INTERNATIONAL INSTITUTE OF PROFESSIONAL STUDIES

DEVI AHILYA UNIVERSITY, INDORE

M. Tech. (IT) 5 Years

IV SEMESTER

Sub Code	Subject Name	L	T	P	C
IT-401B	IT Act & Cyber Law	3	1	0	**4**
IT-402A	Numerical Analysis & Design	3	1	0	**4**
IT-403B	Data Base Management System	3	1	0	**4**
IT-409	Data & Computer Communication	3	1	0	**4**
IT-405A	UNIX Operating System	3	1	0	**4**
IT-407B	Data Base Management System Lab	0	0	4	**2**
IT-407D	UNIX Operating System Lab	0	0	4	**2**
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INTERNATIONAL INSTITUTE OF PROFESSIONAL STUDIES, DAVV, INDORE
M. Tech. (IT) 5 Years IV SEMESTER
IT-401B : IT Act & Cyber Law

Aim of the course: To understand the association of cyber law and IT and its need.
With growth of online transactions and globalizations a big reason behind is facilitation by internet and web based business models. To handle the issues arising out of such transactions cyber law is needed. It supports growth and provide solution to many new and interesting challenges. Both the personal and professional worlds are extremely dependent today on the Cyber World.
The primary source of **cyber law** in India is the Information Technology Act, 2000 (IT Act) which provides legal recognition to electronic commerce and to facilitate filing of electronic records with the Government.
Objectives: To understand:

- The basics of Cyber crime and its peculiarity
- Need for Cyber law and other governing laws
- Cyber Law in International and national arenas
- Practical Case laws on Cyber crimes in India

Prerequisite: Understanding of the Cyber security, Internet technologies and devices
Course Contents

1. **Introduction to Cyber Law & Cyber Crime**
   Definition of Cyber law, History of Cyber crime, Types of Cyber Crimes, Classification of Cyber Crimes, Distinction between Cyber Crimes and Conventional Crimes, Need of Cyber Law, Trends in Cyber Crimes, Cyber Criminals, Cyber Crime in India.

2. **Information Technology Act 2000**
   Introduction to IT Act 2000, Objective of the IT Act, 2000, Structure of the Act, Features of IT act 2000, Important Chapters of IT Act, Summary of the Act, Amendment Bill 2008, Jurisdiction on Cyber Crime, Filing of Complaint for Cyber Crime, Adjudication and appeal under IT Act 2000, Criminal Liability under IT Act, Civil Liability under IT Act

3. **Cyber Crime Investigation**
   Importance of Cyber Crime Investigation, Modes of Committing Cyber Crime, Motive behind Cyber Crime, Types of Cyber Crime, Steps & Procedures during Investigation, Correlating the evidence, Cyber Crime Investigation bodies, Procedure for Search and Seizure of Digital Evidence

4. **International Regime in Cyber Laws and Intellectual Property Rights**
   Introduction, United Nations and other International Organizations, IPR In India, Various Acts on IPR: Patents, Trademarks, Industrial Designs, and Geographic Indications of source, (patents), trademarks, industrial designs, The Semi Conductor Integrated Circuits Layout Design Act

5. **Cyber Crime & Other Laws**
   Indian Evidence Act and Cyber Crimes, Indian Penal Code and Cyber Crimes, Criminal Procedure Code and Cyber Crimes, Defamation on Cyber World, Arbitration

6. **Practical Study Cyber Crime Case Laws**

Recommended Books:

