III Year – I SEMESTER **Software Engineering** **T 4**

Course Objectives:
The students will have a broad understanding of the discipline of software engineering and its application to the development of and management of software systems.

Course Outcomes:
1. knowledge of basic SW engineering methods and practices, and their appropriate application;
2. general understanding of software process models such as the waterfall and evolutionary models.
3. understanding of the role of project management including planning, scheduling, risk management, etc.
4. understanding of software requirements and the SRS document
5. understanding of different software architectural styles.
6. understanding of implementation issues such as modularity and coding standards.
7. understanding of approaches to verification and validation including static analysis, and reviews.
8. understanding of software testing approachs such as unit testing and integration testing.
9. understanding of software evolution and related issues such as version management.
10. understanding on quality control and how to ensure good quality software.
11. understanding of some ethical and professional issues that are important for software engineers.
12. development of significant teamwork and project based experience

Syllabus:

UNIT I:
Introduction to Software Engineering: Software, Software Crisis, Software Engineering definition, Evolution of Software Engineering Methodologies, Software Engineering Challenges.
Software Processes: Software Process, Process Classification, Phased development life cycle, Software Development Process Models- Process, use, applicability and Advantages/limitations

UNIT II:
Requirements Engineering: Software Requirements, Requirements engineering Process, Requirements elicitation, Requirements

Analysis, Structured Analysis, Data Oriented Analysis, Object oriented Analysis, Prototyping Analysis, Requirements Specification, Requirements Validation, requirement Management.

UNIT III:
Software Design: Software Design Process, Characteristics of Good Software Design, Design Principles, Modular Design, Design Methodologies, Structured Design, Structured Design Methodology, Transform Vs Transaction Analysis.
Object-Oriented Design: Object oriented Analysis and Design Principles

UNIT IV:
Implementation: Coding Principles, Coding Process, Code verification, Code documentation
Software Testing: Testing Fundamentals, Test Planning, Black Box Testing, White Box Testing, Levels of Testing, Usability Testing, Regression testing, Debugging approaches

UNIT V:
Software Project Management: Project Management Essentials, What is Project management, Software Configuration Management.
Project Planning and Estimation: Project Planning activities, Software Metrics and measurements, Project Size Estimation, Effort Estimation Techniques.

UNIT VI:
Software Quality: Software Quality Factors, Verification & Validation, Software Quality Assurance, The Capability Maturity Model
Software Maintenance: Software maintenance, Maintenance Process Models, Maintenance Cost, Reengineering, Reengineering activities, Software Reuse.

TEXT BOOKS:

1. Software Engineering, concepts and practices, Ugrasen Suman, Cengage learning
2. Software Engineering, 8/e, Sommerville, Pearson.
3. Software Engineering, 7/e , Roger S.Pressman , TMH

REFERENCE BOOKS:

1. Software Engineering, A Precise approach, Pankaj Jalote, Wiley
2. Software Engineering principles and practice, W S Jawadekar, TMH
3. Software Engineering concepts, R Fairley, TMH

III Year – I SEMESTER **Data Communication** **T 4**

Course Objectives:

1. To have a detailed study of various analog and digital modulation and demodulation techniques
2. To have a thorough knowledge of various multiplexing schemes and Data communication protocols
3. To know about the standards and mechanisms of television systems

Course Outcomes:

1. Knowledge of working of basic communication systems
2. Ability to evaluate alternative models of communication system design

Syllabus:

Unit I:

INTRODUCTION TO DATA COMMUNICATIONS AND NETWORKING: Standards Organizations for Data Communications, Layered Network Architecture, Open Systems Interconnection, Data Communications Circuits, Serial and parallel Data Transmission, Data communications Networks, Alternate Protocol Suites.

SIGNALS, NOISE, MODULATION, AND DEMODULATION:Signal Analysis, Electrical Noise and Signal-to-Noise Ratio, Analog Modulation Systems, Information Capacity, Bits, Bit Rate, Baud, and *M*-ary Encoding, Digital Modulation.

Unit II :

METALLIC CABLE TRANSMISSION MEDIA: Metallic Transmission Lines, Transverse Electromagnetic Waves, Characteristics of Electromagnetic Waves

OPTICAL FIBER TRANSMISSION MEDIA: Advantages of Optical Fiber cables, Disadvantages of Optical Fiber Cables, Electromagnetic spectrum, Optical Fiber Communications System Block Diagram, Optical Fiber construction, Propagation of Light Through an Optical fiber Cable, Optical Fiber Modes and Classifications, Optical Fiber Comparison, Losses in Optical Fiber Cables, Light sources, Light Detectors, Lasers.

