AND DESIGN

UNIT- I   Introduction to OOAD
 Introduction to OOAD – Unified Process – UML diagrams – Use Case – Class Diagrams– Interaction Diagrams – State Diagrams – Activity Diagrams – Package, component and Deployment Diagrams.

UNIT II   DESIGN PATTERNS
GRASP: Designing objects with responsibilities – Creator – Information expert – Low Coupling – High Cohesion – Controller – Design Patterns – creational – factory method – structural – Bridge – Adapter – behavioural – Strategy – observer.

UNIT III   CASE STUDY
Case study – the Next Gen POS system, Inception -Use case Modeling – Relating Use cases – include, extend and generalization – Elaboration – Domain Models – Finding conceptual classes and description classes – Associations – Attributes – Domain model refinement – Finding conceptual class Hierarchies – Aggregation and Composition.

UNIT IV   APPLYING DESIGN PATTERNS
System sequence diagrams – Relationship between sequence diagrams and use cases Logical architecture and UML package diagram – Logical architecture refinement – UML class diagrams – UML interaction diagrams – Applying GoF design patterns.

UNIT V   CODING AND TESTING
Mapping design to code – Testing: Issues in OO Testing – Class Testing – OO Integration Testing – GUI Testing – OO System Testing.

TEXT BOOK:
1. Craig Larman, "Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development", Third Edition, Pearson Education, 2005.

REFERENCES:
1. Simon Bennett, Steve Mc Robb and Ray Farmer, "Object Oriented Systems Analysis and Design Using UML", Fourth Edition, Mc-Graw Hill Education, 2010.
2. Erich Gamma, and Richard Helm, Ralph Johnson, John Vlissides, "Design patterns: Elements of Reusable Object-Oriented Software", Addison-Wesley, 1995.
3. Martin Fowler, "UML Distilled: A Brief Guide to the Standard Object Modeling Language"

LIST OF EXPERIMENTS
1. Study and implementation of Infrastructure as a Service. Study of Cloud Computing & Architecture.
2. Installation and Configuration of virtualization using KVM.
3. Study and implementation of Infrastructure as a Service
4. Study and implementation of Storage as a Service
5. Study and implementation of identity management.
6. Study Cloud Security management
7. Write a program for web feed.
8. Study and implementation of Single-Sing-On.

CSC-704A - SOFTWARE TESTING

UNIT 1:
Introduction to Software Testing:-Definition of Software Testing, Need for software Testing, various approaches to Software Testing, defect distribution, Software Testing Fundamentals. General characteristics of testing, seven principles of testing. Software testing strategies Testing strategies in software testing, basic concept of verification and validation, criteria for completion of testing and debugging process.

UNIT 2:
Software development life cycle and testing:-Water fall model, V-model, Spiral model, agile model, Life cycle testing concepts, testing methods, testing levels. Static Testing and dynamic testing Static Testing, static analysis tools, dynamic testing, White box testing, block box testing, Regression testing, dynamic testing tools.

UNIT 3:
 Static Testing and dynamic testing:-Static Testing, static analysis tools, dynamic testing, White box testing, block box testing, Regression testing, dynamic testing tools. Functional testing:-Functional testing concepts, Equivalence class partitioning, Boundary value analysis, Decision tables, Random testing, Error guessing.

UNIT 4:
Functional testing"-Functional testing concepts, Equivalence class partitioning, Boundary value analysis, Decision tables, Random testing, Error guessing.Test management-Test planning, cost-benefit analysis of testing, Test organization, Test strategies, Test progress monitoring and control- test reporting, test control, Specialized testing.

UNIT 5:
Testing tools:-Test automation approach, Testing frame work, types of testing tools, Object-Oriented testing Object-Oriented testing challenges, Unit testing for Object-Oriented programming, Integration testing (top-down, bottom-up), cluster testing.

 REFERRENCE
1. Glenford J. Myers, Corey Sandler, Tom Badgett." The Art of Software Testing, 3rd Edition"
2. Ron Patton," Software Testing, 2nd Edition, 2005"
3. Paul C. Jorgensen" Software Testing: A Craftsman's Approach, Fourth Edition"
4. James Whittaker," How to Break Software: A Practical Guide to Testing"

CSE 704B - QUANTUM COMPUTING

UNIT-I
Introducing quantum mechanics. Quantum kinematics, quantum dynamics, quantum measurements. Single qubit, multi qubits, gates. Density operators, pure and mixed states, quantum operations, environmental effect, decoherence. Quantum no-cloning, quantum teleportation.