1. Cyber Law & Cyber Crimes By Advocat Prashant Mali; Snow White publications, Mumbai
2. Cyber Law in India by Farooq Ahmad; Pioneer Books
3. Information Technology Law and Practice by Vakul Sharma; Universal Law Publishing Co. Pvt. Ltd.
4. The Indian Cyber Law by Suresh T. Vishwanathan; Bharat Law House New Delhi
5. Guide to Cyber and E – Commerce Laws by P.M. Bukshi and R.K. Suri; Bharat Law House, New Delhi
6. Guide to Cyber Laws by Rodney D. Ryder; Wadhwa and Company, Nagpur
7. The Information Technology Act, 2000; Bare Act – Professional Book Publishers, New Delhi
8. Computer Forensics: Principals and Practices by Linda Volonino, Reynaldo Anzaldua and Jana Godwin; Pearson Prentice – Hall 2007
9. First Responder's Guide to Computer Forensics by Richard Nolan rt al; Carnegi Mellon, 2005.
10. Digital Evidence and Computer Crime, 2nd Ed. By Eoghan Casey; Academic Press, 2004.

11. The Regulation of Cyberspace by Andrew Murray, 2006; Rutledge – Cavendish.
12. Scene of the Cybercrime: Computer Forensics Handbook by Syngress.
13. Security and Incident Response by Keith J. Jones, Richard Bejtloich and Curtis W. Rose
14. List of Websites for more information is available on: Http://www.garykessler.net.library/ forensicsurl.html
15. Introduction to Forensic Science in Crime Investigation by Dr. (Smt) Rukmani Krishnamurthy

Web Site: http://www.cyberlawsindia.net

http://unipune.ac.in/snc/CINS/cins_webfiles/cyber_Security.htm

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IT-402A : Numerical Analysis & Design

Aim of Course: To teach basic numerical methods required for typical engineering and business applications.

Objectives:

The course is designed to make students:

- Understanding the properties of different numerical methods so as to be able to choose appropriate methods and interpret the results for engineering problems that they might encounter.
- Find numerical approximations to the roots of an equation by Newton method, Bisection Method, Secant Method, etc.
- Use finite differences for interpolation and learn various interpolation methods.
- Understand numerical integration and differentiation.

Course Contents:

UNIT I

Introduction: - Error**,** Types of error, Solution of Transcendental and Algebraic equation, Zeros of a polynomial, Iterative method, Bisection method, False-Position method, Newton Raphson method.

UNIT II

Interpolation: - Finite Differences, Forward, Backward and Central differences, Differences of a polynomial, Newton's formula for interpolation, Related numerical and derivation, Gauss's central differences formula, Related numerical and derivation, Interpolation with unevenly spaced points, LaGrange's interpolation derivation and numerical, Inverse interpolation derivation and numerical, Divided differences and theirs properties, Newton's general interpolation formula, Method of successive approximations, Extrapolation.

UNIT III

Numerical Differentiation and Integration: - Introduction, Numerical Differential & Numerical Integration, General Formula for Integration, Trapezoidal rule, Simpson's 1/3 rule, Simpson's 3/8 rule, Boole's rule and Weddle's rule.

UNIT IV

Solution of differential Equations: - Newton - Cotes integration formula, Solution of differential equation, Taylor's series method, Picard's method of successive approximations, Euler's method, Runge - Kutta methods, derivation and numerical.

UNIT V

Ill-conditioned equation and refinement of solution: - Simultaneous Linear Equations, Solution of simultaneous linear equations, Gauss elimination method, Gauss elimination with pivoting derivation and numerical, Gauss - Seidel iterative methods, derivation and numerical.

Text Books:

1. S. S. Shastri, Numerical Methods (Text Book 1 for Numerical Methods)
2. Computer Based Numerical and Statistical Techniques by Dr. Santosh Kumar (S. Chand Publications)

Reference Books:

1. Computer Oriented Numerical Methods by *V.Rajaraman*
2. Numerical methods by *Veda Murthi and iyenger.*
3. C 77 by *Rama N. Reddy and Carol a.Zieglar*
4. Numerical Analysis by *Krishna Murthi.*

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IT-403B: Data Base Management System

Aim of Course: To handle large database system and to be able to manipulate it efficiently and carry out analysis to design the database.