Unit III :

DIGITAL TRANSMISSION: Pulse Modulation, Pulse code Modulation, Dynamic Range, Signal Voltage –to-Quantization Noise Voltage Ratio, Linear Versus Nonlinear PCM Codes, Companding, PCM Line Speed, Delta Modulation PCM and Differential PCM.

MULTIPLEXING AND T CARRIERS: Time- Division Multiplexing, T1 Digital Carrier System, Digital Line Encoding, T Carrier systems, Frequency- Division Multiplexing, Wavelength-Division Multiplexing, Synchronous Optical Network

Unit IV:

WIRELESS COMMUNICATIONS SYSTEMS: Electromagnetic Polarization, Electromagnetic Radiation, Optical Properties of Radio Waves, Terrestrial Propagation of Electromagnetic Waves, Skip Distance, Free-Space Path Loss, Microwave Communications Systems, Satellite Communications Systems.

Unit V:

TELEPHONE INSTRUMENTS AND SIGNALS: The Subscriber Loop, Standard Telephone Set, Basic Telephone Call Procedures, Call Progress Tones and Signals, Cordless Telephones, Caller ID, Electronic Telephones, Paging systems.

CELLULAR TELEPHONE SYSTEMS: First- Generation Analog Cellular Telephone, Personal Communications system, Second-Generation Cellular Telephone Systems, N-AMPS, Digital Cellular Telephone, Interim Standard, Global system for Mobile Communications.

Unit VI:

DATA COMMUNICATIONS CODES, ERROR CONTROL, AND DATA FORMATS:

Data Communications Character Codes, Bar Codes, Error Control, Error Detection and Correction, Character Synchronization.

DATA COMMUNICATIONS EQUIPMENT: Digital Service Unit and Channel Service Unit, Voice- Band Data Communication Modems, Bell Systems-Compatible Voice- Band Modems, Voice-Band Modem Block Diagram, Voice- Band Modem Classifications, Asynchronous Voice-Band Modems, Synchronous Voice-Band Modems, Modem Synchronization, 56K Modems, Modem Control: The AT Command Set, Cable Modems.

TEXT BOOKS:

1. Introduction to Data Communications and Networking, Wayne Tomasi, Pearson Education.

Reference Books :

1. Data Communications and Networking, Behrouz A Forouzan, Fourth Edition.TMH.
2. Data and Computer communications, 8/e, William Stallings, PHI.
3. Computer Communications and Networking Technologies, Gallow, Second Edition Thomson
4. Computer Networking and Internet, Fred Halsll, Lingana

Gouda Kulkarni, Fifth Edition, Pearson Education

III Year – I SEMESTER **Advanced JAVA** **T**

4

Course Objectives:
Getting the student to be well trained in Advanced Java Programming skills for an easy entry in the IT Industry.

Course Outcomes:

1. Construct a Web Application using Servlets
2. Construct a Web application using Java Server Pages
3. Construct an enterprise application using Session Beans
4. Construct an enterprise application using Entity Beans linked with Database
5. Construct an asynchronous enterprise application using Message-Driven Beans
6. Map java inheritance hierarchy with database tables using various mapping techniques.
7. Persist different types of collections.

Syllabus:

UNIT –I:
Recapitulation of XTML, XTML5, Java Swing package – use of System class – Applet Context – signed applet – object serialization-shallow and deep copying – Java collections –Iterators – Array Lists – sets –hashset-hash table- queue- priority queue class-vector class-comparable interface.

UNIT – II:
Java Beans Introduction to Java Beans, Advantages of Java Beans, BDK Introspection, Using Bound properties, Bean Info Interface, Constrained properties Persistence, Customizers, Java Beans API

UNIT - III:
Introduction to Servelets: Lifecycle of a Serverlet, JSDK The Servelet API, The javax.servelet Package, Reading Servelet parameters, Reading Initialization parameters. The javax.servelet HTTP package, Handling Http Request & Responses, Using Cookies-Session Tracking, servlet chaining-Security Issues.