UNIT-II
Quantum Cryptography: Cryptography, classical cryptography, introduction to quantum cryptography. BB84, B92 protocols. Introduction to security proofs for these protocols.

UNIT-III
Quantum Algorithm: Introduction to quantum algorithms. Deutsch-Jozsa algorithm, Grover's quantum search algorithm, Simon's algorithm. Shor's quantum factorization algorithm. Error Correction: Errors and correction for errors. Simple examples of error correcting codes in classical computation. Linear codes. Quantum error correction and simple examples. Shor code.

UNIT-IV
Quantum Entanglement: Quantum correlations, Bell's inequalities, EPR paradox. Theory of quantum entanglement. Entanglement of pure bipartite states. Entanglement of mixed states. Peres partial transpose criterion. NPT and PPT states, bound entanglement, entanglement witnesses.

UNIT-V
Implementations: Different implementations of quantum computers. NMR and ensemble quantum computing, Ion trap implementations. Optical implementations.

TEXT BOOK:
1. Quantum Computation and Quantum Information by Michael Nielsen and Isaac Chuang
2. Nielsen M. A., Quantum Computation and Quantum Information, Cambridge University Press. 2002
3. Benenti G., Casati G. and Strini G., Principles of Quantum Computation and Information, Vol. I: Basic Concepts, Vol II: Basic Tools and Special Topics, World Scientific. 2004
4. Pittenger A. O., An Introduction to Quantum Computing Algorithms 2000

CSC-704C WIRELESS SENSOR NETWORK

UNIT-I
Characteristics Of WSN: Characteristic requirements for WSN - Challenges for WSNs – WSN vs Adhoc Networks - Sensor node architecture – Commercially available sensor nodes –Imote, IRIS, Mica Mote, EYES nodes, BTnodes, TelosB, Sunspot -Physical layer and transceiver design considerations in WSNs, Energy usage profile, Choice of modulation scheme, Dynamic modulation scaling, Antenna considerations.

UNIT-II
Medium Access Control Protocols: Fundamentals of MAC protocols - Low duty cycle protocols and wakeup concepts - Contentionbased protocols - Schedule-based protocols - SMAC - BMAC - Traffic-adaptive medium access protocol (TRAMA) - The IEEE 802.15.4 MAC protocol.

UNIT-III
Routing And Data Gathering Protocols Routing Challenges and Design Issues in Wireless Sensor Networks, Flooding and gossiping – Data centric Routing – SPIN – Directed Diffusion – Energy aware routing - Gradient-based routing - Rumor Routing – COUGAR – ACQUIRE – Hierarchical Routing - LEACH, PEGASIS – Location Based Routing – GF, GAF, GEAR, GPSR – Real Time routing Protocols – TEEN, APTEEN, SPEED, RAP - Data aggregation - data aggregation operations - Aggregate Queries in Sensor Networks - Aggregation Techniques – TAG, Tiny DB.

UNIT-IV
Embedded Operating Systems: Operating Systems for Wireless Sensor Networks – Introduction - Operating System Design Issues - Examples of Operating Systems – TinyOS – Mate – MagnetOS – MANTIS - OSPM - EYES OS – SenOS – EMERALDS – PicOS – Introduction to Tiny OS – NesC – Interfaces and Modules- Configurations and Wiring - Generic Components -Programming in Tiny OS using NesC, Emulator TOSSIM.

UNIT-V
Applications Of WSN: WSN Applications - Home Control - Building Automation - Industrial Automation - Medical Applications - Reconfigurable Sensor Networks - Highway Monitoring - Military Applications - Civil and Environmental Engineering Applications - Wildfire Instrumentation - Habitat Monitoring - Nanoscopic Sensor Applications – Case Study: IEEE 802.15.4 LR-WPANs Standard - Target detection and tracking - Contour/edge detection - Field sampling.

TEXT BOOKS

1. 1.Kazem Sohraby, Daniel Minoli and Taieb Znati, " Wireless Sensor Networks Technology, Protocols, and Applications", John Wiley & Sons, 2007.
2. .Holger Karl and Andreas Willig, "Protocols and Architectures for Wireless Sensor Networks", John Wiley & Sons, Ltd, 2005.