Objectives:

The course is designed to make students:

- To present necessary concepts for database designing.
- Design conceptual, logical database model and physical model.
- Evaluate set of query using SQL and algebra.
- Concepts of RDBMS, and learn Object oriented modeling

Course Contents:

UNIT I

Introduction, Purpose of Database System, View of data, Three Level -Architecture of DBMS, Data independence, Data models - Physical Model, Logical Model, Conceptual Model, Hierarchical data Model, Network data Model, relational data model,Object Oriented Model and their comparison, Database Languages, Transaction Management, Storage Management, Database Administrator, Database Users, Overall System Structure.

UNIT II

Entity-Relationship Model:- Basic Concepts, Design Issues, Mapping Constraint, Keys, Entity-Relationship Diagram, Weak-Entity Sets, Design of an E-R Database Scheme, Reduction of an E-R Schema to Tables, generalization and specialization in ER model

UNIT III

Introduction to relational

database systems, meaning of tuples, attributes, insertion, deletion, updating and retrieval in relational approach, various operations in relational approach like select, project, join, union.

UNIT IV

Structured Query Language:- Table Fundamentals,data types,creating ,viewing table, inserting,deleting, updating and modifying data in table,Applying data constraints-adding primary key,foreign key,unique key in table.Basic Structure, Set Operations, Oracle functions-string function,,numeric function,Aggregation Functions, Null Values, Nested Sub Queries, Joined Relation, Data Definition Language, Data Control Language, Data Transaction Language

Integrity Constraint:- Domain Constraint, Refrential Integrity, Triggers,

UNIT V

Relational Database Design:- Codd's 12 Rules, Pitfalls in Relational-Database Design, Decomposition, Functional Dependencies, Normalization up to 3NF.

UNIT VI

Introduction to VB and connectivity of database with VB.

Text Books:

1. A Silberschatz, H.F Korth, Sudersan "Database System Concepts" , MGH Publication.
2. Modern Database Management (5th Edition) (Hardcover) by Fred R. McFadden, Jeffrey A. Hoffer, Mary B. Prescott

Reference Books :

1 Elmasri & Navathe "Fundamentals of Database systems" – III ed.

2 B.C. Desai. "An introduction to Database systems" BPB.

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IT – 409 : Data and Computer Communication

Aim of Course: To gain an understanding of the fundamentals of data communications networks.

Objectives: The course is designed to make students:

- Understand basic data communication components.
- Understand the fundamentals of signaling and data transmission.
- Study data link layer and data link protocols.
- Study Network layer, MAC sub layer, LAN and its standards.

Course Contents:

UNIT- I

Introduction & Overview of Communication Systems:

Basis for Data Communication, Guided Transmission Media: Twisted Pair; Coaxial Pair; Fiber Optics, Multiplexing Techniques: FDM; WDM; TDM; STDM, Unguided Transmission Media: Wireless Communication; Cellular Radio; Satellite Communication.

UNIT- II

Network Model: The OSI model :layered Network Architecture,peer-to-peer Processes,Layers in the OSI Reference model,The TCP/IP Model,Addressing :Physical,Logical ,Port and specific addressing,Comparing and Contrasting-OSI & TCP/IP Model.

UNIT- III

Physical Layer and Media:

Digital Data, Digital Signal: NRZL; NRZI; Bipolar AMI; Pseudo Ternary; Manchester; Differential Manchester; B8ZS; HDB3, Digital Data, Analog Signal: ASK; FSK; PSK, Analog Data, Digital Signal: PCM; PAM; DM; ADM, Analog Data, Analog Signal: AM; FM; PM, Switching: Circuit switch networks, Datagram Networks, Virtual Circuit networks, Multiplexing techniques:FDM,WDM,TDM,STDM.

UNIT- IV

The Data Link Layer:

Data Link Layer Design Issue: Framing; Character Count; Character Stuffing; Bit Stuffing; Physical Layer Coding Violation: Error Control; Flow Control; Error Correcting Codes; Error Detecting Codes; Hamming Codes; CRC Code. Protocols: Stop & Wait Protocol, Unrestricted Stop & Wait Protocol, Simplex Stop & Wait Protocol, Protocol for Noisy Channel, Sliding Window Protocol, Go Back N, Selective Repeat, Verification using File State, HDLC Data Link Protocol, ISDN, ATM.