UNIT -IV:
Introduction to JSP The Problem with Servelet. The Anatomy of a JSP Page, JSP Processing. JSP Application Design with MVC Setting Up and JSP Environment: Installing the Java Software Development Kit, Tomcat Server & Testing Tomcat

UNIT - V:

JSP Application Development: Generating Dynamic Content, Using Scripting Elements Implicit JSP Objects, Conditional Processing – Displaying Values Using an Expression to Set an Attribute, Declaring Variables and Methods Error Handling and Debugging Sharing Data Between JSP pages, Requests, and Users Passing Control and Date between Pages – Sharing Session and Application Data – Memory Usage Considerations

UNIT - VI:

Database Access Database Programming using JDBC Studying Javax.sql. package. Accessing MySql database- Accessing MS Access database- Accessing a Database from a JSP Page Application – Specific Database Actions Deploying JAVA Beans in a JSP Page. Introduction to struts framework.

TEXT BOOKS:

1. Internet and World wide web- How to program , Dietel and Nieto , Pearson. (Chapters: 3, 4, 8, 9, 10, 11, 12 to 18)
2. The Complete Reference, Java 2 , 3ed, Patrik Naughton, Herbert Schildt, TMH. (Chapters: 19, 20, 21, 22, 25, 27)
3. Java Server Pages , Hans Bergstan, Oreilly (Chapters: 1-9)

REFERENCE BOOKS:

1. Jakarta Struts cook book, Bill Siggelkow, SPD, Oreilly (Chapter 8)
2. Murach's , Beginning Java JDK5, Murach, SPD.
3. An introduction to Web Design and Programming, Wang Thomson
4. Web application technologies concepts, Knuckles, John Wiley.
5. Programming world wide web, Sebesta, Pearson
6. Building Web Applications, NIIT, PHI
7. Web Warrior Guide to Web Programing, Bai, Ekedaw, Thomas, Wiley
8. Beginneing Web Programming, Jon Duckett ,Wrox, Wiley
9. Java server pages, Pekowsky, Pearson

III Year – I SEMESTER **Database Management Systems** **T**

4

Course Objectives:
Provides students with theoretical knowledge and practical skills in the use of databases and database management systems in information technology applications. The logical design, physical design and implementation of relational databases are covered.

Course Outcomes:

1. define a Database Management System
2. give a description of the Database Management structure
3. understand the applications of Databases
4. know the advantages and disadvantages of the different models
5. compare relational model with the Structured Query Language (SQL)
6. know the constraints and controversies associated with relational database model.
7. know the rules guiding transaction ACID
8. understand the concept of data planning and Database design
9. identify the various functions of Database Administrator

Syllabus:

Unit – I: INTRODUCTION
Database system, Characteristics (Database Vs File System), Database Users(Actors on Scene, Workers behind the scene), Advantages of Data base systems, Database applications.
Brief introduction of different Data Models; Concepts of Schema, Instance and data independence; Three tier schema architecture for data independence; Database system structure, environment, Centralized and Client Server architecture for the database.

Unit – II:
RELATIONAL MODEL : Introduction to relational model, concepts of domain, attribute, tuple, relation, importance of null values, constraints (Domain, Key constraints, integrity constraints) and their importance
BASIC SQL : Simple Database schema, data types, table definitions (create, alter), different DML operations (insert, delete, update), basic SQL querying (select and project) using where clause, arithmetic & logical operations, SQL functions(Date and Time, Numeric, String conversion).

Unit – III:

Entity Relationship Model: Introduction, Representation of entities, attributes, entity set, relationship, relationship set, constraints, sub classes, super class, inheritance, specialization, generalization using ER Diagrams.
SQL : Creating tables with relationship, implementation of key and integrity constraints, nested queries, sub queries, grouping, aggregation, ordering, implementation of different types of joins, view(updatable and non-updatable), relational set operations.

Unit – IV:
SCHEMA REFINEMENT (NORMALIZATION) : Purpose of Normalization or schema refinement, concept of functional dependency, normal forms based on functional dependency(1NF, 2NF and 3 NF), concept of surrogate key, Boyce-codd normal form(BCNF), Lossless join and dependency preserving decomposition, Fourth normal form(4NF).

Unit – V:
TRANSACTION MANAGEMENT AND CONCURRENCY CONTROL : Transaction, properties of transactions, transaction log, and transaction management with SQL using commit rollback and savepoint.
Concurrency control for lost updates, uncommitted data, inconsistent retrievals and the Scheduler. Concurrency control with locking methods : lock granularity, lock types, two phase locking for ensuring serializability, deadlocks, Concurrency control with time stamp ordering : Wait/Die and Wound/Wait Schemes, Database Recovery management : Transaction recovery.
SQL constructs that grant access or revoke access from user or user groups. Basic PL/SQL procedures, functions and triggers.