REFERENCE BOOKS

1. .K. Akkaya and M. Younis, "A survey of routing protocols in wireless sensor networks", Elsevier Ad Hoc Network Journal, Vol. 3, no. 3, pp. 325--349
2. Philip Levis, " TinyOS Programming" 3.Anna Ha´c, "Wireless Sensor Network Designs", John Wiley & Sons Ltd.

CSC-705A NATURAL LANGUAGE PROCESSING

UNIT-I

Introduction- Human languages, models, ambiguity, processing paradigms; Phases in natural language processing, applications. Text representation in computers, encoding schemes. Linguistics resources- Introduction to corpus, elements in balanced corpus, Tree Bank, PropBank, Word Net, Verb Net etc. Resource management with XML,

UNIT-II

Management of linguistic data with the help of GATE, NLTK. Regular expressions, Finite State Automata, word recognition, lexicon. Morphology, acquisition models, Finite State Transducer. N-grams, smoothing, entropy, HMM, ME, SVM, CRF. Part of Speech tagging- Stochastic POS tagging, HMM, Transformation based tagging (TBL)

UNIT-III

Handling of unknown words, named entities, multi word expressions. A survey on natural language grammars, lexeme, phonemes, phrases and idioms, word order, agreement, tense, aspect and mood and agreement, Context Free Grammar, spoken language syntax.

UNIT-IV

Parsing- Unification, probabilistic parsing, Tre eBank. Semantics- Meaning representation, semantic analysis, lexical semantics, WordNet Word Sense Disambiguation- Selectional restriction, machine learning approaches, and dictionary based approaches.

UNIT-V

Discourse- Reference resolution, constraints on co-reference, algorithm for pronoun resolution, text coherence, discourse structure. Applications of NLP- Spell-checking, Summarization Information Retrieval- Vector space model, term weighting, homonymy, polysemy, synonymy, improving user queries. Machine Translation– Overview.

TEXTBOOK:

1. Daniel Jurafsky and James H Martin. Speech and Language Processing, 2e, Pearson Education, 2009 Reference Books: 1. James A.. Natural language Understanding 2e, Pearson Education, 1994
2. Bharati A., Sangal R., Chaitanya V.. Natural language processing: a Paninian perspective, PHI, 2000 3. Siddiq

CSC-705B : COMPUTER VISION

UNIT-I

Digital Image Formation and low-level processing: Overview and State-of-the-art, Fundamentals of Image Formation, Transformation: Orthogonal, Euclidean, Affine, Projective, etc; Fourier Transform, Convolution and Filtering, Image Enhancement, Restoration, Histogram Processing.

UNIT-II

Depth estimation and Multi-camera views: Perspective, Binocular Stereopsis: Camera and Epipolar Geometry; Homography, Rectification, DLT, RANSAC, 3-D reconstruction framework; Auto-calibration.

UNIT-III

Feature Extraction: Edges - Canny, LOG, DOG; Line detectors (Hough Transform), Corners - Harris and Hessian Affine, Orientation Histogram, SIFT, SURF, HOG, GLOH, ScaleSpace Analysis- Image Pyramids and Gaussian derivative filters, Gabor Filters and DWT.

UNIT-IV

Image Segmentation: Region Growing, Edge Based approaches to segmentation, Graph-Cut, Mean-Shift, MRFs, Texture Segmentation; Object detection. Motion Analysis: Background Subtraction and Modeling, Optical Flow, KLT, Spatio-Temporal Analysis, Dynamic Stereo; Motion parameter estimation.Pattern Analysis: Basics of Probability and Statistics, Clustering: K-Means, K-Medoids, Mixture of Gaussians, Classification: Discriminant Function, Supervised, Un-supervised, Semi-supervised; Classifiers: Bayes, KNN, ANN models; Dimensionality Reduction: PCA, LDA, ICA; Non-parametric methods.

UNIT-V

Shape from X: Light at Surfaces; Phong Model; Reflectance Map; Albedo estimation. Photometric Stereo; Use of Surface Smoothness Constraint; Shape from Texture, color, motion and edges.

TEXT BOOKS
1. Richard Szeliski, Computer Vision: Algorithms and Applications, Springer-Verlag London Limited 2011.
2. Computer Vision: A Modern Approach, D. A. Forsyth, J. Ponce, Pearson Education, 2003.