UNIT-V

The Medium Access Protocols:

The Medium Access Sub Layer: Channel Allocation; Static; Dynamic, Multiple Access Protocols: ALOHA; CSMA, Collision Free Protocols, Limited Connection Free Protocols, WDMA, Wireless LAN Protocols, Digital Cellular Radio. Overview of IEEE Standards.

Text Books:

1. Data Communications and Networking (IV Edition). B.A. Forouzan (Tata McGraw Hill Publications)

Reference Books:

1. Computer Networks (IV Edition), A.S. Tanenbaum (PHI Publications)
2. Data and Computer Communications, William Stallings (PHI Publications)
3. Data Communications and Networks, Achyut S. Godbole (Tata McGraw Hill Publications)

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IT-405A: UNIX Operating System

Aim of Course: To develop an understanding of basic concepts of operating system with special reference to UNIX operating system.

Objectives:

The course is designed to make students:

- Understand UNIX as operating system.
- Learn to use UNIX shell.
- Learn to use UNIX commands.
- Send and receive electronic mail and learn its real-world limitations
- Learn File handling and shell programming.

Course Contents:

UNIT I

Introduction and familiarization: History of UNIX operating system, Architecture of Unix login and log out

UNIT II

UNIX file system: File system hierarchy: file name, attributes, access rights and their change, copying moving and removal of files.

File permission mask, /etc/passwd file, su, newgrp, chown, chgrp commands. Contents of file and file commands. Hard and Soft links, search in file system find command.

UNIT III

Filters, standard input and standard output, pipes, pipelines, simple text manipulation utilities, utilities for comparing text files. Regular expression grep, egrep, fgrep, programmable filters sed, awk. Back up of files and directories, tar, cpio, dd.

UNIT IV

UNIX shell: Basic UNIX user skill, shell as command language, interpreter, command line, shell file metacharacter, script writing, examples of script. Process, ps, shell as process, job control, signals. Vi editor

UNIT V

Shell programming concept. Shell script control statements, loops, branching, return codes, test statements, shell parameters.

Text Books:

1. Sumitabha Das, UNIX: Concepts and application.

Reference Books:

1. Maurice J. Bach, The design of the UNIX operating system.
2. Y. Kanetkar, UNIX shell programming
3. Kamran Hussain, Linux Unleashed, Tim Parker.
4. Christopher Vickery, UNIX shell programmer's Interactive Workbook.
5. Mark F. Komarinsk, Cary Colette, Linux system administration handbook.
6. Dent and Gaddis, Guide to using Linux

INTERNATIONAL INSTITUTE OF PROFESSIONAL STUDIES, DAVV, INDORE
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IT-407B DBMS Lab Assignment

Section -A

1. Study and implementation of following DDL commands:
   a. CREATE TABLE
   b. ALTER TABLE
   c. DROP TABLE
   d. RENAME
   e. TRUNCATE TABLE
2. Study and implementation of following DML commands:
   a. INSERT INTO
   b. SELECT
   c. UPDATE
   d. DELETE
3. Study and implementation of following DCL commands:
   a. GRANT
   b. REVOKE
4. Study and implementation of following TCL commands:
   a. COMMIT
   b. ROLLBACK
   c. SAVEPOINT

Section -B

1. Define the schema for the following databases with specific data type and constraints, the table name and its fields name are to be taken from database description which are given below :

   A database is being constructed for storing sales information system.
   A product can be described with a unique product number, product name, selling price, manufacturer name. The product can sale to a particular client and each client have it own unique client number, client name, client addresses, city, pin code, state and total balance to be required to paid. Each client orders to buy product from the salesman. In the order, it has unique sales order number, sales order date, client number, salesman number (unique), billed whole payment by the party or not and its delivery date.
   The salesman have the name, addresses, city, pin code, state, salary of the sales man, delivery date, total quantity ordered, product rate.