UNIT – VI:
STORAGE AND INDEXING : Database file organization, file organization on disk, heap files and sorted files, hashing, single and multi-level indexes, dynamic multilevel indexing using B-Tree and B+ tree, index on multiple keys.

Text Books :

1. Database Management Systems, 3/e Raghuram Krishnan, Johannes Gehrke, TMH
2. Database Management System, 6/e Ramez Elmasri, Shamkant B. Navathe, PEA
3. Database Principles Fundamentals of Design Implementation and Management, Corlos Coronel, Steven Morris, Peter Robb, Cengage Learning.

Reference Books :

1. Database System Concepts. 5/e Silberschatz, Korth, TMH
2. Introduction to Database Systems, 8/e C J Date, PEA

3. The Database book principles & practice using Oracle/MySql Narain Gehani, University Press.

III Year – I SEMESTER **Operating Systems** **T 4**

Course Objectives:
To gain knowledge about the Operating Systems concepts such as process, main memory management, secondary memory management, CPU and disk scheduling etc

Course Outcomes:
By the end of the course student will be able to

- describe the general architecture of computers
- describe, contrast and compare differing structures for operating Systems
- understand and analyse theory and implementation of: processes, resource control (concurrency etc.), physical and virtual memory, scheduling, I/O and files

Syllabus:

UNIT-I:
Computer System and Operating System Overview: Overview of computer operating systems, operating systems functions, protection and security, distributed systems, special purpose systems, operating systems structures and systems calls, operating systems generation.

UNIT-II:
Process Management – Process concept- process scheduling, operations, Inter process communication. Multi Thread programming models. Process scheduling criteria and algorithms, and their evaluation.

UNIT-III:
Concurrency: Process synchronization, the critical- section problem, Peterson's Solution, synchronization Hardware, semaphores, classic problems of synchronization, monitors, Synchronization examples

UNIT-IV:
Memory Management: Swapping, contiguous memory allocation, paging, structure of the page table, segmentation
Virtual Memory Management:
virtual memory, demand paging, page-Replacement, algorithms, Allocation of Frames, Thrashing

UNIT-V:

Principles of deadlock – system model, deadlock characterization, deadlock prevention, detection and avoidance, recovery form deadlock,

UNIT-VI:

File system Interface- the concept of a file, Access Methods, Directory structure, File system mounting, file sharing, protection.

File System implementation- File system structure, allocation methods, free-space management

Mass-storage structure overview of Mass-storage structure, Disk structure, disk attachment, disk scheduling

TEXT BOOKS:

1. Operating System Concepts- Abraham Silberchatz, Peter B. Galvin, Greg Gagne 7th Edition, John Wiley.
2. Operating Systems' – Internal and Design Principles Stallings, Sixth Edition–2005, Pearson education

REFERENCE BOOKS:

1. http://nptel.iitm.ac.in/courses/Webcourse-contents/IISc-BANG/ Operating%20Systems/New_index1.html
2. Operating systems- A Concept based Approach- D.M.Dhamdhere, 2nd Edition, TMH
3. Operating System A Design Approach-Crowley, TMH.
4. Modern Operating Systems, Andrew S Tanenbaum 3rd edition PHI.

III Year – I SEMESTER **Advanced JAVA Lab** **T 0**

Objective :
To give the student about the practical orientation of advanced programming in JAVA

PROGRAMS LIST:

1. Write a program to prompt the user for a hostname and then looks up the IP address for the hostname and displays the results.

2. Write a program to read the webpage from a website and display the contents of the webpage.

3. Write programs for TCP server and Client interaction as per given below.
   i. A program to create TCP server to send a message to client.
   ii. A program to create TCP client to receive the message sent by the server.

4. Write programs for Datagram server and Client interaction as per given below.
   i. A program to create Datagram server to send a message to client.
   ii. A program to create Datagram client to receive the message sent by the server.

5. Write a program by using JDBC to execute a SQL query for a database and display the results.

6. Write a program by using JDBC to execute an update query without using PreparedStatement and display the results.

7. Write a program by using JDBC to execute an update query by using PreparedStatement and display the results.

8. Write a program to execute a stored procedure in the database by using CallableStatement and display the results.

9. Write a program to display a greeting message in the browser by using HttpServlet.

10. Write a program to receive two numbers from a HTML form and display their sum in the browser by using HttpServlet.

11. Write a program to display a list of five websites in a HTML form and visit to the selected website by using Response redirection.

12. Write a program to store the user information into Cookies. Write another program to display the above stored information by retrieving from Cookies.