REFERENCES
1. Richard Hartley and Andrew Zisserman, Multiple View Geometry in Computer Vision, Second Edition, Cambridge University Press, March 2004.
2. K. Fukunaga; Introduction to Statistical Pattern Recognition, Second Edition, Academic Press, Morgan Kaufmann, 1990.
3. R.C. Gonzalez and R.E. Woods, Digital Image Processing, Addison- Wesley, 1992.

CSC-705C WEB SEARCH AND MINING

UNIT-I

Document clustering, classification, routing, and recommendation systems. Machine learning methods.

UNIT-II

Information extraction methods: terminologies and ontology acquisition, named entity recognition, co reference resolution

UNIT-III

Web Wrappers and Web Agents. Natural language processing techniques: summarization

UNIT-IV

Cross-lingual retrieval, event tracking, question answering and text mining. Biomedical text: special constraints

UNIT-V

Knowledge discovery, improved performance from integrating textual information.

TEXTBOOKS:

1. Soumen Chakrabarti. 2003. Mining the Web: Discovering Knowledge from Hypertext Data. Amsterdam: Morgan Kaufmann.
2. Christopher Manning and Hinrich Schütze. 1999. Foundations of Statistical Natural Language Processing. Cambridge, MA: MIT Press.
3. Tom Mitchell. 1997. Machine Learning. McGraw Hill.
4. Ian Witten and Eibe Frank. 2000. Data Mining: Practical Machine Learning Tools and Techniques with Java Implementations. San Francisco, CA: Morgan Kaufmann.

CS706 A GRAPH THEORY AND APPLICATIONS

UNIT I INTRODUCTION
Graphs – Introduction – Isomorphism – Sub graphs – Walks, Paths, Circuits –Connectedness – Components – Euler graphs – Hamiltonian paths and circuits – Trees – Properties of trees – Distance and centres in tree – Rooted and binary trees.

UNIT II TREES, CONNECTIVITY & PLANARITY
Spanning trees – Fundamental circuits – Spanning trees in a weighted graph – cut sets – Properties of cut set – All cut sets – Fundamental circuits and cut sets – Connectivity and separability – Network flows – 1-Isomorphism – 2-Isomorphism – Combinational and geometric graphs – Planer graphs – Different representation of a planer graph.

UNIT III MATRICES, COLOURING AND DIRECTED GRAPH
Chromatic number – Chromatic partitioning – Chromatic polynomial – Matching – Covering – Four color problem – Directed graphs – Types of directed graphs – Digraphs and binary relations – Directed paths and connectedness – Euler graphs.

UNIT IV PERMUTATIONS & COMBINATIONS
Fundamental principles of counting – Permutations and combinations – Binomial theorem – combinations with repetition – Combinatorial numbers – Principle of inclusion and exclusion – Derangement – Arrangements with forbidden positions.

UNIT-V,GENERATING FUNCTIONS
Generating functions – Partitions of integers – Exponential generating function – Summation operator – Recurrence relations – First order and second order – Non-homogeneous recurrence relations – Method of generating functions.

TEXT BOOKS:

1. Narsingh Deo, "Graph Theory: With Application to Engineering and Computer Science", Prentice Hall of India, 2003.
2. Grimaldi R.P. "Discrete and Combinatorial Mathematics: An Applied Introduction", Addison Wesley, 1994.

REFERENCES:
1. Clark J. and Holton D.A, "A First Look at Graph Theory", Allied Publishers, 1995.
2. Mott J.L., Kandel A. and Baker T.P. "Discrete Mathematics for Computer Scientists and Mathematicians" , Prentice Hall of India, 1996.
3. Liu C.L., "Elements of Discrete Mathematics", Mc Graw Hill, 1985.
4. Rosen K.H., "Discrete Mathematics and Its Applications", Mc Graw Hill, 2007.

CSC-706B WIRELESS NETWORK

UNIT – I

Introduction of Wireless Networks, wireless network architectures, Different Generations of Wireless Networks. Characteristics of the Wireless Medium: Radio Propagation Mechanisms, Path Loss Modeling and Signal Coverage, Effect of Multipath and Doppler, Channel Measurement and Modeling Techniques, Narrowband digital modulation and Coding under wireless fading environments.