   a) Draw an Entity Relationship diagram for above scenario. Make and state your assumptions where required.
   b) Convert above ER model into relational model in step by step manner.
   c) Write the SQL queries for the following –
      1. Create above tables with all constraints required and insert data into above tables.
      2. Retrieve the list of names and the cities of all the clients.
      3. List the various products available.
      4. Find the names of all clients having ‘a’ as the second letter in their names.
      5. List all the clients who are located in TEZPUR.
      6. Find products whose selling price is greater than 2000& less than or equal to 5000
      7. Add a new column NEW_PRICE into the product_master table.
      8. Rename the column product_rate of Sales_Order_Details to new_product_rate.
      9. List the products in sorted order of their description.
      10. Display the order number and date on which the clients placed their order.
      11. Delete all the records having delivery date before 25th August, 2008.
      12. Change the delivery date of order number ON01008 to 16-08-08
      13. Change the bal_due of client_no CN01003 to 1200
      14. Find the product with description as ‘HDD1034’ and ‘DVDRW’
      15. List the names, city and state of the clients not in the state of ‘ASSAM’
      16. List of all orders that were canceled in the of March .

2. **Consider the schema for the following databases with specific data type and constraints, the table structure is given below:**

   1.Employee F_Name varchar2(15) NOT NULL
   LName varchar2(15) NOT NULL,

Emp_id varchar2(5) Primary Key,
city varchar(10),
Gender char(1) ,
Emp_hire_date date
Job_code varchar(5)
Supervisor_id varchar(5)
Dept_no number(4)

Constraint- Emp_id pK
Emp CHECK (Sex IN ('M', 'm', 'F', 'f')),
Supervisor_id Foreign key references emp_id of employee
Dept_no foreign key references Dep_no of Department

2.Department DName varchar(15) ,
DepNo unmber(4)
Mgr_id char(9) NOT NULL

Constraints- unique(DName),
Primary Key (DepNo),
Foreign Key (Mgr_id) REFERENCES employee (emp_id)

3.Project PName varchar(15) not ,
PNumber number(5) not null,
DepNo number(4),

Constraints - Primary Key (PNumber),
Foreign Key (DepNo) REFERENCES department (DepNo)

4.Works_on emp_id varchar(5) ,
PNo number(5)

Constraints - Primary Key (ESSN, PNo),
Foreign Key (emp_id) REFERENCES employee (emp_id)
Foreign Key (PNo) REFERENCES project (PNumber)

5.Dependent Emp_id varchar(5) ,
Dependent_Name varchar(15) not null,
gender char(1)

Constraints - Primary Key (emp_id, Dependent_Name),
Check (Gender IN ('M', 'm', 'F', 'f')),
Foreign Key (emp_id) REFERENCES employee (emp_id)

Write SQL queries for following:

1. Create above tables with all constraints mentioned.
2. Insert data into above tables.
3. Write the SQL code to change the job code to 501 for the person whose emp_id is'888665555'. After you have completed the task, examine the results, and then reset the job code to its original value.
4. Write the SQL code that lists all details of employees with a job code of 502.
5. Write the SQL code to delete the row for the person named William Smithfield, who was hired on June 22, 2004, and whose job code classification is 500. (*Hint*: Use logical operators to include all the information given in this problem.)
6. List the names of all employees who work in department 508.
7. Add a new column named salary in employee table.
8. List names and salaries of all employee ordered by salary.
9. List the name of employees whose salary is between 30000 and 50000.
10. List the name of employees who lives in Houston.
11. List department number and number of employees in each department, ordered by number of employees in each department
12. List department number and number of employees in departments that have more than 2 employees, ordered by department number.