13. Write a program in Java Beans to add a Button to the Bean and display the number of times the button has been clicked.

14. Write a program for Java Bean with Simple property by using SimpleBeanInfo class.

15. Write a program for Java Bean with Indexed Property by using SimpleBeanInfo class.

16. Write a program to develop a Enterprise Java Bean of "Session Bean" type.

17. Write a program to develop a Enterprise Java Bean of "Entity Session Bean" type.

18. Write a program to develop a Enterprise Java Bean of "Message Driven Bean" type

III Year – I SEMESTER **Operating System Lab** **T 0**

Objective :

· To provide an understanding of the design aspects of operating system

Recommended Systems/Software Requirements:

· Intel based desktop PC with minimum of 166 MHZ or faster processor

with atleast 64 MB RAM and 100 MB free disk space

Lab Experiments:

1. Simulate the following CPU scheduling algorithms
   a) Round Robin b) SJF c) FCFS d) Priority

2. **.** Loading executable programs into memory and execute System Call implementation-read(), write(), open () and close()

3. . Multiprogramming-Memory management- Implementation of Fork(), Wait(), Exec() and Exit() System calls

4**.** Simulate all File allocation strategies

   a) Sequenced b) Indexed c) Linked

5. Simulate MVT and MFT

6. Simulate all File Organization Techniques

   a) Single level directory b) Two level c) **Hierarchical** d) DAG

7. Simulate Bankers Algorithm for Dead Lock Avoidance

8. Simulate Bankers Algorithm for Dead Lock Prevention.

9. Simulate all page replacement algorithms.
   a) FIFO b) LRU c) LFU etc….
10**.** Simulate Paging Technique of memory management.

III Year – I SEMESTER **Database Management Systems Lab** **T 0**

Objectives:

· To teach the student database design and query and PL/SQL.

System/Software Requirements:

· Intel based desktop PC
· Mysql /Oracle latest version Recommended

PROGRAMS LIST:

1) Creation, altering and droping of tables and inserting rows into a table (use constraints while creating tables) examples using SELECT command.

2) Queries (along with sub Queries) using ANY, ALL, IN, EXISTS, NOTEXISTS, UNION, INTERSET, Constraints.
Example:- Select the roll number and name of the student who secured fourth rank in the class.

3) Queries using Aggregate functions (COUNT, SUM, AVG, MAX and
MIN), GROUP BY, HAVING and Creation and dropping of Views.

4) Queries using Conversion functions (to_char, to_number and to_date), string functions (Concatenation, lpad, rpad, ltrim, rtrim, lower, upper, initcap, length, substr and instr), date functions (Sysdate, next_day, add_months, last_day, months_between, least, greatest, trunc, round, to_char, to_date)

5)
i)Creation of simple PL/SQL program which includes declaration section, executable section and exception –Handling section (Ex. Student marks can be selected from the table and printed for those who secured first class and an exception can be raised if no records were found)

ii)Insert data into student table and use COMMIT, ROLLBACK and SAVEPOINT in PL/SQL block.

6) Develop a program that includes the features NESTED IF, CASE and CASE expression. The program can be extended using the NULLIF and COALESCE functions.

7) Program development using WHILE LOOPS, numeric FOR LOOPS, nested loops using ERROR Handling, BUILT –IN Exceptions, USE defined Exceptions, RAISE- APPLICATION ERROR.

8) Programs development using creation of procedures, passing parameters IN and OUT of PROCEDURES.
9) Program development using creation of stored functions, invoke functions in SQL Statements and write complex functions.

10) Program development using creation of package specification, package bodies, private objects, package variables and cursors and calling stored packages.

11) Develop programs using features parameters in a CURSOR, FOR UPDATE CURSOR, WHERE CURRENT of clause and CURSOR variables.

12) Develop Programs using BEFORE and AFTER Triggers, Row and Statement Triggers and INSTEAD OF Triggers

TEXT BOOKS :

1) ORACLE PL/SQL by example. Benjamin Rosenzweig, Elena Silvestrova, Pearson Education 3rd Edition
2) ORACLE DATA BASE LOG PL/SQL Programming SCOTT URMAN, Tata Mc-Graw Hill.
3) SQL & PL/SQL for Oracle 10g, Black Book, Dr.P.S. Deshpande.
4) Data Base Management System, Oracle SQL and PL/SQL, Pranab kumar Das Gupta, P Radha Krishna, PHI

III Year – I SEMESTER **Linux Programming Lab** **T 0**

Objectives:
To give a practical orientation of programming in Linux environment using system calls and advanced concepts in unix programming