UNIT – II

Introduction WLAN technologies: Infrared, UHF narrowband, spread spectrum IEEE802.11: System architecture, protocol architecture, physical layer, MAC layer, 802.11b, 802.11a – Hiper LAN: WATM,BRAN, HiperLAN2 – Bluetooth: Architecture, Radio Layer, Baseband layer, Link manager Protocol, security IEEE802.16WIMAX: Physical layer, MAC, Spectrum allocation for WIMAX.
.
UNIT – III

Network Planning: Introduction, Wireless Network Topologies, Cellular Topology, Cell Fundamentals, Signal to Interferences Radio Calculations, Network Planning for CDMA Systems. Wireless Network Operations: Mobility Management, Radio Resources and Power Management.

UNIT – IV

Introduction Mobile IP: IP packet delivery, Agent discovery, tunneling and encapsulation, IPV6 Network layer in the internet Mobile IP session initiation protocol mobile adhoc network: Routing, Destination Sequence distance vector, Dynamic source routing. MOBILE TRANSPORT LAYER TCP enhancements for wireless protocols Traditional TCP: Congestion control, fast retransmit/fast recovery, Implications of mobility Classical TCP improvements: Indirect TCP, Snooping TCP, Mobile TCP, Time out freezing, Selective retransmission, Transaction oriented TCP TCP over 3G wireless networks.

UNIT – V

IEEE 802.15 WPAN, Home RF, Bluetooth, Interference between Bluetooth and 802.11, Adhoc Networks, Introduction to 2.5G and 3G Networks. Overview of UTMS Terrestrial Radio access network UMTS Core network Architecture: 3GMSC, 3GSGSN, 3GGGSN, SMSGMSC/ SMSIWMSC, Firewall, DNS/DHCP High speed Downlink packet access (HSDPA) LTE network architecture and protocol. 4G NETWORKS Introduction – 4G vision – 4G features and challenges Applications of 4G – 4G Technologies: Multicarrier Modulation, Smart antenna techniques, OFDMMIMO systems, Adaptive Modulation and coding with time slot scheduler, Cognitive Radio.

REFERENCES:
1. Erik Dahlman, Stefan Parkvall, Johan Skold and Per Beming, "3G Evolution HSPA and LTE for Mobile Broadband", Second Edition, Academic Press, 2008.
2. Anurag Kumar, D.Manjunath, Joy kuri, "Wireless Networking", First Edition, Elsevier 2011.
3. Simon Haykin, Michael Moher, David Koilpillai, "Modern Wireless Communications", First
4. Edition, Pearson Education 2013

CSC-706C ETHICAL HECKING

UNIT-I

Introduction to Ethical Disclosure: Ethics of Ethical Hacking, Ethical Hacking and the legal system, Proper and Ethical Disclosure

UNIT-II

Penetration Testing and Tools: Using Metasploit, Using BackTrackLiveCD Linux Distribution.

UNIT-III

Exploits: Programming Survival Skills, Basic Linux Exploits, Advanced Linux Exploits, Shell code Strategies, Writing Linux Shell code, Basic windows Exploits

UNIT-IV

Vulnerability Analysis: Passive Analysis, Advanced Static Analysis with IDA Pro, Advanced Reverse Engineering, Client-side browser exploits, Exploiting Windows Access Control Model for Local Elevation Privilege, Intelligent Fuzzing with Sulley, From Vulnerability to Exploit

UNIT-V

Malware Analysis: Collecting Malware and Initial Analysis, Hacking Malare.

REFERENCES:

1. Shon Harris, Allen Harper, Chris Eagle and Jonathan Ness, Gray Hat Hacking: The Ethical Hackers' Handbook, TMH Edition
2. Jon Erickson, Hacking: The Art of Exploitation, SPD

CSC – 707 Industrial Training - II

Students must observe following points to enrich their learning in electrical engineering during industrial training:

- The training must be the advance/ different already done on minor training.
-Industrial environment and work culture.
- Organizational structure and inter personal communication.
- Machines/ equipment/ instruments - their working and specifications.
- Product development procedures and phases.
- Project planning, monitoring and control.
- Quality control and assurance.
- Maintenance system.
- Costing system.
- Stores and purchase systems.
- Roles and responsibilities of different categories of personnel.
- Customer services.
-Problems related to various areas of Work etc.
- Layout if any

To be submitted : The students has to submit the power point presentation of minimum15 slides of the training performed (comprising of points stated above) along with the original certificate of training performed with proper seal and signature of the authorized person.