13. List the emp_id of employees who works on project 3388 or project 1945.
14. list department with their manager name(join)
15. List the name of all female employees.
16. List the first name of all employee whose last name begins with letter ‘sm’
17. Find the total no of departments.
18. Find the name of senior most employee (max(hire date)
19. Display from the Employees table the first name (fname), last name (lname), employeeID(emp_id) and job level (job_lvl) columns for those employees with a job level greater than 200; and rename the column headings to: “First Name,” “Last Name,” “IDENTIFICATION#” and “Job Level.”
20. Show all the different projects for which employee work. Display only projects in which more than four employees are employed.
21. find emp_id of all employees working in the project in department named research
22. list employees who joined on the date on which ‘john’ joined.
23. Find the emp_id who works on project named ‘projectF’
24. list the name of female dependents of employee named ‘maria’
25. Execute query 23 using join.
26. List employee details along with their dependent’s details(use join)
27. List employee details along with their dependent’s details and also include employees those do not have dependents
28. List employees with their supervisor name.
29. Change the name of table employee to employee_details
30. List the name of employees who doesn't has supervisor
31. increase salary of employee with emp_id 5 by 10%

32 delete all the tables.

Section -C

1. Study and implementation of basic controls and their properties of Visual Basic 6.0 with help of designing simple forms.
2. Design a form for entering, storing and displaying employee details in employee table mentioned in question no. 2.

SQL Quick Reference

	Syntax
AND / OR	SELECT column_name(s) FROM table_name WHERE condition AND|OR condition
ALTER TABLE	ALTER TABLE table_name ADD column_name datatype or ALTER TABLE table_name DROP COLUMN column_name
AS (alias)	SELECT column_name AS column_alias FROM table_name or SELECT column_name FROM table_name AS table_alias
BETWEEN	SELECT column_name(s) FROM table_name WHERE column_name BETWEEN value1 AND value2
CREATE DATABASE	CREATE DATABASE database_name
CREATE TABLE	CREATE TABLE table_name (column_name1 data_type, column_name2 data_type, column_name2 data_type, ...

	)
DELETE	DELETE FROM table_name WHERE some_column=some_value or DELETE FROM table_name (Note: Deletes the entire table!!) DELETE * FROM table_name (Note: Deletes the entire table!!)
DROP DATABASE	DROP DATABASE database_name
DROP TABLE	DROP TABLE table_name
GROUP BY	SELECT column_name, aggregate_function(column_name) FROM table_name WHERE column_name operator value GROUP BY column_name
HAVING	SELECT column_name, aggregate_function(column_name) FROM table_name WHERE column_name operator value GROUP BY column_name HAVING aggregate_function(column_name) operator value
IN	SELECT column_name(s) FROM table_name WHERE column_name IN (value1,value2,..)
INSERT INTO	INSERT INTO table_name VALUES (value1, value2, value3,....) *or* INSERT INTO table_name (column1, column2, column3,...) VALUES (value1, value2, value3,....)
INNER JOIN	SELECT column_name(s) FROM table_name1 INNER JOIN table_name2 ON table_name1.column_name=table_name2.column_name
LEFT JOIN	SELECT column_name(s) FROM table_name1 LEFT JOIN table_name2 ON table_name1.column_name=table_name2.column_name
RIGHT JOIN	SELECT column_name(s) FROM table_name1 RIGHT JOIN table_name2 ON table_name1.column_name=table_name2.column_name
FULL JOIN	SELECT column_name(s) FROM table_name1 FULL JOIN table_name2 ON table_name1.column_name=table_name2.column_name
LIKE	SELECT column_name(s) FROM table_name WHERE column_name LIKE pattern
ORDER BY	SELECT column_name(s) FROM table_name ORDER BY column_name [ASC|DESC]
SELECT	SELECT column_name(s) FROM table_name
SELECT *	SELECT * FROM table_name
SELECT DISTINCT	SELECT DISTINCT column_name(s) FROM table_name
SELECT INTO	SELECT * INTO new_table_name [IN externaldatabase]