PROGRAMS LIST:

1. Write C programs that uses open, read, write system calls.
2. Write C programs that differentiates FILE *(file stream pointers in C standard library) and file descriptors by using functions such as fdopen, fileno.
3. Write a C program which displays a given files meta data by using stat system call and st_mode structure.
4. Write a C program which lists all the files of current working directory whose size is more than given number of data blocks.
5. Write a C program which lists all the files of current working directory which contains hard link files.
6. Write a C program to emulates file system checking utility (fsck command) using system calls.
7. Example C program which supports that child process inherits environment variables, command line arguments, opened' files.
8. Simple C programs to have process trees and process chains.
9. Simple C program that demonstrates the failure of fork system call because of crossing system limits.
10. Simple C programs to demonstrate the use of pipe system call for inter process communication and also emulating piping in shell.
11. Simple C programs to demonstrate the use of popen standard library function call for inter process communication and also emulating piping in shell.
12. Simple C program to use named pipes for inter process communication.
13. Simple C programs to illustrate the use of exec family of functions.
14. Write a C program which emulates simple shell.
15. Write C program to create a thread using pthreads library and let it run its function.
16. Write a C program to illustrate concurrent execution of threads using pthreads library.
17. Write a C program to simulate ptrhead_create function failure by repeatedly calling the same.

18. Write a C program which creates a thread using pthread and passes arguments to the thread function.
19. Write C programs which uses sigset, sifillset, sigprocmask, related system calls and structures.
20. Write a C program to simulate memory segment violation run time error and implement a signal handler (both reliable and unreliable) which handles situation.
21. Write a C program to illustrate the use of sbrk system call.
22. Write a C program to illustrate inter process communication via message queues.
23. Write a C program to illustrate inter process communication via shared memory.
24. Write a C program to simulate producer and consumer problem using semaphores, shared memory, and fork.
25. Write a C program to simulate producer and consumer problem using semaphores, shared memory, and pthread_create.
26. Write a C program to simulate producer and consumer problem using muexes, shared memory, and threads.
27. Write socket Programs in C for Echo/Ping/Talk Commands.
28. Create a Socket (TCP) between two computers and enable file transfer between them.
29. Write a Program to implement Remote Command Execution.
30. Write a code simulating ARP/RARP.

III Year – I SEMESTER

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INTELLECTUAL PROPERTY RIGHTS AND PATENTS – 1

Unit 1

Introduction to Intellectual Property Law – The Evolutionary Past - The IPR Tool Kit- Para -Legal Tasks in Intellectual Property Law – Ethical obligations in Para Legal Tasks in Intellectual Property Law - Introduction to Cyber Law
– Innovations and Inventions Trade related Intellectual Property Right

Unit 2

Introduction to Trade mark – Trade mark Registration Process – Post registration procedures – Trade mark maintenance - Transfer of Rights - Inter partes Proceeding – Infringement - Dilution Ownership of Trade mark
– Likelihood of confusion - Trademarks claims – Trade marks Litigations – International Trade mark Law –

Unit 3

Introduction to Copyrights – – Principles of Copyright Principles -The subjects Matter of Copy right – The Rights Afforded by Copyright Law – Copy right Ownership, Transfer and duration – Right to prepare Derivative works – Rights of Distribution – Rights of Perform the work Publicity Copyright Formalities and Registrations - Limitions - Copyright disputes and International Copyright Law – Semiconductor Chip Protection Act

Unit 4

Introduction to Trade Secret – Maintaining Trade Secret – Physical Secrurity –Employee Limitation - Employee confidentiality agreement - Trade Secret Law - Unfair Competation – Trade Secret Letigation – Breach of Contract – Applying State Law

Books:

1. Deborah E.Bouchoux: “Intellectual Property”. Cengage learning , New Delhi
2. Kompal Bansal & Parishit Bansal "Fundamentals of IPR for Engineers", BS Publications (Press)
3. Cyber Law. Texts & Cases, South-Western’s Special Topics Collections
4. Prabhuddha Ganguli: ‘ Intellectual Property Rights” Tata Mc-Graw – Hill, New Delhi
5. Richard Stim: "Intellectual Property", Cengage Learning, New Delhi.
6. R. Radha Krishnan, S. Balasubramanian: "Intellectual Property Rights", Excel Books. New Delhi.
7. M.Ashok Kumar and Mohd.Iqbal Ali: “Intellectual Property Right” Serials Pub.