	FROM old_table_name *or* SELECT column_name(s) INTO new_table_name [IN externaldatabase] FROM old_table_name
SELECT TOP	SELECT TOP number|percent column_name(s) FROM table_name
TRUNCATE TABLE	TRUNCATE TABLE table_name
UNION	SELECT column_name(s) FROM table_name1 UNION SELECT column_name(s) FROM table_name2
UNION ALL	SELECT column_name(s) FROM table_name1 UNION ALL SELECT column_name(s) FROM table_name2
UPDATE	UPDATE table_name SET column1=value, column2=value,... WHERE some_column=some_value
WHERE	SELECT column_name(s) FROM table_name WHERE column_name operator value

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IT-407D UNIX Lab Assignment

Assignment 1

Q. 1 Explain Unix functional layer model with the help of a diagram.

Q. 2 Explain any five services provided by an operating system.

Q. 3 Why Unix is so popular? List any five reasons.

Q. 4 Write the purpose of following commands in a table :-
(4.1) ls –F *.*
(4.2) mkdir dir1 dir1/dir2 dir1/dir2
(4.3) cd ../..
(4.4) mkdir –p asia/India/mp/indore/iips
(4.5) rm -i file1 file2 file3

Q. 5 Explain following commands with their options in a table:-
(5.1) wc
(5.2) comm
(5.3) split
(5.4) cmp
(5.5) lp

Q. 6 (6.1) What does the command egrep "dan|robin|ben|mari" phone_list do?
(6.2) How do you locate lines containing “saxena” and “saksena”.
(6.3) What is the use of the command:- grep −r “\.p[ly]” *
(6.4) Is ‘du’ a command? If so, what is its use?
(6.5) Write about the data structure used to maintain file identification?

Q. 7 What are a pipe, tee and a filter? Give an example of each.

Assignment 2

Q:-1 What do you mean by “UNIX is a layered operating system“. Explain?

Q:-2 Explain the following command with syntax and example :
1) pipe
2) time
3) who
4) cat
5) cup

Q:-3 Differentiate between Internal and External commands used in UNIX

Q:-4 Explain following option with particular command :
1. ls (-x,-F,-r,-l)
2. who (-H,u,a)

Q. 5 What are links and symbolic links in UNIX file system?

Q.6 How does the inode map to data block of a file?

Assignment 3

Q 1.

1. What is common option in rm, cp, mv command & what it will do ?
2. Which character can't be used in a filename ?
3. Which ls option marks directories and executable separately ?
4. What does cd do when used without arguments ?
5. When will rmdir fail to work ?
6. What will cat f1 f1 f1 display ?
7. How will you copy a directory structure bar1 to bar2 ?
8. How will you remove a directory tree even when it's not empty without using rmdir ?
9. How will you display only the lines common to two files?
10. Create a file and then assign all permission to the owner and remove all permission from others. How do you do that ?
11. How will you assign read permission for all to files beginning with a dot and having at least three characters after the dot ?
12. A user is not able to change a file's permissions. When can that happen ?
13. How will you double-space a file ?
14. How will you produce a list of all files in the current directory without headers, but in three columns ?
15. Select lines 5 to 10 of a file ?
16. How will you remove duplicate records from a file ?
17. How will you remove blank lines from a file ?
18. What does grep "^*" do ? Is the \ really necessary ?
19. How do you locate lines containing "saxena" and "saksena".
20. Locate all lines longer than 15 characters ?
21. Which important attribute of a file is not maintained in the inode ?
22. If the owner doesn't have write permission on a file, but his group has, can he edit it ?
23. What will command touch file do ?
24. What do you do make sure that no one is able to see the names of the files you have ?
25. A file was not writable by group and others, and yet it could be deleted by them. How ?
26. When you issue the ls –l command, it changes the access time of the file. True or False ?

Q:-2 What is Regular Expression ? What is use of it ?

Assignment 4

Q. 1 Explain following commands with description:-

1. find
2. finger
3. fg
4. bg
5. nice
6. at
7. batch
8. tar
9. cpio
10. dd